

State of New Jersey

THE PINELANDS COMMISSION PO Box 359 New Lisbon, NJ 08064 (609) 894-7300 www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

NEW JERSEY PINELANDS COMMISSION MEETING AGENDA

Friday, January 12, 2024 - 9:30 a.m.

This meeting will be held in-person and virtually.

Richard J. Sullivan Center for Environmental Policy and Education Terrence D. Moore Conference Room 15C Springfield Road New Lisbon, New Jersey

Watch the meeting on the Pinelands Commission YouTube channel via the following link: https://www.youtube.com/live/DsuQQYL3n68?si=uWJyMKLn0mMD7QJp
To Provide Public Comment, Please Dial: 1-929-205-6099 Meeting ID: 835 8638 2326

- 1. Call to Order
 - Open Public Meetings Act Statement
 - Roll Call
 - Pledge Allegiance to the Flag
- 2. Adoption of Minutes
 - December 8, 2023
- 3. Committee Chairs' and Executive Director's Reports
- 4. Matters for Commission Consideration Where the Record is Closed
 - A. Permitting Matters
 - Office of Administrative Law
 - None
 - Review of Local Approvals
 - None
 - Public Development Projects and Waivers of Strict Compliance:
 - None

B. Planning Matters

- Municipal Master Plans and Ordinances
 - None
- Other Resolutions
 - Authorizing the Execution of a Memorandum of Agreement between the Pinelands Commission and Pemberton Township Regarding Accessibility Improvements to Pemberton Lake Trail
- CMP Amendments
 - None
- 5. Public Comment on Public Development Applications and Waivers of Strict Compliance *Where* the *Record is Not Closed*
 - A. Public Development Projects
 - Application No. 2003-0530.011- Greater Egg Harbor Regional High School District Installation of an artificial turf field and the construction of a 5,900 square foot paved storage area at the Cedar Creek High School Egg Harbor City
 - B. Waivers of Strict Compliance
 - None
- 6. Master Plans and Ordinances Not Requiring Commission Action
 - Barnegat Township Ordinance 2023-33
 - Berkeley Township Ordinance 22-47-OAB
 - Chesilhurst Borough Ordinance 2023-9
 - Hammonton Town Ordinance 14-2023
 - Manchester Township Ordinance 23-41
 - Pemberton Township Ordinance 37-2023
 - Stafford Township Ordinance 2023-40
 - Waterford Township Ordinances 2023-25 & 2023-28
- 7. General Public Comment
- 8. Presentation: Update on the New Jersey Board of Public Utilities Straw Proposal for the Dual-Use Solar Pilot Program

9. Resolution to Retire into Closed Session (if needed) – Personnel, Litigation and Acquisition Matters. (*The Commission reserves the right to reconvene into public session to take action on closed session items.*)

10. Adjournment

Upcoming Meetings

Fri., January 26, 2024 Fri., February 9, 2024 Wed., February 14, 2024 Policy & Implementation Committee Meeting (9:30 a.m.) Pinelands Commission Meeting (9:30 a.m.) Climate Committee Meeting (9:30 a.m.)

To ensure adequate time for all members of the public to comment, we will respectfully limit comments to **three minutes**. Questions raised during this period may not be responded to at this time but where feasible, will be followed up by the Commission and its staff.

Pinelands Commission and Committee meeting agendas are posted on the Commission's Website and can be viewed at www.nj.gov/pinelands/ for more information on agenda details, e-mail the Public Programs Office at Info@pinelands.nj.gov.

PINELANDS COMMISSION MEETING

MINUTES December 8, 2023

All participants were either in-person or present via Zoom conference and the meeting was livestreamed through YouTube: https://www.youtube.com/watch?v=Lhnz7ASY8nE

Commissioners Participating in the Meeting

Nicholas Asselta, Alan W. Avery Jr., John Holroyd, Theresa Lettman, Mark Lohbauer, Mark Mauriello, Jonathan Meade, William Pikolycky and Douglas Wallner. Also participating were Executive Director Susan R. Grogan, Deputy Attorney General (DAG) Jay Stypinski and Governor's Authorities Unit representative Alexis Franklin.

Commissioners Absent

Dan Christy, Jerome H. Irick and Laura E. Matos.

Call to Order

Vice Chair Avery called the meeting to order at 9:31 a.m.

DAG Stypinski read the Open Public Meetings Act Statement (OPMA).

Executive Director (ED) Grogan called the roll and announced the presence of a quorum. Nine Commissioners participated in the meeting.

The Commission pledged allegiance to the Flag.

Minutes

Vice Chair Avery presented the closed session minutes from the Commission's November 9, 2023 meeting. Commissioner Pikolycky moved the adoption of the closed session minutes. Commissioner Lohbauer seconded the motion.

The closed session minutes from the November 9, 2023 Commission meeting were adopted by a vote of 8 to 0. Commissioner Holroyd abstained from the vote.

Vice Chair Avery presented the open session minutes from the Commission's November 9, 2023 meeting. Commissioner Pikolycky moved the adoption of the open session minutes. Commissioner Lohbauer seconded the motion.

The open session minutes from the November 9, 2023 Commission meeting were adopted by a vote of 9 to 0.

Committee Reports

Vice Chair Avery provided a summary of the November 29, 2023 Policy and Implementation Committee meeting:

The Committee adopted the minutes of the October 27, 2023 meeting.

The Committee reviewed a draft Memorandum of Agreement (MOA) with Pemberton Township. The MOA would permit the Township to surface existing trails in wetlands and wetlands buffers at Pemberton Lake. A public hearing on the agreement will be held in December. The Committee agreed that if there are no substantive changes after the public hearing, the MOA could proceed to the full Commission meeting in January 2024 for consideration.

The Committee also discussed a package of CMP amendments. The draft amendments cover application fees, expiration of waivers, Certificates of Filing and Certificates of Completeness, allocation and use of Pinelands Development Credits, protection of the Black Run Watershed and vegetation maintenance in electric transmission rights of way. All Committee members indicated support for the amendments. Staff will complete and submit the full rule proposal to the Governor's office for approval.

Executive Director's Report

ED Grogan provided information on the following matters:

- The grant for the preservation of Fenwick Manor is currently working its way through the legislative process. The appropriations bill was recently approved by the Assembly, and is currently awaiting a vote from the Senate. Staff recently met with the Division of Property Management and Construction (DPMC) to discuss the procurement process. DMPC will assist with drafting a scope of services for the preservation project and a Request for Proposal (RFP) for design work and another RFP for the construction.
- As part of the Fenwick Manor preservation project, telephone and internet equipment currently located in the basement will be moved to a more suitable location on the

property. Verizon Staff is currently in the process of running fiber optic cable to facilitate the relocation.

• Recent Pinelands Development Credit severances have resulted in permanently protecting just over 400 acres in the Preservation Area District and the Special Agricultural Production Area.

ED Grogan introduced a new Commission staff member, Jared Schmidt, who joined the Information Systems Office this week and will be assisting with database design and web development. She said Jared recently graduated from the College of New Jersey and is from South Jersey.

ED Grogan also introduced Alexis Franklin, who replaced Janice Venables as the representative from the Governor's Authorities Unit.

Chuck Horner, Director of Regulatory Programs, provided information on the following regulatory matters:

- Staff have been assisting Mullica Township with a proposal to construct a public safety building at the municipal complex, which is located in the Village of Elwood. There is a mold issue in the basement of the existing municipal building where the police department was located. Staff notified the township administrator that it would be necessary to convert the existing septic system to an alternate design septic system that treats the wastewater due to the size constraints of the lot and existing development.
- An application was recently submitted to the Commission for the change of use of the Bass River Township elementary school to a private overnight boarding school. The proposal has received a great deal of interest from local residents and there have been a few newspaper articles on the matter.

Stacey Roth, Chief, Legal and Legislative Affairs, said any pending legislation that is not adopted prior to December 31, 2023 will need to be reintroduced in January 2024 when the 221st Legislature session commences. She said there are a few warehouse bills that have been introduced but are not specifically related to the Pinelands. She noted that Assembly bill A5809 expands the list of eligible Pinelands Infrastructure Trust Fund projects to include water supply.

Paul Leakan, Communications Officer, said the 2024 Pinelands wall calendars are available free-of-charge at multiple state parks and at the General Store at Whitesbog Village. He said the calendar is funded by the National Park Service and printed at Rowan College at Burlington County. He thanked numerous experts who helped to identify the animal species that are featured in the calendar.

Gina Berg, Director of Land Use Programs, provided an update on the following:

• The water management rules were published in the New Jersey Register on December 4th. An internal implementation team has been established. The team is in the process of

generating guidance documents to post on the Commission's website in anticipation of future applications.

- Staff is in the process of refining rule package one in preparation to send to the Governor's office.
- Staff is working on an annual report for National Park Service funding.
- Staff recently evaluated existing Pinelands Management Area boundaries. The findings and recommendations of the assessment will be presented to the Climate Committee.

Public Development Projects and Other Permit Matters

Vice Chair Avery introduced a resolution for the construction of two parking areas and concrete walkways at a high school in Hamilton Township.

Commissioner Lohbauer made a motion Approving With Conditions an Application for Public Development (Application Number 1985-0204.011) (See Resolution # PC4-23-43). Commissioner Asselta seconded the motion.

The resolution was adopted by a vote of 9 to 0.

Vice Chair Avery introduced a resolution for a Waiver of Strict Compliance to build a single-family dwelling in Monroe Township.

Commissioner Asselta made a motion Approving With Conditions an Application for a Waiver of Strict Compliance (Application Number 1989-0139.003) (See Resolution # PC4-23-44). Commissioner Lohbauer seconded the motion.

The resolution was adopted by a vote of 9 to 0.

Ordinances Not Requiring Commission Action

Vice Chair Avery read the list of ordinances:

- Buena Vista Township 2022 Master Plan Reexamination Report
- Buena Vista Township Ordinance 136-2023
- Monroe Township Ordinance O:35-2023

Commissioners did not have any questions.

Other Resolutions

Vice Chair Avery introduced a resolution scheduling regular Pinelands Commission meeting dates for 2024.

Commissioner Pikolycky made a motion Scheduling Regular Pinelands Commission Meeting Dates for 2024 (See Resolution # PC4-23-45). Commissioner Lohbauer seconded the motion.

The resolution was adopted by a vote of 9 to 0.

General Public Comment

Jason Howell of the Pinelands Preservation Alliance asked how the Commission created a task force to rezone a parcel (Peg Leg Webb) in Jackson Township from a Rural Development Area to a Forest Area.

ED Grogan said the task force Mr. Howell is referencing was established to study the Toms River Corridor and recommend ways to protect critical habitat in the area. The task force was comprised of municipal, county, state, non-profit and Commission representatives, among others. The resulting Toms River Corridor Plan called for multiple management area and zoning changes along with land preservation.

Mr. Howell said the Pole Bridge Forest that is subject of a large residential development project in Pemberton Township should not be designated as Regional Growth Area because of the area's high-value habitat.

Adjournment

Commissioner Lohbauer moved to adjourn the meeting. Commissioner Pikolycky seconded the motion. The Commission agreed to adjourn at 9:54 a.m.

Certified as true and correct:

Jessica Noble

Executive Assistant

Date: December 12, 2023



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-23	343		
TITLE:	Approving With 1985-0204.011)	Conditions an Application for Public Development	(Application Number
Commissione seconds the n		moves and Commissioner Asselts	<u>a</u>

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:

1985-0204.011

Applicant: Greater Egg Harbor Regional High School District

Municipality: Hamilton Township

Management Area: Pinelands Regional Growth Area

Date of Report: November 17, 2023

Proposed Development: Construction of two parking areas and concrete walkways at the

Oakcrest High School.

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 1985-0204.011 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*
Asselta	X				Lettman	X				Wallner	X			
Avery	X				Lohbauer	X				Matos			X	
Christy			X		Mauriello	X								
Holroyd	X				Meade	X								
Irick			X		Pikolycky	X								

*A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Alan W. Avery Jr. Vice Chair

Date: December 8, 2023

Susan R. Grogan Executive Director



State of New Jersey

THE PINELANDS COMMISSION
PO Box 359
New Lisbon, NJ 08064
(609) 894-7300
www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

November 17, 2023

Thomas P. Grossi, School Business Administrator (via email) Greater Egg Harbor Regional High School District 1824 Dr. Dennis Forman Drive Mays Landing NJ 08330

Re: Application # 1985-0204.011

Block 1027, Lot 1.01 Hamilton Township

Dear Mr. Grossi:

The Commission staff has completed its review of this application for construction of two parking areas and concrete walkways at the Oakcrest High School. 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 December 8, 2023 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.

Director of Regulatory Programs

Enc: Appeal Procedure

c: Secretary, Hamilton Township Planning Board (via email)

Hamilton Township Construction Code Official (via email)

Atlantic County Department of Regional Planning and Development (via email)

Bahram Farzaneh (via email)



State of New Jersey

THE PINELANDS COMMISSION PO Box 359 New Lisbon, NJ 08064 (609) 894-7300 www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

PUBLIC DEVELOPMENT APPLICATION REPORT

November 17, 2023

Thomas P. Grossi, School Business Administrator (via email) Greater Egg Harbor Regional High School District 1824 Dr. Dennis Forman Drive Mays Landing NJ 08330

Application No.: 1985-0204.011

Block 1027, Lot 1.01 Hamilton Township

This application proposes construction of two parking areas and concrete walkways at the Oakcrest High School located on the above referenced 78.84 acre parcel in Hamilton Township.

This application proposes two eight-space Americans with Disabilities Act parking areas to provide public access to existing athletic fields on the parcel. The application also proposes 2,391 linear feet of concrete walkways to provide access to the athletic fields and the school. The proposed walkways range between six and eight feet in width. The application further proposes a 1,180 square foot concrete apron around an existing concession stand and a 200 square foot storage building.

STANDARDS

The Commission staff has reviewed the proposed development 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. 7:50-5.28)

The proposed development is located in a Pinelands Regional Growth Area. Institutional uses, including schools and accessory facilities to schools, are a permitted land use in a Pinelands Regional Growth Area.

Wetlands Standards (N.J.A.C. 7:50-6.6)

There are wetlands located within 300 feet of the parcel. The proposed development will be located at least 300 feet from wetlands.

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

The proposed development will be located within existing gravel and maintained grassed areas. The proposed soil disturbance is limited to that which is necessary to accommodate the proposed development.

The Landscaping and Revegetation guidelines of the CMP recommend the use of grasses that are tolerant of droughty, nutrient poor conditions. The applicant proposes to utilize a seed mixture which meets that recommendation.

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

The applicant has demonstrated that the proposed development is consistent with the stormwater management standards contained in the CMP. To meet the stormwater management standards, the applicant will be constructing three stormwater retention basins and an underground stormwater infiltration system.

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

The Commission staff reviewed available information to determine the potential for any significant cultural resources that could be affected by the proposed development. Based upon the lack of potential for significant cultural resources within the area to be developed, a cultural resource survey was not required.

PUBLIC COMMENT

The applicant has provided the requisite public notices. Newspaper public notice was completed on March 11, 2023. Notice to required land owners within 200 feet of the above referenced parcel was completed on August 16, 2023. The application was designated as complete on the Commission's website on October 25, 2023. The Commission's public comment period closed on November 9, 2023. No public comment was submitted to the Commission regarding this application.

CONDITIONS

- 1. Except as modified by the below conditions, the proposed development shall adhere to the plan, consisting of 11 sheets, prepared by French & Parrello Associates, all sheets dated February 23, 2023 and last revised October 5, 2023.
- 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. 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.

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 development subject to the above conditions.



State of New Jersey

THE PINELANDS COMMISSION PO Box 359 New Lisbon, NJ 08064 (609) 894-7300 www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

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 the by 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 by the Commission's office no later than 5:00 PM on December 5, 2023 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. PC4-2	23- <u>44</u>	
TITLE:	Approving With Condition Number 1989-0139.003)	ons an Application for a Waiver of Strict Compliance (Application
Commissior seconds the	ner <u>Asselta</u> motion that:	moves and Commissioner Lohbauer
WHI	EREAS the Pinelands Com	mission has reviewed each of the Findings of Fact. Conclusion and the

WHEREAS, the Pinelands Commission has reviewed each of the Findings of Fact, Conclusion and the recommendation of the Executive Director that the following application for Waiver of Strict Compliance be approved with conditions:

1989-0139.003

Applicant:Denise KnightsMunicipality:Monroe Township

Management Area: Pinelands Regional Growth Area

Pinelands Rural Development Area

Date of Report: November 17, 2023 Proposed Development: Single family dwelling.

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 Findings of Fact and Conclusion of the Executive Director for the requested Waiver of Strict Compliance; and

WHEREAS, the Pinelands Commission hereby determines that the requested Waiver conforms to the standards for approving an application for a Waiver of Strict Compliance based on extraordinary hardship as set forth in N.J.A.C 7:50-4.62, N.J.A.C. 7:50-4.63 and N.J.A.C. 7:50-4.65 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 1989-0139.003 for a Waiver of Strict Compliance 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*
Asselta	X				Lettman	X				Wallner	X			
Avery	X				Lohbauer	X				Matos			X	
Christy			X		Mauriello	X								
Holroyd	X				Meade	X								
Irick			X		Pikolycky	X								

*A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Date: December 8, 2023

Susan R. Grogan
Alan W. Avery Jr.
Executive Director
Vice Chair



State of New Jersey

THE PINELANDS COMMISSION PO Box 359 New Lisbon, NJ 08064 (609) 894-7300 www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

REPORT ON AN APPLICATION FOR A WAIVER OF STRICT COMPLIANCE

November 17, 2023

Denise Knights (via email) 213 Fleming Pike Hammonton NJ 08037

Re: Application # 1989-0139.003

Block 9801, Lot 30 Monroe Township

Dear Ms. Knights:

The Commission staff has completed its review of the above referenced application for a Waiver of Strict Compliance ("Waiver") based upon an extraordinary hardship. The Waiver application proposes the development of one single family dwelling on the above referenced 45.46 acre parcel. Based upon the facts and conclusions contained in this Report, on behalf of the Commission's Executive Director, I am recommending that the Pinelands Commission approve the application with conditions at its December 8, 2023 meeting.

FINDINGS OF FACT

The application is for the development of one single family dwelling serviced by an on-site septic system on the above referenced 45.46 acre parcel. The parcel is located partially in a Pinelands Rural Development Area (45.27 acres) and partially in a Pinelands Regional Growth Area (0.19 acres). The Pinelands Rural Development Area portion of the parcel is located in Monroe Township's Rural Development - Agricultural (RD-A) zoning district. The Pinelands Regional Growth Area portion of the parcel is located in Monroe Township's Regional Growth - Moderate Residential (RG-MR) zoning district. The proposed single family dwelling will be located within the Pinelands Rural Development Area and the Township's RD-A zoning district portion of the parcel. In the RD-A zoning district, the Commission certified (approved) Monroe Township land use ordinance establishes a minimum lot size of 8 acres to develop a single family dwelling.

An application for a Waiver based upon extraordinary hardship for the development of one single family dwelling on Block 9801, Lot 30 was approved by the Pinelands Commission on November 3, 2017 (App. No. 1989-0139.003). A development application for the proposed dwelling was subsequently completed with the Commission and a Certificate of Filing, denoting completion of that development application, was issued on January 18, 2018.

The Pinelands Comprehensive Management Plan (CMP, N.J.A.C. 7:50-4.70(c)) provides that any Waiver based upon an extraordinary hardship (N.J.A.C. 7:50-4.63) shall expire five years after the Waiver is approved by the Commission unless all necessary construction permits have been issued and other CMP specified requirements are met. Based on the submitted information, all necessary construction permits were not received for the proposed development and the Waiver approval expired on November 3, 2022.

The parcel has been inspected by a member of the Commission staff. The appropriate resource capability maps and other information available to the Commission staff have been reviewed.

The CMP (N.J.A.C. 7:50-6.14) requires that all development maintain a 300 foot buffer to wetlands unless an applicant demonstrates that a lesser buffer to wetlands will not result in a significant adverse impact on wetlands. A portion of the parcel is wetlands as defined in the CMP (N.J.A.C. 7:50-6.5(a)2). The wetlands continue onto adjacent lands. Any development of the parcel would be located within 300 feet of these wetlands. The applicant has submitted no information to demonstrate that the proposed development will not cause a significant adverse impact on the wetlands. Based on the quality and location of the wetlands, the proposed development will cause a significant adverse impact on the wetlands. As there will be a significant adverse impact on wetlands located within 300 feet of the proposed development, the applicant is requesting a Waiver from the buffer to wetlands standard contained in N.J.A.C. 7:50-6.14.

The CMP (N.J.A.C. 7:50-4.65(b)6) requires that for an applicant to qualify for a Waiver to develop a single family dwelling in a Pinelands Rural Development Area, it must be demonstrated that no development, including clearing and land disturbance, will be located on or within 50 feet of wetlands. The applicant has demonstrated that no development, including clearing and land disturbance, will be located on or within 170 feet of wetlands.

Information available to the Commission staff indicates the potential presence of threatened and endangered (T&E) animal species or habitat critical to their survival and populations of T&E plant species on and in the vicinity of the parcel. The applicant proposes to locate all development on the 45.46 acre parcel within a proposed 0.46 acre development envelope fronting on an existing road. The applicant proposes to impose a deed restriction on the remaining 45 acres of the parcel to prohibit any further development, including clearing or land disturbance, unless a T&E species survey is undertaken demonstrating consistency with the T&E animal and plant species protection standards of the Monroe Township land use ordinance and the CMP. With the conditions recommended below, the applicant has demonstrated that the proposed development is designed to avoid irreversible adverse impacts on habitat that is critical to the survival of any local population of T&E animal species or to any local population of T&E plant species in accordance with N.J.A.C. 7:50-6.27 and 6.33. The requisite T&E species deed restriction was filed with Gloucester County on December 19, 2017 in response to the now expired November 3, 2017 Waiver approval for this parcel.

The parcel includes all contiguous land in common ownership on or after January 14, 1981. The proposed single family dwelling will be the sole principal use of the entire contiguous parcel. The development of a single family dwelling on the parcel will not require any lot area or residential density variances pursuant to Monroe Township's certified land use ordinance. The development of a single family dwelling on the parcel will be consistent with the purposes and provisions of the Pinelands Protection Act, the Federal Act and the CMP. The proposed single family dwelling will not result in a substantial impairment of the resources of the Pinelands Area as required by the CMP (N.J.A.C. 7:50-4.65(b)).

Only if the parcel is developed in accordance with the conditions recommended below will the adverse impacts on wetlands be minimized.

PUBLIC COMMENT

The applicant has provided the requisite public notices. Public notice to all property owners within 200 feet of the parcel was completed on September 8, 2023. Newspaper public notice was completed on September 25, 2023. The application was designated as complete on the Commission's website on October 30, 2023. The Commission's public comment period closed on November 9, 2023. One written public comment (enclosed) was received by the Pinelands Commission on September 17, 2023 regarding this application.

Written Public Comment: By email dated September 17, 2023, the commenter expressed

support of the Waiver application and that a single family dwelling is a basic right for any land or property owner that should trump

environmental standards.

<u>Commission Response:</u> For the reasons specified in this Report, the Commission staff is

recommending approval of this Waiver application for the

development of a single family dwelling.

CONCLUSION

The CMP (N.J.A.C. 7:50-4.62) sets forth the standards which must be met before a Waiver can be approved. The CMP (N.J.A.C. 7:50-4.62(a)) requires that for a Waiver application to be approved based on extraordinary hardship, the applicant must demonstrate that the conditions of either N.J.A.C. 7:50-4.63(a) or (b) have been met.

N.J.A.C. 7:50-4.63(a) sets forth <u>five conditions</u> which must be met to qualify for a Waiver based on an extraordinary hardship.

The <u>first condition</u> is that the only relief sought is from one or more of the standards contained in N.J.A.C. 7:50-6 for certain specified development. One of the specified types of development is a single family dwelling on a parcel within a Pinelands Rural Development Area that complies with the density and lot area standards set forth in N.J.A.C. 7:50-5.26(a) and (c). This application is for a Waiver from the buffer to wetlands standard contained in N.J.A.C. 7:50-6. The proposed single family dwelling on the 45.27 acre portion of the parcel located in a Pinelands Rural Development Area meets the residential density and lot area standards established in this portion of the Rural Development Area as set forth in Monroe Township's certified land use ordinances. As a result, the applicant meets the criteria set forth in N.J.A.C. 7:50-4.63(a)1vii.

The <u>second condition</u> is that the parcel includes all contiguous land in common ownership on or after January 14, 1981, including lands which are contiguous as a result of ownership of other contiguous lands. Since the parcel includes all such contiguous land, the applicant meets the criteria set forth in N.J.A.C. 7:50-4.63(a)2.

The <u>third condition</u> is that the proposed use will be the sole principal use on the entire contiguous parcel, except as expressly provided in N.J.A.C. 7:50-5.1(c). As the proposed single family dwelling will be the sole principal use on the parcel, the applicant meets the criteria set forth in N.J.A.C. 7:50-4.63(a)3.

The <u>fourth condition</u> is that all necessary municipal lot area and density variances have been obtained if the parcel is located in a municipality whose master plan and land use ordinance have been certified by the Pinelands Commission. Monroe Township's master plan and land use ordinance have been certified by the Pinelands Commission. In the Township's RD-A zoning district, Monroe Township's certified land use ordinance establishes a minimum lot size of 8 acres to develop a single family dwelling. This application proposes to develop a single family dwelling on a 45.27 acre portion of the parcel located in a Pinelands Rural Development Area. No municipal lot area or density variance is required to develop the proposed single family dwelling. As a result, the applicant meets the criteria set forth in N.J.A.C. 7:50-4.63(a)4.

The <u>fifth condition</u> is that the development of the parcel will not violate any of the criteria contained in N.J.A.C 7:50-4.65(b). N.J.A.C. 7:50-4.65(a) precludes the granting of a Waiver which permits a parcel to be developed unless such development will be consistent with the purposes and provisions of the Pinelands Protection Act, the Federal Act and the CMP and will not result in a substantial impairment of the resources of the Pinelands Area. The CMP (N.J.A.C. 7:50-4.65(b)) sets forth the circumstances which do not comply with N.J.A.C. 7:50-4.65(a). With the conditions recommended below, the proposed development will not violate any of the circumstances contained in N.J.A.C. 7:50-4.65(b). As a result, the applicant meets the criteria set forth in N.J.A.C. 7:50-4.63(a)5.

Since the applicant meets all five conditions set forth in N.J.A.C. 7:50-4.63(a), the applicant has demonstrated that an extraordinary hardship exists pursuant to N.J.A.C. 7:50-4.62(a).

As required by N.J.A.C. 7:50-4.62(b), the proposed dwelling will not result in substantial impairment of the resources of the Pinelands or be inconsistent with the provisions of the Pinelands Protection Act, the Federal Act or the CMP in accordance with the criteria set forth in N.J.A.C. 7:50-4.65.

As required by N.J.A.C. 7:50-4.62(c), and with the conditions recommended below, the proposed dwelling will not involve trespass or create a public or private nuisance by being materially detrimental or injurious to other property or improvements in the area in which the parcel is located, increase the danger of fire or endanger public safety.

The CMP (N.J.A.C. 7:50-4.62(d)) requires that the Waiver only grant the minimum relief necessary to relieve the extraordinary hardship. The proposed single family dwelling is the minimum relief necessary to relieve the extraordinary hardship which has been shown to exist.

The CMP (N.J.A.C. 7:50-4.62(d)1iii) requires the acquisition and redemption of 0.25 Pinelands Development Credits (PDCs) whenever a Waiver provides relief from one or more of the standards of N.J.A.C. 7:50-6. As the applicant is obtaining a Waiver from the minimum buffer to wetlands standard of N.J.A.C. 7:50-6.14, the applicant is required to acquire and redeem 0.25 PDCs. The requisite 0.25 PDC was acquired and redeemed on March 20, 2019 for the now expired November 3, 2017 Waiver approval for this parcel.

To meet the requirements of N.J.A.C. 7:50-4.62, N.J.A.C. 7:50-4.63(a) and N.J.A.C. 7:50-4.65, the Pinelands Commission staff has determined that the parcel must be developed in accordance with the following conditions:

- 1. Except as modified by the below conditions, the proposed development shall adhere to the plot plan prepared by Datz Engineering & Land Surveying, dated April 26, 2015 and last revised April 22, 2017.
- 2. The septic system shall be located in an area where the seasonal high water table is at least 5 feet below the natural ground surface and in the area shown on the above referenced plan.
- 3. Appropriate measures shall be taken prior to construction to preclude sedimentation from entering wetlands.
- 4. The driveway shall be constructed of crushed stone or other permeable material.
- 5. The septic system shall be located at least 270 feet from all wetlands. All other development, including clearing and land disturbance, shall be located at least 170 feet from all wetlands. No development, including clearing and land disturbance, shall occur except as shown on the above referenced plan.
- 6. Except as provided in N.J.A.C. 7:50-5.1(c), the single family dwelling approved herein shall be the sole principal use of the parcel.
- 7. Amendments to the Commission's stormwater regulations, effective January 18, 2022, require that the single family dwelling proposed in this Waiver application demonstrates consistency with stormwater management standards. Prior to Commission issuance of a letter advising that any municipal or county approvals or permits can take effect, a stormwater management plan and calculations, prepared by an appropriately licensed professional, must be submitted to the Commission which include Items 1-6 of the enclosed Minor Residential Stormwater Checklist demonstrating that the proposed single family dwelling meets the stormwater management standards of the Monroe Township land use ordinance and the CMP (N.J.A.C. 7:50-6.84(a)6).
- 8. This Waiver shall expire December 8, 2028 unless all necessary construction permits have been issued by that date. The Waiver shall also expire if any construction permit is allowed to expire or lapse after December 8, 2028, or if any renewal or extension of any permit or approval or issuance of a new construction permit is necessary after that date.
- 9. Prior to Commission issuance of a letter advising that any county or municipal permit or approval may take effect, a copy of a recorded deed containing all of the above conditions of this November 17, 2023 Report on an Application for a Waiver of Strict Compliance shall be submitted to the Pinelands Commission. The deed shall specify that the conditions imposed by the November 17, 2023 Report on an Application for a Waiver of Strict Compliance supersede the conditions imposed by the Waiver of Strict Compliance approved by the Pinelands Commission on November 3, 2017. The deed shall also specify that the conditions are being imposed pursuant to a Waiver of Strict Compliance referring to the application number. The deed shall state that the conditions are enforceable by the Pinelands Commission, Monroe Township, the Gloucester County Health Department, and any other party of interest.

With the above conditions, the applicant qualifies for a Waiver from the requirements of N.J.A.C. 7:50-6.14.

Since the applicant meets the provisions of N.J.A.C. 7:50-4.62, N.J.A.C. 7:50-4.63(a) and N.J.A.C. 7:50-4.65 for the development of one single family dwelling on the parcel, it is recommended that the Pinelands Commission **APPROVE** the requested Waiver subject to the above conditions.

APPEAL

The CMP (N.J.A.C. 7:50-4.91) provides an interested party the right to appeal this recommendation 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 by the Commission's office no later than 5:00 PM on December 5, 2023 and include the following information:

- 1. the name and address of the person requesting the appeal;
- 2. the application number;
- 3. a brief statement of the basis for the appeal; and
- 4. 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.

If no appeal is received, the Pinelands Commission may either approve the determination of the Executive Director or refer the application to the New Jersey Office of Administrative Law for a hearing.

Recommended for Approval by:

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

enc: September 17, 2023 Public Comment

Minor Residential Stormwater Checklist

(Above checklist may be found at nj.gov/pinelands/appli/tools/.)

c: Secretary, Monroe Township Planning Board (via email)
Monroe Township Construction Code Official (via email)
Monroe Township Environmental Commission (via email)
Secretary, Gloucester County Planning Board (via email)
Gloucester County Health Department (via email)
Robert J. Smith, Esq. (via email)
Andrey Letushko (via email)

From: Andrey Therealtor (letcoldwell@yahoo.com)

Received: 9/17/2023 8:03:12 AM

To: AppInfo, PC [PINELANDS] (AppInfo@pinelands.nj.gov)

CC:

Subject: [EXTERNAL] Pinelands Application No. 1989-0139.003

Attachments: None

Hello,

In regards to the above application please notate the file that I am in full support of the Waiver requested and Wetland protection standards Waiver of Strict Compliance should be granted to the applicant.

A place to dwell or a Single Family Dwelling is a basic right for any land or property owner and should trump any environmental standards.

Thank you for your review.

Andrey Letushko

Coldwell Banker Excel Realty

1100 East Landis Avenue, Vineland NJ 08360 856-696-1111, Office 609-364-1643, Cell

Invest in Real Estate and take ownership of your future!



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

TITLE: Scheduling Regular Pinelands Commission Meeting Dates for 2024

Commissioner	Pikolycky	moves and Commissioner	Lohbauer	
seconds the mot	tion that:			

WHEREAS, the Open Public Meetings Act requires that the Pinelands Commission establish an annual schedule of regular meetings prior to January 10th of each year; and

WHEREAS, the Pinelands Commission will use the Pinelands Commission's Richard J. Sullivan Center for Environmental Policy and Education in New Lisbon, Pemberton Township, as the regular site for its meetings; and

WHEREAS, any meeting to be held at a location other than the Pinelands Commission's Richard J. Sullivan Center for Environmental Policy and Education, 15 C Springfield Road, New Lisbon, Pemberton Township, will be advertised in accordance with the requirements of the Open Public Meetings Act; and

WHEREAS, the public can attend all regular Commission meetings in person or livestream the meetings through the Commission's YouTube channel. Public comment can be provided in person or by dialing the phone number and entering the code displayed on the meeting agenda and the YouTube screen during each meeting. An agenda will be posted on the Commission's website at www.nj.gov/pinelands/ in advance of each meeting; 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 Pinelands Commission shall conduct its meetings on the following dates in 2024, beginning at the specified time, unless notice is otherwise provided in accordance with the Open Public Meetings Act:

Friday, January 12, 2024 (9:30 a.m.)
Friday, February 9, 2024 (9:30 a.m.)
Friday, March 8, 2024 (9:30 a.m.)
Friday, April 12, 2024 (9:30 a.m.)
Friday, May 10, 2024 (9:30 a.m.)
Friday, May 10, 2024 (9:30 a.m.)
Friday, May 10, 2024 (9:30 a.m.)
Friday, December 13, 2024 (9:30 a.m.)
Friday, November 8, 2024 (9:30 a.m.)
Friday, December 13, 2024 (9:30 a.m.)

BE IT FURTHER RESOLVED that the Executive Director is directed to publish notice of this schedule in the Commission's official newspapers, file copies of the schedule with the Secretary of State of the State of New Jersey and Pinelands county and municipal clerks, post a copy of the notice in the Commission's offices and post the annual schedule on the Commission's website (www.nj.gov/pinelands).

Record of Commission Votes

AYE NAY NP A/R* AYE NAY NP AYE NAY NP A/R* Asselta Wallner Lettman Lohbauer Avery Matos Christy Mauriello Holroyd Meade Irick Pikolycky

*A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Commission

Messy /

Date: December 8, 2023

Alan W. Avery Jr. Vice Chair

Susan R. Grogan Executive Director



State of New Jersey

THE PINELANDS COMMISSION PO Box 359 New Lisbon, NJ 08064 (609) 894-7300 www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

MEMORANDUM

To: Members of the Pinelands Commission

From: Katie Elliott

Planning Specialist

Date: January 2, 2024

Subject: No Substantial Issue Findings

During the past month, the Planning Office reviewed nine ordinance amendments that were found to raise no substantial issues with respect to the standards of the Pinelands Comprehensive Management Plan (CMP). They included the following:

Barnegat Township Ordinance 2023-33 – amends Chapter 55, Land Use, of the Code of Barnegat Township. The ordinance amends Section 55-181.1, Signs Division I: East of Parkway, by revising sign standards applicable to the portion of the Township located outside of the state-designated Pinelands Area but within the Pinelands National Reserve (PNR). In 2013, the Pinelands Commission certified the Township's land development regulations and zoning plan for the PNR portion of the Township.

Berkeley Township Ordinance 22-47-OAB – amends Chapter XXXV, Land Development, of the Code of Berkeley Township. The ordinance establishes Section 35-63.14, Electric Vehicle Supply/Service Equipment, which authorizes and encourages the installation of Electric Vehicle Supply/Service Equipment and Make-Ready parking spaces and is applicable throughout the Township.

Chesilhurst Borough Ordinance 2023-9 – amends Chapter 285, Land Development, and Chapter 406, Stormwater Control, of the Code of Chesilhurst Borough in response to amendments to the CMP. The amendments incorporate revised stormwater management regulations applicable to development in the Pinelands Area.

Hammonton Town Ordinance 14-2023 – amends Chapter 175, Land Development, of the Code of Hammonton Town, in response to amendments to the CMP. The amendments incorporate revised stormwater management regulations applicable to development in the Pinelands Area.

Manchester Township Ordinance 23-41 – amends Chapter 245, Land Use and Development, of the Code of Manchester Township by establishing Section 245-74.1, "Mixed Use Development." Section 245-74.1 permits townhouses, multifamily residential, mixed-use buildings, and a variety of commercial

uses within the Township's Pinelands Business (PB-1) District, which is located in a Regional Growth Area. A minimum lot size of 5 acres is required and the maximum permitted residential density is 8 units per gross acre of the entire development tract. Multi-family residential is limited to mixed-use buildings. Mixed-use buildings are required to have commercial uses on the ground floor and between 8 and 28 multi-family residential units above the ground floor. The ordinance provides additional yard, area, and bulk requirements as well as standards for landscaping, recreation equipment and off-street parking. The ordinance requires 20% of the proposed residential units be made affordable. Pinelands Development Credits (PDCs) are required to be purchased and redeemed for 30% of all units, excluding up to 20% of the total project units that are made affordable for low- and moderate-income households. The Commission previously certified Manchester Township Ordinance 17-025, which permitted a variety of commercial uses, townhouse developments and garden apartments in the PB-1 District. Ordinance 23-41 allows for mixed-use buildings in the PB-1 District, while maintaining the maximum residential zoning capacity and the PDC requirements that were previously certified by the Commission.

Pemberton Township Ordinance 37-2023 – adopts the amended Bobolink Boulevard Scattered Site Redevelopment Plan, dated September 2023. The Commission previously found that the Bobolink Boulevard Scattered Site Redevelopment Plan, dated September 2022, raised no substantial issues with respect to CMP standards. The amended redevelopment plan expands the existing redevelopment area by approximately 3.9 acres to include 18 additional lots. It also revises lot frontage and building coverage requirements for both single-family and two-family dwellings and adopts revised requirements for the provision of affordable housing. The additional lots are all located in the Township's Residential-80 (R-80) Zone and within a Pinelands Regional Growth Area. The R-80 Zone permits single-family dwelling units and requires a minimum lot size of 8,000 square feet in areas served by centralized sewer. There are no changes to the permitted uses of the redevelopment plan. It continues to permit detached single-family dwellings on a minimum 8,000 square foot lot and two-family dwellings on a minimum 16,000 square foot lot. Therefore, the expanded redevelopment area maintains the existing underlying residential zoning capacity established by the R-80 Zone. Given that the plan continues to maintain the same minimum lot area requirements for detached single-family dwellings and two-family dwellings, the plan is not required to provide increased opportunities for the use of PDCs in the expanded redevelopment area.

Stafford Township Ordinance 2023-40 – establishes Chapter 123, Historic Preservation, of the Code of Stafford Township. The ordinance establishes historic preservation regulations for the portion of the Township outside the Pinelands Area. The ordinance provides procedures and standards for the Township's Historic Preservation Commission to review any application for demolition on a lot containing an historic structure or any development approval request made to the Township Planning Board or Zoning Board involving an Historic Landmark. The ordinance expressly states that the Chapter shall not apply within the Pinelands Area portion of the Township, and that the existing historic resource provisions at Section 211-9G(14) shall apply in the Pinelands Area. In 2009, the Pinelands Commission certified the Township's land development regulations and zoning plan for the area of the Township located outside of the State-designated Pinelands Area, but within the Pinelands National Reserve.

Waterford Township Ordinance 2023-25 – amends Chapter 176, Land Use, Development and Zoning, of the Code of Waterford Township. The ordinance amends Section 176-48, Animals, to provide regulations for the keeping of chickens and ducks in residential zones. The amendment allows for the keeping of up to 12 chickens or ducks on residential zoned lots of between 0.5 and 5 acres and provides minimum yard and coop requirements.

Waterford Township Ordinance 2023-28 – amends Chapter 176, Land Use, Development and Zoning, of the Code of Waterford Township. The ordinance amends Section 176-20, Joint Land Use Board Fees, by increasing various application filing fees and escrow requirements. The ordinance also amends Section 176-99, Waste Management, by revising the minimum standards for outdoor refuse storage areas for multi-family and non-residential uses.



RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-24-

seconds the motion that:

Commission	ner moves and Commissioner
	Authorizing the Execution of a Memorandum of Agreement between the Pinelands Commission and Pemberton Township Regarding Accessibility Improvements to Pemberton Lake Trail

WHEREAS, the New Jersey Pinelands Commission is a public body, corporate and politic which was established to prepare and administer the Pinelands Comprehensive Management Plan (CMP) to protect the resources of the Pinelands Area; and

WHEREAS, Pemberton Township was incorporated by the New Jersey Legislature in 1826; and

WHEREAS, Pemberton Lake is part of the Pemberton Lake Wildlife Management Area in Pemberton Township, Burlington County and is made up of three parcels, Block 825, Lots 7.01, 7.04 and 7.05; and

WHEREAS, Pemberton Township owns two of these parcels, Block 825, Lots 7.01 and 7.04; and

WHEREAS, the State of New Jersey owns the third parcel, Block 825, Lot 7.05, and the New Jersey Department of Environmental Protection manages the Pemberton Lake Wildlife Management Area; and

WHEREAS, the Pemberton Lake Trail is an existing dirt walking trail located within the wildlife management area; and

WHEREAS, the Township proposes to improve a portion of the Pemberton Lake Trail that starts at its parking area on Magnolia Road and proceeds proximate to the shoreline of the lake to the trail head at the New Jersey Department of Environmental Protection's parking area on Coleman's Bridge Road;

WHEREAS, the proposed improvements include the placement of crushed gravel within the existing length and width of the trail, leveling the trail to no more than a 5% grade along its entire length and installing boardwalks at two areas of the trail that are prone to being wet; and

WHEREAS, the proposed improvements would make the trail firm, stable and flat from side to side so it is more accessible to individuals with mobility issues; and

WHEREAS, portions of the Pemberton Lake Trail proposed for improvements are located within wetlands and wetlands buffers; and

WHEREAS, although the CMP authorizes the development of trails within wetlands and wetlands buffers if certain standards are met, the proposed improvements are not consistent with all of these standards and may not proceed unless the Commission authorizes a deviation from same; and

WHEREAS, N.J.A.C. 7:50-4.52(c)2 authorizes the Commission to enter into an intergovernmental memorandum of agreement with any agency of the Federal, State or local government which authorizes such agency to carry out specified development activities that may not be fully consistent with the provisions of N.J.A.C. 7:50-5 and 6, provided such agency demonstrates and the Commission finds that variation from the standards of the Pinelands CMP is accompanied by measures that will, at a minimum, afford an equivalent level of protection of the resources of the Pinelands as would be provided through strict application of the CMP's standards; and

WHEREAS, to offset the impacts associated with the proposed improvements, the Township proposes: to 1) revegetate two wetlands buffer areas within the project site, one (4,980 square feet) adjacent to the Magnolia Road parking area and the other (9,250 square feet) adjacent to the Coleman's Bridge Road parking area, with native Pinelands vegetation; 2) create a rain garden in a portion of the denuded area adjacent to the parking area on Magnolia Road; 3) install a gate at each end of the improved trail that is designed to permit pedestrians, wheelchairs, walkers and electric scooters to enter the trail, while prohibiting entry by off-road vehicles; 4) install wooden rail and post barriers at specific points along the trail in the vicinity of the Pemberton Bypass that are currently used unlawfully by off-road vehicles to access the trail and 5) create two accessible parking spaces at the existing Coleman's Bridge Road parking area; and

WHEREAS, N.J.A.C. 7:50-4.52(c)1 authorizes the Commission to enter into an intergovernmental agreement with any agency of the Federal, State or local government which authorizes such agency to carry out specified

development activities without securing individual development approvals from the Commission, provided that the specified development activities are consistent with the provisions of N.J.A.C. 7:50-5 and 6; and

WHEREAS, establishing an alternate permitting process will facilitate the Township's submission of additional information to the Commission concerning the proposed project and the proposed offsetting measures; and

WHEREAS, the Township has agreed, prior to commencing any site preparation or construction of any portion of the proposed improvements, that it will obtain and provide the following: 1) a Right of Entry from the New Jersey Department of Environmental Protection, to authorize construction of the improvements on that portion of the Pemberton Lake Trail located on the parcel owned by the State of New Jersey and managed by the Department; and 2) a General Freshwater Wetlands Permit 17 to authorize installation of the proposed improvements within freshwater wetlands; and

WHEREAS, the Commission's CMP Policy & Implementation Committee reviewed and indicated support for the draft Memorandum of Agreement at its November 29, 2023 meeting and agreed to forego further review, provided public comment did not result in any recommended substantive changes to the agreement; and

WHEREAS, a public hearing to receive testimony on the proposed Memorandum of Agreement was duly advertised, noticed and held remotely on December 13, 2023 at 2:00 p.m. with live broadcast on the Pinelands Commission's public YouTube channel and opportunity for the public to call-in during the live broadcast; and

WHEREAS, the comment period for submission of written comments from the public closed on December 18, 2023 with no comments received; and

WHEREAS, the Executive Director has submitted a report to the Commission recommending issuance of an order to execute the Memorandum of Agreement; and

WHEREAS, the Commission has duly considered the public testimony submitted to the Commission concerning the Memorandum of Agreement and has reviewed the Executive Director's report; and

WHEREAS, the Commission finds that the offsetting measures proposed by the Township will provide an equivalent level of protection for the resources of the Pinelands as would be provided through strict application of the CMP; and

WHEREAS, the Commission further finds that the Memorandum of Agreement, attached hereto, satisfies the standards of N.J.A.C. 7:50-4.52(c), which authorizes the Commission to enter into such agreements; and

WHEREAS, the 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 the Commission agrees to enter into the attached Memorandum of Agreement with Pemberton Township.

BE IT FURTHER RESOLVED that the Commission authorizes the Executive Director to execute this Memorandum of Agreement.

Record of Commission Votes

AYE	NAY	NP	A/R*		AYE	NAY	NP	A/R*		AYE	NAY	NP	A/R*
				Lettman					Rittler Sanchez				
				Lohbauer					Wallner				
				Mauriello					Matos				
				Meade									
				Pikolycky									
		AYE NAY		AYE NAY NP A/R*	Lettman Lohbauer Mauriello Meade Pikolycky	Lettman Rittler Sanchez Lohbauer Wallner Mauriello Matos Meade Pikolycky	Lettman Rittler Sanchez Lohbauer Wallner Mauriello Matos Meade Pikolycky	Lettman Rittler Sanchez Lohbauer Wallner Mauriello Matos Meade Pikolycky	Lettman Rittler Sanchez Lohbauer Wallner Mauriello Matos Meade Pikolycky				

*A = Abstained / R = Recused

Adopted at a meeting of the Pinelands Co	mmission Date:
Susan R. Grogan	Laura E. Matos
Executive Director	Chair



State of New Jerzey

THE PINELANDS COMMISSION PO Box 359 New Lisbon, NJ 08064 (609) 894-7300 www.nj.gov/pinelands



LAURA E. MATOS Chair SUSAN R. GROGAN Executive Director

General Information: Info@pinelands.nj.gov Application Specific Information: AppInfo@pinelands.nj.gov

January 3, 2024

REPORT ON A PROPOSED MEMORANDUM OF AGREEMENT BETWEEN THE NEW JERSEY PINELANDS COMMISSION AND PEMBERTON TOWNSHIP REGARDING ACCESSIBILITY IMPROVEMENTS TO PEMBERTON LAKE TRAIL

FINDINGS OF FACT

Pemberton Township, with the assistance of the Pinelands Preservation Alliance (PPA), a non-governmental environmental organization, is proposing to improve a portion of an existing dirt walking trail located along the perimeter of Pemberton Lake in the Pinelands Area. These improvements are intended to make the trail accessible to individuals with mobility issues. The proposed trail improvements will be conducted on portions of the trail located in wetlands and wetland buffers. The proposed Memorandum of Agreement (MOA) would authorize a deviation from the wetland and buffer standards of the Pinelands Comprehensive Management Plan (CMP) and establish an alternate permitting process to facilitate construction of the trail improvements.

I. Background and Purpose of the Memorandum of Agreement (MOA)

Pemberton Lake Trail is located within the Pemberton Lake Wildlife Management Area (WMA). It is comprised of three sections: 1) an approximately 0.74 mile section that starts at a parking area located on Magnolia Road and then proceeds proximate to the lakeshore to the entrance of a parking area located off Coleman's Bridge Road; 2) an approximately 0.30 mile section that starts at the entrance of the Coleman's Bridge Road parking area then proceeds up Coleman's Bridge Road to its intersection with the Pemberton Bypass; and 3) an approximately 0.28 mile section that runs proximate to the bypass from the intersection with Coleman's Bridge Road to a point where the trail joins back to the first section. The Township plans to flatten and stabilize a 0.65 mile portion of the trail that is located proximate to the lake's banks.

Pemberton Lake Trail is a good candidate for a place for accessible nature recreation. The trail is close to homes and easy to reach for Pemberton Township residents. The trail is short, provides lovely views of Pemberton Lake and has places for fishing or enjoying the scenery along its length and at either end.

There is growing interest among public and nonprofit land managers in providing better opportunities for people with disabilities to access recreational resources throughout the State, including the Pinelands. People with disabilities that impair their ability to enjoy natural places make up a large portion of the population. In Pemberton Township, 14.3 % of the population self-identifies as having a disability. Of these individuals, 57.7% identify as having mobility issues.

One mechanism to provide better access to nature is by making low impact and affordable improvements to suitable existing trails. The Pemberton Lake project will serve as a demonstration project on the costs, feasibility, impacts and effectiveness of this kind of accessible trail project in a Pinelands setting.

II. Proposed Project and Offset

The Township is proposing to fill and grade portions of the trail within its existing width of four feet. Additionally, two boardwalks, each approximately 20 feet in length, would be constructed in portions of the trail that are prone to being wet. These boardwalks would be placed directly on the ground, without the use of posts or anchors.

The proposed project is expected to result in impacts to 0.038 acres (1,656 square feet) of wetlands and 0.296 acres (12,894 square feet) of wetland buffers. To offset these impacts, Pemberton is proposing to revegetate two areas within the project site, one (4,980 square feet) adjacent to the Magnolia Road parking area and the other (9,250 square feet) adjacent to the Coleman's Bridge Road parking area, with native Pinelands vegetation. Both of these areas are currently denuded and located within required wetlands buffer areas. Pemberton also plans to create a 350 square foot rain garden within a portion of the area to be revegetated adjacent to the parking area on Magnolia Road.

Additionally, Pemberton proposes to construct two accessible parking spaces at the Coleman's Bridge Road parking area and install a gate at each end of the improved trail that is designed to permit pedestrians, wheelchairs, walkers and electric scooters to enter the trail, while prohibiting entry by offroad vehicles. Pemberton also plans to install wooden rail and post barriers at specific points along the trail in the vicinity of the Pemberton Bypass that are currently used unlawfully by off-road vehicles to access the trail.

III. Basis for the MOA

In order for the Commission to enter into a MOA with a governmental entity that permits development that may not be fully consistent with the land use and development standards (N.J.A.C. 7:50-5 and 6) of the Pinelands CMP, the governmental entity must demonstrate and the Commission must find that variations from the Plan are accompanied by measures that will, at a minimum, afford an equivalent level of protection for the resources of the Pinelands than would be provided through strict application of the CMP. N.J.A.C 7:50-4.52(c)2.

The Commission may also enter into an MOA with any agency of the Federal, State or local government which authorizes such agency to carry out specified development activities without securing individual development approvals from the Commission, provided that the specified development activities are consistent with the land use and environmental standards of the CMP. N.J.A.C. 7:50-4.52(c)1.

IV. Findings

The information provided in the Township's request for this MOA supports the need for the accessibility improvements proposed for the Pemberton Lake Trail. The Pinelands National Reserve contains a wide assortment of open spaces and recreational opportunities. However, although hundreds of miles of trails suitable for hiking and bicycling exist throughout the Pinelands, as well as countless unmarked, sand roads that are also used for such purposes, few of these trails would be considered accessible.

As discussed above, Pemberton Lake Trail is a good candidate for accessible natural recreation. Additionally, as a pre-existing trail, the improvements required to render it accessible will not result in significant environmental impacts to Pinelands flora and fauna. Although the project will result in impacts to wetlands and buffers, the offsetting measures proposed by the Township will provide an equivalent level of protection for these resources as required by the CMP. These measures include revegetation of denuded wetlands buffer areas onsite, installation of gates and wooden barriers to restrict use of the improved trail by off-road vehicles, development of accessible parking spaces and construction of a rain garden that will serve to educate the public on the use of such green infrastructure to reduce stormwater runoff.

The MOA also establishes an alternate permitting process. In lieu of submitting individual public development applications for revegetation of the two denuded areas and creation of the rain garden, the Township would submit the specific information set forth in the MOA. Provided that this information demonstrates consistency with the relevant provisions of the Pinelands CMP, for which a deviation was not authorized, and the terms of the MOA, such development will be approved through a letter issued by the Executive Director. The alternate permitting process would also be available to the Township for minor, de minimis changes to the scope or design of the trail improvements, provided such changes do not have more than a de minimis impact to wetlands, wetland buffers or threatened or endangered plants or animal species or habits for such animals. This process allows for expedited review and approval of the offsets and any de minimis changes and will facilitate completion of the project on a timely basis. Additionally, given the proposed offset afford an equivalent level of protection of the resources of the Pinelands as strict application of the CMP, the proposed project is consistent with the development standards of the CMP and implementation of an alternate permitting process is authorized.

V. <u>Public Hearing</u>

Pursuant to N.J.A.C. 7:50-4.52(c)3, a public hearing to receive testimony concerning the proposed MOA was duly advertised and noticed. The hearing was conducted by Executive Director Susan R. Grogan and held virtually, via ZOOM, on December 13, 2023 at 2:00 p.m. Two individuals attended the hearing. Executive Director Grogan, Stacey Roth and Paul Leakan of the Commission's staff were present at the hearing.

At the outset of the public hearing, Executive Director Grogan provided a summary of the terms of the MOA being requested and the offset proposed by the Township. Ms. Grogan noted that written comment concerning the proposed MOA would be accepted by mail, fax or email until 5:00 p.m. on December 18, 2023.

Ms. Grogan advised the public that following the hearing, a staff report would be prepared with recommended actions concerning the proposed MOA for the Commission's review. This report would include a summary of any testimony provided at the hearing and any written comments received before the record closed on December 18, 2023. Ms. Grogan further advised that the Commission's CMP Policy & Implementation Committee was expected to discuss the proposed MOA at its January 26, 2024 meeting. However, if little public comment was received and did not result in any recommended substantive changes to the MOA itself, the full Commission could consider the proposed MOA at its meeting on January 12, 2024.

The following testimony was received at the hearing.

Daniel Hornickel, Business Administrator, appeared on behalf of Pemberton Township in support of the project. Mr. Hornickel testified that the Township has been working with PPA on this project and hoped to receive Commission approval following the public hearing so that the Township could move forward with smoothing portions of the trail and installing two boardwalks. He confirmed that the Township planned to use crushed gravel for the project and indicated that although the gravel would not come from the Pinelands, it would be sourced from Mercer or Hunterdon counties in New Jersey. Mr. Hornickel stated the Township had done its due diligence by having its engineer work with PPA on the wetlands delineation and by having Princeton Hydro prepare a report as to the efficacy of using Trap Rock gravel on the project. He said that the Township is excited about this project, and that it was going to help the community. Mr. Hornickel stated many disabled veterans reside within Pemberton Township and would benefit from the project. He hoped that the Commission received comments that were positive and supportive of the project and that it unanimously approved the MOA.

Sean Kane-Holland, Access Nature Disability Advocate, PPA, appeared on behalf of the PPA. Mr. Holland testified that PPA was looking forward to completing the MOA process for the project and was eager to get shovels in the ground. He stated that there were over 51,000 people in Burlington County with disabilities and of those individuals 26,000 have ambulatory issues. Making improvements to the Pemberton Lake Trail will provide better access to nature for these individuals. He also stated that he hoped the Commission would use what had been learned from the MOA process for this project, to make the process more efficient so that more trails and outdoor recreational opportunities may be made available to individuals with disabilities.

There being no further testimony, the hearing concluded at 2:14 p.m.

No written comments were received regarding the proposed MOA.

VI. Conclusion and Recommendation

The proposed MOA would authorize a deviation from the wetlands and wetland buffer standards of the Pinelands CMP in order to permit improvements to the Pemberton Lake Trail to make it accessible for individuals with mobility challenges. As discussed above, the project involves grading and the installation of gravel and two boardwalks on the existing dirt trail.

The MOA includes the following measures to offset the wetlands and buffer impacts associated with the proposed project:

- 1. Revegetation of two wetlands buffer areas within the project site, one (4,980 square feet) adjacent to the Magnolia Road parking area and the other (9,250 square feet) adjacent to the Coleman's Bridge Road parking area, with native Pinelands vegetation;
- 2. Creation of a rain garden within a portion of the denuded area adjacent to the parking area on Magnolia Road;
- 3. Installation of a gate at each end of the improved trail that is designed to permit pedestrians, wheelchairs, walkers and electric scooters to enter the trail, while prohibiting entry by off-road vehicles;
- 4. Installation of wooden rail and post barriers at specific points along the trail in the vicinity of the Pemberton Bypass that are currently used unlawfully by off-road vehicles to access the trail; and

5. Creation of two accessible parking spaces at the existing Coleman's Bridge Road parking area.

The MOA is accompanied by measures that, at a minimum, afford an equivalent level of protection for the resources of the Pinelands as required by N.J.A.C. 7:50-4.52(c)2. That being the case, the Commission's authorization of an alternative application process for the Township's trail improvements in accordance with N.J.A.C. 7:50-4.52(c)1 is also warranted. The Executive Director, therefore, recommends that the Commission enter into this MOA with Pemberton Township regarding accessibility improvements to the Pemberton Lake Trail.

Memorandum of Agreement Between the New Jersey Pinelands Commission and Pemberton Township , 2024

I. PURPOSE

This Memorandum of Agreement ("MOA") is entered into between the New Jersey Pinelands Commission ("Commission"), an independent political subdivision of the State of New Jersey, having its offices at 15 Springfield Road, P.O. Box 359, New Lisbon, New Jersey 08064; and the Township of Pemberton (the "Township"), a municipality, with its offices at 500 Pemberton-Browns Mills Road, Pemberton, New Jersey 08068.

Pemberton Township ("the Township") is proposing to improve a portion of an existing walking trail in the Pinelands Area located along the perimeter of Pemberton Lake. These improvements will render the trail accessible to individuals with mobility (ambulatory) disabilities. The Township is proposing to flatten and stabilize a 0.65 mile portion of the trail located adjacent to the banks of the lake. In order to achieve its goal, the Township will need to grade and fill portions of the trail. The Pinelands Preservation Alliance (PPA), a non-governmental environmental organization, is assisting the Township with the project.

Portions of the existing Pemberton Lake Trail are located within wetlands and wetlands buffers. The Pinelands Comprehensive Management Plan ("CMP") authorizes the development of trails within wetlands and wetland buffers provided certain standards are met. Specifically, (1) there is no feasible alternative route that does not involve development in a wetland/buffer, or, if none, that another feasible route which results in less significant adverse impacts on wetlands/buffers 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/buffer; (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 circumstances. (N.J.A.C. 7:50-6.13.)

As discussed below, the Township proposes to install gravel upon most of the existing dirt trail as part of its improvement project. There are other practical measures, such as the installation of boardwalks, that would have less impact on wetlands/buffers. The Township has advised that installation of boardwalks along the entire length of the trail proposed for improvement is cost prohibitive. Consequently, absent the Commission's approval of this MOA permitting a deviation from the wetland and wetland buffer standards of the Pinelands CMP, N.J.A.C. 7:50-6.6, -6.13 and -6.14, respectively, the project would not be allowed. This MOA will also establish an alternative application process in accordance with N.J.A.C. 5:50-4.52(c)1.

II. BACKGROUND

Pemberton Lake is part of the Pemberton Lake Wildlife Management Area ("WMA"). It is located in the Township of Pemberton, Burlington County and is made up of three parcels. Two of these parcels, Block 825, Lots 7.01 and 7.04, are owned by Pemberton Township. The State of New Jersey owns the third parcel, Block 825, Lot 7.05, and the New Jersey Department of Environmental Protection manages the WMA.

Pemberton Lake Trail is an existing walking trail located within the WMA. It is comprised of three sections: 1) an approximately 0.74 mile section that starts at a parking area located on Magnolia Road and then proceeds proximate to the lakeshore to the entrance of a parking area located off Coleman's Bridge Road; 2) an approximately 0.30 mile section that starts at the entrance of the Coleman's Bridge Road parking area then proceeds up Coleman's Bridge Road to its intersection with the Pemberton Bypass; and 3) an approximately 0.28 mile section that runs proximate to the bypass from the intersection with Coleman's Bridge Road to a point where the trail joins back to the first section. (Exhibit A).

Pemberton Lake is a scenic, manmade 45-acre impoundment off of Magnolia Road. The lake is bracketed by Magnolia Road, the Pemberton Bypass (Route 530), and Coleman's Bridge Road. There are wetlands to the north and south of the trail. These wetlands feed into the North Branch of the Rancocas Creek and are part of the Rancocas Creek Watershed.

Pemberton Lake Trail is a good candidate for a place for accessible nature recreation. The trail is close to many homes and, thus, easy to visit for Pemberton residents. The trail is short, provides lovely views of Pemberton Lake and has places for fishing or enjoying the scenery along its length and at either end.

III. THE PROJECT

The Pinelands National Reserve represents an important recreational resource and contains a wide assortment of public open spaces including, but not limited to, two national wildlife refuges, numerous State-owned parks, forests and wildlife management areas, and county and municipal parks. Hundreds of miles of trails suitable for hiking and bicycling exist throughout the Pinelands as well as countless unmarked sand roads that are also used for these purposes.

The Pinelands CMP protects those natural resources necessary for compatible recreational uses and promotes recreational opportunities in a manner that minimizes land use conflicts by permitting low-intensity, recreational uses in undeveloped areas and directing more intensive recreational uses to developed areas. In order to be certified by the Commission, municipal

master plans and land use ordinances must contain a program to protect and enhance recreational resources.

There is a growing interest among public and nonprofit land managers to provide better opportunities for people with disabilities to access recreational resources in the Pinelands and coastal areas of the State through low impact and affordable improvements to suitable, existing trails. The Pemberton Lake project will serve as a demonstration project on the costs, feasibility, impacts and effectiveness of this kind of accessible trail project in a Pinelands setting.

The PPA received a grant from the Inclusive Healthy Communities program of the New Jersey Department of Human Services that allocates \$57,100 for accessibility improvements to trails in the Pinelands, including materials, equipment and professional fees associated with completing such projects. PPA is partnering with Pemberton Township to devote these funds to this project.

A. Need for Accessible Trails

People with disabilities that impair their ability to enjoy natural places make up a large portion of the population. According to the 2022 U.S. Census estimates, the total population of the seven counties located within the Pinelands National Reserve is about 2.4 million people. Approximately 14% of these individuals, just over 340,000, identify as having a disability. Ambulatory challenges account for 49% of these disabilities.

The percentage of people with disabilities is similar in Pemberton Township. Specifically, 14.3% of the Township's population self-identifies as having a disability. Of these individuals, 57.7% face mobility challenges.

The United States Department of Agriculture, Forest Service's Accessibility Guidebook for Outdoor Recreation and Trails, dated 2013, defines accessibility as a facility that complied with accessibility guidelines/standards when it was built or altered. With regard to trails, these standards require that the trail be firm and stable, at least 36 inches wide, with no more than a 5% grade (except for short segments), and without gaps or protruding obstacles. Based on these standards, it is likely that the vast majority of existing trails in Pemberton Township and the Pinelands National Reserve as a whole are not accessible, because they (1) are not flat due to gaps in the soil, slopes, protruding tree roots and puddles, (2) have sand that is too soft in places for regular wheelchairs or walkers, and (3) are not maintained, so the condition of these trails changes over time.

According to the Forest Service, the best way to integrate accessibility is to design programs and facilities to the greatest extent possible, without separate or segregated access for people with disabilities. The goal is independence, integration, and dignity for all visitors.

B. Health Benefits from Spending Time Outdoors

Although it is intuitive that human health is deeply intertwined with outdoor spaces and the environment, studies have proven the health benefits of spending time outside.¹ This growing body of research supports the beneficial effects that exposure to the natural world has on health, reducing stress and promoting healing.² These studies suggest that nature is not only nice to have, but it's a have-to-have for physical health and cognitive function.

C. Proposed Improvements

Pemberton Township is proposing to improve portions of the existing Pemberton Lake Trail. The existing trail starts at Pemberton's Magnolia Road parking area and proceeds proximate to the shoreline of Lake Pemberton to the trailhead at the New Jersey Department of Environmental Protection's Lake Pemberton WMA parking area on Coleman's Bridge Road. (Exhibit A.) The trail runs along the top of what was once a dyke or sand road created when the lake was part of a cranberry farm. There is an existing 905-square-foot boardwalk adjacent to the Magnolia Road parking area that extends to a pier on the west side of Pemberton Lake. The remainder of the trail is not accessible for individuals with mobility challenges, because it is uneven, has soft and wet spots, and has a steep incline. However, it is sufficiently wide, dry and flat along most of its course, to be readily improved to make it accessible.

Consistent with the United States Forest Service Guidelines³, the Township proposes to make improvements to the existing dirt trail to make it firm, stable and flat from side to side (4 feet wide) with no more than a 5% grade along its entire length. Specifically, the Township proposes to fill and grade portions of the trail within its existing width, to create a compacted subgrade to a 95% proctor density, i.e., on-site soil density equal to 95% of the maximum achievable compact. Clean gravel will then be placed on the trail, at variable depths depending on existing elevation, to match the existing grade edges. (See Stone Path Detail, Sheet 7 of Exhibit A.)

¹Prescribing Nature: A Physician's Perspective on Wellness and the Outdoors, https://www.landscapeforms.com/blog/Pages/Prescribing-Nature-Article.aspx

²Ecopsychology: How immersion in Nature Benefits Your Health, Jim Robbins, Yale Environment 360 (2020), https://e360.yale.edu/features/ecopsychology-how-immersion-in-nature-benefits-your-health, See also. Nature and mental health: An Ecosystem Service Perspective, Bratman et al., Science Advances, July 24, 2019, https://www.science.org/doi/10.1126/sciadv.aax0903.

³ US Forest Service Trail Accessibility Guidelines (FSTAG) dated 2013, https://www.fs.usda.gov/sites/default/files/FSTAG-2013-Update.pdf. See also https://www.fs.usda.gov/sites/default/files/FSORAG-2013-Update.1.pdf

For two portions of the trail, both 48 square feet, located in wetlands, the Township is proposing construction of two, separate boardwalks. These boardwalks would be constructed from pressure-treated lumber in sections 12 feet long by 4 feet wide. The deck of the boardwalk would consist of slats that are 2"x 8"x 4' within cleats that are 2"x 2"x 12'. The deck would sit on a backbone of 6"x 6"x 5' wood support structures. The boardwalk would also include two 4" x 4" x 12' side rails. The Township proposes to place the boardwalks directly on the ground. The use of posts or anchors is not proposed. (See Boardwalk Segment Detail, Sheet 7 of Exhibit A).

Pemberton Township is also proposing to install two accessible parking spaces at the Coleman's Bridge Road parking area. These new parking spaces will be paved. The remaining parking area will remain gravel. Currently, there are no accessible parking spaces in that parking area.

Pemberton Township intends to conduct the improvements using existing Township staff and resources, as well as PPA staff and volunteers. Additionally, once the improvements are completed, signage will be installed at each end of the trial advising that the trail is designed to be accessible to those using wheelchairs and that use of motorized vehicles, bicycles and horses is prohibited on the trail. The availability of the accessible trail will be promoted on various websites. Additionally, the Township intends to maintain the trail by conducting quarterly inspections and making repairs as necessary.

IV. MEASURES PROPOSED TO AFFORD AN EQUIVALENT OR BETTER LEVEL OF PROTECTION FOR THE RESOURCES OF THE PINELANDS

The proposed project is expected to result in the placement of gravel (i.e. fill) over 0.038 acres (1,656 square feet) of wetlands and 0.296 acres (12,894 square feet) of wetland buffers. To offset these impacts, Pemberton is proposing to revegetate two areas within the project site: one (4,980 square feet) adjacent to the Magnolia Road parking area and the other (9,250 square feet) adjacent to the Coleman Bridge Road parking area, with native Pinelands vegetation. Both of these areas are currently denuded and located within wetlands buffer areas. Pemberton also plans to install a 350-square-foot rain garden within the area to be revegetated adjacent to the Magnolia Road parking area.

Additionally, the Township proposes to install a gate at each end of the improved trail that is designed to permit pedestrians, wheelchairs, walkers and electric scooters to enter the trail, while making it difficult or impossible to enter with a motorcycle or ATV. The Township will also install wooden rail and post barriers at specific points along the Pemberton Bypass that are currently used unlawfully by motorcyclists to access the trail.

V. THE BASIS OF THE MOA

The Pinelands CMP at N.J.A.C. 7:50-4.52(c)2 authorizes the Commission to enter into intergovernmental memoranda of agreement with any agency of the Federal, State or local government to authorize such agency to carry out specified development activities that may not be fully consistent with the provisions of the CMP. In order to qualify for a MOA, the governmental entity must demonstrate, and the Commission must find, that any proposed development that may not be fully consistent with the provisions of the Pinelands CMP is accompanied by measures that will, at a minimum, afford a level of protection for the resources of the Pinelands equivalent to that provided by strict application of the standards of the Plan. As discussed above in Paragraph IV, Pemberton Township has proposed measures designed to offset the wetlands and wetland buffer impacts attributable to the project and these measures will afford, at a minimum, an equivalent level of protection for the resources of the Pinelands.

In accordance with N.J.A.C. 7:50-4.52(c)i, the Commission may also enter into intergovernmental memoranda of agreement with any agency of the Federal, State or local government which authorizes such agency to carry out specified development activities without securing individual development approvals from the Commission, provided that the specified development activities are consistent with the provisions of N.J.A.C. 7:50-5 and 6. Execution of this MOA also warrants alternative application procedures because the Township is proposing measures that will afford an equivalent level of protection of the resources of the Pinelands as would be accomplished by application of the standards in Subchapters 5 and 6, which makes the MOA consistent with requirements of the Pinelands CMP.

VI. AGREEMENTS

A. The Township agrees:

- 1. The proposed improvements to the Pemberton Lake Trail will be constructed in accordance with the following:
 - a. The Plan entitled "Pinelands Preservation Alliance, Pemberton Lake, Accessible Trail Improvement Plans, Block 825, Lots 7.01, 7.04 & 7.05, Township of Pemberton, Burlington County, New Jersey", prepared by Adams, Rehmann & Heggan, Associates, Inc., dated September 22, 2023, consisting of 7 sheets, and attached hereto as Exhibit A and incorporated herein by reference; and
 - b. Stormwater Management Narrative for Pemberton Lake Accessible Walking Trail & Restoration Area, Pinelands Preservation Alliance, Block 825, Lots 7.01, 7.04, & 7.05, Township of Pemberton, Burlington County, New Jersey, " prepared by Adams, Rehmann & Heggan, Associates, Inc., dated June 26, 2023.

 It will undertake the following to provide an equivalent level of protection for the resources of the Pinelands:

a. Magnolia Road Parking Area – 4,980 sq. ft. Sand Area

- i. It will revegetate the existing 4,980 sq. ft. sand area located adjacent to the Magnolia Road parking area in accordance with the vegetation standards of the Pinelands CMP at N.J.A.C. 7:50-6.23 through -6.27.
- ii. It will construct a rain garden on a 350 sq. ft. portion of the 4,980 sq. ft. sand area located adjacent to the Magnolia Road parking area.

b. Coleman's Bridge Road Parking Area – 9,250 sq. ft. Barren Area

- i. It will revegetate a 9,250 sq. ft. area located at the trail head adjacent to the Coleman's Bridge Road parking area in accordance with the vegetation standards of the Pinelands CMP at N.J.A.C. 7:50-6.23 through –6.27.
- ii. It will construct two accessible parking spaces at the Coleman's Bridge Road parking area.

c. Other Offsetting Measures

- It will install a gate at the trailhead at each end of the improved trail that
 is designed to permit pedestrians, wheelchairs, walkers, electric
 scooters and other mobility assisting devices to enter the trail, while
 prohibiting entry by off-road vehicles.
- ii. It will install wooden barriers at other known areas used by off-road vehicles for trail access, to prevent future access by these vehicles.
- 3. At least thirty (30) days prior to commencing construction of the proposed improvements to the Lake Pemberton Trail, the Township shall provide the following information to the Executive Director:
 - a. Revegetation plans for revegetation of the 4,980 sq. ft. area adjacent to Magnolia Road and revegetation of the 9,250 sq. ft. area at the trailhead of the Coleman's Bridge Road parking area. Such revegetation plans shall include:

- i. A list of the native Pinelands trees, plants and/or grasses that will be used in the revegetation plan. At a minimum, the plans for both denuded areas shall include the use of the following Pinelands native grasses: switchgrass, little bluestem and broomsedge, where appropriate. The revegetation plan for the Coleman's Bridge Road area shall include the planting of a combination of pitch pine and shortleaf pine at an equivalent rate of 300-400 plants per acre. Temporary fencing shall also be installed to protect the revegetated areas during maturation of the planted vegetation.
- ii. A plan or sketch showing the locations of the plantings and temporary fencing.
- iii. A plan for replacement of vegetation that does not survive after planting, and percentage survival rate for replanted vegetation required to ensure viability of the replanted areas in perpetuity.
- b. A plan for creation of the rain garden adjacent to the Magnolia Road parking area. This plan shall include the following:
 - i. A plan depicting the existing conditions;
 - ii. A proposed site plan;
 - iii. A planting plan that includes a planting schedule listing the names of the plants, the number and size of each plant that will be planted and the location where the plants will be planted. Only native Pinelands trees, plants and grasses shall be used to create this rain garden. The Commission's Green Infrastructure Implementation Project plans may be used as a model, see:

<u>www.nj.gov/pinelands/infor/yard/20220711 PinelandsCo</u> <u>mmission AsBuilt%20(2).pdf</u>);

- iv. A plan showing planting details;
- v. A conceptual drawing of what the rain garden is expected to look like upon completion; and

- vi. A plan for replacement of vegetation that does not survive after planting, and percentage survival rate for replanted vegetation required to ensure viability of the replanted area in perpetuity.
- 4. It will ensure that its staff, as well as any staff or volunteers provided by the Pinelands Preservation Alliance, any other entity or individuals who volunteer on their own, to assist with the construction of the proposed project, comply with the obligations of this MOA and all requirements of the Pinelands CMP, unless a deviation therefrom is expressly authorized by this Agreement.
- 5. Obtain any and all certificates, licenses, consents, approvals, or permits required from any other State and/or Federal entity, including but not limited to a Freshwater Wetlands General Permit 17 and a Right of Entry from the New Jersey Department of Environmental Protection, prior to commencing site preparation or construction of any portion of the proposed improvements to the Lake Pemberton Trail project, including the offsetting measures delineated in Paragraph VI.A.2 above. No part of this MOA is intended to release the Township and/or any of its consultants, including the Pinelands Preservation Alliance, staff, volunteers, assignees, or successors from the responsibility to obtain all required approvals.
- 6. Incorporate the terms of this MOA, as well as the obligation to comply with all requirements of the Pinelands CMP from which a deviation has not been expressly authorized by this Agreement into any agreements, contracts, or other legal documents pertaining in any way to the construction of the Lake Pemberton Trail Project.
- 7. Any material addition, deviation, or modification to the proposed Lake Pemberton Trail project as delineated in Exhibit A, shall require the Township to submit a formal public development application in accordance with N.J.A.C. 7:50-4.52(b) to the Commission and seek formal Commission approval of such addition, deviation, or modification. Any construction activities that may have commenced on the Lake Pemberton Trail project shall cease and no further development may proceed until the public development application review process has been completed and the Commission has issued a resolution approving the addition, deviation, or modification to the Lake Pemberton Trail project.

- 8. To the extent that new information becomes available or changes are made to the scope or design of the proposed Pemberton Lake Trail project that would result in more than a de minimis change to the impacts to wetlands, wetland buffers or threatened or endangered plants or animals species or habits for such animals, but would not be considered material and subject to Paragraph VI.A.7., the Township shall submit the new information or changes to the Executive Director who shall determine whether the proposed development remains consistent with the terms of this MOA, the requirements of N.J.A.C. 7:50-5 or 6 not addressed by this MOA, and Exhibit A and issue a written consistency determination.
- 9. If the Executive Director determines that as a result of the new information or any de minimis change to the scope or design of the proposed Pemberton Lake Trail project is inconsistent with the terms of this MOA or a standard of the Pinelands CMP from which a deviation has not been expressly authorized by this agreement or results in increased impacts to threatened or endangered animal species habitat or plant species, or wetlands or wetland buffers associated with the proposed Pemberton Lake Trail project, the Township shall modify the proposed development project(s) until the Executive Director determines that it is consistent with all requirements of this MOA and the Pinelands CMP. If the Township disagrees with the Executive Director's determination, it may file an application for public development pursuant to N.J.A.C. 7:50-4.52(b) and seek formal approval from the Pinelands Commission of the project. The proposed development project may not proceed until the public development application review process has been completed and the Commission has issued a resolution approving the development project.
- 10. The terms of this MOA shall immediately be suspended in the event that the Executive Director determines that an unresolved violation of the terms of this MOA, a requirement of the Pinelands CMP for which a deviation is not authorized by this Agreement, or a written authorization issued by the Executive Director has occurred on the site of the Pemberton Lake Trail Project (Portions of Block 825, Lots 7.01, 7.04 & 7.05, Township of Pemberton, Burlington County, New Jersey). The Township shall have thirty (30) days to seek reinstatement of this MOA by providing the Commission with a written agreement itemizing the steps the Township will take to remedy the violation and a timeline for completion of such steps. If the measures and timeline for completion proposed by the Township are acceptable to the Executive Director, following Commission concurrence, she shall issue a letter to the Township reinstating the terms of this MOA. Failure of the Township to

complete the measure required to cure the violation or make changes to its submission following staff review within the specified timeline may result in reinstatement of the suspension.

- 11. The Township shall attend a meeting of the Commission's CMP Policy & Implementation Committee to provide a summary of the project following completion of the total project, including 1) the grading and installation of gravel and boardwalks on the Pemberton Lake Trail; 2) revegetation of and installation of the rain garden on a portion of the area adjacent to the Magnolia Road parking area; 3) revegetation of the denuded area at the trail head at the Coleman's Bridge Road parking area; 4) installation of gates at the trailheads at each end of the improved trail; 5) installation of wooden barriers to prevent access to the trail by off-road vehicles; and (6) construction of the two accessible parking spaces at the Coleman's Bridge Road parking area.
- 12. Notify the Commission upon the completion of each component of the project, including improvements to the Pemberton Lake Trail, revegetation of each of the denuded areas, construction of the rain garden and installation of the gates and wooden barriers as required in Paragraphs VI.A.1 and 2 above.

B. The Pinelands Commission agrees:

- 1. The Commission shall not require the filing of formal public development applications in accordance with N.J.A.C. 7:50-4.52(b) for the proposed improvements to the Lake Pemberton Trail and implementation of the offsetting measures set forth in Paragraphs VI.A.1 and 2 above, unless:
 - a. Any of the proposed offsetting measures set forth in Paragraph VI.A.2 are inconsistent with the requirements of this MOA and/or any of the standards of Subchapter 5 and 6 of the Pinelands CMP for which a deviation has not been expressly provided by this MOA, and the Township has not modified the proposed development project to render it consistent with such requirements;
 - b. There is a material addition to, deviation from, or modification to any of the proposed development projects; or
 - c. As a result of new information or any change to the scope or design of the proposed development project(s) submitted to the Executive Director in accordance with Paragraph VI.A.8., the proposed

development project is inconsistent with the requirements of this MOA or a standard of the Pinelands CMP from which a deviation has not been authorized by this Agreement or will result in a material increase in the threatened or endangered animal species habitat or wetlands/wetland buffers impacts associated with the proposed project for which deviations have been authorized by this MOA, and the Township has not modified the proposed development project to render it consistent with such requirements.

- 2. Within thirty (30) days of receipt of the information submitted pursuant to Paragraphs VI.A.3 or VI.A.8, the Executive Director will provide written authorization in accordance with Paragraph VI.B.4 or the Commission staff will provide a written explanation of deficiencies in accordance with Paragraph VI.B.3.
- If the Executive Director determines that any portion of a proposed project is inconsistent with this MOA and/or the provisions of the CMP from which a deviation has not been authorized by this Agreement, then the Commission staff shall provide a written explanation of the deficiencies and identify specific actions that must be taken by the Township to remedy such deficiencies.
- 4. If the Commission staff determines, after review of information submitted in accordance with Paragraphs VI.A.3 or VI.A.8 and/or in response to any deficiency letter issued by the Commission pursuant to Paragraph VI.B.3, that a proposed project is consistent with this MOA and the provisions of the CMP from which a deviation has not been authorized by this Agreement, it shall issue a written authorization to the Township setting forth this determination. This written authorization shall constitute a public development approval and no further action by the Commission shall be required.
- 5. In the event of a suspension of the terms of this MOA in accordance with Paragraph VI.A.10, the Executive Director shall, following the Commission's concurrence, issue a letter to the Township reinstating the terms of this MOA following the Township's submission of a written agreement in accordance with Paragraph VI.A.10 and the acceptance of same by the Executive Director and the Commission. The Executive Director retains the right to a violation unresolved until such time as the Township has implemented all measures set forth within its written agreement.

VII. EFFECTIVE DATE, DURATION AND SIGNATURES

- 1. In accordance with N.J.S.A. 13: 18A-5(h), this MOA shall take effect following the conclusion of the Governor's review period and approval of the Pinelands Commission meeting minutes authorizing execution of this MOA and then upon approval and signature by the authorized representatives of all parties.
- 2. This agreement shall remain in effect unless amended by written consent of both Parties or otherwise terminated or suspended by the Pinelands Commission or terminated by both parties upon sixty (60) days written notice or suspended by the Commission in accordance with Paragraph VI.A.10.
- 3. This MOA, along with any exhibits, appendices, addendums, or schedules, attached hereto and incorporated herein by reference and any subsequent written amendments executed by the parties, constitutes the entire agreement of the parties, and supersedes all previous understandings and agreements between the parties, whether oral or written. The Parties hereby acknowledge and represent that said parties have not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set forth in this MOA, made by or on behalf of any other party or any other person whatsoever, prior to the execution of this MOA.
- 4. This MOA may be executed in counterparts. All such counterparts shall constitute an original and all of which together shall constitute one and the same agreement, binding upon the parties. Faxed and electronic signatures shall constitute original signatures.

IN WITNESS WHEREOF, the parties have caused their duly authorized representatives to execute this MOA on and as of the day and year written below. This MOA shall be executed in at least three (3) original copies, one of which is to be delivered to Pemberton Township and two (2) of which are to be delivered to the Pinelands Commission.

Pemberton Township	Witnessed:
By:	Ву:
Name:	Name:
Title:	Title:
Date:	Date:

New J	ersey Pinelands Commission	Witnessed:
Ву:		Ву:
	Susan R. Grogan	Name:
	Executive Director	Title:
Date:		Date:

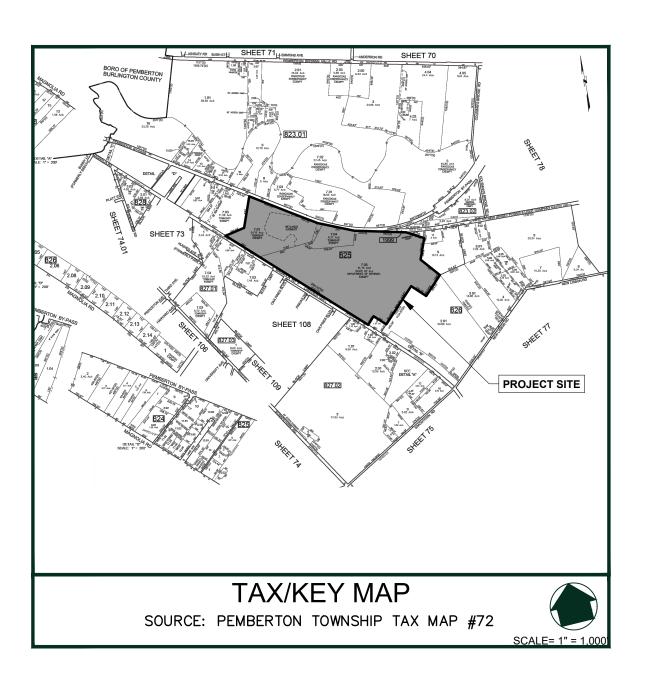
Exhibit A

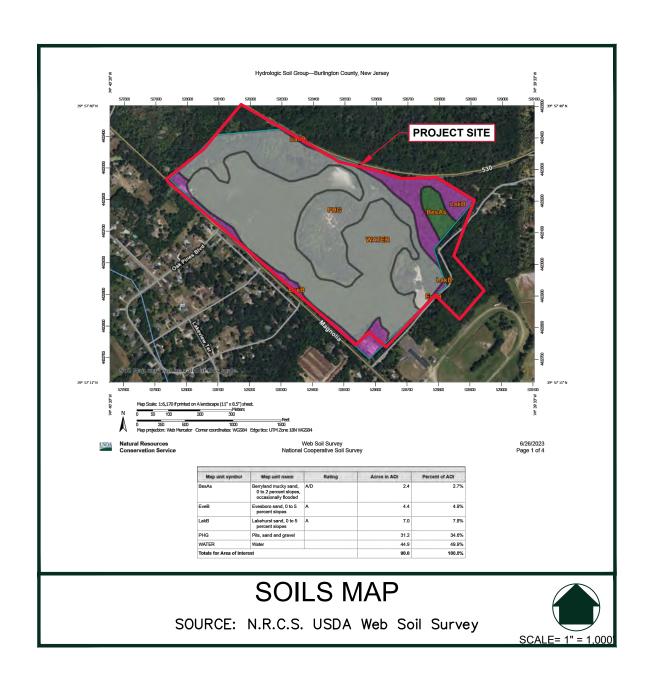
Pemberton Lake Accessible Trail Improvement Plans Block 825, Lots 7.01, 7.04 & 7.05 Pemberton Township, Burlington County, NJ Dated September 22, 2023, revised November 1, 2023

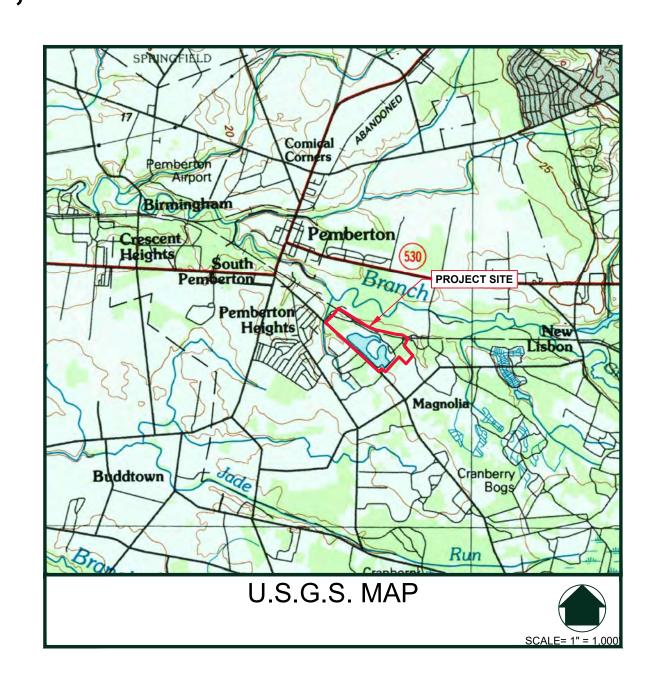
PINELANDS PRESERVATION ALLIANCE PEMBERTON LAKE ACCESSIBLE TRAIL IMPROVEMENT PLANS

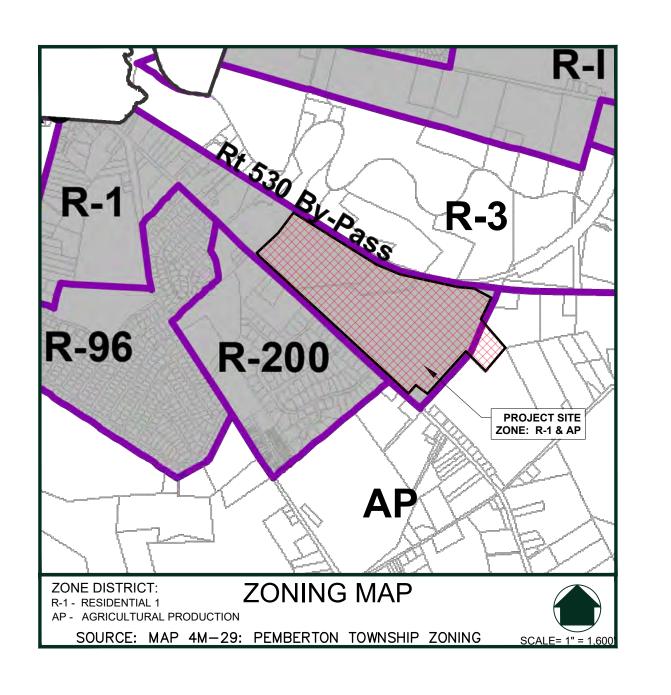
BLOCK 825, LOTS 7.01, 7.04 & 7.05

TOWNSHIP OF PEMBERTON, BURLINGTON COUNTY, NEW JERSEY SEPT. 22, 2023









AGENCIES/UTILITY COMPANIES

NEW JERSEY ONE CALL (UNDERGROUND LOCATING SERVICE) PHONE:(800)272-1000

PSE&G 300 NEW ALBANY RD MOORESTOWN, NJ 08057 PHONE: 800-436-7734

COMCAST 21 BEVERLY-RANCOCAS ROAD WILLINGBORO, NJ 08046 PHONE: 609-871-6900

VERIZON-NJ 10 TANSBORO ROAD BERLIN, NJ 08009 PHONE: 856-767-6979

PEMBERTON TOWNSHIP (SEWER DEPARTMENT) 500 PEMBERTON - BROWNS MILL ROAD PEMBERTON, NJ 08068

101 CRAWFORDS CORNER ROAD HOLMDEL, NJ 07733 PHONE: 800-662-3115

	Sheet List Table
Sheet Number	Sheet Title
1	COVER
2	EXISTING CONDITIONS PLAN
3	SITE PLAN
4	SITE PLAN (2)
5	SITE PLAN (3)
6	SOIL EROSION AND SEDIMENT CONTROL NOTES
7	SOIL EROSION AND SEDIMENT CONTROL DETAIL & CONSTRUCTION DETAILS

PREPARED FOR PINELANDS PRESERVATION ALLIANCE 17 PEMBERTON ROAD SOUTHHAMPTON, NJ 08088



PREPARED BY



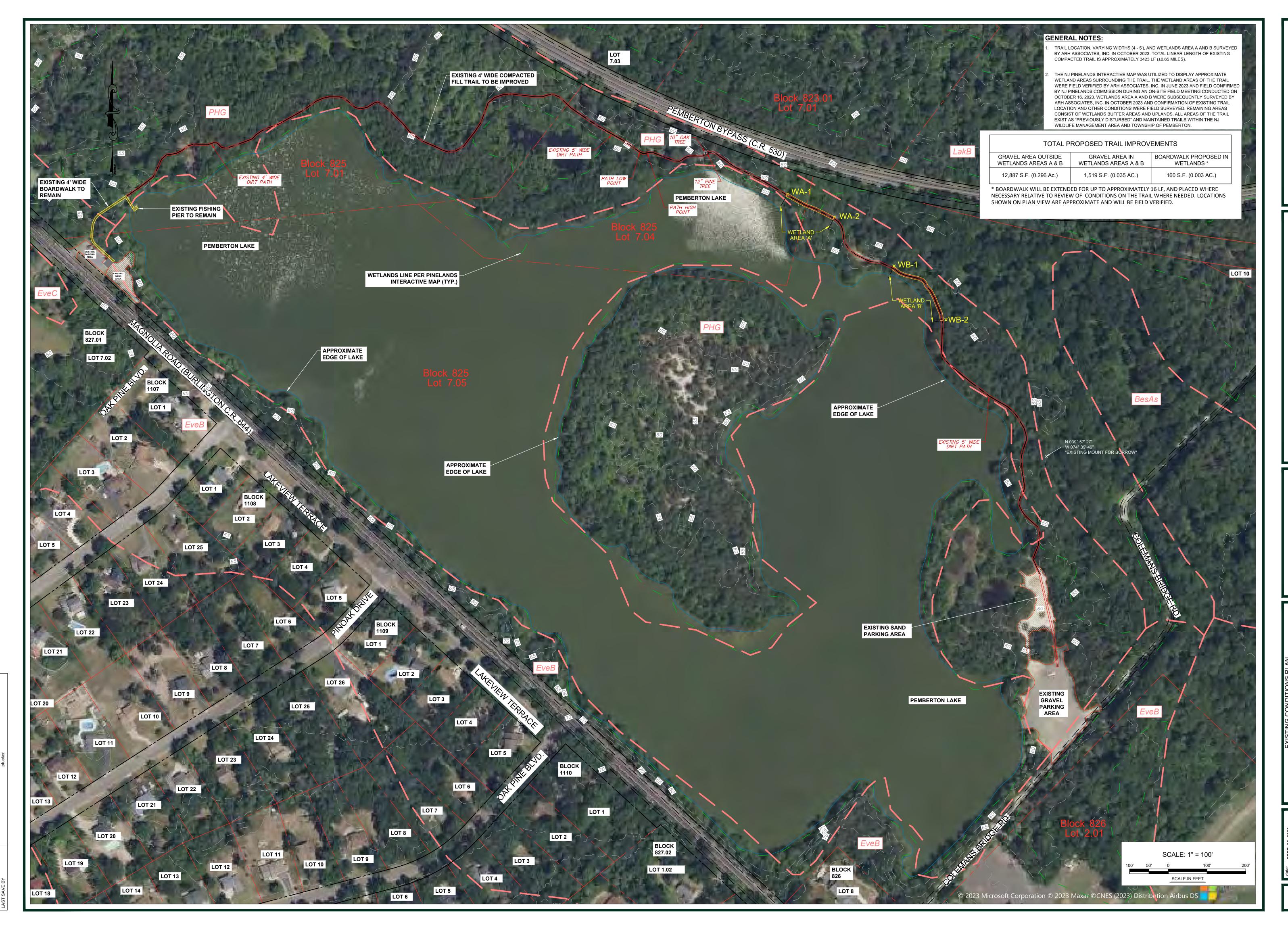
ADAMS, REHMANN & HEGGAN ASSOCIATES, INC 215 BELLEVUE AVENUE PO BOX 579 HAMMONTON, NJ 08037-2019 TEL (609) 561-0482

GENERAL NOTES:

TOWNSHIP OF PEMBERTON 500 PEMBERTON-BROWNS MILLS ROAD PEMBERTON, NJ 08068

- 2. APPLICANT: PINELANDS PRESERVATION ALLIANCE 17 PEMBERTON ROAD SOUTHHAMPTON, NJ 08088
- 3. THE SUBJECT PROPERTY IS KNOWN AS BLOCK 825, LOTS 7.01, 7.04 & 7.05 IN THE TOWNSHIP OF PEMBERTON, BURLINGTON COUNTY, NEW JERSEY. THE SITE PROJECT IS KNOWN AS ACCESSIBLE WALKING TRAIL AND PEMBERTON WILDLIFE MANAGEMENT
- 4. THE APPLICANT PROPOSES TO IMPROVE THE EXISTING PATH BY INSTALLING GRAVEL SURFACE ALONG THE MAJORITY OF THE TRAIL LENGTH TO IMPROVE ADA ACCESSIBILITY. A PORTION OF WETLAND AREAS A AND B WILL BE COMPLETED WITH A BOARDWALK, WHERE NOTED. THE EXISTING 4' TO 5' FOOT WIDE TRAIL IS A DIRT/COMPACTED PATH ALONG A PORTION OF PEMBERTON LAKE PERIMETER AND MEASURES A TOTAL OF ±0.65 MILES.
- 5. BOUNDARY INFORMATION IS BASED ON THE TOWNSHIP OF PEMBERTON TAX MAPS. TOPOGRAPHIC INFORMATION IS TAKEN FROM PUBLICLY AVAILABLE LIDAR.
- 6. THE EXISTING TRAIL AND WETLAND LOCATIONS WERE CONFIRMED DURING AN ON-SITE MEETING WITH THE NJ PINELANDS COMMISSION ON OCTOBER 16, 2023 AND HAVE BEEN FIELD SURVEYED BY ARH ASSOCIATES, INC. IN OCTOBER 2023.

1 of 7





MARK HERRMANN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. PE 48668

ASSOCIATES, INC.
215 BELLEVUE AVENUE
PO BOX 579
HAMMONTON, NJ 08037-2019
TEL (609) 567-8909
FAX (609) 567-8909

ASSOCIATES certificate of authorization NJ no. 246AZ7973300, DE no. 2167

2023-11-01 - REVISED PER PINELANDS COMMENTS
revisions

PEMBERTON LAKE
SSIBLE TRAIL IMPROVEMENT PLANS
BLOCK 825, LOTS 7.01, 7.04 & 7.05
MNSHIP OF PEMBERTON, BURLINGTON COUNTY, NEW JERSEY

| Scale: SEPT. 22, 2023 | Scale: AS SHOWN | drawn by: P.T. | AC Checked: M.H. | AC | Proj. no.: 5052894.01

3 of 7





formations which commonly contain high acid-producing deposits. Figure 1-1 shows areas where these deposits may the local Soil Conservation District to determine the historical presence of high acid—producing soils in the vicinity of the proposed development site.

D.High acid—producing soils may be present in undisturbed soils at varying depths, including near the soil surface to excavation or deep disturbances. Its presence on a site may be significant or limited in the soil profile. High acid—producing soils are commonly black, dark brown, gray or greenish with silvery pyrite or marcasite nuggets or flakes. Alternatively, sandy soils or reddish, yellowish or light to medium brown soil materials are usually free of high acid-producing deposits. E. Methods and Materials:

1. Limit the excavation area and exposure time when high acid—producing soils are encountered.
2. Topsoil stripped from the site shall be stored separately from temporarily stockpiled high acid producing soils.
3. Stockpiles of high acid—producing soil should be located on level land to minimize its movement, especially when this material has a high clay content. 1. Temporarily stockpiled high acid—producing soil material to be stored more than 48 hours should be covered with properly anchored, heavy grade sheets of polyethylene where possible. If not possible, stockpiles shall be covered with a minimum of 3 to 6 inches of wood chips to minimize erosion of the stockpile. Silt fence shall be installed at the toe of the slope to contain movement of the stockpiled material. Topsoil shall not be applied to the stockpiles to

5.High acid—producing soils with a pH of 4.0 or less or containing iron sulfide (including borrow from cuts <u>or dredged</u>

sediment) shall be ultimately placed or buried with limestone applied at the rate of 10 tons per acre (or 450 per 1,000 square feet of surface area) and covered with a minimum of 12 inches of settled soil with a pH of 5.0 or a. Areas where trees or shrubs are to be planted shall be covered with a minimum of 24 inches of soil with a pH of 5.0b. Disposal area shall not be located within 24 inches if any surface of a slope or bank, such as berms, stream banks.

ditches, and others, to prevent potential lateral leaching damages.
Equipment used for movement of high acid—producing soils should be cleaned at the end of each day to prevent spreading of high acid—producing soil materials to other parts of the site, into streams or stormwater conveyances, and to protect machinery from accelerated rusting. -vegetative erosion control practices (stone tracking pads, strategically placed limestone check dam, sediment barrier, wood chips) should be installed to limit the movement of high acid-producing soils from, around, or off the 8. Following burial or removal of high acid-producing soil, topsoiling and seeding of the site (see Temporary Vegetative Cover for Soil Stabilization, Permanent Vegetative Cover and Soil Stabilization, and Topsoiling), monitoring must continue for a minimum of 6 months to ensure there is adequate stabilization and that no high acid—producing soil problems emerge. If problems still exist, the affected area must be treated as indicated above to correct the problem.

II. STANDARD FOR DUNE STABILIZATION A. This practice is applicable along ocean and bay shorelines where blowing sands and storm waters may cause erosion damage. Stay at least one hundred feet (horizontal distance) from mean high tide water line (MHT)

Sand dunes form on barrier islands, shorelines exposed directly to the ocean, and inland sand deposits. The source of this wind born sand in the ocean or its bays. These parallel ridges of sand form perpendicular to prevailing winds and grow toward its source of sand. Periodic storm events and human activity continually alter their development and original configuration. Once developed, the sand dunes provide protection from moderate storms and tides. The existence and maintenance of vegetation on dunes provides a network of root and foliage which holds unconsolidated sand in place. American beachgrass is the dominant, naturally occurring, vegetation of the frontal dunes of New Jersey. When beacharass is established with structural resources and other dune species, a formidable well anchored storm barrier is established. Refer to the Standards for Soil Erosion and Sediment Control in New Jersey (7th Edition, January 2014) for additional information regarding vegetation stabilization and sand fencing.

A. A preventative maintenance program anticipates requirements and accomplishes work when it can be done with least effort and expense to insure adequate cover. with least effort and expense to insure adequate cover.

B.Maintenance should occur on a regular basis, consistent with favorable plant growth, soil, and climatic conditions. This involves regular seasonal work for mowing, fertilizing, liming, watering, pruning, fire control, weed and pest control, reseeding, and timely repairs. C.The degree of preventative maintenance needed depends upon the type of vegetation and its proposed

1. Mowing is a recurring practice and its intensity depends upon the function of the ground cover. Oh high to moderate (A to B) maintenance areas, such as lawns, certain recreation fields, and picnic areas, mowing will be frequent (2 to 7 day intervals) and typically at a height of 2.5 to 3 inches. Return clippings from mowing (mulching mower) to the turf to reduce the amount of fertilizer needed to maintain the turf by as much as 50%. Some turf mixtures can be managed as naturalized stands requiring only one (cool season mixtures) or two (warm season mixtures) mowings per year. Mowing of naturalized areas is typically done at heights no less than 4 inches and should not be done between April 1st and July 15th to avoid disturbing ground nesting birds. The large amount of clipping debris generated by mowing naturalized areas will need to be removed and/or dispersed so the vegetation is not smothered. Burning of naturalized areas is another procedure used to manage naturalized turfs. Low maintenance (D) areas may be left un—mowed to permit natural succession. 2.Incorporation of organic matter (for example, mature compost) into the soil will substantially reduce the need

3.Fertilizer and lime should be applied as needed to maintain a dense stand of desirable species. Frequently mowed areas and those on sandy soils will require more frequent fertilization but at a lower nutrient rate 4.Lime requirement should be determined by soil testing every 2 or 3 years. Fertilization may increase the need for liming. Contact the local county extension office for details on soil testing and fertilization and

pest control recommendations online at http://njaes.rutgers.edu/county/.
5.Fertilization and additions of other soil amendments are not recommended for managing native vegetation such as in the Pinelands National Reserve. See the Standard for Permanent Vegetative Stabilization for specific requirements in the PNR.

6. Weed invasion may result from abusive mowing and from inadequate fertilizing and liming. Many newly established grasses will not survive if mowed at heights below 2.5 inches and an intervals greater than 7 days. Brush invasion is a common consequence of lack of mowing. The amount of weeds or brush that can be tolerated in any vegetated area depends upon the intended use of the land. Drainage ways are subject to rapid infestation by weed and woody plants. These should be controlled, since they often reduce drainage way efficiently. Control of weeds or brush is accomplished by using herbicides or 7. Fire hazard is greater where dry vegetation has accumulated. The taller the vegetation, the greater the

8.Prune trees and shrubs to remove dead or damaged branches. Remove undesirable or invasive plants to maintain integrity of the landscape and enhance quality of permanent vegetative cover.

IV. STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. Site Preparation:

SEED MIX #12	PLANTING RATE	RECOMMENDED OPTIMUM SEEDING
		DATE (ZONE 6B)
TURF TYPE TALL FESCUE	8LBS/1000SF	8/15 TO 10/15

a. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading (see 7th Edition Manual). b. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading (see 7th Edition Manual). Topsoil shall be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter as needed in accordance with the Standard for Topsoiling d. Install needed erosion control practices or facilities such as diversions, grade—stabilization structures, channel stabilization measures, sediment basins, and waterways.

a. Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co—operative Extension Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not ated, apply one—half the rate described above during seedbed preparation and repeat another one—half rate application of the same fertilizer within 3 to 5 weeks after seeding. b. Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, spring—tooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared. on the general contour. Commune things and it reasonable uniform seedaded is prepared to the covered with a minimum of 12 inches of soil having a pH or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before initiating seedbed reparation. See Standard for Management of High Acid—Producing Soils for specific requirements.

a. Select a mixture from Table 4—3 in the 7th Edition Manual or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination test date more than 12 months old unless retested. See applicable USDA Plant Hardiness Zone Map for New Jersey for planting dates. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.

Warm—season mixtures are grasses and legumes which maximize growth at high temperatures, generally 85°F and above. See Table 4—3 mixtures 1 to 7. Planting rates for warm—season shall be he amount of Pure Live Seed (PLS) as determined by germination testing results. iii. Cool —season mixtures are grasses and legumes which maximize growth at temperatures below 85°F Many arasses become active at 65°F. See Table 4—3, mixtures 8—20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.

b. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, se shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 nch, by raking or dragging. Depth of seed placement may be ¼ inch deeper on coarse—textured c. After seeding, firming the soil with a corrugated roller will assure seed-to-soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized. . Hydroseeding is a broadcast seeding method usually involving a truck, or trailer—mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short-fibered mulch may be applied with a hydroseeder following seeding. (also see Section 4-Mulching below).

Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth. Mulching is required in all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.

a.Straw or Hay: Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1.5 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper—blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed. Application: Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface s covered. For uniform distribution of hand—spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

i. Peg and Twine: Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss—cross and a square pattern. Secure twine around each pea with two or more round turns. Mulch Nettings: Staple paper, jute, cotton or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed. iii. Crimper (mulch anchoring coulter tool): A tractor— drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be

3 tons per acre. No tackifying or adhesive agent is required. iv. Liquid Mulch Binders: May be used to anchor salt hay, hay or straw mulch. (a)Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance. (b)Use of the following:

(1) Organic and Vegetable Based Binds — Naturally occurring, powder—based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curin conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use

(2) Synthetic Binders: High polymer synthetic emulsion, miscible with water when diluted and. following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky

until germination of grass. Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

b. Wood-fiber or paper-fiber mulch shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as ecommended by the product manufacturer) and may be applied by a hydroseeder. Mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in

c. Pelletized mulch — compressed and extruded paper and/or wood fiber product, which may contain co—polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weedseed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

5. Irrigation (where feasible) f soil moisture is deficient, supply new seeding with adequate water (a minimum of ½ inch applied up to twice a day until vegetation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites.

Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A — Seedbed Preparation in this Standard, no follow—up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10—10—10 or equivalent at 300 pounds per acre or 7

Establishing Permanent Vegetative Stabilization he quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4—3 are required when a <u>Report of Compliance</u> is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation s established prior to requesting a <u>Report of Compliance</u> from the district. These rate apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once. Note this designation of mowed once does not guarantee the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged.

Figure 4-1 USDA Plant Hardiness Zones Average Annual Minimum Temperature New Jersey -Zone 6a Hardiness Zones Zone 5t Range of average annual minimum temperatures for each zone (degrees Fahrenheit) Zone 5b (-10 to -15) Warren Counties Zone 6a (-5 to -10) Includes portions of Sussex, Warren, Passaic, Morris, Somerset, and Hunterdon Counties Zone 6b (0 to −5) Includes portions of Bergen, Passaic, -Zone 7a Morris, Essex, Hudson, Union, Sommerset Middlesex Mercer Camden, Gloucester, Atlantic, Cumberland and Cape May Counties Zone : Zone 7a (5 to 0) cludes portions of Camder Cape May, Atlantic, Burlington, Ocean ∽Zone 7b and Monmouth Counties Zone 7b (10 to 5) Atlantic, Ocean and Monmouth After USDA-ARS Misc. Publication 1475 NJDA State Soil Conservation Committee

B. Methods and Materials — Pinelands National Reserve Due to the low fertility of native soils and other related factors, indigenous Pinelands vegetation can be relatively slow to re-colonize disturbed areas. Natural re-colonization by native plants is preferable however, where the intended land use permits or required native plant re-growth. The following approaches shall be used for post-development soil stabilization in the Pinelands National Reserve (PNR) in areas where it is a desire for native plant materials to be used. These practices are limited to areas where slope is less than 2% which do not experience concentrated surface runoff. Note: areas requiring traditional turf—type vegetation either by seeding or sodding shall be subject to the

Standards for Topsoiling or Sodding and the prior portion of this Standard which detail methods for permanent vegetation stabilization. Table 4—4 in the 7th Edition Manual contains the required cool season

DATE (ZONE 6B)

8LBS/1000SF

8/15 TO 40/25

PLANTING RATE | RECOMMENDED OPTIMUM SEEDING

turf mixture suitable for use in the PNR. PNR A—Horizon soil shall be segregated and stockpiled separately to maintain seed and root stock remnants for re-vegetation efforts outlined below.

1. Site/Seedbed Preparation: is required for all permanent stabilization efforts involving native plant materials. b.pH, organic matter, texture and cation exchange capacity (CEC) (as estimated by sum of cations, CECsum) of any non-native PNR soil shall be equal or less than that of the native soil on the project

• See Soil survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx for typical soil measurement for pH, texture, organic matter and CEC c.Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and mulch anchoring. All grading shall be done in accordance with Standards for Land Grading (see 7th Edition Manual), including methods to alleviate soil compaction (the addition of compost for organic matter shall not exceed the in-situ composition). d.Sand fencing — Sand fencing (standard snow fence) may be used to address potential wind erosion on large sites (see Sand fencing, Dune Stabilization Standard). Sand fencing shall be used in combination with other permanent stabilization methods to prevent erosion.

2.Re-seeding with Pinelands Approved Seed Mixtures: a.Appropriate seed mixtures shall be selected from Table 4—4 in 7th Edition Manual. Seed shall be broadcast or drill seeded directly into the A-horizon soils. Mulch consistent with the Standard. 3.Re—establishment of Native Vegetation without seeding:
a.In cases where it is desirable or required for native vegetation to be re—established by unassisted re-colonization, A-Horizon soils (without adding seeding) shall be protected from erosion by any of the following measures until native plant materials (seed and root stock preserved in A-Horizon soils and other native volunteer vegetation) re-colonize in the area: .Unrotted small-arain straw, at 2.0 to 2.5 tons per acre, is spread uniformly at 90 to 115 pounds per

1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District. The approved rates above have been met when the mulch covers the ground completely upon visual inspection ii. Light layer (2 inches thick maximum) of wood chips (locally sourced from within the Pinelands National reserve if available). Unseeded, Type A (or greater) biodegradable erosion control blanket.

Combination of the above. v.Re—apply mulch materials as needed (to limit erosion) until an adequate cover of native plants is established. **This may be require several growing seasons to adequately establish native vegetation. A bond (estimate to be prepared by a NJ Licensed Engineer) may be required by the local Soil Conservation District to ensure the suitable establishment of native vegetation is accomplished. A Final Certificate of Compliance shall not be issued to the overall project site until adequate, permanent vegetative cover is established. /ii. If natural re—colonization fails after 2 growing seasons, vegetative establishment will require the area to be mechanically seeded with a suitable mixture from Table 4-4 or otherwise replanted with live vegetation.of mowed once does not guarantee the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged

V.STANDARD FOR STABILIZATION WITH MULCH ONLY

until germination of grass.

This practice is applicable to areas subject to erosion, where the season and other conditions many not be suitable for growing an erosion-resistant cover where stabilization is needed for a short period until more suitable protection can be applied. B.Methods and Materials:

a. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading (see 7th Edition Manual). b. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42, in the

7th Edition Manual. a. Unrotted small—grain straw, at 2.0 to 2.5 tons per acre, is spread uniformly at 90 to 115 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District. The approved rates above have been met when the mulch covers the ground completely upon visual inspection, i.e. the soil b. Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as

mmended by the manufacturer. c. Wood-fiber or paper-fiber mulch at the rate of 1,500 pounds per acre (or according to the manufacturer's requirements) may be applied by a hydroseeder. d. Mulch netting, such as paper jute, excelsior, cotton or plastic, may be used. e. Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them into an inlet and plug it. f. Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 sq. ft. applied uniformly to a

minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-330 is recommended. Should be accomplished immediately after placement of hay or straw mulch to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area and a. Peg and Twine — Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each pea with two or more round turns. b. Mulch Nettings — Staple paper, cotton, or plastic nettings over mulch. Use degradable netting in areas

to be mowed. Netting is usually available in rolls 4 feet wide and up to 300 feet long. c. Crimper Mulch Anchoring Coulter Tool — A tractor—drawn implement especially designed to punch and anchor mulch into the soil surface. This practice affords maximum erosion control, but its use is limited to those slopes upon which the tractor can operate safely. Soil penetration should be about 3 4 inches. On sloping land, the operation should be on the contour. d. Liquid Mulch Binders: Applications should be heavier at edges where wind catches the mulch in valleys, and at crests of banks. Remainder of area should be uniform in appearance.

ii. Use of the following: (a)Organic and Vegetable Based Binders — Naturally occurring, powder based, hydrophilic materials that mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membrane networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phyto—toxic effect or impede growth of turfarass etable básed gels shall be applied at rate and weather conditions recommended by the (b)Synthetic Binders — High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall

e applied at rates and weather conditions recommended by the manufacturer and remain tacky

VI. STANDARD FOR PERMANENT STABILIZATION WITH SOD

High Quality cultivated sod is preferred over native or pasture sod.

Sod should be free of broadleaf weeds and undesirable coarse and fine weed grasses.

On exposed soils that have a potential for causing off-site environmental damage where an immediate, permanent vegetative cover is desired. Water (rain or irrigation) is required for success; access to irrigation is essential during drought. B.Methods and Materials:

Sod should be of uniform thickness, typically 1/2 inch, plus or minus 1/4 inch, at time of cutting (excludes Sod should be vigorous and dense and be able to retain its own shape and weight when suspended vertically with a firm grasp from the upper 10 percent of the strip. Broken pads and rolls or torn and uneven ends will not be acceptable. For droughty sites, a sod of turf-type tall fescue or turf-type tall fescue mixed with Kentucky bluegrass is preferred over a 100% Kentucky bluegrass sod. Although not widely available, a sod of fine fescue is also acceptable for droughty sites. moist, fresh, unheated sod should be used. Sod should be harvested, delivered, and installed within a period of 24 hours or less during summer months. 1. Site Preparation:

a. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for and Grading (see 7th Edition Manual). b. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 6 inches (unsettled) is required on all sites. See the Standard for Topsoiling for topsoil and amendment requirements. c.Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways.

a.uniformly apply ground limestone, and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the 500 pounds per acre or 11 pounds per 1,000 square feet using 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated in to the surface 4 inches. If fertilizer is not incorporated, apply ½ the rate described above during seedbed preparation and repeat another ½ rate application of the same fertilizer within 3 to 5 weeks after seeding. Apply limestone at ne rate of 2 tons/acre unless soil testing indicates otherwise. Calcium carbonate is the equivalent anc standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and nagnesium to grasses and legumés. Table 6—1 is a general guideline for liméstone application rates.

TAB	LE 6-1	
LIMESTONE¹ APPLICATIO	N RATE BY SOIL TEXTUR	RE
SOIL TEXTURE	TONS/ACRE	LBS./1000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

b. Work lime, and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared.
c.Remove from the surface all objects that would prevent good sod to topsoil contact and remove all other debris, such as wire, cable, tree roots, pieces of concrete, clods, lumps, or other unsuitable material. d.Inspect site just before sodding. If traffic has left the soil compacted, the area must be re—tilled and firmed in accordance with the above.

a.Sod strips should be laid on the contour, never up and down the slope, starting at the bottom of the slope and working up. On steep slopes, the use of ladders will facilitate the work and prevent damage to the sod. During periods of high temperature, lightly irrigate the soil immediately prior to paying the b.Place sod strips with snug, even joints (seams) that are staggered. Open spaced invite erosion.

c.Lightly roll or tamp sod immediately following placement to insure solid contact of root mat and soil surface. Do not overlap sod. All joints should be butted tightly to prevent voids which would cause drying of the roots and invasion of weeds. d.On slopes greater than 3 to 1, secure sod to surface soil with wood pegs, wire staples biodegradable plastic spikes, or split shingles (8 to 10 inches long by 34 inch wide). e. Surface water cannot always be diverted from flowing over the face of the slope, but a capping strip of heavy jute or plastic netting, properly secured, along the crown of the slope and edges will provide extra protection against lifting and undercutting of sod. The same technique can be used to anchor od in water—carrying channels and other critical areas. Wire staples must be used to anchor netting in channel work. f. Immediately following installation, sod should be watered until water penetrates the soil layer beneath sod to a depth of 1 inch. Maintain optimum water for at least two weeks.

4. Topdressing: a. Since soil organic matter and slow release nitrogen fertilizer (water insoluble) are prescribed in Sections 1 and 2 in this Standard, a follow—up topdressing is not mandatory, except where group nitrogen deficiency exists in the soil to the extent that turf failure may develop, topdressing shall then be applied. Topdress with 10-0-10 or equivalent at 400 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

VII. TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

A. Where Applicable: On exposed soils that have a potential for causing off—site environmental damage. B.Methods and Materials:

a. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading (see 7th Edition Manual), PG. 19-1. b. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42 (see 7th Edition Manual). c. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only when there is no danger to underground utilities (cables, irriaation systems, etc.).

a. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre of 11 pounds per 1.000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone at the rate of 2 tons/acre unless soil testing indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.

b. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared. c. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled d. Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid

Producing Soils, pg. 1—1. 3.Seeding — Temporary Mixture: a. Select seed from recommendations in Table 7-2.

TARIF 7-2

		IADLE	/-2			
TEMPORARY VEGETATI	VE STABILIZ	ZATION GRA	SSES. SE	EDING RAT	ES. DATES	& DEPTHS
EED SELECTIONS	SEEDING RATE 1 (pounds)		OPTIMUM SEEDING DATE ² Based on Plant Hardiness Zone ³			OPTIMUM SEED
	Per Acre	Per 1000 Sq. Ft.	ZONE 5b, 6s	ZONE 6b	ZONE 7a, b	DEPTH ⁴ (inches)
COOL SEASON GRASSES						,
Spring Oats	86	2.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	1.0
.Winter Barley	96	2.2	8/1-9/15	8/15-10/1	8/15-10/15	1.0
Annual Ryegrass	100	1.0	3/15-6/1 8/1-9/15	3/15-6/1 8/1-9/15	2/15-5/1 8/15-10/15	0.5
Winter Cereal Rye	112	2.8	8/1-11/1	8/1-11/15	8/1-12/15	1.0
WARM SEASON GRASSES						
Pearl Millet	20	0.5	6/1-8/1	5/15-8/15	5/1-9/1	1.0
Millet(German or Hungarian)	30	0.7	6/1-8/1	5/15-8/15	5/1-9/1	1.0

1. Seeding rate for warm season grass, selections 5-7 shall be adjusted to reflect the amount of Pure Line Seed (PLS) as determined by a germination test result. No adjustment is required for cool season grasses.

May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated. Plant Hardiness Zone (see figure 7-1, pg. 7-4) See 7th Edition Manual

4. Twice the depth for sandy soils. b.Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil to a

depth of ¼ to ½ inch by raking or dragging. Depth of seed placement may be ¼ inch deeper on coarse c. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding (also see Section IV Mulching). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
d. After seeding, firming the soil with a corrugated roller will assure good seed—to—soil contact, restore capillarity, and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

ulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed acceptable with this mulching requirement. a.Straw or Hay: Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1.5 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binde (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of Application: Spread mulch uniformly by hand or mechanically so that at least 95% of the soil surface is covered.

For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.
and Twine: Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss—cross and a square pattern. Secure twine around each peg with two or more

ii. Mulch Nettings: Staple paper, jute, cotton or plastic nettings to the soil surface. Use a degradable netting in areas iii.Crimper (mulch anchoring coulter tool): A tractor— drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

iv.Liquid Mulch Binders: May be used to anchor salt hay, hay or straw mulch (a) Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance. (b)Use of the following: (1) Organic and Vegetable Based Binds — Naturally occurring, powder—based, hydrophilic materials when

mixed with water formulated a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state. (2) Synthetic Binders: High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

b. Wood—fiber or paper—fiber mulch shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1.500 pounds per acre (or as recommended by the product nanufacturer) and may be applied by a hydroseeder. Mulch shall not be mixed in the tank with seed. 'Use is limited to flatter slopes and during optimum seeding periods in spring and fall. c. Pelletized mulch — compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weedseed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil

VIII. STANDARD FOR TOPSOILING

Topsoiling entails the distribution of suitable quality soil on areas to be vegetated.

To improve the soil medium for plan establishment and maintenance

Water Quality Enhancement Growth and establishment of a vigorous vegetative cover is facilitated by topsoil, preventing soil loss by wind and rain offsite and into streams and other stormwater conveyances Where Applicable

Topsoil shall be used where soils are to be disturbed and will be re-vegetated

Methods and Materials

a. Topsoil should be friable, loamy, free of debris, objectionable weeds and stones, and contain no toxic substance or adverse chemical or physical condition that may be harmful to plant growth. Soluble salts should not be excessive (conductivity less than 0.5 millimhos per centimeter. More than 0.5 millimhos may desiccate seedlings and adversely impact growth). Imported topsoil shall have a minimum organic matter content of 2.75 percent. Organic matter content may be raised by additives.

b. Topsoil substitute is a soil material which may have been amended with sand, silt, clay, organic matter, fertilizer or lime and has the appearance of topsoil. Topsoil substitutes may be utilized on sites with insufficient topsoil for establishing permanent vegetation. All topsoil substitute materials shall meet the requirements of topsoil noted above. Soil tests shall be performed to determine the component of sand, silt, clay, organic matter, soluble salts 2. Stripping and Stockpiling

a. Field exploration should be made to determine whether quantity and or quality of surface soil justifies stripping.

b. Stripping shall be confined to the immediate construction area.

c. Where feasible, lime may be applied before stripping at a rate determined by soil tests to bring the soil pH to d. A 4—6 inch stripping depth is common, but may vary depending on the particular soil.

e. Stockpiles of topsoil should be situated so as to not obstruct natural drainage or cause off-site environmental f. Stockpiles should be vegetated in accordance with standards previously described herein; see standards for Permanent or Temporary Vegetative Cover for Soil Stabilization. Weeds should not be allowed to grow on

stockpiles. 3. Site Preparation a. Grade at the onset of the optimal seeding period so as to minimize the duration and area of exposure of

urbed soil to erosion. Immediately proceed to establish vegetative cover in accordance with the specified seed Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance. See the Standard for Land Grading.

c. As quidance for ideal conditions, subsoil should be tested for lime requirement. Limestone, if needed, should be applied to bring soil to a pH of approximately 6.5 and incorporated into the soil as nearly as practical to a depth d. Prior to topsoiling, the subsoil shall be in compliance with the Standard for Land Grading.

e. Employ needed erosion control practices such as diversions, grade stabilization structures, channel stabilization easures, sedimentation basins, and waterways. See Standards 11 through 42.

a. Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than field capacity (see glossary). b. A uniform application to a depth of 5.0 inches, minimum of 4 inches, firmed in place is required. Alternative depths may be considered where special regulatory and/or industry design standards are appropriate such as golf courses, sports fields, landfill capping, etc. Soils with a pH of 4.0 or less or containing iron sulfide shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or more, in accordance with the Standard

c. Pursuant to the requirements in Section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed by the contractor to include some or all of the following: supplemental seeding, re-application of lime and fertilizers, and/or the addition of organic matter (i.e. compost) as a top dressing. Such additional measures shall be based on soil tests such as those offered by Rutgers Cooperative Extension Service or other approved aboratory facilities qualified to test soil samples for agronomic properties.

IX. STANDARD FOR LAND GRADING

Soil Management and Preparation

for Management of High Acid Producing Soil.

Reshaping the ground surface by grading to planned elevations which are determined by topographic survey and layout.

The practice is for one or more of the following: Provide more suitable sites for land development; improve surface drainage and control erosion. Conditions Where Practice Applies

This practice is applicable where grading to planned elevations is practical and it is determined that grading is needed Grading that involves the disturbances of for temporary stabilization of large areas. pances of vegetation over large areas shall be avoided. It may be necessary to provide Water Quality Enhancement

Proper grading of disturbed sites will protect against soil loss from erosion, enhance establishment of permanent vegetative cover and help to properly manage stormwater runoff all of which will reduce off site discharge of pollutants. <u>Planning Criteria</u>

The grading plan and installation shall be based upon adequate topographic surveys and investigations. The plan is to show the location, slope, cut, fill and finish elevation of the surface to be graded. The plan should also include auxiliary practices for safe disposal of runoff water, slope stabilization, erosion control and drainage. Facilities such as waterways, ditches, diversions, grade stabilization structures, retaining walls and subsurface drains should be included where Erosion control measures shall be designed and installed in accordance with the applicable standard contained herein.

The development and establishment of the plan shall include the following: 1. The cut face of earth excavations and fills shall be no steeper than the safe angle of repose for the materials encountered and flat enough for proper maintenance.

2. The permanently exposed faces of earth cuts and fills shall be vegetated or otherwise protected from erosion. 3. Provisions shall be made to safely conduct surface water to storm drains or suitable water courses and to prevent surface runoff from damaging cut faces and fill slopes

4. Subsurface drainage is to be provided in areas having a high water table, to intercept seepage that would adversely affect slope stability, building foundations or create undesirable wetness. See Standard for Subsurface Drainage. 5. Adjoining property shall be protected from excavation and filling operations. 6.Fill shall not be placed adjacent to the back of a stream or channel, unless provisions are made to protect the hydraulic, biological, aesthetic and other environmental functions of the stream.

Subgrade soils prior to the application of topsoil shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover. This section of this Standard addresses the potential for excessive soil compaction in light of the intended land use esting for excessive soil compaction where permanent vegetation is to be established and mitigation of excessive soil

Due to use or setting, certain disturbed areas will not require compaction remediation including, but not limited to the 1. Within 20 feet of building foundations with basements, 12 feet from slab or crawl space construction.

2. Where soils or gravel surfaces will be required to support post-construction vehicular traffic loads such as roads, parking lots and driveways (including gravel surfaces), bicycle paths or pedestrian walkways (sidewalks, etc.) 3. Airports, railways or other transportation facilities

4. Areas requiring industry or government specified soil designs, including golf courses, landfills, wetland restoration, septic disposal fields, wet/lined ponds, etc. 5. Areas governed or regulated by other local, state or federal regulations which dictate soil conditions.

6.Brownfields (capped uses), urban development areas, in-fill areas, recycling yards, junk yards, guarries and

7. Slopes determined to be inappropriate for safe operation of equipment. 8. Portions of a site where no heavy equipment travel or other disturbance has taken place. 9. Areas receiving temporary vegetative stabilization in accordance with the Standard.

10. Where the area available for remediation practices is 500 square feet or less in size.

11. Locations containing shallow (close to the surface) bedrock conditions. Areas of the site which are subject to compaction testing and/or mitigation shall be graphically demoted on the certified

Soil compaction remediation or testing to prove remediation is not necessary will be required in areas where permaner egetation is to be established that are not otherwise exempted above. Testing method shall be selected, and soi compaction testing shall be performed by, the contractor or other project owner's representative (e.g. engineer). A ninimum of two (2) tests shall be performed for projects with an overall limit of disturbance of up to one (1) acre and at a rate of two (2) tests per acre of the overall limit of disturbance for larger areas which shall be evenly distributed over the area of disturbance subject to testina. Tests shall be performed in areas representative of the construction ctivity prevailing in the area. In the event this testing indicates compaction in excess of the maximum thresholds indicated for the testing method, the contractor/owner shall have the option to perform compaction mitigation over the entire disturbed area (excluding exempt areas) or to perform additional testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation.

Soil compaction testing is not required if/when subsoil compaction remediation (Scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction. Soil Test Method Options

1. Probing Wire Test Method

This test shall be conducted with a firm wire (15-1/2 gauge steel wire - e.g. survey marker flag, straight wire stock,etc.), 18 to 21 inches in length, with 6" inches from one end visibly marked on the wire. Conduct wire flag test by holding the wire flag near the flag end and push it vertically into the soil at several different locations in the field the lesser of a 6 inch depth or the depth at which it bends due to resistance in the soil. Record the depth at which it bends due to resistance in the soil. The wire should penetrate without bending or deforming at least 6" into the ground by hand, without the use of tools. If penetration fails and an obstruction is suspected (rocks, root, debris, etc.) the test can be repeated in the same general area. If the test is successful the soil is not excessively compacted. If the wire is difficult to insert (wire bends or deforms prior to reaching 6 inches in depth) the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

2. Handheld Soil Penetrometer Test Method This test shall be conducted based on the Standard Operation Procedure (SOP) #RCE2010—001, prepared by the Rutgers Cooperative Extension, Implemented June 1, 2010, last revised February 28, 2011. A result of less than or equal 300 psi shall be considered passing. If the result is greater than 300 psi, the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is

3. Tube Bulk Density Test Method

This test shall be certified by a New Jersey Licensed Professional Engineer utilizing only undisturbed samples (reconstitution of the sample not permitted) collected utilizing the procedure for Soil Bulk Density Tests as described in the USDA NRCS Soil Quality Test Kit Guide, Section 1—4, July 2001. When the texture of the soil to be tested is a sand or loamy sand and lack of soil cohesion or the presence of large amounts of coarse fragments, roots or worm channels prevent the taking of undisturbed samples, this test shall not be used.

Where the results of replicate tests differ by more than ten percent (10%), the samples shall be examined for the

i. Cracks, worn channels, large root channels or poor soil tube contact within the samples; iii. Large pieces of gravel, roots or other foreign objects; iii.Smearing or compaction of the upper or lower surface of the samples

If any of the defects described in 3 (i-iii) above are found, the defective core(s) shall be discarded and the test repeated using a new replicate sample for each defective replicate sample. The bulk density (defined as the weight of dry soil per volume) results shall be compared with the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

4. Nuclear Density Test Method

This test shall be certified by a New Jersey Licensed Professional Engineer and conducted by a nuclear gauge certified inspector pursuant to ASTM D6938. The bulk density measurement results shall be compared with the Maximum Dry Bulk Densities in Table 19—1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

Table 19-1* - Maximum Dry Bulk Densities (grams/cubic centimeter) by soil type

BULK DENSITY SOIL TYPE / TEXTURE (g/cc) COARSE, MEDIUM AND FINE SANDS AND LOAMY SANDS 1.80 VERY FINE SAND AND LOAMY VERY FINE SAND 1 77 SANDY LOAM 1.75 LOAM, SANDY CLAY LOAM 1.70 CLAY LOAM 1.65 SANDY CLAY 1.60 SILT, SILT LOAM 1.55 SILTY CLAY LOAM 1.50 SILTY CLAY 1.45 1.40

*Source: USDA Natural Resource Conservation Service, Soil Quality Information Sheet, Soil Quality Resource Concerns: Compaction, April 1996

5. Additional testing methods which conform to ASTM standards and specifications, and which reduce a dry weight, soil bunk density measurement may be allowed subject to District approval.

If subgrade soils are determined to be excessively compacted by testing, as identified above, procedures shall be used to mitigate excessive soil compaction prior to placement of topsoil and establishment of permanent vegetative cover. Restoration of compacted soils shall be through deep scarification/tillage (6" minimum depth) where there is no danger to underground utilities (cables, irrigation systems, etc.) or in the alternative, another method as specified by a New Jersey Licensed Professional Engineer.

Timber, logs, brush, rubbish, rocks, stumps and vegetative matter which will interfere with the grading operation or affect the planned stability or fill areas shall be removed and disposed of according to the plan. Topsoil is to be stripped and stockpiled in amounts necessary to complete finish grading of all exposed areas requiring

Fill material is to be free of brush, rubbish, timber, logs, vegetative matter and stumps in amounts that will be All structural fills shall be compacted as determined by structural engineering requirements for their intended purpose

All disturbed areas shall be left with a neat and finished appearance and shall be protected from erosion. See Standards for Permanent Vegetative Cover for Soil Stabilization. Trees to be retained shall be protected if necessary in accordance with the Standard for Tree Protection During

X. STANDARD FOR TREE PROTECTION DURING CONSTRUCTION

and as required to reduce slipping, erosion or excessive saturation

On new development sites with existing trees.

Procedures for Soil Compaction Mitigation

1.Reconnaissance should be performed before land clearing begins to identify dead and weak trees to be removed and healthy trees to remain, to create aesthetically pleasing development site with vegetation rather than the presence of dead or dying trees. Inventory the site and clearly mark the trees and stands of trees to be saved. Consider relocating streets, housed, or other structures if necessary and asible. Once clearing begins and damage to the trees occurs, valuable specimens may be lost a. Characteristics of trees to be protected and saved. The following lists characteristics that should be

evaluated before deciding to remove or protect a tree: Tree health is the overall condition of the tree. A tree of low vigor is more susceptible to damage by environmental changes than healthy trees and is more susceptible to insect and disease attacks Indications of poor vigor include the dying of the tips of branches and entire limbs, small annual twig growth, stunted leaf size, sparse foliage, and poor foliage color. Avoid saving hollow or rotten trees, trees cracked, split, leaning or crooked, oozing sap, or with broken tops. Use woodchips generated from removal of trees of poor health and spread them around the root zones to help protect the s that remain.

Large, picturesque trees may be more aesthetically valuable than smaller, young trees, but also require more extensive protection measures. If leaving an older tree, be sure it is sound and healthy. iii. Species (the right trees for the right locations) Many species of trees found in New Jersey woodlands are not suitable for shade tree used around buildings. Avoid protecting trees that are short—lived, brittle, have soft wood, messy leaves, fruit or are frequently attacked by insects and disease. Tree root systems which do not adapt well to cuts and fills may not be suitable alternative. The following are severely affected by compacted construction fills: Aspen, Beech, Paper birch, Eastern red cedar, Black cherry, Dogwood, Katsura tree, Linden, Paperbark maple, Sugar maple, Black oak, Pin oak, Red oak, White oak, Pines, and Tuliptree.

See Table 9—1 in the 7th Edition Manual for a more complete list of construction impacts to ndividual tree species. iv. Resistant to insects and Diseases Avoid leaving trees in highly visible areas or specimens that are frequent targets of insects and diseases. American Elm, for example, could be lost due to Dutch Elm Disease. Wild Cherry, another example, is a favorite host of the tent caterpillar, which causes defoliation of the trees in early summer. The following are susceptible to insects (I) and disease (D): White Ash (D), Birch (I) Butternut (D), Crabappies (D), some Elms (D), Hawthorn (D), Hemlock (I), Linden (I), Sugar Maple (D),

Mountain Ash (D), Sassafras (I), Scholartree (D), Redbud (D) Choose trees that are aesthetically pleasing, exhibiting good shape and form. Avoid leaning, crooked and misshapen trees. Occasionally, an odd—shaped tree or one of unusual form may add interest to the landscape if strategically located. Be sure the tree is structurally sound and vigorous. vi. Spring and Autumn Coloration Species differ in fall color. Some are bright red, others orange and yellow. Other species exhibit no

autumn color, such as walnut, locust, and sycamore.

Favor trees that are preferred by wildlife for food, cover, and nesting. A mixture of evergreens and hardwoods is beneficial. Evergreen trees are important for cover during the winter months. The hardwoods are more valuable for food. viii. Air Pollution Susceptibility Tree species vary greatly to susceptibility to air pollution. Symptoms vary from browning on the edges of the leaves and needles, to stunting of growth, to death of the tree. The following show

Corktree, Amur maple, Kentucky coffee tree, Crabapple, Dawn redwood, Ginko (male), Goldenraintree łackberry, Hawthorn, Honeylocust, European hornbeam, Horsechestnut, Lindens, Oaks (excluding pin), Pear, Scholartree, Sourgum (tupelo), Sweet gum, Yews, Zelkova. ix. Species Longevity Favor trees whose life span is long, such as oak, beech, and tulip poplar. Short—lived trees; (Black locust, Gray birch, Aspen) should be avoided for use as shade, lawn, or specimen trees. Although

tolerance to urban stress and are less likely to present problems with sidewalks: Baldcypress,

some short-lived trees have an attractive form of pleasing coloration in the spring or fall, such trees may not live for a long time and thus may not be worth preserving. b. Criteria for protecting remaining trees
i. General mechanical damage — see Figure 9.3 in the 7th Edition Manual for correct root zone calculation and placement of tree protection. ii. Box trees within 25 feet of a building site to prevent mechanical injury. Fencing or other barrier should

be installed beyond the Critical Root Radius (See Figure 9.3). Tree root systems commonly extend well iii. Boards will not be nailed to trees during building operations. v. Feeder roots should not be cut in an area inside the Protected Root Zone (PRZ). v. Damaged trunks or exposed roots should have damaged bark removed immediately and no paint shall be applied. Exposed roots should be covered with topsoil immediately after excavation is complete. Roots shall be pruned to give a clean, sharp surface amenable to healing. Roots exposed during hot weather

should be irrigated to prevent permanent tree injury. Care for serious injury should be prescribed by a professional forester or licensed tree expert.

vi. Tree limb removal, where necessary, will be done as natural target pruning to remove the desired branch as close as possible to the branch collar. There should be NO flush cuts. Flush cuts destroy a major defense system of the tree. See Figure 9—1. No tree paint shall be applied. All cuts shall be made at the outside edge of the branch collar (fig. 9-1 and 9-2). Cuts made too far beyond the branch collar may lead to excess sprouting, cracks and rot. Removal of a "V" crotch should be considered for free standing specimen trees 9see Figure 9-2_ to avoid future splitting damage.

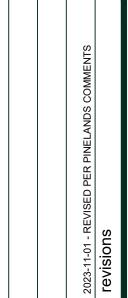
Er or more specific data on certain tree characteristics by species, see Table 9.1, Tree Characteristics

or consult with a Licensed Professional Tree Expert, Soil Conservation District or Rutgers Cooperative

Ш ШШ

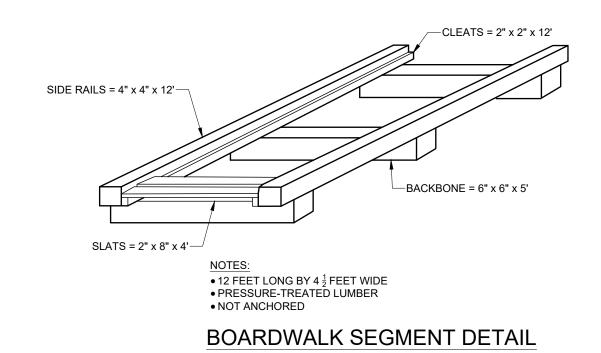
KK KK

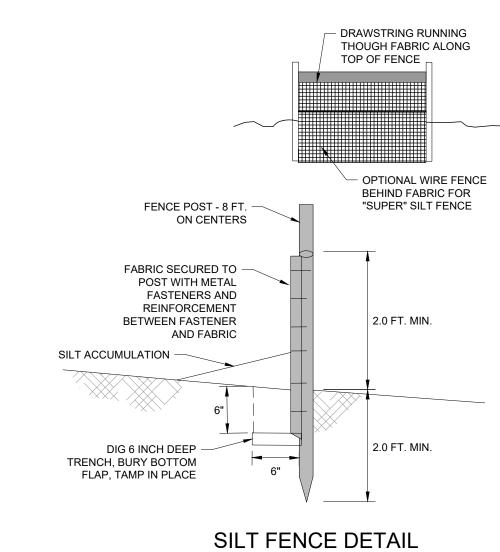
ANN



S

6 of 7





SILT FENCE REQUIREMENTS NOTES:

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND TO AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER

THICKNESS OF 1-1/2 INCHES.

2. "SUPER" SILT FENCE- A METAL FENCE WITH 6 INCH OR SMALLER MESH OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED. FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC. POSTS MAY BE SPACED LESS THAN 8 FEET ON CENTER AND MAY BE CONSTRUCTED OF HEAVIER WOOD OR METAL AS NEEDED TO WITHSTAND HEAVIER SEDIMENT LOADING. THIS PRACTICE IS APPROPRIATE WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED. "SUPER" SILT FENCE IS NOT TO BE USED N PLACE OF PROPERLY DESIGNED DIVERSIONS WHICH MAY BE NEEDED TO CONTROL SURFACE RUNOFF RATES AND VELOCITIES.

3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY MANUFACTURER. SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SILT FENCE MAINTENANCE NOTES. 1. SEDIMENT SHALL BE REMOVED FROM THE UPSTREAM FACE OF THE BARRIER WHEN IT HAS REACHED A DEPTH OF $\frac{1}{2}$ THE BARRIER HEIGHT. 2. REPAIR OR REPLACE BARRIER (FABRIC, POSTS, BALES, ETC.) WHEN DAMAGED.

3. BARRIERS SHALL BE INSPECTED DAILY FOR SIGNS OF DETERIORATION AND SEDIMENT REMOVAL.



SOIL EROSION AND SEDIMENT CONTROL DETAIL & CONSTRUCTION DETAILS
FOR
PEMBERTON LAKE
ACCESSIBLE TRAIL IMPROVEMENT PLANS
BLOCK 825, LOTS 7.01, 7.04 & 7.05
TOWNSHIP OF PEMBERTON, BURLINGTON COUNTY, NEW JERSEY