



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-17- 26

TITLE: Approving With Conditions an Application for Public Development (Application Number 1989-0349.020)

Commissioner Galletta moves and Commissioner Lohbauer seconds the motion that:

WHEREAS, the Pinelands Commission has reviewed the Public Development Application Report and the recommendation of the Executive Director that the following application for Public Development be approved with conditions:

1989-0349.020

Applicant: County of Burlington
Municipality: Pemberton Township
Management Area: Pinelands Agricultural Production Area
Pinelands Regional Growth Area

Date of Report: August 15, 2017
Proposed Development: Demolition of an existing 2,500 square foot building, 50 years old or older.

WHEREAS, no request for a hearing before the Office of Administrative Law concerning the Executive Director's recommendation has been received for this application; and

WHEREAS, the Pinelands Commission hereby adopts the Conclusion of the Executive Director for the proposed development; and

WHEREAS, the Pinelands Commission hereby determines that the proposed public development conforms to the standards for approving an application for public development set forth in N.J.A.C. 7:50-4.57 if the conditions recommended by the Executive Director are imposed; and

WHEREAS, pursuant to N.J.S.A. 13A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period and Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE BE IT RESOLVED that Application Number 1989-0349.020 for public development is hereby **approved** subject to the conditions recommended by the Executive Director.

Record of Commission Votes

	AYE	NAY	NP	A/R*		AYE	NAY	NP	A/R*		AYE	NAY	NP	A/R*
Ashmun	X				Galletta	X				Prickett				R
Avery	X				Jannarone	X				Quinn	X			
Barr			X		Lloyd	X				Rohan Green	X			
Brown	X				Lohbauer	X				Earlen	X			
Chila	X				McGlinchey	X								

* A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Date: September 14, 2017

Nancy Wittenberg
Nancy Wittenberg
Executive Director

Sean W. Earlen
Sean W. Earlen
Chairman



State of New Jersey
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Chris Christie
 Governor

Kim Guadagno
 Lt. Governor

General Information: Info@njpines.state.nj.us
 Application Specific Information: AppInfo@njpines.state.nj.us

Sean W. Earlen
 Chairman

Nancy Wittenberg
 Executive Director

August 17, 2017

Joseph T. Brickley, PE, CME, CPWM
 County of Burlington
 1900 Briggs Road
 Mount Laurel, NJ 08054

Re: Application # 1989-0349.020
 Block 812, Lot 9.01
 Pemberton Township

Dear Mr. Brickley:

The Commission staff has completed its review of this application for demolition of an existing 2,500 square foot building, 50 years old or older. Enclosed is a copy of a Public Development Application Report. On behalf of the Commission's Executive Director, I am recommending that the Pinelands Commission approve the application with conditions at its September 8, 2017 meeting.

Any interested party may appeal this recommendation in accordance with the appeal procedure attached to this document. If no appeal is received, the Pinelands Commission may either approve the recommendation of the Executive Director or refer the application to the New Jersey Office of Administrative Law for a hearing.

Prior to any development, the applicant shall obtain any other necessary permits and approvals.

Sincerely,

Charles M. Horner, P.P.
 Director of Regulatory Programs

Enc: Appeal Procedure

- c: Secretary, Pemberton Township Planning Board (via email)
- Pemberton Township Construction Code Official (via email)
- Pemberton Township Environmental Commission (via email)
- Secretary, Burlington County Planning Board (via email)
- Edwin Steck





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 Application Specific Information: AppInfo@njpines.state.nj.us

Sean W. Earlen
 Chairman

Nancy Wittenberg
 Executive Director

PUBLIC DEVELOPMENT APPLICATION REPORT

August 15, 2017

Joseph T. Brickley, PE, CME, CPWM
 County of Burlington
 1900 Briggs Road
 Mount Laurel, NJ 08054

Application No.: 1989-0349.020
 Block 812, Lot 9.01
 Pemberton Township

This application proposes demolition of an existing 2,500 square foot building, 50 years old or older, located on the above referenced 351.92 acre parcel in Pemberton Township. The building was formerly utilized as a “Nurses Quarters” and associated with the Buttonwood Hospital located on the parcel.

STANDARDS

The Commission staff has reviewed the proposed demolition for consistency with all standards of the Pinelands Comprehensive Management Plan (CMP). The following reviews the CMP standards that are relevant to this application:

Land Use (N.J.A.C. 7:50-5.24 & 5.28)

The parcel is located partially in a Pinelands Agricultural Production Area (250 acres) and partially in a Pinelands Regional Growth Area (101.92 acres). The demolition of the building is permitted by the CMP.

Cultural Resource Standards (N.J.A.C. 7:50-6.151)

The evidence of cultural activity on the parcel, including the existing building, lacks any potential for designation as a historic resource. Based upon this determination, a cultural resource survey was not required.

PUBLIC COMMENT

The CMP defines the proposed demolition as “minor” development. The CMP does not require public notice for minor public development applications. The application was designated as complete on the Commission’s website on July 24, 2017. The Commission’s public comment period closed on August 11, 2017. No public comment was submitted to the Commission regarding this application.

CONDITIONS

1. Disposal of any construction debris or excess fill may only occur at an appropriately licensed facility.
2. Prior to any demolition, the applicant shall obtain any other necessary permits and approvals.

CONCLUSION

As the proposed development conforms to the standards set forth in N.J.A.C. 7:50-4.57, it is recommended that the Pinelands Commission **APPROVE** the proposed demolition subject to the above conditions.



Chris Christie
Governor

Kim Guadagno
Lt. Governor

State of New Jersey

THE PINELANDS COMMISSION

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Sean W. Earlen
Chairman

Nancy Wittenberg
Executive Director

PINELANDS COMMISSION **APPEAL PROCEDURE**

The Pinelands Comprehensive Management Plan (N.J.A.C. 7:50-4.91) provides an interested party the right to appeal any determination made by the Executive Director to the Commission in accordance with N.J.A.C. 7:50-4.91. An interested party is someone who has a specific property interest sufficient to require a hearing on constitutional or statutory grounds. Only appeal requests submitted by someone meeting the definition of an interested party will be transmitted to the New Jersey Office of Administrative Law for a hearing. Any such appeal must be made in writing to the Commission and received at the Commission office no later than 5:00 PM on September 4, 2017 and include the following information:

1. the name and address of the person requesting the appeal;
2. the application number;
3. the date on which the determination to be appealed was made;
4. a brief statement of the basis for the appeal; and
5. a certificate of service (a notarized statement) indicating that service of the notice has been made, by certified mail, on the clerk of the county, municipal planning board and environmental commission with jurisdiction over the property which is subject of this decision.

Within 15 days following receipt of a notice of valid appeal, the Executive Director shall initiate the procedures for assignment of an Administrative Law Judge to preside at the hearing pursuant to the Administrative Procedures Act, N.J.S.A. 52:14B-1 et seq., and the procedures established by the Office of Administrative Law. The time, date and location of such hearing shall be designated by the Office of Administrative Law.



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-17- 27

TITLE: Approving With Conditions Pinelands Development Application Number 2014-0045.001

Commissioner Galletta moves and Commissioner Avery seconds the motion that:

WHEREAS, the following application was remanded to the Pinelands Commission to determine whether it conforms with the standards of the Pinelands Comprehensive Management Plan:

2014-0045.001	
Applicant:	New Jersey Natural Gas
Municipality:	Jackson Township Manchester Township Plumsted Township
Management Area:	Pinelands Military/Federal Installation Area Pinelands Regional Growth Area Pinelands Rural Development Area
Date of Report:	August 29, 2017
Proposed Development:	Installation of 12.1 miles of 30 inch natural gas main within Ocean County Route 539 & 547 rights-of-way.

WHEREAS, in response to the Appellate Division's remand, the Pinelands Commission passed Pinelands Resolution No. PC4-17-10 on June 9, 2017, setting forth the process it would utilize to review the application; and

WHEREAS, in accordance with Pinelands Resolution No. PC4-17-10, the Pinelands Commission accepted verbal comments at its July 26, 2017 Special Commission meeting and accepted written comments until August 2, 2017; and

WHEREAS, the Pinelands Commission has had the opportunity to review the public comments submitted, the record and the Executive Director's Recommendation Report dated August 29, 2017; and

WHEREAS, the Pinelands Commission hereby finds that there is ample evidence in the record that demonstrates that the proposed development with the conditions recommended by the Executive Director conforms to the minimum standards of the Pinelands Comprehensive Management Plan; and

WHEREAS, the Pinelands Commission hereby finds that the proposed development with the conditions recommended by the Executive Director is consistent with the intent and objectives of the Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq., and the Pinelands Comprehensive Management Plan, N.J. A.C. 7:50; and

WHEREAS, pursuant to N.J.S.A. 13A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period and Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE BE IT RESOLVED that the Pinelands Commission Adopts the recommendation of the Executive Director including the conditions contained within the Executive Director's Recommendation Report dated August 29, 2017; and

BE IT FURTHER RESOLVED that the Pinelands Commission hereby determines that the development proposed in the Pinelands Development Application No. 2014-0045.001 is consistent with the minimum standards of the Pinelands Comprehensive Management Plan.

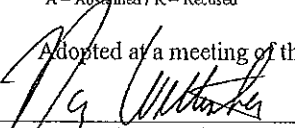
Record of Commission Votes

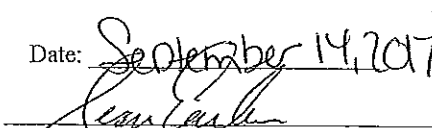
AYE NAY NP A/R*					AYE NAY NP A/R*					AYE NAY NP A/R*				
Ashmun		X			Galletta	X				Prickett			X	
Avery	X				Jannarone	X				Quinn	X			
Barr			X		Lloyd				R	Rohan Green		X		
Brown	X				Lohbauer		X			Earlen	X			
Chila	X				McGlinchey	X								

* A = Absained / R = Recused

Adopted at a meeting of the Pinelands Commission

Date: September 14, 2017


 Nancy Wittenberg
 Executive Director


 Sean W. Earlen
 Chairman

NJ Pinelands Commission

In re: Resolution PC 4-17-____, “Approving with conditions Pinelands Development Application Number 2014-0045.001” September 14, 2017
Applicant: New Jersey Natural Gas

Mark S. Lohbauer, Pinelands Commissioner

I am voting “no” on this resolution, in opposition to the application of NJ Natural Gas.

I would like to explain why I’m taking this position, contrary to the report and recommendation of our Executive Director. I agree with most of the conclusions drawn in the Executive Director’s Report on this application.

However, I respectfully disagree with the Director’s interpretation of a key provision of the Comprehensive Management Plan upon which this application turns. That provision is Section 7:50-5.29, which defines the conditions under which the Pinelands Commission is permitted to authorize development—even public service infrastructure, which this natural gas pipeline would be—within the “Military and Federal Installation Area.” Let me first point out that the title of that section is “Minimum standards governing the distribution and intensity of development and land use in Military and Federal Installation Areas.” “Minimum standards” means that these are the very least of protections that we are to provide, and that we could choose to impose even greater ones. It also signifies that military areas are not exempt from our protection.

Next, sub-section (a) of Section 5.29 states that “(a) Any use associated with the function of the Federal installation may be permitted.” I draw the Commissioners attention to the phrase “use associated with the function of the Federal installation” as a basic criterion of permitting the use. In my opinion, the applicant has not demonstrated on the record that the pipeline that is the subject of this application is in any way “associated with the function of the Federal installation.” In fact, the record indicates that this pipeline will not supply gas to the military base. It will not even be connected to the military facility at all; it merely passes under it. The applicant has not represented how this pipeline will advance the function of the federal installation. The Executive Director has provided us with comments, some quoted, some paraphrased, of base commanders Thaden, Hodges, and Richardson. Hodges’ comment on “the improvement of energy reliability and redundancy at the Joint Base,” summarizes what they see as the benefit for the Base. Yet it was never established how this might occur without a direct connection of this pipeline to the base. In other words, the new pipeline would place an alternative source of natural gas energy in the region, but it will not be connected to the base. Is this project actually associated with the Base? The obligation to demonstrate that falls on the applicant, and it has not been demonstrated. Neither have we Commissioners had the opportunity to question the applicant, or any of the Base Commanders, on this key issue.

Next, development in the Military and Federal Area is restricted. Section 5.29 (a) 2 states that “The use shall not require development, including public service infrastructure, in the Preservation Area District.” This would seem to be a clear bar to this project, as the proposed site of the pipeline within the Military Base is designated as preservation area. However, the Executive Director goes on to differentiate the Preservation Area District from the Military and Federal Installation Area, saying that the two are distinct, and

NJ Pinelands Commission

In re: Resolution PC 4-17-____, “Approving with conditions Pinelands Development Application Number 2014-0045.001” September 14, 2017
Applicant: New Jersey Natural Gas

Mark S. Lohbauer, Pinelands Commissioner

therefore the pipeline project is not precluded by this language. I find that argument to be disingenuous, for two reasons:

First, Section 5.29 was written to address only projects in the Military and Federal Installation Area. It would make no sense to refer to the Preservation Area District within this section, unless it had meaning within the Military and Federal Installation Area.

Second, the distinction of “Preservation Area” has meaning and legal significance under both the Pinelands Preservation Act and the Comprehensive Management Plan. That designation was applied to lands within the Military and Federal Installation Area not to be meaningless, but so the Pinelands Commission could do its duty to protect the Preservation Area there. Section 7:50-5.29 applies only to the Military and Federal Installation Area; the language in this section is intended specifically for it. Therefore, where it refers to “Preservation Area District,” the authors were speaking directly to the preservation area within the Military and Federal Installation Area.

The Executive Director notes on page 9 of her report that the Preservation Area District and the Military and Federal Installation Area are designated in Section 7:50-5.12 of the CMP. She argues that “[t]hey are geographically discrete areas, meaning that the Preservation Area District and the Forest Areas are located entirely outside of the Military and Federal Installation Area.” Section 5.12 of the CMP does not indicate that they are discrete areas; in fact, I cannot find any justification for this assertion anywhere in the CMP.

Moreover, we do know that all of the land within the Joint Military Base has been mapped according to its land use management zones of the Pinelands Protection Act, and the CMP. The Executive Director’s report acknowledges this, in footnote 7 (“Two-thirds of JB-MDL is located within the Preservation Area as delineated in the in the Pinelands Protection Act at N.J.S.A. 13:18A-11.b.” In the body of her report, on page 8, she notes that “[t]he portion of NJNG’s proposed natural gas pipeline project located within the Base is located entirely within the Preservation Area of the Pinelands.”

The report goes on to say that if development is infeasible in the Protection Area, then it may occur within the Preservation Area. I disagree with this interpretation of the CMP, also. Sub-section (a) 2 is clear:

“The use **shall not** require development, including public service infrastructure, in the Preservation Area District.”

NJ Pinelands Commission

In re: Resolution PC 4-17-____, “Approving with conditions Pinelands Development Application Number 2014-0045.001” September 14, 2017
Applicant: New Jersey Natural Gas

Mark S. Lohbauer, Pinelands Commissioner

This language stands alone; it is not contingent upon the “where feasible” clause of sub-section 1. We are not permitted to authorize public service infrastructure in the Preservation Area, even within the Military and Federal Installation Area.

The CMP sets forth goals that the Pinelands Commission is obligated to pursue, and our goals for the Preservation Area District are defined in Section 7:50-5.13 (a):

- (a) The Preservation Area District is the *heart of the Pinelands environment* and represents *the most critical ecological region in the Pinelands*. It is an area of significant environmental and economic values that are *especially vulnerable to degradation*. This large, contiguous, wilderness-like area of forest, transected by a network of pristine wetlands, streams and rivers, supports diverse plant and animal communities and is home to many of the Pinelands' threatened and endangered species. The area must be protected from development and land use that would adversely affect its long-term ecological integrity. (Emphasis added.)

That is a very clear mandate to us to protect the Preservation Area District from development such as the one before us that would adversely affect its integrity.

That section also speaks to our goals for the Military and Federal Installation Area, under sub-section (h):

- (h) Military and Federal Installation Areas are federal enclaves within the Pinelands. They represent a unique element of the Pinelands landscape and are a substantial resource to the region and the state, *provided that their activities preserve and protect the unique natural, ecological, agricultural, archaeological, historic, scenic, cultural and recreational resources of the Pinelands.* (Emphasis added.)

The CMP does not give federal installations a blank check to do whatever they want. Whatever they seek to do, their activities must protect the ecological resource, and in that regard, we must refer back to our goals in sub-section (a): “The area must be protected from development and land use that would adversely affect its long-term ecological integrity.”

This application does not comply with the Comprehensive Management Plan. I vote “no.”

9/14/2007

7/5/2007
Statement

This is in fact a private company purchasing a right of way through public lands. Secondly the route passes through sensitive areas of the Pinelands as delineated on the Pinelands CMP map. Furthermore though there is much talk of the advantages to redundancy both on the base and for the company's customer base in Ocean County. There are no studies to demonstrate that need and no discussion of the other natural gas line on the base run by PSEG as it relates to redundancy for the base system

We are being asked again to set a dangerous precedent overruling the CMP and providing an advantage to a private natural gas line running from Pennsylvania to New Jersey's coast in the name of redundancy. This would seem more a project "to get through the Pines" than anything else. I see no proven public good coming from this project and therefore I vote no on the Resolution

Wanda M. Ash



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Sean W. Earlen
 Chairman

Nancy Wittenberg
 Executive Director

EXECUTIVE DIRECTOR’S RECOMMENDATION REPORT

August 29, 2017

Application No.: 2014-0045.001

Location: County Routes 539 & 547
 Block 23601, Lot 1
 Jackson Township
 Block 70, Lot 18; Block 71, Lot 13; Block 72.01, Lot 14.03 & Block 200,
 Lot 2
 Manchester Township
 Block 76, Lots 82.02 & 83.01; Block 91, Lot 1 & Block 92, Lot 1
 Plumsted Township

This application proposes the installation of a 12.1-mile portion of an approximately 30-mile, 30-inch, high pressure natural gas transmission pipeline that runs through the Townships of Chesterfield and North Hanover in Burlington County; the Township of Upper Freehold in Monmouth County; and the Townships of Plumsted, Jackson and Manchester in Ocean County. Only 12.1 miles of this natural gas pipeline is proposed to be constructed within the Pinelands Area and is the only part of the pipeline subject to the Commission’s regulatory authority. Therefore, only the 12.1 mile portion of the proposed natural gas pipeline project is discussed in this report.

The portion of the proposed natural gas pipeline to be constructed in the Pinelands Area will be located almost entirely within existing rights-of-way and roads. Specifically, the proposed pipeline will enter the Pinelands Area in Plumsted Township within Pinehurst Road (CR 539) and will continue into Jackson Township along Pinehurst Road (CR 539), which turns into Whiting-New Egypt Road (CR 539). Just before the border between Jackson and Manchester Townships, the pipeline will turn east into the fenced portion of Joint Base McGuire-Dix-Lakehurst (JB-MDL or the “Base) and follows the Base’s southern fence line along access roads, East Boundary Road, East Clubhouse Lake Road, Lakehurst Naval Air Center Taxiway, Broome Road, Lakehurst Naval Air Center Access Road and Lakehurst-Whitesville Road, before exiting the Base along County Road 547. The proposed natural gas pipeline will then cross CR 547, continue through several easements through private properties, at which point it leaves the Pinelands and follows Lowell Road and NJ State Route 70 before terminating by tying into NJNG’s existing transmission system south of Route 70 in Manchester. The proposed natural gas pipeline will be located within three Pinelands Management Areas; a Rural Development Area

(1.42 miles), a Military and Federal Installation Area (10.45 miles) and a Regional Growth Area (0.21 miles).

As held by the Board of Public Utilities (BPU) in its January 27, 2016 Reliability & Security Order, the entire length of the proposed natural gas pipeline is intended to provide adequate supply and reliability (i.e. redundancy) to the southern portion of New Jersey Natural Gas (NJNG) Company's service territory, which includes JB-MDL, by interconnecting the proposed pipeline with NJNG's existing 24-inch transmission line located on Colonial Drive in Manchester Township. As confirmed by JB-MDL, NJNG currently maintains a gas distribution system throughout the Lakehurst part of JB-MDL that serves a majority of its buildings and facilities. This existing natural gas distribution system begins near the Base's entrance on County Route 547 and extends west to the National Guard Center on County Route 539.

BACKGROUND

NJNG is a gas public utility, regulated by the BPU pursuant to NJSA 48:2-23, that supplies natural gas to customers in Morris, Middlesex, Monmouth, Ocean and Burlington Counties. NJNG differs from the other natural gas utilities in New Jersey in that no interstate pipelines run through its primary service territory located in Monmouth and Ocean Counties. As a result, NJNG provides natural gas to its customers in these counties, through its own network of transmission pipelines, that receive natural gas supply from two existing interstate natural gas supply mains, (Texas Eastern Transmission, LP (TETCO) and Transcontinental Gas Pipeline Co. (Transco)), both of which are located to the north and west of these counties. Currently, over 85% of NJNG's winter season peak day gas supply is provided by a single interstate pipeline, i.e. the TETCO line. The remaining 15% is provided by the two smaller connections to the Transco line located in Sayreville and Morgan, New Jersey.

On April 10, 2015, NJNG submitted a Pinelands Development Application to the Pinelands Commission for the installation of a 12.1-mile, 30-inch natural gas transmission pipeline within the Pinelands Area in Jackson, Plumsted and Manchester Townships, all in Ocean County. The proposed pipeline constitutes a portion of an overall 30-mile, 30-inch pipeline project known as the Southern Reliability Link (SRL)¹. The SRL is intended to provide redundancy and resiliency by providing connections to two separate interstate natural gas mains, one located at each end of NJNG's system².

Prior to submitting its application, NJNG, in accordance with N.J.A.C. 7:50-4.2(a), requested two pre-application conferences with the Pinelands Commission staff, which occurred on May 6, 2014 and October 14, 2014, respectively. The purpose of these pre-application conferences was to discuss the proposed project and the applicable standards of the Pinelands Comprehensive Management Plan (CMP) to which such project was subject. Pre-application conferences are

¹ NJNG submitted petitions to the BPU on April 2, 2015 and amended petitions on June 5, 2015, seeking to have BPU authorize construction and operation of the Southern Reliability Link pursuant to N.J.A.C. 14:7-1.4. Additionally, NJNG also petitioned BPU for preemption of municipal review of the proposed project pursuant to N.J.S.A. 40:55D-19 and to have it designate the route of the proposed pipeline in accordance with N.J.S.A. 48:9-25.4

² "[T]he Board finds that the project [the SRL] will ... add a significant, diverse source of natural gas, while also increasing overall system reliability and reinforcement in NJNG's service area." BPU Energy Decision and Order, Docket No. GO15040403, dated March 18, 2016 at 40.

informal meetings intended to facilitate open consideration of development proposals and the views and concerns of the applicant and the Commission. N.J.A.C. 7:50-4.2(a)3

Because NJNG is a private entity, Commission staff review normally would have proceeded in accordance with the regulatory process for private development. Specifically, once the application was deemed complete in accordance with N.J.A.C. 7:50-4.2(c), staff would have issued a Certificate of Filing (COF) in accordance with N.J.A.C. 7:50-4.34. Although not an approval, the COF authorizes a local permitting agency (municipality or county) to begin its review of the proposed development. *Id.* In addition, once the local permitting agency issues its approval for the private development, that approval must be submitted to the Commission's Executive Director for a determination as to whether it raises a substantial issue with respect to its conformance with the CMP. Only if the Executive Director finds that the local approval raises a substantial issue, does the application go before the full Commission for a vote, following the development of the record before the Executive Director or the OAL. N.J.A.C. 7:50-4.37 & 4.42.³

However, in this matter, NJNG petitioned the BPU pursuant to N.J.S.A 40:55D-19 to preempt municipal review of its proposed natural gas pipeline project. Accordingly, the application was reviewed under the coordinated state agency permitting provisions of the CMP at N.J.A.C. 7:50-4.81 through 4.85, which required the Executive Director to issue a COF to the applicant for submission to the BPU.

On December 9, 2015, the Commission staff issued a COF for the application pursuant to N.J.A.C. 7:50-4.34 and 4.82. Commission staff reviewed the proposed natural gas pipeline project for compliance with all applicable CMP standards, specifically permitted land uses, wetlands, threatened or endangered plants and wildlife, stormwater, and cultural resources. The staff determined that the proposed natural gas pipeline project was consistent with all of these standards. In the COF, however, it identified two CMP standards (wetlands and permitted land use) for which it provided guidance. Specifically, because of wetland impacts associated with the proposed natural gas pipeline, staff included a condition within the COF that the applicant obtain freshwater wetlands permits from the NJDEP prior to commencing development that would result in the disturbance of any wetlands area. Likewise, staff provided guidance as to why the proposed natural gas pipeline project was consistent with the CMP's permitted use standards. Additionally, although not a CMP compliance issue⁴, the staff identified the on-going site remediation activities occurring along the proposed route, to ensure that, prior to the commencement of any construction, the United States Environmental Protection Agency or the New Jersey Department of Environmental Protection determined that the proposed development would not affect these activities.

³ If the Executive Director determines the local approval does not raise issue of CMP conformance, the approval may go into effect. However, if further review ("call-up") is necessary, an adjudicatory hearing is conducted by either the Executive Director or the Office of Administrative Law, followed by a vote of the Commission. Conversely, with regard to public development applications, which typically do not include a corresponding local permitting approval, the determination of CMP compliance is made by vote of the Commission.

⁴ In accordance with a Memorandum of Agreement between the New Jersey Department of Environmental Protection and the New Jersey Pinelands Commission dated October 1994, the New Jersey Department of Environmental Protection is the lead agency and acts as the Commission's agent with regard to site remediation activities conducted in the Pinelands Area, including site remediations conducted under the Comprehensive Environmental, Response, Compensation and Liability Act, pursuant to which the United States Environmental Protection Agency is acting as the lead agency.

By letter dated February 4, 2016, the Executive Director transmitted a copy of the COF to the BPU. In that letter, the Executive Director requested that BPU provide the Commission with copies of documents issued and filed with BPU as part of its N.J.S.A. 40:55D-19 (Municipal Land Use Law preemption) petition proceedings, including copies of the petition; notice of any hearing, public meetings or other formal proceedings pertaining to that petition; copies of any written reports or comments that the BPU may receive that raise issues concerning the standards of the CMP and copies of any draft orders. BPU subsequently submitted its record to the Commission staff, including all public comments and documents submitted as part of its public and evidentiary hearings. After reviewing these materials, the Executive Director sent a letter to BPU, on March 10, 2016, indicating that based on the Commission staff's expertise and experience in administering the CMP and its review of the record, the finding of CMP consistency contained within the December 9, 2015 COF remained valid.

On April 21, 2016 and April 28, 2016, the Sierra Club and the Pinelands Preservation Alliance, respectively, each filed a Notice of Appeal of the Executive Director's March 10, 2016 letter.

On November 7, 2016, the Appellate Division, in three unrelated, consolidated appeals involving a petition to the BPU for municipal preemption pursuant to N.J.S.A. 40:55D-19 submitted by the South Jersey Gas Company, issued a published decision remanding that application to the Commission for its review of the Executive Director's consistency determination on that application and for further proceedings in conformity with its decision. In re petition of South Jersey Gas Company, 447 N.J. Super. 459 (App. Div., November 7, 2016). The decision afforded the Commission wide discretion in what procedures it chose to undertake such review provided the Commission afforded the public notice and the opportunity to be heard before it rendered its final decision. *Id.* at 479.

Given the Appellate Division's decision in the South Jersey Gas appeals and that the same review process was used for both the NJNG and the South Jersey Gas applications, the Commission determined that it should seek to have the NJNG appeals remanded so that it could conduct a review of the staff's consistency determination consistent with the Appellate Division's decision in In re: South Jersey Gas. Consequently, at its December 9, 2016 meeting, the Commission passed Resolution PC4-16-43. This resolution authorized the Division of Law to file motions in the Appellate Division to have the two appeals related to the Commission's consideration of the NJNG's proposed pipeline project remanded. On January 10, 2017, motions to remand the two appeals related to the NJNG application were filed with the Appellate Division.

Both the Sierra Club and the Pinelands Preservation Alliance filed responses to the Commission's remand motions on January 19, 2017. The Sierra Club concurred in this remand, but asked that the Appellate Division order an evidentiary hearing on remand. The Pinelands Preservation Alliance, however, also filed a Cross Motion to Invalidate Resolution PC4-16-42, Amend the Comprehensive Management Plan in Compliance with the Administrative Procedure Act and Provide a Hearing.

By Order dated January 31, 2017, the Appellate Division granted the Commission's remand motion, without ordering an evidentiary hearing, and dismissed the Sierra Club's appeal. In addition, as was the case with the South Jersey Gas application, the Appellate Division directed the Commission, on remand, to determine whether to render its decision based on the record developed before the BPU or to allow the parties to present additional evidence. The Appellate

Division ordered the Pinelands Commission, to also determine whether to refer the matter to the Office of Administrative Law for an evidentiary hearing before an Administrative Law Judge.

Likewise, on February 15, 2017, the Appellate Division issued an order granting the Commission's remand motion and denying the Pinelands Preservation Alliance's cross motion and motion to amend.

On May 11, 2017, the Executive Director received a letter from Kevin Marino, Marino, Tortorella & Boyle, counsel for New Jersey Natural Gas with respect to the Southern Reliability Link, requesting that the Commission review the Executive Director's prior determination, "without further delay." Mr. Marino stated that not only would this delay raise specific legal issues, it would also "unduly and improperly delay the SRL project..." Further, Mr. Marino explained that a delay "could have devastating consequences" with regard to the ability of NJNG to supply gas to its customers.

At its June 9, 2017 meeting, the Commission unanimously passed Resolution PC4-17-10, detailing the review process that would be followed to implement the Appellate Division's remand instructions and govern its review of the NJNG application. Additionally, in accordance with the Appellate Division's January 31, 2017 Order, the Commission, in that resolution: 1) determined that it would rely on the record developed before the BPU; 2) decided not to refer the matter to the Office of Administrative Law, because an additional evidentiary hearing was not necessary at this time given the limited regulatory issues involved in the application and the extensive record already developed both as part of the Commission's review of the application and the public and evidentiary hearings conducted before the BPU; and 3) permitted the former appellants to submit any additional information that they wished as part of the public comment process.

Following that meeting, the Commission posted notice on its website that the public would have the opportunity to provide oral comment regarding the NJNG application at a special Commission meeting that would be held on July 26, 2017 and through submission of written comments until the close of business on August 2, 2017⁵.

The July 26, 2017 meeting was conducted at the Pine Belt Arena in Toms River, New Jersey. The Pine Belt Arena is located approximately 9 miles from the proposed portion of the NJNG natural gas transmission pipeline subject to the Commission's jurisdiction. During this meeting, the Commission received public comment on the NJNG natural gas pipeline from 45 individuals over approximately 4 hours. Additionally, the Commission received 1,319 written comments on the application prior to the August 2, 2015 close of the written comment period.

STANDARDS

The Commission staff has reviewed the proposed development for consistency with all applicable standards of the Pinelands Comprehensive Management Plan (CMP). The following reviews the CMP standards that are relevant to this application:

⁵ Notice of the public's opportunity to comment was provided to the Asbury Park Press, Press of Atlantic City, Burlington County Times and the Cherry Hill Courier on June 12, 2017. Moreover, the Commission provided newspaper notice of its July 26, 2017 Special Meeting to the same newspapers on June 20, 2017.

Land Use (N.J.A.C. 7:50-5.28(a), 7:50-5.26(b)10 and 7:50-5.29(a))

As indicated in the Commission's December 9, 2015 Certificate of Filing for this application, the portion of the project to be constructed within the Pinelands Area consists of 12.1 miles of a 30-inch, high pressure natural gas transmission pipeline, which is proposed to be constructed almost entirely within existing rights-of-way and roads located in Plumsted, Jackson and Manchester Townships.

The proposed natural gas pipeline will be located in a Rural Development Area (1.42 miles), a Military and Federal Installation Area (10.45 miles) and a Regional Growth Area (0.21 miles). The CMP defines a natural gas pipeline as "public service infrastructure" N.J.A.C. 7:50-2.11. Public service infrastructure is a permitted use⁶ in a Regional Growth Area (N.J.A.C. 7:50-5.28(a)) and a Rural Development Area (N.J.A.C. 7:50-5.26(b)10).

Public service infrastructure is also a permitted use in a Military and Federal Installation Area provided the development meets certain conditions. N.J.A.C. 7:50-5.29. In fact, any use associated with the function of the Federal Installation may be permitted in a Military and Federal Installation Area, provided that: 1) where feasible, development shall be located in that portion of the installation located within the Pinelands Protection Area; and 2) the use shall not require development, including public service infrastructure, in the Preservation Area District or in a Forest Area. N.J.A.C. 7:50-5.29(a).

NJNG currently maintains a natural gas distribution system within the Lakehurst section of JB-MDL that serves a majority of its buildings and facilities. NJNG's proposed new natural gas pipeline will enter JB-MDL in Plumsted along Route 539. Just before the border between Jackson and Manchester Townships, it turns east into the fenced portion of the Base. It then traverses the Base's southern fence line along various access roads until it exits the Lakehurst section of JB-MDL at County Road 547, where it will continue and connect with NJNG's existing 24-inch transmission line located on Colonial Drive in Manchester Township. The proposed natural gas pipeline thus provides redundancy and resiliency to the Lakehurst section of JB-MDL by providing a direct connection to a second interstate transmission main at the southern end of NJNG's territory. Consequently, should NJNG experience a disruption in its existing TETCO interconnection in Jamesburg, New Jersey, it would be able to use this new connection to Transco, in Chesterfield Township, to provide gas to the Lakehurst section of JB-MDL through the existing natural gas distribution system already located on that section of the Base.

This need for redundancy is confirmed in a November 6, 2015 letter from the former Commander of JB-MDL, Colonel Fredrick D. Thaden, to Assemblyman Ronald S. Dancer wherein he stated "Gas supply to the eastern portion of JB-MDL was identified as a critical system deficiency in the aftermath of Hurricane Sandy. This project provides a primary benefit of natural gas redundancy gained by looping the delivery pipeline, in addition to potentially converting facilities from liquid energy sources to gas. The current proposed route will provide direct service to the installation whereas, under the current state, JB-MDL is near the terminus of the existing pipeline." Colonel Thaden made a similar statement in a November 7, 2015 letter to

⁶ A permitted use is a land use authorized by the CMP in a particular Pinelands management area pursuant to Subchapter 5, Minimum Standards for Land Uses and Intensities.

Executive Director Nancy Wittenberg wherein he acknowledged that the proposed natural gas pipeline addresses a known natural gas deficiency on JB-MDL and assures the Base's ability to address national security requirements by providing energy resiliency and redundancy.

Similarly, both the Base Commander before Colonel Thaden (Colonel James C. Hodges) and the present Base Commander (Colonel Neil R. Richardson) have confirmed that the proposed natural gas pipeline project is associated with the function of JB-MDL. Specifically, Colonel Hodges, in a letter dated February 13, 2015 to a concerned citizen stated "[The Base's] interest in this important project is the improvement of energy reliability and redundancy at the Joint Base" and that "any disruption in service adversely impacts the installation." Colonel Hodges went on to state "[e]nergy reliability and redundancy at this installation is absolutely critical to our local, regional, national and international missions. A recent example of the combination of these issues was our response to Superstorm Sandy where the Joint Base provided crucial emergency and logistical support to the local area and region. However, our natural gas supply was at critically low levels after the storm and increased the risk to our ability to support the recovery and other ongoing missions."

Likewise, the current Base Commander Neil R. Richardson, in comments emailed to Nancy Wittenberg dated August 2, 2017, stated "[t]he Southern Reliability Link project, as proposed by New Jersey Natural Gas, is an initiative that supports the Department of Defense and Air Force goals of increasing energy security, providing assurance that a critical energy source is available without interruption. Hurricane Irene and Superstorm Sandy provided an excellent, albeit unwelcome opportunity to assess our vulnerability to interruptions in energy supply due to natural or manmade events. Colonel Richardson also stated that "[t]he Southern Reliability link project provides an alternative source of gas in the event the current one is compromised. Any loss of gas supply will cripple the missions carried out by Naval Air Systems Command, which are Fleet Support functions critical to national security. Other organizations reliant upon that energy source are the Army Communication-Electronic Research, Development and Engineering Center, the New Jersey National Guard Aviation and Logistics Training functions, as well as the FBI and state police. The Southern Reliability Link provides redundancy in our gas supply and reduces the risk of degradation or failure of our core missions."

Thus, NJNG's proposed natural gas pipeline is clearly associated with the function of the Base. Although each used different words, all three commanders acknowledged that the proposed natural gas project provides a redundant natural gas supply to the Base and that the Base uses natural gas as part of its various missions. Additionally, all three commanders identified a real life incident, the aftermath of Superstorm Sandy, where the Base's existing natural gas supply was critically low and discussed the impact that loss of natural gas would have to the Base and its on-going missions. As demonstrated by these letters, NJNG's proposed natural gas pipeline provides redundancy to JB-MDL by providing an alternate natural gas supply from the SRL's interconnection with NJNG's existing transmission line located on Colonial Drive in Manchester Township. In contrast, under the current state, JB-MDL is near the terminus of the existing pipeline. As discussed by BPU in its March 18, 2016, Energy Order, Dkt. No. G015040403, any supply disruption in the TETCO interconnection, that outstrips the capacity of the existing Transco interconnections and NJNG's existing LNG facilities' ability to maintain adequate system pressure, will result in the loss of service to customers in the southern portion of NJG's service territory. *Id.* at 39.

N.J.A.C. 7:50-5.29(a)1 requires that where feasible, development shall be located in that portion of the installation located within the Pinelands Protection Area. The portion of NJNG's proposed natural gas pipeline project located within the Base is located entirely within the Preservation Area of the Pinelands⁷. The CMP, however, does not prohibit development within the Preservation Area. Rather, it requires that if it is feasible, such development must be constructed in the Protection Area. If that is infeasible, development may occur in the Preservation Area⁸.

As part of its review of NJNG's municipal preemption petition pursuant to N.J.S.A. 40:55D-19, the BPU examined alternative routes for the SRL pipeline project. In its March 18, 2016 Energy Order, the Board discussed one route that would have traversed the Base from State Route 68. BPU noted that this route would present undesirable operational impacts to JB-MDL⁹. *Id.* at 41. BPU also cited Burlington County's acknowledgement that the Joint Base has informed Assemblyman Dancer that this alternative presents numerous impacts to operational requirements of the Joint Base and that, as a result, Burlington County was unable to present any other viable routes. *Id.* Thus, BPU found that the record reflected evidence of review and analysis of alternate routes and that the NJNG's proposed route was the most appropriate. *Id.* at 42.

The November 6, 2017 letter from former Commander Colonel Fredrick D. Thaden to Assemblyman Dancer, cited by BPU, advised the Assemblyman that the route proposed by NJNG, that crosses portions of JB-MDL from Ocean County Route 539 through the southern edge of the former Lakehurst Naval Air Station, was developed in close coordination with Air Force Engineering, environmental and legal experts. Colonel Thaden also advised that this "is the best on-base route available because it presents minimal impact to our [JB-MDL's] mission, the people working and residing on JB-MDL and to the environment." Colonel Thaden's letter recounted the alternative on-base route considered, including an entrance point for the pipeline in proximity to the JB-MDL Route 68 gate near Wrightstown and concluded that "[b]ringing the pipeline from this area, across the installation to the Lakehurst side presents numerous impacts to operational requirements.... Moreover, a route from the east side to the west side of the installation [i.e. from the protection area], would have to transverse the range complex"; an area that has the potential for encountering unexploded ordinance.

Additionally, JB-MDL, in the March 2017 Draft Environmental Assessment for the easement for the proposed NJNG natural gas pipeline project, discussed two other areas that were considered as alternative easement locations, one of which traversed the Protection Area. The screening criteria used to evaluate these potential locations included avoiding areas used for military

⁷ Two thirds of JB-MDL is located within the Preservation Area as delineated in the Pinelands Protection Act at N.J.S.A. 13:18A-11.b. The dividing line between the Preservation Area and the Protection Area is Cookstown-Browns Mills Road (CR 667), with the Protection Area to the west of the road and the Preservation Area to the east. Thus, the entire Lakehurst section of JB-MDL is located within the Preservation Area.

⁸ The Preservation Area however, is not the same as the Preservation Area District. The terms Preservation Area and Protection Area refer to those portions of the Pinelands Area expressly delineated by the Pinelands Protection Act, N.J.S.A. 13:18A-1 *et seq.*; the boundaries of the Preservation Area are delineated in N.J.S.A. 13:18A-11.b and the Protection Area is defined by the Act as that portion of the Pinelands Area not included within the Preservation Area. N.J.S.A. 13:18A-3.j-k. The term Preservation Area District refers to a Pinelands Management Area designation found at N.J.A.C. 7:50-5.12(a)1. It is separate from the Military and Federal Installation Area designation found at N.J.A.C. 7:50-5.12(a)8.

⁹ Likewise, BPU, in its January 27, 2016 Reliability & Security Order, stated "[t]he additional primary alternative routes also included routes which would travel through the Joint Base but were ultimately determined to be unviable by Joint Base management as they would cross the operational areas of McGuire Air Force Base as well as the artillery/firing ranges in Fort Dix." Dkt. No. GE15040402, p.8.

training and operations and areas where unexploded ordinance sweeps would be required. Specific examples of military training and operations that eliminated potential pipeline easement locations listed in the EA included aircraft hangars, hazardous materials storage areas, jet engine fuel storage tanks, munitions storage, live fire ranges and military housing units. In addition, JB-MDL excluded any locations that would not meet the CMP standard at N.J.A.C. 7:50-5.29(a)2, that prohibits construction of a proposed pipeline within the Preservation Area District or in a Forest Area.

The review of alternate on-base routes by JB-MDL validates that construction of NJNG's proposed natural gas pipeline in the Protection Area is infeasible. The proposed project, therefore, is consistent with N.J.A.C. 7:50-5.29(a)1.

As noted above, N.J.A.C. 7:50-5.29(a)2 provides that permitted uses in the Military and Federal Installation Area shall not require development, including public service infrastructure in the Preservation Area District or in a Forest Area. The Preservation Area District and Forest Areas, similar to the Military and Federal Installation Areas, are separate land use management area designations included in the CMP. N.J.A.C. 7:50-5.12(a)1 (Preservation Area District), -5.12(a)2 (Forest Areas) and 5.12(a)8 (Military and Federal Installation). They are geographically discrete areas, meaning that the Preservation Area District and Forest Areas are located entirely outside of the Military and Federal Installation Area. These management area designations are assigned specific land uses and development intensities by Subchapter 5 of the CMP. N.J.A.C. 7:50-5.21-5.36.

Any alternative that would have placed the proposed natural gas pipeline in the portion of JB-MDL located in the Protection Area also would have required development in the Preservation Area District or a Forest Area, which is expressly prohibited by 7:50-5.29(a)2. This also rendered construction of NJNG's proposed natural gas pipeline in the Protection Area infeasible.

NJNG's proposed natural gas pipeline does not include any development within the Preservation Area District or a Forest Area. Given this, the proposed pipeline project is consistent with N.J.A.C. 7:50-5.29(a)2. Thus, the record demonstrates that NJNG's proposed natural gas pipeline is a permitted use in a Military and Federal Installation Area, i.e. JB-MDL.

Wetlands Protection Standards (N.J.A.C. 7:50-6.7 & 6.13)

The CMP prohibits most development in wetlands and requires a 300 foot buffer to wetlands unless it is demonstrated that a lesser buffer will not result in a significant adverse impact to the wetland. NJNG's proposed natural gas pipeline project is to be constructed almost entirely within existing rights-of-way and roads. There is one point, however, on JB-MDL, where the proposed natural gas pipeline exits an existing roadway and crosses portions of an upland forest and wetland before it exits the Base along County Road 547.

Portions of these rights-of-way or roads are located within 300 feet of wetlands. However, in all of these areas, the proposed pipeline will be constructed under existing road pavement or, in the vicinity of Lakehurst Naval Air Center Taxiway, under existing, adjacent already disturbed and maintained grass shoulders. To the extent that the proposed natural gas pipeline will be installed under existing road pavement or disturbed and maintained grass shoulders, it will not result in a significant adverse impact on wetlands.

With regard to the one proposed wetlands crossing, the CMP (N.J.A.C. 7:50-6.13) permits the installation of utility transmission and distribution facilities in wetlands provided the following conditions are met: 1) there is no feasible alternative route for the linear improvement that does not involve development in a wetland, or, if none, that another feasible route which results in less significant adverse impacts on wetlands does not exist; 2) the need for the proposed linear improvement cannot be met by existing facilities or modification thereof; 3) the use represents a need which overrides the importance of protecting the wetland; 4) development of the linear improvement will include all practical measures to mitigate the adverse impact on the wetland; and 5) the resources of the Pinelands will not be substantially impaired as a result of the facility and its development as determined exclusively based on the existence of special and unusual circumstances.

The proposed natural gas pipeline will be installed under the wetland by HDD. The proposed crossing, however, would result in the permanent removal of 0.42 acres of upland trees (predominately pitch pines) and the disturbance of 390.3 sq. ft. (.009 acres) of forested wetlands. The 390.3 square feet of wetland disturbance is necessary to provide for ongoing operation and maintenance of the natural gas pipeline as it is not located under or adjacent to a road. After construction, the 390.3 square feet of forested wetland will be an emergent wetland.

The information submitted as part of NJNG's Pinelands Development Application, which was verified by the Commission staff, demonstrates compliance with the 5 conditions of N.J.A.C. 7:50-6.13. Specifically, based upon the staff's review, there is no feasible alternative route for the proposed natural gas pipeline that does not involve development in wetlands or another feasible route which results in an impact to less than 390.3 square feet of wetlands. The proposed pipeline will provide a second redundant supply of natural gas; the need for which cannot be met by existing facilities or modifications thereof. The provision of a second redundant supply of natural gas represents a need which overrides the importance of protecting 390.3 square feet of wetlands. Development of the pipeline will include all practical measures, including HDD, to avoid earth disturbance in the wetland and the hand cutting of trees, to mitigate any adverse impact on the wetland. The conversion of the 390.3 square feet of wetland from a forested wetland to an emergent wetland will not result in the resources of the Pinelands being substantially impaired.

Vegetation Management Standards (N.J.A.C. 7:50-6.23 & 6.26)

The proposed natural gas pipeline will be located almost entirely within existing rights-of-way and roads. In accordance with N.J.A.C. 7:50-6.23(a), the proposed clearing and soil disturbance in the vicinity of the JB-MDL gate at County Road 547 is limited to that which is necessary to accommodate the proposed development.

The Landscaping and Revegetation guidelines of the CMP (N.J.A.C. 7:50-6.26) recommend the use of grasses that are tolerant of droughty, nutrient poor conditions. N.J.A.C. 7:50-6.26 lists grass species that meet this standard. To stabilize the disturbed areas associated with the remote operating valve station, the applicant proposes to utilize a seed mixture which meets that recommendation.

Threatened and Endangered Species Protection Standards (N.J.A.C. 7:50-6.27 & 6.33)

The applicant completed a habitat suitability assessment and threatened and endangered (T&E)

species surveys for Pinelands designated T&E animals and plants. No T&E animal species were identified by NJNG within the immediate vicinity of the proposed development. Nonetheless, as an additional precaution, NJNG intends to install safety fencing during construction to protect threatened or endangered species habitat from disturbance and will use silt fence as an exclusion barrier in areas adjacent to suitable habitat areas. Thus, there will be no irreversible adverse impacts on habitats that are critical to the survival of any local populations of threatened or endangered animal species designated by the Department of Environmental Protection pursuant to N.J.S.A. 23:2A-1 *et seq.*

With regard to threatened or endangered plant species, the survey identified a population of Sickle-leaved golden aster in the vicinity of the proposed natural gas project to be constructed on JB-MDL. As initially designed, a small portion of this population (0.20 acres) would have been impacted as part of the work area for a proposed Horizontal Directional Drilling (HDD) operation. However, as a result of discussions with Commission staff, and in order to avoid impacts to this population, the design of the project was revised on November 25, 2015, to eliminate the HDD in this area and, thus, the impacts to the Sickle-leaved golden aster population were eliminated. Instead of the HDD, the applicant is using a conventional bore that shortens the length of the construction impact and avoids the plants. Thus, given the redesign, and that the proposed natural gas pipeline will be constructed almost entirely within existing rights-of-way and roads, the proposed project will not result in irreversible adverse impact on the survival of the local population of this T&E plant species.

Stormwater Management Standards (N.J.A.C.7:50-6.84(a)6)

The CMP at N.J.A.C. 7:50-4.2(b)5x requires the submission of a stormwater management facilities map for applications for major development. The CMP stormwater standards at N.J.A.C. 7:50-6.84(a)6 require that applicants address any changes to the rate of runoff and increase of runoff volume for any major development application. The proposed natural gas pipeline will be located almost entirely within existing rights-of-way and roads. In these instances, there will be no change to the surface conditions, changes to stormwater runoff rates or increases in stormwater volume. Thus, stormwater management facilities are not required.

As discussed above, however, there is one segment of the proposed project that will result in the clearing of forest. The definition of major development includes any grading, clearing or disturbance of an area in excess of 5,000 sq. feet. N.J.A.C. 7:50-2.11. The Commission staff reviewed the stormwater management plan and calculations submitted as part of the application to demonstrate compliance with the stormwater requirements of the CMP and determined that the proposed natural gas project is consistent with these standards.

Cultural Resource Standards (N.J.A.C. 7:50-6.151)

A Phase 1 Cultural Resource Surveys was completed for this application. The submitted survey concluded that no archaeological resources or historic properties eligible for Pinelands Designation will be adversely impacted by the proposed development. Commission staff reviewed the survey and concurred with its findings. The proposed development is consistent with the CMP cultural resource standards.

PUBLIC COMMENT

As noted above, the Commission provided an opportunity for the public to provide comment in person at a Special Meeting conducted on July 26, 2017, and through the submission of written comments until the end of the day on August 2, 2017. Notice of these public comment opportunities was provided on the Commission's website on June 9, 2017 and sent to the Asbury Park Press, Press of Atlantic City, Burlington County Times and Cherry Hill Courier Post on June 12, 2017, announcing the opening of the public comment period, and on June 20, 2017 for the July 26, 2017, Special Commission Meeting.

The July 26, 2017 meeting was conducted at the Pine Belt Arena in Toms River, New Jersey. The Pine Belt Arena is located approximately 9 miles from the proposed portion of the NJNG natural gas transmission pipeline subject to the Commission's jurisdiction. During this meeting, the Commission received public comment on the NJNG natural gas pipeline from 45 individuals over approximately 4 hours. Additionally, the Commission received 1,319 written comments on the application prior to the August 2, 2017 close of the written comment period.

As is evident from the transcript of the Commission's July 26, 2017 Special Meeting and the written comments the Commission received, commenters cited a variety of reasons for supporting or for opposing NJNG's proposed natural gas pipeline. Because the Pinelands CMP does not contain standards regarding some of these comments (such as job creation benefits, fracking, impacts of aviation activities on the proposed pipeline, alternative routes outside of the Pinelands Area, issues pertaining to construction of the proposed SRL outside of the Pinelands (i.e. Bordentown, Chesterfield and North Hanover Townships), focusing on renewables rather than permitting fossil fuel infrastructure, etc.), they are not germane to the Commission's decision as to whether the 12.1-mile portion of NJNG's proposed natural gas pipeline that is to be constructed within the Pinelands Area is consistent with the standards and objectives set forth in the Pinelands CMP and the Pinelands Protection Act that are addressed below.

A number of other points were raised by commenters that do bear upon the Commission's decision in this matter. These generally relate to the consistency of the proposed natural gas pipeline with the standards and objectives of the Pinelands CMP and the Pinelands Protection Act: whether the proposed natural pipeline is associated with the function of JB-MDL; an allegation of avoiding regulatory compliance; concerns regarding Horizontal Directional Drilling; objections to the review process and potential environmental impacts as a result of construction and operation of the proposed natural gas pipeline. To more fully inform the Commission's decision making process, the Executive Director has focused the response to public comment on these issues that directly pertain to the conformance of the proposed natural gas pipeline with the standards of the Pinelands CMP.

I. The Proposed Natural Gas Pipeline is Not Associated with the Base

Comment:

Numerous comments were submitted to the effect that the proposed natural gas pipeline is not a permitted use in the Military and Federal Installation Area because it is not associated with the function of the Base. These comments generally fell into the following categories: 1) the use of the Base is a ruse, because there is no actual connection from the proposed natural gas pipeline to the Base or its activities; 2) there is no benefit to the Base; 3) there is no demonstrated military

need or purpose for the proposed natural gas pipeline; and 4) there are alternatives to the proposed route.

Commenters stated that the proposed natural gas pipeline project violates the permitted use standards for the Military and Federal Installation Area (N.J.A.C. 7:50-5.29(a)), because there is no actual connection from the proposed pipeline to the Base or to any activity on the Base at any point. Others stated that the use of the Base is a ruse; the connection to the Base is a cover to build the pipeline; the proposed natural gas pipeline just uses the Base as a path to get from one side of the Base to the other; and there is no provision for a service feed to exist on the base.

Other commenters noted that there are no plans to construct an interconnect station to allow for a connection from the proposed natural gas pipeline to the Base. Another commenter stated that the proposed pipeline has no value or tie in to the Base and, as a result, there is no provision to provide service to the Base. Other commenters noted that the plans did not include pressure lowering equipment to make the gas available to the base and that the total demand for gas at the Base is less than ½ of 1% of the total capacity of the pipeline.

Commenters felt that the proposed natural gas pipeline failed to provide a benefit to JB-MDL and therefore, was inconsistent with the permitted use standards of the CMP. These commenters noted that there had been no demonstration of substantial benefit or an analysis of the benefit to the Base. Comments noted that only the Lakehurst section of JB-MDL is served by NJNG, that a portion of the Base is served by PSE&G and that there are no plans to create redundant service to the other sections of the base, which is larger than Lakehurst. Another commenter stated that JB-MDL derives no benefit from the proposed natural gas pipeline because the project does not serve any actual or demonstrated purpose on the Base.

Comment was submitted that there is no military need for the proposed natural gas project. A number of commenters, citing the 2012 Air Force Installation Plan, stated that the Air Force has already acknowledged that the existing gas supply at the Base is adequate, the gas supply to JB-MDL is non-interruptible and supply capacity is not an issue for future growth at the Base. Other commenters note that the letters received from the Base Commanders do not say that the project is for a military purpose. One commenter stated that there has not been a single word from the new Base Commander as to the Base's need for the project. Other commenters noted the lack of any analysis for the need for gas supply redundancy at JB-MDL. Another Commenter indicated that the Base is receiving \$50,000 per year from NJNG as a rental fee for an easement for the proposed natural gas pipeline. This commenter stated that this payment is proof that the project is not needed for the Base, because if it were the Base would have waived that fee.

Comments were received challenging the need for the proposed project generally. These commenters submitted a report prepared by Skipping Stone entitled "Analysis of the Southern Reliability Link as a Response to a Single Point of Failure" dated July 2017.

Response:

The comments received seem to be premised on a misinterpretation of the CMP's permitted use standards for a Military and Federal Installation Area (N.J.A.C. 7:50-5.29(a)). That standard permits the development of any use "associated" with the function of the Federal installation, provided such use complies with the stated conditions. The CMP does not require that the proposed use benefit the Federal installation or that such installation demonstrate a need, let

alone a substantial need or a true military need for the use. Nor does the CMP require that the land use serve a military purpose. Rather, the use need only be related to the function of the installation.

The fact that PSE&G serves other parts of the Base and there are no plans to provide redundant service to those areas also has no bearing on whether the proposed natural gas pipeline is associated with the function of the Base. It is sufficient that NJNG serves the Lakehurst section of the Base and that the proposed natural gas pipeline will provide an alternate supply source to that portion of the Base.

Moreover, the record fully supports the finding that NJNG's proposed natural gas pipeline is associated with the function of JB-MDL. The proposed natural gas pipeline does not solely pass through the base, but as stated by Former Base Commander Fredrick D. Thaden, in his letter dated February 13, 2015, the project addresses a known natural gas deficiency on JB-MDL. This redundancy is gained by looping the pipeline that serves the Base. Looping occurs when a pipeline is paralleled (looped) by a second pipeline, both of which serve the same gas source and destination. This "looping" would occur because the proposed natural gas pipeline would provide an alternative supply feed from Transco's interstate natural gas supply main in Chesterfield to NJNG's existing transmission line located on Colonial Drive in Manchester Township. This is an alternative to the current gas supply from TETCO and further away parts of smaller Transco pipeline. From there, NJNG would be able to serve the Lakehurst section of JB-MDL through its existing natural gas transmission system and its existing connection to its distribution system on Lakehurst.

The former and current Commanders of JB-MDL have all discussed JB-MDL's vulnerability to interruptions in energy supply due to natural or manmade events and the need for energy reliability and redundancy. Colonel Thaden, in particular, identified gas supply to the eastern portion of JB-MDL as a critical system deficiency. Furthermore, all three base commanders acknowledged that NJNG's proposed natural gas project provides a redundant natural gas supply to the Base and that the loss of gas supply would cripple its ability to perform its various missions. In fact, Colonel Thaden, in his letter to Assemblyman Dancer dated November 6, 2015, discussed JB-MDL's location near the terminus of the existing pipeline (i.e. in the southern portion of NJNG's service territory) and how the proposed project would provide natural gas redundancy to the Base by looping the delivery pipeline.

Moreover, despite comments to the contrary, it is a fact that there is an existing natural gas distribution system on the Lakehurst section of JB-MDL. This distribution system begins near the Base's entrance on CR 547 and extends west to the National Guard Center on County Route 539. Thus, it is of no consequence that the proposed pipeline does not contain an interconnection directly on the Lakehurst section of JB-MDL, that the plans do not include pressure lowering equipment, that the plans identify a valve site on CR 539 for a future regulator station or that the capacity of the SRL is greater than the demand for gas on the Base. The CMP does not require that a land use solely serve the Federal installation in order to permit its development on a Military and Federal Installation. See N.J.A.C. 7:50-5.29(a).

As discussed in the BPU's January 27, 2016 Reliability & Security Order, "[t]he entire length of the Pipeline is designed to provide adequate supply and reliability to the southern portion of the Petitioner's service territory by interconnecting with an existing twenty four (24) inch transmission line in Manchester." This additional redundancy benefits JB-MDL, which is served

from this system. BPU Energy Order, Dkt. No. G015040403, page 40. Thus, JB-MDL, which currently is at the end of NJNG's existing transmission system, from TETCO and smaller, separate parts of Transco, will now be at the beginning of the transmission system supplied by Transco at the new interconnection at Colonial Drive. Following the construction of the SRL, natural gas from this alternate supply would be able to serve the base, through the existing natural gas distribution system on the Lakehurst section of JB-MDL. As stated in the BPU Energy Order, "[t]he current TETCO interconnection, at the northern end of NJNG's transmission system servicing the Counties, essentially equates to a single point of failure. The design of SRL, and the fact that it provides an alternate interstate supply source to the southern portion of NJNG's transmission system, mitigates the potential of impacts of this failure point." Id. at 39.

The July 2017 Skipping Stone report does not alter this finding. The focus of the Skipping Stone report is to demonstrate why the SRL is not necessary in general and to also provide what Skipping Stone presents as a better and more cost effective solution to address a single point of failure on the one section of the entire TETCO network across which a major failure would substantially disrupt supplies to NJNG. Skipping Stone identified this alternative as a 12-mile stretch of existing pipeline known as the Freehold Lateral. Skipping Stone proffers a remedy to this single point failure through the construction of an interconnection to Transco near where it crosses the TETCO lateral in Freehold, New Jersey. Skipping Stone refers to this solution as the Freehold Back-Up Reliability Solution (FBURS)¹⁰.

This fundamental premise of the Skipping Stone report is fatally flawed. The report states that the scenario of a single point of failure upstream from the NJNG TETCO connection that would result in a disruption of the supply of gas to the NJNG system is incorrect. The report suggests that supply could be brought in from another direction on the line as it allows for gas to flow in two directions. Therefore, a single point of failure upstream could be resolved without disruption in service. Secondly, the report notes that the NJNG system is itself highly redundant such that the SRL is not needed.

Contradicting these statements, a failure on the TETCO mainline west of New Jersey occurred on April 29, 2016 near TETCO's Delmont Compressor Station in Westmoreland County, Pennsylvania. This disruption resulted in the closure of TETCO's line 27 as well as three other pipelines running through the same corridor, which resulted in the inability of 1 billion cubic feet of natural gas per day to reach mid-Atlantic markets, including New Jersey. This disruption impacted supply not only to NJNG, but to other regional customers. Over 80% of supply was lost the first two days and over 54% of supply was lost over the next nine days. In fact, the TETCO¹¹ pipeline system did not return to full service until November 1, 2016.

Significantly, following the TETCO disruption, the BPU, at its July 26, 2017 meeting discussed a table top exercise involving a hypothetical disruption of natural gas supply in parts of Central New Jersey that was patterned after the TETCO Delmont disruption. Minutes, July 26, 2017, BPU meeting, Item 6A Reliability & Security, 3. The table top exercise was named New Jersey Pilot Light 2017 and presented a scenario of a catastrophic explosion of a major interstate line within the state, during peak demand in the cold of winter, which resulted in a 14-day disruption

¹⁰ The Skipping Stone report does not conclude that the SRL will not provide redundancy to JB-MDL, but rather that the FBURS is just as reliable.

¹¹ This information comes from the Minutes of the BPU July 26, 2017 Board Meeting. This TETCO pipeline provides gas supply to E-Town Gas, NJNG and PSE&G. Id. at 4

of this natural gas feed until the damaged line could be repaired. *Id.* at 5. One of the lessons learned by the BPU staff from the exercise was that identification of more diverse gas supplies and interconnection to multiple interstate sources could improve resiliency in the gas sector. *Id.* at 6. Significantly, the BPU staff identified the SRL as an example of how an alternate supply could help mitigate a disaster of this magnitude. *Id.* In fact, in discussing the Delmont disruption as part of this exercise, BPU noted that based on that scenario NJNG would have been the most impacted and that had the incident occurred in peak demand season rather than April, it is likely it would have resulted in some immediate gas curtailments for parts of the Eastern Region of NJNG's service area.

The Skipping Stone report also fails to provide an alternate supply interconnection at the southern end of NJNG's service area. Although the FBURS provides an interconnection to an alternate interstate natural gas main, Transco, that connection also would occur north and west of Ocean, Burlington and Monmouth Counties (i.e. the northern end of NJNG's territory). As such, the FBURS would not address a disruption within NJNG's own transmission system, which the SRL does provide.

As discussed in BPU's March 18, 2016 Energy Order, Dkt. No. G0105040403, NJNG services customers in Monmouth, Ocean, Morris, Middlesex and Burlington Counties. NJNG's network consists of two-hundred and twenty-seven (227) miles of large diameter transmission lines, approximately 6,930 miles of distribution mains, and approximately 473,000 service lines.

Customers in parts of Ocean, Burlington and Monmouth Counties (the Counties) are most vulnerable to an interruption of supply, because they are served by a TETCO connection that provides approximately eighty-five (85%) of NJNG's winter peak day gas supply. *Id.* at 38. NJNG has a contract volume of 591,855 dekatherm Dth/day, with a total system capacity of 771,112 Dth/day at that interconnection. *Id.* BPU found that in the event of a disruption in the TETCO supply, it is evident that NJNG's existing two remaining interconnections with Transco, which are also in the northern end of NJNG's transmission system servicing the Counties, lack the ability to maintain adequate pressure at the southern end of the system. *Id.* at 39. According to BPU, these two Transco interconnections have an approximate capacity of 76,500 and 124,500 Dth/day and their expansion is limited by existing Transco transportation capacity available. Additionally, although NJNG has LNG facilities to help maintain system pressure, BPU found that these facilities have a maximum send-out of 170,000 Dth/day. *Id.* At maximum send-out with a full tank, NJNG's current LNG supplies will last approximately seven (7) to ten (10) days. Thus, BPU found that any disruption in the TETCO interconnection, that outstrips the capacity of the existing Transco interconnection and NJNG's existing LNG facilities' ability to maintain adequate system pressure, will result in the loss of service to customers in the southern portion of NJNG's service territory. *Id.*

II. The Commission Staff Advised the Applicant to Locate the Proposed Pipeline on JB-MDL in order to Avoid Regulatory Requirements

Comments:

Several commenters submitted copies of emails that they stated were between NJNG and the Base. Commenters noted that the emails were obtained by a FOIA request. All names on the emails have been redacted so one cannot identify the senders and recipients or their affiliations.

Based on these emails, commenters stated that the Pinelands Commission staff advised the applicant to locate the pipeline on the Base in order to avoid regulatory requirements.

Response:

The Pinelands Commission held two pre-application meetings regarding the proposal to install a natural gas transmission pipeline. These pre-application meetings were held on May 6, 2014 and October 14, 2014. Attendees at both meetings included representatives for the applicant, NJNG, and the Pinelands Commission. The point of pre-application meetings is to have a preliminary discussion regarding a potential project and its consistency with the requirements of the CMP. At the time these meetings are held, projects are not fully designed. At the May 6, 2014 meeting, the pipeline routes being considered by the applicant were discussed. Commission staff outlined the CMP standards that would apply, including the Minimum Standards for Land Use Distribution and Intensities (Land Use) at N.J.A.C. 7:50-5 and the Management Programs and Minimum Standards at N.J.A.C. 7:50-6. At the May 6, 2014 meeting, the Commission staff explained the Land Use standards associated with each of the Pinelands Management Areas located along the alternate routes being considered. Public service infrastructure, such as a natural gas pipeline, may be permitted, permitted with certain restrictions or conditions, or not permitted, depending on the Pinelands Management Area in which it is located. The route alternatives discussed included several Pinelands Management Areas: Forest Area, Preservation Area District, Rural Development Area, Pinelands Town, Regional Growth Area and Military and Federal Installation. The Land Use standards for each Management Area were discussed. The applicant was made aware where public service infrastructure was permitted, where it was prohibited and where additional standards would need to be met.

Based on select emails, commenters are suggesting that there is no need for the project on the Base and that the route through the Base was chosen based on a suggestion made by the Pinelands Commission staff. Commenters claim that the need for the pipeline on the Base was “fabricated”. The facts do not support this claim. At the first pre-application meeting held on May 6, 2014, the applicant had four route alternatives. Three of these alternatives were routed through the Base. These routes were identified by the applicant prior to any discussion with the Commission. Further, at that first meeting, the applicant noted that they had already had discussions with the Base regarding this matter. At the second pre-application meeting on October 14, 2014, representatives from the Base were in attendance and noted their concerns regarding energy reliability.

The applicant included potential routes through the Joint Base at its initial pre-application meeting with the Commission staff. As a result of discussion at that meeting regarding the CMP Land Use standards, a modification to one of the proposed routes was made to avoid going through a Pinelands Forest Area, because the applicant was told that public service infrastructure would not be permitted in that area.

III. NJNG’s Payment of \$50,000 per year to JB-MDL for an Easement Undermines the Military Need for the Project

Comment:

Comments were made regarding the \$50,000 per year NJNG is paying to the Base for an easement. Commenters associated the payment for the easement as confirmation that there was no need for the pipeline by the Base. Commenters suggested that if the Base truly had a need for the pipeline, it would have waived the payment for the easement.

Response:

The contention that the pipeline will not benefit the base because the consideration for the easement (easement fee) was not waived is erroneous. Although it is true that an easement fee may be waived in certain circumstances, failure to waive the fee does not mean that the project does not benefit the Base. That is simply not the case.

It is the policy of the Base to impose an easement fee. Air Force guidance on this matter (as set forth in the Air Force General Easement Template, which is available on-line) notes that easements are not required to be granted to a company that provides utilities for installation use only. The Air Force obtains necessary utilities such as water, electric, gas, sewer, by means of a Utility Services Contract. However, easements are required for utility lines that also provide commercial service to the general public. The easement can be waived, but as one commenter noted this can occur only when the use is “primarily for the benefit of the Government” (from the Air Force General Easement Template). In this instance, the pipeline provides clear benefit to the Base but benefits are also provided to the general public. The decision on whether to require payment for the easement was not based on whether the project benefits the base. Moreover, as discussed above, whether the proposed natural gas pipeline benefits the Base is irrelevant. The CMP at N.J.A.C. 7:50-5.29(a) only requires that use be “associated” with the function of the Federal Installation.

IV. Comments by NJNG’s General Counsel Undermines the Military Need for the Proposed Project

Comment:

Several commenters, including one who claims to be a former New Jersey Natural Gas employee, stated that the Board of Directors of New Jersey Natural Gas was advised by its then general counsel in May 2014 that “it could not legally claim a military designation for the project by simply moving it onto the base and thereby evading compliance with the CMP”. No documentation in support of this claim was submitted by any of the commenters.

Response:

The Pinelands CMP does not include any standard related to a military designation nor is such a designation required for application to the Commission.

To address the specific comment regarding a NJNG Board Meeting, New Jersey Natural Gas has responded that the statement is false; no such advice was given. NJNG stated that New Jersey Resources will not reveal confidential information discussed at a meeting of its Board of Directors, but it can confirm that none of the commenters were present at the May 2014 Board Meeting.

V. Pipeline Safety: Leaks/Explosion

Comment:

Commenters expressed concern regarding safety issues associated with the pipeline. One area of concern expressed related to homes, schools, churches and other establishments being located in close proximity to the pipeline. Commenters provided examples of pipeline explosions that have occurred throughout the country from natural gas and oil pipelines, as well as other facilities. Commenters expressed concerns regarding the proximity of the pipeline to airport runways on the Base and heavy duty trucks using nearby roads.

Comments were submitted expressing concern with unexploded ordnances on the Base that could be encountered during construction. Commenters stated that the Base was unaware of the location of all of these ordnances.

Commenters raised concerns regarding the potential for corrosion to the pipeline due to the presence of the acidic water and soil typically found in the Pinelands.

Commenters noted that there will be impacts to the Kirkwood/Cohansey aquifer and drinking water.

Response:

New Jersey requirements governing the construction, operation and maintenance of transmission and distribution lines for the portions of natural gas carried by intrastate natural gas pipeline operators are included in N.J.A.C. 17:7 Natural Gas Pipeline Rules. These rules are implemented by the BPU. As part of its review of the project, BPU staff reviewed the design and construction plans associated with the project and performed field inspections for the entire proposed route and various alternative routes.

Based on its review, the BPU staff found the pipeline to be in compliance with all relevant State and Federal Safety regulations. To further ensure the safety of the pipeline the BPU, in its January 27, 2016 Reliability and Security Order, required NJNG to install remote controlled valves for emergency shutdown and have a comprehensive transmission pipeline integrity management program which includes performing inline inspections with “smart pigs¹²”. Dkt. No. GE1504040402m p.3 In addition, NJNG is to have full time inspectors qualified by training and experience overseeing the work in the field to ensure that it is constructed and installed in accordance with State and Federal requirements. This is in addition to the pipeline safety compliance inspection that will be done by BPU staff during and after construction. In addition, once the pipeline is in operation, NJNG will monitor the pipeline 24 hours a day, 7 days a week from their control room from which they can operate all the remotely controlled valves and if necessary shut down the flow of natural gas. According to the BPU Pipeline Safety Rules, N.J.A.C. 14:7 et. seq., NJNG is also required to have Emergency Response and Operating and Maintenance Procedures in place and to coordinate them with state, county and local emergency management personnel.

¹² Smart Pigs are Pipeline Inspection Gauges (hence the acronym “PIG”), which travel internally through a pipeline to detect stress corrosion cracking, general and pitting corrosion. <http://smartpigs.net/>

With regard to the issue of unexploded ordnances, based on historical uses of the Base, it is known that there are unexploded ordnances located at the Base. The Base has identified where these use areas are and the proposed pipeline easement is outside of the areas designated by the Base as having a high or moderate potential for having unexploded ordnances.

It is possible, however, that unexploded ordnance could be encountered outside these areas. To address this, the Base Safety Office will provide safety briefs to the construction personnel to provide guidance on how to identify unexploded ordnances. In addition, NJNG will hire an expert in identifying unexploded ordnances and a Base expert will be available to handle any unexploded ordnance that may be found.

With regard to corrosion, the industry standard for preventing corrosion of the pipe due to acidic water or soils is to use pipe that has a polyethylene coating. This coating separates the pipe from the surrounding soil and protects the pipe from corrosion. In addition, NJNG will test the pipeline by applying an induced current that will identify any corrosion that might be occurring. This testing is done on a bi-monthly basis.

There are many protections in place to ensure the Kirkwood/Cohansey aquifer will not be impacted by pipeline leaks. The pipe is designed to meet standards developed to ensure the integrity of the pipeline. The pipes are coated with polyethylene to protect against corrosion that could lead to a leak occurring. The pipeline will have safety valves installed that are remotely controlled by the utility that will limit any leak should it occur. The pipeline will be monitored and inspected on a regular basis by the utility and the BPU. Further, the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA) has overall regulatory responsibility for pipelines and they oversee the inspections done by the States. These many layers of protection provide assurances that significant leaks of natural gas will not occur. Should there be an incident resulting in a release, the response mechanisms including remote control valves will limit the scope.

VI. Horizontal Directional Drilling (HDD)

Comment:

Commenters expressed concern regarding the proposed use of HDD on this project. Commenters stated there are risks associated with HDD, the most notable being inadvertent returns. An inadvertent return is the unintended transfer of drilling mud to the surface during boring machine operations. Commenters identified recent incidents associated with pipeline construction using HDD in Pennsylvania. Commenters stated that there is a need for more studies on the local conditions including soil type, geology, hydrology and local soil and groundwater contamination in order to ensure that the HDD will not have impacts.

Response:

The use of HDD for construction of underground infrastructure is the preferred method of installing pipe. N.J.A.C. 7:7-12.15. See also, N.J.A.C. 7:7A-5.2(a). In fact, the NJDEP recommends HDD beneath any wetlands or stream crossings to avoid adverse land use impacts. See, N.J.A.C. 7:7A-5.2(a). HDD has been in use for over 50 years to install gas mains, water mains, electric lines and other facilities. The NJDEP Freshwater Wetland General Permit 2 pertains to Underground Utility Lines and authorizes activities in freshwater wetlands, transition

areas, and/or State open waters, necessary for the construction and/or maintenance of an underground utility line. See, N.J.A.C. 7:7A-5.2. The Department has the authority to adopt Freshwater Wetland General Permits when, after conducting an environmental analysis, the Department determines that the regulated activities will cause only minimal adverse environmental impacts when performed separately, will have only minimal cumulative adverse impacts on the environment, and will cause only minor impacts on freshwater wetlands and State open waters. (See N.J.A.C. 7:7A-4.1). The GP 2 provides that Department approval is not required for a utility line that is jacked or directional drilled underground, if there is no surface disturbance of any freshwater wetlands, transition areas, or State open waters and there is no draining or dewatering of freshwater wetlands. Otherwise, the GP 2 requires a streamlined review. See N.J.A.C. 7:7A-5.2. The DEPs regulatory adoption of the GP 2 evidences the DEP's determination that jacking or directional drilling underground for utility lines has a de minimis impact on the environment. To provide further assurance of protection there are limitations included in GP 2 that address total permanent disturbance, width of permanent clearing, and post construction elevation. There is also a Nationwide General Permit 12 for Utility Line Activities. This Nationwide General Permit states that directional drilling is the preferred method of installation when possible, especially in tidal waters. On February 25, 2017, NJDEP issued a FWPA General Permit 2 to NJNG for its proposed pipeline.

The HDD incidents in Pennsylvania were HDD inadvertent returns. As a result, documents issued by the Pennsylvania Department of Environmental Protection imposed a temporary partial halt to the drilling. To minimize the potential of such incidents in New Jersey, the BPU requires at N.J.A.C. 14:7-1.22 that NJNG provide on-site inspection oversight immediately prior to and during any excavation and backfilling, and for the bored or horizontally directional drilled installations performed by other excavators in the vicinity of the pipeline. Further the Pinelands Commission staff recommends several conditions regarding HDD activities that include having an independent licensed professional engineer with proven experience in HDD installation, be present at all times HDD activities are being undertaken in the Pinelands Area. This individual will ensure that all HDD activities: are conducted in accordance with all approved plans; will monitor drill hole pressures and walk the area in which HDD is being conducted to identify any potential break outs of bentonite; will ensure that appropriate measures, such as installation of silt fences, hay bales, inflatable berms, etc. are taken during HDDs to prevent the discharge of bentonite to wetlands, streams or any other water body or beyond the immediate confines of the drill site; and implement the HDD Mitigation Contingency Plan and will be responsible for implementation of the Plan.

VII. Wetland Impacts Associated with Installation of the Proposed Natural Gas Pipeline

Comment:

Commenters stated that the project violates N.J.A.C. 7:50 -6.13 – Linear improvements – in that it poses significant risks to the natural resources within the Pinelands without demonstrated need.

Response:

While most of the route is to be constructed within existing rights-of-way and roads, there is one location on the Base where the pipeline crosses portions of an upland forest and wetland.

The CMP (N.J.A.C. 7:50-6.13) permits the installation of utility transmission and distribution facilities in wetlands provided the following conditions are met: 1) there is no feasible alternative route for the linear improvement that does not involve development in a wetland, or, if none, that another feasible route which results in less significant adverse impacts on wetlands does not exist; 2) the need for the proposed linear improvement cannot be met by existing facilities or modification thereof; 3) the use represents a need which overrides the importance of protecting the wetland; 4) development of the facility will include all practical measures to mitigate the adverse impact on the wetland; and 5) the resources of the Pinelands will not be substantially impaired as a result of the facility and its development as determined exclusively based on the existence of special and unusual circumstance. The proposed crossing would result in the permanent removal of 0.42 acres (18,295 sq. ft.) of upland trees (predominately pitch pines) and the disturbance of 390.3 sq. ft. (.009 acres) of wetlands.

The pipeline will be horizontal directionally drilled under the wetlands area. However, as discussed above, the 390.3 square feet of wetland disturbance is necessary to provide for the ongoing operation and maintenance of the proposed natural gas pipeline given it is not located under or adjacent to a road. After construction, the 390.3 square feet of forested wetland will be an emergent wetland.

The information submitted as part of NJNG Pinelands Development Application and which was verified by the Commission staff demonstrates compliance with the 5 conditions of N.J.A.C. 7:50-6.13. Specifically, based upon the staff's review, there is no feasible alternative route for the proposed natural gas pipeline that does not involve development in wetlands or another feasible route which results in an impact to less than 390.3 square feet of wetlands. The proposed pipeline will provide a second redundant supply of natural gas; the need for which cannot be met by existing facilities or modifications thereof. The provision of a second redundant supply of natural gas represents a need which overrides the importance of protecting 390.3 square feet of wetlands. Development of the pipeline will include all practical measures, including HDD, to avoid earth disturbance in the wetland and the hand cutting of trees, to mitigate any adverse impact on the wetland. The conversion of the 390.3 square feet of wetland from a forested wetland to an emergent wetland will not result in the resources of the Pinelands being substantially impaired.

VIII. Concerns Regarding Dewatering

Comment:

Comment was received regarding the need for a dewatering assessment of the route. Commenters identified the need for such an analysis as there could be impacts to wetlands. Also, such an analysis was noted as needed to determine if dewatering would increase the vertical hydraulic gradient in the areas of known groundwater contamination.

Response:

The Department of Environmental Protection, Bureau of Water Allocation and Well Permitting issued six (6) Water Use Registrations for this project. Water Use Registrations were issued for each of the municipalities where the pipeline is proposed to be installed, of which three (3) are located in the Pinelands; Manchester, Jackson and Plumsted Townships.

The applicant has advised that the pipeline route is shallow so that, in general, dewatering will not be needed. Where groundwater is encountered, the dewatering that will be done as part of the project will be temporary and limited to keeping water out of the trench. The trench will be backfilled at the end of each day. There will be no lowering of the water table. Overall the dewatering will be at shallow depths, in small areas of excavation and for short duration. Further, the Environmental Assessment indicates that the few known areas of contamination of concern for this project are well below the depth of trench excavation and the proposed HDD installation. The applicant provided HDD profiles showing the deepest depth for the proposed pipeline to be at 20 feet.

IX. Contaminated Sites

Comment:

Commenters raised concerns based on the location of Superfund sites and other contamination at the Base. Concerns were expressed regarding contaminated plume migration in both soil and groundwater. Commenters noted that the impacts on this existing contamination should be addressed as there could be impact to other resources in addition to the Superfund sites. Comments were submitted questioning the impact on known contamination from the use of perfluorinated compounds at the Base.

Response:

Issues related to the Superfund sites have been addressed by the NJDEP and the United States Environmental Protection Agency (USEPA). The NJDEP's review concluded that the pipeline is proposed in areas where there is no soil contamination. The NJDEP notes that there is groundwater contamination in some areas; however, it is 50 to 70 feet below ground surface and the pipeline will not be deeper than 20 feet below ground surface. Therefore, contaminated groundwater will not be encountered. The USEPA reviewed JB-MDL's March 2017 Environmental Assessment regarding the project and made a finding of no significant impact.

X. Threatened and Endangered Species

Comments:

One commenter expressed concern regarding potential impacts of a proposed "lay down" area associated with the installation of the natural gas pipeline. Specifically, the commenter noted that the Threatened and Endangered Habitat Assessment Report submitted by the applicant identified a population of Sick-leaved golden aster (*Pityopsis falcate*) within the "lay down" area and that a Northern pine snake (*Pituophis melanoleucus*) nest was located within 100 feet of the "lay down" area.

In addition, the commenter stated that the applicant's survey for Knieskern's beaked rush (*Rhynchospora Knieskernii*) concluded in the month of August and that the United States Fish and Wildlife Service (USF&WS) has established that mature fruit is needed to identify this species, which requires surveys to be conducted through September.

Response:

On November 30, 2015, the applicant submitted a letter and a revised plan. The submitted information noted that the proposed “lay down” area has been removed and that the natural gas pipeline would be installed within the limits of the existing road using a conventional bore installation process. That revision eliminated all potential impacts to the local population of Sickle-leaved golden aster. To avoid any potential impacts to habitats critical to the survival of any local population of Northern pine snake, an exclusion barrier will be installed to separate these habitats from the construction area.

The applicant submitted a Threatened/Endangered Species Final Report (Report), prepared by DuBois Environmental Consultants and dated July 27, 2015. The Report states that surveys for New Jersey State endangered and Pinelands listed plant species of concern occurred during the fall of 2014, and during spring and mid-to-late summer of 2015. The Knieskern’s Beaked-Rush Recovery Plan issued by the USF&WS notes that fruiting typically occurs from July to September. The submitted Report demonstrates that the threatened and endangered species survey was completed during the appropriate timeframe.

Further, one of the recommended conditions of this report is that the applicant engages, at least, one independent biologist qualified in the identification of threatened or endeared plants and threatened or endangered animals and their habitats. The biologist must be present during all times that clearing and /or construction activities are occurring. The biologist will, amongst other things, ensure that clearing and /or construction activities do not impact threatened or endangered plants or threatened or endangered animal species or their habitat.

XI The Review Process was Flawed**Comments:**

The Commission received comments on the process used to review the application. Comments included the need for additional opportunities for the public to comment including night meetings, desire for the Commission meetings to be held nearer to where the people who oppose the pipeline live, and the lack of an evidentiary or adjudicatory hearing.

Commenters also stated that the process followed by the Commission to review this project was done in violation of the Administrative Procedures Act. One commenter noted that it did not include this in their comments as this issue is currently pending before the Appellate Division.

Response:

The Commission is aware of the public’s interest in this application and the need to ensure that the Commission is presented with a full record for its consideration. Consequently, the Commission provided the public with a 50 day written comment period, as well as the opportunity to provide oral comments directly to Commissioner’s during a special meeting. During this time¹³, the application file was available for review at the Commission office.

¹³ Information related to this application has been available for review at the Commission’s Office since late April 2014 and the application has been available since April 2015.

In regard to this project, the Commission's jurisdiction extends only to the portion of the proposed NJNG natural gas pipeline to be constructed within the Pinelands Area. This portion consists of 12.1 miles, and is located in Jackson, Plumsted and Manchester Townships and within Joint Base McGuire-Dix-Lakehurst. The issues before the Commission concerning the NJNG application are, accordingly, limited to these areas and the portions of the project to be constructed outside of the Pinelands Area are not within the Commission's geographic, regulatory or legal purview.

In light of this, and to accommodate an anticipated large public turnout, a special meeting of the Commission was held at the Pine Belt Arena in Toms River on July 26, 2017. This venue is located approximately 9 miles from the proposed portion of the NJNG pipeline subject to the Commission's jurisdiction. By contrast, the requests for additional meeting locations and times referred to portions of the project located to the west and outside of the Pinelands. It is important to note that opportunities for public comment for the portions of the project outside the Pinelands were provided by both the NJDEP and the BPU as both agencies have regulatory jurisdiction in those areas.

The request for an evidentiary or adjudicatory hearing for this matter was addressed by the Commission in Resolution No. PC4-17-10 and in its response to the appeal by the Sierra Club and PPA, which was remanded to the Pinelands Commission by the Appellate Division by Orders dated January 31, and February 14, 2017. In response to the remand, the Commission decided that rather than have an adjudicatory hearing or trial type hearing it would rely on the record developed by the BPU and the Commission's regulatory program and would provide an opportunity for the public to comment in writing and at a special meeting of the Commission. See Resolution PC4-17-10. The Commission also decided that an evidentiary hearing was not necessary given the limited regulatory issues involved in this application. *Id.* The Commission, also expressly afforded the former appellants (the Sierra Club and PPA) the opportunity to submit any additional information that it wished as part of the public comments process. *Id.*

Further, in order to accommodate a request for an adjudicatory hearing, the requestor would need to meet the requirements for such a hearing established by the Administrative Procedure Act. See N.J.S.A. 52:14B-3.1-3.3. Specifically, the requestor would need to articulate a particularized property interest or statutory right which would entitle it to an adjudicatory hearing. In this instance, none of individuals who requested a hearing met these requirements.

With regard to the issue of whether the process followed by the Commission to review this project was done in violation of the Administrative Procedures Act, this issue is presently pending before the Appellate Division. It is the Commission's position that the review process for this application is legally valid and implements the Appellate Division's remand Orders as set forth in its response brief in the pending appeal.

EXECUTIVE DIRECTOR'S RECOMMENDATION

The Executive Director concludes that the proposed NJNG natural gas pipeline, Application No 2014-0045.001, conforms to the standards of the Pinelands CMP. The Executive Director therefore recommends that the Pinelands Commission **APPROVE** it subject to the following conditions:

CONDITIONS

1. Except as modified by the below conditions, the proposed natural gas pipeline project shall adhere to the plan, consisting of 15 sheets, prepared by AECOM and dated as follows:

Sheets 1-12, 14 & 14A, dated 8/17/2015

Sheet 13, dated 8/17/2015, last revised 11/25/2015

Site Plan, consisting of 1 sheet, prepared by AECOM, dated 10/23/2015.

Site Plan, consisting of 4 sheets, prepared by AECOM and dated as follows:

Sheets 1-4, dated 11/25/2015

2. Disposal of any construction debris or excess fill may only occur at an appropriately licensed facility.
3. Any proposed revegetation shall adhere to the "Vegetation" standards of the CMP found at N.J.A.C. 7:50-6.21 et. seq. Where appropriate, the applicant is encouraged to utilize the following Pinelands native grasses for revegetation: Switch grass, Little bluestem and Broom-sedge.
4. Prior to any development, the applicant shall obtain any other necessary permits and approvals.
5. Appropriate measures shall be taken during construction to preclude sedimentation from entering wetlands and said measures shall be maintained in place until all development has been completed and the area has been stabilized.
6. The limits of the proposed area of disturbance as depicted on the plans submitted by NJNG to the Commission, and delineated in Paragraph 1 above, shall be marked in the field using silt fence and orange plastic construction fencing.
7. The applicant shall engage at least one independent biologist qualified in the identification of threatened and endangered (T&E) plants and animals and their habitats, including T&E species and habitats unique to the Pinelands. The biologist(s) shall be present during all times that clearing and/or construction activities are being undertaken. The biologist shall ensure that all threatened and endangered species Best Management Practices (BMPs) identified in the plans delineated in Paragraph 1 above are being followed at all times during construction. The biologist(s) shall ensure that clearing and/or construction techniques being utilized do not adversely impact any habitat critical to the survival of any T&E species of animals or plants and that any such plants or animals discovered during construction are protected. The biologist(s) shall notify the Pinelands Commission immediately if any T&E plants or animals or habitat critical to their survival are discovered during construction, ensure that all clearing or construction activities in the vicinity of such T&E species or critical habitat immediately cease pending direction from the Pinelands Commission Executive Director and take all possible interim steps to protect such species or critical habitats. Such independent biologist(s) shall be approved by the Commission prior to being engaged by the applicant.

8. The applicant shall engage, subject to prior approval thereof by the Commission, an independent licensed professional engineer with proven experience in the installation of large diameter pipelines using the Horizontal Directional Drilling (HDD) method to be present at all times HDD activities are being undertaken. The independent engineer shall:
 - a. Ensure that all HDD activities are conducted in accordance with all approved plans;
 - b. Ensure that appropriate measures, such as installation of silt fence, hay bales, inflatable berm, etc. are taken during HDDs to prevent the discharge of bentonite to wetlands, streams or any other water body or beyond the immediate confines of the drill site;
 - c. Monitor drill hole pressures and walk the area in which the HDD is being conducted to identify any potential break outs of bentonite;
 - d. Ensure that prior to commencement of HDD, the applicant provides the Pinelands Commission's Executive Director with a copy of the HDD Break Out Mitigation Contingency Plan proposed to be utilized for all HDDs to be conducted during construction of the pipeline and that the Executive Director approves the plan in writing prior to any HDD activities occurring; and
 - e. Be responsible for immediate implementation of the Mitigation Contingency Plan should a break out of bentonite occur and require the immediate cessation of all HDD activities and contain the area of the break out to the smallest feasible area. The applicant shall within 24 hours notify the Pinelands Commission's Executive Director of the location of the break out and advise as to the response actions being taken to address the break out in accordance with the approved Mitigation Contingency Plan.



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-17- 28

TITLE: Issuing an Order to Certify Ordinances 12-2011 and 15-2017 of Pemberton Township

Commissioner L. Lohbawer moves and Commissioner Avesy seconds the motion that:

WHEREAS, on June 3, 1983, the Pinelands Commission fully certified the Master Plan and Land Use Ordinances of Pemberton Township; and

WHEREAS, Resolution #PC4-83-52 of the Pinelands Commission specified that any amendment to the Township's certified Master Plan and Land Use Ordinances be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 (Submission and Review of Amendments to Certified Master Plans and Land Use Ordinances) of the Comprehensive Management Plan to determine if said amendment raises a substantial issue with respect to conformance with the Pinelands Comprehensive Management Plan; and

WHEREAS, Resolution #PC4-83-52 further specified that any such amendment shall only become effective as provided in N.J.A.C. 7:50-3.45 of the Comprehensive Management Plan; and

WHEREAS, on June 1, 2011, Pemberton Township adopted Ordinance 12-2011, approving a new Redevelopment Plan for the Browns Mills Town Center Redevelopment Area, which is located in a Pinelands Regional Growth Area; and

WHEREAS, the Pinelands Commission received a certified copy of Ordinance 12-2011 on December 19, 2011; and

WHEREAS, over the next several years, the Township and Commission staff met numerous times to discuss the new Redevelopment Plan and its relationship to the residential density and Pinelands Development Credit requirements of the Comprehensive Management Plan;

WHEREAS, amendments to the Redevelopment Plan to address these Comprehensive Management Plan issues were drafted but the Township did not proceed with adoption until 2017; and

WHEREAS, on June 7, 2017, Pemberton Township adopted Ordinance 15-2017, amending the Browns Mills Town Center Redevelopment Plan for purposes of consistency with the Pinelands Comprehensive Management Plan; and

WHEREAS, the Pinelands Commission received a certified copy of Ordinance 15-2017 on June 23, 2017; and

WHEREAS, by letter dated June 28, 2017, the Executive Director notified the Township that Ordinances 12-2011 and 15-2017 would require formal review and approval by the Pinelands Commission; and

WHEREAS, a public hearing to receive testimony on Ordinances 12-2011 and 15-2017 was duly advertised, noticed and held on August 2, 2017 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

WHEREAS, the Executive Director has found that Ordinances 12-2011 and 15-2017 are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan; and

WHEREAS, the Executive Director has submitted a report to the Commission recommending issuance of an order to certify that Ordinances 12-2011 and 15-2017 are in conformance with the Pinelands Comprehensive Management Plan; and

WHEREAS, the Pinelands Commission has duly considered all public testimony submitted to the Commission concerning Ordinances 12-2011 and 15-2017 and has reviewed the Executive Director's report; and

WHEREAS, the Pinelands Commission accepts the recommendation of the Executive Director; and

WHEREAS, pursuant to N.J.S.A. 13:18A-5H, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE BE IT RESOLVED that

1. An Order is hereby issued to certify that Ordinances 12-2011 and 15-2017 of Pemberton Township are in conformance with the Pinelands Comprehensive Management Plan.
2. Any additional amendments to Pemberton Township's certified Master Plan and Land Use Ordinances shall be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 to determine if said amendments raise a substantial issue with respect to the Comprehensive Management Plan. Any such amendment shall become effective only as provided in N.J.A.C. 7:50-3.45.

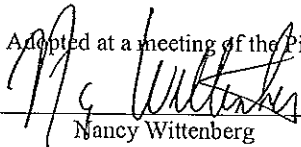
Record of Commission Votes

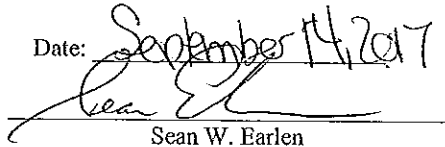
AYE NAY NP A/R*				AYE NAY NP A/R*				AYE NAY NP A/R*				
Ashmun	X			Galletta	X			Prickett				R
Avery	X			Jannarone	X			Quinn	X			
Barr			X	Lloyd	X			Rohan Green	X			
Brown	X			Lohbauer	X			Earlen	X			
Chila	X			McGlinchey	X							

* A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Date: September 14, 2017


 Nancy Wittenberg
 Executive Director


 Sean W. Earlen
 Chairman



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THE PINELANDS COMMISSION
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Chris Christie
Governor

Kim Guadagno
Lt. Governor

General Information: Info@njpines.state.nj.us
Application Specific Information: AppInfo@njpines.state.nj.us

Sean W. Earlen
Chairman

Nancy Wittenberg
Executive Director

REPORT ON PEMBERTON TOWNSHIP ORDINANCES 12-2011 AND 15-2017,
ADOPTING A REVISED REDEVELOPMENT PLAN FOR THE
BROWNS MILLS TOWN CENTER REDEVELOPMENT AREA

August 25, 2017

Pemberton Township
500 Pemberton-Browns Mills Road
Pemberton, NJ 08068

FINDINGS OF FACT

I. Background

The Township of Pemberton is located in eastern Burlington County, in the northwestern section of the Pinelands Area. Pinelands municipalities that abut Pemberton Township include New Hanover, Springfield, Southampton and Woodland Townships in Burlington County and Manchester and Plumsted Townships in Ocean County.

On June 3, 1983, the Pinelands Commission fully certified the Master Plan and codified Land Use Ordinances of Pemberton Township.

On June 1, 2011, Pemberton Township adopted Ordinance 12-2011, approving a new Redevelopment Plan for the Browns Mills Town Center Redevelopment Area, superseding the plan previously enacted by the Township in 1995. The Browns Mills Town Center Redevelopment Area is located in a Pinelands Regional Growth Area. The Pinelands Commission received a certified copy of Ordinance 12-2011 on December 19, 2011.

Over the next several years, the Township and Commission staff met numerous times to discuss the new Redevelopment Plan and its relationship to Comprehensive Management Plan standards for residential density and the accommodation of opportunities for Pinelands Development Credit use. Amendments to the Redevelopment Plan to address these issues were drafted but the Township did not proceed with adoption. In 2017, the Township began working with the New Jersey Department of Community Affairs, Local Planning Services, on a revised vision for the Browns Mills Town Center Redevelopment Area. That planning process is likely to result in adoption of revisions to the redevelopment plan, both to simplify the plan and better address residential development potential. In the meantime, however, the Township decided to adopt amendments to the redevelopment plan necessary for conformance with the Comprehensive Management Plan.

On June 7, 2017, Pemberton Township adopted Ordinance 15-2017, amending the Browns Mills Town Center Redevelopment Plan adopted by Ordinance 12-2011 for purposes of consistency with the Pinelands CMP. The Pinelands Commission received a certified copy of Ordinance 15-2017 on June 23, 2017.

By letter dated June 28, 2017, the Executive Director notified the Township that Ordinances 12-2011 and 15-2017 would require formal review and approval by the Pinelands Commission.

II. Master Plans and Land Use Ordinances

The following ordinances have been submitted to the Pinelands Commission for certification:

- * Ordinance 12-2011, adopting the Browns Mills Town Center Redevelopment Plan, dated June 2011 and adopted on June 1, 2011; and
- * Ordinance 15-2017, amending the Browns Mills Town Center Redevelopment Plan adopted by Ordinance 12-2011, adopted on June 7, 2017.

These ordinances have been reviewed to determine whether they conform with the standards for certification of municipal master plans and land use ordinances as set out in N.J.A.C. 7:50 3.39 of the Pinelands Comprehensive Management Plan. The findings from this review are presented below. The numbers used to designate the respective items correspond to the numbers used to identify the standards in N.J.A.C. 7:50 3.39.

1. **Natural Resource Inventory**

Not applicable.

2. **Required Provisions of Land Use Ordinance Relating to Development Standards**

Ordinance 12-2011 adopts a new redevelopment plan for the Browns Mills Town Center Redevelopment Area, superseding the plan previously enacted by the Township in 1995. The Redevelopment Area is centered around Pemberton-Browns Mills, Juliustown and Trenton Roads and contains extensive areas of existing development (see Exhibit #1). The primary objectives of the new plan are restoring Browns Mills to a recreation destination, generating new ratables and job opportunities by encouraging nonresidential development to support the needs of Deborah Hospital, the Joint Base and the community, increasing residential density by offering a variety of housing options and improving the quality of stores in Browns Mills through rehabilitation of existing shopping centers and buildings. To achieve these objectives, the new plan adopts a form-based code containing detailed design standards that will govern development in the Redevelopment Area. The entire Redevelopment Area is located in a Pinelands Regional Growth Area.

In terms of zoning, the 2011 redevelopment plan establishes six districts within the Redevelopment Area, referred to as Town Village, Destination Retail, Neighborhood Transition, Noteboom Neighborhood, Mirror Lake and Open Space (see Exhibit #2). Permitted building

types (cottages, bungalows, colonial houses, attached/twin homes, townhomes, multiple residential dwellings, village commercial and corridor commercial) are then distributed among the sub-districts, with corresponding lot area and bulk requirements. The Town Village District, located in the center of the Redevelopment Area, is envisioned as a mixed-use area with prominent new commercial buildings and a public plaza. The Destination Retail District, which encompasses the old Browns Mills Shopping Center on Pemberton-Browns Mills Road, is primarily intended for new retail stores to serve the community. The Neighborhood Transition District is designed for small-scale commercial neighborhood stores, medical offices and other institutional uses to support the future expansion plans of Deborah Hospital. New residential development is the focus of the Noteboom Neighborhood District, which is planned for a mixture of single-family homes, townhouses and multifamily residential units. The Mirror Lake District is focused on attracting a new commercial center with pedestrian connections to the lake. Finally, in the Open Space District, multi-use trails and community parks are permitted.

Ordinance 15-2017 amends the 2011 Browns Mills Town Center Redevelopment Plan by adding single-family detached dwellings as a permitted use in the Open Space sub-district, in recognition of the fact that although much of the sub-district is comprised of publicly-owned property, a number of privately-owned lots remain. Ordinance 15-2017 also adds language to the plan that requires all development within the Redevelopment Area to comply with the minimum environmental standards of the CMP.

It should be noted that the Redevelopment Plan does not establish permitted densities for residential development in the Redevelopment Area. Instead, the Plan relies on minimum lot area requirements to govern the intensity of permitted residential development. In the Noteboom Neighborhood District, single-family detached units are permitted on lots ranging from 8,000 square feet to 15,000 square feet, depending on the type of home being constructed. Such lot size requirements equate to a density of 2.0-5.5 units per acre. Multifamily residential units, defined in the plan as buildings containing up to four units, are assigned a minimum lot area requirement of 10,000 square feet and a maximum lot area requirement of 18,000 square feet. Townhouses are assigned much smaller lot area requirements (900-3,000 square feet). The Township's estimates of residential zoning capacity under the 2011 Redevelopment Plan indicate the potential for some 250 new units, a figure which includes a small number of condominiums on the second and third floors of certain commercial buildings. While somewhat higher than the CMP's prescribed density for Pemberton's Regional Growth Area (3.0 units per upland acre), this permitted intensity of development is not inconsistent with CMP standards given the availability of infrastructure and the primarily developed nature of this portion of Pemberton's Regional Growth Area.

Pemberton Township Ordinances 12-2011 and 15-2017 are consistent with the land use and development standards of the Comprehensive Management Plan. Therefore, this standard for certification is met.

3. Requirement for Certificate of Filing and Content of Development Applications

Not applicable.

4. Requirement for Municipal Review and Action on All Development

Not applicable.

5. Review and Action on Forestry Applications

Not applicable.

6. Review of Local Permits

Not applicable.

7. Requirement for Capital Improvement Program

Not applicable.

8. Accommodation of Pinelands Development Credits

The Browns Mills Town Center Redevelopment Plan adopted by Ordinance 12-2011 permits new residential development (single-family detached units, townhouses, multifamily units and condominiums) within the redevelopment area. Perhaps as many as 250 new units will be feasible based on the standards adopted by Ordinance 12-2011.

N.J.A.C. 7:50-3.39(a)8 specifies that in order to be certified by the Commission, municipal land use ordinances must provide for sufficiently residentially zoned property in the Regional Growth Area to be eligible for an increase in density to accommodate Pinelands Development Credits (PDC) as provided for in N.J.A.C. 7:50-5.28(a)3. In order to comply with N.J.A.C. 7:50-5.28(a)3, Ordinance 15-2017 requires that PDCs be acquired and redeemed for 25 percent of all single-family, townhouse or multifamily residential units in the Redevelopment Area. This requirement applies only to projects of five or more units (i.e., major developments) and does not include condominiums over retail stores.

While the 25 percent requirement for residential development in the redevelopment area is not as high a number as would be provided through the more traditional zoning approach where PDCs would account for 33 percent of the total number of permitted units, it is important to remember that the traditional base density/bonus density approach utilized throughout the Pinelands Area only provides an *opportunity* for the use of PDCs. There is no requirement under the traditional approach that any PDCs be used in any particular development project. Ordinance 15-2017 *guarantees* that PDCs will be purchased and redeemed as part of the approval of any major residential development within the redevelopment area, regardless of the density or number of units that are ultimately built. Given the greater certainty provided by this approach, the Township's desire to promote mixed use development by exempting condominiums from PDC requirements and the higher density permitted overall in the Redevelopment Area, the Executive Director believes that the 25 percent PDC requirement adopted by Ordinance 15-2017 should be viewed as being consistent with Comprehensive Management Plan standards.

Ordinance 15-2017 also amends the Redevelopment Plan by incorporating requirements for the use of PDCs in association with certain use variances that may be granted by the Township in the Redevelopment Area. These variance provisions are consistent with N.J.A.C. 7:50-5.28(a)5.

This standard for certification is met.

9. Referral of Development Applications to Environmental Commission

Not applicable.

10. General Conformance Requirements

Pemberton Township Ordinances 12-2011 and 15-2017, adopting and amending the Browns Mills Town Center Redevelopment Plan, are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan.

This standard for certification is met.

11. Conformance with Energy Conservation

Not applicable.

12. Conformance with the Federal Act

Pemberton Township Ordinances 12-2011 and 15-2017, adopting and amending the Browns Mills Town Center Redevelopment Plan, are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan. No special issues exist relative to the Federal Act.

This standard for certification is met.

13. Procedure to Resolve Intermunicipal Conflicts

The Browns Mills Town Center Redevelopment Area is not contiguous with or adjacent to any other municipalities. Therefore, this standard is not applicable.

PUBLIC HEARING

A public hearing to receive testimony concerning Pemberton Township's application for certification of Ordinances 12-2011 and 15-2017 was duly advertised, noticed and held on August 2, 2017 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m. Ms. Grogan conducted the hearing, at which no testimony was received.

Written comments were accepted through August 9, 2017; however, none were received.

CONCLUSION

Based on the Findings of Fact cited above, the Executive Director has concluded that Pemberton Township Ordinances 12-2011 and 15-2017 comply with Comprehensive Management Plan standards for the certification of municipal master plans and land use ordinances. Accordingly, the Executive Director recommends that the Commission issue an order to certify Ordinances 12-2011 and 15-2017 of Pemberton Township.

SRG/CPE

Attachments



Legend

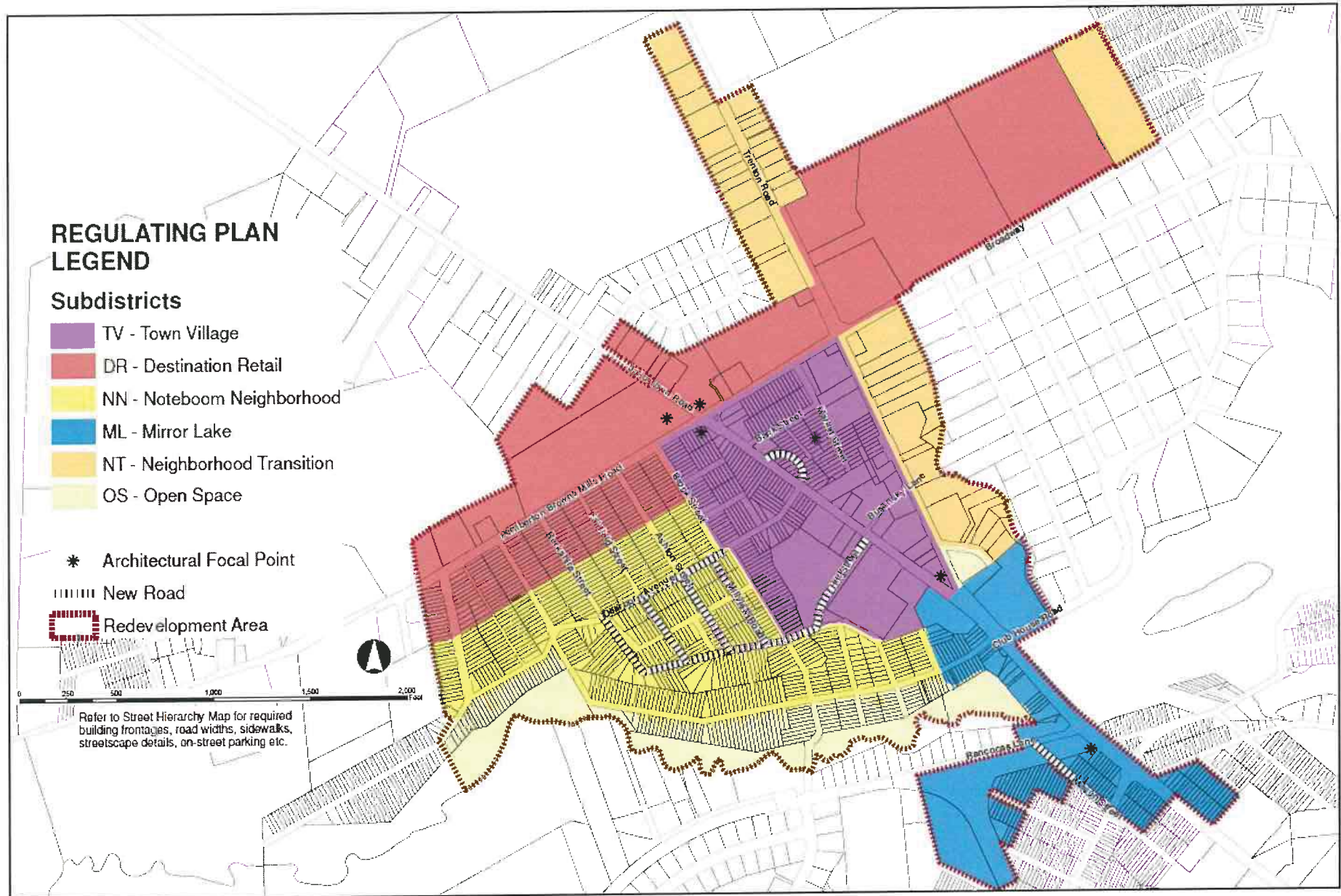
 Redevelopment Area

**BROWNS MILLS TOWN CENTER REDEVELOPMENT AREA
PEMBERTON TOWNSHIP, BURLINGTON COUNTY, NJ**

**RAGAN
DESIGN
GROUP**

ARCHITECTS AND ENVIRONMENTAL PLANNERS
COMMUNITY AND ENVIRONMENTAL PLANNERS
SUITE C 7, 30 JACKSON ROAD, WINDFORD, NJ 08080
PHONE: 609 654 8800 FAX: 609 654 4654
Richard R. Ragan, P.E., P.L.P.
www.raganrpg.com







RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-17- 29

TITLE: Issuing an Order to Certify Ordinances 7-16 and 8-17 of the Borough of South Toms River

Commissioner McBlinchey moves and Commissioner Pritchett seconds the motion that:

WHEREAS, on October 11, 2013, the Pinelands Commission fully certified the Master Plan and codified Land Use Ordinances of South Toms River Borough; and

WHEREAS, Resolution #PC4-13-37 of the Pinelands Commission specified that any amendment to the Borough's certified Master Plan and Land Use Ordinances be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 (Submission and Review of Amendments to Certified Master Plans and Land Use Ordinances) of the Comprehensive Management Plan to determine if said amendment raises a substantial issue with respect to conformance with the Pinelands Comprehensive Management Plan; and

WHEREAS, Resolution #PC4-13-37 further specified that any such amendment shall only become effective as provided in N.J.A.C. 7:50-3.45 of the Comprehensive Management Plan; and

WHEREAS, on December 12, 2016, South Toms River Borough adopted Ordinance 7-16, approving a Redevelopment Plan for the Municipal Landfill Redevelopment Area; and

WHEREAS, the Pinelands Commission received a certified copy of Ordinance 7-16 on January 9, 2017 and a copy of the adopted Municipal Landfill Redevelopment Plan on May 31, 2017; and

WHEREAS, on June 26, 2017, South Toms River Borough adopted Ordinance 8-17, approving a Redevelopment Plan for the Dover Road Redevelopment Area; and

WHEREAS, the Pinelands Commission received a certified copy of Ordinance 8-17 and a copy of the adopted Dover Road Redevelopment Plan on June 27, 2017; and

WHEREAS, the Municipal Landfill Redevelopment Area and the Dover Road Redevelopment Area are both located in the Pinelands Regional Growth Area; and

WHEREAS, by letter dated June 29, 2017, the Executive Director notified the Borough that Ordinances 7-16 and 8-17 would require formal review and approval by the Pinelands Commission; and

WHEREAS, a public hearing to receive testimony on Ordinances 7-16 and 8-17 was duly advertised, noticed and held on August 2, 2017 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

WHEREAS, the Executive Director has found that Ordinances 7-16 and 8-17 are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan; and

WHEREAS, the Executive Director has submitted a report to the Commission recommending issuance of an order to certify that Ordinances 7-16 and 8-17 are in conformance with the Pinelands Comprehensive Management Plan; and

WHEREAS, the Pinelands Commission has duly considered all public testimony submitted to the Commission concerning Ordinances 7-16 and 8-17 and has reviewed the Executive Director's report; and

WHEREAS, the Pinelands Commission accepts the recommendation of the Executive Director; and

WHEREAS, pursuant to N.J.S.A. 13:18A-5H, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the

minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE BE IT RESOLVED that

1. An Order is hereby issued to certify that Ordinances 7-16 and 8-17 of the Borough of South Toms River are in conformance with the Pinelands Comprehensive Management Plan.
2. Any additional amendments to South Toms River Borough's certified Master Plan and Land Use Ordinances shall be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 to determine if said amendments raise a substantial issue with respect to the Comprehensive Management Plan. Any such amendment shall become effective only as provided in N.J.A.C. 7:50-3.45.

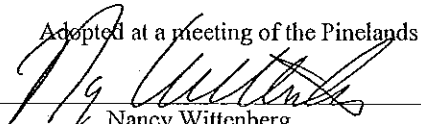
Record of Commission Votes

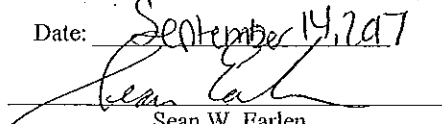
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Ashmun		X			Galletta	X				Prickett	X			
Avery	X				Jannarone	X				Quinn	X			
Barr			X		Lloyd	X				Rohan Green	X			
Brown	X				Lohbauer	X				Earlen	X			
Chila	X				McGlinchey	X								

* A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Date: September 14, 2017


 Nancy Wittenberg
 Executive Director


 Sean W. Earlen
 Chairman



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Chris Christie
Governor

Kim Guadagno
Lt. Governor

General Information: Info@njpines.state.nj.us
Application Specific Information: AppInfo@njpines.state.nj.us

Sean W. Earlen
Chairman

Nancy Wittenberg
Executive Director

**REPORT ON SOUTH TOMS RIVER BOROUGH ORDINANCE 7-16, ADOPTING
THE MUNICIPAL LANDFILL REDEVELOPMENT PLAN, AND ORDINANCE 8-17,
ADOPTING THE DOVER ROAD REDEVELOPMENT PLAN**

August 25, 2017

South Toms River Borough
144 Mill Street
South Toms River, NJ 08757

FINDINGS OF FACT

I. Background

The Borough of South Toms River is located in north-central Ocean County, in the northeastern portion of the Pinelands Area. Adjacent municipalities include Toms River Township to the north and east, Berkeley Township to the north and west and Beachwood Borough to the south and east.

On October 11, 2013, the Pinelands Commission fully certified the Master Plan and codified Land Use Ordinances of South Toms River Borough.

On December 12, 2016, South Toms River Borough adopted Ordinance 7-16, approving a Redevelopment Plan for the Municipal Landfill Redevelopment Area. The Pinelands Commission received a certified copy of Ordinance 7-16 on January 9, 2017 and a copy of the adopted Municipal Landfill Redevelopment Plan on May 31, 2017.

On June 26, 2017, South Toms River Borough adopted Ordinance 8-17, approving a Redevelopment Plan for the Dover Road Redevelopment Area. The Pinelands Commission received a certified copy of Ordinance 8-17 and a copy of the adopted Dover Road Redevelopment Plan on June 27, 2017.

By letter dated June 29, 2017, the Executive Director notified the Borough those Ordinances 7-16 and 8-17 would require formal review and approval by the Pinelands Commission.

II. Master Plans and Land Use Ordinances

The following ordinances have been submitted to the Pinelands Commission for certification:

- * Ordinance 7-16, adopting the Municipal Landfill Redevelopment Plan, adopted on December 12, 2016; and

* Ordinance 8-17, adopting the Dover Road Redevelopment Plan, adopted on June 26, 2017.

These ordinances have been reviewed to determine whether they conform with the standards for certification of municipal master plans and land use ordinances as set out in N.J.A.C. 7:50 3.39 of the Pinelands Comprehensive Management Plan. The findings from this review are presented below. The numbers used to designate the respective items correspond to the numbers used to identify the standards in N.J.A.C. 7:50 3.39.

1. Natural Resource Inventory

Not applicable.

2. Required Provisions of Land Use Ordinance Relating to Development Standards

Municipal Landfill Redevelopment Plan

Ordinance 7-16 adopts the Municipal Landfill Redevelopment Plan. This redevelopment plan establishes a redevelopment area encompassing five lots (Block 20, Lots 1.01-1.05) and approximately 50 acres. The affected lots, which are located in a Pinelands Regional Growth Area, contain the municipality's former landfill, a recreation center and athletic fields and an existing public works facility (see attached Exhibits 1 and 2). The five lots are currently included in the ML (Municipal Land) Zone, where permitted uses are limited to uses and structures owned by governmental entities to be used for public purposes. Four of the lots (Lots 1.02-1.05) in the redevelopment area are owned by the Borough. The fifth lot (Lot 1.01) is owned by JCP&L.

The new Municipal Landfill Redevelopment Area serves as an overlay to the existing zoning, such that all uses in the ML Zone will remain permitted. Additional permitted uses in the Municipal Landfill Redevelopment Area include townhouses and multifamily residential buildings. Such residential units may be developed at a maximum density of 7.15 units per acre. No more than 368 residential units are permitted in the redevelopment area. The redeveloper will be required to set aside between 0 and 20% of the units for affordable housing, with the exact percentage to be determined in a separate redevelopment agreement between the redeveloper and the Borough. According to the Redevelopment Plan, all residential development is to occur only on Block 20, Lots 1.03, 1.04 and 1.05. These three lots contain the existing municipal public works facility, the existing municipal landfill and the adjacent vacant parcel. The existing recreational facilities on Lot 1.02 will be retained and will not be relocated. The existing public works facility on Lot 1.03 will be relocated and redeveloped elsewhere in the Redevelopment Area. No development is proposed on the property owned by JCP&L (Lot 1.01). As is explicitly stated in the Redevelopment Plan, all development in the Municipal Landfill Redevelopment Area must be consistent with the minimum environmental standards of the Comprehensive Management Plan.

The Redevelopment Plan is intended to facilitate closure of the municipal landfill in accordance with Department of Environmental Protection and Comprehensive Management Plan regulations by providing a redeveloper with the opportunity to develop a significant number of residential

units. It is the Borough's hope that the profit made from the residential development will make the landfill closure financially feasible.

Dover Road Redevelopment Plan

Ordinance 8-17 adopts the Dover Road Redevelopment Plan. This redevelopment plan establishes the Dover Road Redevelopment Area, consisting of two lots (Block 20, Lots 11.02 and 12) totaling approximately 21 acres in size. The Dover Road Redevelopment Area is located in a Pinelands Regional Growth Area, on South Toms River's boundary with Berkeley Township (see Exhibits #3 and #4). Although a concrete plant was previously operated on Block 20, Lot 11.02, it was discontinued many years ago. The two lots included in the Redevelopment Area are currently vacant, privately owned, and located in the Borough's SED (Special Economic Development) Zone where a mixture of nonresidential and planned residential development is permitted.

The goal of the Redevelopment Plan is to capitalize on the Dover Road area's proximity to the Garden State Parkway and provide new market-rate and affordable housing opportunities in the Borough. To that end, permitted uses in the Dover Road Redevelopment Area are limited to multi-family housing and townhouses. A minimum of 10 percent and a maximum of 20 percent of the dwelling units proposed in the Redevelopment Area must be set aside and managed as affordable units. A maximum density of 17 units per acre is permitted, creating the potential for 358 new units. By contrast, the Borough's existing zoning plan for the area permits age-restricted residential development at a density of only 8 units per acre, as well as a variety of nonresidential uses. The Redevelopment Plan eliminates nonresidential development as a permitted use and increases residential development potential by approximately 190 units.

Summary

As a result of the two redevelopment plans, the residential zoning capacity of South Toms River's Regional Growth Area has increased from approximately 170 units to a total of 726 units. In terms of maximum zoning capacity, this is well above the minimum required by the Comprehensive Management Plan. N.J.A.C. 7:50-5.28(a) requires the Borough to zone for only 283 residential units within the two Redevelopment Areas combined. The Borough has elected to provide higher permitted density in these two Redevelopment Areas order to provide for townhouse and multi-family housing development, accommodate affordable housing and facilitate the closure of an existing landfill. These higher permitted densities are not unreasonable, given the intensity of surrounding residential development and the lack of environmental constraints in the Redevelopment Areas. Neither Redevelopment Area contains wetlands or wetlands buffer areas that require protection. In addition, a recent survey completed for the Municipal Landfill Redevelopment Area demonstrated that the area contains no critical habitat for threatened or endangered plants or animals (see page 7 for further details). An acceptable landfill closure plan must still be developed and implemented; however, once that is accomplished, the residential development should be able to proceed.

The fact that the residential capacity of the Borough's Regional Growth Area will now exceed the minimum required by the Comprehensive Management Plan does not make Ordinances 7-16 and 8-17 inconsistent with the Comprehensive Management Plan. In fact, N.J.A.C. 7:50-5.28(a) expressly authorizes municipalities to establish programs that provide for additional density within their Regional Growth Areas, provided that the Pinelands Development Credit

program is not impaired as a result. In this case, South Toms River Borough has satisfied its Regional Growth Area residential zoning obligation under the Comprehensive Management Plan and has elected to provide additional density to two designated Redevelopment Areas while at the same time requiring a certain percentage of Pinelands Development Credit use (see Section 8, below).

The development intensities, permitted uses and zoning changes adopted by Ordinances 7-16 and 8-17 are otherwise consistent with the standards for Pinelands Regional Growth Areas set forth in the Comprehensive Management Plan. Therefore, this standard for certification is met.

3. Requirement for Certificate of Filing and Content of Development Applications

Not applicable.

4. Requirement for Municipal Review and Action on All Development

Not applicable.

5. Review and Action on Forestry Applications

Not applicable.

6. Review of Local Permits

Not applicable.

7. Requirement for Capital Improvement Program

Not applicable.

8. Accommodation of Pinelands Development Credits

N.J.A.C. 7:50-3.39(a)8 specifies that in order to be certified by the Commission, municipal land use ordinances must provide for sufficient residentially zoned property in the Regional Growth Area to be eligible for an increase in density to accommodate Pinelands Development Credits (PDCs) as provided for in N.J.A.C. 7:50-5.28(a)3.

In order to comply with N.J.A.C. 7:50-5.28(a)3, Ordinances 7-16 and 8-17 require that PDCs be acquired and redeemed for 25% of all residential units within the new Municipal Landfill Redevelopment Area and the new Dover Road Redevelopment Area. Units made affordable to low- and moderate-income households are exempt from this requirement, up to a maximum of 20 percent of the total number of units in both redevelopment areas. Affordable housing units

beyond this maximum set-aside requirement will require that PDCs be acquired and redeemed at the 25% rate.

Based on the densities assigned to South Toms River Borough's Regional Growth Area by the Comprehensive Management Plan (N.J.A.C. 7:50-5.28), the Borough is required to provide an opportunity for the development of residential units at a base density of 3.5 units per acre, with a bonus density of up to 5.25 units per acre achievable through the use of PDCs. In the two new redevelopment areas, the Borough is required to permit 187 residential units and the opportunity for an additional 96 units through the use of PDCs. In other words, the municipality would have to allow for the opportunity to use 96 rights (24 Pinelands Development Credits). This traditional approach requires that municipalities provide the *opportunity* for use of PDCs for 33% of the total number of residential units permitted in their Regional Growth Areas.

The PDC requirements adopted by Ordinances 7-16 and 8-17 will result in an opportunity for the use of 146 rights (36.50 Pinelands Development Credits). As described in Section 2 above, the municipality has elected to zone at higher densities than required by the Comprehensive Management Plan. This in turn results in greater opportunities for PDC use than required. While the overall PDC opportunity of 25% is not as high a number as would be provided through the more traditional approach described above, it is important to remember that the traditional base-density/bonus-density approach utilized throughout the Pinelands Area only provides an *opportunity* for the use of PDCs. There is no requirement under the traditional approach that any PDCs be used in any particular development project. Ordinances 7-16 and 8-17 *guarantee* a PDC redemption rate of 25% for residential development within the two Redevelopment Areas. Given the greater certainty provided by this approach, the Executive Director finds that the PDC requirements adopted by Ordinances 7-16 and 8-17 are consistent with Comprehensive Management Plan standards.

This standard for certification is met.

9. Referral of Development Applications to Environmental Commission

Not applicable.

10. General Conformance Requirements

South Toms River Borough Ordinances 7-16 and 8-17, adopting the Municipal Landfill Redevelopment Plan and the Dover Road Redevelopment Plan, respectively, are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan.

This standard for certification is met.

11. Conformance with Energy Conservation

Not applicable.

12. Conformance with the Federal Act

South Toms River Borough Ordinances 7-16 and 8-17, adopting the Municipal Landfill Redevelopment Plan and the Dover Road Redevelopment Plan, respectively, are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan. No special issues exist relative to the Federal Act.

This standard for certification is met.

13. Procedure to Resolve Intermunicipal Conflicts

The triangular-shaped Municipal Landfill Redevelopment Area is bordered on two sides by Berkeley Township. The northern boundary of the Redevelopment Area also coincides with the boundary of the Pinelands Area. Lands to the north in Berkeley are within the Pinelands National Reserve, designated as Regional Growth Area and, for the most part, residentially developed on relatively small lots. To the west, the Redevelopment Area borders Berkeley Township's Pinelands Forest Area. All adjacent lands in the Forest Area were acquired by Ocean County in 2008 and are now managed as part of the County's park system. Any development in the Municipal Landfill Redevelopment Area, including the public buildings and uses permitted by the underlying zoning designation, has the potential to be in conflict with the public open space across the municipal boundary. South Toms River has taken steps to address this by requiring a minimum 50 foot planted buffer around the perimeter of any new residential development in the Redevelopment Area. More importantly, residential development will only occur if the existing landfill is appropriately closed, something which would be of benefit to all surrounding lands and land uses.

The Dover Road Redevelopment Area is also on the edge of the Pinelands Area and borders Berkeley Township. Adjacent lands in Berkeley Township in the Pinelands National Reserve are designated as Regional Growth Area and are residentially developed.

The two Redevelopment Plans are not expected to result in any significant intermunicipal conflicts. Therefore, this standard for certification is met.

PUBLIC HEARING

A public hearing to receive testimony concerning South Toms River Borough's application for certification of Ordinances 7-16 and 8-17 was duly advertised, noticed and held on August 2, 2017 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m. Ms. Grogan conducted the hearing, at which no testimony was received.

Written comments were accepted through August 9, 2017 and were received from Ryan Rebozo, Ph.D., Director of Conservation Science, and Katherine Smith, Policy Advocate, on behalf of the Pinelands Preservation Alliance (see Exhibit #5).

EXECUTIVE DIRECTOR'S RESPONSE

The Pinelands Preservation Alliance (PPA) raises three concerns in its written comments, primarily related to the Municipal Landfill Redevelopment Area: (1) the protection of threatened and endangered species and their habitat; (2) opportunities for the use of Pinelands Development Credits; and (3) the protection of existing recreational lands.

1. The PPA expresses concerns with the threatened and endangered species survey process and results for the Municipal Landfill Redevelopment Area. The PPA notes that although Northern pine snake was identified on the municipal landfill site in 2001-2003, no such snakes were identified in the more recent survey completed in 2016. Likewise, the 2016 survey also did not identify Corn snakes or sickle-leaved golden aster on the property, the two other target species identified by Commission staff. The loss of rare species habitat is attributed to human intrusion and intensive use of land, something which will only be made worse by the Borough's two redevelopment plans. The PPA expresses concerns about impacts of redevelopment on surrounding lands, particularly the important habitat that exists on several County-owned properties. The PPA suggests that a "landscape level review of rare species occurrences and land use changes is lacking" and would be beneficial to the Commission's decision-making process on municipal ordinances.

As noted by PPA, a survey was recently completed for the Municipal Landfill Redevelopment Area. The survey was deemed necessary by Commission staff to determine the presence or absence of critical habitat for Northern pine snake, Corn snake and sickle-leaved golden aster. It encompassed nearly all of the redevelopment area (with the exception of the long, narrow parcel - Lot 1.01 - owned by JCP&L). Survey protocols were reviewed and approved by Commission staff prior to the commencement of the survey, and the staff monitored survey activities throughout its duration. The survey was completed in late 2016 and submitted to the Commission for review (see attachment to the PPA's written comments). The survey did not identify any of the target species on the property, nor did it identify any evidence of nesting by pine snakes or corn snakes or hibernacula for either species. According to the survey report, the area contains poor ecological characteristics due to soil compaction and consistency, human intrusion and intensive use of the property for a variety of purposes. The character of the right-of-way running through the site has also changed over time. Specifically, the solid waste debris piles that were documented along the right-of-way in the early 2000's were removed when the utility company made certain upgrades. In addition, illegal use of the right-of-way by off-road vehicles has intensified in recent years so that there is now evidence of berms, cuts and tracks in the right-of-way. After review of the final survey report, and due consideration of all available information, Commission staff agreed that the area does not contain critical habitat and accepted the survey's negative findings.

With respect to the Dover Road Redevelopment Area, an application for development has not yet been submitted to the Commission and, therefore, a threatened and endangered species survey has not been required or completed. The need for a survey and its parameters will be determined at a future date. The redevelopment plan does not authorize development or any particular development pattern; it merely changes the permitted uses in the area from a mixture commercial and planned residential development to solely high-density residential development.

2. The PPA expresses concern with the loss of PDC opportunities resulting from the Municipal Landfill Redevelopment Area. In fact, no reduction will occur. On the contrary, the Municipal

Landfill Redevelopment Plan provides real opportunities for PDC use where none existed before. The Borough's currently certified zoning plan permits no residential development and provides zero opportunities for the use of PDCs in the Municipal Lands Zone. The new redevelopment plan permits up to 368 new units and requires the use of PDCs for 25% of all market-rate units, thereby providing the opportunity for use of 74 rights (18.50 PDCs). Under the prior zoning plan, the use of PDCs would be required only if the Borough were to approve a use variance to allow development of one or more homes in the Municipal Lands Zone. In other words, the 50-100% PDC requirements referenced in PPA's comments would be triggered only if a deviation from the zoning plan were approved. Use variances are uncommon and any PDC use associated with them cannot be viewed as the provision of actual opportunities for the use of credits.

Importantly, any use variance involving a sizeable number of residential units in the Municipal Lands Zone (such as the 368 units allowed by the redevelopment plan) would likely conflict with N.J.A.C. 7:50-5.28(a)5i and not be allowed to take effect. Such a use variance would represent too significant a departure from the Borough's certified master plan and zoning ordinance. In addition, 368 units far exceeds the 2% base unit threshold set forth in N.J.A.C. 7:50-5.28(a)5i(1) for use variances involving residential development in nonresidential zones.

South Toms River is to be commended for accommodating PDC use in its new Municipal Landfill Redevelopment Area. The use of PDCs will now be a required component of any approved residential development. The use of PDCs on these lands will no longer be dependent on the granting of a use variance, truly an unlikely event on municipally-owned property.

3. The PPA notes that one of the parcels within the Municipal Landfill Redevelopment Area has a Green Acres encumbrance on 6.92 acres of parkland, encompassing existing recreation facilities. Because this parcel is listed on the State's Recreation and Open Space Inventory (ROSI), PPA submits that the redevelopment plan must expressly require its continued protection in order to be consistent with the recreation standards of the CMP.

The Municipal Landfill Redevelopment Plan acknowledges that one of the parcels in the redevelopment area (Block 20, Lot 1.02) contains existing athletic fields and the municipality's recreation/community center. The Plan states several times that all of the recreation facilities located on Lot 1.02 will be retained. They will not be relocated or removed. The Plan also makes clear that all residential development authorized in the redevelopment area will be limited to Lots 1.03, 1.04 and 1.05, none of which are listed on the ROSI or, to the Executive Director's knowledge, subject to any conservation easements. The Plan does not authorize or even recommend lifting the Green Acres restriction or removal of the property from the ROSI. Instead, it states that the existing recreational use will continue. The Executive Director believes this is sufficient.

CONCLUSION

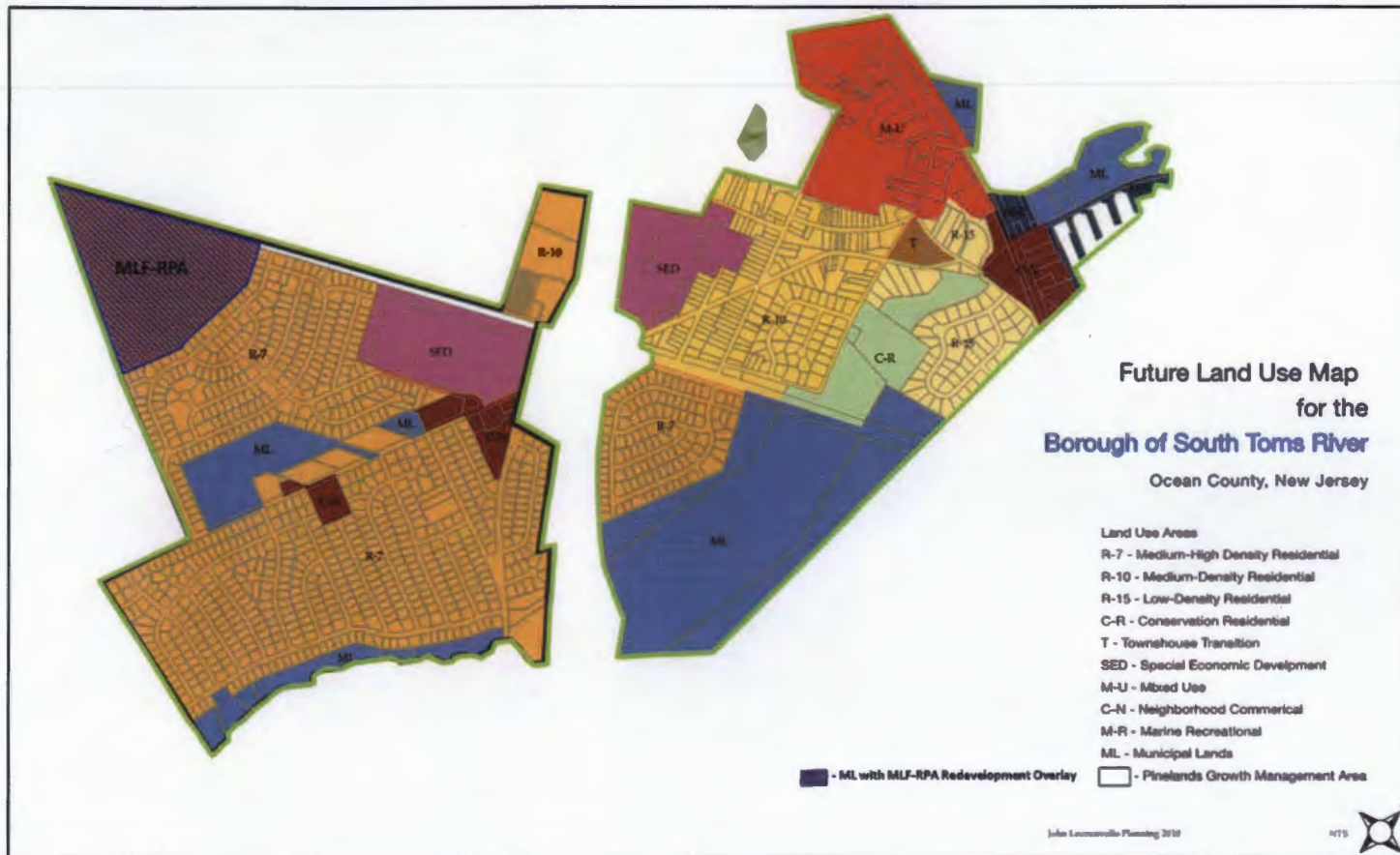
Based on the Findings of Fact cited above, the Executive Director has concluded that South Toms River Borough Ordinances 7-16 and 8-17 comply with Comprehensive Management Plan standards for the certification of municipal master plans and land use ordinances. Accordingly, the Executive Director recommends that the Commission issue an order to certify Ordinances 7-16 and 8-17 of South Toms River Borough.

Municipal Landfill Redevelopment Plan Area

The map below illustrates the Redevelopment Plan Area on an aerial map of South Toms River highlighted in yellow and the designated Area in Need of Redevelopment outlined in a dashed red line for reference.



Map 3: Borough Land Use Map with Redevelopment Plan Area¹



¹ Leoncavallo, John, CLA, PP. *Future Land Use Map*. South Toms River Borough Master Plan. April 2012. Page 42. [Redevelopment Overlay by Maser Consulting, Jan. 2016.]



**Executive Director's Report
South Toms River Borough
Ordinance Nos. 7-16 & 8-17
August 25, 2017 Exhibit #3**



Executive Director's Report
South Toms River Borough
Ord. Nos. 7-16 & 8-17
August 25, 2017 Exhibit #4



PINELANDS PRESERVATION ALLIANCE

Bishop Farmstead ♦ 17 Pemberton Road ♦ Southampton, NJ 08088
Phone: 609-859-8860 ♦ ppa@pinelandsalliance.org ♦ www.pinelandsalliance.org

August 9, 2017

Pinelands Commission
15 Springfield Rd.
New Lisbon, NJ 08064

Re: South Toms River Ordinances 7-16 and 8-17

Dear Ms. Grogan and Pinelands Commission staff,

We are writing in regard to the South Toms River Ordinances 7-16 and 8-17 adopting the Municipal Landfill Redevelopment Plan and Dover Road Redevelopment Plan. The area encompassed and regulations provided by these redevelopment plans create inconsistencies with the Comprehensive Management Plan and the aims of the Pinelands Commission.

1. Our concern with both redevelopment plans in regard to the Threatened and Endangered species on site stems from the results of the “Threatened/Endangered Species Report Application #: 2005-0232.005 Block 20. Lots 1.02-1.05 Borough of South Toms River, Ocean County, New Jersey”. The focus of this survey was to identify whether or not critical habitat for Northern Pine Snake, Corn Snake and Sickle-leaved Golden Aster exist on site. While Northern Pine Snake was identified on this site in 2001-2003, this survey did not document the occurrence of any of the three target species. The consultants who carried out the study stated, “Our office believes that between human intrusion, soil compaction and consistency and the sheer number of people who use this area for a variety of uses, that the property to the east of the utility easement contains poor ecological characteristics”. Over the past 15 years this area has gone from suitable rare snake habitat to being considered poor quality as a result of human intrusion and intensive use of the land. The proposed ordinances will even further the extent of human intrusion and use into the surrounding undeveloped land. Expansion into this area will further the incremental degradation of rare species habitat in an important stretch of Ocean County open space that includes the Crossley Preserve, Hovnanian Sanctuary, Bass River State Park and County preserved space. We believe that a landscape level review of rare species occurrences and land use changes is lacking for the proposed ordinances and would be beneficial in developing the most informed decisions.

2. The Pinelands Development Credit (PDC) requirements are well below the current requirements for the area proposed in the Municipal Landfill Redevelopment Area, representing an overall loss for the Pinelands Plan. The current zoning as Municipal Lands Zone would require the use of PDCs for 50-100% of the approved units. Under the proposed redevelopment plan, PDCs are only required for 25% of the approved units. As the Plan itself mentions, the included lots are some of the last remaining undeveloped developable lands in the Borough. A change to the PDC requirements would essentially halve the little remaining PDC use possible within South Toms River.

3. The existing parcels within the proposed Municipal Landfill Redevelopment Plan include a Green Acres encumbrance on 6.92 acres of parkland encompassing current recreation facilities, as included in the attached map. The plan makes only vague reference to open space and recreational facilities, without accommodating for retaining the existing Recreation and Open Space Inventory (ROSI) listed property. This runs counter to the CMP provisions set out in NJAC 7:50-6.141 et seq. that require municipalities to protect and enhance recreational resources. The plan must require the protection of the ROSI resources.

Sincerely,

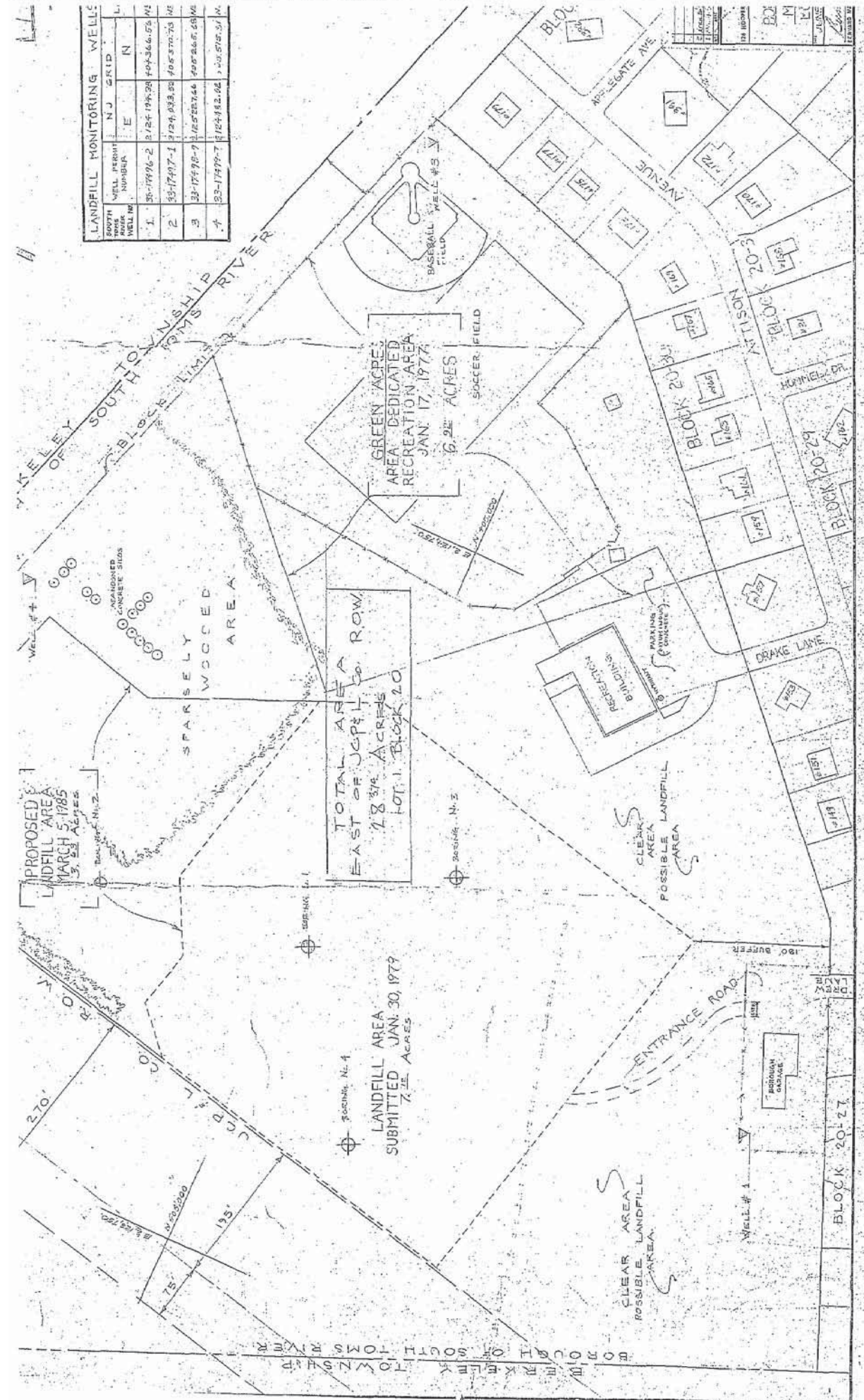


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LANDFILL MONITORING WELLS		NJ GRID		L	
WELL PERMIT NUMBER	WELL NO.	E	N	E	N
1	35-17496-2	2724	1945.28	404	366.65
2	35-17497-1	2724	1933.92	405	370.75
3	33-17498-9	1822	2374.6	408	266.58
4	33-17499-7	1824	182.02	408	575.31



PROPOSED LANDFILL AREA
MARCH 5, 1985
3.23 ACRES

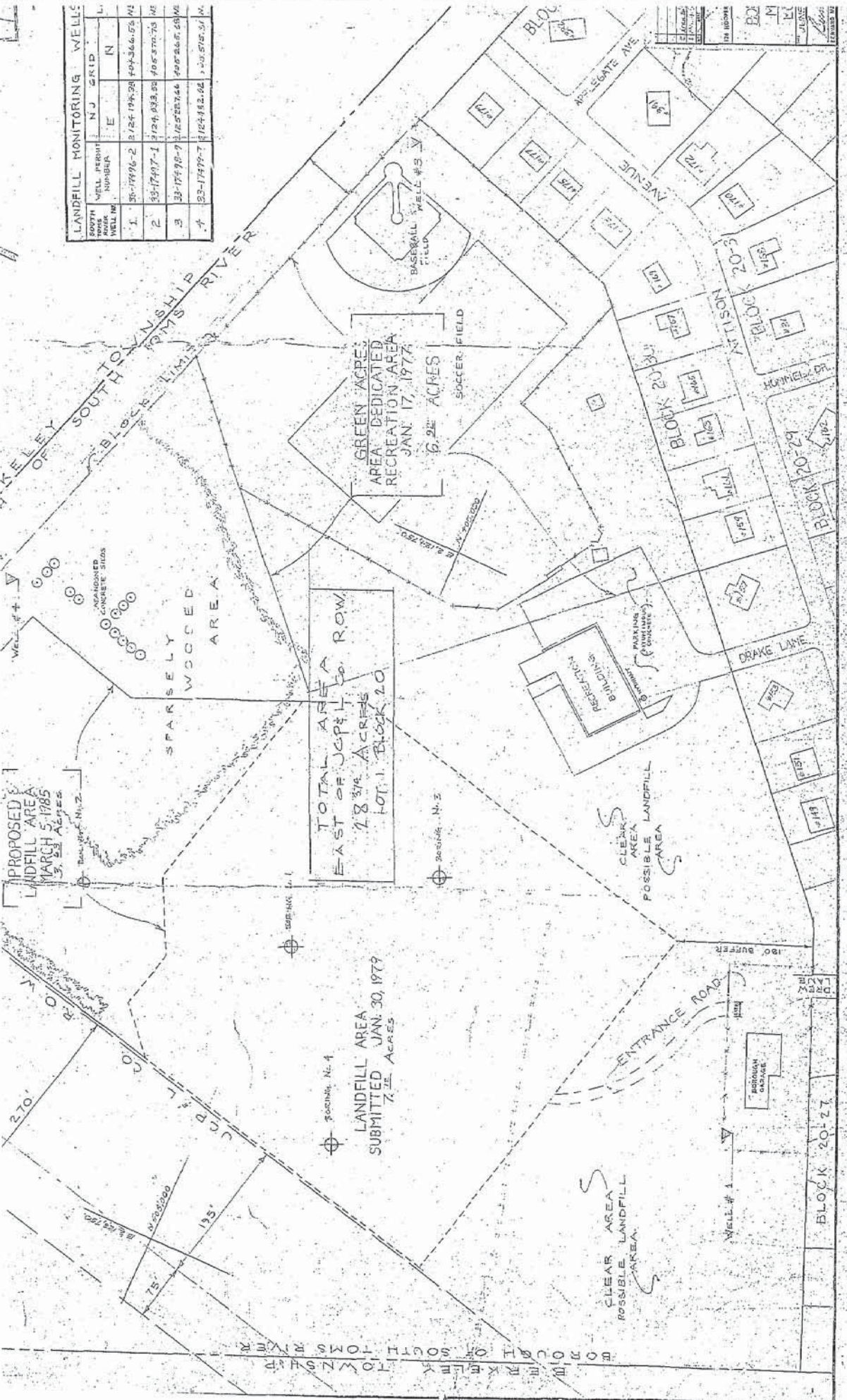
TOTAL AREA EAST OF CAPITAL RD. ROW
7.8 3/4 ACRES
LOT 1, BLOCK 20

GREEN ACRES AREA DEDICATED RECREATION AREA
JAN 17, 1977
6.2 ACRES

SECTION No. 4
LANDFILL AREA
SUBMITTED JAN. 30, 1979
7.2 ACRES

CLEAR AREA POSSIBLE LANDFILL AREA

CLEAR AREA POSSIBLE LANDFILL AREA



Threatened/Endangered Species Survey Report

Application #: 2005-0232.005

Block 20, Lots 1.02—1.05
Borough of South Toms River, Ocean County,
New Jersey

PREPARED FOR:

The Pinelands Commission
PO Box 359
15 Springfield Road
New Lisbon, New Jersey 08064



**DuBois Environmental
Consultants**

249 S. Main Street · Suite 6 · Barnegat · New Jersey · 08005
Phone: 609-488-2857 or 609-488-2859
Website: www.denviro.com

THREATENED/ENDANGERED SPECIES SURVEY REPORT

APPLICATION # 2005-0232.005
**SOUTH TOMS RIVER PROPERTY
RESIDENTIAL SUBDEVELOPMENT
BOROUGH OF SOUTH TOMS RIVER,
OCEAN COUNTY,
NEW JERSEY**

PREPARED FOR:

**THE PINELANDS COMMISSION
P.O. BOX 359
NEW LISBON, NJ 08064**

PREPARED BY:



**DuBois Environmental Consultants, LLC
249 South Main Street, Suite 6
Barnegat, NJ 08005**



**KERRI-ANN MATTHEWS
STAFF BIOLOGIST**



**BRYON DUBOIS
SENIOR BIOLOGIST**

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Appendix A -	Site Photographs
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Appendix C -	Copy of Scientific Collecting Permit
Appendix D -	Copy of Cease and Desist Correspondence
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I. INTRODUCTION

This report summarizes the survey methodologies, findings, and conclusions of the threatened and endangered snake species survey performed on Block 20, Lots 1.02 - 1.05 (herein termed “the site”) located within the Borough of South Toms River, Ocean County, New Jersey. Information is sought by the Pinelands Commission (PC) for the potential presence or occurrence of any habitat necessary for the survival of any local populations of protected snake or plant species on or within the vicinity of the site. DuBois Environmental Consultants (DEC), an ecological consulting firm that specializes in threatened/endangered species studies, was retained in February 2016 to develop a survey protocol and sampling plan to determine whether critical habitat is present on or in the vicinity of the site. The survey was performed to demonstrate whether or not critical habitat is present on-site is present on the site for the State threatened Northern pine snake (*Pituophis m. melanoleucus*), State Endangered Corn snake (*Pantherophis guttatus*) and State Endangered Sickle-leaved Golden Aster (*Pityopsis falcata*).

In the fall of 2001 to spring of 2003, a study was conducted on the “Lumley Tract” located to the west of the subject site resulting in the findings of five (5) northern pine snakes. All snakes were found utilizing the woodlands located further west of this property and the JCP&L easement which encompasses the western property boundary. Additionally, drift fences were erected around one (1) known and two (2) possible hibernaculas in the spring of 2003. Two (2) of the northern pine snakes (L-7 and L-8) that were captured in 2003 were surgically fitted with Lithium a 3.6V Model ER10/28 transmitters and radio-tracked through the end of the 2003 survey period. Data generated from the two (2) radio-tracked snakes showed particular usage of the JCP&L easement, the former railroad easement located to the north, open areas adjacent to the easement, and the “Lumley Tract”. Primary usage was noted to occur along the easements for foraging and basking. At the time of that study, solid waste debris piles were documented along the easement that provided active retreats and foraging grounds for snakes. During the 2016 study, no debris piles were observed along the easement as the utility company had recently upgraded the right-of-way (ROW). In addition, the easement has seen a large increase in off-road vehicle (ORV) use since 2003. New berms, cuts and tracks currently exist with the ROW. No northern pine snakes were found during the 2016 study on the subject site.

The Pinelands Comprehensive Management Plan (CMP) requires that no development may be carried out unless it is designed to avoid irreversible adverse impacts on habitats that are critical to the survival of any local population of threatened or endangered animal species. The survey methodologies for threatened and endangered species were outlined within the document entitled “Threatened/Endangered Species Survey Protocol”, dated February 22, 2016 as prepared by DEC. In addition, a Scientific Collecting Permit (SCP) authorizing the collection of protected snakes was secured from the New Jersey Department of Environmental Protection (NJDEP) Wildlife Permits Unit on March 21, 2016 – amended April 14, 2016 (SC 2016075). This Threatened & Endangered Species Survey Report has been prepared and surveys conducted by DEC in accordance with the General Guidelines for Conducting Threatened and Endangered Species Surveys in the Pinelands Area, developed by the PC on March 25, 2006.

II. SITE CHARACTERISTICS

A. Location & Proposed Project

The study area in question is owned by the Borough of South Toms River. The site is being considered for landfill closure and possible residential subdivision. The site is located adjacent to a residentially developed area of the Borough of South Toms River, Ocean County, New Jersey with property

frontage along Attison and 1st Avenues, with Dover Road and U.S. Highway 9 located in close proximity (refer to *Figure 1. New Jersey Road Map*).

The property is located on the Toms River USGS Quadrangle with state plane coordinates (feet) of E(x) 569,740; N(y) 404,890 located at the approximate center of the site (refer to *Figure 2: Toms River USGS Quadrangle Map*). It is located within the Barnegat Bay Watershed Management Area (WMA 13), within the Toms River (below Oak Ridge Parkway) watershed, and within the Wrangle Brook (below Michaels Branch) (HUC14: 02040301080050) and Davenport Branch (below Pinewald Road) (HUC14: 02040301080040) subwatersheds. The site is located within a Regional Growth Area within the Pinelands Management Area. A Forest Area is located off site to the west (refer to *Figure 3: Pinelands Management Area Map*). Refer to *Figure 4: Aerial Map* for an ortho-photographic depiction of the site and surrounding area.

B. Existing Land Use/Land Coverage

The site is currently utilized in the east by the South Toms River Public Works Department where a yard and maintenance buildings exist. The northeast portion of the site contains little league baseball and softball fields. In the center of the site is the area of the former landfill. In this area, approximately 15.8 acres of fill dirt and compacted soils are found. The western and central portions of the site contain fire pits, off road structures and areas of past parties and associated littering. The western portion of the site contains the JCP&L easement that traverses the site in a general north to south direction, which has been recently upgraded. A large majority of the easement in this area is denuded of vegetation. No planned development is proposed within the easement. Lastly, to the west of the easement remains undeveloped and undisturbed Pinelands type habitat (refer to *Figure 4: Land Use Activity Map*).

C. Soils

According to the Ocean County Soil Survey Geographic Database program (SSURGO) provided by the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS), three (3) soil map units representing three (3) soil series are mapped on the site (refer to *Figure 5: Ocean County Soil Survey Map*). The following table depicts the soil map units and representative properties of each soil type:

Table 1: Soil Map Units and Properties

<u>Soil Map Unit</u>	<u>Symbol</u>	<u>Drainage Class</u>	<u>Depth to SHWT (in.)</u>	<u>Hydric Rating</u>
Lakehurst sand, 0 to 5 percent slopes	LakB	Moderately well drained	18 – 42	NO
Lakewood sand, 0 to 5 percent slopes	LasB	Excessively drained	>80	NO
Pits, sand and gravel (100%)	PHG	N/A	N/A	N/A

Former landfill areas contain soils that have been placed to cover the municipal debris. These areas over time have been covered with successional vegetation such as black cherry (*Prunus serotina*), pitch pine (*Pinus rigida*) and black locust (*Robinia pseudoacacia*).

D. Freshwater Wetlands and Hydrology

According to the NJDEP GIS data layer entitled “NJDEP Wetlands of Ocean County, New Jersey, 1986”, freshwater wetlands are not mapped on or within the immediate vicinity of the subject site (refer to *Figure 6: NJDEP Freshwater Wetlands Map*). According to the NJDEP GIS data layer entitled “NJDEP

Surface Water Quality Standards of New Jersey”, no surface waters are present on or within the immediate vicinity of the subject site. The closest mapped surface water feature is the Wrangle Brook located approximately 2,500 feet to the northeast of the subject site. The Wrangle Brook listed as “FW2-NT/SE1” (Non-trout) which means the general surface water classification applied to saline waters of estuaries.

The survey area is located in the Barnegat Bay Watershed Management Area (WMA 13), within the Toms River (below Oak Ridge Parkway) watershed, and within the Wrangle Brook (below Michaels Branch) (HUC14: 02040301080050) and Davenport Branch (below Pinewald Road) (HUC14: 02040301080040) subwatersheds.

E. Vegetation

Where present, the overall vegetation community on-site is dominantly oak-pine with areas of sporadic openings in the canopy where ORVs utilize pathways. A greater concentration of pitch pine exists in the northern portion of the site, near 1st Avenue and to the west of the ROW, which is evident from aerial photography. Understory, as well as shrub layer vegetation, is sporadic throughout the site and not well defined. The central portion of the site contains sparse amounts of vegetation and is denuded from previous land uses and the frequent usage of ORVs. The eastern portion of the site exists as recreational fields containing maintained lawn.

Overstory trees in the uplands include white oak (*Quercus alba*), pitch pine, black cherry and chestnut oak (*Q. prinus*). The understory is composed of sassafras (*Sassafras albidum*), black oak (*Q. velutina*) and the overstory species. The uplands contain few mountain laurel (*Kalmia latifolia*) and a sporadic low shrub layer consisting mainly of low blueberry (*Vaccinium vacillans*) and huckleberry (*Gaylussacia* spp.). Bracken fern (*Pteridium aquilinum*), teaberry (*Gaultheria procumbens*), wintergreen (*Chimaphila maculata*), and Pennsylvania sedge (*Carex pennsylvanica*) are the dominant upland herbaceous species. Below is a list of upland species typically found in oak-pine dominant woodlands.

Refer to *Table 2. General Plant Species Observed Within the Survey Area* for a list of plant species found on and within the vicinity of the site.

Table 2: General Plant Species Observed Within the Survey Area

General Survey Site Vegetation List			
Common Name	Scientific Name	Common Name	Scientific Name
Broomsedge	<i>Andropogon virginicus</i>	Nuttall’s Lobelia	<i>Lobelia nuttallii</i>
Hemp Dogbane	<i>Apocynum cannabinum</i>	Staggerbush	<i>Lyonia mariana</i>
Common Milkweed	<i>Asclepias syriaca</i>	Cow wheat	<i>Melampyrum lineare</i>
Pennsylvania Sedge	<i>Carex pennsylvanica</i>	Pine Barrens Sandwort	<i>Minuartia caroliniana</i>
Spotted Knapweed	<i>Centaurea maculosa</i>	Red Mulberry	<i>Morus rubra</i>
Partridgepea	<i>Chamaecrista fasciculata</i>	Switchgrass	<i>Panicum virgatum</i>
Spotted Wintergreen	<i>Chimaphila maculata</i>	Virginia Creeper	<i>Parthenocissus quinquefolia</i>
Maryland Golden Aster	<i>Chrysopsis mariana</i>	Shortleaf Pine	<i>Pinus echinata</i>
Reindeer Lichen	<i>Cladonia spp.</i>	Pitch Pine	<i>Pinus rigida</i>
Sweet Fern	<i>Comptonia peregrina</i>	Jointweed	<i>Polygonella articulata</i>
Toothed Flatsedge	<i>Cyperus dentatus</i>	Black Cherry	<i>Prunus serotina</i>
Gray’s Flatsedge	<i>Cyperus grayi</i>	Bracken Fern	<i>Pteridium aquilinum</i>
Queen Anne’s Lace	<i>Daucus carota</i>	Pyxie-moss	<i>Pyxidantha barbulate</i>
Rosette Grass	<i>Dichantheium spp.</i>	White Oak	<i>Quercus alba</i>

Buttonweed	<i>Diodia teres</i>	Scarlet Oak	<i>Quercus coccinea</i>
White Boneset	<i>Eupatorium album var. album</i>	Scrub Oak	<i>Quercus ilicifolia</i>
Rough Boneset	<i>Eupatorium pilosum</i>	Blackjack Oak	<i>Quercus marilandica</i>
Showy Aster	<i>Eurybia spectabilis</i>	Chestnut Oak	<i>Quercus prinus</i>
Flat-top Goldenrod	<i>Euthamia tenuifolia</i>	Black Oak	<i>Quercus velutina</i>
Teaberry	<i>Gaultheria procumbens</i>	Winged Sumac	<i>Rhus copallinum</i>
Black Huckleberry	<i>Gaylussacia baccata</i>	Black Locust	<i>Robinia pseudoacacia</i>
Blue Huckleberry	<i>Gaylussacia frondosa</i>	Sand Blackberry	<i>Rubus cuneifolius</i>
Pine Barrens Heather	<i>Hudsonia ericoides</i>	Northern Dewberry	<i>Rubus flagellaris</i>
Orange Grass	<i>Hypericum gentianoides</i>	Sassafras	<i>Sassafras albidum</i>
Inkberry	<i>Ilex glabra</i>	Little Bluestem	<i>Schizachyrium scoparium</i>
American Holly	<i>Ilex opaca</i>	Catbriar	<i>Smilax glauca</i>
Stiff-leaved Aster	<i>Ionactis linariifolius</i>	Common Greenbrier	<i>Smilax rotundifolia</i>
Path Rush	<i>Juncus tenuis</i>	Fragrant Goldenrod	<i>Solidago odora</i>
Eastern Redcedar	<i>Juniperus virginiana</i>	Bushy Aster	<i>Symphotrichum dumosum</i>
Sheep Laurel	<i>Kalmia angustifolia</i>	Goats Rue	<i>Tephrosia virginiana</i>
Mountain Laurel	<i>Kalmia latifolia</i>	Poison Ivy	<i>Toxicodendron radicans</i>
Pinweed	<i>Lechia minor</i>	Purpletop	<i>Tridens flavus</i>
Narrow-leaved Bush-clover	<i>Lespedeza angustifolia</i>	Highbush Blueberry	<i>Vaccinium corymbosum</i>
Round-headed Bush-clover	<i>Lespedeza capitata</i>	Lowbush Blueberry	<i>Vaccinium pallidum</i>
Chinese Bush-clover	<i>Lespedeza cuneata</i>	Summer Grape	<i>Vitis aestivalis</i>

III. RECORDS SEARCH & AGENCY CORRESPONDENCE

A. NJDEP Landscape Project Habitat Mapping

DEC reviewed Landscape Project Version 3.1 data for threatened/endangered wildlife species potential in the area. The Landscape Project was developed by the NJDEP, Division of Fish and Wildlife, Endangered and Non-Game Species Program (ENSP) as a wildlife-habitat mapping program that is used to identify and map critical habitats for endangered, threatened, and special-concern wildlife. Version 3.1 applies a species-based habitat layer which identifies imperiled and special concern wildlife within each Landscape Region of New Jersey; Atlantic Coastal, Delaware Bay, Piedmont Plains, Pinelands, Skylands and Marine. The Landscape Project uses documented sightings of listed wildlife and, based on a species-specific model, designates areas of suitable habitat contiguous to the sighting as critical habitat. Each species has a specific set of land use/land cover (LU/LC) classes that are combined into a potential layer relating to that species' habitat requirements. Version 3.1 also provides detailed information on the type of occurrence, called a feature label, which includes foraging and breeding, among others, as well as the last year of documented occurrence. The Landscape habitat patches are ranked based on the status of a species record, if present, within or near a polygon. The ranking system applied is as follows:

Rank 1: assigned to species-specific habitat patches that meet habitat-specific suitability requirements such as minimum size or core area criteria for endangered, threatened or special concern wildlife species, but that do not intersect with any confirmed occurrences of such species.

Rank 2: assigned to species-specific habitat patches containing one or more occurrences of species considered to be species of special concern.

Rank 3: assigned to species-specific habitat patches with one or more occurrences of State threatened species.

Rank 4: assigned to species-specific patches containing one or more occurrences of State endangered species.

Rank 5: assigned to species-specific habitat patches containing one or more occurrences of wildlife listed as endangered and threatened pursuant to the Federal Endangered Species Act of 1973.

An endangered species is a species or subspecies of wildlife whose prospects for survival or recruitment are in jeopardy or are likely within the foreseeable future to become so due to any of the following factors: (1) the destruction, drastic modification, or severe curtailment of its habitat, or (2) its over-utilization for scientific, commercial or sporting purposes, or (3) the effect on it of disease, pollution, or predation, or (4) other natural or manmade factors affecting its prospects of survival or recruitment within the State, or (5) any combination of the foregoing factors. Threatened species are generally defined to be species that may become endangered if conditions surrounding them begin or continue to deteriorate. Species of special concern are species that warrant special attention by the NJDEP because of inherent vulnerability to environmental deterioration or habitat modification that would result in its becoming threatened if conditions surrounding the species begin or continue to deteriorate (N.J. Division of Fish and Wildlife 2012).

The site lies within the Pinelands landscape region. State threatened and State endangered (Rank 3 and Rank 4) wildlife species occurrences are mapped within the bounds of the site (refer to *Figure 7: NJDEP Landscape Project Map*). Rank 2 occurrences include brown thrasher (*Toxostoma rufum*), whip-poor-will (*Caprimulgus vociferus*), Cooper’s hawk (*Accipiter cooperii*) and Pine Barrens bluet (*Enallagma recurvatum*); however, as these species are not state-listed as threatened or endangered, they are not afforded any regulatory protection and are not addressed within this report. NJDEP Landscape Project Mapping data depicts habitat polygons with records for northern pine snake, corn snake, Pine Barrens treefrog (*Hyla andersonii*) and barred owl (*Strix varia*) (refer to *Figure 7: NJDEP Landscape Project Map*). However, the focus of this threatened/endangered species survey is for northern pine snake, corn snake and sickle-leaved golden aster only. The following table is a breakdown of threatened and endangered species occurrences documented by the NJDEP Landscape Project within the study area:

Table 3: NJDEP Landscape Project Mappings

<u>Common Name</u>	<u>Taxonomic Name</u>	<u>State-Status</u>	<u>Habitat Type(s)</u>	<u>Feature Label/ Year</u>
Northern Pine Snake	<i>Pituophis m. melanoleucus</i>	Threatened	Mixed deciduous/coniferous brush/shrubland, upland rights-of-way (undeveloped), coniferous forest (>50% crown closure)	Occupied Habitat/ 1982, 1996, 2005, 2006
Corn Snake	<i>Pantherophis guttata</i>	Endangered	Mixed deciduous/coniferous brush/shrubland, upland rights-of-way (undeveloped), coniferous forest (>50% crown closure)	Occupied Habitat/ 1991, 2007

<u>Common Name</u>	<u>Taxonomic Name</u>	<u>State-Status</u>	<u>Habitat Type(s)</u>	<u>Feature Label/ Year</u>
Pine Barrens Treefrog	<i>Hyla andersonii</i>	Threatened	upland rights-of-way (undeveloped), coniferous forest (>50% crown closure)	Vernal Pool Breeding/1995 & Breeding Sighting/2006
Barred Owl	<i>Strix varia</i>	Threatened	Mixed forest (>50% coniferous with >50% crown closure), upland rights-of-way (undeveloped), coniferous forest (>50% crown closure)	Breeding Sighting/2003

B. New Jersey Pinelands Commission Correspondence

By an email dated April 19, 2016, the PC was notified of vandalism to the drift fence arrays and snake traps immediately after the opening of our drift fences. The South Toms River Police and Public Works immediately cleared the site of vandals and added traffic barriers to our trapping areas to ward off ORV use in the snake trapping area. Throughout the course of the survey, vandalism did occur, however DEC maintained the integrity of the silt fences daily. During trap checking, if any persons were encountered it was explained that a scientific study was being conducted and to not interfere with the results. In addition, DEC contacted the local police department to aid in monitoring the area for vandals. Furthermore, signs demonstrating that the area part of a wildlife study were displayed throughout the sight to deter any further vandalism. All signs included the Scientific Collecting permit number granted by the NJDEP Wildlife Permits Unit.

PC environmental correspondence dated May 3, 2016 for the site indicates that the Threatened and Endangered Species Protocol submitted on February 22, 2016 which presents proposed survey efforts to address future proposed 314 residential subdivision on the site, does not address the Northern pine snake sightings and data from circa 2001 surveys for adjacent Blocks 11.01, 11, and 12, various lots in Berkeley Township originally completed by Mr. Bryon DuBois. The PC recommended including an evaluation of the JCP&L right-of-way southwest of the property and to incorporate radio telemetry into the survey since it is the only known method to determine where critical denning habitat is located (refer to Appendix B for a copy of the PC correspondence).

In addition, the May 3, 2016 letter indicated that a sickle-leaved golden aster (*Pityopsis falcata*) survey must be completed. The correspondence stated that a habitat analysis must be completed for all remaining Pinelands listed threatened/endangered place species and State listed endangered plant species to complete the application.

On May 26, 2016, a member of our staff encountered a Mr. John Zingis of Air, Land and Sea on the subject site, and stated that he was conducting hours' worth of studies on the subject site. The DEC staff member immediately notified Mr. Bryon DuBois of the encounter. As a result, Heiring, Gannon and McKenna, who serve as the Municipal Attorneys for the Borough of South Toms River, notified Mr. Zingis in a letter dated May 27, 2016 that he was to immediately cease and desist all activity on the property or he may be subject to charges of criminal trespass pursuant to Borough Codes (refer to Appendix D for a copy of the Cease and Desist correspondence). Throughout the course of the survey, Mr. Zingis was not encountered again. However, he did relay that a boy has seen a pine snake in the ROW prior to May 26th

but he was not able to confirm that sighting. Our office made every attempt to talk to multiple sources while on-site, however no one that we spoke to had encountered any pine snakes.

C. NJDEP Wildlife Permits Unit

DEC submitted a Scientific Collecting Permit Application to the NJDEP Wildlife Permits Unit requesting permission to collect an unspecified amount of northern pine snakes and corn snakes in an effort to obtain information on potential habitat use and the locations of any critical habitat on the survey area. A Scientific Collecting Permit was issued by the NJDEP on March 21, 2016 (SC: 2016075) authorizing the collection of regulated wildlife (refer to Appendix C for a copy of the authorized Scientific Collecting Permit).

D. Current Threats to Snakes in New Jersey

Northern pine snakes face an assortment of threats in New Jersey. According to the Status Assessment of the Northern Pine Snake in New Jersey: An Evaluation of Trends and Threats” (NJDEP, 2009), six (6) threats were identified which included habitat loss and fragmentation, poaching and illegal collection, predation from both natural and subsidized predators, mortality along roads, fire suppression and habitat change and off-road vehicle (ORV) use.

Habitat loss and fragmentation are the greatest threats to pine snakes in New Jersey. Currently, 72% of the historic range of the pine snake is regulated by the New Jersey Pinelands Commission and 7% is regulated under the NJDEP’s Coastal Zone Management Rules (CAFRA). However, 21% of the northern pine snake’s range lacks any regulatory protection and is most vulnerable to urban development. The development of Pinelands habitats leads to a loss of pine-oak forest habitat and an increase in human encounters with pine snakes (New Jersey Endangered and Threatened Species Field Guide).

Human intrusions and disturbance such as killing, poaching and illegal collecting also has harmful effects on pine snakes. ORV use of habitat has resulted in direct take of the species in addition to indirect impacts such as soil compaction at nest sites and/or hibernacula disturbance. In 2002, the NJDEP reported that illegal ORV activities accounted for approximately 343,000 acres of habitat damages to state park, forest and wilderness land in New Jersey (NJDEP, 2002). In a study conducted by Burger et al. (2007), it was demonstrated that fewer pine snakes used hibernacula during years when ORV activity occurred in the area.

Transportation and service corridors negatively affect pine snakes by replacing suitable habitat with impervious surfaces that are unsuitable for this species. The secondary impacts created by roads include: population isolation, changes in temperature gradients, increased sedimentation, increased human access, chemical pollution, and vehicle disturbance (Forman et al., 2003). In addition, pine snakes suffer from direct mortality from roadways.

Invasive and other problematic species such as coyotes have negative impacts to northern pine snakes and are subject to predation during all life phases. During their active season, other predators include red-tailed hawks and other larger birds of prey or mammals. Subsidized predators, which are predatory animals whose survival and reproduction are enhanced by the intentional or inadvertent provisioning of food by people (Boarman, 1997), also provide predation pressure to pine snakes due to the increasing development of the Pinelands.

Snake fungal disease (SFD) is also a threat to the population of northern pine snakes in the Pinelands. Laboratory analyses have demonstrated that the fungus *Chrysosporium ophioidicola* is consistently associated with SFD, but often, additional fungi are isolated from affected snakes (USGS, 2013). Common signs of SFD include scabs or crusty scales, hypodermic nodules, premature separation of the outermost layer of the skin from the underlying skin, white opaque cloudiness of the eyes, or localized thickening or crusting of the skin. Open lesions have also been observed. Although mortality has been associated with SFD, it is not yet known to impact populations as a whole.

IV. TARGET SPECIES

The following descriptions are of the life history and habitat requirements for the species subject of this threatened and endangered species survey report.

A. Northern Pine Snake (*Pituophis m. melanoleucus*), State Threatened

The northern pine snake is found in the northern and eastern-central regions of the country, in areas with sandy soils and dry upland forests. They occur in the southern portion of the state in the Pine Barrens, where they are isolated from other conspecifics much farther south in Tennessee, Virginia, Kentucky and the Carolinas (Burger and Zappalorti 2011). They are a fossorial species limited to sandy soil habitats of the New Jersey Pine Barrens. This species of snake, which rarely climbs vegetation and prefers to be on the ground, has the ability to tunnel underground and excavate its own nests, summer dens and places to hibernate.

In mid spring, usually April in New Jersey, northern pine snakes begin emerging from their hibernacula. Hibernacula are generally located at the edges of clearings, in areas with sparse vegetation, and in places with sparse tree cover to allow sun penetration, although some are in denser cover (Burger and Zappalorti 2011). Dens may be dug at the bases of old decaying stumps, in abandoned mammal burrows, or other suitable refugia. Dry, sandy, pine-oak to oak-pine woodlands with open canopy areas are indicative of potential foraging habitat for this species. Northern pine snakes are known to eat mammals as large as rabbits, as well as small rodents and birds. They are usually most active in early morning or late afternoon when they leave their burrows to hunt. Later in the spring and even into early summer, males may actively seek out females laying pheromone trails and attempt to mate with them (Zappalorti and Torocco 2002).

Northern pine snakes are egg-layers and typically lay their eggs in underground nests that they excavate in open sandy areas. Sandy, infertile soil provides areas with limited vegetation and is a necessary medium for potential nesting sites. Nesting areas are most often characterized by open, treeless landscapes with bare loose sand and scattered ground vegetation. Both human-caused and natural disturbances are typically involved in creating the types of openings important for nesting and basking (Golden and Jenkins 2003). Eggs are usually laid in mid-summer (June and early July), and adult females have the tendency to re-use their nest sites year after year. The female may lay three to 16 eggs in the nesting chamber and then leaves the nest.

During early fall, northern pine snakes may follow scent trails back to their original overwintering sites or seek out another suitable hibernaculum. Cold weather in mid-October or early November will promote the descent of the snakes into the hibernacula, where they will remain until spring emergence (Zappalorti and Torocco 2002).

B. Corn Snake (*Elaphe g. guttata*), State Endangered

The coloration of the Corn Snake is highly variable over its range, varying from a ground color of gray to orange with red or orange dorsal and lateral blotches, each boldly bordered by black. The scales are lightly keeled.

This snake ranges from Ocean County, in southern New Jersey, to the Florida Keys, and west into Louisiana and Tennessee. It is absent from southern Virginia and northern North Carolina, and isolated populations exist in Kentucky.

This is a highly fossorial species and is known to prefer a variety of habitats such as overgrown fields, forest openings, classic Pine Barrens habitat, barn yards, woodlots, rocky hillsides, meadowland, along watercourses, and around springs. Corn snakes are also good climbers and can be found in trees and bushes. Hollow railroad ties are a favorite hiding place because they offer good ground cover, warmth from the sun, and protection from predators. Mating occurs from March to May. Eggs are laid from late May to July and hatch during July to September. Nests may be in rotting stumps, leaf litter, or other similar environments and are abandoned following egg laying.

In New Jersey, the Corn Snake may hibernate in communal dens with Pine Snakes and Black Racers, or alone in non-communal dens. Emergence from hibernation occurs in late March or early April, but corn snakes have been seen basking on the surface during winter warm spells in January, February, and March.

Corn snakes are non-venomous constrictors. Hatchlings and young Corn Snakes will eat lizards. Since Corn Snakes are nocturnal in the summer, they are able to capture the lizards at night when they are sleeping under logs or bark. Adults feed primarily on warm-blooded prey including mice, voles, shrews, moles, and small rats. However, birds and their eggs are also eaten.

In the New Jersey Pine Barrens, natural predators include many mammals (i.e. domestic cats, coyotes, foxes, skunks, weasels, raccoons, opossums, and shrews). Birds of prey such as Red-tailed Hawks, Cooper's Hawks, Sharp-shinned Hawks, and owls also take Corn Snakes when they are seen crawling on the surface.

C. Sickle-Leaved Golden-Aster (*Pityopsis falcata*)

The Sickle-Leaved Golden Aster (*Pityopsis falcata*) is a small three (3) to twelve (12) inch high flowering plant that belongs to the Composite or daisy family and ranges from southeastern Massachusetts to New Jersey (Newcomb, 1977). This narrow alternate leaved plant grows in bare, open, white, sandy soils of the coastal plain and produces a yellow daisy-like flower in the Pine Barrens (Fairbrothers and Hough, 1973). The species is currently given a global rank of G3, G4 by the New Jersey Natural Heritage Program, is designated S2 (imperiled) by the New Jersey Department of Environmental Protection, and listed as a "threatened" species by the Pinelands.

V. MATERIALS AND METHODS

A. Snakes

1. Drift Fence Array Monitoring.

DEC initially erected a total of two (2) 1,000 linear-feet (LF) drift fence arrays with box funnel traps throughout the survey area. The fence was erected and traps installed on March 22, 2016. The array was fully operational on April 15, 2016 and approximately 500 LF was partially destroyed on April 18th. DEC re-erected the initial 2,000 LF and added an additional 500 LF as a secondary method to always have at least 2,000 LF functional in the event vandalism continued to occur. Traps were closed on July 15, 2016 to conclude the spring survey season. The traps were then opened again on September 1, 2016 and closed again on October 31, 2016 to conclude the fall survey season.

The drift fence was buried to a depth of six (6) inches below the ground surface and contained a minimum height of three (3) feet above the ground surface. The drift fence arrays were implemented with box funnel traps that contained openings through the fence, approximately every 75-100-feet. In addition, the ends of fences were constructed with an ‘arrow’ configuration and traps located on the outsides in an effort to corral and capture individuals travelling toward the inside of the fences. A total of 25 traps were alternated on either side of the fences. Refer to *Figure 8: Snake Drift Fence Detail* and *Figure 9: Snake Box Trap Detail* for schematic diagrams of the drift fence-box funnel trap design. Refer to *Figure 10: Drift Fence Box Funnel Trap Array Map* for a depiction of the deployed drift fence arrays and GPS funnel trap locations. Funnel traps were overlaid with branches or other vegetation to provide cover and reduce exposure to sun and rain. Funnel traps also included natural debris within their interiors to provide a moist and natural substrate for captured individuals. The funnel traps were expected to capture snakes, small mammals, lizards, frogs, and toads. Traps were checked once every 24 hours. Any captured individuals were identified and photographed.

2. Opportunistic Sampling & Random Visual Encounter Searches

Opportunistic sampling was initiated when weather conditions were optimal for active herptiles. This method involves searching various sections of the survey area, which included adjacent land surrounding the survey area, which show potential habitat for each species of interest and recording all species encountered. The most promising habitat areas to effectively observe both target snake species were the focus of search efforts during opportunistic sampling. Natural ground cover (fallen snags, stumps, tree hummock cavities) and artificial cover (debris) was overturned/observed in an effort to reveal concealed herptiles. Canopy gaps and sparsely vegetated openings were searched for basking snakes. Ecotone edges (changes in habitat types) were also traversed. Shed skins, snake trails in bare sand, and any other physical evidence of the target species were searched for in addition to live snakes.

In addition to opportunistic sampling, the targeted snake species, or evidence thereof, were searched for by random visual observations while walking through the entire survey area. This method involved employing transects by a two-to-three-person team throughout the survey area. This method allowed DEC to flag and monitor any potential summer or winter den sites that were encountered.

DEC also incorporated road cruising as part of the visual encounter surveys. Inspecting road sides is a method of sampling an area for herptiles by biologists. This technique involves walking or driving a vehicle at a slow speed along a paved or dirt road at various times of the day or night. Specimens observed crossing or basking along the road can be easily captured. This method often yields herptiles that would

otherwise not be collected due to their secretive nature and ability to remain hidden for long periods of time. This methodology was employed along interior dirt trails within the survey area. Road cruising was initiated opportunistically as a specific survey technique, as well as passively while driving to the survey area during daily trap checking. It should be noted that on several site visits trespassers were found utilizing the site for recreation. The area to the east of the ROW is heavily used by trespassers.

3. Hibernacula Survey

An early season hibernacula investigation was performed in an effort to locate northern pine snakes and corn snakes that may be egressing from dens from the winter (early spring survey). Stump holes, rotting tree stumps, and mammal burrows in the uplands that had the potential of being utilized as northern pine snake hibernacula were flagged and monitored for snake use during early spring surveys. Any identified areas were routinely visited throughout the course of visual investigations during the survey season, however focus within these areas was more intensive in the early spring. As previously mentioned, during the 2003 study, solid waste debris piles were documented along the easement that provided active retreats and foraging grounds for snakes. During the 2016 study, no debris piles were observed along the easement as the utility company had recently upgraded the ROW.

4. Nesting Survey

A northern pine snake and corn snake nest survey was conducted in late June and early July throughout potential habitat types within the survey area and adjacent areas. Suitable nesting habitat characteristics for northern pine snake include open sandy habitats featuring sparse vegetation. General site canvassing incorporated looking for freshly excavated cavities or other holes of interest. Cavities dug by northern pine snakes have a characteristic elliptical shape with a mound of subsoil (dump pile) at the entrance that usually exhibits body imprints of the snake if encountered early. On occasion, as female pine snakes may return to the same nest location each year, shell fragments from past year's eggs may be found outside the nest cavity (DEC visual observations). Any potential cavities of interest encountered throughout the survey area were flagged and repeatedly monitored throughout the nesting study period.

A DEC control site for nesting northern pine snake was visited on June 23, 2016 by DEC biologists at a known nesting area on the overall Woodmansie Mine site. This control site is located to the northwest of the survey site, opposite the existing mining area and lakes adjacent to the Hansen Sand Mine. This location, which has revealed multiple active nests for the past four consecutive seasons, produced three (3) active nests this season, one (1) of which was predated due to the observation of excavated egg shells. One (1) female northern pine snake was observed in the vicinity of the nesting area.

The sampling plan included the methodologies mentioned above and a cumulative study from April 15, 2016 to July 15, 2016 and from September 1, 2016 to October 31, 2016 survey period for a total of approximately 367.5 person hours spent conducting the threatened/endangered snake survey.

5. Radio-Telemetry

If a pine snake had been captured, it would have been fitted with a Lithium 3.6V Model ER10/28 transmitter using a technique described by Reinert and Cundall (1982). The complete transmitter unit (transmitter, battery, antenna and dental acrylic/beeswax) weighed five (5) to eight (8) grams. The transmitter unit produces a pulsed frequency signal between 150.290 to 150.300 MHz and is detected using a WMI Instrument Model LPI 2230 receiver and hand held directional antenna.

The sampling plan included the methodologies mentioned above and a cumulative study from April 15, 2016 to July 15, 2016 and from September 1, 2016 to October 31, 2016 survey period for a total of approximately 367.5 person hours spent conducting the threatened/endangered snake survey. No northern pine snakes or corn snakes were captured during the 2016 survey; therefore, radio telemetry was not conducted.

Snake Survey Plan Summary

The snake sampling plan included checking traps, random/opportunistic visual encounter surveys, hibernacula surveys and nesting surveys. The survey included:

- The spring survey was conducted from April 15 through July 15, 2016, and from September 1 through October 31, 2016.
- Visual encounter surveys were conducted at daytime air temperatures of 65°F or greater and between the hours of 9:00 a.m. and 4:00 p.m.
- A staff biologist checked traps once every 24 hours during the survey period.
- An approximate total of 2,000 l.f. of drift fence was operational throughout the survey area.
- The drift fence and traps were GPS'd to show precise dimensions.
- Repairs were made to the drift fences as necessary throughout the entire duration of the survey.
- Visual observations by walking through the survey area were conducted.
- Cover objects (debris, log piles, and fallen trees) were overturned in an attempt to observe snakes.
- Likely hibernacula, tracks, nests, egg shells and other physical evidence were searched in an effort to document snake activity.

DEC staff included Mr. Bryon DuBois, Mr. Anthony Silva, Ms. Amy Jones, Ms. Kerri-Ann Matthews, Mr. Jeff Dragon, Ms. Ashley Furlong, Mr. Ethan DuBois and Mr. Israel Berrios. It should be noted that Bryon DuBois has been pre-qualified as a NJ Primary Venomous Snake Monitor. In addition, Jeff Dragon has been pre-qualified as a NJ Tertiary Venomous Snake Monitor and Anthony Silva is a sub-permittee and has been approved as a venomous snake spotter.

Surveys ranged from one to three people on any given day, and spent a total of 153 days in the field from April 15 to July 15, 2016 for a spring survey, and from September 1 to October 31, 2016 for a fall survey, for a total person-hour expenditure of 367.5 hours. Time spent included trap checking once every 24 hours, a minimum of once a week visual encounter surveys, early-season hibernacula surveys and summer pine snake nesting investigations. Additionally, DEC spent five (5) days researching data, literature, analyzing available data, and writing this report.

Table 3. Person-hour Expenditure by Date. Hours do not reflect time installing, maintaining, or closing silt fence. Our office spent approximately 367.5 person-hours in the field on the following dates:

TC = Trap Check; HI = Hibernacula Investigation; RO = Random/Opportunistic Visual;
NI = Nesting Investigation

<u>Date (2016)</u>	<u>Person-Hours</u>	<u>Survey Type</u>	<u>Average Weather</u> <u>(°F)</u>
April 15	OPEN TRAPS, COMMENCE SPRING SURVEY		
April 16	1.5	TC	62° sunny
April 17	1.5	TC	68° sunny

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<u>Date (2016)</u>	<u>Person-Hours</u>	<u>Survey Type</u>	<u>Average Weather (°F)</u>
April 18	1.5	TC	75° sunny
April 19	3	TC/RO	75° sunny
April 20	1.5	TC	64° sunny
April 21	1.5	TC	75° sunny
April 22	8	TC/HI/RO	82° partly cloudy
April 23	1.5	TC	68° partly cloudy
April 24	1.5	TC	64° sunny
April 25	1.5	TC	73° sunny
April 26	8	TC/HI/RO	84° thunderstorms
April 27	1.5	TC	53° mostly cloudy
April 28	1.5	TC	53° partly cloudy
April 29	3	TC/RO	50° cloudy
April 30	1.5	TC	59° partly cloudy
May 1	1.5	TC	50° cloudy
May 2	1.5	TC	62° mostly cloudy
May 3	8	TC/HI/RO	53° thunderstorms
May 4	1.5	TC	48° thunderstorms
May 5	8	TC/HI/RO	53° cloudy
May 6	1.5	TC	53° cloudy
May 7	1.5	TC	57° mostly cloudy
May 8	1.5	TC	69° partly cloudy
May 9	1.5	TC	71° partly cloudy
May 10	8	TC/HI	62° partly cloudy
May 11	6	TC/RO	71° partly cloudy
May 12	6	TC/RO	77° partly cloudy
May 13	1.5	TC	68° partly cloudy
May 14	1.5	TC	75° partly cloudy
May 15	1.5	TC	57° partly cloudy
May 16	1.5	TC	64° sunny
May 17	6	TC/RO	66° partly cloudy
May 18	1.5	TC	60° partly cloudy
May 19	1.5	TC	69° partly cloudy
May 20	6	TC/RO	73° sunny
May 21	1.5	TC	60° partly cloudy
May 22	1.5	TC	62° cloudy
May 23	1.5	TC	71° partly cloudy
May 24	1.5	TC	80° partly cloudy
May 25	6	TC/RO	89° sunny
May 26	1.5	TC	91° sunny
May 27	1.5	TC	91° partly cloudy
May 28	1.5	TC	93° partly cloudy
May 29	1.5	TC	87° partly cloudy
May 30	6	TC/RO	77° mostly cloudy
May 31	1.5	TC	82° partly cloudy
June 1	1.5	TC	82° partly cloudy
June 2	1.5	TC	73° partly cloudy
June 3	6	TC/RO	71° mostly cloudy
June 4	1.5	TC	84° partly cloudy
June 5	1.5	TC	84° thunderstorms
June 6	1.5	TC	86° partly cloudy
June 7	6	TC/RO	84° partly cloudy

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<u>Date (2016)</u>	<u>Person-Hours</u>	<u>Survey Type</u>	<u>Average Weather (°F)</u>
June 8	1.5	TC	77° thunderstorms
June 9	1.5	TC	80° sunny
June 10	1.5	TC	81° partly cloudy
June 11	1.5	TC	80° sunny
June 12	1.5	TC	81° partly cloudy
June 13	1.5	TC	80° partly cloudy
June 14	6	TC/RO	79° partly cloudy
June 15	1.5	TC	77° sunny
June 16	1.5	TC	82° sunny
June 17	1.5	TC	89° sunny
June 18	1.5	TC	94° sunny
June 19	1.5	TC	72° partly cloudy
June 20	1.5	TC	82° sunny
June 21	8	TC/NI	82° thunderstorms
June 22	1.5	TC	81° sunny
June 23	1.5	TC	86° rain
June 24	4	TC/NI	77° partly cloudy
June 25	1.5	TC	82° partly cloudy
June 26	1.5	TC	84° partly cloudy
June 27	1.5	TC	84° rain
June 28	1.5	TC	82° rain
June 29	1.5	TC	86° rain
June 30	1.5	TC	87° partly cloudy
July 1	4	TC/NI	87° thunderstorms
July 2	1.5	TC	79° sunny
July 3	1.5	TC	79° sunny
July 4	1.5	TC	84° rain
July 5	1.5	TC	87° rain
July 6	4	TC/NI	93° partly cloudy
July 7	1.5	TC	95° thunderstorms
July 8	1.5	TC	89° rain
July 9	1.5	TC	73° rain
July 10	1.5	TC	84° partly cloudy
July 11	1.5	TC	80° partly cloudy
July 12	1.5	TC	84° partly cloudy
July 13	4	TC/NI	86° partly cloudy
July 14	1.5	TC	96° partly cloudy
July 15	CLOSED TRAPS, CONCLUDE SPRING SURVEY		
September 1	OPENED TRAPS, COMMENCE FALL SURVEY		
September 2	4	TC/RO	81° sunny
September 3	1.5	TC	73° partly cloudy
September 4	1.5	TC	77° partly cloudy
September 5	1.5	TC	81° partly cloudy
September 6	6	TC/RO	82° rain
September 7	1.5	TC	82° rain
September 8	6	TC/RO	93° partly cloudy
September 9	1.5	TC	97° partly cloudy
September 10	1.5	TC	95° sunny
September 11	1.5	TC	87° partly cloudy
September 12	1.5	TC	77° partly cloudy
September 13	6	TC/RO	82° partly cloudy

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<u>Date (2016)</u>	<u>Person-Hours</u>	<u>Survey Type</u>	<u>Average Weather (°F)</u>
September 14	1.5	TC	91° partly cloudy
September 15	1.5	TC	73° rain
September 16	1.5	TC	73° partly cloudy
September 17	1.5	TC	80° partly cloudy
September 18	1.5	TC	90° mostly cloudy
September 19	1.5	TC	73° thunderstorms
September 20	1.5	TC	78° partly cloudy
September 21	6	TC/RO	82° mostly cloudy
September 22	8	TC/HI	81° sunny
September 23	1.5	TC	87° partly cloudy
September 24	1.5	TC	70° rain
September 25	1.5	TC	70° sunny
September 26	1.5	TC	73° partly cloudy
September 27	6	TC/HI	76° rain
September 28	1.5	TC	73° rain
September 29	1.5	TC	72° rain
September 30	1.5	TC	64° rain
October 1	1.5	TC	63° rain
October 2	1.5	TC	64° rain
October 3	4	TC/HI	72° mostly cloudy
October 4	1.5	TC	64° cloudy
October 5	6	TC/RO	66° mostly cloudy
October 6	1.5	TC	70° scattered clouds
October 7	1.5	TC	71° foggy
October 8	1.5	TC	68° rain
October 9	1.5	TC	64° rain
October 10	1.5	TC	62° clear
October 11	3	TC/RO	63° clear
October 12	1.5	TC	69° cloudy
October 13	1.5	TC	71° rain
October 14	4	TC/HI	63° clear
October 15	1.5	TC	66° sunny
October 16	1.5	TC	73° partly cloudy
October 17	1.5	TC	84° scattered clouds
October 18	1.5	TC	86° sunny
October 19	6	TC/HI	86° scattered clouds
October 20	1.5	TC	73° partly cloudy
October 21	1.5	TC	75° rain
October 22	1.5	TC	59° rain
October 23	1.5	TC	64° scattered clouds
October 24	1.5	TC	64° partly cloudy
October 25	6	TC/RO	57° partly cloudy
October 26	1.5	TC	52° scattered clouds
October 27	1.5	TC	61° thunderstorms
October 28	1.5	TC	59° rain
October 29	1.5	TC	68° scattered clouds
October 30	1.5	TC	78° scattered clouds/t-storms
October 31	CLOSED TRAPS TO CONCLUDE FALL SURVEY SEASON		
TOTAL:	367.5 PERSON-HOURS		

B. Sickle-Leave Golden Aster

Priority habitat types were noted on-site to be searched, and a chronology of optimum search periods (when species could be the most identified by flowers, fruit, seeds, etc.) was generated. Also, the New Jersey Natural Heritage Program conducted a database search for "endangered," "threatened," or "rare" Pinelands listed plant species and communities. It also provided a list of priority potential plant species within a one (1) mile radius of the site located within the general study area.

Site visits were timed to coincide with the period when a target species was most readily apparent, generally when a plant was flowering. In the cases of many sedges and grasses, the optimum period was when seeds and achenes are mature. Seed structure is often the only way to differentiate between certain species, though some can be identified using vegetative material.

Areas of analysis were broken into sectors. Within each sector, 50" x 50" plots were sampled for vegetation. Areas within the sector not sampled were crisscrossed by two (2) or more members of the biological staff on three (3) separate dates from August until the end of September. Open sand roads were searched extensively. The open areas of the ROW were also searched because they offer surroundings similar to road sides and open fields. If target plant species were found on the site, the location, extent, and approximate number of plants were recorded. In addition, photographs would be taken to record the findings.

VI. DIRECTED SURVEY RESULTS

A. Snakes

1. Results of Drift Fence Array Monitoring

A primary effort of the field survey was the erection of a total of approximately 2,500 l.f. of drift fence, designed to corral wandering snake species into box funnel traps. The box funnel traps were operational for 153 days during the survey period, amounting to approximately 223.5 person-hours of strictly trap checking time. Trap checking took approximately 1.5 hours each day. The following table summarizes the results of the drift fence survey:

Table 5. Drift fence array box funnel trap capture results

<i>AMPHIBIANS</i>		
<u>Common Name</u>	<u>Scientific Name</u>	<u>No. Captures</u>
Fowler's Toad	<i>Bufo woodhousii fowleri</i>	Numerous
<i>REPTILES</i>		
<u>Common Name</u>	<u>Scientific Name</u>	<u>No. Captures</u>
Northern Fence Lizard	<i>Sceloporus hyacinthinus</i>	Numerous
Northern Black Racer	<i>Coluber c. constrictor</i>	3
Eastern Box Turtle	<i>Terrapene c. carolina</i>	2
<i>MAMMALS</i>		
<u>Common Name</u>	<u>Scientific Name</u>	<u>No. Capture</u>
White Footed Mouse	<i>Peromyscus leucopus</i>	1

Throughout the course of the 2016 spring and fall survey season, no northern pine snakes or corn snakes were captured by the drift fence trapping regime. Trespassers were found weekly throughout the survey area during the entire study.

2. Results of Opportunistic Sampling & Random Visual Encounter Searches

Northern pine snakes and corn snakes were sought during random and opportunistic searches within the survey area. Approximately 88.5 person-hours were expended conducting the opportunistic sampling and random visual encounter searches throughout the snake survey period. The target snake species were sought during random and opportunistic searches within the survey area as well as adjacent areas. Within forested uplands, northern pine snakes and corn snakes favor natural or human-created openings that are important for nesting, basking and summer den sites (Golden and Jenkins 2003; Burger et al. 1988). Much of the upland pine-oak survey area is generally composed of closed canopy which limits the suitability of opportune basking areas where a target snake species may be more easily identified. However, during opportunistic surveys, emphasis was placed on ecotone locations including along dirt trails, forest edge, and open canopy areas. In denser portions of the survey area, searches were made for surface-active snakes and natural cover including fallen trees and limbs, hollow logs, vegetation thickets, stumps, tree hummock cavities and mole tunnels were overturned/investigated in an attempt to observe specimens undercover. No positive encounters with northern pine snakes or corn snakes were made.

The visual survey area investigations were successful in capturing/observing the following herptiles:

Table 6. Results of opportunistic sampling and random visual encounter searches.

<u>Common Name</u>	<u>Scientific Name</u>	<u>No. Observed</u>	<u>Habitat</u>
Turtles			
Eastern Box Turtle	<i>Terrapene c. carolina</i>	4	Along array fence; forest floor
Snakes			
Eastern Garter Snake	<i>Thamnophis sirtalis</i>	3	Along array fence; Forest floor
Northern Black Racer	<i>Coluber constrictor</i>	5	Along ROW; forest floor
Lizards			
Eastern Fence Lizard	<i>Sceloporus undulatus</i>	numerous	Upon array fences; forest floor
Frogs & Toads			
Fowler's Toad	<i>Bufo woodhousii fowleri</i>	numerous	Along array fences; forest floor

3. Results of Nesting Survey

A Northern pine snake and corn snake nest survey was conducted within suitable areas within and adjacent to the survey area. The nesting survey was conducted on the following dates in 2016: June 21, June 24, July 1, July 6, and July 13 for a total of approximately 16.5 person-hours expended in the field. This time included searches locating potentially suitable nesting sites and monitoring identified areas. Northern pine snake and corn snake nesting habitat is characterized by open sunny locations featuring sparse vegetation and loose well drained exposed soils. Throughout the course of investigations within the survey area, it was found that unsuitable nesting habitat is present within the upland pine-oak forest due to

dense canopy and vegetated understory. Forest edge along the ROW within the survey area features exposed sands, however the substrate is either too loose or compacted due to vehicle use on the roadway shoulder, which would inhibit successful tunnel and chamber construction by female pine snakes. These particular nesting areas were deemed poor quality. A majority of the central portion of the survey area contains an active ROW and currently exists in a barren, sparsely vegetated state. The soil surface layer in these areas are primarily compact with coarse sands and gravel, and is subject to overland flow from precipitation and features drainage scours from runoff. These conditions do not represent ideal nesting habitat for female pine snakes. Although potential nesting habitat for northern pine snake was targeted and searched intensively, the habitat in these areas is degraded and no evidence of nesting was encountered.

No evidence of nesting by pine snakes or corn snakes was encountered in or within the vicinity of the survey area.

4. Results of Hibernacula Survey

The hibernacula survey was conducted on the following dates in 2016: April 22, April 26, May 3, May 5, May 10, September 22, September 27, October 3, October 14 and October 19 for a total of approximately 39 person-hours expended in the field. This time included searches locating potentially suitable denning sites and monitoring identified areas for snake activity. Most dens utilized by northern pine snakes are located near fallen, decaying logs which feature tunnels underground, often following decaying root systems (Burger et al. 1988; DEC personal observations). Stump holes, rotting tree stumps, and mammal burrows that had the potential of being hibernacula were monitored for snake use. Searches to locate suitable stumps and other potential den sites were conducted throughout the study period. Throughout the months of September and October of 2016, surveys in suitable areas were conducted to find other possible winter dens. Both methods proved valuable to the survey.

Our den surveys were based around areas where disturbance of surficial soils had been created. Specifically, along the ROW where former debris piles were observed and within the northern portion of the site where concrete silos exist. These areas were investigated on a regular basis along with areas that were found to contain stump piles and/or possible den areas. No evidence of a hibernacula utilized by either northern pine snakes nor corn snakes was encountered in or within the vicinity of the survey area.

5. Results of Radio-Telemetry Survey

No northern pine snakes or corn snakes were captured during the 2016 survey season; therefore, radio telemetry was not conducted.

B. Results of Sickle-leaved Golden Aster Survey

The sickle-leaved golden aster survey was conducted pursuant to standard rare threatened and endangered plant species survey protocols as required and approved by the NJPC. The botanical survey was conducted on the following dates in 2016: August 9, August 23, September 6 and September 20. The majority of the site is disturbed and the vegetation in this area consists of largely common, widespread species, which can tolerate such conditions. Typical native Pinelands type vegetation occurs throughout the survey area. DEC did not observe any sickle-leaved golden aster plant populations in or within the vicinity of the survey area on any of the survey dates. In addition, the best habitat lies within the ROW and this portion of the site is not going to be developed as part of the project.

VII. RESULTS SUMMARY

A. Snakes

The box funnel traps were operational for 153 days during the survey period from April 15 to October 31, 2016. Throughout the course of the survey, the trapping regime was successful in capturing a variety of herpetofauna; however, no northern pine snakes or corn snakes were captured by the drift fence arrays.

Approximately 88.5 person-hours were expended conducting the opportunistic sampling and random visual encounter searches throughout the survey period. The investigation of the survey area revealed numerous samples of various herpetofauna; however, there were no positive encounters or evidence thereof with northern pine snakes or corn snakes in or within the vicinity of the survey area.

Nesting surveys conducted within suitable areas in and within the vicinity of the survey area consisted of five (5) days in June and July totaling 16.5 person-hours. No northern pine snake or corn snake nests were observed on or within the vicinity of the survey area.

Hibernacula surveys conducted within the survey area consisted of ten (10) days in April-May and September-October totaling 39 person-hours. No northern pine snake and/or corn snake hibernaculae were encountered in or within the vicinity of the survey area.

B. Sickle-leaved Golden Aster

Botanical surveys for sickle-leaved golden-aster were conducted in August-September 2016 totaling 16 person-hours. No endangered plant populations were observed in or within the vicinity of the survey area.

VIII. DISCUSSION

The main objective of our surveys was to determine the presence or absence of the State threatened northern pine snake, State endangered corn snake and State endangered sickle-leaved golden aster. Throughout the course of the spring and fall survey season, which began April 15, 2016 and ended October 31, 2016, neither northern pine snakes nor corn snakes were encountered utilizing DEC trapping methodologies or visual survey area inspections. Proven survey techniques and methodologies were employed to document observations of the target species and critical habitat. The site is used by trespassers for a variety of recreational activities. ORV tracks, miscellaneous structures, fire pits, tents and party areas are all found on the eastern portion of the ROW.

Snake sightings along the ROW in the 2001-2003 survey centered around debris piles and vegetated islands within the sandy ROW. The debris piles no longer exist and evidently were removed when the utility company upgraded this stretch of the ROW in recent years. The vegetated islands no longer exist or ones that do are used by ORV enthusiasts regularly. It is in our opinion that the two occurrences have resulted in a loss of critical habitat along the ROW. Land found within the east of the ROW is also heavily used by ORVs along with other trespassers. Several areas were found to contain burn pits and drug paraphernalia and places where teenagers and others congregate. On top of being fragmented by the various disturbances and recreational uses, the soils appear to contain more fill dirt and gravel than what is normally found in typical snake habitat. In addition, the area in general is compacted and firm in nature.

Our office believes that between human intrusion, soil compaction and consistency, and the sheer number of people who use this area for a variety of uses, that the property to the east of the utility easement contains poor ecological characteristics.

The ROW has also changed in regards to composition of land that was not disturbed versus the amount that is currently disturbed. We feel as though this area may be considered foraging habitat although at a lower level than in years past.

It is in the opinion of this firm that the development of this site should pose no irreversible adverse impacts to the local population of northern pine snakes or corn snakes. Furthermore, DEC was unsuccessful in finding northern pine snakes or corn snakes or evidence thereof utilizing this site.

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New Jersey Pinelands Comprehensive Management Plan.

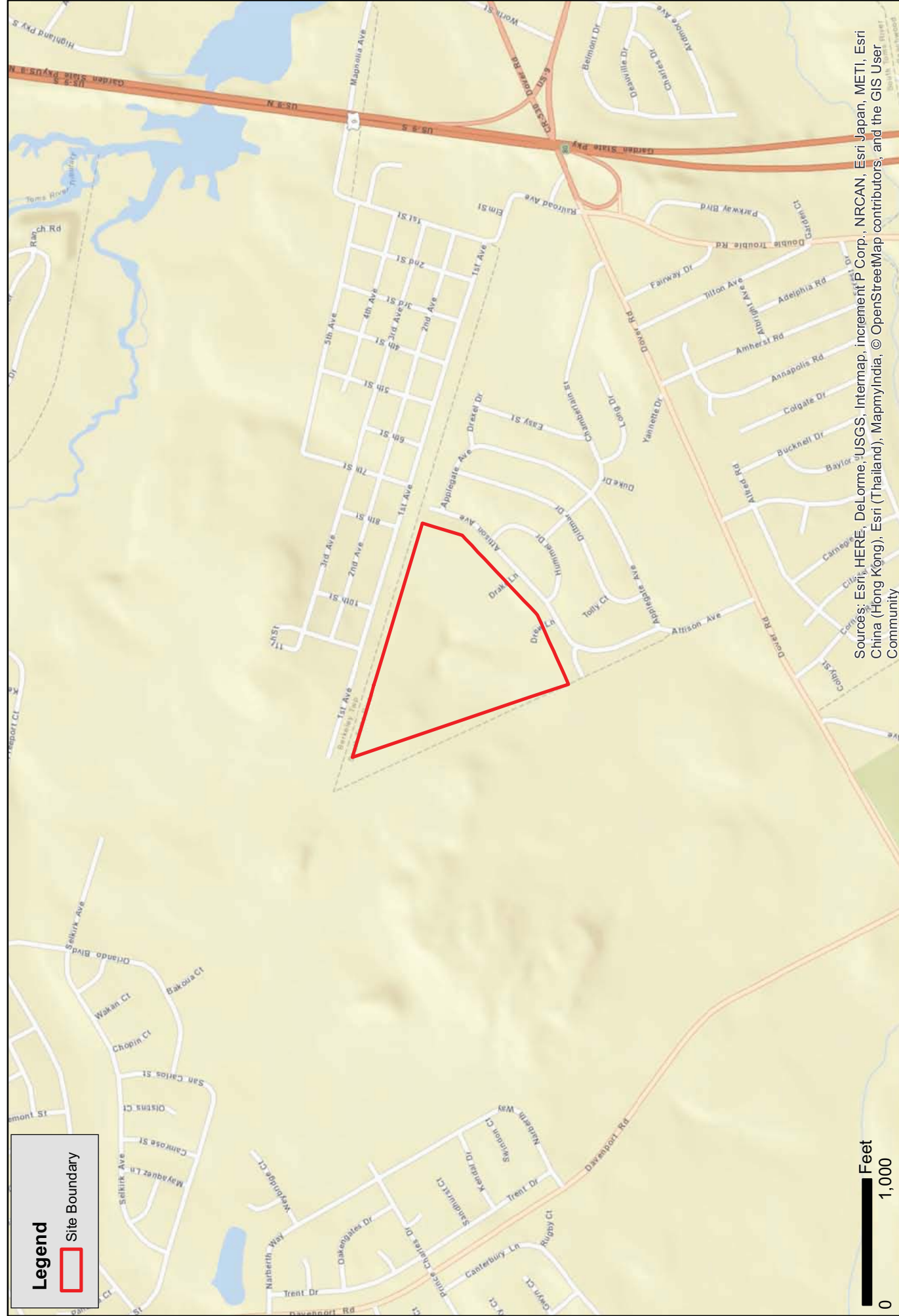
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Figures



Legend

 Site Boundary



Job No.: D1262.001

Scale: 1 in = 1,000 ft

Date: 2/23/2016

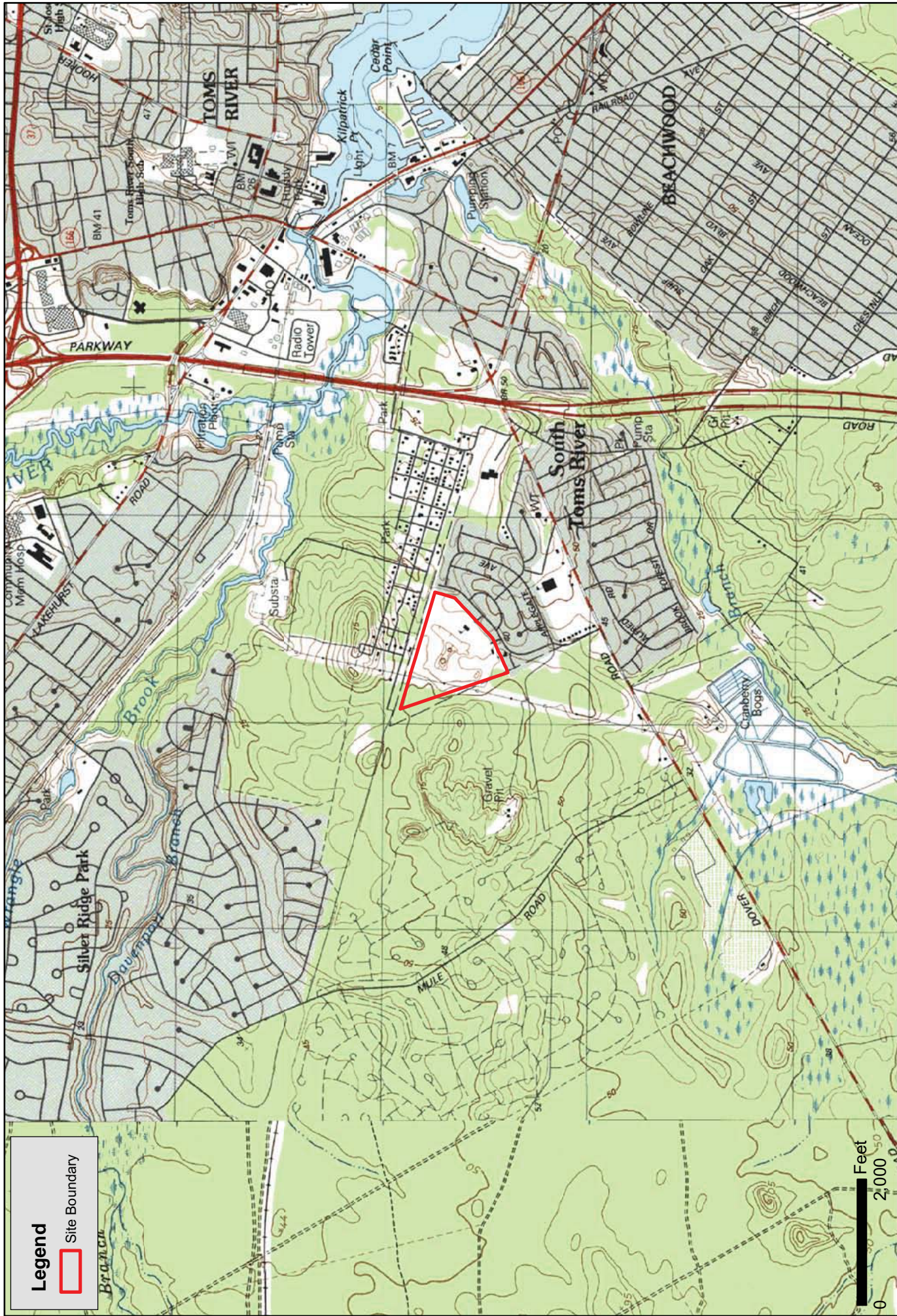
Drawn By: AF

Figure 1

New Jersey Road Map

Block 20 * Lots 1.02 - 1.05
Borough of South Toms River, Ocean County, NJ

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



Legend

Site Boundary



DuBois Environmental
Consultants

Toms River U.S.G.S. Quadrangle Map

Block 20 * Lots 1.02 - 1.05
Borough of South Toms River, Ocean County, NJ



Job No.: D1262.001

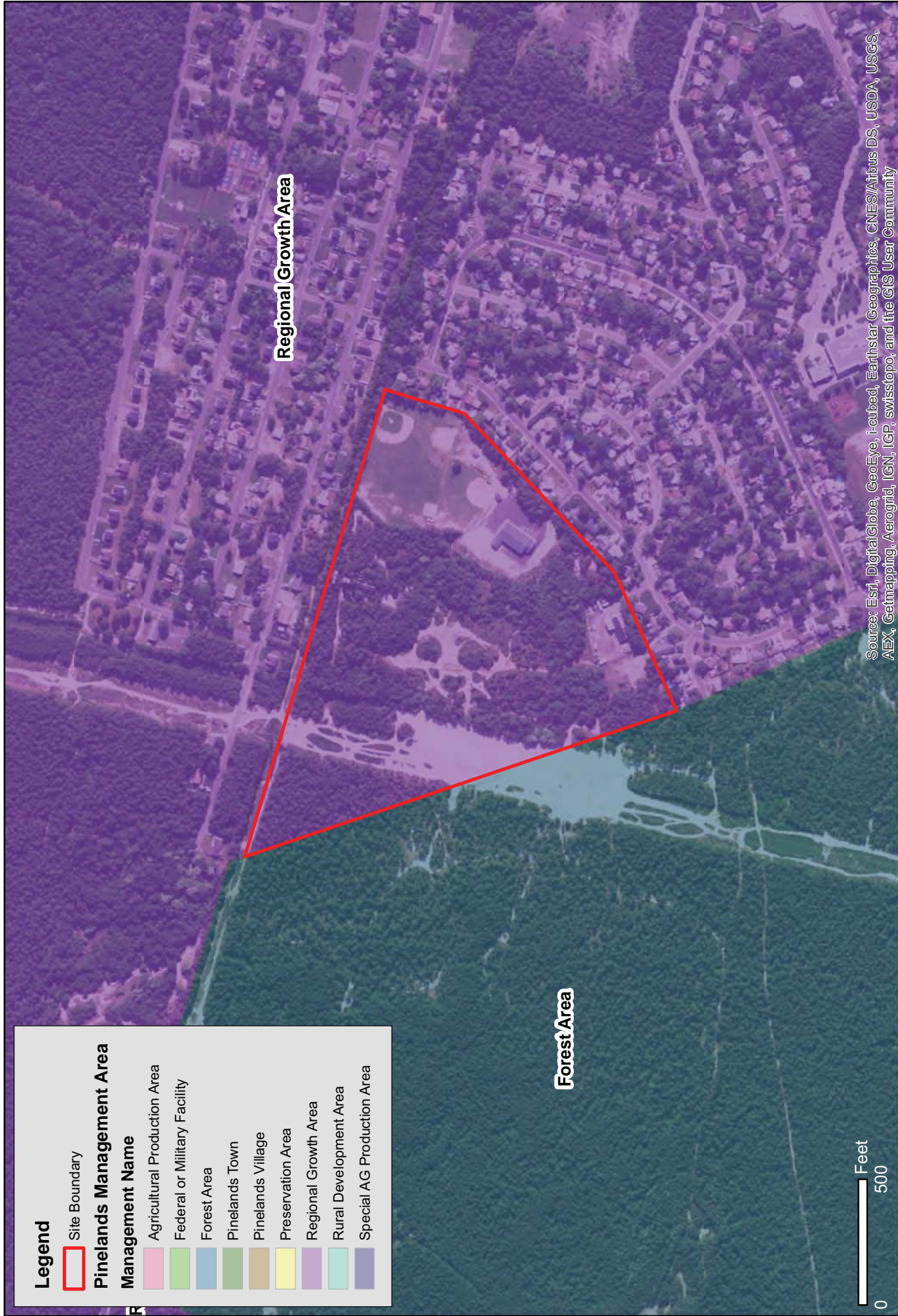
Scale: 1 in = 2,000 ft

Date: 2/23/2016

Drawn By: AF







Figure 2

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.





Legend

-  Site Boundary
-  ORV Use Area
-  Fill/Compacted Soil Area
-  Fill/Compacted Soils & ORV Use Area
-  Undisturbed Pinelands Habitat Area
-  Recreational Land/Public Works Area

0
250
Feet

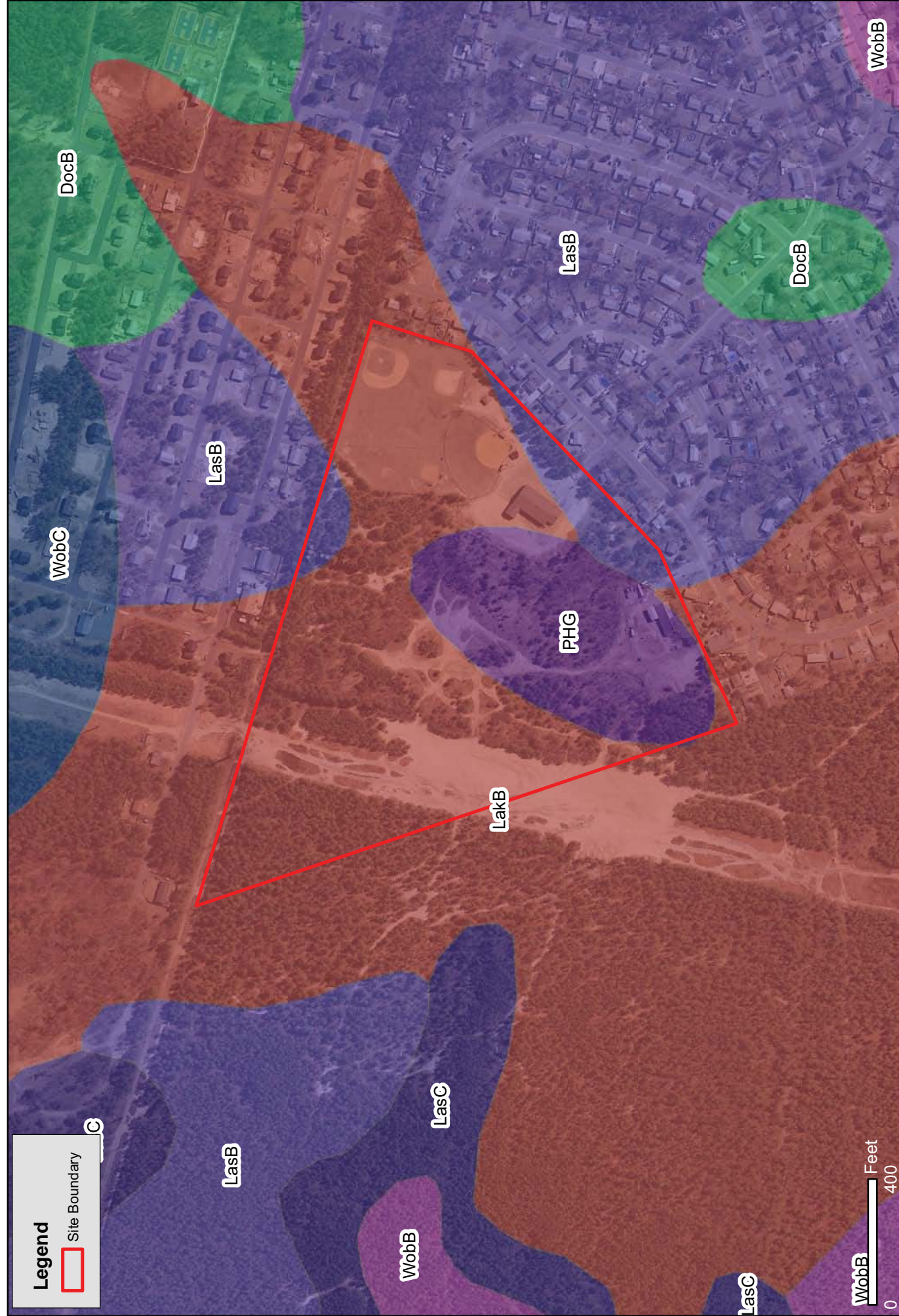


Job No.: D1262.001
Scale: 1 in = 250 ft
Date: 11/30/2016
Drawn By: IB

Land Use Activity Map
Block 20 * Lots 1.02 - 1.05
Borough of South Toms River, Ocean County, NJ

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 4



Legend

Site Boundary



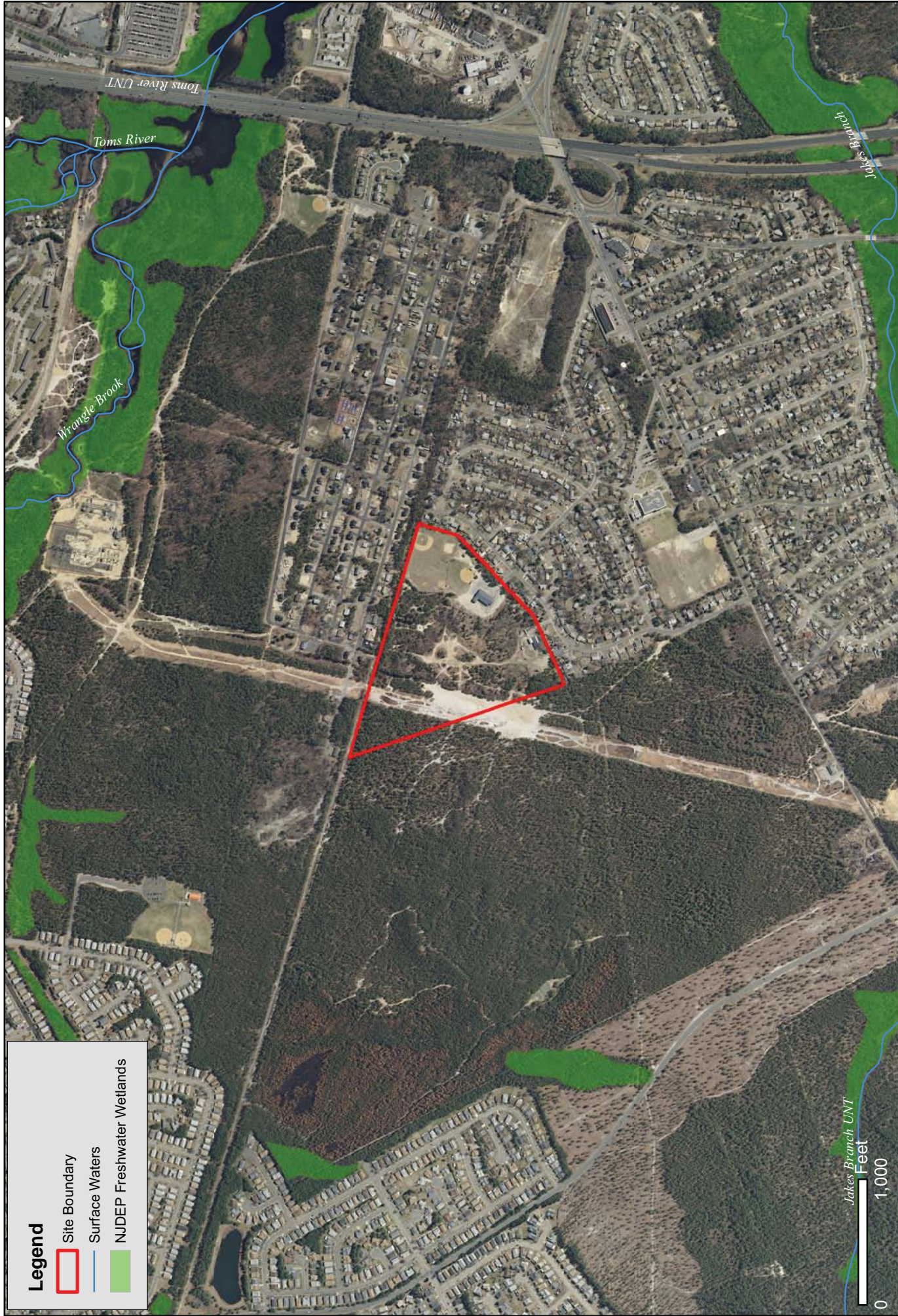
Ocean County Soil Survey Map

Block 20 * Lots 1.02 - 1.05
Borough of South Toms River, Ocean County, NJ



Job No.: D1262.001
Scale: 1 in = 400 ft
Date: 2/23/2016
Drawn By: AF

Figure 5



Legend

- Site Boundary
- Surface Waters
- NJDEP Freshwater Wetlands



DuBois Environmental
Consultants

NJDEP Freshwater Wetlands Map

Block 20 * Lots 1.02 - 1.05
Borough of South Toms River, Ocean County, NJ



Figure 6

Job No.: D1262.001

Scale: 1 in = 1,000 ft

Date: 2/23/2016

Drawn By: AF



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Site Boundary
- Pinelands Region**
- Rank**
- 3 - State Threatened
- 4 - State Endangered
- 5 - Federally Endangered
- Vernal Habitat**
- Type**
- Potential Vernal Habitat Area
- Vernal Habitat Area



DuBois Environmental
Consultants

NJDEP Landscape Project v3.1 Map

Block 20 * Lots 1.02 - 1.05
Borough of South Toms River, Ocean County, NJ

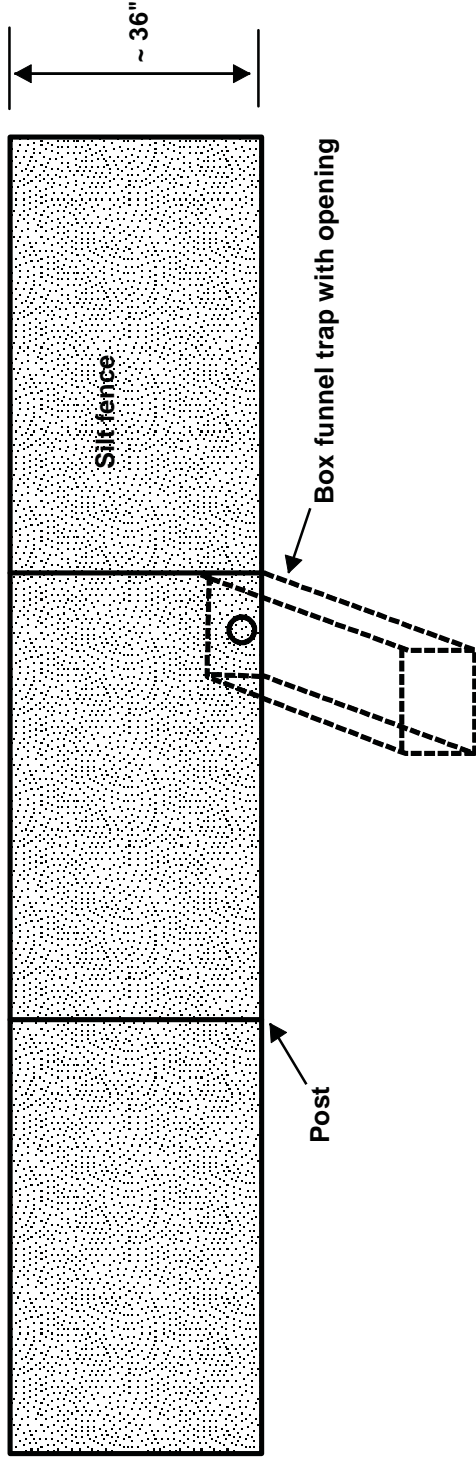


Job No.: D1262.001
Scale: 1 in = 1,000 ft
Date: 11/23/2016
Drawn By: AF

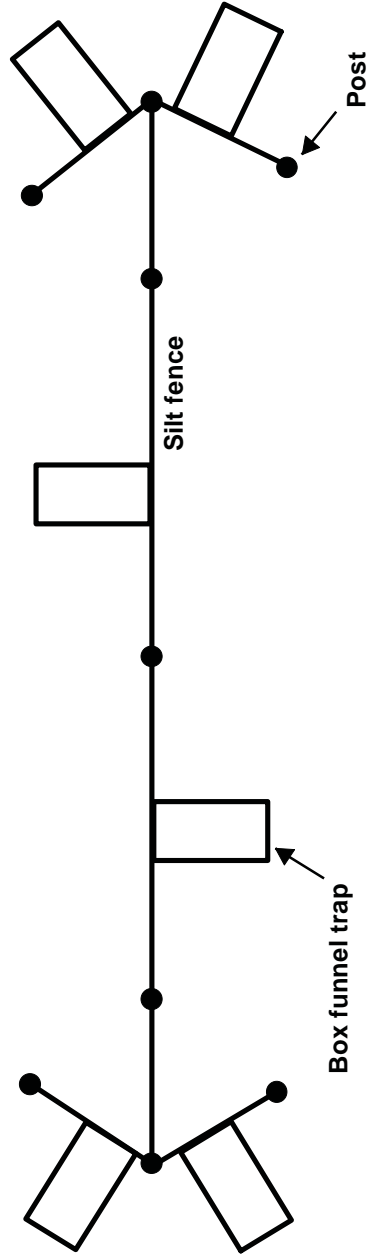
Figure 7

- Notes: 1) Box funnel trap interiors feature natural debris for cover and moisture retention. Trap lids overlain with natural debris to provide cover and reduce exposure to sun and rain.
- 2) Silt fence buried to a minimum 6 inches below the ground surface.

DRIFT FENCE ARRAY CROSS-SECTION



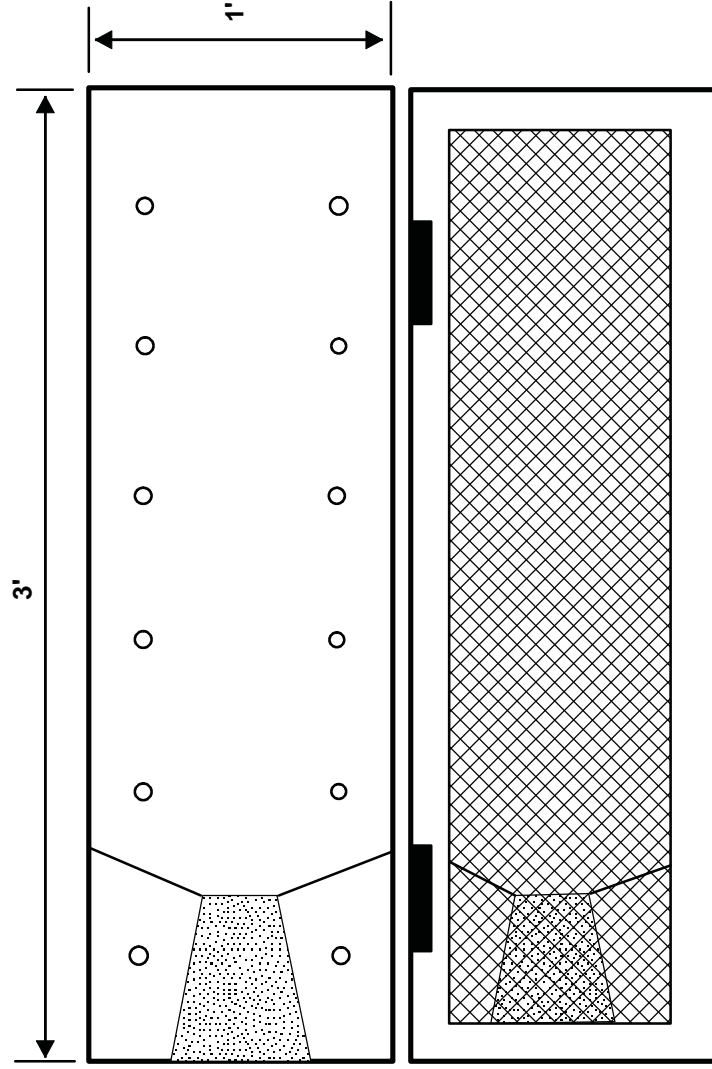
DRIFT FENCE ARRAY PLAN VIEW



Snake Drift Fence Detail



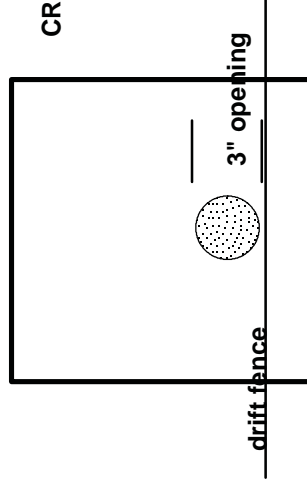
Job No.: D.1071.001
 Scale: NTS
 Date: 01/28/2016
 Drawn By: KM



- Notes: 1) Traps constructed with 3/8" plywood painted and weathered.
 2) 1/4" holes drilled in bottom to avoid holding water.
 3) Lid fastened to box using lacing latch hooks and eyes.

3" x 8" monofilament - nylon throat with flap or similar design

CROSS-SECTION OF FUNNEL TRAP



Snake Box Funnel Trap Detail



Job No.: D1071.001
 Scale: NTS
 Date: 01/28/2016
 Drawn By: KM
 Figure 9



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Dubois Environmental
Consultants



Scale: 1 in = 300 ft

Date: 1/23/2016

Drawn By: IB

Drift Fence Box Funnel Trap Array Map

Block 20 * Lots 1.02 - 1.05




Borough of South Toms River, Ocean County, NJ

Job No.: D1262.001

Figure 10

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

Legend

-  Site Boundary
-  Snake Trap Location
-  Drift Fence Array



Appendix A
Site Photographs



1. Representative view of ROW traversing western portion of site - heavily trafficked by ORV's



2. Representative view of ROW traversing western portion of site - heavily trafficked by ORV's



3. Representative view of central portion of site – heavily trafficked by ORV's



4. Representative view of central portion of site



5. Abandoned silos located within the northern portion of the survey area along northern property boundary



6. Representative view of recreational fields located within eastern portion of site



7. Representative view of pine dominated forest located within western portion of site



8. Representative view of dirt trail located within survey area



9. Representative view of drift fence array – Line #1



10. Representative view of drift fence array – Line #1



11. Representative view of drift fence array – Line #2



12. Representative view of drift fence array – Line #2



13. Representative view of drift fence array – Line #3



14. Representative view of drift fence array – Line #3



15. Representative view of vandalism that occurred during the survey period



16. Representative view of vandalism that occurred during the survey period



17. Representative view of vandalism that occurred during the survey period



18. Representative view of "arrow configuration" at end of drift fence array



19. Eastern box turtle (*Terrapene carolina carolina*) observed during trap checking survey on 4/22/2016



20. Black racer (*Coluber constrictor priapus*) captured in box trap on 4/29/2016



21. Eastern fence lizard (*Sceloporus undulatus*) observed during trap checking survey on 5/25/2016



22. Fowler's toad (*Anaxyrus fowleri*) observed during trap checking survey on 5/25/2016



23. Eastern garter snake (*Coluber constrictor priapus*) captured in box trap on 5/31/2016



24. Eastern box turtle (*Terrapene carolina carolina*) observed during trap checking survey on 6/1/2016

Appendix B

Pinelands Commission Correspondence



Chris Christie
Governor

Kim Guadagno
Lt. Governor

State of New Jersey

THE PINELANDS COMMISSION

PO Box 359

NEW LISBON, NJ 08064

(609) 894-7300

www.nj.gov/pinelands

General Information: Info@njpines.state.nj.us
Application Specific Information: AppInfo@njpines.state.nj.us



Sean W. Earlen
Chairman

Nancy Wittenberg
Executive Director

May 3, 2016

Joseph Baumann
McManimon, Scotland & Baumann, LLC
75 Livingston Avenue, 2nd Floor
Roseland, NJ 07068

Re: Application # 2005-0232.005
Block 20, Lots 1.02 - 1.05
Borough of South Toms River

Dear Mr. Baumann:

Based upon our receipt of the balance of the required application fee on April 8, 2016, we have completed our reviewed the threatened/endangered (T&E) species survey protocol prepared by DuBois Environmental Consultants (DEC), dated February 22, 2016 and received on February 24, 2016. The target species of the survey are Northern pine snake (threatened) and Corn snake (endangered). This application proposes 314 residential units on the above referenced parcel.

We recommend the following modifications/revisions to the proposed survey protocol:

1. The final survey report must integrate and discuss the Northern pine snake sightings data from the circa 2001 surveys for adjacent Blocks 11.01, 11 and 21, various lots, in Berkeley Township. Those surveys were also completed by Mr. DuBois.
2. The survey must include an evaluation of the J.C.P.&L right-of-way southwest of Block 20, Lot 1.02-1.05 in South Toms River.
3. The maximum distance between traps on the drift fence lines was not specified in the protocol. We recommend all traps be a maximum of 100 feet apart.
4. The purpose of the survey is to determine whether or not critical habitat exists on the parcel. Radio telemetry is the only known method to determine where critical denning habitat is located. For this reason, the survey should incorporate radio telemetry.

By email dated April 19, 2016 we advised DEC of reports received by our office regarding vandalism of the drift fences and snake traps. The final survey report must discuss and evaluate the implications of any vandalism of the fence lines and traps during the required survey period of April 15th through July 15th and September 1st through October 15th.



With respect to threatened and endangered plants, a survey must include a search for Sickle-leaved golden aster. A habitat analysis must also be completed for all remaining Pinelands listed threatened/endangered plant species and State listed endangered plant species. A survey for any T&E plant species for which there is suitable habitat is required to complete the application.

Please note that the current municipal zoning of the parcel, Municipal Lands, does not permit residential units. The applicant has discussed a potential rezoning of the parcel with the Commission staff. Please contact Susan Grogan of our staff with any questions regarding the potential rezoning of this parcel.

We previously wrote to the Borough regarding the uncapped landfill on the parcel (App. No. 2005-0232.002). An application remains to be completed with the Commission for the capping of the landfill.

We also previously wrote to the Borough regarding the subdivision of original 40 acre Block 20, Lot 1 into the four above referenced lots. That subdivision occurred without completion of an application with the Commission. An application was initiated with the Commission for that subdivision, but it was never completed (App. No. 2005-0232.003).

We have also previously written to the Borough regarding the proposed paving of a parking lot on Block 20, Lot 1. Our letter indicated that a portion of the parking lot proposed to be paved and an 800 square foot building addition were constructed on the parcel without application to the Commission (App. No. 2005-0232.004).

The current application for the proposed 314 residential dwelling units cannot be considered complete until the landfill closure, the above noted subdivision and the parking lot/building addition violations have been addressed.

Lastly, please submit a completed Pinelands application form. The application form identifies the individual(s) we should be contacting regarding the application and also provides our staff with permission to be on the parcel. The application form is available on the Pinelands Commission website.

If you have any questions, please contact the Regulatory Programs staff.

Sincerely,



Charles M. Horner, P.P.

Director of Regulatory Programs

c: Bryon DuBois, DEC *via email*

Mark Mauriello, Edgewood Properties *via email*

Joseph Kostecki, Administrator, Borough of South Toms River *via email*

Susan Grogan

Appendix C
Scientific Collecting Permit



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF FISH & WILDLIFE
WILDLIFE PERMITS UNIT
Exotic & Nongame Wildlife Permits
26 Route 173 West
Hampton NJ 08827

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E-mail Address: EXOTICPERMITS@dep.nj.gov

PERMIT NO: SC 2016075
OCEAN
Page 1 of 7

BOB MARTIN
Commissioner

SCIENTIFIC COLLECTING PERMIT

This will certify that the NJ Division of Fish and Wildlife has authorized:

DUBOIS ENVIRONMENTAL CONSULTANTS

Bryon DuBois
249 South Main St – Suite 6
Barnegat NJ 08005

to collect/possess/release the following native fauna for scientific study:

PURPOSE OF STUDY:

1. To conduct construction site monitoring and/or wildlife incident response as may be necessary to protect threatened and endangered species with the potential to be encountered during construction activities at the site listed below.
2. To obtain information on potential habitat use and the locations of any critical habitat on the study site listed below for Pinelands' rare snakes (Corn Snakes, Timber Rattlesnakes, Northern Pine Snakes and Eastern King Snakes) found on the property.

SPECIES AND NUMBERS:

1. Unlimited number of Northern Pine Snakes (*Pituophis m. melanoleucus*), Corn Snakes (*Elaphe g. guttata*), possibly Timber Rattlesnakes* (*Crotalus horridus*), Eastern King Snakes (*Lampropeltis getula*) and any other occurring reptile or amphibian species may be relocated out of the constructions zones in the areas listed below.
*See Special Conditions.
2. Unlimited numbers of Northern Pine Snakes, Corn Snakes, Timber Rattlesnakes and Eastern King Snakes may be trapped and/or retained by silt-fencing to determine population numbers in the area. Unlimited numbers of Northern Pine Snakes may be collected for radio-telemetry.

LOCATIONS:

1. **Reptile/amphibian construction site monitoring:** Ocean County Airpark in Berkeley and Lacey Twps., Ocean County.
2. **Critical habitat determination:**
 - a. Ocean County Airpark in Berkeley and Lacey Twps., Ocean County.
 - b. Portion of the Woodmansie Sand Mine - Block 6401, Lot 4.014 and Block 6402, Lot 8 in Woodland Twp., Burlington County. (Map on file with the Wildlife Permits Unit)
 - c. Shoreline Grading & Excavating – West Bay Avenue Site (Block 92, Lots 15, 16, 18, 18.01, 20, 21, 23, 23.03 and 23.04) within Barnegat Twp., Ocean County.
 - d. Stavola Property (Block 22501, Lots 1 and Block 62, Lot 31) within Jackson and Manchester Twps., Ocean County.
 - e. Phoenix Pinelands (Block 3, Lot 9.01) within Little Egg Harbor Twp., Ocean County.

(Locations continued on page 2)



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF FISH & WILDLIFE
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BOB MARTIN
Commissioner

SCIENTIFIC COLLECTING PERMIT (continued)

LOCATIONS (cont'd):

- f. NJ Natural Gas Southern Reliability Link Project at Route 539 and Lakehurst Naval Air Station in Plumsted, Jackson and Manchester Twps., Ocean County. (Maps on file with the Wildlife Permits Unit).
- g. Edgewood Properties (Block 20, Lots 1.02-1.05) within the Borough of South Toms River, Ocean County.
- h. Lacey Holdings (Block 3500, Lots 2.08, 2.10, 2.12) within Lacey Twp., Ocean County.

SPECIAL CONDITIONS:

1. GENERAL:

- a. SEE ATTACHED SPECIAL CONDITIONS FROM THE ENDANGERED AND NONGAME SPECIES PROGRAM REGARDING TELEMETRY, PIT-TAGGING & BOX TRAP PROTOCOLS & DATA COLLECTION DETAILS.
- b. All sampling gear and apparel must be sanitized between sites (i.e., sites where it is unlikely for populations to interact) whether dealing with rare or common species, regardless of taxonomic group. If handling animals, hands must be washed between populations of reptiles/amphibians to ensure no cross-contamination of local- or aquatic system-bacteria/fungi occurs. *When not handling amphibians*, please use alcohol-based sanitizer to minimize the risk of spreading snake fungal disease.
 - 1) When working within aquatic systems and/or with amphibians, permittee and subpermittee will implement decontamination procedures described by NEPARC (attached document; note only 3% bleach solution is used when working in aquatic systems).
 - 2) When working uplands and with snakes, all animal handling, capture and containment equipment, sampling and processing equipment, and boots must be:
 - a) **Scrubbed with soap and water to remove organic material,**
 - b) **Disinfected with a 10% bleach solution and permitted to air dry,**
 - c) Personnel will rinse items with water *IF* the bleach odor is strong (with consideration to the snakes' sense of smell).
 - d) **All cloth materials may be and all snake bags must be laundered in detergent and bleach.**
- c. DuBois Environmental is cooperating with the State and Drexel University's Dr. Walt Bien to provide additional Northern Pine Snake specimens for blood sampling as part of Dr. Bien's on-going DNA analysis. Personnel identified on DuBois Environmental's Scientific Collecting permit will contact Dr. Bien and his field team as soon as they discover a Northern Pine Snake in one of their box traps. Dr. Bien's team will reach the snake within 4 hours of notification to draw blood, process and release the snake. DuBois Environmental personnel should document the time at which they contact Dr. Bien and/or his field team and ensure the snake is released on site either through verbal/written communication with the Drexel team.
- d. As a consultant holding a NJ State Scientific Collecting Permit for this year, the permittee (and all sub-permittees identified within) have been asked by the NJ Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP) to conduct the following tasks when possible:
 - 1) Capture, temporarily possess, release (as authorized by ENSP) or transport to an ENSP biologist any of NJ's snakes suspected of being infected with a fungal dermatitis. This includes common snakes in addition to State Endangered Timber Rattlesnake and Corn Snake, State Threatened Northern Pine Snake, and State Species of Special Concern Northern Copperhead and Eastern King Snake following ENSP

(Special Conditions continued on page 3)



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



State of New Jersey
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BOB MARTIN
Commissioner

SCIENTIFIC COLLECTING PERMIT (continued)

SPECIAL CONDITIONS (con't):

protocols. Please note, only State-recognized venomous snake-experienced handlers are permitted to handle and release Timber Rattlesnakes. Only Bryon DuBois (on this permit) has been approved to do so. However all personnel identified in this permit have been approved to transport them as needed.

- 2) Contact Kris Schantz, ENSP, within 24 hours of capturing snake for assessment and further instruction.
 - a) Release snake to an ENSP biologist or at its site of capture within 48 hours per K. Schantz's instruction. Wild releases should consider climatic conditions and should be conducted in a shelter area (e.g., debris piles, rock crevice) near the capture site.
 - b) No native snake will be retained in the same room and preferably, not the same facility housing other reptiles (native or captive).

2. REPTILE & AMPHIBIAN CONSTRUCTION MONITORING:

- a. ENSP has created a monitoring field data sheet (as a courtesy). Permit holders may use this datasheet or create their own however, all variables shown within ENSP's data sheet must be included. **All rare species (endangered, threatened and special concern, excluding reptiles/amphibians) observations on or proximate to the project site should be submitted to the ENSP through the use of the official Endangered & Threatened Species Sighting Report form. All reptile and amphibian (regardless of status) observations on the construction site must be submitted through either the ENSP monitoring field data sheet (a digital file – Microsoft Excel - has been provided with this permit; 2 pages ready to print) or similar document.**
- b. Upon completion of construction site monitoring, an annual report must be submitted to the New Jersey Division of Fish and Wildlife, Wildlife Permits Unit and to ENSP (Attn. Kris Schantz, 1 Van Syckels Rd., Clinton, NJ 08809) by **January 31 for the preceding calendar year's work ending December 31.** End of year report should include purpose of study, study design, conservation value of study, methods, and a **summary of data collected and results (for the Wildlife Permits Unit) and all hard copy field datasheets (ENSP). IF creating your own field data sheet, please see the data file provided to ensure ALL of the necessary information is incorporated.**
- c. DuBois Environmental Consultants are responsible for ensuring monitoring protocols are acceptable to the Pinelands Commission.
- d. Although monitoring personnel will be responsible for actively monitoring for reptiles and amphibians, only a qualified *Venomous Snake Monitor* will be responsible for handling and removing timber rattlesnakes from the work area. The venomous snake monitor shall be on-site as well as available/on-call to respond within 2 hours to conditions that require the removal of a timber rattlesnake throughout the work periods needed to complete the project. **IF personnel are unable to prevent construction activities from harming and/or disturbing present Timber Rattlesnakes, the qualified venomous snake monitor must be able to reach the site within 30 minutes.** Monitors of different experience have different authority; conditions have been outlined for each approved monitor below.
- e. Permittee will implement cleaning and disinfection protocols described under *General* (above), but will also implement such protocols for snake bags and buckets prior to working in New Jersey, between use (i.e., if animals are handled or stored), and before returning to their assigned project site if equipment, apparel and supplies were used elsewhere. All materials must be scrubbed and thoroughly rinsed to remove organic matter, and disinfected with a 10% bleach solution and permitted to air dry.

(Special Conditions continued on page 4)



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



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BOB MARTIN
Commissioner

SCIENTIFIC COLLECTING PERMIT (continued)

SPECIAL CONDITIONS (con't):

- f. Venomous snake monitors are required to implement the following:
- 1) All project-specific conditions required by NJ DEP through the Division of Land Use Regulation specifically those pertaining to reptiles (snakes and turtles) and amphibians.
 - 2) All conditions outlined in project-specific work plans, attachments and addendums to plans, etc.
 - 3) All conditions and requirements outlined in the most current version of the NJ DEP's Venomous Snake Monitors and Spotters Program.
 - 4) All permitted venomous snake monitors and spotters are responsible for obtaining the most current version of all necessary documents, permits and plans pertaining to the project and wildlife.
 - 5) All permitted venomous snake monitors and spotters **will maintain direct communication** with NJ ENSP's venomous snake biologist regarding reptile-related issues and NJ DEP personnel for all project-related issues/concerns.
 - 6) No snakes (venomous or non-venomous, or turtles) will be held in captivity for more than 1 hour without approval from NJ ENSP's venomous snake biologist. If a snake is injured, subpermittee will immediately contact the NJ ENSP's venomous snake biologist for instructions.
 - 7) **Note: Approval of subpermittees currently not identified as venomous snake monitors or venomous snake spotters to participate in *Reptile and Amphibian Construction Monitoring* relates solely to activities that require personnel to touch, handle or otherwise intentionally disturb reptile and amphibian species; e.g., removing reptiles and amphibians from harm's way by capturing, temporarily possessing and/or relocating them.**
 - 8) Additionally, permitted venomous snake monitors and spotters have been identified as meeting the requirements as a primary or tertiary venomous snake monitor or as a venomous snake spotter below. Each individual must also implement the specific conditions outlined below for their position:

Bryon DuBois

- 1) Bryon DuBois has been pre-qualified as a NJ Primary Venomous Snake Monitor. Permittee has fulfilled the shadowing requirement and therefore, is able to begin working as a venomous snake monitor in NJ upon receiving this permit. Additionally, the permittee is eligible to work as a "lead" to "new" monitors as described within the NJ DEP's Venomous Snake Monitors and Spotters Program document.
- 2) As a primary venomous snake monitor, Mr. DuBois is responsible for:
 - a) Managing subpermittees on all NJDFW permits and to communicate directly with ENSP regarding subpermittees' progress, problems and concerns.
 - b) Providing guidance, assistance and additional training to lower rank and "new" monitors whenever possible on a) assessing snake-related situations & determining method of approach, capture and release, b) sexing and determining reproductive status of females, and c) understanding snake behavior and what their presence *may* indicate in a given area.
 - c) Inspect [all] lower-rank monitors' gear to ensure monitors are implementing sanitation procedures.

(Special Conditions continued on page 5)



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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PERMIT NO: SC 2016075
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BOB MARTIN
Commissioner

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SCIENTIFIC COLLECTING PERMIT (continued)

SPECIAL CONDITIONS (con't):

Jeff Dragon

- 1) Jeff Dragon has been pre-qualified as a NJ Tertiary Venomous Snake Monitor. As described within the NJ DEP's Venomous Snake Monitors and Spotters Program document, the permittee has **not** fulfilled the shadowing requirement and therefore, must do so before working as a venomous snake monitor in NJ. Additionally, the permittee is **not** eligible to work as a "lead" to "new" monitors.
- 2) As a tertiary venomous snake monitor, Mr. Dragon is responsible for recruiting assistance, when possible, from a NJ-experienced higher rank venomous snake monitors (preferably primary) for guidance, assistance and additional training on a) assessing snake-related situations & determining method of approach, capture and release, b) sexing and determining reproductive status of females, and c) understanding snake behavior and what their presence *may* indicate in a given area.

Anthony Silva*

- 1) Anthony Silva is a sub-permittee and has been approved as a venomous snake spotter.
- 2) As a venomous snake spotter, Mr. Silva is:
 - a) **Not permitted to handle venomous snakes.** Upon observation of a venomous snake in harm's way, the spotter will immediately contact the on-site/on-call venomous snake monitor who will assess the situation and determine the best course of action.
 - b) **Permitted to move non-venomous reptiles and amphibians** from harm's way with the appropriate State permit (i.e., this permit) to handle New Jersey's non-venomous wildlife.

1. CRITICAL HABITAT DETERMINATION:

- a. An annual report must be submitted to the New Jersey Division of Fish and Wildlife, Wildlife Permits Unit and to ENSP (Attn. Kris Schantz, 1 Van Syckels Rd., Clinton, NJ 08809) by **January 31** for the preceding calendar year's work ending December 31. End of year report should include purpose of study, study design, conservation value of study, methods, data collected and results; when applicable, location coordinates (and/or GIS shapefiles) of rare species observations (endangered, threatened and special concern).
- b. SEE ATTACHED SPECIAL CONDITIONS FROM THE ENDANGERED AND NONGAME SPECIES PROGRAM REGARDING TELEMETRY, PIT-TAGGING & BOX TRAP PROTOCOL. Please be sure you fulfill the DATA REQUIREMENTS & SITE/BEHAVIOR LABELING/IDENTIFICATION.
- c. **ALL** equipment/supplies used to conduct surveys **MUST** be removed at the end of the study.
- d. **ALL sampling, processing and field gear** must be sanitized between sites (i.e., sites where it is unlikely for populations to interact) whether dealing with rare or common species, regardless of taxonomic group. All **snake handling, capture and containment equipment** must be washed with soap and water to remove all organic matter, and disinfected with 10% bleach solution, **allowed to air dry**, and *if* the bleach odor is strong, must be rinsed and air dried until odor dissipates.
ALL shoes must be cleaned of organic matter and disinfected with 10% bleach solution between study sites; cloth materials must be laundered in detergent and bleach. ENSP recommends field personnel carry extra water, environmentally-friendly soap, scrubbing brush and a spray bottle of 10% bleach solution in their vehicles; bleach solution must be changed every 48 hours.

(Special Conditions continued on page 6)



NEW JERSEY DIVISION OF
Fish and Wildlife

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF FISH & WILDLIFE
WILDLIFE PERMITS UNIT

Exotic & Nongame Wildlife Permits

26 Route 173 West
Hampton NJ 08827

PHONE: (908) 735-5450 - FAX: 908-735-5689
E-mail Address: EXOTICPERMITS@dep.nj.gov

PERMIT NO: SC 2016075

OCEAN

Page 6 of 7

BOB MARTIN
Commissioner

SCIENTIFIC COLLECTING PERMIT (continued)

SPECIAL CONDITIONS (con't):

- e. Specimens will be collected using a variety of drift fence, funnel traps, cover board arrays and visual surveys.
- f. **TRAPS MUST BE CHECKED AT LEAST ONCE EVERY 24 HOURS.**
- g. All snakes receiving a transmitter are to be identified, sexed, aged, measured, weighed, marked and implanted at the processing facility and released within 48 hours at the capture location. All specimens *not* receiving a transmitter or being transferred to ENSP must be released at capture location *immediately*. Permittee, **Bryon DuBois, is the only authorized person on this permit to handle Timber Rattlesnakes.**
 - 1) Dr. Ron Smith (Mercer County College) will be conducting the transmitter implantation surgeries. Dr. Smith is an ENSP-approved person for conducting such activity.
 - 2) Transmitter frequencies must be obtained from Kris Schantz, ENSP, *prior* to implantations.
- h. **Timber Rattlesnakes MAY NOT be PIT-tagged or implanted with radio-transmitters.**
- i. **ALL needles use for PIT-tagging must be sterilized between individuals** (i.e., cleaned of all organic matter and soaked in 70% ethyl alcohol a minimum of 30 minutes *or* through the use of sterile "single use dispensers"). Only trained individuals are permitted to perform PIT-tagging.
- j. Snakes may be removed from the field for surgical implantation and/or medical attention only.
- k. All non-target species captured must be released as soon as all pertinent information has been recorded.
- l. All Northern Pine Snake individuals may be marked (technique to be approved by the ENSP) and/or implanted with PIT-tags for mark/recapture studies. PIT-tagging must only be conducted by trained individuals with sterilized needles; see attached special conditions & accompanying digital file (excel spreadsheet) for additional guidance regarding protocols and necessary data collection/submittal.
 - 1) It is the permittee's responsibility to check the snakes for previously implanted/injected PIT-tags prior to tagging the snake.
- m. **Note: Approval of subpermittees to participate in rare snake *Critical Habitat Determination* relates solely to activities that require personnel to touch, handle or otherwise intentionally disturb snake species (or other reptiles and amphibians), including situations where trapping or attracting snakes via box traps or cover board arrays are required. Only Bryon DuBois and Jeff Dragon are authorized to handle Timber Rattlesnakes using snake hooks, bags, baggers and/or decontaminated, locking containers with air-holes.**

SUBPERMITTEES:

1. **Reptile/amphibian construction site monitoring:**
 - a. Jeff Dragon: authorized to handle Timber Rattlesnakes.
 - b. Anthony Silva*, Kerri-Anne Matthews, Amy Jones, Ashley Furlong, Matt McCann, Andrew Ewing, Lukas Brummer, Israel Berrios and Ethan DuBois. (**Note: None of the subpermittees within 1.b. are authorized to handle Timber Rattlesnakes.**) *See Special Conditions.
2. **Critical habitat determination:** Anthony Silva, Kerri-Anne Matthews, Amy Jones, Ashley Furlong, Corey Matthews, Matt McCann, Andrew Ewing, Lukas Brummer, Johanna Gaughan, Jeff Dragon, Israel Berrios and Ethan DuBois. (**Note: None of the subpermittees are authorized to handle Timber Rattlesnakes.**) See Special Conditions.



NEW JERSEY DIVISION OF
Fish and Wildlife

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor



State of New Jersey

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PERMIT NO: SC 2016075
OCEAN
Page 7 of 7

BOB MARTIN
Commissioner

SCIENTIFIC COLLECTING PERMIT (continued)

STUDY DATES: Throughout 2016.

IMPORTANT NOTE: A COPY OF THIS PERMIT AND A COPY OF THE ATTACHED GENERAL CONDITIONS FOR SCIENTIFIC COLLECTING PERMITS MUST BE CARRIED BY ALL PERMITTEES AND SUBPERMITTEES WHILE IN THE FIELD AND SHOWN UPON REQUEST WHILE ENGAGED IN COLLECTION ACTIVITIES. ALL SPECIFIC AND GENERAL CONDITIONS MUST BE STRICTLY ADHERED TO.

Every effort must be made to preserve natural habitats during research and collecting activities.

Any sightings or captures of Endangered and Threatened Wildlife must be reported to the Division of Fish and Wildlife on the enclosed ENDANGERED AND THREATENED WILDLIFE SIGHTING REPORT FORM. The report form must be fully completed and accompanied by a map with the location plotted. The collection of New Jersey State Endangered and Threatened Species is STRICTLY PROHIBITED unless otherwise authorized.

Entrance to any land must be with the prior permission of the landowner or managing governmental agencies.

DATE ISSUED: MARCH 21, 2016 – Amended April 14, 2016
THIS PERMIT EXPIRES DECEMBER 31, 2016
FEE PAID: \$22.00

DIRECTOR
DIVISION OF FISH & WILDLIFE

c:
-Central Region Law Office
-Kris Schantz, ENSP, Div. of Fish & Wildlife
-file

Appendix D

Cease and Desist Correspondence

HIERING, GANNON AND MCKENNA

COUNSELLORS AT LAW
29 HADLEY AVENUE
TOMS RIVER, NEW JERSEY 08753

WILLIAM T. HIERING, JR.
THOMAS G. GANNON
MICHAEL J. MCKENNA

Monmouth County Office:
108 South Main Street
Ocean Grove, N.J. 07756

(732) 349-1800
FAX # (732) 286-2275

HHG5258@AOL.COM

May 27, 2016

File No. 7236

(via email: johnz@air-land-sea.net and regular mail)

Z. John Zingis, Jr., President
Principal Environmental Consultant
Air, Land & Sea Environmental Management Services, Inc.
11 Tunes Brook Drive
Brick, N.J. 08723

**Re: Borough of South Toms River
Cease and Desist**

Dear Mr. Zingis:

We serve as the Municipal Attorneys for the Borough of South Toms River. You are hereby notified that you are to immediately cease and desist all activity on Borough property, BLOCK 20, LOTS 1.01, 1.02 AND 1.03, commonly known as the "Landfill." You and your firm are not allowed on the aforementioned property. This includes all grounds, parking lots, roads, and trails related to this property. Entry upon this property may subject you to charges of criminal trespass pursuant to Borough Codes (See attached).

The Borough of South Toms River is taking this action because you approached an authorized Borough contractor at the Landfill site on Thursday, May 26, 2016, and stated that Air, Land and Sea personnel were conducting hours worth of studies. You are not an authorized contractor or employee of the Borough of South Toms River, and neither you nor your company have a legitimate reason to be present on restricted Borough property.

The Borough of South Toms River has obtained the services of a qualified firm for all activities relating to the aforementioned property. The Borough has not solicited your firm and will not accept communication or information relating to your unsanctioned activity.

Very truly yours,


MICHAEL J. MCKENNA
For the Firm

/Encl.

cc: Mayor and Borough Council
Joseph A. Kostecki, MPA, RMC

Borough Code:

3-1.4 Interfering with Public Meetings or Borough Officials.

It shall be unlawful for any person to interfere with, hinder, disturb or obstruct the proceedings, functions or deliberations of the Borough Council or any other official body of the Borough; nor shall any person molest, obstruct, hinder or interfere with any Borough Official or Officer engaged in the performance of his duty or knowingly resist or oppose any person authorized by law to make arrests or to serve any writ, bill, order or process when the person so authorized is acting in the performance of his duty. (1975 Code § 3-2.13; Ord. No. 4-90 § 4.4)

3-1.5 Interfere with Privacy.

It shall be unlawful to pry into or interfere with the privacy or security of any person for no lawful purpose by peeping, spying upon, watching or keeping under observation any such person within his home. (1975 Code § 3-2.4)

3-1.7 Damaging Public Property.

It shall be unlawful to damage, deface, destroy or remove any milestone, post, guideboard, street marker, bridge, private way, pier, rock or other monument or any public utilities facilities. (1975 Code § 3-2.7)

3-1.8 Damaging Trees or Shrubs.

It shall be unlawful to enter into or upon any garden, orchard, improved or cultivated lands of another and willfully damage, sever, destroy or remove any tree, shrub, vine, flower, moss, turf, grain, grass, hay, fruit or vegetable. (1975 Code § 3-2.8)

3-1.9 Taking Earth or Soil.

It shall be unlawful to dig, take, or remove earth, soil, stone, or minerals from the land of another without his consent or permission. (1975 Code § 3-2.9)

Appendix E
Statement of Qualifications



Education:

B.S. Environmental Science The
Richard Stockton College of
New Jersey – 2009

Certifications:

Recognized Qualified Bog
Turtle Surveyor – New Jersey

OSHA 40 Hour Health and
Safety (29 CFR 1910.120)

OSHA Hazardous Waste
Operations Health and Safety
Training for Workers

Continuing Education:

Pinelands Annual Short
Courses

Northeast Bat Working Group:
Annual Conferences

N.J. Conservation Foundation
& P.P.A: Pinelands Botany -
Practical Applications

Professional Affiliations:

Member: Northeast Partners in
Amphibian and Reptile
Conservation

Member: Northeast Bat
Working Group

Career Positions:

New Jersey Department of
Agriculture, Trenton, NJ
Bio Aid 2009 – 2011

Trident Environmental
Consultants, Toms River, NJ
Environmental Scientist 2012 –
2014

DuBois Environmental
Consultants, Manahawkin, NJ
Environmental Scientist 2014 –
Present

Fields of Competence:

Ms. Matthews has over 4 years of experience in the fields of land use regulatory compliance, wetland science, soil science, biology and ecology.

Professional Experience:

Ms. Matthews is an Environmental Scientist with the firm of DuBois Environmental Consultants. She is responsible for conducting faunal and floral sampling investigations, environmental site assessments and on-site soil analysis. She also provides lead technical support in various rare, threatened and endangered species studies. Ms. Matthews has performed studies on several species such as Bog Turtles, Wood Turtles, Northern Pine Snakes, Timber Rattlesnakes, Barred Owls, Red-headed Woodpeckers, Black-crowned Night-herons, Yellow-crowned Night-herons, Pine Barrens Treefrogs, Cope's Gray Treefrogs, Barking Treefrogs, Eastern Tiger Salamanders, Indiana Bats and Northern Long-eared Bats. Each year she provides support for several threatened/endangered species studies and sees them through the approval process on the Federal (US Fish and Wildlife Service) and State level (NJ ENSP, Pinelands Commission, PA Fish and Boat Commission, PA Game Commission and the Maryland Department of Natural Resources).

Under the expertise of Mr. Bryon DuBois, a USFWS recognized qualified bog turtle surveyor, Ms. Matthews has over four years of professional field experience evaluating and surveying habitat for the northern bog turtle. She has assisted in habitat and visual surveys for Bog Turtles in New Jersey, Pennsylvania, Maryland and Delaware. These activities include helping with directed visual surveys, implementation of data collection and habitat analysis. Observations of bog turtles have been made while conducting Phase II surveys under private contract as well as during volunteer survey efforts. All Phase I and Phase II surveys conducted are implemented in accordance with the USFWS Guidelines for Bog Turtle Surveys, Bog Turtle Northern Population Recovery Plan, revised April 2006. Ms. Matthews also volunteers time surveying for bog turtles and monitoring populations for the U.S. Fish and Wildlife Service, NJ Endangered and Nongame Species Program and the Maryland Department of Natural Resources.

She has also been responsible for the maintenance and operation of multiple ecological trapping arrays, including drift fence-box funnel trap arrays designed to capture threatened and endangered snake species. She has also assisted in performing surveys for Indiana Bats and Northern Long-eared Bats by mist-netting trapping surveys and identification/data collection of captured bats.

Additionally, Ms. Matthews is also responsible for performing wetland delineations under the jurisdiction of multiple agencies. She prepares applications for Letters of Interpretation (LOI), Wetland Delineation Reports, Phase I Environmental Site Assessment Reports, CAFRA Permits and various State General Permits for submittal to the New Jersey Department of Environmental Protection (NJDEP). Ms. Matthews also prepares Environmental Impact Statements (EIS) for Township Approval.

In conjunction with performing surveys for a variety of environmental/ecological assessments, Ms. Matthews has gained extensive experience using ESRI Arc Map



Geographic Information Systems (GIS) software and global positioning systems (GPS). Maps are created to depict a visual representation for clients of site-specific characteristics in relation to various projects. These tools are also used in mapping species such as turtles, bats and snakes.

Ms. Matthews also performs biological/environmental construction monitoring associated with utility right-of-ways throughout New Jersey, Delaware and Maryland. Environmental oversight ensures the project is conducted in an environmentally responsible manner and in accordance with all applicable SESC standards and best management practices. Biological oversight in and around sensitive habitats ensures that the project does not have any adverse impacts to sensitive habitats or rare faunal and floral species.

Education:

Ms. Matthews received a Bachelor of Science degree in environmental science from The Richard Stockton College of New Jersey in December 2009. While attending Richard Stockton College, Ms. Matthews selected upper-level courses such as Soil Science, Groundwater Hydrology, Watershed Hydrology, Ecological Principles and Physical Geography.

Projects of Relevance:

Churchtown-Orchard/Deepwater-Upper Pittsgrove Bald Eagle Nest Removal & Nest Platform Installation, Mannington Township, Salem County, NJ: Aided in the monitoring of a bald eagle nest upon a steel lattice tower for ten (10) days. Once deemed inactive, monitoring included overseeing the removal of the nest upon the tower. Once the nest was removed, an excluder was installed on top of the tower and two other lattice structures to the northwest to deter avian species from rebuilding. Monitoring also included the direct observation of the installation of a nesting platform located within the vicinity of the former nest location.

Transmission line upgrades, A. C. Electric Co., Several Locations, NJ: Conducted ecological services for transmission line upgrades at several locations throughout NJ. Tasks included preliminary habitat suitability assessments for Federal and state listed T&E flora and fauna; performed surveys for northern pine snake, barred owl, Pine Barrens and Cope's tree-frogs, which are all identified on the States T&E Species List; delineated T&E plant populations for protective initiative during construction phases of the proposed project and aided in the organization of internal staff for environmental monitoring. Coordinated with the USFWS, NJDEP and New Jersey Pinelands Commission to ensure compliance with all applicable regulations. All surveys were performed in accordance with USFWS Section 7 consultation and State protocols.



Education:

B.S. Biology & Ecology,
West Chester University, 1993

Certifications:

Professional Wetland Scientist
Society of Wetland Scientist

Certified Sr. Ecologist, The
Ecological Society of America

Recognized Qualified Bog
Turtle Surveyor – N.J., N.Y.,
P.A., D.E., M.D.

Recognized Qualified Indiana
and Northern Long Eared Bat
Surveyor – N.J., N.Y., P.A.

Certified Subsurface Evaluator
NJDEP# 0001940

Recognized Qualified Delmarva
Fox Squirrel Surveyor – M.D.,
D.E.

Pennsylvania Qualified
Herpetologist for Various
Species

Professional Affiliations:

Member: Society of Wetland
Scientists 1997 – Present

Member: The Ecological
Society of America 1998 –
Present

Member: New Jersey Division
of Fish, Game and Wildlife
Conservation Corps. 2000 –
Present

Member: Pine Beach
Environmental Commission
1995 – 2003

NJ Department of
Environmental Protection
Wetland Mitigation Council
2003 – 2013

Fields of Competence:

Mr. Bryon DuBois has over 23 years' experience in the fields of regulatory compliance, ecology, biology, wetland science, wildlife management, and hydrology and habitat restoration. He has managed numerous large scale projects through the approval process in New Jersey, Pennsylvania, Maryland and Delaware. Mr. DuBois is highly respected by the regulatory agencies in N.J. and surrounding states. He has made positive contributions to policies effecting protected species (both state and federal), wetland mitigation, regulation and coastal zone policies through NJDEP, PADEP, MDDNR, DEDNR and ACOE.

Professional Experience:

In 2000 Mr. Bryon DuBois created an environmental consulting firm to focus on more objective ecological and environmental issues while focusing primarily on the regulated community. Since that time he has performed numerous long term studies on several influential species such as Bog Turtles, Pine Snakes, and Indiana Bats along with assessments of habitat and creation of mitigation measures. In addition, Mr. DuBois began designing and managing the construction of wetland mitigation projects tailored to a specific habitat type or land use. In many instances the projects were approved and exceeded the standard requirements without increasing cost for the client. These mitigation projects helped Mr. DuBois become nominated to the State of New Jersey's Wetland Mitigation Council in 2003 by the Governor of New Jersey. Since that time Mr. DuBois has reviewed and received approval for numerous mitigation related projects and banks in New Jersey, Pennsylvania and Maryland.

From 2003 to the present day Mr. DuBois has successfully managed, designed and received approval for projects ranging from airports to industrial centers, wastewater management facilities and large commercial areas along with the residential component. He has been asked to present topics related environmental regulations at the Atlantic City Builders Convention, the Eastern Region Airports Conference in Hershey, Pennsylvania, the U.S. Fish and Wildlife Bog Turtle Convention, the N.J. Pinelands Commission, the Louisiana Fish and Game and dozens of planning boards in towns across N.J. and P.A. His diverse experience has made him a good candidate to speak publicly on projects that require many different issues from ecology to water quality. Mr. DuBois has extensive experience using ESRI Arc Map Geographic Information Systems (GIS) software, global positioning systems (GPS) and computer-aided design and drafting software (CADD) for permitting purposes. In addition, Mr. DuBois has held over 300 scientific collecting permits for surveys performed within the Mid-Atlantic States, many of which involve a telemetry component.

Mr. DuBois has experience working with the New Jersey Department of Transportation (NJDOT) on projects such as the Route 206 Bridge located within Hammonton Township, Atlantic County; Route 47 & Route 83 in Dennis Township, Cape May County; and Route 46 located within Knowlton & White Townships, Warren County. While working on these projects, the NJDOT Procedures Manual was utilized.

Through hard work and an extensive background as an outdoorsman, Mr. DuBois has been recognized as a leader in his field. Mr. DuBois has applied logical and objective solutions to some of the most difficult environmental projects and has met a balance between environmentalists and developers alike.

In addition, Mr. DuBois has performed numerous studies to the Pennsylvania Fish and Boat Commission's standards on hundreds of miles of power lines as part of transmission line upgrades to get an inventory of herpetiles along those routes. Methods used have included listening to calls, call back surveys, egg mass studies, visual identification both in water and in the uplands, aquatic trapping, drift fencing with pitfall traps and road cruising.



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-17-

50

TITLE: Designate Existing Roads within Wharton State Forest that are Appropriate for Recreational Use by Motor Vehicles.

Commissioner

Lloyd

moves and Commissioner

Lohbauer

seconds the motion that:

WHEREAS, Wharton State Forest consists of approximately 125,000 acres of state-owned land within the Pinelands Preservation Area, the most ecologically sensitive portion of the Pinelands National Reserve; and

WHEREAS, Wharton State Forest provides extensive public recreational opportunities, including canoeing, hiking, biking, horseback riding, camping, hunting and motorized vehicle recreation; and

WHEREAS, the Comprehensive Management Plan ("CMP") at N.J.A.C. 7:50-6.143(a)(2) allows for the use of motor vehicles on public lands for recreational purposes; and

WHEREAS, in accordance with N.J.A.C. 7:50-6.143(a)3, the Pinelands Commission may, from time to time, designate areas on public lands, that are inappropriate for use of motor vehicles; and

WHEREAS, N.J.A.C. 7:50-6.143(a)3 also provides that such designation shall be done in consultation with the New Jersey Department of Environmental Protection; and

WHEREAS, from January 15, 2016 through May 12, 2017 during the public comment portion of various Commission meetings, the Commission heard extensive public comment concerning the damage being done to ecologically sensitive areas within Wharton State Forest as a result of motorized vehicles being operated off-road within the forest and the need to preserve these areas; and

WHEREAS, these concerns were expressed by the various users of Wharton State Forest including, but not limited to, environmental groups, hikers, hunters, enduro groups and off-road vehicle riders; and

WHEREAS, the Commission also heard public comment concerning the importance of having a map of Wharton State Forest that depicts the roads located therein for use by emergency responders, law enforcement officials and the public; and

WHEREAS, based on the public comment it has received, the Commission recognizes that the use of motorized vehicles off-road within Wharton State Forest is resulting in significant damage to the ecological and cultural resources of the Pinelands; and

WHEREAS, from October 2016 through May 2017, Commission staff has provided information to the Department of Environmental Protection concerning sites within Wharton State Forest that have been damaged by off-road motor vehicle use and met with the Department to discuss the development of guidance to identify areas where recreational motor vehicle use would be appropriate; and

WHEREAS, after consideration of the extensive public comment and review of available mapped information, the Commission has assembled sections of various federal USGS Topological maps from 1972, 1981, 1995 and 1997 in order to establish a map depicting the existing roads located within Wharton State Forest; and

WHEREAS, the Commission believes the above-described USGS map will serve as a guide for the public and others to use to identify areas within Wharton State Forest that are appropriate for recreational use by motor vehicles; and

WHEREAS, the Commission recommends that any changes to the USGS map regarding motor vehicle use be made in consultation with the DEP and be limited to those CMP provisions established for consideration to designate areas inappropriate for use by motor vehicles. Such provisions at Section 7:50-6.143(a)(3)(i-ix) are,

- i. A need to protect a scientific study area;
- ii. A need to protect the location of threatened or endangered plant or animal species;
- iii. A need to provide a wilderness recreational area;
- iv. A need to prevent conflicts with adjoining intensively used recreational areas;
- v. A need to protect historic or archaeological sites;
- vi. A need to protect critical wildlife habitats;
- vii. A need to address a situation of public health and safety;
- viii. A need to protect extensively disturbed areas from further impact; and
- ix. The extent to which such road closure would substantially impair recreation access to and uses of surrounding resources.

WHEREAS, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE BE IT RESOLVED that:

- (1) The Pinelands Commission has identified the roads on the assembled federally prepared USGS Topographical maps, attached Exhibit A, as the baseline of existing roads in Wharton State Forest; and
- (2) The Pinelands Commission finds that recreational use of motor vehicles in Wharton State Forest should be limited to the roads marked on the attached USGS Topographical maps. This finding does not apply to the Commission's review of Off-Road Vehicle Event Route Maps. It is also not the intent of the Commission that the USGS Topographical maps be used by DEP as part of its review of Special Use Permits. From time to time, the Pinelands Commission may identify any of these or other roads unsuitable for motor vehicle passage based on the criteria set forth in the CMP at N.J.A.C.7:50-6.143(a)3. Any future changes shall be the subject of consultation between the Pinelands Commission and the NJDEP; and
- (3) The Executive Director shall forward this Resolution to the New Jersey Department of Environmental Protection and to consult with the Department regarding the areas designated in Paragraph (1) above; and
- (4) The Executive Director shall update the Commission on the use of the USGS Topographical Maps and other efforts to protect Wharton State Forest from further off-road motorized vehicle damage on an ongoing basis.

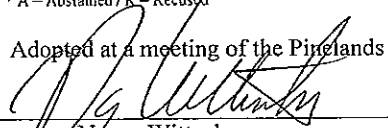
Record of Commission Votes

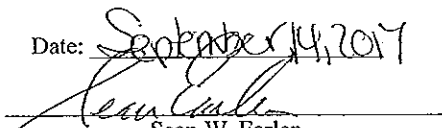
	AYE	NAY	NP	A/R*		AYE	NAY	NP	A/R*		AYE	NAY	NP	A/R*
Ashmun	X				Galletta	X				Prickett	X			
Avery			X		Jannarone	X				Quinn	X			
Barr			X		Lloyd	X				Rohan Green	X			
Brown	X				Lohbauer	X				Earlen	X			
Chila	X				McGlinchey	X								

* A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Date: September 14, 2017


 Nancy Wittenberg
 Executive Director


 Sean W. Earlen
 Chairman



New Jersey Pinelands Commission

Annual Report 2016

Mission Statement of the New Jersey Pinelands Commission

The mission of the New Jersey Pinelands Commission is to preserve, protect and enhance the natural and cultural resources of the Pinelands National Reserve, and to encourage compatible economic and other human activities consistent with that purpose.

Cover photo: The Pinelands Commission helped to preserve nearly 500 acres in the Pinelands through its Pinelands Conservation Fund in 2016, including the 414-acre Bear Swamp Headwaters property in Southampton and Tabernacle townships in Burlington County.

Photo by Paul Leakan/New Jersey Pinelands Commission

New Jersey Pinelands Commission 2016

Gubernatorial Appointees

Candace M. Ashmun
D'Arcy Rohan Green
Mark S. Lohbauer
Gary Quinn

Bob Barr
Edward Lloyd
Richard H. Prickett

U.S. Secretary of the Interior's Appointee

Joseph DiBello

County Appointees

Atlantic County

Paul E. Galletta, Vice Chairman

Burlington County

Sean W. Earlen, Chairman

Camden County

Edward McGlinchey

Cape May County

William J. Brown

Cumberland County

Jane Jannarone

Gloucester County

Guiseppe (Joe) Chila

Ocean County

Alan Avery, Jr.

Executive Director

Nancy Wittenberg

New Jersey Pinelands Commission

P.O. Box 359

New Lisbon, NJ 08064

Photo: (609) 894-7300

Fax: (609) 894-7330

E-mail: info@njpines.state.nj.us

Website: www.nj.gov/pinelands

Pinelands Commission Highlights for 2016

- **Commission gains new Chairman, member.** Pages 1-2.
- **Federal appointee Joseph DiBello announces retirement.** Page 2.
- **Commission drafts a series of potential rule changes.** Pages 3-4.
- **Commission revises Memorandum of Agreement process.** Pages 4-5.
- **Commission works to combat damages wrought by off-road vehicle use in Wharton State Forest.** Page 5.
- **Commission works to protect roadside plants.** Pages 5-6.
- **Commission preserves nearly 500 acres in the Pinelands through the Pinelands Conservation Fund.** Pages 8-9.
- **Commission scientists continue to monitor water quality as part of the Long-term Environmental Monitoring Program.** Page 10.
- **Commission scientists continue field work as part of the Created-wetlands Study.** Page 12.
- **Commission receives funding to conduct Endocrine Disruption Study.** Page 14.
- **Commission approves 31 public development applications in the Pinelands.** Pages 15-17.
- **Commission continues to process two natural gas pipeline applications.** Pages 17-19.
- **Commission holds 27th annual Pinelands Short Course at Stockton University.** Page 21.
- **Commission awards bid to convert a portion of the Richard J. Sullivan Center for Environmental Policy and Education into a Pinelands Visitor Center.** Pages 21-22.

Commission Gains New Chairman, Member in 2016

The Pinelands Commission gained a new Chairman and a new member in 2016, as Governor Chris Christie appointed Sean W. Earlen as the panel's new Chair and Guiseppe (Joe) Chila joined the Commission as Gloucester County's new representative.

Earlen presided over his first meeting as the Commission's Chairman on February 12, 2016. Earlen replaced Mark S. Lohbauer, who had served as the agency's Chairman since 2011 and continues to serve as a gubernatorial representative on the Commission. Earlen has represented Burlington County on the Commission since August 2011.



Sean W. Earlen

A resident of Lumberton, Earlen has served on Lumberton's Township Committee since 2011 and is currently the township's Mayor. He has also served on Lumberton's Joint Land Use Board since 2010. Earlen has also served on the Board of Directors at the New Jersey Building Authority since 2012. Earlen is the Vice President of Real Estate, Environmental & Public Affairs for Constructural Dynamics, Inc. of Fairless Hills, PA.

The Commission gained a new member when Chila joined the agency's board on February 12, 2016. Chila is serving his fourth term on the Gloucester County Board of Chosen Freeholders and his fifth year as Deputy Director.



Guiseppe (Joe) Chila, pictured left, joined the Commission as Gloucester County's new representative on February 12, 2016. Deputy Attorney General Sean Moriarty, pictured right, administered the oath of office. Photo/Paul Leakan

Chila resides in Woolwich Township, where he served as Mayor from 2003-2010. During that time, he instituted smart growth principles in development and focused on preserving farmland and open space. Chila graduated from Paulsboro High School and the Gloucester County Institute of Technology. He is a member of the International Brotherhood of Electrical Workers Lu. AFL-CIO, and he serves on the Gloucester County Board of School Estimates, the Advisory Board for the Gloucester County Veteran's Cemetery and the Board of the United

Way of Gloucester County. Chila served as President of the Southern New Jersey Freeholders' Association in 2015, and he was named Freeholder of the Year by the New Jersey Conference of Mayors.

Chila replaced Fran Witt as Gloucester County's representative on the Commission. Witt stepped down from the Commission on December 31, 2015. He had been a member of the Commission since February 13, 2004.

The Pinelands Commission's 15-member board consists of seven members who are appointed by the New Jersey Governor, one member appointed by each of the seven Pinelands counties, and one member appointed by the U.S. Secretary of the Interior. Commission members serve staggered, three-year terms and are uncompensated for their service.

Federal Appointee Joseph DiBello Announces Retirement



Joseph DiBello

The Pinelands Commission's board saw one final change in late 2016 as Federal appointee Joseph DiBello announced his retirement from the National Park Service (NPS), effective January 3, 2017.

A resident of Ardmore, Pa., DiBello had served as the U.S. Secretary of the Interior's appointee on the Commission since November 2012. He was a member of the Commission's Policy and Implementation Committee, Personnel and Budget Committee, Plan Review Committee and Agriculture Committee.

DiBello was employed by the NPS for 42 years. He started his career as a planner for the U.S. Department of the Interior in 1974, then went on to conduct special studies and planning projects for the NPS. He most recently served as the Superintendent of the Washington Rochambeau National Historic Trail, which traverses nine states and Washington, D.C.

During his tenure on the Commission, the National Park Service greatly advanced the Commission's efforts to preserve, protect and enhance the resources of the Pinelands, including providing funding to support the Commission's Long-term Environmental and Economic Monitoring programs, as well as funds for education and outreach materials that raise awareness and appreciation of the Pinelands. The Commission adopted a resolution to express its appreciation for DiBello's service on December 9, 2016.

Chapter 1: Land Use & Planning

Pinelands Comprehensive Management Plan (CMP) Amendments

In 2016, the Commission's staff drafted a series of potential rule changes that were



Above: The Pinelands Commission discussed numerous potential rule changes that were drafted in 2016.

Photo/Paul Leakan

recommended through the recent in-depth review of the Pinelands Comprehensive Management Plan (CMP), the rules that govern land use, development and natural resource protection in the Pinelands Area.

The Commission completed its fourth review of the CMP in 2014, a process that resulted in dozens of recommendations for rule amendments. The draft rule changes address many of these recommendations and would:

- better protect the Black Run Watershed, an area of southern Medford and Evesham townships that contain an abundance of important natural resources.
- update the CMP's sign regulations. In recent years, a number of municipalities have adopted ordinances that authorize the use of signs that feature digital technology, including video, flashing lights and changing text. The CMP, however, prohibits the use of motion and changing lights in on- and off-site signs. Staff reviewed the on- and off-site sign standards to determine whether and where digital sign technology should be permissible in the Pinelands. Under the draft rule changes, the regulation of on-site signs would be delegated to municipalities. Municipalities would determine whether and where on-site signs using digital technology should be permitted. The possible rule changes would also allow existing and new billboards in Regional Growth Areas and Pinelands Towns to use digital technology subject to certain conditions. Old, nonconforming billboards in conservation areas would be prohibited from converting to digital technology;
- change the Commission's fee schedule for reviewing development applications. The rule changes would add specific fees for general development plans, reduce fees for solar energy facilities, eliminate the need for applicants to submit sworn statements of

construction costs, increase most fees by 25% and update escrow provisions to include facilities, services and other unusual expenditures related to an application;

- eliminate the requirement that towns/applicants submit names and addresses of people who “actively participate” on applications at Planning Board meetings;
- define “mail” to include “e-mail,” eliminate certified mailing requirements for the Commission and towns, eliminate the requirement for applicants to post notices on properties and require the Commission to post notices on its website;
- clarify the circumstances under which municipalities will not need to install impermeable caps on their closed landfills;
- allow alternate design wastewater treatment systems to be used for the expansion of or changes to existing nonresidential uses in the Rural Development Area, Agricultural Production Area, Forest Area and infill areas.

The draft rule changes have been submitted to the Governor’s Office for its review.

Revising the Commission’s Memorandum of Agreement Process

In March 2016, the Pinelands Commission’s board endorsed a revised guidance document that the agency uses before considering whether to enter into an intergovernmental Memorandum of Agreement (MOA).

The Pinelands Comprehensive Management Plan (CMP) allows the Commission to enter into an intergovernmental agreement that authorizes a public agency to undertake development activities that are not fully consistent with Pinelands land use and development standards. The agreements must include measures that will provide at least an equivalent level of protection of the Pinelands.

As an outgrowth of its recent in-depth review of the CMP, the Commission formed a Memorandum of Agreement (MOA) Policy Advisory Committee that reviewed the agency’s process for considering MOAs. The ad hoc committee, which is composed of Commissioners and members of the public, recommended a series of changes to the Commission’s guidance document for entering into MOAs.

The revised document calls for the full, 15-member Commission to authorize staff to either proceed with or decline proposals to enter into an intergovernmental agreement. The process

also calls for the Commission to establish a schedule for considering the agreement, and it explicitly states that the agency involved may need to provide an escrow to the Commission.

The revised guidance document is available on the Pinelands Commission's website (<http://www.state.nj.us/pinelands/appli/moas/2016%20final%20MOA%20process.pdf>).

Combating Damages Wrought by Off-road Vehicles in Wharton State Forest

Throughout 2016, the Commission took several steps to help combat the damages wrought by off-road vehicle use in Wharton State Forest, a 122,880 acre forest located in the Pinelands.

In recent years, users of Wharton State Forest have voiced concerns about the extensive damages being caused by illegal, off-road vehicle use in the forest.

To gain a better understanding of the problem, the Commission invited staff from the New Jersey Department of Environmental Protection (NJDEP) to attend several Commission meetings.

Additionally, staff from the Commission and NJDEP took Commissioners on a tour of damaged areas in Wharton in March 2016.



Above: Several Commission members surveyed the damages caused by off-road vehicle use in Wharton State Forest in 2016. Photo/John Bunnell

In October 2016, Commission staff compiled and provided the NJDEP with a database of sites within Wharton State Forest that have been damaged by off-road vehicle use. At the direction of the Commission, staff has also met with the NJDEP to discuss the development of guidance to identify areas where recreational motor vehicle use would be appropriate in Wharton.

Protecting Roadside Plants

The Commission continued to advance efforts to better protect roadside habitat in the Pinelands in 2016.

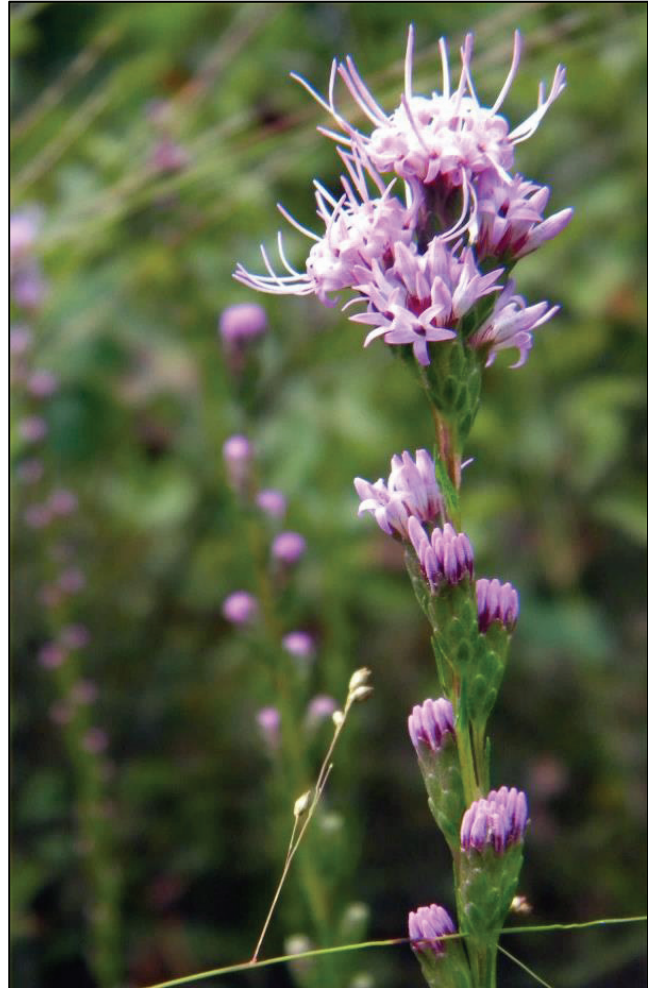
The Commission launched the initiative in 2009 by working with the Pinelands Preservation Alliance, state and county transportation officials, and local botanists to develop best management practices (BMPs) for the mowing and maintenance of Pinelands roadsides. During the years that followed, the Commission incorporated the mowing and maintenance practices into Memorandums of Agreement that it reached with five of the seven Pinelands Area counties.

The mowing and maintenance BMPs call for a combination of relatively minor adjustments to roadside management with the goals of ensuring safe transportation corridors while allowing native vegetation to complete its life cycle and perpetuate native populations.

In 2016, staff conducted an effort to reconnect with the county staff responsible for implementing the mowing and maintenance BMPs in order to improve compliance. Staff also produced a clarification/guidance document and distributed laminated copies to each of the participating counties with the intent that the mowing crews have a copy with them while in the field.

Staff also prepared and released a webpage on the Commission's website to describe the mowing and maintenance BMPs (<http://www.nj.gov/pinelands/landuse/current/roadhab/>). Copies of the mowing and maintenance BMPs, as well as the clarification/guidance document, may be downloaded from the webpage.

To improve interagency cooperation, Commission staff has been meeting with each of the signatory counties (Atlantic, Burlington, Camden, Gloucester, and Ocean). The meetings helped to resolve some of the challenges experienced by the counties in executing the mowing and maintenance BMPs.



Above: Roadsides in the Pinelands provide important habitat for many colorful plants, including Blazing Star.

Photo/Robyn A. Jeney

Assessing Uncapped Landfills in the Pinelands Area

In 2015, the Commission completed its work with the U.S. Geological Survey (USGS) to develop a software tool that can be used to preliminarily evaluate the potential ecological and public health risks associated with uncapped landfills in the Pinelands Area. The groundwater transports model provides information necessary to characterize the “level of concern” posed by potential leachate plumes from 61 Pinelands landfills to nearby wetlands, surface water bodies, streams, ponds and drinking water wells. The screening-level analysis provides information that will help the Commission review proposals for the closure and reuse of landfills.

Commission staff is using the screening tool to assist the Borough of South Toms River, the City of Estell Manor, the City of Port Republic and the Township of Medford in identifying potential landfill leachate receptors and in developing targeted groundwater assessment programs that are integral to their proposed landfill closure plans.

Monitoring the Pinelands Economy

The Commission continues to monitor the economic health of Pinelands municipalities through its Long-term Economic Monitoring Program.

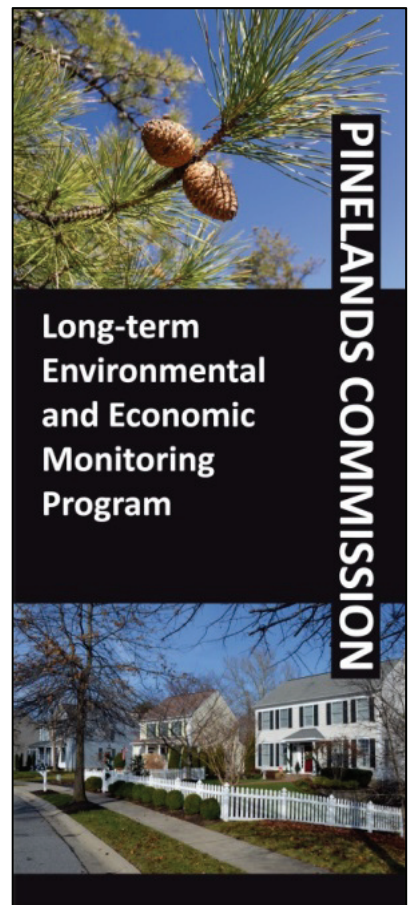
The Commission’s staff issued its annual Long-term Economic Monitoring Report in June 2016, and it includes data for 2015.

The report is funded by the National Park Service, and it provides data on 21 different economic variables. The 2015 report includes the poverty rate as a supplemental variable, along with data regarding towns that are partly inside and outside of the Pinelands Area boundaries.

The full report for 2015 is available on the Commission’s website. The address is:

<http://www.nj.gov/pinelands/landuse/current/economic/index.shtml>.

In an effort to raise awareness about the agency’s Long-term Economic and Environmental Monitoring programs, Commission staff created and distributed a new brochure in



May 2016. The brochure (shown on page 7) is available on the Commission’s website. The address is:

<http://www.nj.gov/pinelands/infor/online/LTEM%20Economic&Science%20Brochure%20for%20web.pdf>.

Reviewing Municipal Ordinances

Amendments to certified county and municipal master plans and land use ordinances must be submitted to, and approved by, the Commission. During 2016, the Commission received and reviewed 76 ordinance and master plan amendments from 28 different municipalities. This included redevelopment plans in the Town of Hammonton’s Gateway/White Horse Pike Redevelopment Area, Hamilton Township’s Mays Landing Historic Redevelopment Area and South Toms River’s Municipal Complex Redevelopment Area.

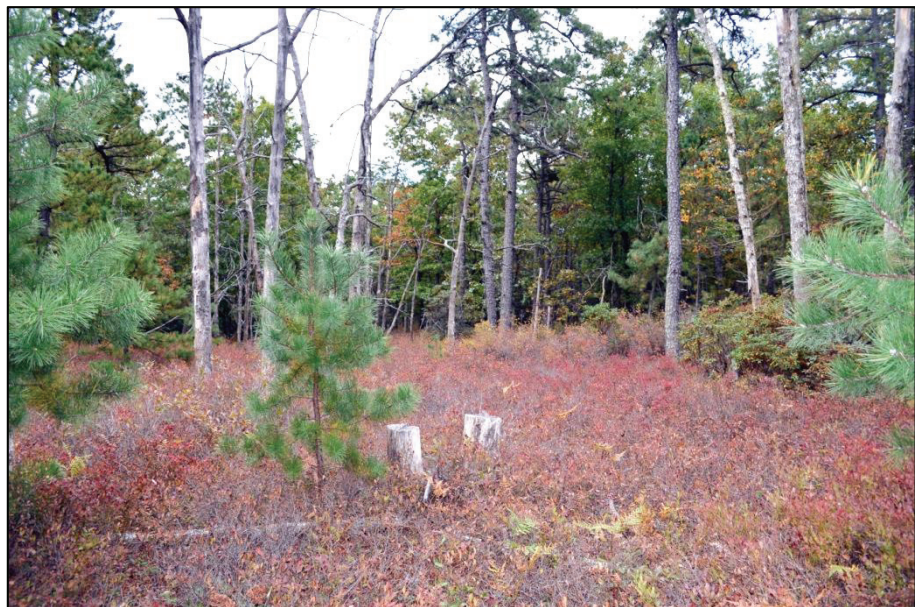
Chapter 2: Permanent Land Protection

Pinelands Conservation Fund

In 2016, the Pinelands Commission helped to permanently preserve nearly 500 acres in the Pinelands through the Pinelands Conservation Fund (PCF).

The Commission provided \$150,000 toward the Trust for Public Land’s total \$600,000 cost to acquire the 414-acre Bear Swamp Headwaters property

in Southampton and Tabernacle townships in Burlington County. The property is located in Pinelands Rural Development and Regional Growth areas and it features tributaries to the Bear Swamp River.



Above: The Commission provided funds to help preserve 61-acre Deetz property in 2016. Photo/Paul Leakan

The Commission provided \$82,500 toward the Ocean County Natural Lands Trust’s total \$247,500 cost to acquire the 61-acre Deetz property in Barnegat Township, Ocean County

(please see the photo on page 8). The property is located in a Pinelands Forest Area and it features tributaries to Oyster Creek. It is also adjacent to the Greenwood Forest Wildlife Management Area.

Lastly, the Commission provided \$11,000 toward the Ocean County Natural Lands Trust's total \$33,000 cost to acquire the 11-acre Toms River Ridgeway-Fagan property in Jackson Township, Ocean County. The property is located in a Pinelands Forest Area and it features a tributary to the Ridgeway Branch of the Toms River. The land is entirely wetlands, and it is adjacent to the Joint Base McGuire-Dix-Lakehurst.

From 2007 to 2016, the Commission contributed \$8.9 million to 36 land acquisition projects in the Pinelands Area. All 36 of these projects have been completed as of December 31, 2016, resulting in the permanent protection of 8,188 acres.

The PCF was created in 2004 as part of an agreement with the New Jersey Board of Public Utilities to permit the construction and upgrade of an electric transmission line through eastern portions of the Pinelands. Under the agreement, the special fund was established to further the Pinelands protection program and ensure a greater level of protection of the unique resources of the Pinelands Area. The utility that built the transmission lines, Atlantic City Electric (formerly Conectiv), provided \$13 million to establish the fund. The policies for the PCF include four principal objectives: permanent land protection, planning and research activities, education and outreach and community planning and design.

Pinelands Development Credit Program

The Pinelands Development Credit Program is a regional transfer of development rights program that preserves important agricultural and ecological land. Pinelands Development Credits (PDCs) are allocated to landowners in Pinelands-designated Preservation, Agricultural and Special Agricultural Production Areas, which are the sending areas. These credits can be purchased by property owners and developers who are interested in developing land in Pinelands-designated Regional Growth Areas, which serve as the receiving areas, and can be used to increase the densities at which they build. Once those credits are "severed" from a sending area property, the property is permanently protected by a conservation or agricultural deed restriction and credits on the property can be sold. Credits are bought and sold in one-quarter credit units called "rights."

During 2016, 33 rights were severed, protecting 409 acres of land. A total of 6,045 rights were severed from 1982 to 2016, protecting 51,990 acres. In 2016, the mean sales price of PDCs was \$8,900 per right.

Chapter 3: Science and Research Activities

Long-term Environmental Monitoring Program

In 2016, Commission scientists continued to conduct Long-term Environmental Monitoring Program research.

As part of the Commission Pinelands-wide water-quality monitoring, scientists have measured water quality at 47 stream sites on a bimonthly basis since 2006. One of the parameters measured is pH, which indicates whether the stream water is acidic or alkaline. In 2016, Scientists began to analyze the pH data for an 11-year period to determine if pH was increasing, decreasing, or remaining relatively constant over time. Most of the streams exhibited relatively stable pH during the study period, however, several stream sites showed increasing pH. Stream sites with increasing pH were among those with the greatest amount of altered land developed and upland agricultural land) in their watersheds.

One of the stream sites with the greatest increase in pH during the study period was Four Mile Branch at Lighthouse Drive. In 2012, which is the most recent year that land-use data are available for New Jersey, 41% of the Four Mile Branch watershed above Lighthouse Drive was altered land. Almost all of this altered land was developed land.



Above: Four Mile Branch at Lighthouse Drive showed an increase in stream pH during the 11-year study of water-quality trends.
Graphic/John Bunnell

Also as part of the Long-term Environmental Monitoring Program, each month, scientists recorded water levels at 35 forest plots and 30 ponds, and maintained continuous water-level recording devices installed in seven other ponds. The Commission has also monitored calling frogs and toads at 20 ponds since 1996.

Pond-vulnerability Study

Commission scientists continued to make progress on a study to characterize the vulnerability of Pinelands ponds to surrounding land uses. These ponds are typically called “intermittent” because they are not usually connected to streams and occasionally dry out, creating largely fishless environments that serve as important breeding grounds for frogs and toads, such as the rare Pine Barrens treefrog. Intermittent ponds also provide habitat for many rare plants, such as pink tickseed (*Coreopsis rosea*).

Scientists began the first phase of the project by using aerial photography to compile an inventory of approximately 2,700 natural Pinelands ponds. Ninety-nine of these ponds were selected for the study. From 2014-2016, scientists monitored water quality and water



Above: Pink tickseed (*Coreopsis rosea*) is a rare plant that can be found in Pinelands ponds. Photo/John Bunnell

levels and completed plant, frog and toad, fish, and dragonfly and damselfly surveys at the 99 ponds. The field work for the study has been completed and, in 2017, Commission scientists will quantify the impact of land use on these ponds.

The Commission will identify and prioritize ponds that need enhanced protection and may evaluate potential planning and regulatory measures to better protect these ponds.

The study is being funded, in part, by a grant from the U.S. Environmental Protection Agency (EPA). The Commission is supplementing the EPA grant funding by contributing funds from its Pinelands Conservation Fund (please see page 9 for more information about the Fund).

Created-wetland Study

Like natural wetlands, created wetlands can provide the habitat necessary for wetland-dependent plants and animals, especially in human-dominated landscapes where natural wetlands may have been degraded or eliminated. As part of another study, Commission scientists mapped the location of two types of created wetlands commonly found in the Pinelands,



Above: An example of an excavated pond in the Pinelands in Eldora, NJ.
Photo/John Bunnell

shallow excavations that intercept the groundwater (excavated ponds) and excavations designed to receive stormwater (stormwater basins). About 1,700 excavated ponds and 1,400 stormwater basins have been mapped. Fifty-two excavated ponds and 46 stormwater basins were selected for the study.

As part of the study, scientists will compare water-quality, hydrologic, and biological attributes between both types of created wetlands and the natural ponds from the Pond-vulnerability Study described above. In collaboration with the U.S. Geological Survey and Montclair University, sites that represent a subset of each type of wetland are being sampled for current-use pesticides and emerging-amphibian pathogens. From 2014-2016, scientists monitored water quality and water levels and completed plant and animal surveys at the 98 created wetlands, and sampled the subset of each wetland type for pesticides and pathogens.

In 2017, Commission scientists will quantify the impact of land use on these wetlands and compare these created wetlands to natural ponds from the Pond-vulnerability Study.

As with the Pond-vulnerability Study, the Created-wetland Study is also being funded by a grant from the U.S. EPA and a match by the Commission through the Pinelands Conservation Fund (please see page 9 for additional information about the Fund).

Right-of-way Vegetation Monitoring

In cooperation with the New Jersey Board of Public Utilities, Atlantic City Electric, Jersey Central Power and Light, and Public Service Electric and Gas, the Commission initiated a pilot program in 2009 to implement a vegetation-management plan for the land beneath high-voltage electric-transmission lines in the Pinelands.



Above: In 2016, Commission scientists completed routine annual vegetation surveys on electric-transmission rights-of-way such as this one in Ocean County.
Photo/John Bunnell

As part of that pilot program, each year, Commission scientists monitor vegetation in the managed rights-of-way in plots that represent different vegetation type/vegetation-management prescription combinations. The monitoring will help determine if the vegetation-management prescriptions have resulted in relatively stable and sustainable early successional habitats that are characteristic of the Pinelands and which provide habitat for native-Pinelands plants and animals, including threatened and endangered species. In 2012, scientists measured vegetation in reference plots in the forest adjacent to each managed right-of-way to determine if the right-of-way vegetation was similar to and characteristic of the nearby Pinelands forest.

In 2016, scientists completed the routine annual vegetation surveys and initiated an analysis to compare the managed right-of-way and adjacent forest vegetation. The analysis will be completed in 2017.

The pilot program is funded by the Atlantic City Electric, Jersey Central Power and Light, and Public Service Electric and Gas.

Endocrine Disruption Study

The William Penn Foundation recently dedicated significant funding towards scientific research in the Delaware River Watershed through the Delaware Watershed Research Fund. The Academy of Natural Sciences is administering the funding. The Kirkwood-Cohansey aquifer, which underlies the Pinelands, was identified as one of the research areas eligible for funding. Commission and USGS scientists proposed a study to investigate point and non-point sources of endocrine



Above: The green frog, a common Pinelands frog, is one of the species to be studied in the Endocrine Disruption Study Photo/John Bunnell

disrupting chemicals and the potential impacts on fish and frogs in the Pinelands. The proposed study was awarded funding in 2016 for work to begin in 2017.

The endocrine system is a collection of tissues in animals that produce hormones to regulate essential life processes, such as metabolism, tissue function, reproduction, and development. A large group of natural and synthetic chemicals are known to disrupt endocrine function. Examples include plant hormones, plastic components, flame retardants, surfactants, fragrances, pesticides, etc. Endocrine disrupting chemicals, or EDCs, are a global environmental problem and have been linked to reproductive and developmental abnormalities in a variety of animal species, especially fish and amphibians.

Commission and USGS scientists proposed to sample water chemistry and fish above and below municipal wastewater treatment plants, which represent direct point sources of EDCs, and water chemistry and frogs at ponds and stormwater basins, which may receive indirect non-point sources of EDCs from runoff and the aquifer. Results from these sites will be compared to those from appropriate minimally impacted reference sites.

The study is being funded by a grant from the Delaware Watershed Research Fund, a match by the Pinelands Commission, and a match by the USGS.

Pinelands Research Series

The Pinelands Research Series was initiated in 2012 to provide a regular forum for scientists to present and discuss Pinelands-related research. This is a free event that is open to the public and hosted by the Commission.

In 2016, the Commission hosted nine presentations that covered a wide range of research topics, including forest modeling, assessing the biotic integrity of streams, the newly described Atlantic Coast leopard frog, coyotes in New Jersey, endocrine disruption and intersex in fish, ecosystem services that insects provide, hormones and ectoparasites of eastern fence lizards, aquatic invertebrates in the Barnegat Bay, and the nutrient history and ecosystem services of tidal marshes.

A full listing of previous and upcoming presentations can be found on the Commission's website at: <http://www.nj.gov/pinelands/science/pinesseries/>.

Chapter 4: Regulatory Activities

Permitting

The Commission's staff reviews municipal and county (public) permitting decisions and private development applications to determine compliance with the Pinelands Comprehensive Management Plan. In 2016, the Commission's Project Review Office received 364 new applications (including public and private applications).

During the year, actions were taken on 1,585 applications. A total of 33 actions were taken on applications through the Local Review Officer Program, which expedites the approval process by having municipal officers review certain applications, without the need for the Commission's review first, and through streamlining agreements.

The Pinelands Commission approved 31 development applications from local, county and state entities in 2016, including:

- the development of a 3,500 square foot Interpretive Center building and other improvements within Lake Lenape Park in Hamilton Township, Atlantic County;
- improvements to the existing Garden State Parkway Maintenance Facility in Galloway Township, Atlantic County;

- the construction of a compressed natural gas fueling facility in Woodbine Borough, Cape May County;
- a 15-foot widening of the existing aircraft taxiway at the Atlantic City International Airport in Egg Harbor Township, Atlantic County;
- the demolition of three schools that are 50 years or older and the construction of a 134,506 square foot school in North Hanover Township, Burlington County;
- the construction of a 3,612 square foot municipal garage in Hammonton, Atlantic County;
- the establishment of a public education center at the site of the historic Cedar Bridge Tavern and the development of a single family dwelling (caretaker's residence) in Barnegat Township, Ocean County;
- the establishment of a recreational dog park in Hammonton, Atlantic County;
- the construction of an 11,350 square foot student center building at the Atlantic Cape Community College in Hamilton Township, Atlantic County;
- the construction of a 6,000 square foot public works building and a 2,000 square foot salt storage shed in Southampton Township, Burlington County;
- the reconstruction of a previously existing retail commercial building in Buena Vista Township, Atlantic County;
- the construction of a bicycle path along Himmelein and Stokes roads in Medford Township, Burlington County;
- the widening of the Atlantic City Expressway Bridge No. 20 in Egg Harbor Township, Atlantic County;
- the reconstruction of the Lake Mishe Mokwa Dam in Medford Lakes Borough, Burlington County;
- the construction of a 1,500 square foot concession building and the expansion of an existing parking lot in Hamilton Township, Atlantic County;

- the construction of a 2,500 square foot municipal mechanical building in Hammonton, Atlantic County;
- the development of a bicycle path in Hammonton, Atlantic County;
- the demolition of three buildings that are 50 years old or older and the construction of an 11,502 square foot emergency services building in Waterford Township, Camden County; and
- the construction of a 1.66-acre ground-mounted solar array in Folsom Borough, Atlantic County.

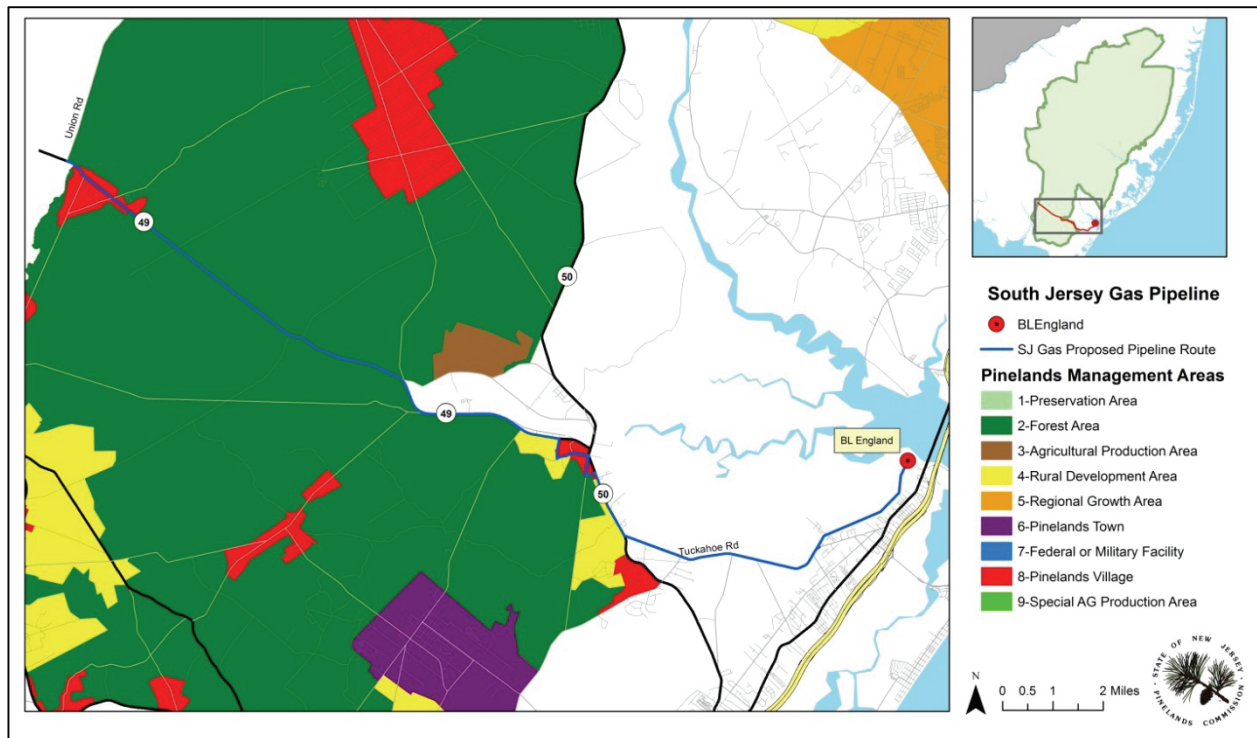
The Commission also has the authority to issue Freshwater Wetland General Permits in the Pinelands Area on behalf of the New Jersey Department of Environmental Protection. The Commission issued eight such permits in 2016.

Review of South Jersey Gas' Proposed Pipeline

In 2016, the Commission continued to process the South Jersey Gas Company's application to install a natural gas pipeline in the southern portion of the Pinelands.

South Jersey Gas is proposing to build a 24-inch natural gas main beneath or alongside existing roadways from Maurice River Township, Cumberland County, to the B.L. England Electric Generating Station in Upper Township, Cape May County. The gas main would repower the B.L. England from coal to natural gas in accordance with an Administrative Consent Order issued by the New Jersey Department of Environmental Protection. The pipeline would traverse 15 miles of the Pinelands Area and seven miles of the Pinelands National Reserve before connecting to the B.L. England plant. Of the 15 miles in the Pinelands Area, 2.8 miles are located in Pinelands Villages, 2.54 miles are located in a Pinelands Rural Development Area and 9.51 miles are located in a Pinelands Forest area. (Please see the map on page 18.)

South Jersey Gas applied to build the pipeline in July 2012. The Commission's staff drafted an inconsistent Certificate of Filing in July 2013. The agency then considered entering into a Memorandum of Agreement (MOA) that would allow the project to move forward. However, the proposed MOA did not garner the eight affirmative votes needed for its passage.



Above: Map of the South Jersey Gas Company's proposed natural gas pipeline in the Pinelands.

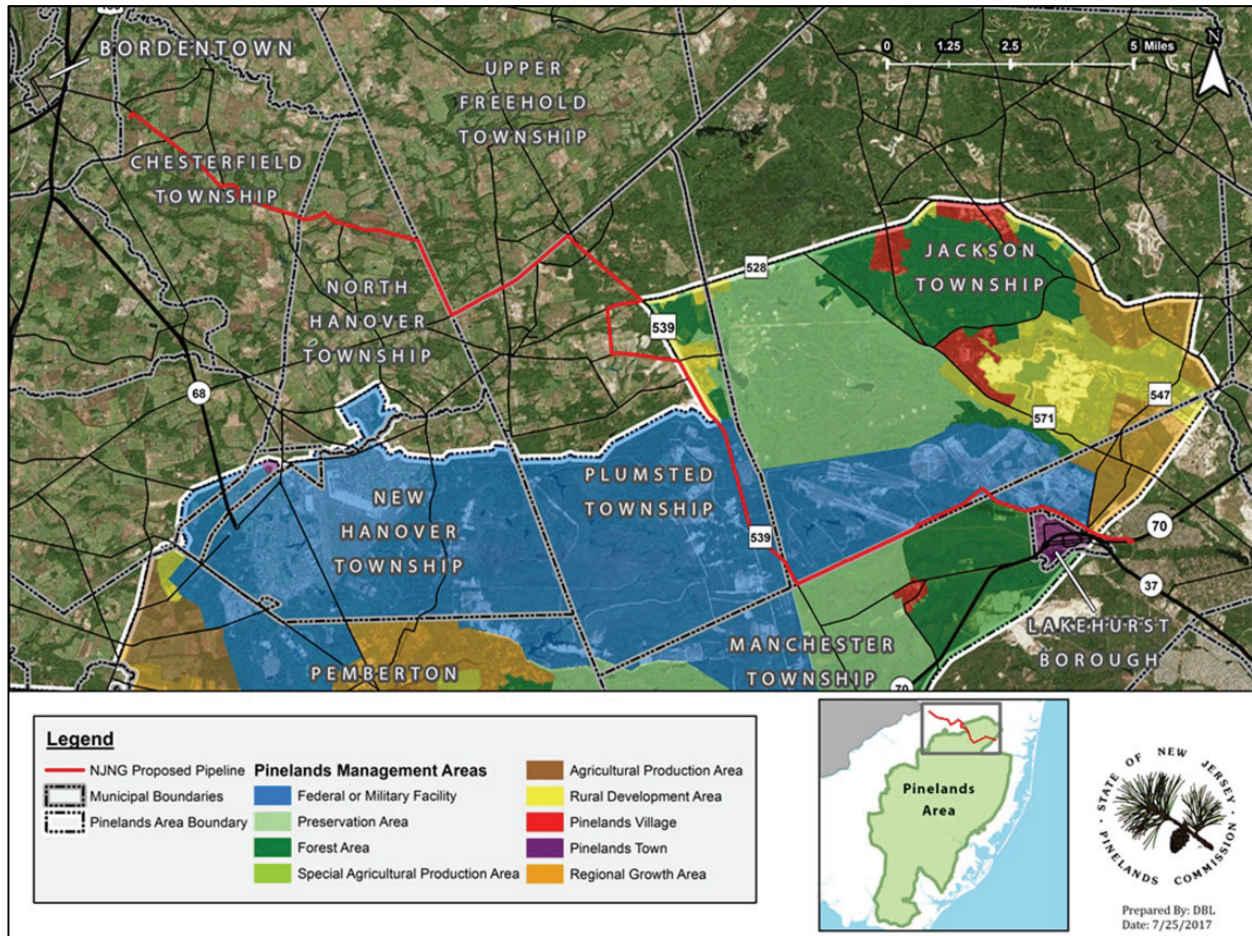
South Jersey Gas provided additional information in its amended application in May 2015. The Commission's staff issued a Certificate of Filing in August 2015, deeming the project consistent with Pinelands rules. In response to legal filings, the Appellate Division of the Superior Court of New Jersey issued a decision that remanded the Certificate of Filing back to the Commission for its review of the staff's consistency determination. In December 2016, the Commission adopted a resolution that identified the process by which the agency reviewed the court's decision in accordance with the remand. Specifically, the process calls for the Commission to provide the public with the opportunity to comment on the staff's consistency determination. Following the close of the public comment period, the Commission's staff will review the record and all public comments, then prepare a recommendation as to whether to affirm the prior consistency determination. The full 15-member Commission will then either approve or deny the recommendation.

Review of New Jersey Natural Gas' Proposed Pipeline

The Commission also continued to process the New Jersey Natural Gas Company's proposal to install a natural gas pipeline in the Pinelands.

New Jersey Natural Gas is proposing to build 12.1 miles of a 30-inch natural gas main within the existing rights-of-way along Route 539 and Route 547 in Jackson Township, Manchester Township and Plumsted Township in the Pinelands. The total length of the project is 30 miles,

as it would start in Chesterfield Township, Burlington County, which is outside of the Pinelands. (Please see the map below).



Above: Map of the New Jersey Natural Gas Company's proposed natural gas pipeline.

New Jersey Natural Gas applied to build the pipeline in April 2015. The Pinelands Commission issued a Consistent Certificate of Filing for the project on December 9, 2015.

As was the case with the South Jersey Gas application, several legal appeals were filed. In December 2016, the Pinelands Commission adopted a resolution seeking a remand from the Appellate Division so that the Commission can review the staff's consistency determination in accordance with the same process that will be followed for the South Jersey Gas application. (Please see pages 17-18.)

Violations

The Pinelands Commission continues its efforts to provide assistance to municipalities in pursuing and resolving violations of the local land use ordinances and Pinelands regulations. A total of 76 violations were identified in 2016.

Chapter 5: Public Information, Participation & Education

Outreach and Education

The Commission's Communications and Public Programs Office staff handled 120 press inquiries and responded to more than 1,400 public inquiries regarding the Pinelands in 2016.

Staff organized and carried out its tenth annual, Pinelands-themed World Water Monitoring Challenge event. Held at the historic Batsto Village, the

event attracted more than 250 students and teachers who gauged Pinelands water quality and learned about the importance of protecting the region's unique natural and historic resources. The students measured the levels of pH or acidity in water, as well as water clarity, temperature and dissolved oxygen. Water in the Pinelands is generally undisturbed, has a low pH and low dissolved solids, enabling it to support uniquely adapted Pinelands plants and animals. The students' findings were posted on the World Water Monitoring Day Web site, where test results can be compared over time. In addition to assisting with the water tests, staff from the Pinelands Commission used nets to catch native Pinelands fish and demonstrated how the Commission protects wetlands and habitat for rare plants and animals.

In addition, Commission staff members educated approximately 1,400 students during in-class education programs and field trips in 2016.



Above: Commission staff education more than 250 students during the World Water Monitoring Challenge at Batsto in 2016. Photo/Paul Leakan

Pinelands Short Course

The 27th annual Pinelands Short Course featured 32 presentations that explored the unique history, ecology, culture and music of the Pinelands. The daylong event was held at The Richard Stockton College of New Jersey in Galloway Township, Atlantic County on March 12, 2016.



Above: The 27th annual Pinelands Short Course featured 18 new programs, including a performance by the Greater Pinelands Dulcimer Society.

Photo/Paul Leakan

More than 400 people attended the Short Course. The event included 18 new programs: the Wild Turkey and its Reintroduction, the Suburbanization of the Jersey Devil, the Soldiers and Seductress Who Helped Facilitate Washington's Christmas Victory in Trenton in 1776, a new Pine Barrens film, Butterflies and Caterpillars of the Pinelands, Monitoring Ospreys, the Spring Bird Migration, Soil Health Improvement, a Pinelands Overview, Wharton State Forest, Birding in Atlantic County, Sustainable Forest Management, Moths of New Jersey, the Centennial of the Highbush Blueberry, the History of the former Coast Guard Station 119, a Photographic Exploration of the Pinelands, Ecological Forest Management and a performance by the Greater Pinelands Dulcimer Society.

The event is registered with the New Jersey Department of Education, and professional development credits are available to New Jersey teachers who attend.

Pinelands Visitor Center:

The Commission continued to advance a major project to convert a portion of its headquarters into an official Pinelands Visitor Center.

After reviewing and scoring four bids, the Commission in February 2016 awarded a \$368,849 contract to Drill Construction of West Orange, NJ, to create and install exhibits in the Richard J.

Sullivan Center for Environmental Policy and Education, which is located on 15 Springfield Road in Pemberton, NJ.

Throughout 2016, Commission staff worked to obtain the necessary permits to move forward with construction. Staff also worked to acquire numerous Pinelands artifacts that will be displayed in the Visitor Center. Rowan College at Burlington County donated dozens of items from their Pinelands Collection, including a split oak basket, a cranberry scoop and various glass bottles and vases. The items will be displayed in the Visitor Center.

The exhibits were designed with funding from the National Park Service. The Commission is funding the fabrication and installation of the exhibits with monies from the Education and Outreach component of the Pinelands Conservation Fund.

Chapter 6: Finances

Fiscal & Budget

The Commissions Operating Budget for Fiscal Year 2017 totaled \$4,641,712.00. Of this, \$3,988,822.00, or 86% percent, was budgeted for personnel expenses.

Budgeted revenue sources included \$155,000 in federal grants, a \$2,649,000 State appropriation, \$785,200 in State grants and other State funding, \$500,000 in application fees and \$552,512 from the Commissions fund balance and reserves.

The 2017 budget for the Kirkwood-Cohansey Study, funded through legislation passed in 2001, was \$153,116. The budget for the Pinelands Conservation Fund was \$1,816,792.

Once it is completed, the Commissions Audit Report for Fiscal Year 2016, which ended June 30, 2015, will be posted on the State Auditors web site. The website address is: http://www.njleg.state.nj.us/legislativepub/auditreports_department.asp. The report also will be available on the Pinelands Commissions web site: www.nj.gov/pinelands.


Pinelands Application Fees

Since April 2004, the Pinelands Commission has received application fees to partially underwrite the direct costs associated with reviewing development applications in the Pinelands Area.

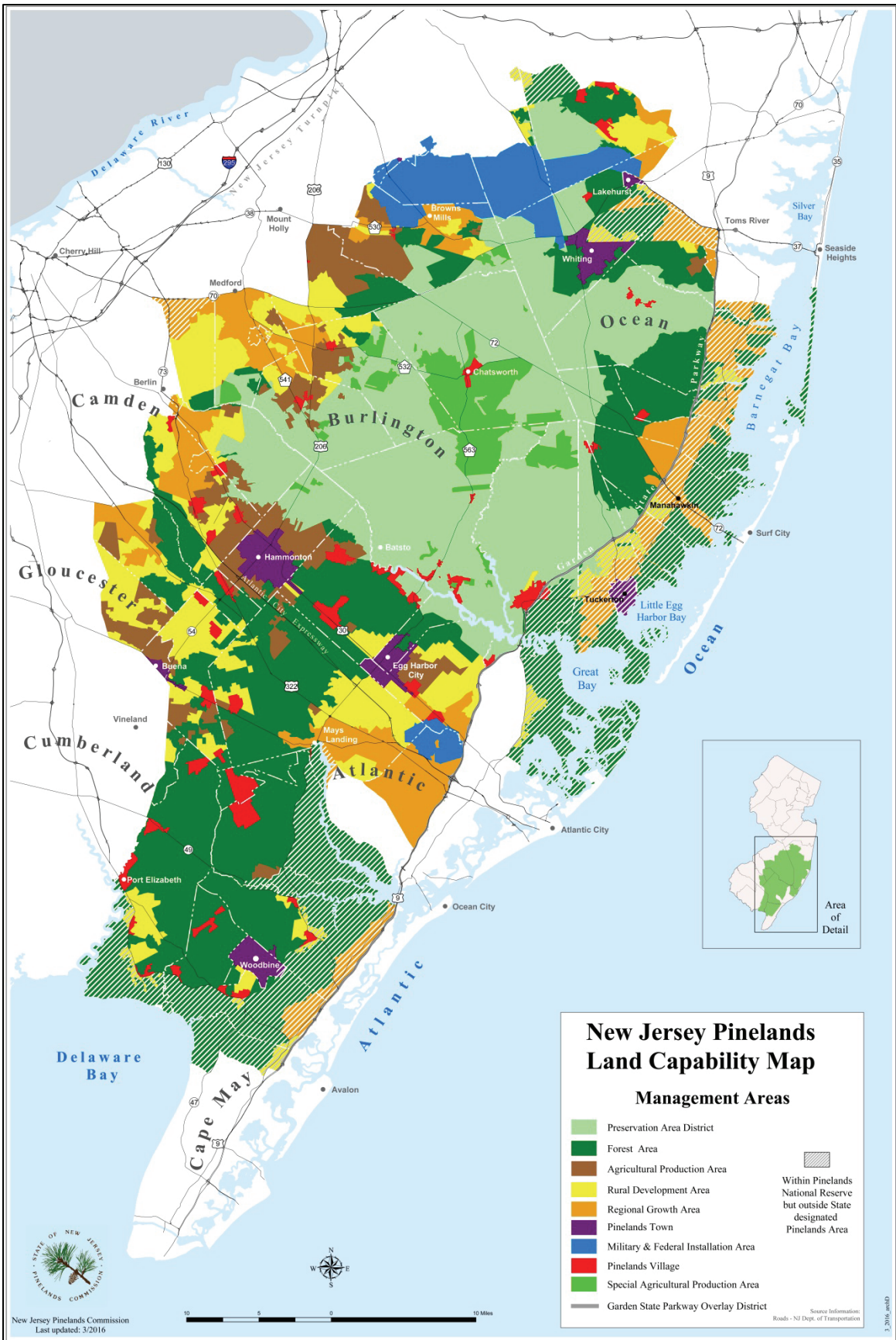
During Fiscal Year 2017, unaudited application fee revenues totaled \$343,197 (\$302,928 less than Fiscal Year 2016).

Certification

As required by State Executive Order #37, all State authorities are required to certify that during the preceding year the authority has, to the best of its knowledge, followed all of the authority's standards, procedures, and internal controls. I hereby certify to the best of my knowledge that, during the 2016 calendar year, all of the Commission's standards, procedures, and internal controls were followed.

A handwritten signature in black ink, appearing to read "Nancy Wittenberg", written over a horizontal line.

Nancy Wittenberg
Executive Director





RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-17- 31

TITLE: To Approve the New Jersey Pinelands Commission's 2016 Annual Report

Commissioner Galletta moves and Commissioner Prickett seconds the motion that:

WHEREAS, in September 2006, then Governor Corzine issued Executive Order #37; and

WHEREAS, Executive Order #37 called for the preparation and approval of a comprehensive report concerning the operations of each State authority; and

WHEREAS, the report shall set forth the significant actions of the Commission; and

WHEREAS, since the report is to be done on an annual basis and it includes much of the same information as the Commission's Annual Report, which is required by the Pinelands Protection Act, the two reports have been combined since 2007 as a cost savings measure to eliminate waste and promote efficiency as called for in Executive Order #37; and

WHEREAS, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE BE IT RESOLVED that the attached 2016 Annual Report be approved, submitted to the Governor's Authorities Unit and posted on the Commission's web site.

Record of Commission Votes

	AYE	NAY	NP	AR*		AYE	NAY	NP	AR*		AYE	NAY	NP	AR*
Ashmun	X				Galletta	X				Prickett	X			
Avery			X		Jannarone	X				Quinn	X			
Barr			X		Lloyd	X				Rohan Green	X			
Brown	X				Lohbauer	X				Earlen	X			
Chila	X				McGlinchey	X								

* A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission
Nancy Wittenberg
Nancy Wittenberg
Executive Director

Date: September 17, 2017
Sean W. Earlen
Sean W. Earlen
Chairman

Pinelands Commission Testimony by Robert Filipczak 9/14/17, Trenton, NJ.

1. There is no carbon dioxide reduction per kilowatt/hr by changing from coal/oil to natural gas. DEP and the energy industry salesmen have not invented a perpetual motion machine. To get energy, electricity, you need to provide energy, heat. Methane has one-fifth of the heat of coal and produces one fifth the energy for electricity. No CO2 benefit is provided, other than giving Exxon/Mobile a huge new customer. Residents will be locked into paying more for electricity. This is just like other DEP engineering schemes, Resource Recovery and Stormwater Management. A similar brand-new gas turbine plant like those proposed by South Jersey Industries, but smaller in size, at Revel Casino went bankrupt. DEP was not successful in strong-arming Glenn Stroud to pay more for its costly electricity.


The so-called efficiency numbers for the plant are lost when you add the energy costs to move a ton of gas versus a ton of coal. Gas comes off the field at only a couple of psi. To compress it to move it in a pipeline at 600 psi, you must expend energy, which aren't include in their efficiency numbers. Either a gas turbine is used to run compressors, making more CO2, or you must subtract the electricity needed to run the compressor. Gas transmission isn't free, like sunlight is.

New Jersey is committing to burn fossil fuels for the production of electricity into the foreseeable future and moving away from truly clean energy; solar and wind.

2. Sulfur emissions are nearly meaningless in South Jersey. Any SO2 that escapes the scrubber goes over the Atlantic Ocean which could care less, from an environmental perspective. DEP has no numbers on ground concentration levels to say there is a public health threat, or even an annoyance to anyone. OSHA TLV values, allowable concentrations in the workplace are 5ppm and DEP has shown absolutely nothing to justify the expense of the project nor any benefits provided.

3. Staff subsumed authority they did not have, get smacked down in court and are still driving the bus. They seem to have independent expertise on not much of anything, besides fancy word craft. They sign away Pinelands Commission authority, by giving DEP a "memorandum of understanding". Pinelands Commission now says it's fine to bulldoze holes and destroy woodlands where ever DEP insists. Then everybody pays DEP for their permission to do so. Favored contractors are provided with lucrative business.

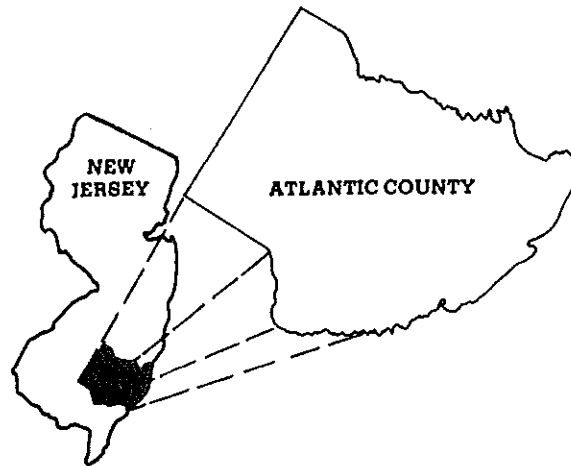
Staff is little more than highly paid political insulation for the atrocious environmental decisions by our Governor and his DEP. Science makes them very uncomfortable.


9/14/17 2001 Shore Rd
Linwood NJ 08221
609-927-4291

ATLANTIC COUNTY, NEW JERSEY
RESOURCE RECOVERY FEASIBILITY STUDY

FINAL REPORT

JULY, 1984



Prepared For:

ACUA

ATLANTIC COUNTY UTILITIES AUTHORITY

1701 Absecon Boulevard
Atlantic City, New Jersey 08401

Prepared By:

A Joint Venture

STV/SANDERS & THOMAS, INC.

CONSULTING ENGINEERS, 11 ROBINSON STREET, POTTSTOWN, PENNSYLVANIA 19464

THE TARQUINI ORGANIZATION

ARCHITECTS AND PLANNERS, 1812 FEDERAL STREET, CAMDEN, NEW JERSEY 08105

RG&H ROGERS, GOLDEN & HALPERN

ENVIRONMENTAL, ENERGY & LAND USE CONSULTANTS
1427 VINE STREET, PHILADELPHIA, PENNSYLVANIA 19102

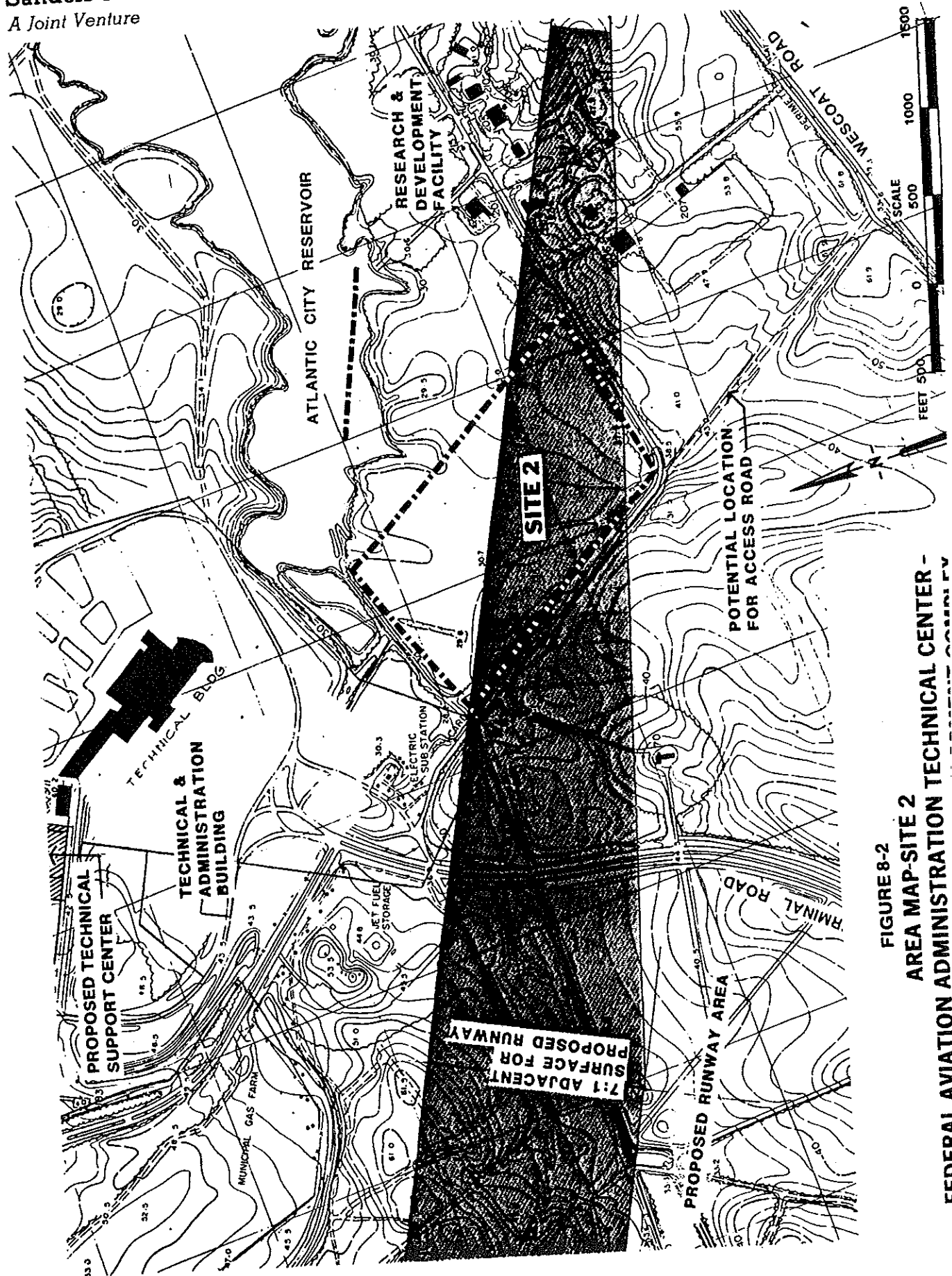
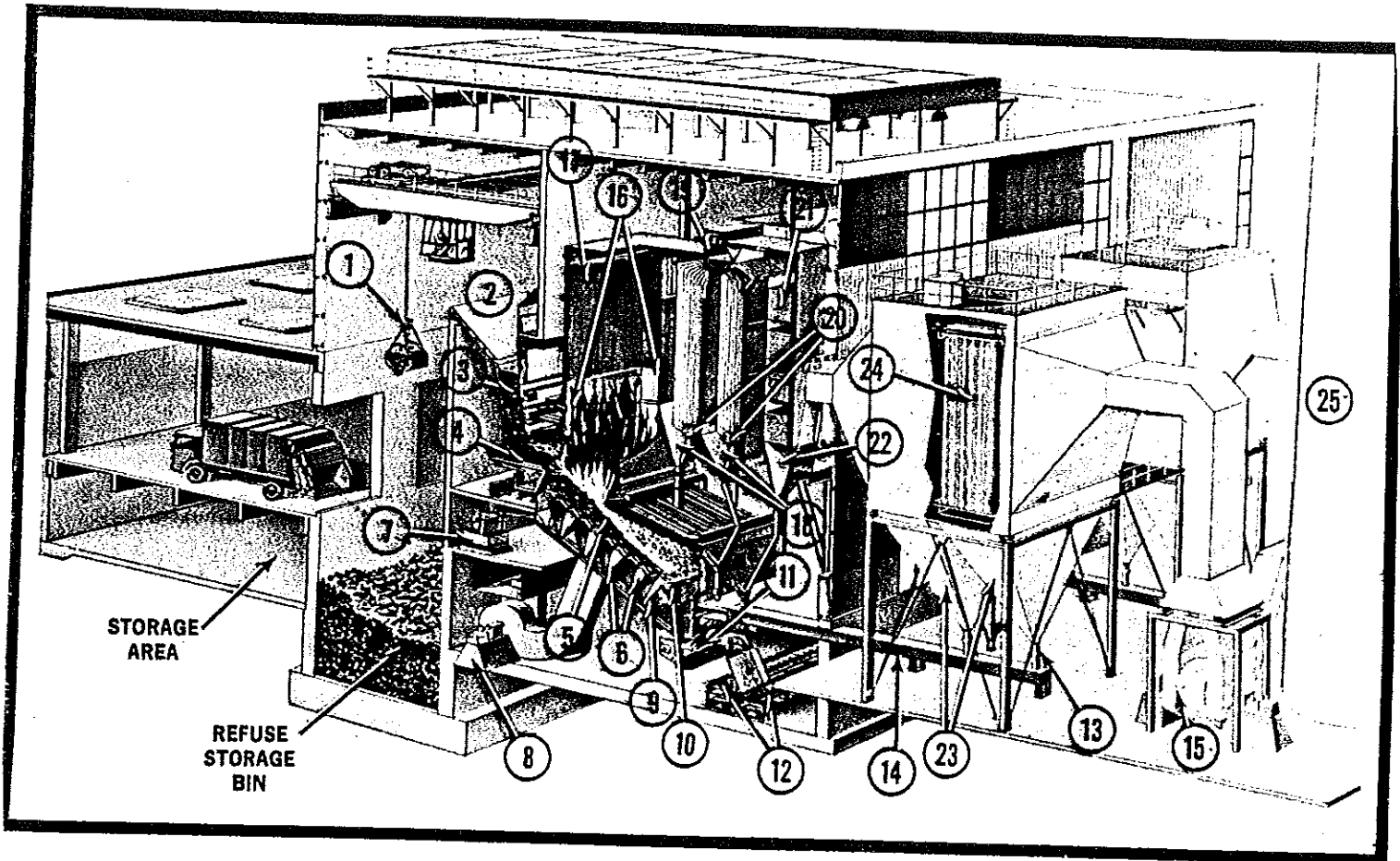


FIGURE 8-2
AREA MAP-SITE 2
FEDERAL AVIATION ADMINISTRATION TECHNICAL CENTER -



- | | |
|---------------------------------------|---------------------------------|
| 1. Crane | 13. Rotary Valve |
| 2. Feed Hopper | 14. Fly Ash Conveyor |
| 3. Feed Chute | 15. Induced Draft Fan |
| 4. Feed Rams | 16. Overfire Air Nozzles |
| 5. Reverse Reciprocating Stoker | 17. Waterwalls |
| 6. Undergrate Air Plenum Chambers | 18. Boiler Fly Ash Hoppers |
| 7. Hydraulic Pump | 19. Steam Drum |
| 8. Forced Draft Fan | 20. Bottom Boiler Drum |
| 9. Automatic Siftings Removal Systems | 21. Economizer |
| 10. Residue Roller | 22. Economizer Fly Ash Hopper |
| 11. Residue Discharger | 23. Fly Ash Hoppers |
| 12. Residue Conveyors | 24. Electrostatic Precipitators |
| | 25. Stack |

FIGURE 5-1
 MASS-FIRED WATERWALL FURNACE SYSTEM ARRANGEMENT

1. INTRODUCTION

Purpose of Study

Atlantic County, like all counties within the state, is required by the New Jersey Solid Waste Management Act to develop a plan for environmentally sound disposal of all solid waste generated within the County. In an effort to comply with this legal requirement, the County has selected a team of engineering firms to investigate the environmental, technical and economic feasibility of resource recovery implementation within the County. Resource recovery is intended to provide energy and materials recovery from the waste stream, while reducing its volume to minimize landfill space needed. The study would also determine the effects of resource recovery on future landfilling requirements. A parallel study would investigate the siting and development of a new regional landfill, with and without resource recovery, to serve the county in the future. The results of these studies will form a basis for modifications to the Atlantic County Solid Waste Management Plan.

Scope of Study

The County developed a Request for Proposals in which they enumerated their areas of concern, the availability of data from previous studies, the need to investigate landfilling as a least cost option and they listed the deliverables expected at the conclusion of the study.

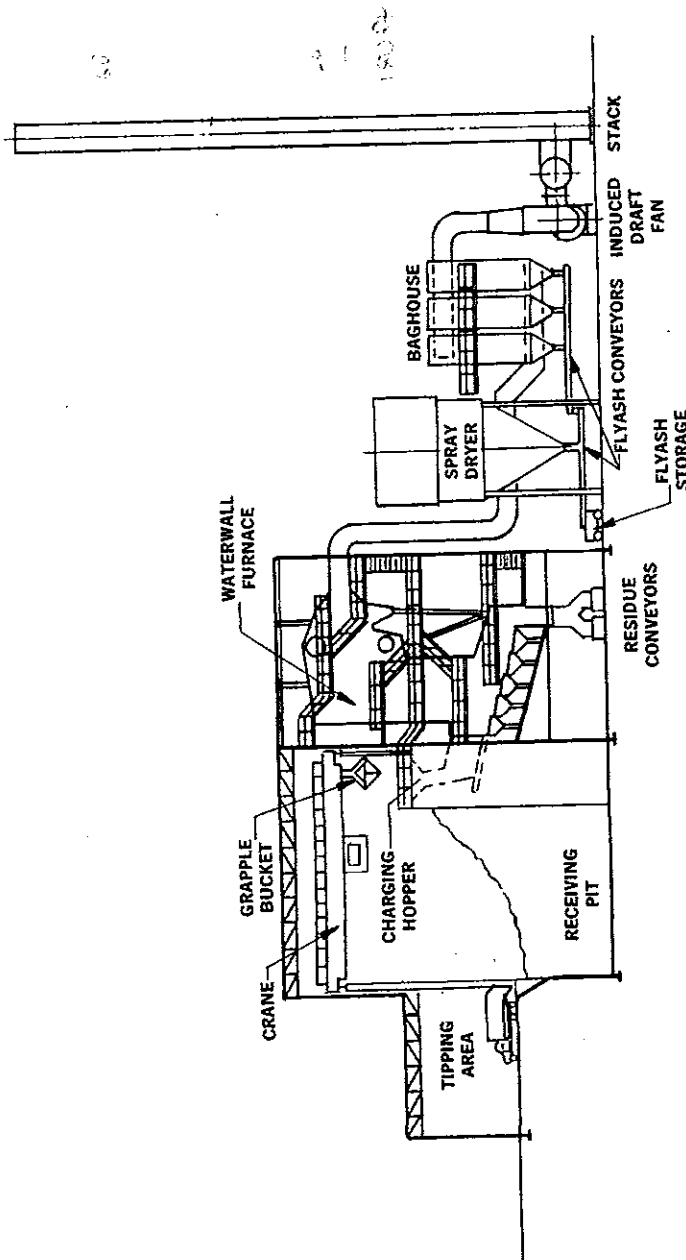
Based on the responses to the RFP received by the Atlantic County Utilities Authority (ACUA), they selected the Joint Venture of Sanders & Thomas, Inc., The Tarquini Organization, and Rogers, Golden & Halpern to perform the feasibility study.

2. ENVIRONMENTAL IMPACTS

Potential environmental impacts of a resource recovery facility (RRF) and their duration are displayed graphically in Figure 2-1. It shows the pre-operation and operation and maintenance (O&M) activities which relate to air emissions, water quality, residue disposal, socioeconomic impacts and land use effects.

All environmental impacts associated with a RRF can be mitigated to an acceptable level.

Figure 2-2 lists all environmental permits and approvals required to implement a resource recovery project in a projected timeline.



DRAWING NO. 4

ATLANTIC COUNTY, NEW JERSEY
RESOURCE RECOVERY FEASIBILITY STUDY

RESOURCE RECOVERY FACILITY —
EQUIPMENT ARRANGEMENT SECTION
PROJECT ALTERNATIVES I, II & III



STV/SANDERS & THOMAS, INC.
THE TARQUINI ORGANIZATION
ROGERS, GOLDEN & HALPERN
A Joint Venture

TABLE 2-1
CALCULATIONS OF APPROXIMATE ANNUAL EMISSION RATES
FROM A 700-TPD RESOURCE RECOVERY FACILITY A,B,C

Hydrocarbons

Assume 40 ppm in flue gas, or about .3 lb hydrocarbons per ton of refuse for uncontrolled emissions and assume no removal for controlled emissions:

$$700 \text{ TPD} \times 365 \text{ days/yr} \times .90 \times .3 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 34 \text{ TPY}$$

Sulfur Dioxide

Assume average sulfur content of .10% by weight of refuse and that 50% of sulfur will be returned in bottom ash; thus average flue gas concentration of 67 ppm, or about 2 lb/T of refuse for uncontrolled emissions and 70% removal for controlled emissions:

$$700 \text{ TPD} \times 365 \text{ days/yr} \times .90 \times 2 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 230 \text{ TPY}$$

$$230 \text{ TPY} \times (1-0.70) = 69 \text{ TPY}$$

Nitrogen Oxides

Assume 140 ppm in flue gas, or about 3 lb/T for uncontrolled emissions and assume no removal for controlled emissions:

$$700 \text{ TPD} \times 365 \text{ days/yr} \times .90 \times 3 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 345 \text{ TPY}$$

Carbon Monoxide

Assume 170 ppm in flue gas, or 2.2 lb/T for uncontrolled emissions and assume no removal for controlled emissions:

$$700 \text{ TPD} \times 365 \text{ days/yr} \times .90 \times 2.2 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 253 \text{ TPY}$$

Hydrochloric Acid

Assume 250 ppm in the flue gas, or 4.2 lb/T for uncontrolled emissions and 90% removal for controlled emissions:

$$700 \text{ TPD} \times 365 \text{ days/yr} \times .90 \times 4.2 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 483 \text{ TPY}$$

$$483 \text{ TPY} \times (1-0.90) = 48 \text{ TPY}$$

Fluorides

Assume 13 ppm in flue gas, or .12 lb/T for uncontrolled emissions and 70% removal for controlled emissions:

$$700 \text{ TPD} \times 365 \text{ days/yr} \times 0.90 \times .12 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 14 \text{ TPY}$$

$$14 \text{ TPY} \times (1-0.70) = 4.2 \text{ TPY}$$

Lead

Ultimate lead emissions will depend on efficiency of the electrostatic precipitator or baghouse; literature sources suggest .017 lb/T for controlled emissions.

$$700 \text{ TPD} \times 365 \text{ days/yr} \times 0.90 \times .017 \frac{\text{lb}}{\text{T}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 2.0 \text{ TPY}$$

Particulate

Assume 3,500 $\frac{\text{dscfm}}{\text{TPH}}$ is the flue gas rate firing at 100% excess air (Literature sources vary from 3,000 to 4,000 $\frac{\text{dscfm}}{\text{TPH}}$; $\frac{.015 \text{ gr}}{\text{dscf}}$ is the lowest achievable controlled emission rate using an electrostatic precipitator or baghouse.

$$700 \text{ TPD} \times 365 \text{ days/yr} \times 0.90 \times .015 \frac{\text{gr}}{\text{dscf}} \times \frac{1 \text{ lb}}{7,000 \text{ gr}} \times 3,500 \frac{\text{dscfm}}{\text{TPH}}$$

$$60 \frac{\text{min}}{\text{hr}} \times \frac{1 \text{ T}}{2,000 \text{ lb}} = 52 \text{ TPY}$$

NOTES:

- A. .90 = Assumed RRF processing availability factor
 700 TPD = Continuous refuse burning rate in tons per day
 T = Tons
 TPY = Tons per year
 TPH = Tons per hour
 dscfm = Dry standard cubic foot per minute
 ppm = Parts per million (volume)

- B. Estimated uncontrolled emissions are for a mass-fired, waterwall furnace with a reciprocating stoker.
 C. Estimated controlled emissions are for a dry scrubber with lime slurry injection and an electrostatic precipitator or baghouse to provide air pollution control.