

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a
Declaratory Ruling for the Location,
Construction and Operation of a 4.8 MW
Wind Renewable Generating Project on
Flagg Hill Road in Colebrook,
Connecticut ("Wind Colebrook South")

Petition No. 983

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CONNECTICUT
SITING COUNCIL

November 16, 2011

COMMENTS REGARDING BNE'S "D&M PLAN" AND RELATED SUBMISSIONS

FairwindCT, Inc., Susan Wagner and Stella and Michael Somers (the "Grouped Parties"), hereby offer the following comments regarding the "D&M Plan" submitted to the Siting Council on September 16, 2011, and the modifications and supplements submitted by BNE in response to the three sets of D&M Interrogatories issued by the Siting Council, dated October 14, 2011, October 28, 2011, and November 1, 2011.

In previous filings with the Council and in the pending appeal to the Superior Court from the Council's Decision and Order, the Grouped Parties have argued that the Council's decision to engage in a D&M phase is not authorized by statute. In submitting these comments and the accompanying reports by William Carboni and Michael Klein, also dated November 16, 2011, the Grouped Parties do not waive that argument. Nor do they waive any other arguments or objections raised in their previous filings with the Council or made in their pending appeal.

The Grouped Parties also note that due to time and resource constraints, they have not had an opportunity to review all aspects of BNE's new submissions. These comments should therefore not be construed as a comprehensive discussion of all deficiencies in BNE's submissions.

I. BNE's Submission Should Not Be Approved Until it Is Complete

The "D&M Plan" that BNE "respectfully requests that the Siting Council approve . . . in accordance with the Order in the above-referenced petition" does not comply with the Council's Decision and Order – and in fact has already been revised in response to interrogatories from the Council pointing out some of BNE's omissions. (See BNE Response to Set Two, dated Oct. 24, 2011, attaching new set of plans, new Stormwater Management Plan, new Erosion and Sediment Control Plan and new Report on Need for Town Infrastructure Improvements).

Although the Grouped Parties recognize that the Council's Decision and Order provided that the D&M Plan could be "submitted and approved by the Council in one or more sections prior to commencement of facility construction," the Grouped Parties ask that the Council not draw any conclusions or make any final decisions based on BNE's submissions to date. No decision to determine the overall adequacy of the D&M Plan should be made as long as that plan remains incomplete, particularly in light of BNE's history throughout these proceedings of submitting revision after revision. BNE should be required to submit its final plan to the Council as a whole for approval or denial, instead of engaging in this piecemeal approach that prevents the Council and the parties and intervenors from reviewing and considering the project as a whole.

II. BNE's Submissions Do Not Meet the Council's Ordered Pre-Conditions to Commencement of Construction

At a minimum, BNE should be required to comply with the Council's order that it submit a D&M Plan including the elements specified in the Council's Decision and Order "prior to the commencement of facility construction." (Decision & Order ¶ 2.) The Grouped Parties note the following omissions in BNE's submissions to date.¹

1. The Decision and Order provides that BNE must include in its D&M Plan "[a] detailed site plan showing the placement and/or extent of vegetative clearing, grading, wetland buffers, access roads, turbine foundations, building specifications, equipment and material laydown and staging areas." (Decision & Order ¶ 2(a).) The site plans provided by BNE purport to provide such detail, but as noted by Mr. Carboni and Mr. Klein, the site plans are not certified by a licensed surveyor or sealed by a geotechnical engineer. The lack of a surveyor certification is particularly significant since the Council also ordered that BNE must demonstrate that the rotating blades of the southernmost turbine will be confined to the site. The figure provided by BNE in response to interrogatories shows that the blades of that turbine are only 14.4 feet away from the property boundary. If the site plans are not based on field topography, that measurement may be inaccurate. The lack of detailed geotechnical analysis is significant due to the steeply sloping nature of this site and BNE's use of slopes steeper than 2:1 without supporting geotechnical analysis. The Council should not approve plans that are not certified as conforming to A-2 and T-2 standards based on actual field topography and are not based on detailed geotechnical engineering analysis.

¹ These omissions are not an exhaustive list of the deficiencies in BNE's submissions, due to the limited time provided to the parties and intervenors for comment.

2. The Decision and Order provides that BNE must include in its D&M Plan a “[p]rovision for the establishment of open space and/or a conservation easement on the 29 Flagg Hill Road parcel that is protective of the site’s natural resources and restricts development for the life of the project or in perpetuity . . .” (Decision & Order ¶ 2(b).) The Grouped Parties refer the Council to the Town of Colebrook’s First Set of Comments, dated October 19, 2011, for discussion of the deficiencies in BNE’s proposal for open space and/or conservation easement on the property. (See *id.* at 2-4.) The Grouped Parties join in the Town’s request that the Council require BNE to employ a conservation restriction, as described in Connecticut General Statutes § 47-42a, and also joins in the Town’s request that BNE not be permitted to commence construction until a conservation restriction has been reviewed and approved by the Council.

3. The Decision and Order provides that BNE must submit “[d]etails for the modification and restoration of Town infrastructure affected by the project including a pre-construction survey, protections during construction, post construction survey, and restoration plan to render affected infrastructure to pre-project conditions or better . . .” (Decision & Order ¶ 2(c).) BNE has not submitted such details.

a. Although BNE submitted a one-page “Report on Need for Town Infrastructure Improvements,” that “report” is devoid of any details. The “report” claims that “Some temporary widening at this intersection [of Flagg Hill Road and Route 44] will be required . . .” but “[n]o other improvements to Town infrastructure are anticipated at this time.” (Infrastructure Report, Aug. 2011, at 1.) As Mr. Carboni notes, that statement is contradicted by BNE’s plans, which call for construction in the right of way

of Flagg Hill Road, including three culvert crossings, four catch basins, a head wall and 270 lineal feet of 15" CPP.

b. Moreover, the infrastructure “report” states that BNE will at some point in the future conduct a “pre-transport inspection . . . to ascertain the condition of the road just prior to the commencement of construction activities.” The “report” and the planned “inspection” of Flagg Hill Road fall far short of the Council’s order to provide “details . . . including a pre-construction survey”

c. The Grouped Parties also refer the Council to the Town of Colebrook’s First Set of Comments, dated October 19, 2011, for further discussion of the defects in BNE’s one-page “infrastructure report.” (See *id.* at 4-6.)

d. The Draft Staff Report dated November 3, 2011, appears to simply adopt BNE’s unsupported assertions regarding the condition of Flagg Hill Road as the truth. (Draft Report at 2.) The Grouped Parties urge the Council to reject that staff report and to order BNE to actually comply with the order to provide details and a pre-construction survey, rather than a flimsy one-page “report” that lacks expert verification.

4. The Decision and Order provides that BNE must submit “[a]n erosion and sediment control plan, consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (E&S Guidelines), as amended. The plan shall contain a narrative that specifies how the plan complies with the E&S Guidelines.” (Decision & Order, ¶ 2(d).) The Draft Staff Report dated November 3, 2011, appears to accept as true BNE’s claim that “[a]ll relevant principles and guidelines from the E&S Guidelines have been included in the D&M Plan.” (Draft Report at 3.) The Grouped Parties urge the Council to reject that staff report and to

order BNE to actually comply with the order to provide an erosion and sediment control plan that complies with the 2002 Guidelines and is supported by data from a geotechnical investigation of the site. BNE has not submitted such a plan.

a. In BNE's responses to interrogatories, BNE states that its erosion and sediment control plan "complies with the intent of the [2002] Guidelines" – not that its plan complies with the 2002 Guidelines. (See BNE Response to Set One, dated Oct. 14, 2011, at 5.) Ten days later, in response to further interrogatories from the Council, BNE submitted a new Erosion and Sediment Control Plan. (See BNE Response to Set Two, dated Oct. 24, 2011, at 5.) As Mr. Carboni explains, however, BNE's site plans still do not comply with the most basic concept included the 2002 Guidelines, which is also a basic tenet of good engineering practices, because the plans still contain slopes steeper than 2:1 in the absence of engineered design features or geotechnical analysis supporting the use of steeper slopes.

b. Another example of the defects in BNE's plans is its failure to provide a licensed surveyor's certification that BNE's mapping and plans conform to A-2 and T-2 standards. BNE admitted in its response to the Council's D&M Interrogatories, Set One, that one of the initial steps in designing an erosion control plan is to obtain "more detailed mapping," as needed "for identification of areas that may be prone to erosion as well as assessment of the drainage patterns on the site to determine areas where potential treatment and detention of stormwater can be provided" – yet that mapping is not certified by a licensed surveyor. (See BNE Response to Set One, dated Oct. 14, 2011, at 2.) Both Mr. Carboni and Mr. Klein note in their reports that the failure to provide certified field

topographic data is especially significant on this site due its steep slopes and the proximity of sediment facilities and grading to the site's boundaries.

c. Other defects in BNE's erosion and sediment control plan are described in the reports submitted by Mr. Carboni and Mr. Klein.

5. The Decision and Order provides that BNE must submit a "Stormwater Management Plan, consistent with the 2004 DEP Stormwater Quality Manual." (Decision & Order, ¶ 2(d).) BNE has not submitted such a plan.

a. BNE has submitted two Stormwater Management Plans, but as Mr. Carboni explains in his report, those plans still contain errors, including discrepancies in the reported "area to be disturbed" and existing and proposed drainage area, which likely result in erroneous comparisons of the existing and proposed conditions and understate the impact that the project will have on the stormwater patterns.

b. The Draft Staff Report dated November 3, 2011, simply states that "BNE has included in its D&M Plan a detailed, two volume stormwater management plan sealed by a licensed Professional Engineer." (Draft Report at 3.) The Grouped Parties urge the Council to order BNE to actually comply with the order to provide a stormwater management plan that complies with the 2002 Manual, contains calculations that are consistent with the erosion and sediment control plan and is supported by data from an adequate geotechnical investigation of the site.

6. The Decision and Order provides that BNE's D&M Plan must include an "Ice Safety Management plan that includes provisions to mitigate the potential for ice throw and ice drop. The Petitioner shall submit an evaluation of the feasibility of installation of the optional

Winter Ice Operation Mode . . .” (Decision & Order, ¶ 2(i).) The page and a half “Ice Safety Management Plan” submitted by BNE is short on information and, if approved by the Council, will fail to protect the residents of Colebrook and prevent ice throw and drop outside the boundaries of the site.

a. First, the plan submitted by BNE is not signed or dated. There is no way to tell who drafted the Program – it could have been drafted by BNE’s counsel or a BNE principal, or someone else with no experience in these matters. The Council should require BNE to submit a plan that was written and signed by an individual with proven experience in ice safety management.

b. The content of the Program is insufficient. The plan is based on the presumption that BNE has provided for proper setbacks – BNE has not done so, as is clearly demonstrated by the fact that two of the turbines are so close to the property boundaries that ice will drop onto neighboring properties. That is especially true for the southernmost turbine, which is, according to BNE, only 14.4 feet from a neighboring residential property. These distances are not adequate to protect the public, and do not comply with GE’s own setback recommendations.

c. The plan is inconsistent and confusing. For example, BNE states that [d]uring winter months when there is a potential for an icing event,” it will “place fences and warning signs as appropriate.” Does that mean BNE will only have fences and warning signs up during the winter months? Where will these fences and signs be located? Are the fences shown on the site plans BNE has submitted? BNE should be required to provide more information.

d. BNE repeatedly states that it will take certain actions when “there is a potential for an icing event,” but never defines “an icing event” or the weather conditions that lead to the “potential” for an icing event to occur. Again, BNE should be required to provide details, so that the residents living nearby know when BNE should be employing these extra safety precautions and so that BNE’s own staff will have clarity on the matter.

e. The content of the plan does not appear to be consistent with BNE’s sworn testimony. The plan indicates that the turbine shut downs will be based on power output and vibration. The plan then states that the “[t]he turbines can also be shut down remotely and manually on-site.” It does not specify that personnel will be on site at any time during the icing event. During the hearing, Dr. Heraud testified that BNE will have at least one staff member on site to monitor the turbines at the start of a potential icing event, to assess whether ice is forming on the turbine blades. (See 4/14/11 Tr. 97:5-17 (Heraud).) BNE should be required to adhere to the procedures it swore to implement during the hearing.

f. The plan states that BNE may restart iced turbines. That statement directly contradicts the sworn testimony BNE presented during the hearing, which was that no turbine would be restarted until all of the ice melted. (See, e.g., 4/14/11 Tr. 98:2-100:22.) Re-starting an iced turbine has obvious serious safety implications. The Council should not approve this plan.

7. The Decision and Order provides that BNE’s D&M Plan must include “[e]stablishment of a post-construction noise monitoring protocol describing locations, frequency and methods to be employed for a post-construction noise study.” (Decision & Order, ¶ 2(j).) The two-page “Post Construction Noise Monitoring Program” is short on information and, if

approved by the Council, will fail to protect the residents of Colebrook by ensuring that the project complies with state law and DEEP noise regulations.

a. First, the “Program” submitted by BNE is not signed or dated. There is no way to tell whether an acoustical engineer drafted the Program – it could have been drafted by BNE’s counsel or a BNE principal. In fact, the repeated use of the phrase “the project proponent” throughout the Program indicates that this Program was not even prepared for BNE. The Council should require BNE to submit a Program that was written and signed by an acoustical engineer.

b. The content of the Program is insufficient. For example, BNE proposes monitoring locations that are “[l]ocated near” four residences. Those monitoring points are irrelevant for the purposes of the noise statutes and regulations, which require compliance at the property lines. The Council should require BNE to monitor noise in at least four locations at the boundaries of its property.

c. BNE proposes to install its noise monitoring equipment “prior to the start of commercial operations of the wind turbines to document background noise conditions” – but provides no information about when that installation will be done or how BNE will adequately assess the background noise conditions. BNE should be required to install its equipment at least six months prior to the start of commercial operations of the wind turbines in at least four monitoring locations at the boundaries of its property, and it should be required to monitor the background noise levels for at least five consecutive days two times each month.

d. BNE proposes only one “long-term” monitoring location, which will only be monitored “continuously for a period of one year.” That monitoring will again be insufficient to protect the residents of Colebrook and ensure compliance with the noise statutes and regulations of the State. The Grouped Parties presented evidence demonstrating that the nature of wind turbine noise is highly dependent on wind direction and weather conditions. Monitoring continuously at only one location will not give the Council or the DEEP an accurate picture of the actual noise of the project at the property lines throughout the year, which will make it impossible to employ any effective noise mitigation, such as turning the turbines off in weather and wind conditions that are demonstrated to produce noise in excess of state law. BEN should be required to continuously monitor noise for an entire year in at least four monitoring locations at the boundaries of its property.

e. The “Reporting” section of the Program provides only that “the project proponent” (presumably BNE) will submit its noise monitoring results to Council, and will do so once a month for the first three months and then only quarterly. This section is silent about whether those results will be public. The Grouped Parties presented evidence that operators of other industrial wind turbine projects have refused to disclose their noise monitoring data even to the state environmental protection agency, forcing residents to pay an expert to conduct their own noise monitoring to prove that the project was not in compliance with state noise law. The Council should require BNE to make the results of its noise monitoring study public, and should require BNE to provide the raw data in native form to any member of the public who requests it in writing. The Council should also

require BNE to submit its noise monitoring results monthly for the first year, to provide nearby residents with timely information about the noise levels in their area. BNE should also be required to submit its noise monitoring results to the DEEP.

f. The Council should also require BNE to implement, as part of this noise monitoring program, a resident complaint process that will ensure that the dates and times of all resident noise complaints are documented and reported. This reporting will enable the Town, the Council and BNE to analyze the weather conditions and wind directions that lead to noise complaints, which may enable effective noise mitigation, such as turning the turbines off in those weather and wind conditions that are demonstrated to result in noise complaints.

8. The Decision and Order provides that BNE must submit a “Project Decommissioning Plan.” (Decision & Order, ¶ 2(l).) BNE has not submitted a proposed decommissioning plan that is devoid of any value to the Town. During the hearing, the Town of Colebrook presented testimony from John Stamberg regarding the elements necessary for a decommissioning plan to adequately protect the Town’s interests and ensure that the site will be returned to pre-development conditions. Mr. Stamberg’s testimony is based on actual experience and analysis of other decommissioning plans, as well analysis of the extreme difficulty of determining the potential salvage value of the turbine components. In contrast, BNE submitted a two-page decommissioning plan that states – with absolutely no supporting data or analysis – that the salvage value of the turbines will be \$1.4 million, so the entire decommissioning process will cost a grand total of \$150,000. The decommissioning plan is not even signed, so there is no way to tell whether any of the information contained in that plan came from an individual with

actual experience in decommissioning wind turbine projects or was merely drafted by one of BNE's principals. The Council should require BNE to instead submit a plan that complies with Mr. Stamberg's recommendation of annually updating and providing a decommissioning performance bond and has been prepared by an individual with experience in these matters. The Grouped Parties refer the Council to the Town of Colebrook's First Set of Comments, dated October 19, 2011, for further discussion of the defects in BNE's two-page decommissioning plan (See id. at 8-12.)

III. BNE's Submissions Do Not Meet Other Conditions Contained in the Council's Decision and Order

The Grouped Parties also note the following additional deficiencies in BNE's D&M Plan. Although the Council did not expressly state that all other conditions included in its Decision and Order must be met before BNE may commence construction, the Grouped Parties believe that these deficiencies are significant and that the Council should require BNE's compliance prior to construction.

1. The Decision and Order requires BNE to "provide a copy of all final decisions and/or permits issued by the DEP, Army Corps of Engineers, and all other applicable federal or State regulatory agencies concerning the proposed project . . ." (Decision & Order ¶ 1.) On May 11, 2011, the Army Corps of Engineers informed BNE "of the need for a Department of Army permit for the proposed work" and further stated: "We have reviewed the information submitted to the Connecticut Siting Council in support of your request for a declaratory ruling and, based upon our review it appears that the proposed work at each of the sites, at a minimum, will need to be evaluated under Category 2 of the Connecticut General Permit (CT GP). The

Army Corps has not released jurisdiction over the project, nor has BNE secured an Army Corps permit for the project. As of October 31, 2011, BNE had not yet even applied for a permit.

2. The Decision and Order requires BNE to “attempt to reach a Host Community Agreement with the Town of Colebrook prior to the submission of the D&M Plan.” (Decision & Order ¶ 3.) BNE did not do so, despite its sworn testimony before this Council that it would agree to certain conditions proposed by the Town of Colebrook. The Grouped Parties refer the Council to Town of Colebrook’s First Set of Comments, dated October 19, 2011, for further discussion of BNE’s failure to meet this portion of the Council’s Decision and Order.

3. The Decision and Order requires BNE to “continue and submit ongoing bird and bat studies” (Decision & Order ¶ 4.) To date, BNE has not yet submitted any bird migration surveys or raptor surveys for the site, despite having petitioned the Council for approval more than a year ago. Nor has it submitted a proposed post-construction bird survey methodology. BNE also has not yet submitted an entire season of bat acoustical monitoring. BNE’s failures with regard to its bat and bird studies are discussed in more detail below.

IV. The D&M Plan Does Not Contain Data and Other Information BNE Swore it Would Provide

As the Council is aware, during the hearing, both in pre-filed testimony and in the testimony of live witnesses, BNE repeatedly swore that many of the deficiencies, errors and omissions pointed out by the Grouped Parties’ experts would be remedied in the D&M phase. The plans submitted to date in the D&M phase do not remedy the deficiencies that were present during the hearing.

1. In response to cross examination questions about the adequacy of the site plans, both Mr. Cline and Mr. Jones repeatedly stated that the plans provided to date were

“preliminary” and that the construction plans provided during the D&M phase would be based on site surveys, infiltration data, geotechnical analysis of slope stability, and other detailed site investigation. BNE’s counsel, members of this Council and members of the Council’s staff repeated that refrain. (See, e.g., 4/14/11 Tr. 165:3-166:3 (Cline), 168:6-24 (M. Bachman); 4/26/11 Tr. 116:16-117:2 (Corey), 177:15-23 (Cline), 178:9-179:5 (Cline).)

2. Now, in the D&M phase, BNE has so far reneged on its promises. As Mr. Carboni and Mr. Klein discuss in their reports, the new plans are not ready for construction. They are not certified by a licensed surveyor. They are not sealed by a geotechnical engineer. They contain slopes that are steeper than 2:1 in the absence of engineered design features and geotechnical analysis of slope stability, which violates the 2002 Guidelines, the General Permit and good engineering practices. They do not provide a design of the septic system to serve the proposed office and education center building based on analysis of design flows and percolation tests. The Council should require BNE to comply with the Decision and Order by showing that its new plans are based on the detailed site investigation that BNE repeatedly promised to undertake.

3. BNE has still not submitted any bird migration surveys or raptor surveys for the site, despite having petitioned the Council for approval more than a year ago. Nor has it submitted a proposed post-construction bird survey methodology. The Council already granted BNE’s petition without the data necessary to assess the potential impact of this project on birds in the area. Now, BNE is asking the Council to approve construction of the project in the complete absence of any raptor surveys or bird migration surveys, which are “anticipated to be completed” at the end of this year – more than a month away. (See Memo from WEST to BNE, dated Sept. 1, 2011.) The report that BNE promises to have at that time will also contain the only

full-season survey of breeding birds, since the survey submitted by BNE with its petition missed much of the spring season. The Council should not approve construction of this project until it at least has adequate baseline pre-construction data on the bird population in the area. Without review of the pre-construction baseline data, it is impossible to determine whether any proposed post-construction bird surveys are adequate.

4. BNE has still not submitted a full season of bat acoustic surveys. Like the bird reports, the bat report for 2011 is “anticipated” to be submitted by the end of the year. The Council already granted BNE’s petition without the data necessary to assess the potential impact of this project on bats in the area. Now, BNE is asking the Council to approve construction of the project in the complete absence of a full season of acoustic monitoring, which is also “anticipated to be completed” at the end of this year. (See Memo from WEST to BNE, dated Sept. 1, 2011.) That report, even when submitted, will still be inadequate because it will be based on ground monitoring rather than elevated monitoring. (See id.) Moreover, it is impossible for the Council to determine whether BNE’s proposed post-construction bat fatality and acoustic monitoring will be adequate to assess the impact of the project on bats in the area. (See Study Plan for Post-construction Fatality Monitoring for the Colebrook Wind Resource Area, dated Aug. 31, 2011.) The Grouped Parties note that the post-construction acoustic surveys proposed continue to use only ground monitoring.

WHEREFORE, the Grouped Parties ask the Council to refrain from approving BNE's D&M Plan and permitting BNE to start construction until the deficiencies discussed herein are remedied.

By:



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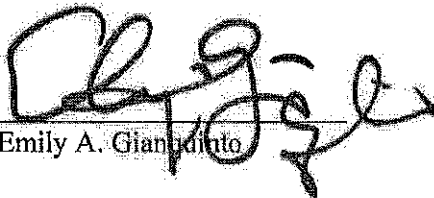
CERTIFICATION

I hereby certify that a copy of the foregoing document was delivered by first-class mail and e-mail to the following service list on the 16th day of November, 2011:

Lee D. Hoffman
Paul Corey
Thomas D. McKeon
David M. Cusick
Richard T. Roznoy
David R. Lawrence and Jeannie Lemelin
Walter Zima and Brandy L. Grant
Eva Villanova

and sent via e-mail only to:

John R. Morissette
Christopher R. Bernard
Joaquina Borges King


Emily A. Gianfruto

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Petition of BNE Energy Inc. for a
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REPORT OF WILLIAM F. CARBONI
REGARDING BNE'S D&M PLAN

I. Background and Summary

1. My name is William Carboni. I work at Spath-Bjorklund Associates. I was retained by Reid and Riege, PC on behalf of on behalf of FairwindCT, Inc., Susan Wagner and Michael and Stella Somers to assess the plans and reports submitted by BNE Energy Inc. ("BNE") regarding stormwater discharge, erosion and sediment control and provide testimony on those subjects. I earned a B.S. in civil engineering from Worcester Polytechnic Institute in 1967 and have worked as a civil engineer with several firms and state agencies since 1967. I am a licensed professional engineer in Connecticut and California. My qualifications and experience are outlined in more detail in my pre-filed testimony contained in the record of this docket.

2. During the hearings held in this matter, I submitted pre-filed testimony about BNE's failure to submit plans that complied with Connecticut state guidelines with regards to erosion and sedimentation, the Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities, site engineering with regards to drainage and grading, and Standards of Good Practice for this type of site development.

3. I have now reviewed the plans submitted by BNE during the “D&M” phase. This report discusses my conclusions, but in sum, the new plans still do not comply with State of Connecticut water quality and erosion guidelines. In addition, BNE has still not conducted many of the studies and tests necessary to comply with the guidelines – studies and tests that BNE repeatedly stated in its pre-filed testimony and testimony at the hearings would be completed and submitted during the D&M phase.

4. In my opinion, the D&M plans are not ready for approval, nor are they approvable. There are several procedures that must be followed before the plans can even be considered for approval. According to BNE’s own submissions, BNE still needs to complete additional site studies, obtain additional agreements with neighboring property owners and obtain approvals from other agencies. In addition, there are inadequacies and errors, omissions and inconsistencies in new plans that need to be addressed before they can be approved.

II. BNE Must Complete Additional Studies

5. In my pre-filed testimony before the Siting Council, I discussed in detail BNE’s failure to comply with the slope requirements contained in the 2002 CT Guidelines for Erosion and Sediment Control (“2002 Guidelines”). As I discussed in my earlier testimony, both good engineering practice and the 2002 Guidelines call for the use of slopes not steeper than 2:1 in the absence of engineered design features.

6. Despite claims in Melvin Cline’s pre-filed testimony that the March 15, 2011 revised plans “incorporated a 2:1 maximum slope for all aspects of the project,” not one of the several versions of plans submitted by BNE during the hearings complied with those requirements. The original plans contained 1:1 slopes; the March 2011 plans showed an attempt

to use only 2:1 slopes, but as I described in my supplemental pre-filed testimony dated April 19, 2011, the grading on those plans did not work. My understanding is that despite the grading issues, the Council approved those plans with 2:1 slopes. I assumed that the D&M Plan would correct the grading errors in the plans. Instead, the plans in the new submission by BNE use 1.5:1 slopes with modified rip-rap slope protection. I do not believe that the Council approved a project with 1.5:1 slopes. Moreover, there are no benches used in the grading, as required by the 2002 Guidelines.

7. BNE claimed that engineered design features would be developed during the D&M phase, after geotechnical investigation by a geotechnical engineer. BNE's March 15, 2011 plans – the plans approved by the Council – contain a note that the “[m]aximum graded slopes are 2:1. When steeper slopes must be used plans must be sealed by a Geo-technical engineer for slope stability and final surface stabilization.”

8. My review of the new plans shows that the slopes still do not meet the 2002 Guidelines. For example, the slopes used on both the uphill and downhill sides of the access road from station 0+00 to 15+00 are 1.5:1. These slopes are more than 24 feet high with no reverse sloped benches as required by the 2002 Guidelines. BNE has not provided any geotechnical analysis to support the use of these substandard construction techniques.

9. The report submitted by GZA Environmental, Inc., the geotechnical engineer hired by BNE, does not analyze slope stability. GZA only mentions slope stability on Sheets B-101 and B-102, where it proposes using 2:1 slopes surrounding the foundations of the turbines.

10. In short, the plans do not conform to the 2002 Guidelines. BNE does not provide any justification for the use of slopes steeper than 2:1. BNE does not provide the geotechnical analysis Mr. Cline told the Council, in both his pre-filed testimony and his sworn testimony during the hearing, would be done during the D&M phase. The new plans do not conform to the representations made to the Council when it approved the project that the slopes would be 2:1 or flatter, in compliance with the 2002 Guidelines.

11. Either BNE should modify its new plans to conform to the criteria approved by the Siting Council, or BNE should conduct a geotechnical investigation and analysis of the mechanical slope stabilization measures so the Council can then re-evaluate the plans with all of the necessary information.

12. BNE also has yet to submit a design of the septic system to serve the proposed office and education center building. The depth to ledge rock in the area of the septic system is only 6 feet. The soils contain silt, which inhibits percolation. BNE should be required to prepare and submit a septic design report that provides the design flows, percolation rates and MLSS calculations to insure compliance with the Connecticut Health Code.

III. BNE Must Obtain Additional Agreements

13. On Sheet C-600 of the new plans, a note states: "Grading shall not be done in such a way as to divert water onto the property of another landowner without their express written consent." Another notes states: "Culvert discharge areas will be protected with riprap channels. Energy dissipaters will be provided as necessary." The notes are accurate statements of the requirements of such plans; however, the plans do not implement these conditions.

14. There are three culverts proposed under Flagg Hill Road that discharge onto the property on the east side of the road. The owners of the property east of Flagg Hill Road are not shown on Sheet C-001, however, based on an earlier map review, it appears that the property is owned by the State of Connecticut. BNE has not submitted any documentation showing that the State has granted its express written consent to the diversion of water onto its property from the three culverts.

15. Another culvert discharges onto the Town of Colebrook right of way. I have reviewed the comments made in a letter from BNE's attorney dated October 14, 2011, and since BNE does not have Host Community Agreement with the Town of Colebrook, BNE also does not appear to have permission to divert water onto the Town's right of way.

16. My review of BNE's plans also shows that none of the discharge points have energy dissipaters. Based on the contours of the land east of the road, there is no water course or wetland at the discharge points. The nearest contour configuration which suggests a watercourse is 200 to 400 feet from the end of the pipes. It is good engineering practice to discharge water into an existing water course or wetland. If one is not available, a stabilized channel should be constructed to convey the flow to a water course or wetland. Unless a properly stabilized channel that extends to the nearest watercourse or level wetland is provided, erosion will occur at these discharge points. Further, the 2002 Guidelines Section 5-10 requires that energy dissipaters for outlet protection be "placed between the outlets of pipes or paved channel sections and a stable downstream channel."

17. BNE's new plans call for three culvert crossings of Flagg Hill Road and four catch basins, a head wall and 270 lineal feet of 15" CPP to be constructed in the right of way of the road. A Road Work Agreement must be approved by the Town of Colebrook in order to

construct these facilities. BNE has not submitted any documentation that such an agreement has been implemented. Instead, in a submission titled "Report on Need for Town Infrastructure Improvements," dated August 2011, BNE states that "Some temporary widening at this intersection [Flagg Hill Road and CT Route 44] will be required . . ." but tells the Siting Council that "[n]o other improvements to Town infrastructure are anticipated at this time." That statement is plainly not true, based on the contents of the plans.

IV. BNE Must Obtain Approvals from Other Agencies

18. It is normal and customary to have a proposed septic system designed and approved by the local Health District before the approval for the project is granted. BNE has not submitted any documentation that the Health District has approved or even seen the septic design.

19. These studies, agreements and approvals should be presented to the Siting Council before it considers approving the new plans. Without this additional information, the Siting Council cannot make an informed decision about the project.

V. BNE's Plans and Reports Are Still Inadequate

20. The new plans and reports submitted by BNE still contain many of the same inadequacies that were present in the earlier versions of the plans and discussed in my pre-filed testimony.

21. For example, BNE still has not provided a certification for the basis of the mapping used to prepare the plans. Since BNE is asking that the plans be considered as construction documents, a Licensed Surveyor should certify that the base mapping meet A-2 and T-2 standards.

22. The GZA GeoEnvironmental plans for the foundation design are marked "Not for Construction" – yet BNE is asking that they be approved for construction. These "Not for Construction" plans are also the basis for BNE's proposed grading around the towers. They will also be used to design any necessary dewatering facilities for construction. If these plans are to be considered the structural plans for the towers, they should show the reinforcing bars in the concrete, how the tower will be attached to the foundation and other structural details. BNE should provide a report showing the adequacy of the design for bearing capacity, structural strength, overturning calculations, wind resistance analysis and other design criteria.

23. The erosion and sediment control measures proposed for the project are inadequate and still do not meet the 2002 Guidelines. The following is a brief list of the items that do not comply.

a. On Sheet C-501, an 18" CM pipe which receives runoff from Bio-retention area #1 and other areas passes under the road and discharges with no outlet protection. The area of the discharge has a slope of 60%. Section 5-10 of the 2002 Guidelines states that energy dissipators for outlet protection be "placed between the outlets of pipes or paved channel sections and a stable downstream channel." There are no energy dissipators at the ends of these pipes, the energy dissipators would have to be constructed on other people's property and there is no downstream channel. (See ¶ 16 above.) In addition, a stable channel cannot to obtained on steep slopes ranging from 20 to 60 percent. This will cause erosion and the potential failure of the road.

b. On Sheet C-501, a 30" CM pipe which receives the runoff from a wetland with a significant tributary area passes under the road and discharges with no outlet

7
protection. The area of the discharge has a slope of 20%. This will cause erosion for the same reasons described above in ¶ 23(a).

c. On Sheet C-501, the 15" RC pipe from the CB 1+00R discharges onto Flagg Hill Road and there is no outlet protection. The pipe has a tributary area of more than 5 acres. The pipe is directed perpendicular to the road. This will cause erosion and the potential failure of the road.

d. On Sheet C-500, there is a catch basin and pipe located south of the property line. Because this pipe is not shown on any of the larger scale drawings, I cannot determine the size and type of pipe or the outlet conditions. Based on the limited information provided, it appears that the pipe discharges to a steeply sloped area with no outlet protection. The discharge point is to an area with no watercourse or wetlands. This will cause erosion and the pollution of downslope wetlands and watercourses. (See ¶¶ 16, 23(a).)

e. On Sheet C-501, there is a 15" pipe paralleling the road and discharges in front of the headwall. There is no outlet protection or energy dissipation structure. This will cause erosion and the pollution of downslope wetlands and watercourses.

f. On Sheet C-201, there is a paved leak off at the beginning of the main access drive. This is a runoff concentration point with an area tributary of about 1.4 acres. The runoff is directed onto Flagg Hill Road with no sedimentation control device. Section 5-11 of the 2002 Guidelines requires a sediment trap for discharge points with a contributing drainage area of less than 5 acres. I doubt that a properly sized trap can be constructed in this area.

g. There is a diversion swale of the uphill side of the access drive. According to the detail shown on Sheet C-603, the swale is at the base of the slope, adjacent to the access road. The swale will receive the runoff from the area disturbed by grading on the uphill of the paved access road (Station 0+00 to 15+00) and the downhill side of the unpaved access road (Station 22+00 to 28+00). Therefore, the runoff should be treated according to the 2002 Guidelines. There are six catch basins proposed in the diversion swale, which intercept the flow and direct the flow into a pipe. The pipe carries the flow under the access drive and discharges on the downhill side. There are no sedimentation facilities on any of the pipe outlets. Three of the discharges have tributary areas greater than 1 acre but less than 5 acres. These should have temporary sedimentation traps. The discharge from the catch basin at Station 1+00R has a tributary area of more than 5 acres. This would require a temporary sedimentation basin. I doubt that properly sized traps or a basin could be constructed in these areas, because the slopes are too steep for the traps and there is not sufficient room for the basin.

h. The pipe outlets from the diversion swale are directed onto areas with slopes ranging from 28% to 50%. There are riprap pads at the end of the pipes. The 2002 Guidelines call for level spreaders to be constructed as an outlet for diversions and other water conveyances. The area below the level spreader lip is to have a slope of 5% or flatter. The steep slopes below the riprap pads will erode. This will cause erosion and the pollution of downslope wetlands and watercourses.

i. In the location of Tower 3, water was found in Test Pit 36 and Boring 4. The water was 7.5 and 7.2 feet below the ground surface. The bottom of the tower

foundation is to be 10 to 11 feet below the ground surface. Therefore, it is reasonable to assume that groundwater will be encountered during excavation. There is no provision for a dewatering settling basin as required by Section 5-13 of the 2002 Guidelines.

VI. BNE's Plans and Reports Still Contain Errors and Inconsistencies

24. The following is a brief list of the errors and inconsistencies found in BNE's new plans and reports.

a. In the Stormwater Management Plan, the reported "area to be disturbed" is 10.75 acres. In the Erosion and Sediment Control Plan, the reported "area to be disturbed" is 13.32 acres. Not accounting for all the area to be disturbed may explain the apparently anomalous finding that the peak flows are smaller in the proposed condition. The Stormwater Management Plan shows that the proposed 100-year storm peak rate of flow will be reduced in three drainage areas by 2 to 7%, will remain the same as existing in another drainage area and will increase by 6% in another drainage area. However, it appears that this analysis was done using only 80% of the actual area to be disturbed. Depending on the location of the unaccounted-for area, it is possible that all drainage areas will have an increase.

b. In the Stormwater Management Plan, the existing drainage areas have a total area of 50.65 acres. In the proposed condition, there are only 50.06 acres. Although this is only a 1.2% difference in area, it is significant because the difference in peak flows during a 100-year storm is only 1.9%. BNE's failure to account for all the area may explain why the peak flows are smaller in the proposed condition.

- c. No percolation test data is shown on the maps or reported in the GZA report. This information is necessary to evaluate the infiltration assumptions used in the detention study. This data is also necessary to design the septic system.
- d. On Sheet C-501, there is a headwall at the outlet from wetland area. Notes for the headwall show a 24" CMP. The pipe under the road is described as a 30" CMP.
- e. The Stormwater Management Plan, Section 2.3.2. states: "Construction within the project area is such that flooding caused by an increase in impervious area or the reconfiguration of stormwater conveyance through the drainage area is not a primary concern . . . Permanent stormwater conveyance structures such a [sic] storms drains, catch basin, and the like are not planned for this development." The proposed plan shows 2,705 lineal feet of pipe, 24 catch basins, 4 manholes, 14 outlets and 8 channels measuring 2,940 lineal feet.
- f. On Sheet C-506, there are two proposed subsurface detention galleries. The top of these galleries is above the existing ground. However, there is no grading shown around the galleries adjacent to the wetlands.
- g. There are no inverts shown of the plans for the pipes out of the proposed subsurface detention galleries. It is not possible to properly construct the detention galleries without knowing the elevation of the outlet control pipes. Again, the plans are not ready for approval as construction plans.
- h. The plans and reports do not have maps showing the tributary areas to the drainage facilities, the detention facilities or the erosion control facilities. Without this

documentation, the calculations in the Stormwater Management Plan and the Erosion and Sediment Control Plan are without value.

i. The outlet protection calculations in the Erosion and Sediment Control Plan have no usable titles to correspond to facilities shown on the plans. Without being able to correspond the calculations to the facilities, it is not possible to review the adequacy of the facilities.

j. The detention basin near Turbine #1 has two outlet orifices, a six-inch set at the bottom of the basin and a nine-inch set 1.5 feet above the bottom. The use of very small diameter orifices in an open basin will be problematic. An open basin in a wooded area will receive a large amount of leaf litter and other debris. This will clog an orifice of only six inches in diameter. The outlet control structure should be redesign to incorporate a means of preventing clogging of the entrance.

VII. Other Considerations

25. The following are items in the design of the project that should be considered or reevaluated before the Council approves the project.

a. There is wetland area on the east side of the site. (Defined by flag numbers WF 5-01 through WF 5-17.) This wetland receives water from a 21.3-acre watershed located both on the site and between the site and Flagg Hill Road. The proposed access road will cut off 7.9 acres, or 37.1 percent, of the tributary area. Based on five test pits BNE dug along the road, the average depth to ledge is 3 to 5.5 feet. The cut for the road from Station 4+20 to 15+40 is 3 to 8 feet. (This is based on difference between the bottom of the swale and the existing ground measured 12 feet right of the centerline.)

Therefore, the permanent diversion swale will intercept both the ground water and the surface water that feed the wetland. Although a portion of this water will be returned to the wetland by the three cross culverts under the access drive, not all of the original flow will reach the wetland. More importantly, the groundwater, which sustains the wetland during non-rainfall conditions, will be converted to surface flow, which moves through the wetland much more quickly. Groundwater is much slower moving and a more constant flow.

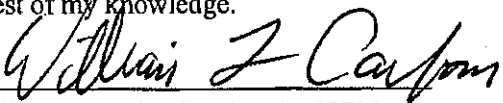
b. BNE's Erosion and Sediment Control Plan's Best Management Practices leaves the responsibility for inspection of the mitigation measures to the site contractor. A better practice would be to have a third party monitor the erosion control measures. The party should be a qualified person licensed by the State.

c. The drainage facilities proposed in and along Flagg Hill Road will cause erosion and damage to the public property.

The statements above are true and accurate to the best of my knowledge.

November 16, 2011

Date


William F. Carboni, P.E., No. 22722

CERTIFICATION

I hereby certify that a copy of the foregoing document was delivered by first-class mail
and e-mail to the following service list on the 16th day of November, 2011:

Lee D. Hoffman
Paul Corey
Thomas D. McKeon
David M. Cusick
Richard T. Roznoy
David R. Lawrence and Jeannie Lemelin
Walter Zima and Brandy L. Grant
Eva Villanova

and sent via e-mail only to:

John R. Morissette
Christopher R. Bernard
Joaquina Borges King


Emily A. Giannunzio

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a
Declaratory Ruling for the Location,
Construction and Operation of a 4.8 MW
Wind Renewable Generating Project on
Flagg Hill Road in Colebrook,
Connecticut ("Wind Colebrook South")

RECEIVED
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Petition No. 983

CONNECTICUT
SITING COUNCIL
November 16, 2011

REPORT OF MICHAEL S. KLEIN
REGARDING BNE'S D&M PLAN

ORIGINAL

I. Background and Summary

1. My name is Michael Klein. I am the principal of Environmental Planning Services (EPS). I was retained by Reid and Riege, PC on behalf of FairwindCT, Inc., Susan Wagner and Michael and Stella Somers to review the potential impacts of the proposed BNE Wind Colebrook South turbine project on wetlands and watercourses, water quality, and biodiversity. I am a biologist and soil scientist with 34 years of experience in biological and wetland surveys, erosion and sediment control, impact assessment and mitigation design. My qualifications and experience are outlined in more detail in my pre-filed testimony contained in the record of this docket.

2. During the hearings held in this matter, I submitted pre-filed testimony about BNE's failure to provide adequate data that would permit an accurate site assessment and impact analysis. I testified that the wetland and biological surveys submitted were inadequate to allow the Siting Council to make a reasoned judgment because the timing and duration of many of the surveys was not sufficient to even identify the resources present, let alone describe and evaluate

potential impacts of the project. I also testified that the site development plans presented by BNE during the hearing would result in substantial indirect adverse impacts from erosion, sedimentation, and degradation of water quality.

3. I have now reviewed the plans and reports submitted by BNE during the "D&M" phase. Numerous deficiencies remain in the plans, including systemic deficiencies that affect the entire project. This report discusses my conclusions with regard to both those systemic deficiencies and some specific comments on technical details of the plans.

4. In sum, the new plans and reports submitted by BNE do not demonstrate that this project is ready for construction. Instead, the D&M Plan submissions show that BNE has not remedied many of the problems that were present during the earlier proceeding in this matter. The new plans and reports also lack the geotechnical data and analysis that BNE repeatedly promised would be provided to support its site plans during the D&M phase.

II. BNE's D&M Plan Contains Systemic Deficiencies that Impact the Entire Project

5. The new site plans do not reference a source for the topographic data. They are presented as construction documents, but there is no indication about whether field topography was used. Prior plans were based on CT DEEP GIS LIDAR data, which are of unknown accuracy and cannot be used for construction drawings. Use of anything other than field topography is especially problematic on this site with this proposal, because the site is steeply sloping and the grading is at or above the limits of acceptability and extends up to and beyond the site boundary in some cases. Without a plan based on field data, BNE cannot insure that the project can be constructed as designed and remain entirely on property that is under its ownership or control.

6. The Stormwater Pollution Prevention Plan utilizes measures that do not conform to the requirements of the 2004 Stormwater Manual and/or the 2002 Guidelines. The CT Stormwater General Permit for Construction and Dewatering Wastewaters ("General Permit") requires a project either comply with the 2004 Stormwater Manual and the 2002 Guidelines or that the project is supported by a detailed engineering analysis that demonstrates that the project meets the goals of the General Permit. Because BNE does not comply with the 2004 Stormwater Manual and the 2002 Guidelines, and has not provided a detailed engineering analysis, the plans cannot be said to conform to the requirements of the General Permit.

7. The drainage system discharges to Flagg Hill Road in several places, and then onto adjacent property not under BNE's ownership or control. These outlets discharge onto steep slopes and will likely result in erosion on these properties and damage to downslope wetlands and watercourses.

8. No geo-technical work has been performed, as repeatedly promised during the hearing, to support detailed design of slopes that are steeper than permitted by the 2002 CT Guidelines for Erosion and Sediment Control ("2002 Guidelines").

9. No data has been presented to support the location and design of the bio-retention or infiltration basins. Data required by the CT DEP Stormwater Manual ("2004 Stormwater Manual") but not presented include:

- a. Deep test pits (1 per 5000 s.f. of basin area, minimum of 3 per basin);
- b. Field infiltration rate (1 per 5000 s.f. of basin area, minimum of 3 per basin);
- c. Basin sizing/pollutant attenuation calculations; and

d. Soil/treatment medium specifications.

10. No soil testing or design data has been presented for the septic system. This system has been represented as being the only sanitary disposal facility for BNE's Wind Colebrook North and South projects.

11. No drainage area maps or calculations have been presented to support the sizing and location of the temporary sediment traps. Unless they are properly sized, they do not meet the requirements of the 2002 Guidelines or the 2004 Stormwater Manual, cannot be assumed to function as required, and would therefore result in pollution and degradation of downstream wetlands and watercourses.

12. The electronic versions of the plans provided do not scale properly. Therefore, it is impossible to verify that the plans meet the requirements of the 2002 Guidelines or the 2004 Stormwater Manual.

13. Plans call for interception and diversion of ground and surface water flows that support the wetland east of access road. This will have a permanent adverse impact on this wetland which is a groundwater discharge (seepage) wetland whose hydrology and ecology are dependent on a predictable groundwater regime.

14. The new plans and reports state that road widening at Route 44 and Flagg Hill Road will require activity on private property without any indication that BNE has acquired the rights for such activity.

15. There are several outlets from the diversion swale on the uphill side of the access road that discharge onto steep slopes. The outlet protection shown (rip-rap pads) does not conform to the 2002 Guidelines, which requires level spreaders. The slope below the outlets

varies from almost 30% to as much as 50%. The maximum slope permitted below a level spreader lip is 5%. Regardless of the use of rip-rap pads or levels spreaders, the flow discharged onto these steep slopes will re-concentrate and cause significant erosion, damaging downstream wetlands and watercourses.

III. BNE's D&M Plan Reflects Continued Errors, Inconsistencies and Omissions

16. On Sheet C-003, labeled "Clearing Limit & Vernal Pool," portions of both Vernal Pool critical terrestrial habitat zones extend offsite. If these offsite areas were included in the disturbed area calculations, BNE must demonstrate that these offsite areas cannot be developed. The calculations also appear to include areas that are not within the on-site Conservation Easement and therefore cannot be assumed to remain undeveloped. This is not consistent with my understanding of Calhoun and Klemens' Best Management Practices guidelines, which BNE purports to follow.

17. On Sheet C-100, labeled "Overall Site Plan, and Sheet C-103, labeled "Turbine Three Plan," numerous deep test pit and perc test locations are shown but the data are not included in the materials. These data are required to support stormwater quality and erosion control elements.

18. On Sheet C-201, labeled "Erosion Control Plan," a permanent diversion swale is shown without any of the required design data and in contradiction to BNE's own statements that diversion swales will not be required. A boulder retaining wall is used to stabilize the outlet at Sta 3 + 25. This is not acceptable under the 2002 Guidelines.

19. On Sheet C-202, labeled "Erosion Control Plan," the following errors are present:

a. No reverse slope benches are used, as required in areas where the vertical height of slopes steeper than 3:1 exceeds 15 feet;

b. No geotechnical analysis of rip-rap slopes has been provided, as required by BNE's own statements and the 2002 Guidelines;

c. The plans are not sealed by a geo-technical engineer;

d. Temporary Sediment Trap 1 ("TST1") does not meet the 2002 Guidelines requirements for length to width ratio and maintenance access;

e. No design criteria/drainage area/volume calculations are provided; and

f. The plans do not include an analysis to determine the engineered slope stabilization measures required to insure that runoff will not damage the slope or other graded areas.

20. On Sheet C-203, labeled "Erosion Control Plan," a Permanent Diversion Swale and a Permanent Conveyance Swale are shown, in contradiction to BNE's statements and without supporting design data. A dry water quality swale is also shown without design data.

21. On Sheet C-204, labeled "Erosion Control Plan," the following errors are present:

a. Reverse slope benches are not shown as required in areas where the vertical height of slopes steeper than 3:1 exceeds 15 feet, as required by 2002 Guidelines;

b. No geotechnical analysis of the slopes has been provided, as required by BNE's own statements and the 2002 Guidelines;

c. The plans are not sealed by a geo-technical engineer, as required by the BNE's own statements;

d. No design criteria/drainage area/volume calculations are provided;

e. The plans do not include an analysis to determine that the engineered slope stabilization measures required to insure runoff will not damage the slope or other graded areas.

f. No design calculations, soil or subsurface data is provided for Temporary Sediment Trap 2 (“TST2”); and

g. The TST2 berm exceeds the maximum allowed by the 2002 Guidelines.

22. On Sheet C-204, labeled “Erosion Control Plan,” the following errors are present:

a. No design data or calculations are provided for Temporary Sediment Traps 4 or 5;

b. Reverse slope benches are not shown as required in an area where the vertical height of the slope steeper than 3:1 exceeds 15 feet (30 feet is shown), as required by the 2002 Guidelines;

c. No geotechnical analysis of the slopes has been provided, as required by BNE’s own statements and the 2002 Guidelines; and

d. The plans are not sealed by a geo-technical engineer, as required by BNE’s own statements.

23. On Sheet C-206, labeled “Erosion Control Plan,” there are no controls preventing amphibian access to underground detention.

24. On Sheet C-302, labeled “Grading Plan,” the level spreaders discharge onto a slope of more than 5% (here, the slope is more than 30%) in violation of the 2002 Guidelines.

25. On Sheet C-303, labeled "Grading Plan," the following errors are present:
- a. There is a 1.5:1 rip-rap slope shown without the stability analysis required by the 2002 Guidelines;
 - b. No geotechnical analysis of the slopes has been provided, as required by BNE's own statements and the 2002 Guidelines;
 - c. The plans are not sealed by a geo-technical engineer, as required by BNE's own statements.
26. On Sheet C-500, labeled "Post-Construction Grading Plan," the catch basin and culvert discharge onto a steeply sloping area and the flow is not conveyed to a stable outlet, which will result in erosion and pollution of downslope wetlands and watercourses.
27. On Sheet C-502, labeled "Post-Construction Grading Plan," the following errors are present:
- a. The outlet and inlet of Bioretention Area #2 are immediately adjacent to each other. Short-circuiting will result and the basin will not provide required level of treatment, resulting in pollution;
 - b. No design criteria, deep test pit or infiltration test data are provided; and
 - c. The level spreaders shown do not meet 2002 Guidelines requirements for grade (<1% at outlet, <5% at 20').
28. On Sheet C-504, labeled "Post-Construction Grading Plan," no test pits, infiltration data or design computation are shown for the infiltration basin.
29. On Sheet C-505, labeled "Post-Construction Grading Plan," no amphibian barrier is shown for the basin at Sta. 35+00.

30. On Sheet C-506, labeled "Post-Construction Grading Plan," no pre-treatment is shown for discharge to underground detention, which will exacerbate clogging problem due to very small outlets.

31. On Sheet C-600, labeled "E&S Narrative Sequence," temporary sediment traps are not part of initial erosion and sediment installation as required by 2002 Guidelines.

32. On Sheet C-603, labeled "Road Plan & Profile," the plans do not show the sediment controls required by the 2002 Guidelines in several locations where concentrated flows are discharged. Some of these locations have tributary areas of more than one acre and should be protected with temporary sediment traps, which are not provided. In one case (i.e., the catch basin at Station 1+00R), the tributary area appears to be more than 5 acres, which would require a temporary sediment basin with detailed design data.

The statements above are true and accurate to the best of my knowledge.

November 16, 2011
Date

/s/ Michael S. Klein
Michael S. Klein

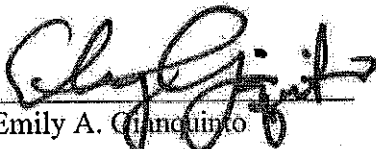
CERTIFICATION

I hereby certify that a copy of the foregoing document was delivered by first-class mail and e-mail to the following service list on the 16th day of November, 2011:

Lee D. Hoffman
Paul Corey
Thomas D. McKeon
David M. Cusick
Richard T. Roznoy
David R. Lawrence and Jeannie Lemelin
Walter Zima and Brandy L. Grant
Eva Villanova

and sent via e-mail only to:

John R. Morissette
Christopher R. Bernard
Joaquina Borges King


Emily A. Ciancino