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October 29, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Committee
888 First Street, NE, Room 1A
Washington, DC 20426

Re: Penneast Pipeline Project
Docket No. CP15-558-000

Dear Secretary Bose:

New Jersey Conservation Foundation appreciates the opportunity to comment on the PennEast pipeline application, Docket No. CP15-558-000, filed September 24, 2015. New Jersey Conservation Foundation (NJ Conservation) has submitted numerous and detailed comments and reports since the PennEast pipeline was first proposed. We are concerned that many of the important issues we raised have not been addressed by PennEast- not in the pre-filing process or in the application.

We urge the Federal Energy Regulatory Commission (FERC) to reject the PennEast pipeline application, as it does not provide FERC with the information necessary to demonstrate public need and benefit, has not fully evaluated alternatives, and would have significant and unavoidable impacts on numerous sensitive environmental and cultural resources.

Our continued and serious environmental concerns regarding the application and the overall proposed project are outlined below and detailed in the attached documents. We are submitting additional comments regarding the lack of demonstrated need and market-demand under separate cover. Thank you for your consideration of our comments. Please contact Alison Mitchell 908-234-1225 if you have any questions or concerns.

Sincerely,

Michele Byers, Executive Director
New Jersey Conservation Foundation

EXECUTIVE SUMMARY

1.Land requirements and co-location: PennEast’s application and Resource Reports vastly overstate the co-location of pipeline facilities as a way to mitigate negative impacts. The proposed pipeline project does not follow the requirements in the New Jersey Department of Environmental Protection’s 2011 guidance document regarding co-location. The Environmental Impact Statement must address this problem, and the negative environmental and cultural impacts it would cause.

2.Threatened and Endangered Species Reports: A rare plant species search cannot be circumscribed to an inadequate artificial subset such as the eight species noted in *Resource Report 3*. The proposed pipeline should have been the subject of a comprehensive search for *any* and *all* rare species, as directed by FERC. More detailed surveys of animal species must be conducted as well. The restoration and mitigation measures for plants and animals proposed by PennEast are widely recognized as inadequate.

3.Cultural Resources: We have grave concerns about the Cultural Resources within the proposed pipeline’s path. The Rosemont Rural Agricultural District, for example, which is listed on the National Register of Historic Places as well as the State Register of Historic Districts, is in the proposed pipeline’s path. This area should simply be off limits to gas pipelines.

4. Water Resources and Alternatives Analysis

The information contained in this application is not related to the regulatory structure that PennEast must, by law, comply with. PennEast neglects to outline how it will meet the requirements of NJ DEP for the permits and certifications needed to construct the project, as well as how it will avoid and mitigate negative impacts to water resources. Without such information, it is impossible to evaluate the route and consider alternatives. PennEast should provide a more complete alternatives analysis.

5. Construction Techniques and Soil, Erosion and Watershed Concerns: PennEast proposes to use standard construction techniques and BMPs from FERC manuals. This approach does not take into account the numerous sensitive resources this project will cross, nor the attendant negative impacts. There are other less damaging alternatives that have been used on other pipeline projects. PennEast claims to need huge work spaces and access roads with no justification and within wetland and Category 1 stream buffers.

PennEast's application and Resource Reports ignore the living components of soil resources and the living soil food web.

6. Process concerns: Submissions by the public have not been adequately addressed by PennEast and many of the scoping comments and questions have been ignored. Over 1,000 people have registered as intervenors, but they have not been afforded sufficient time to review and comment on the 7,200 page application. More time needs to be provided for public input into this important process. Given the very high level of uncertainty about whether the proposed footprint of the project is feasible, assessing the merit of the proposal (before our concerns are addressed) would be an inefficient and wasteful use of taxpayer resources.

The application does not contain accurate and complete information needed by FERC to conduct its evaluation of the project efficiently. The application has not been responsive to our detailed pre-filing comments that were based on local research.

Many of the maps show work areas located in wetlands and without proper buffer requirements for Category 1 water bodies. We request that FERC require PennEast to submit site-specific construction plans as input to its certification decision.

7. Land use and taxpayer investments: New Jersey Conservation Foundation strongly urges that the wealth of water, environmental, cultural, recreation, agricultural and aesthetic resources in the proposed pipeline's path be avoided altogether. The unique and sensitive region targeted for a pipeline by PennEast is totally inappropriate for such industrial development. Loops of the Delaware River Scenic Byway would be negatively impacted by the PennEast line, including Lower Creek Road and Rosemont-Ringoes Road, which intersect at the Covered Bridge and then pass through the rolling fields of the Rosemont Rural Agricultural District. The Resource Report should be revised to address how these resources would be avoided. The proposed route would cut through extensive areas of preserved lands including the Milford Bluffs, the Wichecheoke Greenway preserve, Baldpate Mountain, the Sourlands, Gravel Hill, the Alexauken Preserve and Goat Hill Mountain, to name a few. Every single one of these sensitive natural and recreational areas would be negatively impacted. The Sourland Mountain Preserve is one of the most important preserves that would be negatively impacted by the proposed pipeline. Locating the pipeline "adjacent to or in close proximity to" existing ROWs will further impact forests. The only way to avoid negative impacts is to not build a pipeline through the pristine forests in the Sourlands, one of the most ecologically sensitive areas in Hunterdon and Mercer Counties.

8. A selection of maps based on PennEast's alignment drawings from Hunterdon County, with buffers on wetlands and category one streams superimposed. PennEast neglected to include any buffers in their alignment drawings. We are extremely

concerned that so much of the disturbance caused by this project is unnecessarily placed in these buffers. PennEast should be asked to calculate all areas of disturbance, including access roads, alternate temporary works spaces and temporary workspaces in buffer areas, and justify their necessity.

Comments on CP15-558-000

1. LAND REQUIREMENTS AND CO-LOCATION: PennEast’s application and resource reports state that “In order to minimize impacts to existing land use, PennEast has proposed to co-locate much of the construction ROW adjacent to or in proximity to existing ROWs wherever possible (e.g., gas pipeline, transmission line, or product pipeline).”

Resource Report 8 states that 16.8 miles of the pipeline are parallel to existing rights of way. Table 1.3-1, Land Requirements for Pipeline Facilities, states: the temporarily and permanently disturbed acreage total as 2,431 acres. Table 8.2-2, Co-location of the Pipeline Facilities with Existing Rights-Of-Ways, states that 41.4 acres of the permanent ROW and 69.4 acres of the temporary ROW would be located “inside” existing ROWs. Only 110.8 acres - just 4.5% - of the acreage of the proposed PennEast pipeline and its facilities would actually be co-located “inside” existing ROWs.

PennEast vastly overstates the amount of the proposed pipeline that is actually co-located. This raises concerns regarding the often cited, proposed “co-location” mentioned throughout numerous resource reports, particularly those regarding water resources, species and fisheries, cultural resources and publically preserved lands. The amount of disturbance the project would cause is significantly greater than the applicant states.

The New Jersey Department of Environmental Protection (DEP) provides stringent standards for co-location. The New Jersey Department of Environmental Protection Large linear infrastructure project guidance document dated December 9, 2011, states:

“Large linear infrastructure or corridor construction projects such as power transmission lines, natural gas distribution and transmission pipelines, CO2 pipelines, large drinking water or clean water pipelines (hereafter ‘linear infrastructure projects’) create a unique set of challenges for the Department’s permitting and approval processes.

Commercial and residential construction projects primarily have localized impacts that are easier to quantify early in the review process. Linear infrastructure projects often require Federal authorizations and approvals; require regional environmental exemptions or approvals; traverse multiple local and regional jurisdictions; impact significant amounts of publicly preserved lands and sensitive environmental areas; and/or affect communities already overburdened with a disproportionate share of environmental and social impacts. For all of these reasons, the Department has developed the guidance below to facilitate early DEP involvement in these projects, in conjunction with any required Federal processes, in order to ensure that environmental issues are proactively and timely identified and appropriately managed... To facilitate early review of a project and ensure that environmental concerns are addressed to the Department’s satisfaction, applicants are encouraged to engage the Department through the Office of Permit Coordination and Environmental Review as early as possible in the planning stages of a linear infrastructure project. This should be done concurrent with or prior to any required Federal National Environmental Policy Act (NEPA) process. As

resource reports and other information about the project become available during any required NEPA process, the Department will provide ongoing review and comment on the project.

The Department anticipates filing for Intervener status on such projects whenever appropriate to preserve New Jersey's rights.

The Department has identified the following positive criteria to guide prospective applicants. The project:

- 1) Has allowed or will allow early and substantial Department influence*
- 2) Provides the highest level of environmental protection*
- 3) Meets or exceeds Federal and State requirements for the protection of public health, safety, and matters of Homeland Security*
- 4) Utilizes similar rights of way if they exist... This policy does not include projects reviewed by the Department pursuant to N.J.A.C. 7:22-10.*
- 5) Does not cause disproportionate impacts to already overburdened communities*
- 6) Provides significant and measureable benefits to consumers in New Jersey*
- 7) Minimizes use of and impacts to public lands and waters*
- 8) Minimizes impacts to sensitive environmental areas and threatened or endangered species or rare plants and does not fragment contiguous habitat types or areas*
- 9) Is consistent with the New Jersey State Strategic Plan*
- 10) Is consistent with the State's final 2011 Energy Master Plan*

The Department will provide permit coordination services and will prioritize the use of its available resources for the review of projects generally consistent with the above criteria. For all linear infrastructure projects where applicable and where the project involves a plant or industrial process in addition to a lateral infrastructure project as above, the Department will review land use-based permit applications (e.g., Site Remediation, Land Use Regulation) prior to reviewing equipment-based (e.g., Air Quality Permitting) permit applications..."

PennEast's proposed use of co-location does not follow the DEP's requirements and would negatively impact New Jersey's environmental resources, cultural resources, public lands and waters, preserved farmland, sensitive environmental areas and endangered species and rare plant communities. Some of these rare plant communities are found on Gravel Hill in the Highlands Regional Planning Area and require special protections according to the DEP.

2. THREATENED AND ENDANGERED SPECIES REPORTS: Re: PennEast FINAL Resource Report #3, dated September 2015.

Rare Plants: In *Resource Report 3* of the final FERC Section 7(c) Application of September 2015, eight rare plant species are described as having been searched for by a consultant working on behalf of PennEast (three NJ endangered (S1) species are listed on page 3-54, and five species of concern (S2) are listed on page 3-88).

Of those eight, only a *single* occurrence of a *single* rare plant species, wild comfrey, was located by the consultant in the proposed PennEast pipeline alignment.

The field of plants searched for should have been significantly more than the eight presented. Consider the following:

- Hunterdon County alone (only one of the counties bisected by the proposed line) is documented by the state to contain 126 rare plant species.
- Holland Township alone (only one of the townships bisected by the proposed line) is documented to contain 11 rare plant species.
- The State of New Jersey DEP Natural Heritage Program tracks 814 species on its current *List of Endangered Plant Species and Plant Species of Concern*

Because the proposed line placement deliberately cuts across natural areas (as opposed to more expensive developed areas), it intersects some of the highest-quality habitats in the impacted counties, as well as numerous moderate- and lower-quality natural areas. Based on the number of rare plant species known from the region, and the propensity of the line to intersect natural areas, the rare plant surveys should have been expanded to *at least* encompass all the species already known and documented from all of the counties and townships the proposed line bisects, well over 100 species.

Furthermore, the list of eight species searched for by the PennEast consultant contains *only* species with a state rank of S1 and S2. Plant species of special concern with a state rank of S3 are not even featured on the list despite FERC's instructions to PennEast to include them. FERC asked for consideration of all species of special concern, which includes the S3 category. For perspective on the minimal extent of PennEast's findings, consider that Hunterdon County is currently documented to contain 47 S1 plant species, 4 S1S2 plant species, 52 S2 plant species, 13 S3 plant species, and nine species that are SX, SH, or SU.1.

We maintain that a rare species search cannot be circumscribed to a wholly inadequate artificial subset such as the eight species noted in *Resource Report 3*. The proposed pipeline should have been the subject of a comprehensive search for *any* and *all* rare species.

There are several publically available documents and datasets that could have easily been accessed by PennEast to provide a more robust list of species to search for. These include:

The NJ-DEP Office of Natural Heritage maintains *Rare Plant Species and Ecological Community Lists by County*, available online at <http://www.nj.gov/dep/parksandforests/natural/heritage/countylist.html>

Many of the townships bisected by the line have Environmental Resource Inventories that include all rare plant species documented for the township. These are available online or by request at township offices.

NJ-GeoWeb, a publically accessible, internet browser-based Geographic Information System, could have been used to access documented rare species for each USGS quad intersected by the proposed pipeline.

The NJ-DEP Office of Natural Heritage data requests can be utilized to yield rare species reports for the entirety of a specified geographical area, for a modest fee, accessing the entirety of the Natural Heritage database.

In the paragraphs above, we have outlined how: the PennEast consultants based their searches on a woefully inadequate subset of rare plant species; that numerous publically accessible data sources would have provided a more robust set of species to search for; and that any search should have included all New Jersey species of special concern and endangered species.

Given the low quality of the original PennEast submissions, New Jersey Conservation Foundation contracted consultant botanists to survey for rare plant species along the proposed PennEast line. With limited planning time, a limited budget, limited access, and searches that did not even begin until June 2015, this team found:

- Ten state-listed plant species in the 400' zone of disturbance
- Two additional species downstream from a proposed pipeline creek crossing, including a state-endangered species
- Two S1 plant species, one S1S2 plant species, and two S2 plant species not found by the PennEast consultant, only one of which (*Phlox divaricata ssp. divaricata*) was even on the list of species searched for by PennEast.
- Twenty-four total species occurrences

This result stands in stark contrast to a single occurrence of one rare species found by the consultant for PennEast. Only one conclusion can be drawn from this comparison: the findings presented by PennEast must be rejected as inadequate.

Seven of the rare plant locations found by New Jersey Conservation Foundation are on publicly-accessible open space parkland where PennEast had access to search for and find rare plant species. At one site where PennEast is known to have conducted biological surveys, they missed populations of at least 3 rare plant species that we located. PennEast consultants either did not spend enough time searching accessible sites, or they lacked fundamental competence in identifying New Jersey's rich and diverse flora.

PennEast found 6 rare plants on the pipeline route in Pennsylvania, for which they admit (page 3-81) that they cannot avoid impacts to the habitat. Their proposed mitigation is to collect seed and/or transplant the plants and try to re-establish the plants using horticultural methods. It is widely acknowledged that these methods almost always fail (Fahselt, 2007, Canadian Journal of Botany 85: 1007-1017). **(File attached)**

PennEast proposes additional searches for rare plants in NJ in 2016. If the proposed searches are actually conducted in a systematic, comprehensive manner across space (the entire route) and time (multiple visits during the growing season), and include searching for all of the rare plant possibilities, PennEast will find that the proposed pipeline will have direct and irreversible adverse impact on numerous rare plant species in New Jersey.

PennEast's mitigation proposals for direct rare plant impacts (section 3.5.2, page 3-89) unfortunately cannot succeed. Complex relationships between rare plants and other species within intact natural communities can almost never be re-established, and the 2-5 year monitoring period proposed by PennEast will reveal, as has been revealed in the scientific literature, that nearly all their efforts to mitigate the destruction of intact rare plant populations and the natural communities they employ will fail.

The New Jersey Highlands Conservation Act and the New Jersey Green Acres Diversion rules provide certain protections for all rare plant species. FERC guidelines require PennEast to report all potential impacts to special concern species, which includes all rare plants ranked S1, S2, and S3 in New Jersey by the NJ Heritage Program. Presumably, FERC has asked PennEast to provide this information so that rare plants impacts can be avoided.

No permitting agency should allow seed collection and transplanting to be the mitigation method of choice (as is proposed by PennEast in their report). For every rare plant population that PennEast ultimately discovers and proposes to destroy or seriously degrade (and there are many yet to be found), choosing to allow seed collection and transplanting as a potentially useful mitigation method has no scientific basis. There is not only a lack of a scientific basis to expect success, but far worse, existing scientific evidence reveals that such mitigation procedures almost always result in failure.

Seed collection and transplanting cannot succeed as a mitigation method to avoid direct impacts to rare plants. If the pipeline is constructed under this mitigation scenario, PennEast will therefore have destroyed rare plant populations without effective mitigation; any permitting agency will have knowingly allowed the destruction.

The only method of avoiding rare plant impacts that can be justified by current ecological restoration science is to avoid any disturbance to rare plant populations.

Rare Animals: PennEast reports that they will utilize a document presented in Appendix 3A entitled "Adaptive Management Practices for Conserving Migratory Birds" in order to minimize

impacts to virtually every species in their extensive list of migratory birds found breeding along the proposed pipeline route. Unfortunately this document is essentially useless, because it is a set of recommendations that PennEast is not required to follow. What is worse is that examination of the document reveals that PennEast has no intention of following the recommendations. For example, recommendation 3 requests that areas of migratory bird concentrations, such as Important Bird Areas (IBAs) be avoided. Baldpate Mountain, an IBA, is not being avoided. Huge swaths of forest containing breeding pairs of numerous rare bird species will be permanently destroyed. Recommendation 4 requests that contiguous forest be maintained and fragmentation of important forest tracts be avoided. PennEast is ignoring this request, as important tracts of intact forest, in fact some of the largest remaining forest tracts in both Hunterdon and Mercer County NJ on steep slopes and/or public lands, containing many breeding populations of migratory birds, C1 streams, and highly erodible soils are the target of the proposed new pipeline, and many do not already contain existing ROW (not co-located).

PennEast does not appear to have considered rare butterflies, dragonflies, and damselflies in their report. New Jersey Conservation Foundation has found rare (including NJ special concern) insect species along the proposed route. PennEast should be required to complete surveys for all rare species of animals, both vertebrates and invertebrates, along the entire route before their application can be evaluated for potential impacts to rare species.

Northern Copperhead is known to occur on Baldpate Mountain, and PennEast proposes to protect this rare NJ species with pre-construction surveys and construction monitors (pg. 3-87). It is virtually impossible to detect Northern Copperheads, especially their young, in the rocky, forested matrix on Baldpate Mountain. The only way to avoid irreversible adverse impact to the Northern Copperhead population, the take of individuals of the Northern Copperhead, or the destruction of their critical habitat on Baldpate Mountain, would be to engage in a lengthy research project using radio-tracking, to find their dens, basking habitat, critical reproductive sites, foraging habitat, etc., and to determine their movement patterns and home range on the mountain. None of these key features of copperhead habitat at Baldpate have been elucidated as of this writing, and this information is crucial to protect this rare species on one of NJ's most treasured pieces of open space protected by the Green Acres regulations.

Wood Turtles, an NJ threatened species, are known from the proposed route (pg. 3-87). PennEast proposes timing restrictions for in-stream work and construction monitors in areas listed by the NJ Landscape project as habitat. This is inadequate. PennEast has not conducted extensive surveys of all potential habitats. Many of the C1 streams crossed by PennEast are potential habitat, and it is well-understand that the NJDEP database has gaps. PennEast should be required to survey all potential habitats before the potential impacts to Wood Turtle can be evaluated. Further, no in-stream work should be permitted in any wood turtle habitat, since potential for erosion during construction, especially in storms, could irreversibly bury downstream nesting areas. The risk of an in-stream pipeline crossing in any wood turtle habitat is too great to be permitted, and is likely to result in loss of critical habitat.

Box Turtle is an NJ rare species (special concern), and is protected by the NJ Highlands Water Protection and Planning Act. The box turtle is present at numerous locations along the route, and PennEast proposes possible monitors for box turtles during construction. This is inadequate. The rocky terrain and steep slopes will render all monitoring ineffective, especially for small, young turtles. Since the box turtle is especially abundant in the Gravel Hill area on NJ Natural Lands Trust property within the NJ Highlands, this area should be avoided.

Long-tailed Salamander is an NJ threatened species and occurs in some of the streams proposed to be crossed by PennEast. The species is NOT primarily associated with limestone habitats as indirectly implied by PennEast (pg. 3-88), and may be present at many locations. The species likely occurs on both public lands and private conservation lands open to the public and protected by Green Acres regulations, and may occur in the NJ Highlands portion of the proposed route. Careful surveys must be concluded both upstream and downstream of every proposed pipeline stream crossing where suitable habitat is determined to exist. PennEast asserts they will work “to ensure impacts to this species or its habitat are avoided to the maximum extent feasible.” This stated goal is unacceptable. New Jersey Conservation Foundation will not support a goal that places “construction feasibility” ahead of an imperiled species. We do not support any diminution of habitat quality or extent for this imperiled species, or any other rare species. As with wood turtles, the potential for irreversible adverse impacts to critical long-tailed salamander habitat from construction and erosion, as well as the likelihood of take of individuals well-concealed deep beneath the rocky streams and streambanks, make irreversible adverse impacts to long-tailed salamander populations unavoidable. No stream found to be inhabited by long-tailed salamander should be crossed by in-stream methods with this proposed pipeline.

General Comments: On page 3-11, section 3.2.3, in a general discussion of Potential Impacts and Mitigation, there is reference to the use of Best Management Practices (BMPs) as a means to avoid and minimize impacts. The fact that BMPs are being suggested is evidence that pipeline construction causes serious impacts. PennEast has presented no evidence that using BMPs results in a significant amelioration of impacts, either long or short-term. Penn East should be required to present direct evidence that the vast majority of recent pipeline projects employing BMPs actually have resulted in the desired restoration of native plant and animal communities. Monitoring recent projects will show that added soil nutrients, deer browse of native species, and alien species invasions conspire to render the result of nearly all restorations on disturbed land being dominated by alien weeds, with no hope of recovering a native plant community.

These likely failures are not only true within the maintained pipeline ROW, where approximately 455 acres of forest are proposed to be permanently converted to a maintained herbaceous ROW, but also in the proposed temporary workspaces, where PennEast claims that they will restore approximately 570 acres of forest. This claim cannot be substantiated. It is impossible to restore tiny bits and pieces of forest scattered across a landscape fragmented by a pipeline ROW. It does not matter if native woody plants are planted; once the root mats of native shrubs and herbs are disrupted and soil horizons are destroyed during the construction process, alien species invasion

is impossible to prevent. Lengthy monitoring will reveal that nearly all native planting eventually fails due to native soil disruption, drought, deer browse, rodent damage, and competition from highly invasive alien woody vines and shrubs.

One can observe various recent pipeline installations in the region where serious impacts have occurred. Serious erosion and siltation events are common, and downstream siltation of in-stream habitats are almost never addressed. Proposed Best Management Practices (BMPs) are contradictory. For example, seed mixes proposed by PennEast (table 3.4-6 on page 3-50) require fertilizer and include agricultural and non-native species in an attempt to provide rapid cover and prevent erosion. This erosion control practice guarantees that native plant communities will never re-establish, because the result of construction mitigation for erosion control is an agricultural soil with elevated pH and nutrients that attracts alien species and does not support native species establishment. The Best Management Practice for erosion control results in a “Worst Management Practice” for restoring natural vegetation and native wildlife. PennEast’s claim that over 1000 acres of habitat will be restored for native plants and animals to recolonize the ROW cannot be supported by ecological restoration science, rendering their approach arbitrary and wholly inadequate.

Regarding PennEast complying with the New Jersey “No Net Loss Reforestation Act” for permanent clearing of forest in state-owned parklands (page 3-31), it is important to note that the Act is interpreted as only requiring the replanting of trees. Unfortunately, the Act considers a handful of woody species to represent a forest, when in fact the forest is composed of thousands of other species of non-woody plants, fungi, soil invertebrates, bacteria, and animals of mind-boggling variety.

Typically, with restorations required by permitting agencies, complex forest communities that were destroyed are replaced by aggregations of a few species of nursery-grown native woody plants, often on soils that are inappropriate for their long-term success and survival. Even if the woody plants are heavily fenced and do survive, many of these plantings will have been attempted out of necessity on disturbed sites with non-forest soils; they will attract many alien invasive species of grasses, other herbaceous weeds species, and alien invasive vines and shrubs. These projects inevitably become choked, early successional tangles of non-native species.

While the goal of New Jersey’s No Net Loss Reforestation Act and other similar permit requirements is laudable, the re-planting schemes that are devised simply do not require the applicants to utilize resources significant enough to overcome the multitude of forest restoration challenges that are always present. Funding, monitoring, and stringent adaptive management protocols would be required to ensure long-term success, and they simply do not exist. With a recent gas pipeline project in the New Jersey Highlands, planting sites to accommodate the No Net Loss Requirements were difficult to find, and the end result was the rather random planting of hundreds of trees on former agricultural fields far from the pipeline impact, species composition did not match the soil types, and assemblages of species typically found together in

nature were not used. In terms of mitigating the impacts of forest loss, no significant future benefits will accrue within these oddball collections of nursery stock that will eventually be overcome by alien weeds.

While it is not the responsibility of FERC to make the NJDEP develop successful protocols for compliance with its No Net Loss Reforestation Act, these problems illustrate the difficulty of forest restoration. We wish to make clear to FERC that restoring a forest on temporary workspace lands back to useful, resilient, integrated wildlife habitat containing the original forest's capacity to resist alien species invasion and degradation and benefit a multitude of species entails complex and rigorous ecological restoration efforts. PennEast's claim that they will restore such forest/habitat in scattered patches of 570 acres of temporary workspace is a spurious claim with no scientific backing. There is no evidence that their approach will result in resilient, native forest habitats over the long-term.

Comments in Section 2 by Emile DeVito, Ph.D., Forest Ecologist, New Jersey Conservation Foundation.

3. PROTECTION OF CULTURAL RESOURCES: We are gravely concerned about the protection of Cultural Resources within the proposed pipeline's path. It is extremely important to us, as state residents and taxpayers, that our cultural resources be carefully and permanently protected. These are irreplaceable historic resources, and as such should be off limits to pipeline or any other development. The taxpayers of New Jersey have spent millions of dollars to protect these resources.

It is impossible to accurately ascertain how the pipeline would impact Cultural Resources, because so little field survey work has been done. Surveys for both Archeology and Architectural History in both Pennsylvania and New Jersey for all facilities in the project are incomplete in Table 4.8-1, Summary of Completion Status of Cultural Resources Surveys, Resource Report 4. PennEast claims surveys will be complete in November where they have access to the land, and where no access is available, surveys will be completed at a time "TBD" – or to be determined.

PennEast has had less than 30% survey access to land containing irreplaceable cultural resources that would be impacted by the pipeline in New Jersey. PennEast claims that the current route would have the least impacts, but they have not been able to do field surveys to see what the exact outcomes would be. It is inappropriate for FERC to begin an Environmental Impact Statement study without detailed and accurate data.

PennEast's survey maps seem to show that they have had survey access to architectural sites and resources in the Rosemont Valley, but the New Jersey State Historic Preservation Office (NJSHPO) reported that PennEast has not surveyed this area by actually going on the land or looking at the buildings. The Rosemont Rural Agricultural District, for example, which is listed on the National Register of Historic Places as well as the State Register of Historic Districts, is in the proposed pipeline's path. Unnecessary gas pipelines should not be located in this area.

In Appendix 4C: Architectural History Survey Coverage, PennEast identifies numerous properties as "surveyed" when PennEast was actually denied access and in Appendix B: Archeological Survey Coverage, these exact same properties are listed as "unsurveyed". This is

of extreme concern. Appendix C shows surveyed land in orange, and unsurveyed in purple. In Appendix B it's the opposite - surveyed land is in purple, and land that has not been surveyed is in orange. We have a complete lack of confidence that our cultural resources will not be harmed if this pipeline is allowed to be developed.

Resource Report 8 at page 8-137 states: "The Project will not have any visual impact on any federal-or state-listed visually sensitive areas, such as scenic roads, rivers, or natural landmarks as these features are not present in the Project area..."

At page 8-138, RR8 states: "Visual impacts to historic resources are being considered as part of the cultural resources studies addressed in Resource Report 4. There is potential for the PennEast pipeline to impact parcels containing above-ground, historic architectural resources including buildings, structures, historic districts, and landscapes that are listed in or eligible for listing in the National Register of Historic Places (NRHP)... Parcels with NRHP-listed or eligible resources may be physically and visually impacted by the construction of a pipeline in the form of tree cutting and other alterations to the landscape and by the construction of above-ground pipeline facilities such as temporary and permanent workspaces, ancillary above-ground infrastructure (including compressor stations, mainline block valves, and interconnects), and access roads. Studies to address potential visual impacts to historic architectural resources are ongoing and final determinations will be established through consultation with... the NJSHPO once the eligibility assessment phase is complete."

We urge FERC to require detailed information from PennEast on the proposed project's exact impacts to these critical resources.

The DEP, which is the guardian of New Jersey's Cultural Resources, has stated that simply reviewing historic documents, reports and desktop research is inadequate to gauge impacts to cultural resources for an application of this magnitude.

Table 4.5-1 Agency and Non-Agency Cultural Resource Concerns

"The Rosemont Rural Agricultural District is a SRHP/NRHP-listed historic district (NRHP ID: 10000354) centered on Rosemont-Ringoes Road in Delaware Township, Hunterdon County, New Jersey. As currently designed, the proposed Project centerline transects the center of the district, north to south crossing through agricultural fields, fence and tree rows and forested woodland. Based on a review of historic aeriels, many of these landscape patterns were present as early as the 1930s. PennEast proposes to co-locate most of the line through the District adjacent to an existing transmission line corridor in an effort to minimize environmental impacts. However, as an agricultural district with agricultural-related landscape features as part of its cultural and historical significance, damage or destruction of these historic features would result in a direct adverse effect." Table 4.5-1 Resource Report 4, 4-10

Despite many comments from Delaware Township and its Historical Society, residents and interested non-profits for over a year, PennEast has only recently acknowledged the Rosemont district and its unique blend of architectural and landscape features. PennEast admits the potential for damage and destruction by the proposed project on these nationally protected resources, but continues to claim there is no less damaging alternative route than through this nationally recognized historic district for 1.5 miles. One of the motivations for the creation of this unique district years ago was a proposed cell tower on Sanford Road, which would have

been located behind the Fisher Farm and forever marred the viewshed of the historic valley. The cell tower proposal was defeated. The PennEast pipeline should be prohibited from this area, so the valley can retain the integrity of its historical agricultural patchwork of land and buildings dating back to the 1700s.

The proposed pipeline would add an additional 200+ feet of clearance and disturbance to an existing electric line ROW dating back to the 1930s with a very small footprint.

“Covered Bridge Historic District is a NRHP-listed resource (NRHP ID: 99000269) that is located near the intersection of Pine Hill Road and Rosemont Ringoes Road in Delaware Township, Hunterdon County, New Jersey. It is located adjacent to the Rosemont Rural Agricultural Historic District, approximately one-half-mile northeast of the proposed Project centerline. PennEast has developed a comprehensive plan for identifying historic properties within the permanent and temporary ROW (direct APE) of the proposed route, as well as within the line of sight (indirect APE) of proposed above-ground facilities and areas where landscape alterations may occur. This plan has been developed in collaboration with the NJSHPO. Based on the current proposed route and associated features, this historic property does not fall within the direct or indirect APE. PennEast does not anticipate any impacts to this resource.” Table 4.5-1 Resource Report 4, 4-11.

This is an inaccurate claim. the Covered Bridge Historic District is in the Area of potential Effects (APE) or indirect APE, as it is the gateway to the Rosemont Valley.

The two districts are essentially one district. To access the Covered Bridge district from the west, you travel through the Rosemont NRHP district. To enter the Rosemont NRHP district from east of the Wickecheoke, one must travel through the Covered Bridge district. This is a visually impressive entrance through the Covered Bridge up a curving road to a beautiful valley with preserved farmland and historic homesteads on both sides. One of the farms, the Fisher Farm, is considered to be one of the 10 most beautiful farms in New Jersey, with its remarkable red barn with a steeple that can be seen from every direction, including from the Covered Bridge District. Images of this barn have appeared on corn flake boxes, tourism brochures, maps and calendars. The proposed pipeline would pass between this barn and the road, forever destroying this beautiful, historically important view.

B32-5: 155 Lower Creek Road Delaware Township, Hunterdon County, NJ Delaware Township, (Red Bridge Farm): *“This resource is located within Delaware Township, Hunterdon County, New Jersey, and was identified as a cultural resource of concern by Delaware Township in a letter to FERC dated February 10, 2015. This property falls within the direct APE and was surveyed by an architectural history team in June 2015. It is included in Appendix 4D, Table 4D-2 (Survey Code HU-0210), and is mapped in Appendix 4C. It is also addressed in the Reconnaissance-Level Survey report located in Appendix J, which has been submitted to NJHPO for review and comment. PennEast is recommending this property not be eligible for listing in the SRHP or NRHP.”* Table 4.5-1 Resource Report 4, 4-14

However, this site was included in the NRHP designation of the Rosemont Rural Agricultural District. We are very concerned with PennEast’s treatment of Culture Resources and their seeming lack of understanding of the Section 106 consultation. The historic structures on this

property are proposed to be in the blast zone of the proposed pipeline, as is the proposal to locate approximately 125,000 square feet of this historic landscape in the temporary and permanent disturbance area.

B53-1.03: 112 Worman Road: PennEast conducted background research and desktop studies on the property at B53-1.03, finding erroneously that the property does not contain historic resources (buildings, structures, objects, districts, or landscapes) over 48 years of age, and therefore does not require survey or evaluation to assess the eligibility for listing in the SRHP and NRHP, or an assessment of the potential effects resulting from project activities.

However, there is a stone ruin in the woods at this location, and a stone arch bridge across the street that is included in Delaware Township's and Hunterdon County's NRHP designation of Historic Stone Bridges. This again points to the critical importance of on the ground surveys versus desktop studies, and it further increases our lack of confidence in PennEast's application.

Archeological Resources and Native American Tribes

The Ramapough Lenape Indian Nation is a state recognized tribe, not a federally designated tribe. The Ramapough Lenape Indian Nation has an historical connection and demonstrated interest in an extensive and undisturbed site in Kingwood Township, New Jersey (28-Hu-394, ID # 5291). Both the Nation and NJSHPO have requested that the Nation be considered an additional consulting party for this project. Although non-federally recognized tribes do not have a statutory right to be consulting parties, they may be invited to be an "additional consulting party". This is appropriate for the Ramapough Lenape, as they have a demonstrated interest and wealth of knowledge that could help with the Section 106 consultation. PennEast's attorney has denied the Nation their right as a consulting party, but we urge FERC to invite the Nation to join as additional consultants.

4. WATER RESOURCES:

Alternatives Analysis

The alternatives analysis in resource report No. 10 is a self-serving analysis designed to support the project as proposed, and lacks the scope and objectivity necessary to be credible. PennEast indicated that they "evaluated the Project's siting options using a variety of criteria, including environmental and stakeholder impacts, economic benefits and costs, project timing, operational parameters and engineering and technological parameters". However, based on their preferred location for the PennEast Pipeline it is obvious that they gave little consideration to this region's extremely high concentration of sensitive natural resources in the selection of a preferred route. They also failed to consider the "no-build" option, which must be considered given the significant and unavoidable environmental impacts of the proposed project.

One of the key failures of their alternative analysis is related to the pipeline's southern terminus with the Transcontinental Pipeline Company (Transco) in Mercer County New Jersey. The selection of this connection point is an important element of this alternative analysis since the significant environmental impacts associated with this route are directly related to this connection point as it limits alternative routes based on its southern terminus. However, no discussion regarding why this is the only viable point to connect to Transco's pipeline was

provided. It is omissions such as this that illustrate the alternatives analysis lacks sufficient scope and objectivity.

It is also important to point out that the alternatives analysis repeatedly indicates that no one else can make the exact same connections as those proposed by PennEast. This is another self-serving comment that lacks any objective discussion regarding other possible connections that could be made by other Pipeline Companies at other locations with less environmental impacts. It is apparent that no one other Pipeline Company could connect in the exact same way as PennEast but that does not mean that the delivery of gas cannot be done by other gas transmission companies with less environmental impact. Inclusion of other companies in the alternatives analysis discussion is warranted since PennEast used Transco as a foil to support their project. However, the comparison with Transco was limited and did not appear to include consideration of the recent Transco upgrades. Since Transco is an existing pipeline that already crosses pipelines owned by Elizabethtown Gas, Algonquin Gas, and Texas Eastern a discussion regarding why they cannot service these companies is relevant as it relates to impact avoidance.

Failure to Evaluate Project Alternatives Relative to State and Federal Permit Requirements

Currently, the Resource Reports provide a general description of the sensitive environmental features present along the proposed PennEast pipeline route and identify the need for permits, but distill the entire complicated permitting process down to a simple statement on page 2-55 that “*PennEast will comply with any mitigation requirement and permit conditions in its 404 permits and Section 401 certification*”. Based on the information provided in the resource reports this statement is misleading as it underestimates the complicated nature of the permitting process and obscures the fact that full compliance with all of New Jersey’s applicable regulations necessitates the need to accurately identify all of the relevant regulatory requirements. The failure of the resource reports to carefully evaluate the project in light of state and federal permit requirements results in a series of documents that have not accurately identified impacts or fully vetted alternatives that would bring about either less impacts to the region’s exceptional natural resources or more easily satisfy regulatory requirements. In this case the permitting process should result in significant changes to the current approach proposed for this pipeline including its location in order to fully comply with New Jersey’s regulations. Importantly, no reference to the need to follow the 404(b)1 guidelines is provided. An understanding of this is clearly stipulated in the MOU between FERC and the Army Corps of Engineers that the agencies will discuss the scope of the alternatives analysis to “satisfy the Corps' requirements under Section 10 of the RHA and Section 404 of the CWA, including the 404(b)(1) Guidelines.” The proper application of the 40(b)1 guidelines is an essential component of the New Jersey Freshwater Wetlands Protection Act Individual Permitting process and was not even mentioned in the resources reports.

The Following section describes some of the requirements for a 404(b)(1) analysis.

New Jersey is one of two states that has assumed jurisdiction of Section 404 of the Clean Water Act. There is an MOU between EPA and the NJDEP that explains New Jersey requirements for assuming responsibility for this section of the Clean Water Act. This MOU explicitly states that the “*State Program will be conducted in conformance with applicable regulations and*

definitions found in 40 C.F.R. Parts 230 and 23.” In other words, the state process can be more restrictive, but not less restrictive than the federal requirements.

As indicated above, New Jersey has assumed jurisdiction of section 404 of the Clean Water Act and as such must implement this regulation as restrictively as the United States Army Corps of Engineers. However, the Federal regulations have not been fully applied in previous pipeline applications. Nonetheless, it will be the responsibility of PennEast to fully satisfy the requirements of the relevant portions of section 404 of the Clean Water Act including section 40CFR 230 and the requirements of the 404(b)(1) guidelines. An understanding that compliance with the requirements of this section of the Clean Water Act by both FERC and PennEast is essential in the determination that this project can satisfy its Federal regulatory obligations.

The proposed route as well as each regulated activity must follow the requirements set forth at 40CFR 230 - Section 404(B)(1). This section of the Clean Water Act set forth the requirements for conducting an alternative analysis as well as assessing project impacts. As previously indicated New Jersey’s assumption of section 404 of the Clean Water Act does not negate the need for an applicant such as PennEast as well as the NJDEP to consider the requirements of the 404(b)(1) guidelines in the development of this project. Moreover the recent letter from the US Army Corps of Engineers to Kimberly D. Bose, Secretary of FERC dated January 28, 2015 clearly indicates that they must satisfy the requirements of the 404(b)(1) Guidelines.

For example the route of the PennEast pipeline as currently proposed will cross thirty-one antidegradation streams. The Freshwater Wetlands Protection Act regulations (FWPA) specifically indicate the need to comply with 40 CFR 230.10(c) at N.J.A.C. 7:7A-7.2(b)9. This section of the Freshwater Wetlands Protection Act regulations states that a proposed regulated activity “*Will not cause or contribute to a significant degradation, as defined at 40 CFR 230.10(c), of ground or surface waters*”. Failure to fully understand the implications of the reference to 40 CFR 230.10 will preclude PennEast from being able to fully comply with both the FWPA and the Clean Water Act. In part, the reference to 40 CFR 230.10(c) states the following; (c) *Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by subparts B and G, after consideration of subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts. Under these Guidelines, effects contributing to significant degradation considered individually or collectively.* It is important to note that the above section of the guidelines leads to the inclusion of other key sections of the 404(b)(1) that an applicant must be able to address in order to illustrate compliance. This section also specifically indicates that regulatory compliance should not be founded on rhetoric but based on site specific factual determinations. In this regard several streams along the route have their headwaters within the pipeline corridor (stream 91014WA-1011_E_MI and 91014WA-1002_E_MI) which may result in the hydrologic modification of these streams. There are other examples similar to this and not only do all regulated waters require identification but the impact to stream and wetland hydrology must be addressed.

In accordance with N.J.A.C. 7:7A-7.2(b)5, in order for the NJDEP to issue an individual freshwater wetland permit or open water fill permit, the project “*Will not cause or contribute to a violation of any applicable State water quality standard*”. The Surface Water Quality Standards at, N.J.A.C. 7:9B, establish the designated uses and antidegradation categories of the State’s surface waters, classify surface waters based on those uses, and specify the water quality criteria and other policies and provisions necessary to attain those designated uses. In accordance to N.J.A.C. 7:9B a “*Category one waters*” means those waters designated in the tables in N.J.A.C. 7:9B-1.15(c) through (i), for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d), for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).

The impacts to antidegradation streams associated with the PennEast Pipeline would be inherently contradictory based on New Jersey’s definition of an antidegradation stream if for nothing else the project’s impact to a stream’s aesthetic value (color, clarity and scenic setting). Thus, in order to satisfy applicable water quality regulations requires that practicable alternatives such as HDD, Direct Pipe or other measures be thoroughly assessed in order to reduce or eliminate water quality related impacts. **Compliance with these regulations is not only essential for an applicant to obtain a FWPA permit but also to obtain a Clean Water Act 401 water quality certificate from the State of New Jersey.**

In addition, in New Jersey, both the Flood Hazard Area Protection Act (FWA) and the FWPA have requirements that relate directly to New Jersey’s water quality standards and the protection of antidegradation streams. The protection of antidegradation streams in New Jersey has, for example, been integrated into the above mentioned regulations through the establishment of riparian zones in accordance with the Flood Hazard Control Act. The Flood Hazard Control Act requires a buffer or riparian zone of 300 feet on both sides of all C-1 streams as well as all upstream tributaries situated in the same HUC 14 watershed. Failure to comprehend the importance of these important C1 stream protective buffers is readily apparent in the resource reports. There are areas of proposed impacts that would remove 200 foot wide swaths of riparian zone on steep slopes. Interestingly, section 2.3.4.10 of Resource Report no. 2 indicates that “*disturbance to areas containing steep slopes can trigger increased erosion and sedimentation which could result in a degradation of surface water quality*”. This should be viewed as a significant issue as many of the antidegradation streams in Hunterdon County are bordered by steep forested slopes. PennEast’s limited conclusion regarding this issue is that the “*identification of these areas is important as a protection measure*”. Instead, PennEast proposes to increase disturbance by 100 feet in the forested riparian zone of Nishisakawick Creek by placing additional temporary work spaces on both sides of the proposed pipeline corridor. Even with the general insensitivity afforded by PennEast to the region’s sensitive environmental resources such as the riparian buffers of antidegradation streams they simply indicate that they intend to obtain the applicable permits under the Flood Hazard Control Act, required to authorize disturbances. PennEast’s approach to permitting obviates their obligation to avoid and minimize impacts to regulated resources.

We are enclosing several maps showing selected areas where the proposed pipeline corridor and temporary work spaces would directly overlap with and impact protective buffers for C-1 streams, and/or wetland buffers.

New Jersey's Flood Hazard Control Act has embraced the protection of antidegradation streams into its requirements, as have other regulations such as those under the Freshwater Wetlands Protection Act. The requirements for a utility crossing permit are designed to guide sound design as it relates to all streams, but the regulations place particular emphasis on the protection of antidegradation streams in order to comply with the requirements set forth in the water quality standards. Compliance with New Jersey's water quality standards forms the foundation for compliance with Clean Water Act Section 401 water quality decisions.

The 404(b)1 Guidelines are comprehensive in their scope and should be considered by FERC in its review of the PennEast resource reports as this project will violate numerous applicable resource protection standards in New Jersey. The guidelines include requirements to assess the effects of a regulated activity on human use characteristic (Subpart F) that specifically addresses aesthetics and preserved lands. Section (40CFR 230.54) is related to "*Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.*" Section (a) of this regulation goes on to state that "*These preserves consist of areas designated under Federal and State laws or local ordinances to be managed for their aesthetic, educational, historical, recreational, or scientific value*". This section speaks to the possible loss of values from the "discharge of dredged or fill material into such areas that may modify the aesthetic, educational, historical, recreational and/or scientific qualities thereby reducing or eliminating the uses for which such sites are set aside and managed". Section (40CFR 230.53) relates to the loss of aesthetic values associated with a regulated activity. The preferred route of the PennEast Pipeline has shown little to no consideration for either antidegradation streams or the preserved lands along its route. Nonetheless PennEast must show compliance with section 40CFR230.10 of the Clean Water Act.

It is also extremely important to understand that the scope of Section 40 CFR 230.10 requires compliance with Sections 40 CFR 230 Subparts C through F. As such, Subpart F requires that human use characteristics of regulated waters must be considered in making a factual determination and finding of compliance or non-compliance. This is especially relevant to the proposed pipeline as it relates to parks, research sites and similar reserves as the proposed PennEast Pipeline will impact a substantial area of land that has not been subject to previous linear development. Section 230.53 is equally as important as it speaks directly to the aesthetics associated with the aquatic ecosystem. As set forth in Section 40 CFR 230.53 "*aesthetics associated with the aquatic ecosystem consist of the perception of beauty by one or a combination of the senses of sight, hearing touch and smell. Aesthetics of aquatic ecosystems apply to the quality of life enjoyed by the general public and property owners*". This section further states that a loss of value would occur when the "*discharge of dredged or fill materials can mar the natural beauty of natural aquatic systems*" and result in "*destroying vital elements that contribute to the compositional harmony or unity, visual distinctiveness, or diversity of an area*". The need for inclusion of a factual determination related to aesthetics in the 404(b)1 Guidelines must also be combined in a comprehensive impact analysis that must include consideration of aesthetics as it relates to compliance with New Jersey's antidegradation standards. In this context the 404(b)(1) Guidelines indicate that the minimization of adverse

effects related to human use potential may be achieved by “*selecting discharge sites that prevent or minimize any potential damage to the aesthetically pleasing aquatic site (e.g., viewscales)*”.

Instead, PennEast’s resource report No. 8 states the following; “*Construction of the Project route and facilities will result in temporary impacts to visual and/or aesthetic resources due to the construction equipment and activities necessary for constructing the pipeline and associated facilities, as well as soil disturbance*”. More importantly and realistically the report states that “*Approximately 12.4 miles of private lands with conservation easements will be crossed by the Project. Of these lands, a total of 226.8 acres will be affected by temporary construction (temporary ROW, ATWS, permanent ROW) and 87.4 acres will be located in the permanent Project ROW*”. The report also indicates that “*In total, the construction of the Project will result in the conversion of 408.3 acres of forest or woodland to open land*”. The lack of consideration of aesthetic impacts related to the PennEast project is apparent when considering the proposed creation of 200 foot wide swaths cut through mature forests adjacent to antidegradation streams. It is also relevant that the impacts to aquatic resources and antidegradation streams have a nexus to the Clean Water Act and ultimately must illustrate compliance as part of New Jersey’s Individual wetland permit program.

Section 40 CFR 230.75 describes the need to address the minimization of adverse effects on populations of plants and animals. The regulations specifically describe the need to select sites or manage discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals and to avoid sites that have unique habitat or other values such as that relating to the habitat of threatened or endangered species. Compliance with this section of the 404 (b)(1) guidelines is extremely important with regard to the PennEast Pipeline since the route crosses endangered species habitat and antidegradation streams. PennEast **must illustrate compliance with this section of the Clean Water Act as part of its need to obtain an Individual Freshwater Wetland Permit from the NJDEP.**

40 CFR 230.11 also speaks to the need to address secondary impacts which are defined as “*effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities*”. A description of secondary impacts must be provided for compliance with New Jersey’s individual wetland permit requirements. For example, there will be numerous changes to the landscape associated with the pipeline proposed by PennEast that will result in both short and long term impacts to hydrology as a result of changes in runoff patterns and runoff quantity. These changes will be exacerbated by soil compaction and the reduction of compacted soils’ ability to absorb rainwater. Modifications to site hydrology related to soil compaction and loss of forest cover need to be evaluated as secondary impacts as these impacts can negatively affect the existing and designated uses of perennial streams.

Although the Freshwater wetlands Protection Act specifically indicates the need to comply with 40 CFR 230.10(c) at N.J.A.C. 7:7A-7.2(b)9. This section of New Jersey’s regulations states that

the proposed regulated activity “*Will not cause or contribute to a significant degradation, as defined at 40 CFR 230.10(c), of ground or surface waters*”. Failure to fully understand the implications of the reference to 40CFR 230.10 should preclude PennEast from being able to fully comply with both the FWPA and the Clean Water Act.

New Jersey has the delegated authority to manage Section 304 of the clean water Act. This section of the Clean Water act includes the requirement to establish water quality standards, including those designed to protect the states most valuable waters. New Jersey’s antidegradation standards are implemented, in part, through both the Flood Hazard area Protection Act as well as the Freshwater Wetlands Protection Act. Both of these regulations have sections that relate to New Jersey’s water quality standards and the protection of antidegradation streams. Antidegradation streams in New Jersey are defined as follows; “***Category one waters***” means those waters designated in the tables in N.J.A.C. 7:9B-1.15(c) through (i), for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d), for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).

As noted above, the route of the PennEast pipeline as currently proposed will cross thirty-one antidegradation streams. The Freshwater wetlands Protection Act specifically indicates the need to comply with 40CFR 230.10(c) at N.J.A.C. 7:7A-7.2(b)5. This section of the Freshwater Wetlands Protection Act states that a proposed regulated activity “*Will not cause or contribute to a violation of any applicable State water quality standard*”. However as indicated earlier PennEast states that “*disturbance to areas containing steep slopes can trigger increased erosion and sedimentation which could result in a degradation of surface water quality*”. Due to the steeply sloping lands adjacent to a number of antidegradation streams the wide swaths of disturbance proposed by PennEast jeopardize the health and protection of antidegradation streams.

In accordance with 40 CFR 230.10(a) “*no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental Consequences.*” With regard to alternatives the FWPA similarly states at 7:7A-7.2(b) that “*The Department shall issue an individual freshwater wetlands or open water fill permit only if the regulated activity: (1) Has no practicable alternative which would meet the requirements at (b)1i and ii below; i. The alternative would have a less adverse impact on the aquatic ecosystem or would not involve a freshwater wetland; and ii. The alternative would not have significant adverse consequences, that is, it shall not merely substitute other significant environmental consequences for those attendant to the original proposal.* In general, these regulatory requirements seek to restrict permitting approval to only the least ecologically damaging practicable alternative. As indicated previously, any applicant for a federal permit for an activity which will result in a discharge into waters of the United States shall obtain a 401 water quality certification and also comply with applicable water quality standards. The regulated activities associated with the PennEast Pipeline will impact antidegradation waters, endangered species habitat as well as numerous preserves set aside to protect these resources.

In order to protect the sensitive aquatic resources of New Jersey, PennEast must be in full compliance with section 404 of the Clean Water Act and New Jersey antidegradation standards. This will require, at a minimum, using trenchless crossing methods for, at a minimum, all sensitive waterways that are associated with Category 1 waters and endangered species habitat. The 404(b)(1) Guidelines require an alternatives analysis which addresses how impacts to waters and wetlands (waters of the United States) have been avoided and minimized. The alternatives analysis should address practicable alternatives to the discharge of dredged and fill material for each individual crossing of a wetland and/or waterbody. The proposed method of crossing should not be simply based on convenience but rather focus on the most ecologically sensitive alternatives in order to fully comply with New Jersey and federal regulations. Difficulty in the application of trenchless methods due to constraints such as lack of area or slope should not be used as the basis for an argument to use more invasive measures since these constraints should be viewed as self-induced since PennEast selected the route.

In conclusion if PennEast viewed this project as a typical applicant, and took the time to understand the project regulatory constraints, it would have more seriously considered alternative routes that would have avoided the numerous antidegradation streams and other environmentally sensitive areas that it is proposing to impact. Lastly, the final element of the regulatory process must culminate with receipt of a 401 Water Quality Certification from New Jersey. This certificate is based on full compliance with all of the elements of the Clean Water Act. Based on the sensitive nature of the natural, historic and human resources that this pipeline project will compromise, it is doubtful that this project would be able to satisfy the requirements for a Water Quality Certification.

Impacts to New Jersey's sensitive aquatic resources must be carefully and thoroughly evaluated and any alternatives analysis must address practicable alternatives to the discharge of dredged and fill material for each individual crossing of a wetland and/or waterbody as set forth in the 404(b)(1) Guidelines. The entire proposed alignment of the route as well as each individual crossing must not be simply based on convenience but must rather focus on the most ecologically sensitive alternatives in order to fully comply with both New Jersey and federal regulations. Moreover, any discussion of alternatives should not entertain mitigation options until a comprehensive analysis of all practicable alternatives is exhausted, including the "no-build" option.

In addition, the position that mitigation will solve all of the pipelines impacts is not only unrealistic it is also highly inaccurate. Simply put mitigation cannot adequately address all impacts and some impacts cannot be "*sufficiently*" mitigated. For example, it is not feasible to fully compensate for the loss of sensitive ecological resources such as mature forests, headwaters streams and endangered species habitat. For example, the older forests bordering many of the Category 1 streams in Hunterdon County possess a high floristic quality index due to the presence of a broad range of microsites that are occupied by a variety of conservative plant species; habitats such as these cannot be replicated. It is for this reason that many of the highest quality forests occur in protected open space set aside as refuges and sanctuaries.

5. CONSTRUCTION TECHNIQUES AND SOIL, EROSION, REVEGETATION AND WATERSHED CONCERNS: Resource Report #1 states that PennEast will use “standard construction techniques” and references FERC’s *Wetland and Waterbody Construction and Mitigation Procedure* and FERC’s *Upland Erosion Control, Revegetation, and Maintenance Plan*, both updated in 2013.

These manuals specify that the ROW be no wider than 75 feet although an extra 25 feet may be taken as needed and another 25 feet as needed for soil segregation. PennEast is taking every inch of that. Following the standard with the maximum allowable extras is **not minimizing**. PennEast is declaring that they have minimized damage without having taken any action to actually follow through on that statement. This unnecessarily wide ROW is aggravated by the extensive amount of Additional Temporary Work Space. In the Delaware Watershed alone this additional land virtually doubles the amount of disturbance and clearing for temporary use for construction. In many places the ROW is doubled in size with absolutely no justification given for such excessive work space requirements other than that it is ‘needed’. This problem may be aggravated by the fact that there is no known contractor for this project with whom concerned individuals and agencies might negotiate the construction methods. The Princeton Ridge segment of the Leidy line was negotiated very carefully with the designated contractor who was extremely helpful in developing techniques to reduce soil and forest damage. In addition, customized restoration guidelines were developed by Dr. Michael Van Clef to ensure a good fit to the unique environmental conditions of the site. Similar restoration standards and techniques should be developed for the PennEast project. The standards that were developed for the Princeton Ridge should be adopted as minimum standards for PennEast at the very least.

FERC’s Wetland construction procedures are specifically geared to standard construction and state clearly that they may not be suitable under special local conditions. The same language appears in the Uplands Plan. The applicant is directed to describe where any alternative procedure is “necessary because a portion of these procedures “is infeasible or unworkable based on project-specific conditions.” Given that the word ‘forest’ does not even appear in one of the documents and is mentioned only twice in the other, the condition of such extensive forest on the Penn East route is significant and constitutes a project-specific condition that is not addressed by this application.

The lack of concern for forested areas also has serious detrimental impacts to watersheds. FERC’s Upland Plan addresses soil compaction only in agricultural and residential areas. “Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities.” Many of the forest lands under easements or protected as parks were acquired with specific recognition of their role in maintaining water quality and water supply. There is no acknowledgement at all of the impacts of the conversion of landscape type entailed in the pipeline management. Many of the once forested acres will be converted to grassland with some losses of infiltration which will have deleterious impacts to watershed management. Unwanted public use, namely **Off Road Vehicle** control is not discussed as required by FERC in the *Upland Control, Revegetation and Maintenance Plan*.

Infiltration is the greatest for any given soil type under forested conditions yet this value is completely ignored in these Resource Reports. Compaction is also a serious obstacle to successful forest revegetation. Despite this the Resource Reports make very generous

assumptions about natural revegetation. Revegetation in formerly forested areas is further compromised by the proposed use of fertilizer and soil pH modifiers which may be effective for some residential sites but are generally inappropriate in natural areas where the site is to be restored not changed. PennEast does not address the extensive deer browsing common to the area.

The soil management proposed for PennEast is especially damaging and unrealistic and will result in long term degradation to forestlands, wetlands and any other natural area. The construction techniques are described as “typical for cross country and residential construction”. Standard construction does not allow riparian forest clearing or denuding such long slopes and the standard Best Management Practices (BMPs) are not designed to deal with such extreme conditions as PennEast’s alignment drawings propose. These standard BMPs are not appropriate for greenfield construction in highly sensitive natural areas, highly erodible soils and steep, rocky forested slopes. FERC has completely failed to respond to the many comments from the public about the widespread failure of these FERC accepted BMPs to stabilize the ROW after construction in many recently built lines locally, including the Transco Leidy line which had 32 documented sediment releases. The Resource Reports state that the use of these BMPs will minimize the likelihood of cumulative impacts despite abundant evidence on the ground to the contrary. This is complicated by the fact that in many places the ROW is twice as wide as recommended and for which these BMPs are inadequate. Instead of identifying resources and possible impacts, this report dismisses or ignores them.

PennEast also has ignored local examples of pipeline construction that have minimized damage successfully, including the Algonquin Loantaka Park crossing where a 42 inch pipe was installed in 34 feet to minimize forest clearing and fragmentation. The ROW of Columbia Cross Jersey line in the Musconetcong was similarly narrowed to protect preserved forest lands. The Princeton Ridge section of the Leidy line (still under construction) relies on techniques that reduce the ROW to 50 feet. These are all Least Damaging Practicable Alternatives that are completely ignored by PennEast in favor of the maximum widths allowed in standard construction. A similar narrowing of the ROW should be evaluated as an alternative.

PennEast and FERC also completely ignore the living components of soil, especially in topsoil. Segregating and stockpiling topsoil effectively kills the entire soil food web. The vital process of decomposition, that once included a whole food chain from the minute and invisible to beetles and fungi is reduced to bacteria which a very poor medium for regrowing a forest. Soil food webs evolve, like landscapes, and may take a century or more to recover. Claims about the forest recovering all by itself are false if the soil food web has been reduced to an agricultural soil food web. A continuously forested landscape may support an ancient soil food web as old and complex as the forest itself, and far more diverse. These soils deserve the highest level of protection and are given none. Additional temporary work space is requested for most rugged terrain, exactly where it is crucial to protect soil resources.

The soil disturbance during construction can and should be limited to the 8 feet or so over the trench itself. All access should be on swamp mat (not just wetlands) or other padding such as leaves, wood chips, subsoil etc. to a depth necessary to eliminate any compaction and to eliminate grading or scraping the soil surface. Similarly subsoil should be used to level the swamp mat rather than allowing any excavation. This will reduce erosion on shallow slopes and

dramatically reduce the requirements for stabilization. The previous vegetation should actually regrow as opposed to being replaced by seeded grass and legumes. The Algonquin pipeline in Morris County construction process also included harvesting 4x8 foot blocks of soil 8 inches deep over the trench which were replaced within 8 hours to return all original soil components from roots and propagules to bugs and mushrooms. In the FERC standards, soil amelioration is confined to stripping, replacing, plowing and disking, all of which are damaging in woodlands or not even doable where soils are shallow. Similarly, recommendations for liming and fertilizing are also inappropriate in native forests and will degrade the soil's ability to support the landscape that surrounds it and was there before extensive and unnecessary grading.

The techniques proposed by PennEast include plowing and disking and checking with a penetrometer, which may be adequate for many agricultural and residential soils but it is a completely destructive and ineffective approach in natural areas such as wetlands and forests. Compaction problems are only acknowledged for residential and agricultural areas. This denies the most important land uses for watershed management such as forests. Soil testing on the TPG 300 line showed compaction levels of 98% fifty feet from the centerline compared to 77% in the adjacent forest. That amounts to an increase in runoff of 23,050 more gallons per acre of discharge for a one-year storm. That's over an inch and a half per acre. Imagine how quickly that adds up in a more major storm. Compaction leads to the loss of headwaters and effectively dewater the disturbed area. Many of these areas are rocky and/or steep where plowing is disastrous or impossible. Limiting disturbance in the first place is the correct approach and would qualify as 'minimizing'. Soil disturbance, compaction and watershed impacts could be reduced by more than 90% using these established Least Damaging Practicable Alternatives. At the same time the clearing of the vegetation of forests and wetlands could be reduced by 60% using techniques that minimize rather than maximize disturbance. For the half of the ROW where the width has been widened to around 200 feet, the resulting reduction in landscape impacts would be even more dramatic. And the soil disturbance could be reduced by almost 200%. PennEast has failed to consider any of these alternatives and has chosen to maximize disturbance despite claims to the contrary.

Until PennEast recognizes the importance of protecting our most rare and irreplaceable soil resources in New Jersey, the application should not be considered. All statements about minimizing environmental damage during construction are erroneous as stands. A ninety percent reduction in soil disturbance and compaction would have dramatically less negative impacts on streams and watersheds. This option should be evaluated as an alternative.

GENERAL COMMENTS ABOUT THE RESOURCE REPORTS: PennEast recently made its formal application to FERC with revised Resource Reports. They consist primarily of lists of resources and sites but include very little information on what the resource concerns are. The Reports dismiss many of the potential impacts without even identifying them. Every section of the Resource Reports repeats some version of the following boilerplate when referring to the construction and management of this pipeline- "the project has been designed to avoid or minimize adverse impacts to (fill in the blank)." These Resource Reports also fail to identify those impacts that cannot be avoided and must be mitigated.

PennEast was not designed to avoid or minimize adverse impacts. In addition to concerns about the primary route selected through so many sensitive and preserved lands, the construction

methods proposed are unnecessarily destructive and in no way avoid or minimize damage. These reports as revised still fall far short of providing the information necessary to complete a competent and objective EIS. This problem is compounded by the difficulty of accessing the information. The material is not-user friendly which should be as important as scientific accuracy. The ability of landowners, and municipal officers and other people to review this information is very important, especially since there is so much missing information, like how many acres of C-1 stream riparian forest is being lost, permanently? The orientation is different for every detail map and information such as the forest and wetland delineations are missing. Someone without GIS capacity cannot review or use these reports effectively. GIS layers are selectively removed to obscure the most relevant information. We would like to know, for example, how many acres of the extensive area of Added Temporary Work Space is located in High Quality watersheds, in stream or wetland buffers?

The currently proposed construction techniques have serious impacts to the entire watersheds of the ROW as well. Resource Report #1 states that PennEast will have “no permanent impacts to water resources”. This is completely erroneous. The Resource Reports fail to identify the watershed resources so of course they found no impact. Category One (C-1) streams appear as an item on a list with no discussion of their special and unique importance to water quantity and quality management in New Jersey. This is a preemptive denial of impacts.

These Reports make it clear that this application is incomplete as it stands. The Resource Reports need to be corrected and augmented before any minimal standard of completeness can be claimed for this application and before a comprehensive EIS can be completed.

Comments in Section 5 prepared by Leslie Sauer, founder Andropogen Associates, author of “The Once and Future Forest”.

6. PROCESS: PennEast recently made its formal application to FERC with revised Resource Reports. They consist primarily of list of resources and sites but include very little information on what the resource concerns are. The Reports dismiss many of the potential impacts without even identifying them. Every section of the Resource Reports repeats some version of the following boilerplate when referring to the construction and management of this pipeline- “the project has been designed to avoid or minimize adverse impacts to (fill in the blank).” These Resource Reports also fail to identify those impacts that cannot be avoided and must be mitigated.

Over the year of the pre-filing process, many agencies, elected officials, community groups, non profits, landowners and residents have submitted numerous comments and questions as well as formal scoping comments for the EIS. These submissions by the public are not included or referenced in the application. Over 1,000 people have registered as intervenors. They must have an adequate time period to review and comment on this 7,200 page application if FERC is to deliver on its commitment to public input in this important process.

These Reports make it clear that this application is incomplete as it stands. The Resource Reports need to be corrected and augmented before any minimal standard of completeness can be claimed for this application and before a comprehensive EIS can be completed.

PennEast was not designed to avoid or minimize adverse impacts. In addition to concerns about the primary route selected through so many sensitive and preserved lands, proposed alignment of pipeline facilities is unnecessarily destructive and in no way avoids or minimizes damage. Instead of minimizing destruction, PennEast proposes to maximize allowable disturbance and then asks for more allowance. Given the severe environmental impacts and challenging terrain, this project is not feasible without serious and unmitigable adverse impacts.

Given the very high level of uncertainty about whether the project is feasible, assessing the merit of the proposed pipeline (before our concerns are addressed) would be an inefficient and wasteful use of taxpayer resources.

We understand that under typical condition contractors and FERC do not want to be locked into particular construction methods and FERC has a process to approve adjustments to construction plans as conditions arise in the field. However, in this atypical geological and ecological region, there is substantial likelihood that the proposed footprint and route will simply not be feasible. Therefore, we believe site specific plans are critical to FERC's ability to accurately assess the environment impacts of the project.

It is a waste of taxpayer resources for FERC staff to assess a plan for which there is such a high degree of uncertainty over the construction techniques and the footprint. Thus, FERC should not conduct an assessment of potential environmental impact of the PennEast pipeline until site-specific construction plans are developed.

Comments on CP15-558, PennEast
By New Jersey Conservation Foundation