

**REPORT OF THE BERNARDS TOWNSHIP PLANNING BOARD  
TO THE BERNARDS TOWNSHIP COMMITTEE  
ON THE REVIEW OF THE 2011 MILLINGTON QUARRY (MQI) REHABILITATION PLAN**

**Date of Adoption: May 7, 2013**

## I. INTRODUCTION

### A. Purpose of Rehabilitation and a Rehabilitation Plan and Requirement for Planning Board Review and Report to the Township Committee

Pursuant to ordinance § 4-9.5.a.1, the purpose of quarry rehabilitation is to return quarry property to conditions that: are permitted by the Township zoning ordinance; do not endanger the health and safety of the public; and do not endanger natural resources such as groundwater and soil erosion. Ordinance § 4-9.5.a.1 provides that the purpose of a quarry rehabilitation plan is to describe these conditions, how and when they will be met, and the costs to meet them. Ordinance § 4-9.5.a.4 provides that approval of every rehabilitation plan shall expire on the third anniversary of its approval, and a revised rehabilitation plan shall be submitted not less than six months before the expiration of the prior rehabilitation plan.

Ordinance § 4-9.5.a.2 requires an initial rehabilitation plan to be referred to the Planning Board for review and report to the Township Committee. This review and report function by the Planning Board is commonly referred to as the advisory power of a Planning Board and is authorized by the MLUL, specifically, N.J.S.A. 40:55D-26b, which provides that a governing body may by ordinance provide for the reference of any matter to the Planning Board for a recommendation. Ordinance § 4-9.5.a.2 provides that the Planning Board shall schedule a public hearing on an initial rehabilitation plan referred to it no more than 60 days after receipt of such plan, and the Planning Board must schedule a public hearing on the rehabilitation plan no more than 60 days after receipt of such plan. Ordinance § 4-9.5.a.4 provides that all subsequent rehabilitation plans shall be reviewed by the Planning Board and approved by the Township Committee in the same manner as an initial rehabilitation plan.

Millington Quarry, Inc. (“MQI”) submitted its 2011 Rehabilitation Plan (the “2011 Plan”) to the Bernards Township Committee on October 17, 2011 and the Township Committee thereafter referred the 2011 Plan to the Bernards Township Planning Board (the “Board”) for review and report pursuant to ordinance §§ 4-9.5.a.4 and 4-9.5.a.2. Pursuant to ordinance § 4-9.5.a.2, the Board is required to review the rehabilitation plan to ensure consistency with each and every provision of ordinance §§ 4-9.4 and 4-9.5, including environmental, health, safety and other factors effecting the public welfare. Pursuant to ordinance § 4-9.5.a.2, the Board is required to conduct a hearing on each rehabilitation plan and follow regular practices used for development applications. These practices include testimony under oath and the opportunity for members of the public to question witnesses and submit testimony. The ordinance further provides that members of the Township Committee who are also members of the Board may participate in the hearing as members of the Board. Ordinance § 4-9.5.a.2 requires that the Board pay “particular attention to the evidence and testimony supporting the feasibility of the plan” and, in the course of the hearing, the Board may recommend changes in the plan, and the applicant may agree to these and amend the plan accordingly.

Pursuant to ordinance § 4-9.5.a.2, the Board must submit its report to the Township Committee within 45 days after completion of the hearing on the plan. In this case, the applicant extended this time period from April 18, 2013 to May 7, 2013. Pursuant to ordinance § 4-9.5.a.2, the report must include the Board’s findings and recommendations, and these are to include but not be limited to deficiencies the Board may find in the plan as well as recommendations for changes in the plan. Finally, ordinance § 4-9.5.a.2 provides that, if the Board determines that a final decision on a rehabilitation plan should be postponed, the Board may recommend to the Township Committee that an interim rehabilitation plan be accepted, but any such interim plan shall include the posting of security for rehabilitation in

accordance with ordinance § 4-9.6. This within report is the Board's report to the Township Committee as required by ordinance § 4-9.5.a.2.

## **B. Minimum Contents of Rehabilitation Plan**

In accordance with ordinance § 4-9.5.b, every rehabilitation plan must include the following at a minimum:

1. Provisions for the quarry property to be made reusable for a use or uses permitted by the township Zoning Ordinance.
2. Provisions for the quarry property to be brought to a final grade by a layer of earth two feet in thickness or its original depth, whichever is less, capable of supporting vegetation, unless a different depth is approved in the rehabilitation plan. (emphasis added) Measures to prevent erosion and earth slides shall be described in detail for both the short and long term.
3. Provisions for all fill to be of a suitable material approved by the Township Engineer.
4. A grading plan based on ten-foot contour intervals.
5. That the quarry owners provide adequate security for the completion of the rehabilitation, as required by ordinance subsection 4-9.6.
6. A calculation prepared by a licensed professional engineer to determine the existing availability of fill material to provide the cover required in ordinance subparagraph b.2 above.
7. A cost estimate prepared by a licensed professional engineer to establish the costs associated with the proposed rehabilitation plan.
8. An estimate for the date on which quarry operations will cease and the basis for this estimate.
9. Provisions governing when rehabilitation will begin and the stages, if any, of the rehabilitation plan. Rehabilitation steps may begin during the time when quarrying is being done. The balance of the rehabilitation plan that remains when quarry operations cease may be carried out in a single stage, or this may be done in multiple stages to accommodate changing conditions, such as water accumulating in the pit. If so, the plan shall describe each stage. Each step in each stage of the plan shall be described in such precise detail that the feasibility of each step, and the cost for implementing each step, may be determined. The plan shall set forth the cost estimate for each step and the basis for the estimate.
10. The plan shall describe each projected source and sink of water and estimate the annual volume of flow into or out of the pit for each source and sink. These sources and sinks shall include but not be limited to precipitation, groundwater, including groundwater through cracks or pores in rock walls, and evaporation. The plan shall include a model, including topographic maps, that projects the filling of the pit over five-year intervals until a stable level is reached, and shall identify projected water level at each five-year interval and at the stable level.
11. The plan will identify and assess potential impact on water quality resulting from completed quarrying operations.
12. The plan shall describe the projected quality of the water in the pit for each five-year interval and at the projected final level.

13. The plan shall identify the potential risks to health and safety, to humans and to the natural environment, which may obtain at each projected five-year interval and at the projected final level of water in the pit, and shall describe the measures that will be taken to manage and reduce any such risks. The plan shall also identify potential risks to human health and safety that may be associated with step cuts in the quarry walls and/or cliff edges on the quarry walls, and shall describe the measures that will be taken to manage and reduce any such risks.

14. The plan shall evaluate risks from falling rock and shall, where appropriate, describe efforts that will be taken to reduce such risks.

15. The plan shall suggest appropriate final uses for the quarry property, based on conditions projected to obtain at each five-year interval and at the stable level of water in the pit.

16. All the above estimates and projections shall be supported by reports and testimony of expert witnesses.

17. The plan shall contain an environmental impact statement (“EIS”). See, ordinance § 4-9.4.e as to the areas that must be included in the EIS. And, a copy of the rehabilitation plan and EIS must be forwarded to the Environmental Commission for its review and comment. The Commission shall submit a report on its findings and recommendations to the Planning Board prior to the hearing on the plan, and members may testify at the hearing and cross examine witnesses.

18. The rehabilitation plan will identify any anticipated environmental remediation which may be required, and the cost estimate identified in ordinance subparagraph b.7 above must include the cost of any such remediation.

In accordance with ordinance § 4-9.5.c, an approved rehabilitation plan shall also include an estimated time line for doing the work, starting with the date of termination of quarry operations. A single stage rehabilitation plan, or the first stage of a multistage plan, must be commenced during the first year following the expiration of the last operating license.

### **C. Cost Estimate**

Ordinance § 4-9.6 requires the Township Engineer or other expert retained by the Township to estimate the costs for implementing the rehabilitation plan through all its stages, or to review and confirm the estimates provided by the applicant. The purpose of the Township Engineer’s or other Township experts’ estimate and/or confirmation of an applicant’s estimate so that the applicant knows the amount of the required security it must post to “adequately assure the ability to comply with the rehabilitation plan.” *Id.*

### **D. Importation of Fill Material**

The last ordinance provision to be reviewed as background prior to the Board making its findings and conclusions is ordinance § 4-9.14, which was adopted by Ordinance #2025 on July 15, 2008, and prohibits the importation of fill material onto the quarry property, but contains the following exception: “The Township Committee reserves the right to rescind or modify the prohibition against importation of fill for reasons within its general police powers, including the right to adopt a resolution temporarily lifting the prohibition in order to permit limited fill importation in conjunction with quarry rehabilitation activities specifically approved by the Planning Board and Township Committee.”

**E. The 2011 Plan and the Hearing on the 2011 Plan**

As set forth above, MQI submitted the 2011 Plan to the Township Committee on October 17, 2011 and it was thereafter referred to the Board for review and report to the Township Committee.

The Board conducted a hearing on the 2011 Plan over the course of 17 hearing sessions, commencing on November 21, 2011, continuing on December 6, 2011, December 20, 2011, January 31, 2012, February 7, 2012, March 6, 2012, March 20, 2012, April 3, 2012, April 17, 2012, May 8, 2012, June 5, 2012, July 17, 2012, August 21, 2012, October 2, 2012, December 4, 2012 and January 31, 2013, and concluding on March 5, 2013.

During the course of the hearing, the applicant revised and amended the 2011 Plan. The documents constituting and comprising the 2011 Plan are as follows, as identified in a letter from the applicant's attorney, Michael T. Lavigne, Esq. (of Day Pitney), to the Board dated January 24, 2013:

1. "2011 Reclamation" plans prepared by Kevin G. Page, PE, PP (of Page Engineering) last revised January 17, 2013,
2. "Cost Estimate" prepared by Kevin G. Page, PE dated January 23, 2013,
3. "Lake Management Plan" prepared by Omni Environmental last revised January 17, 2013,
4. "Clean Soil Acceptance Procedure" prepared by JM Sorge last revised January, 2013,
5. "Vegetative Planning Areas" landscape plan prepared by Bruce John Davies, LLA, ASLA, PP (of Davies Associates Landscape Architects) last revised January 17, 2013,
6. "Soil Specification" prepared by Princeton Hydro dated July 16, 2012 (modified as noted in the comment and response chart identified below in item #11),
7. "Environmental Impact Statement" ("EIS") prepared by Omni Environmental dated October 13, 2011,
8. "Geotechnical Engineering Consultation" prepared by Melick-Tully dated October 13, 2011,
9. Initial submittal letter from the applicant's attorney, Michael T. Lavigne, Esq. (of Day Pitney), to the Board dated January 24, 2013,
10. Supplemental submittal letter from the applicant's attorney, Michael T. Lavigne, Esq. (of Day Pitney), to the Board dated November 1, 2011 and the enclosures therewith (letter from Kevin G. Page, PE dated October 31, 2011 and letter from Omni Environmental dated October 31, 2011), and
11. Comment and response chart last revised January 17, 2013.

**F. Witnesses, Exhibits, and Documents and Items in the Record**

A number of lay and expert witnesses testified during the hearing. Attached hereto as Exhibit A is a list of all individuals who testified and their designation as an applicant's lay or expert witness, a Board expert witness or an objector lay or expert witness. Numerous exhibits, documents and items were submitted during the hearing, most by the applicant, but some by objectors, and some by the Board. Attached hereto as Exhibit B is a list of the exhibits submitted during the hearing. Attached hereto as Exhibit C is a list of documents and items submitted into the record but not as exhibits.

**G. Board's Task in Reporting to the Township Committee**

The Board's task is to:

1. Review the 2011 plan, as well as the testimony and exhibits in the record pertaining to the plan, and report to the Township Committee as to the Board's findings, conclusions and recommendations as to whether the 2011 Plan satisfies the purposes set forth in ordinance § 4-9.5.a.1 through review of each of the plan elements required by ordinance § 4-9.5.b as to the conditions, how and when they will be met, and the costs to meet them. In this regard, if the Board determines that a final decision on a rehabilitation plan should be postponed, the Board may recommend to the Township Committee that an interim rehabilitation plan be accepted pursuant to ordinance § 4-9.5.a.2, but any such interim plan shall include the posting of security for rehabilitation in accordance with ordinance § 4-9.6.

2. Review the cost estimates provided by the applicant and the Board engineering expert and report to the Township Committee with a recommendation as to the amount to require as security to adequately assure the ability to comply with the rehabilitation plan in accordance with ordinance § 4-9.6.

3. Recommend to the Township Committee whether or not to temporarily lift the prohibition on importation of fill in conjunction with quarry rehabilitation activities in accordance with ordinance § 4-9.14.

**H. Board's Report**

Upon the conclusion of the Board's deliberations on the 2011 Plan during the March 5, 2013 hearing session, the Board directed its attorney to prepare a draft report on its review of the 2011 Plan. Drafts of the report were circulated to eligible Board members and the within report which is to be adopted by the Board on May 7, 2013 is the result. As set forth above, the applicant extended the time period within which the Board was to adopt its report from April 18, 2013 to May 7, 2013. The remainder of the within report contains the Board's findings and conclusions (section II of the within report) organized through a review of each of the plan elements required by ordinance § 4-9.5.b, and the Board's recommendations and recommended conditions (section III of the within report).

**II. FINDINGS AND CONCLUSIONS**

The Board's findings and conclusions related to the 2011 Plan are as follows:

**A. Whether the 2011 Plan provides that the quarry property will be made reusable for a use or uses permitted by the Township zoning ordinance in accordance with ordinance § 4-9.5.b.1.**

The quarry property (the “property”) is designated on the Township Tax Map as Block 6001, Lot 6, consists of approximately 180 acres (179.769 acres), and is situated in the M-1 mining zone. Ordinance § 21-10.9 provides that the following two uses as permitted uses in the M-1 mining zone once quarry operations cease: (a) any uses permitted in the R-3 residential zone in accordance with ordinance § 21-10.4; and (b) “public parks, roads and other public purpose uses.” Of the 180 acre property, there is an approximately 50 acre (49.5 acres) area that will become a lake (the “lake area”), and an approximately 95 acre area that will become a meadow (the “meadow area”). The existing low point in the quarry is to the northeast, adjacent to the sheer cliff wall beneath the railroad tracks, where a 4 to 5 acre pond currently exists. The water level is maintained well below its natural level through a pump that discharges through a pipe that runs up the wall to the Passaic River east of the property. This 4 to 5 acres pond is encompassed within the future lake area which is shown on drawing 3 of the “2011 Reclamation” plan prepared by Kevin G. Page, PE, PP, last revised January 17, 2013. The meadow area is shown on drawing L-1, the “Vegetative Planning Areas” plan prepared by Bruce John Davies, ASLA, PP, last revised January 17, 2013. The remaining approximately 35 acres of the property consists of steep slopes around the perimeter of the meadow area and lake area, as well as shear walls related to the cliffs along the northeasterly side of the lake area.

An approximately 45 acre area of the property is subject to a Memorandum of Agreement (“MOA”) with the NJDEP (the “MOA area”) because that area contains contaminated fill which was imported onto the property and will be capped in accordance with a remedial action work plan (“RAW”) under the direction of a licensed soil remediation professional (“LSRP”) under the jurisdiction of the NJDEP . Approximately half of the MOA area, or about 24 acres of the MOA area, will underlay the 50 acre lake area.

The Board finds and concludes that the Township does not have jurisdiction of the MOA area in terms of the scope of remediation work that is being and will be done there. However, the Board finds and concludes that the Township does have jurisdiction over the issue of the future use of the MOA area, including the use of the future lake.

The Board finds that the bulk of the property, with the sole exception being approximately half of the MOA area which will be outside the lake area, will be made reusable for a use or uses permitted by the Township zoning ordinance. Specifically, the applicant’s representatives testified that a 2-acre residential housing development would be the future use of the property, with houses being constructed on the meadow area of the property, and the lake being developed for public use. While certain safety, landscaping and stormwater management features surrounding the lake area (the falling rock catchment area at the base of the cliffs, the fence and thorny shrubs to be planted adjacent to the fence proximate to the rim of the cliff, the four (4) water quality forebays to be constructed just outside the lake area, and the riparian buffer planting) are not reusable for 2-acre residential housing or any other public use, the Board finds them to be permitted accessory structures and improvements to the 2-acre residential development contemplated for the meadow area as well as permitted accessory structures and improvements to the lake area’s permitted public use. Provided that the conditions recommended below are imposed in the Township’s approval of the 2011 Plan, the Board finds and concludes that all portions of the property other than the approximately 21 acre portion of the MOA area outside the lakes area will be made reusable for uses permitted by the Township zoning ordinance.

Without repeating all the conditions recommended below, the last revised “2011 Reclamation” plans prepared by Mr. Page (last revised January 17, 2013) proposes to make the slopes in the MOA area underlying the lake area at a maximum of 3:1. The Board agrees with Dr. Souza that rip rap rock will have to be imported to cover this area as the on-site soft rock available in the quarry is not appropriate for this purpose. Having found that, however, no explanation was ever provided for the increase in the slope from 2:1 to 3:1, which the Board finds will result in additional fill being imported onto the site. The amount of additional fill is not fully known, but given drawing 2 of the “2011 Reclamation” plans (last revised January 17, 2013), as well as the cross-sections, it appears that the amount could be 10,000 cubic yards or more. As such, one of the conditions recommended below is that this 3:1 slope be revised to a 2:1 slope if same is acceptable to the LSRP.

As to the approximately 21 acre portion of the MOA area which will be outside the lake area, the Board finds that the applicant, by deciding to cap the contaminated soil in the MOA area, and by not designating any use of that portion of the MOA area which will be outside the lake area for uses such as a public park or other public use, has made this area non-useable.

**B. Whether the 2011 Plan provides for the quarry property to be brought to a final grade by a layer of earth two feet in thickness or its original depth, whichever is less, capable of supporting vegetation, unless a different depth is approved in the rehabilitation plan, in accordance with ordinance § 4-9.5.b.2.**

At issue here is the thickness of the layer of earth capable of supporting vegetation in the meadow area which, as set forth above, is approximately 95 acres in size. The applicant proposes two feet of earth, arguing that the “two feet in thickness” language in ordinance § 4-9.5.b.2 not only allows that depth but requires it. The Board’s interpretation of the ordinance language at issue is different. The Board believes that the key language in the ordinance is the phrase “capable of supporting vegetation,” which is then followed by language allowing “a different depth” if “approved in the rehabilitation plan.” The Board relies on Exhibit B-9 prepared by Dr. Souza to find that 14 to 18 inches of material, consisting of overburden and deep tilled fill material, could support vegetation. See, Dr. Souza’s Exhibit B-10, a proposed specification for the soil. As such, the Board finds that the 24 inches of earth cover proposed by the applicant is unnecessary to establish a vegetative cover. Further, the Board finds that the proposed 24 inches of earth cover over the meadow area would require approximately 307,000 cubic yards of soil import whereas 18 inches of earth cover would require approximately 230,000 cubic yards of soil import, resulting in much less importation and much less truck traffic on the surrounding roadway network. By way of example, importation of 24 inches of fill would require approximately 20,500 trucks whereas importation of 18 inches of fill would require approximately 15,400 trucks. Thus, importation of 18 inches of fill rather than 24 inches of fill would result in a reduction of approximately 5,100 trucks.

The Board finds that this is a major deficiency in the 2011 Plan which must be corrected in order for the plan to be approved. As the applicant indicated it was not willing to voluntarily amend the plan to incorporate this change, the Board believes it has no choice but to recommend that the meadow area of the property not be approved. This is the primary reason that the Board has determined that a final decision on a rehabilitation plan should be postponed and that the Board recommends to the Township Committee that an interim rehabilitation plan (“IRP”) only be approved, with the IRP covering the lake area, as well as the safety, landscaping and stormwater management features surrounding the lake area (the falling rock catchment area at the base of the cliffs, safety ledge,



fence and thorny shrubs to be planted adjacent to the fence proximate to the rim of the cliff, four (4) water quality forebays to be constructed just outside the lake area, and riparian buffer planting).

**C. Whether the 2011 Plan provides for all fill to be of a suitable material in accordance with ordinance § 4-9.5.b.3.**

A threshold issue as to fill must be discussed prior to the Board discussing the issue of whether the fill proposed in the 2011 Plan is of a suitable material.

The threshold issue is ordinance § 4-9.14, which was adopted by Ordinance #2025 on July 15, 2008 and prohibits the importation of fill material onto the quarry property, but contains the following exception: “The Township Committee reserves the right to rescind or modify the prohibition against importation of fill for reasons within its general police powers, including the right to adopt a resolution temporarily lifting the prohibition in order to permit limited fill importation in conjunction with quarry rehabilitation activities specifically approved by the Planning Board and Township Committee.” Objector Carol Bianchi argued that the Board is constrained by ordinance § 4-9.14 to recommend the denial of any rehabilitation plan that includes importing fill onto the property. The Board rejects this argument and interprets this ordinance section as allowing it to consider, recommend and report to the Township Committee rehabilitation plans that include the importation of fill material. The reason for this is because of the language in the ordinance that specifically reserves to the Township Committee “the right to adopt a resolution temporarily lifting the prohibition in order to permit limited fill importation in conjunction with quarry rehabilitation activities specifically approved by the Planning Board and Township Committee.”

As set forth above, the Board recognizes that rip rap rock will have to be imported to cover this area as the soft rock available in the quarry is not appropriate for this purpose. The Board also recognizes that the applicant may have to import organic material and/or sand to mix with existing on-site soil to establish a vegetative cover over the meadow area. Additionally, the Board found above that the 24 inches of earth cover proposed by the applicant was unnecessary to establish a vegetated cover and the Board recommended no more than 18 inches of earth cover be used.

As to the merits of the clean fill issue, the applicant’s environmental expert, JM Sorge, developed a Clean Soil Acceptance Procedure (“CAP”), last revised January, 2013, to govern fill acceptance procedures at the quarry for any imported top soil or other fill soil that would be necessary for rehabilitation purposes. The CAP was reviewed by various Board experts and, while found to be generally acceptable, the Board recommends that as a condition of any Township approval of the 2011 Plan, that may require importation of organic material and/or sand, the CAP be used but as modified to allow soil type 1 only to be imported and to prohibit importation of soil types 2, 3 and 4. Soil type 1 is that obtained from undeveloped land previously used for passive recreation, agricultural fields, etc., with no significant paved parking areas or significant historic development. Soil type 2 is that obtained from office campuses, shopping malls, non-industrial commercial sites, residential developments, etc., with no “significant history of environmental problems,” and soil type 2 specifically includes that obtained from sites where there is an environmental remediation history – related to the use of heating oil for on-site consumption. Soil type 3 is that obtained from areas which were previously developed as industrial or commercial sites, urban re-development sites, including from uncontaminated areas of sites which received “No Further Action” (“NFA”) letters from the NJDEP or “Response Action Outcome” (“RAO”) letters from an LSRP on which are undergoing remediation under an LSRP. Soil type 4 is that obtained from “other sites which do not meet the previous criteria but are deemed acceptable for review by MQI.”

Based on the fact that there was prior contamination on the property while imported materials were supposedly being screened, which contamination MQI at first denied, and which importation involved entities and/or employees of entities related to MQI – not just Tilcon (as shown by objector Carol Bianchi through exhibits O-8 through O-11), the Board believes that while the CAP is a step in the right direction, the only way to insure no future contamination is to prohibit soil types that have a higher risk of containing contaminants and those are soil types 2, 3 and 4. The Board appreciates that its expert agreed with the applicant's expert that a procedure could be developed which, if strictly followed, would theoretically prevent contaminated soil from coming onto the property. However, the Board recognizes that, as a practical matter, human error does and will occur and, as evidenced by the history of fill coming onto the property, the only way to assure that no contaminated material comes onto the property is to limit the importation of material to soil type 1. The Board notes that it is required to review the rehabilitation plan as to each and every provision of ordinance §§ 4-9.4 and 4-9.5, including environmental, health, safety and other factors effecting the public welfare. It is on this basis that the Board makes this recommendation.

**D. Whether the 2011 Plan includes a grading plan based on ten-foot intervals in accordance with ordinance § 4-9.5.b.4.**

Ordinance § 4-9.5.b.4 requires that the 2011 Plan include a grading plan based on ten-foot contour intervals. The Board finds that the 2011 Plan does include such a grading plan.

**E. Whether the quarry owner has provided adequate security for the completion of the rehabilitation in accordance with ordinance § 4-9.5.b.5 and, related to this, whether the cost estimate prepared by the applicant's engineering expert establishes the costs associated with the rehabilitation plan in accordance with ordinance §§ 4-9.5.b.7 and 4-9.5.b.18.**

Ordinance § 4-9.5.b.5 requires that quarry owners provide adequate security for the completion of the rehabilitation in accordance with ordinance subsection 4-9.6. Related to this, ordinance § 4-9.5.b.7 requires a cost estimate to be prepared by a licensed professional engineer on behalf of the applicant to establish the costs associated with the rehabilitation plan. Further, ordinance § 4-9.5.b.18 requires that the rehabilitation plan identify any anticipated environmental remediation which may be required, and the cost estimate required in ordinance subparagraph 7 shall include the cost of any such remediation.

Mr. Page, the applicant's engineering expert, prepared a cost estimate of rehabilitation work to be done, last revised January 23, 2013, which was entered into evidence as Exhibit A-43. The total amount that Mr. Page estimated for bonding purposes was \$9,155,078.01. Mr. Quinn, the Board's engineering expert, reviewed Mr. Page's cost estimate during the January 31, 2013 hearing session and agreed with it except for items #6 and #7 where Mr. Page used \$6 per cubic yard for rip rap and Mr. Quinn testified that the amount in his opinion is \$15 per cubic yard for rip rap. The Board notes that this is consistent with Mr. Quinn's prior cost estimate dated June 4, 2012 which was entered into evidence as Exhibit B-4 and which listed \$15 per cubic yard for rip rap. The Board finds that Mr. Page must have made an error and accepts Mr. Quinn's cost estimate for rip rap so recommends that the Township use Mr. Page's cost estimate last revised January 23, 2013 (Exhibit A-43) for purposes of calculating the security except for the following: (a) items #6 and #7 where Mr. Page uses \$6 per cubic yard for rip rap should be changed to \$15 per cubic yard for rip rap. As such, whereas Mr. Page's estimate for bonding of items #6 and #7 totals \$186,300, the Board recommends that Mr. Quinn's

estimate for bonding of items #6 and #7 be used, namely, \$465,750. This would increase the amount that Mr. Page estimated for performance security purposes from \$9,155,078.01 to \$9,372,083.01. (To be clear, the total cost estimated for rehabilitation must be multiplied by 1.2 in order to calculate the amount of the performance security.)

Further, items #17 through #25 in Mr. Quinn's cost estimate relating to the MOA area do not appear in Mr. Page's cost estimate because the applicant takes the position that it "would be unnecessary and inappropriate to require MQI to post bonds for the performance of environmental remediation work that the NJDEP, in exercising its exclusive jurisdiction, does not require to be bonded, and that MQI is in the process of performing pursuant to the LSRP program that is not part of quarry rehabilitation as contemplated by the quarrying ordinance." The Board rejects this position, finding and concluding that environmental remediation and posting a security for that remediation are expressly contemplated and required by ordinance § 4-9.5.b.18. As such, the Board recommends that Mr. Quinn's cost estimate for items #17 through #25 relating to the MOA area be added to the cost of rehabilitation so that the total cost of rehabilitation would be increased by \$3,121,768.50. This would increase the amount for performance security of all rehabilitation from \$9,372,083.01 to \$13,680,123.54. (Again, to be clear, the total cost estimated for rehabilitation must be multiplied by 1.2 in order to calculate the amount of the performance security.)

**F. Whether the 2013 Plan includes a calculation of the existing availability of fill material to provide the cover required by ordinance subsection b.2 above in accordance with ordinance § 4-9.5.b.6.**

Ordinance § 4-9.5.b.6 requires a rehabilitation plan to include a calculation prepared by a licensed professional engineer to determine the existing availability of fill material to provide the vegetative cover required in § 4-9.5.b.2, which was discussed in section II.B of the within report above.

Mr. Page has estimated needing approximately 580,000 cubic yards of soil (he refers to "overburden" in his calculations on drawing 3 of the "2011 Reclamation" plan last revised January 17, 2013) to provide a 2 foot thick vegetative cover on all 180 acres of the property. After subtracting 156,000 cubic yards of existing on-site "overburden" which is available for use as cover without importation, he estimates that 424,000 cubic yards of soil or "overburden" will be required for the 2 foot thick vegetative cover on the remainder of the 180 acres. The Board finds that Mr. Page has erred in this calculation in two respects.

First, vegetative cover is not needed for all 180 acres of the property. Vegetative cover is needed only for the 95 acre meadow area. Second, as set forth above, a 2 foot thick cover is not needed. As set forth above, the Board relies on Exhibit B-9 prepared by Dr. Souza to find that 14 to 18 inches of material, consisting of overburden and deep tilled fill material, could support vegetation. See, Dr. Souza's Exhibit B-10, a proposed specification for the soil. As such, the Board finds that the 24 inches of earth cover proposed by the applicant is unnecessary and that 18 inches of cover would suffice. Further, the Board finds that the proposed 24 inches of earth cover for the 95 acre meadow area would require approximately 306,000 cubic yards of soil import whereas 18 inches of earth cover would require approximately 230,000 cubic yards of soil import, resulting in much less importation and much less trucks on the surrounding roadway network.

The Board finds that this is a major deficiency in the 2011 Plan which must be corrected in order for the plan to be approved. As the applicant indicated it was not willing to voluntarily amend the plan to incorporate this change, the Board believes it has no choice but to recommend that the

meadow area of the property not be approved. This is the primary reason that the Board has determined that a final decision on a rehabilitation plan should be postponed and that the Board recommends to the Township Committee that an interim rehabilitation plan (“IRP”) only be approved, with the IRP covering the lake area, as well as the safety, landscaping and stormwater management features surrounding the lake area (the falling rock catchment area at the base of the cliffs, the fence and thorny shrubs to be planted adjacent to the fence proximate to the rim of the cliff, the four (4) water quality forebays to be constructed just outside the lake area, and the riparian buffer planting).

**G. Whether the 2013 Plan includes an estimate for the date on which quarry operations will cease and the basis for this estimate in accordance with ordinance §§ 4-9.5.b.8 and 4-9.5.b.9.**

Ordinance § 4-9.5.b.8 requires the rehabilitation plan to include an estimate for the date on which quarry operations will cease and the basis for this estimate. Ordinance § 4-9.5.b.9 provides: “Rehabilitation steps may begin during the time when quarrying is being done. The balance of the plan that remains when quarry operations cease may be carried out in a single stage, or this may be done in multiple stages to accommodate changing conditions, such as water accumulating in the pit. If so, the plan shall describe each stage. Each step in each stage of the plan shall be described in such precise detail that the feasibility of each step, and the cost for implementing each step, may be determined. The plan shall set forth the cost estimate for each step and the basis for the estimate.”

The applicant has not provided a reasonable response to these requirements and the Board finds that this constitutes a deficiency in the 2011 Plan, especially as to the meadow area of the property which is where the future residential homes will be located. Specifically, the Board notes that the applicant did not submit any sort of schedule or an estimated cessation of quarrying date. Instead, its attorney, Mr. Lavigne, noted that the applicant still had a quarry license and renews it annually, 16T113:12-13, and represented during the January 31, 2013 hearing session that the applicant’s “best estimate” was that quarrying would cease in 5 to 7 years and that, once quarrying ceased, the estimate was that the “actual construction related part of rehabilitation would take 3 to 5 years.” 16T107-19 to 25. Mr. Lavigne stated that the completion estimate will “be driven mainly by the availability of clean fill.” 16T108:1 to 2. Ordinance § 4-9.5.b.8 requires an estimated date on which quarry operations will cease, not simply a range of dates, and the basis for the estimated date, and the 2011 Plan does not contain such a date nor such a basis. While the ordinance does not require exactitude in this regard, and any such date is by definition an estimate, the ordinance requires more than a guess and that is all the Board finds that the applicant has done here. This is another basis on which the Board recommends that approval of the rehabilitation of the meadow area of the property be postponed and that an IRP be approved, subject to conditions.

The Board is aware that rehabilitation steps have begun in that the applicant’s representatives have advised that environmental remediation under the RAW has begun. The Board supports the commencement of environmental remediation. The Board believes that the applicant knows the estimated date on which it will complete the remediation, as well as the estimated date by which it will cease quarrying operations on the property, as well as the estimated date by which it will complete rehabilitation of the property. The Board recommends that these dates should be submitted along with their bases as part of the 2011 Plan prior to the Township approving the IRP.

**H. Whether the 2011 Plan includes: a description of each projected source and sink of water and an estimate of the volume of flow into or out of the quarry pit for each source and sink in accordance with ordinance § 4-9.5.b.10, identification and assessment of the**

**potential impact on water quality from completed quarrying operations in accordance with ordinance § 4-9.5.b.11, and a description of the projected quality of the water in the pit for each five-year interval and at the projected final level in accordance with § 4-9.5.b.12.**

Ordinance § 4-9.5.b.10 requires that a rehabilitation plan describe each projected source and sink of water and estimate the annual volume of flow into or out of the pit for each source and sink. These sources and sinks shall include but not be limited to precipitation, groundwater, including groundwater through cracks or pores in rock walls, and evaporation. The plan must include a model, including topographic maps, that projects the filling of the pit over five-year intervals until a stable level is reached, and shall identify projected water level at each five-year interval and at the stable level. Ordinance § 4-9.5.b.11 requires that a rehabilitation plan identify and assess potential impact on water quality resulting from completed quarrying operations. Ordinance § 4-9.5.b.12 requires that a rehabilitation plan describe the projected quality of the water in the pit for each five-year interval and at the projected final level.

Provided that any Township approval of the 2011 Plan is subject to the conditions recommended below, the Board finds that the Lake Management Plan as well as drawing 3 of the “2011 Reclamation” plan will satisfy these ordinance requirements.

**I. Whether the 2011 Plan identifies the risks to health and safety to humans and the environment in accordance with § 4-9.5.b.13, and evaluates risks from falling rock and describes efforts that will be taken to reduce any such risks in accordance with § 4-9.5.b.14.**

Ordinance § 4-9.5.b.13 requires that a rehabilitation plan: (1) identify the potential risks to health and safety, to humans and to the natural environment, that may obtain at each projected five-year interval and at the projected final level of water in the pit; (2) describe the measures that will be taken to manage and reduce any such risks; (3) identify potential risks to human health and safety that may be associated with step cuts in the quarry walls and/or cliff edges on the quarry walls; and (4) describe the measures that will be taken to manage and reduce any such risks. Ordinance § 4-9.5.b.14 requires that a rehabilitation plan evaluate risks from falling rock and, where appropriate, describe efforts that will be taken to reduce such risks.

Provided that any Township approval of the 2011 Plan is subject to the conditions recommended below, the Board finds that the Lake Management Plan as well as drawing 3 of the “2011 Reclamation” plan will satisfy these ordinance requirements.

**J. Whether the 2011 Plan suggests appropriate final uses for the property based on conditions projected to obtain at each five-year interval and at the stable level of water in the pit, in accordance with ordinance § 4-9.5.b.15.**

Ordinance § 4-9.5.b.15 requires that a rehabilitation plan suggest appropriate final uses for the property, based on conditions projected to obtain at each five-year interval and at the stable level of water in the pit. Provided that any Township approval of the 2011 Plan is subject to the conditions recommended below, the Board finds that the Lake Management Plan as well as drawing 3 of the “2011 Reclamation” plan will satisfy these ordinance requirements.

**K. Whether the estimates and projections included in the 2011 Plan are supported by reports and testimony of expert witnesses in accordance with ordinance § 4-9.5.b.16.**

Ordinance § 4-9.5.b.16 requires that the estimates and projections included in the 2011 Plan be supported by reports and testimony of expert witnesses. The Board finds that the estimates and projections included in the 2011 Plan were supported by reports and testimony of the applicant's expert witnesses. As such, this ordinance requirement has been technically satisfied. However, the Board notes and finds that it did not agree with everything contained in the applicant's expert's reports and testimony. Examples of this are discussed above in sections II. A, B, C, E, F and G of the within report.

**L. Whether the 2011 Plan includes an EIS which was forwarded to the Township Environmental Commission ("BTEC") and whether the BTEC submitted a report of its findings and conclusions as to the EIS, in accordance with ordinance § 4-9.5.b.17.**

Ordinance § 4-9.5.b.17 require that the 2011 Plan include an EIS, that the EIS be forwarded to the BTEC, and that BTEC submit a report on its findings and recommendations to the Board prior to the hearing on the plan. An EIS was submitted as part of the 2011 Plan on October 13, 2011. The BTEC reviewed the EIS and it issued a report dated February 17, 2012, advising that the materials submitted as part of the EIS were beyond the scope and expertise of the BTEC and that, as a result, it deferred to the experts retained by the Township and Board. The Board thus finds that this ordinance requirement has been satisfied.

**III. RECOMMENDATIONS AND RECOMMENDED CONDITIONS**

The Board's recommendations and recommended conditions related to the 2011 Plan are as follows:

1. The Board recommends that the Township Committee postpone a final decision on the rehabilitation plan as to the meadow area of the property and, instead, at this time approve only an interim rehabilitation plan ("IRP") covering the lake area as well as the safety, landscaping and stormwater management features surrounding the lake area (falling rock catchment area at the base of the cliffs, safety ledge, fence and thorny shrubs to be planted adjacent to the fence proximate to the rim of the cliff, four (4) water quality forebays to be constructed just outside the lake area, and riparian buffer planting).

2. The Board recommends that the Township Committee condition its approval of the IRP on the safety features described on page 8 of the Lake Management Plan and shown on drawing 3 of the "Reclamation Plan" being constructed and installed immediately, the vegetated safety buffer described on page 16 of the Lake Management Plan and shown on "Vegetation Planning Areas" landscape plan being constructed and installed immediately, and the four (4) water quality forebays shown on drawing 3 of the "Reclamation Plan" being constructed and installed immediately. (The only exception to the Board's recommendation that all safety features be installed immediately is that the buoys that are proposed to be installed 50 feet away from the shear wall would not have to be installed until the lake reaches 49 feet from the shear wall.)

3. As much as the Board would like to see no importation of fill onto the property so that there will be no truck traffic generated through the surrounding road network, the Board recognizes that rip rap rock will have to be imported as part of the IRP to cover that portion of the MOA area

which will be located under the future lake as the soft rock available in the quarry is not appropriate for this purpose. As such, the Board recommends that the Township Committee adopt a resolution temporarily lifting the prohibition on the importation of fill in order to permit limited rip rap importation in conjunction with quarry remediation and rehabilitation activities specifically recommended by the Board and approved by the Township Committee as part of the IRP.

4. As to the importation of rip rap, the Board recommends that the Township Committee impose a condition of its approval of the IRP that the CAP be used but as modified to allow rip rap to be imported from soil type 1 sites only. A soil type 1 site is undeveloped land previously used for passive recreation, agricultural fields, etc., with no significant paved parking areas or significant historic development. The Board specifically recommends that the Township Committee prohibit fill of any kind from being imported from soil types 2, 3 and 4 sites for the health and safety reasons set forth above in the findings and conclusions. Further, consistent with the advise provided by Dr. Souza, the Board recommends that the Township Committee impose a condition on its approval of the IRP requiring that the rip rap used be composed of a non-uniform combination of rip rap, cobbles and boulders for the purposes of creating an aquatic habitat.

5. As to the quantity of rip rap to be imported, no explanation was ever provided for the increase in the slope of the MOA area under the future lake from 2:1 to 3:1, which the Board finds will result in additional fill being imported onto the site. The amount of additional fill is not fully known, but given drawing 2 of the "2011 Reclamation" plans (last revised January 17, 2013), as well as the cross-sections, it appears that the amount could be 10,000 cubic yards or more. Moreover, the testimony was that the purpose of the rip rap was to prevent human contact with the contaminated soil. If the contaminated soil at issue is under the lake, it would appear that rip rap may not be needed after a certain depth, say 10 feet, as human contact with the lake bottom after that certain depth is highly unlikely. As such, the Board recommends that the Township Committee impose as a condition of its approval of the IRP that: (1) no rip rap be placed to cover that portion of the MOA area that will under the lake where there will be, say, at least 10 feet of water on top of it; and (2) the 3:1 slope be revised to a 2:1 slope. Both of these conditions, however, would be subject to the review and approval of the LSRP.

6. The Board further recommends that the Township Committee impose as a condition of its approval of the IRP that no imported soil may be utilized for the planting cap (the planting berms) in the MOA area. The Board notes in this regard that the RAW provides on page 7 that the planting cap is not necessary and is for aesthetic purposes only. This will eliminate the importation of additional fill. To be clear, the applicant may install a planting cap in the MOA area but, if it does, only on-site material shall be used to create the planting cap.

7. As to truck traffic generated by the importation of the rip rap or any other material covered by the IRP, the Board recommends that the Township Committee use its police power to restrict truck traffic on Township roads to certain hours of the day (when drop off and pick up at school is not occurring and not in the evening) and/or to a maximum number of trucks per day, as well as lowering the speed limits on the truck routes, all for the purposes of promoting the health and safety of the residents of the area. In the event any of the truck routes are on County roads, the Board recommends that the Township Committee request of and recommend to the County that the speed limits on such roads be lowered for purposes of promoting the health and safety of the residents of the area.

8. As to the any surplus cut materials from construction of elements covered by the IRP, that is to say materials cut from but not used in the creation of the lake, forebays, falling rock catchment area, or safety ledge, the Board recommends that the Township Committee impose as a condition of its approval of the IRP the requirement that any and all surplus cut materials be set aside and stockpiled onsite and not be used for any purpose unless authorized under the approved IRP, quarry license and/or subsequently approved rehabilitation plan covering the meadow area of the property.

9. Because the forebays have been designed and will be constructed for 40% of the upstream coverage calculations and will be subsequently converted in the future to storm water quality control standards to serve the future residential development in the meadow area of the property, the Board recommends that the Township Committee impose as a condition of its approval of the IRP the requirement that a routing analysis be submitted prior to approval of any subsequent rehabilitation plan covering the meadow area and prior to approval of any subsequent development plan for the property.

10. The Board recommends that the Township Committee impose as a condition of its approval of the IRP that all basins installed on the property as part of the IRP approval be inspected, maintained, and cleaned of sediment annually.

11. The Board recommends that the Township Committee impose as a condition of its approval of the IRP that progress surveys of the quarry, along with written summaries of activities and work conducted on the property, be submitted to the Township every three (3) months commencing from the date the Township Committee adopts a resolution approving the IRP. The Board recommends that the applicant have the option of the written summaries being separated between the MOA area and the non-MOA areas or submitting written summaries related to all areas. In the event that the applicant chooses to have joint written summaries, such summaries shall break out the areas and the areas must be easily identifiable.

12. As no additional documents by and/or between the applicant, the NJDEP and/or the applicant's LSRP have been submitted since Exhibit A-7, a CD containing NJDEP documents through November, 2011, was submitted on December 6, 2011, the Board recommends that the Township Committee impose a condition on the approval of the IRP that copies of any and all documents by and/or between the applicant, the NJDEP and/or the applicant's LSRP relating to the remediation of the MOA area and/or any and all testing of the MOA area be submitted to the Township (subject of course to any statutory privilege prohibiting such disclosure but, in such a case, the applicant shall identify the document(s) subject to such privilege so that the Township can determine what, if anything, it wishes to do in such case). The Board recommends that the Township Committee require that all such documents generated after November, 2011 and prior to March 5, 2013 be submitted as a condition of the Township Committee approval of the IRP. As to documents generated after March 5, 2013, the Board recommends that the Township Committee impose as a condition of its approval of the IRP that all such documents shall be submitted to the Township every three (3) months commencing from the date the Township Committee adopts a resolution approving the IRP.

13. As to the pumping system, the Board recommends that the Township Committee impose as a condition of the IRP that the pumping system which currently maintains the water level in the quarry pit well below its natural level be removed, and the pit be allowed to fill (the water is expected to rise to elevation 230 once pumping ceases), when all safety features referenced above have been installed (with the exception of the buoys in the lake) and the remediation work in the MOA area is completed in the lake area.



14. As water testing under the Lake Management Plan is triggered once the lake starts to fill, the next recommendation relates to such testing. Dr. Souza made a series of recommendations regarding modifying the long term lake water quality monitoring plan. One of the suggested changes was to increase the frequency of sampling to at least 4 times annually (May, July, August and mid-October). See, page 4 of Dr. Souza's (Princeton Hydro) February 2, 2012 letter. As set forth on page 13 of the chart of comments and responses, the applicant agreed to most of Dr. Souza's suggested changes. However, the applicant specified that the "frequency of characterization surveys" would be "as specified by MQI, with the addition of one additional characterization survey one year after the lake has filled as per S. Souza's recommendation." The Board recommends that the Township Committee impose as a condition of the IRP that the frequency of characterization surveys be as suggested by Mr. Souza, not as specified by the applicant.

15. The Board recommends that the Township Committee impose a condition on its approval of the IRP that the lake not be used for potable water.

16. As the amount of security that should be posted, as explained above the Board recommends that the Township Committee impose a condition on its approval of the IRP that Mr. Page's cost estimate last revised January 23, 2013 (Exhibit A-43) be used for purposes of calculating the security except for the following: (a) items #6 and #7 where Mr. Page uses \$6 per cubic yard for rip rap should be changed to \$15 per cubic yard for rip rap; and (b) items #17 through #25 relating to the MOA area in Mr. Quinn's cost estimate dated June 4, 2012 (Exhibit B-4) – which do not appear in Mr. Page's cost estimate because the items represent work in the MOA area – should be added to Mr. Page's cost estimate because all environmental remediation work that must be done to rehabilitate the quarry is required to be included in the 2013 Plan pursuant to ordinance § 4-9.5.b.18, so should be included in the security for the completion of the rehabilitation in accordance with ordinance § 4-9.5.b.5. As such, the Board recommends that the Township Committee impose a condition on its approval of the IRP that the amount of the performance security be set at \$13, 680,123.54.

17. The Board recommends that the Township Committee require as a prerequisite to approval of the IRP the following:

a. Submission of all plots, plans, and topographic maps that were submitted as part of and/or in support of the 2011 Plan be submitted to the Township in digital form, suitable for entry into the Township CAD and GIS systems, in accordance with ordinance § 4-9.5.b.19;

b. Lease Agreement Exhibits A and B, which are missing from the Lease Agreement by and between Millington Quarry, Inc. and Tilcon New York, Inc. dated July 1, 1999, which Lease Agreement was submitted to the Board by letter from Michael Lavigne, Esq. dated January 24, 2013;

c. All documents referenced in recommendation #12 above that were generated after November, 2011 and prior to March 5, 2013 shall be submitted to the Township; and

d. The Board believes that the applicant knows the estimated date on which it will complete the remediation, as well as the estimated date by which it will cease quarrying operations on the property, as well as the estimated date by which it will complete rehabilitation of the property. The Board thus recommends that the Township Committee require the applicant to submit these dates with their bases prior to the Township approving the IRP.

18. Finally, the Board recommends that the Township Committee impose a "catch-all" condition as a condition of the IRP that, in any and all cases where one of the Board's experts recommended or suggested a change or revision to the 2011 Plan documents that the applicant did not agree to and the Board did not include in the within report, the 2011 Plan documents be revised and changed as recommended or suggested by the Board expert.

\*\*\*\*\*  
Vote to adopt report by motion duly made and seconded by the following eligible Board members on March 5, 2013: Gaziano, Gilmore, Orr, Santoro and Viola in favor. None opposed.  
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The above memorializing report was adopted by motion duly made and seconded by the following eligible Board members on May 7, 2013: Gaziano, Gilmore, Orr and Santoro. Viola no longer a Board member.  
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I, Frances Florio, Secretary to the Board of the Township of Bernards in the County of Somerset, do hereby certify that the foregoing is a true and correct copy of the report duly adopted by the said Board on May 7, 2013.

Frances Florio  
FRANCES FLORIO, Board Secretary

Exhibit A - List of Individuals  
who Testified during the Hearings

<b>Date</b>	<b>Name</b>	<b>Affiliation</b>
11/22/11	Carton, Tom	Applicant's Lay Witness
	Cosgrove, James, PE	Applicant's Expert Witness
12/06/11	Cosgrove, James, PE	Applicant's Expert Witness
12/20/11	Sorge, Joseph	Applicant's Expert Witness
01/31/12	Schwankert, Robert E., PE	Applicant's Expert Witness
	Page, Kevin, PE	Applicant's Expert Witness
02/07/12	Page, Kevin, PE	Applicant's Expert Witness
	Zdunczyk, Mark	Applicant's Expert Witness
03/06/12	Getchell, Frank	Applicant's Expert Witness
	Davies, Bruce John	Applicant's Expert Witness
03/20/12	Quinn, Thomas, PE	Board's Expert Witness
	Goll, Geoffrey, PE	Board's Expert Witness
04/03/12	Souza, Stephen, Ph.D.	Board's Expert Witness
04/17/12	Wollenberg, Jennifer, Ph.D.	Board's Expert Witness
05/08/12	Banisch, Frank, PP	Board's Expert Witness
	Walsh, Christen	Objector's Lay Witness
06/05/12	Banisch, Frank, PP	Board's Expert Witness
	Quinn, Thomas, PE	Board's Expert Witness
	Goll, Geoffrey, PE	Board's Expert Witness
	Souza, Stephen, Ph.D.	Board's Expert Witness
	Page, Kevin, PE	Applicant's Expert Witness
	Hart, Kenneth	Board's Expert Witness
07/17/12	Wollenberg, Jennifer, Ph.D.	Board's Expert Witness
	Bianchi, Carol	Objector - Lay Witness
	Cappola, Jeffrey, Esq.	Objector's Expert Witness
08/21/12	Cappola, Jeffrey, Esq.	Objector's Expert Witness
	Allen, Bill	Objector - Lay Witness
	Quigley, Suzanne	Objector - Lay Witness
10/02/12	Thoma, Christine	Objector - Lay Witness
	Allen, Bill	Objector - Lay Witness
	Yglesias, Steve	Objector - Lay Witness
	Geary, Kim	Objector - Lay Witness
	Bianchi, Carol	Objector - Lay Witness
12/04/12	Goll, Geoffrey, PE	Board's Expert Witness
	Souza, Stephen, Ph.D.	Board's Expert Witness
	Carton, Tom	Applicant's Lay Witness
	Bianchi, Carol	Objector - Lay Witness
	Vogel, Vann	Objector - Lay Witness
	Hart, Kenneth	Board's Expert Witness
01/31/13	Souza, Stephen, Ph.D.	Board's Expert Witness
	Goll, Geoffrey, PE	Board's Expert Witness
	Quinn, Thomas, PE	Board's Expert Witness
	Banisch, Frank, PP	Board's Expert Witness
	Allen, Bill	Objector - Lay Witness
	Vogel, Vann	Objector - Lay Witness
	Bianchi, Carol	Objector - Lay Witness

**Exhibit B**  
List of Exhibits Submitted during the Hearings

<b>Exhibit #</b>	<b>Date</b>	<b>Description</b>	<b>Notes</b>	<b>Submitted by:</b>
A-1	11/22/2011	11/22/11 letter from M. Lavigne to S. Koenig	re MQI's position re C. Bianchi	M. Lavigne
A-2	"	M Quarry - Location Map	from power pt presentation	T. Carton
A-3	"	M Quarry - 2010 Aerial Photo	from power pt presentation	T. Carton
A-4	"	M Quarry - Existing Topography	from power pt presentation	J. Cosgrove
A-5	"	M Quarry - Existing Land Cover	from power pt presentation	J. Cosgrove
A-6	"	M Quarry - Proposed Land Cover	from power pt presentation	J. Cosgrove
A-7	12/6/2011	List of NJDEP documents on submitted disk		M. Lavigne rec'd 12/2/11
A-8	"	M Quarry - Proposed Topography	from power pt presentation	J. Cosgrove
A-9	"	M Quarry - Profile	from power pt presentation	J. Cosgrove
A-10	"	M Quarry - Land Cover Prior to Regrading	from power pt presentation	J. Cosgrove
A-11	"	M Quarry - Stone Filter Section View	from power pt presentation	J. Cosgrove
A-12	"	M Quarry - Land Cover After Regrading	from power pt presentation	J. Cosgrove
A-13	"	M Quarry - Water Quality Forebay Plan View	from power pt presentation	J. Cosgrove
A-14	"	M Quarry - Water Quality Forebay Profile	from power pt presentation	J. Cosgrove
A-15	"	M Quarry - Approx Lake Area after 1 Year	from power pt presentation	J. Cosgrove
A-16	"	M Quarry - Approx Lake Area after 2 Years	from power pt presentation	J. Cosgrove
A-17	"	M Quarry - Approx Lake Area after 4 Years	from power pt presentation	J. Cosgrove
A-18	"	M Quarry - Approx Lake Area after 6 Years	from power pt presentation	J. Cosgrove
A-19	"	M Quarry - Approx Lake Area after 8 Years	from power pt presentation	J. Cosgrove
A-20	"	M Quarry - Safety Plan	from power pt presentation	J. Cosgrove
A-21	"	M Quarry - Rock Fall Catchment Ditch Detail	from power pt presentation	J. Cosgrove
A-22	"	M Quarry - Vegetation Planning Areas	from power pt presentation	J. Cosgrove drawn by Davies Associates
A-23	12/20/2011	Memo of Agreement application submitted by MQI 5-1-09		J. Sorge previously submitted on 12/2/11
A-24	"	Site plan showing Phase 1 & prop Phase II soil sampling - MOA areas		J. Sorge
A-25	"	Soil testing procedure - proposed	submitted with applicant	M. Lavigne
A-26	1/31/2012	Plot Plan - showing areas of exposed bedrock (in yellow)		R. Schwankert
A-27	"	Photographs of interior - showing stock piles		R. Schwankert
A-28	"	Photographs of interior - showing trucks		R. Schwankert

**Exhibit B**  
**List of Exhibits Submitted during the Hearings**

A-29	"	Generalized rock fall catchment ditch detail - from Melick-Tully report	R. Schwankert	
A-30	"	Reclamation plan set - reduced size	K. Page	
A-31	2/7/2012	Zdunczyk report - 1/30/12	M. Zdunczyk	
A-32	3/6/2012	MQ Generalized Hydrogeologic Cross Section Revised (2/1/12) Vegetation Planting Areas	F. Getchell	
A-33	"		B. Davies	
A-34	4/3/2012	summary of prof's reports & MQI's responses revised chart of prof's reports & MQI responses	M. Lavigne #1	
A-35	4/17/2012	responses	M. Lavigne #2	
A-36	5/8/2012	Supplemental materials mailed on 5/4/12	M. Lavigne	
A-37	6/5/2012	Revised Summary Charted - dated 5/25/12	M. Lavigne #3	
A-38	"	revised cost estimate	K. Page	
A-39	"	revised grading plans - submitted 5/22/12	K. Page	
A-40	10/2/2012	Disk - JM Sorge Stage 2 reports, etc.	J. Sorge	
A-41	12/4/2012	Copy of MQI invoice to BT for receipt of ground mulch	T. Carton	
A-42	1/31/2013	MQ Overburden Soil recommended specification	Omni	
A-43	"	Cost Estimate for MQ 2011 Reclamation (sic) Plan	K. Page	
<b>Exhibit #</b>	<b>Date</b>	<b>Description</b>	<b>Submitted by:</b>	<b>Notes</b>
O-1	2/7/2012	Examples of fill & cut area locations - taken from 2008 & 2011 K Page plans	B. Allen	
O-2	5/8/2012	Statement & attached transcript pages, known contain sites, etc.	Chris Walsh	
O-3	8/21/2012	Letter - 4 pages - 5/5/12	B. Allen	
O-4	"	Letter - 6/5/12	B. Allen	
O-5	"	Letter - 8/20/12	B. Allen	
O-6	"	Letter/Memo - 5/8/12	B. Allen	
O-7	10/2/2012	Letter - 3/20/2008 - to Mayor & TC	B. Allen	
O-8	12/4/2012	Dump price list from 2001	C. Bianchi	
O-9	"	Dump price list from 2007	C. Bianchi	
O-10	:	Sales agreement	C. Bianchi	

**Exhibit B**  
**List of Exhibits Submitted during the Hearings**

O-11	"	Copy of incoming daily logs		C. Bianchi	
O-12	"	Spreadsheet with summary of daily log data		C. Bianchi	
O-13	"	Spreadsheet compiled by Bruce McArthur		C. Bianchi	
O-14	1/31/2013	Letter/Memo - 1/29/13		B. Allen	
<b>Exhibit #</b>	<b>Date</b>	<b>Description</b>	<b>Notes</b>	<b>Submitted by:</b>	
B-1	3/20/2012	Photographs from Schwankert report - 13	prev submitted		
B-2	4/17/2012	ELM's review & comments - hard copy of powerpoint		J. Wollenberg	
B-3	6/5/2012	Copy of Frank Banisch's PowerPoint (the one we could not see at 5/8/12 mtg)		F. Banisch	
B-4	"	Tom Quinn - revised cost estimate - dated 6/4/12		T. Quinn	
B-5	"	Geoffrey Goll - 2nd Geo-technical report		G. Goll	
B-6	"	Steven Souza - 2nd report on supplemental information		S. Souza	
B-7	7/17/2012	List of information requested during testimony on June 5		A. Parsekian	
B-8		<i>No Exhibit</i>			
B-9	1/31/2013	Typical cross section for southern meadow		S. Souza	
B-10	"	Proposed specification for over burden soil		S. Souza	

Exhibit C

Documents submitted not as exhibits

Date Submitted:	Submittal	Size	Format	From Whom
10/17/11	INITIAL APPLICATION MATERIALS	submitted to Township Clerk		rec'd 10/18/11 by P/Z
10/18/11	Cover Letter - dated 10/14/11 from T. Malman to TC Members	7 pages	20 copies	Day Pitney, LLC Page Eng. Consultants
	1. MQ Reclamation Plans - dated 10/13/11 - "Reclamation Plan"	6 drawings	20 copies	
	2. Lake Management Plan - dated 10/13/11 - "LMP"	bound report	20 copies	Omni Environmental
	3. Environmental Impact Statement - dated 10/13/11 - "EIS"	bound report	20 copies	Omni Environmental Melick-Tully & Assoc.
	4. Geotechnical Engineering Consultation - dated 10/13/11 - "Geotech Report"	bound report	20 copies	Page Eng. Consultants
	5. Cost Estimate for 2011 MQ Reclam - dated 10/13/11 - "Cost Estimate"	1 page	20 copies	Continental Placer, Inc.
	6. High Wall Stability Letter - dated November 11, 2008	8 pages	20 copies	Page Eng. Consultants
	CD - identified as "Millington Quarry 2011 Reclamation"	CD	1 CD	
	CD - identified as "Lake Management Plan & EIS for 2011 MQ Reclam Plan"	CD	1 CD	Omni Environmental
	CD - identified as "Proposed M Q Reclamation Lock 6001 Lot 6 Bernards NJ The Mahan Group"	CD	1 CD	Melick-Tully & Assoc.
10/24/11	Completeness Review Memo - dated 10/24/11 - by Tom Timko	2 pages		T. Timko
10/27/11	Letter from S. Koenig to T. Malman - re phone conversation of 10/20/11			S. Koenig
11/01/11	Letter from Thomas Malman re completeness items			T. Malman, Esq.
	Letter Attachment - Kevin Page - dated 10/31/11			
	Letter Attachment - James Cosgrove - dated 10/31/11			
11/07/11	200-ft property search			M. Lavigne
11/07/11	letter from F. Florio to M. Lavigne - notice to serve			F. Florio
11/18/11	Public notice documentation			M. Lavigne
11/18/11	Environmental Commission Memo			BT Env. Comm.
12/02/11	Cover Letter from Michael Lavigne			M. Lavigne
	Attachment - MQI Soil Acceptance Protocol (proposed)		21 copies	M. Lavigne
	Attachment - NJDEP submittals 5/1/09 to 6/1/11	21 CDs	1 hard copy	M. Lavigne

Exhibit C

Documents submitted not as exhibits

	List of all NJDEP submittals on disk	Exhibit A-7	M. Lavigne
01/19/12	Cover letter from M. Lavigne - copies of transcripts from 11/22/11, 12/6/11 & 12/20/11		M. Lavigne
01/31/12	Cover letter from Michael Lavigne - dated January 30, 2012		M. Lavigne
01/31/12	Copies of email correspondence between J. Cosgrove & S. Souza	20 copies	M. Lavigne
	HydroCAD simulation output files - 2, 10, 100 yr storms & water quality storm	20 copies	M. Lavigne
01/31/12	Getchell - 11-12-03 & 1-24-08 reports - env, geo & env info supplements;		
01/31/12	hydrologic impacts assessment	20 copies	M. Lavigne
01/31/12	Soil logs from test pits - Melick-Tully	20 copies	M. Lavigne
01/31/12	Page - 2-yr, 10-yr storm data; water quality storm data	20 copies	M. Lavigne
02/07/12	Princeton Hydro - Souza 2-2-12 report		S. Souza
02/07/12	Princeton Hydro - Goll 2-6-12 report		G. Goll
02/07/12	The ELM Group 2-7-12 report and revised selected pages		J. Wollenberg
02/07/12	Banisch, Frank - 2-7-12		F. Banisch
02/17/12	BT Environmental Commission memo		BT Env. Comm.
02/28/12	Cover Letter from M. Lavigne - rev landscape plan, values for lake recharge, info on anoxic conditions of proposed lake, calculation of late filling rate, design of rock fall catchment ditch, topo maps from 2003 to 2010, NJPDES permit, photos	photographs id'd as Exhibit B-1	M. Lavigne
02/28/12	J. Cosgrove - hydrologic budget comparison	20 copies	M. Lavigne
02/28/12	J. Cosgrove - metals release from sediment under anoxic conditions	20 copies	M. Lavigne
02/28/12	J. Cosgrove - Millington Quarry Pump information	20 copies	M. Lavigne
02/28/12	Rock Fall Catchment Ditch (Melick-Tully)	20 copies	M. Lavigne
02/28/12	topographic maps (8) from March 2003 to April 2010	20 copies	M. Lavigne
02/28/12	NJPDES permit - MQ - 10-6-2009	20 copies	M. Lavigne
02/28/12	13 photographs taken between 1-6-09 and 9-1-09 - quarry conditions	20 copies	M. Lavigne
02/28/12	Davies, Bruce John - Vegetation Planting areas - rev date 2-1-12	Exhibit A-33	M. Lavigne
03/05/12	Tom Quinn - 3-5-12 report		T. Quinn
03/19/12	Telephone Log - dated 3-19-12 - J. Wollenberg & J. Sorge		M. Lavigne
03/20/12	Cover Letter from M. Lavigne - re summary chart		M. Lavigne
03/20/12	M. Lavigne - summary chart	copies handed out at 3-20-12 mtg	
03/21/12	Telephone Log - dated 3-21-12 - J. Wollenberg & J. Sorge	Exhibit A-34	M. Lavigne
03/30/12	Cover Letter form M. Lavigne - revised Sheet 3 - new Sheet eA		M. Lavigne



Exhibit C

Documents submitted not as exhibits

04/03/12	Revised Sheet 3 of 3 - Grading Plan		handed to Brd at 4-3-12 mtg	M. Lavigne
		Exhibit B-2	handed out at 4/17/12 mtg	
04/03/12	Copy of PowerPoint - The ELM Group			M. Lavigne
04/04/12	Telephone Log - dated 4-2-12 - S. Souza & J. Wollenberg with J. Cosgrove & T. Amiden (Omni)			M. Lavigne
05/04/12	Cover Letter from M. Lavigne - supplemental documentation			M. Lavigne
05/04/12	Test Pit Logs - Melick-Tully - 9-20-11 to 9-22-11	Exhibit A-36	20 copies	
	F. Getchell & B. Kwitnicki to S. O'Reilly (Tilcon) - 5-12-06 memo - ground water level measurement summary for 1st quarter 2006	Exhibit A-36	20 copies	M. Lavigne
05/04/12	MQ Overburden Soil Recommended Specification - Omni Env.	Exhibit A-36	20 copies	M. Lavigne
05/04/12	MQI Clean Soil Acceptance Procedure - JMSorge, Inc.	Exhibit A-36	20 copies	M. Lavigne
05/04/12	Material Estimate - rev 3-28-12 - soil & rip rap	Exhibit A-36	20 copies	M. Lavigne
05/09/12	The ELM Group 5-9-12 report			J. Wollenberg
05/25/12	Cover Letter from M. Lavigne - rev rehab plan & rev cost estimate		20 copies	M. Lavigne
05/25/12	Cost Estimate - dated 5-25-12	Exhibit A-38	20 copies	M. Lavigne
05/25/12	revised grading plan - dated 5-22-13 - Page Eng	Exhibit A-39		K. Page
05/29/12	Cover letter from M. Lavigne - revised summary chart			M. Lavigne
05/29/12	Revised summary chart - revision date 5-25-12	Exhibit A-37		M. Lavigne
06/04/12	Princeton Hydro - Souza 6-4-12 report	Exhibit B-6		S. Souza
06/04/12	Tom Quinn 6-4-12 cost estimate	Exhibit B-4		T. Quinn
06/05/12	Princeton Hydro - Goll - 6-5-12	Exhibit B-5		G. Goll
			handed out to Brd at 6/5/12 mtg	
06/05/12	Copy of PowerPoint - Banisch Associates dated 5-7-12	Exhibit B-3		F. Banisch
07/16/12	Princeton Hydro - Souza 7-16-12 report			S. Souza
10/04/12	The ELM Group 10-4-12 report			J. Wollenberg
10/05/12	Somerset-Union Soil Conservation District - ltr to MQI			SCPB
10/20/12	M. Lavigne - re C. Bianchi's documents (objector)			M. Lavigne
11/16/12	Somerset-Union Soil Conservation District - ltr to MQI			SU Soil Cons District
	Cover Letter - from M. Lavigne - revised eng plans, cost estimate, lake mang plan, CSAP, landscape plan, liner specification, MQI Lease with Tilcon, J. Cosgrove letter			
01/24/13				M. Lavigne

Exhibit C

Documents submitted not as exhibits

01/24/13	Revised Summary Chart - revision date 1/17/13		M. Lavigne
01/24/13	Revised Lake Management Plan from Omni Environmental		M. Lavigne
01/24/13	Lease Agreement - bet MQI & Tilcon NY as of 7-1-99		M. Lavigne
01/24/13	Revised Vegetation Planning Areas - rev date 1-17-12		M. Lavigne
01/24/13	MQI Clean Soil Acceptance Procedure - JMSorge, Inc.		M. Lavigne
01/24/13	Description of U.S. Netting		M. Lavigne
01/24/13	Letter from J. Cosgrove to M. Lavigne 1-18-13 re pumping system		M. Lavigne
01/24/13	Revised eng plans (7 sheets) from Page Eng. - dated 1-17-13		M. Lavigne
01/30/13	Banisch, Frank - 1-3-13 report		F. Banisch