



**APPROVED**

**LANCASTER SELECT BOARD  
Special Meeting Minutes  
of June 15, 2022**

**Nashaway Meeting Room, 2<sup>nd</sup> Floor, Prescott Building, 701 Main Street, Lancaster MA**

**I. CALL TO ORDER**

Chairman Jason Allison called the Special Meeting of the Select Board to Order at 6:00 P.M. which was held both live and via ZOOM™, noting that the meeting was being recorded.

Join Zoom Meeting

<https://us02web.zoom.us/j/88374223626>

Meeting ID: 883 7422 3626

Roll call vote taken, Jason A. Allison, present, Stephen J. Kerrigan, present, and Alexandra W. Turner, present.

**II. APPROVAL OF MEETING MINUTES**

Mr. Kerrigan moved to review and approve the Regular Meeting Minutes of June 6, 2022. Ms. Turner seconded. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. Approved, [3-0-0].*

**III. SCHEDULED APPEARANCES & PUBLIC HEARINGS**

- PJ Keating Permit Peer Review Report
  - Presentation of Findings – Comprehensive Environmental (CEI)
  - Discussion – PJ Keating and Tighe & Bond

Ms. Hodges presented the background for this topic. CEI has performed a peer review; this has been shared with PJ Keating and Tighe and Bond. Robert M. Hartzel, Principal from Comprehensive Environmental, Inc. (CEI) presented the report / findings (*see attached*).

Doug Vigneau from PJ Keating responded to CEI's suggestion for a 25' vegetated clearing at the top of the rim around the quarry, saying that within a few feet of the quarry hole, vegetation there is untouched and natural, so this requirement would dig up plants to be re-planted. Ms. Turner suggested that some pictures and perhaps soil analysis would be helpful. Mr. Kerrigan noted that he would like to see only native plants included in any plantings. Michael Wright, geologist from PJ Keating, pointed out that while they have a number of needs to revegetate in the Lunenburg

areas, the Lancaster quarry areas are all currently vegetated. Mr. Allison asked Mr. Hartzel why more vegetation would be needed; Mr. Hartzel agreed that CIE's point about vegetation is only in response to a condition on the Town's permit requiring 9" of loam but without specifying the type of loam.

Discussion was held about how the conditions about dust mitigation could be better written to provide more measurable metrics.

CEI reviewed hydrogeologic findings. It was realized that CEI had not received information on some of the hydrogeologic work that has previously been done; they would like to review this prior to submitting their conclusions. CEI tabled a variety of other conclusions pending review of this additional data.

CEI recommends that PJ Keating have vernal pools certified; Mr. Vigneau objected, stating that this is private property and is not a requirement.

Mr. Allison suggested that PJ Keating provide CEI with additional information and for the Board to hold a couple of meetings for public comments, with the goal of wrapping this up by mid-September. He also asked PJ Keating to provide instructions that can be shared with residents as to how to file complaints with PJ Keating. Mr. Hartzel suggested that following the receipt of information from PJ Keating, their report could be updated in a couple of weeks. Mr. Allison suggested that the report could be done by mid-July, a public forum on dust complaints could happen in late July, a public forum on noise complaints could happen in August. Mr. Vigneau asked if there might be an opportunity to extend the current permit expiration date from October through November. Ms. Turner stated that a permit was "all or nothing" and that the minimum time that the Board could extend a permit was six months. Mr. Vigneau asked if there was any problem with PJ Keating meeting with CEI or Tighe & Bond; the Board assured him that this would be a good thing.

#### **IV. BOARD, COMMITTEE, AND DEPARTMENT REPORTS**

##### **Joint Meeting with the Planning Board**

The Planning Board called their meeting to order with a roll call vote. Carol Jackson, present; Peter Christoph, present; Kendra Dickinson, present; Roy Mirabito, present.

##### **1. Discuss the Planning Board's plan on revising the Town's Master Plan**

Mr. Allison asked if there was a plan to revise the Town's Master Plan. Mr. Mirabito said that they were anxious to get going on this project, but without a Conservation Agent this is difficult. They have recently made two offers to qualified candidates, but in each case the applicant has taken a position elsewhere for \$10,000-\$20,000 more than Lancaster's offer. He asked the Select Board's help in adjusting the salary for this position. Revising the Master Plan is a 12-18 month endeavor, and the Planning Board intends to start this immediately following the hiring of a Conservation Agent. Ms. Hodges noted that the first candidate offered a position had said that the reason for declining the offer was that they

were only willing to work from home. The second candidate took a position for \$30,000 more and had told Ms. Hodges that they only wanted to work four days a week. Ms. Turner noted that if the Planning Board and Planning Director did not currently have the capacity to work on the Master Plan, using a consultant might be an option.

**2. Discuss North Lancaster Settlement agreement and any impact it currently has on the Planning Board scheduling public hearings.**

Mr. Mirabito stated that the North Lancaster Settlement agreement has absolutely no impact on scheduling public hearings for the North Lancaster Enterprise Zoning change. He offered clarification, stating that on March 23, after the Lancaster Affordable Housing Trust (LAHT) had missed two submission deadlines set by the Planning Board, he had moved to delay the public hearing, with the hope that this would afford the Select Board more time to either explain to residents why the agreement was never consummated, or to advocate for the Town for transfer of the parcel from the applicant as a condition of continued negotiation. He said that this did not come to pass, and that the Select Board had chosen the alternate route of assigning the negotiation to the MOU Committee. He hopes this work will be done in time to bring it to the voters before the Fall Town Meeting.

Ms. Turner stated that in many people's minds, the North Lancaster Settlement Agreement is relevant to their vote and to the understanding of the larger decisions before us but scheduling a hearing should go forward. Ms. Jackson said that she wanted to know what the Select Board is doing about the Settlement Agreement if the MOA does not go through, because it is a separate issue. Mr. Allison said that if the MOA does not go through, he would have the appetite to seek recourse in some form. Ms. Turner said that she was happy that we would seek recourse, although she is more optimistic since speaking to the lawyer who represents the Town. Ms. Jackson stated that this has been brought before the Select Board many times, with documents provided, but that it was ignored and left to the Town Administrator, and she would think that the Select Board would take more action than what they have been doing. Ms. Dickinson requested that Mr. Mirabito send her a copy of the documents sent to the Select Board so that she can review them. Mr. Mirabito stated that he did not know what documents she is referring to; Ms. Dickinson said, "whatever documents Carol is referring to." Ms. Jackson said that this was not from the Planning Board so she should ask the Select Board to provide documents. Mr. Allison rebutted, noting that Ms. Jackson had earlier mentioned documents sent to the Select Board that were ignored. Ms. Jackson said that many residents have sent documents to the Select Board. Mr. Kerrigan asked Ms. Jackson if she had the documents. She said that she had some, but so do many residents.

Mr. Mirabito asked to recognize Russ Williston; Mr. Allison said no. Mr. Mirabito stated that it was a joint meeting, and that the Planning Board recognizes public comment. Mr. Kerrigan withdrew his request for documentation in order to take the topic off the table, negating the need for a request to recognize Mr. Williston.

**3. Discuss the Planning Board's plan on scheduling the public hearing for the Enterprise rezone.**

Mr. Mirabito stated that the Planning Board will schedule a public hearing at their next regularly scheduled meeting once they receive an updated concept plan for the application. Mr. Christoph expressed concern with the way Mr. Allison is describing the proposed zoning amendment; he said that what Mr. Allison is describing is not an Enterprise rezone but is a change to the Enterprise zone district and the residential district, with consequences to abutters, the Town, and to public resources, and the area of Critical Environmental Concern. He stated, *"This is not something to propose cavalierly, and there is already great public concern that you don't fully understand what you're proposing. Mr. Allison, when you initially sent an article to the Planning Board in December, Select Board member Turner asked, 'Do you understand the article?' and you answered, 'you don't need to understand it.'"* Mr. Christoph went on to review past actions and the definition of a concept plan. Mr. Allison asked Mr. Mirabito to confirm that the Planning Board was waiting on the Select Board to provide the concept plan. Mr. Mirabito confirmed yes. Mr. Allison asked when this had been requested of the Select Board. Mr. Mirabito stated that it is incumbent on the applicant to provide the concept plan. Mr. Mirabito said that the Planning Director had told him that this was on hold due to the spending freeze. Ms. Hodges will contact the Planning Director tomorrow to see what can be done. Ms. Turner suggested that the two chairs meet with the Town Administrator and the Planning Director to make sure requirements are spelled out. Mr. Mirabito stated that they were spelled out in the Town Bylaws, §220-63, and that the Planning Board does not assist applicants to put forth an application for a concept plan. Some debate was held as to why the plan needed to be re-submitted.

Mr. Allison recognized Ms. Farinacci, Planning Director. Ms. Farinacci apologized for any confusion in her conversation with Mr. Mirabito, stating that she had been under the impression that the plan presented by Ms. Petracca of the LAHT did not fully represent the project in the entirety desired by the Planning Board. Her belief was that the Planning Board wished to see the plans with the 40R development and manufacturing facilities. Mr. Mirabito confirmed that this was correct. Ms. Farinacci stated that she does not have a plan that shows this and does not believe that the Select Board have a plan that shows this, and that therefore the applicant would have to have this plan created, which would cost money. Mr. Kerrigan confirmed that since the 40R Hearing has been held, the concept plan should be able to be updated. Mr. Allison stated that if this was the only requirement then this would be resolved.

**4. Discuss when the Planning Board will switch from Zoom only to hybrid meetings.**

Mr. Allison stated that residents have reached out with this question. Mr. Mirabito stated that as an independently elected board, similar to the Select Board, they have the right, currently until July 15, to continue meeting via ZOOM. He states that 3 of 4 current members support this and that 3 of 4 current members have serious, pre-existing health conditions that require vigilance in public settings. He said that he will not put any Planning Board member in a position to potentially impact the future health of themselves



or their family, so as of today they will continue with ZOOM only meetings until July 15. They will re-evaluate after July 15, depending on the situation. Discussion ensued, offering pros and cons of ZOOM and hybrid meetings.

#### **5. Joint discussion on the Planning Board's appointment**

Mr. Allison explained that he and Mr. Mirabito have agreed on the process for this item. There are four applicants for this position. There will be a four minute opening statement, followed by questions from the boards as outlined (*see attached*). The applicants are requested to keep answers succinct in the interest of time. Mr. Allison proposed that each board select a member to make a motion. After a second is heard, each member of each board will be limited to one statement. Following statements, the vote will be held. All members of the Planning Board and the Select Board agreed that this process was satisfactory.

Mr. Allison asked if it was satisfactory for Frank Streeter, who was unable to attend this meeting, to have pre-recorded both his opening statement and his answers to questions. Mr. Mirabito agreed that this was okay.

Mr. Allison played on tv Mr. Streeter's opening statement and answers to questions.

Mr. Allison moved to allow the meeting to go past 10:00pm. Mr. Kerrigan seconded. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. Approved, [3-0-0].*

Mr. Allison recognized applicant Tom Christopher, who offered his opening statement and answered the questions provided.

Mr. Allison recognized applicant Kris Mahabir, who offered his opening statement and answered the questions provided.

Mr. Allison unsuccessfully attempted to contact applicant Michael Favreau who did not appear to be present; Ms. Hodges noted that he had not responded to her email. Mr. Mirabito agreed with Mr. Allison that they should move on.

Mr. Allison had board members guess a number in order to select who made the first motion. Ms. Jackson moved to appoint Tom Christopher. Mr. Christoph seconded. Ms. Turner stated that Mr. Christopher's knowledge was unparalleled, while she was also impressed with Mr. Mahabir's credentials. Ms. Dickinson stated that she thinks Mr. Christopher is brilliant, and has a huge knowledge base, but she also thinks that the voters have spoken. Mr. Mirabito is impressed with both Mr. Christopher and Mr. Mahabir, but his "*heart belongs with Tom.*" Ms. Jackson thought all candidates were great, but would support Mr. Christopher's candidacy. Mr. Christoph thought any of the candidates would serve the Board well but would support Mr. Christopher because of his experience both on the Planning Board and on the Conservation Commission. Mr. Kerrigan is grateful to all

candidates. Mr. Allison is most impressed with Mr. Mahabir who brings both aptitude and desire, although he has great respect for Mr. Christopher.

*Vote taken, Alexandra Turner, No; Kendra Dickinson, No; Roy Mirabito, Yes; Carol Jackson, Yes; Peter Christoph, Yes; Stephen Kerrigan, No; Jason Allison, No. Vote failed [3-4-0].*

Mr. Kerrigan moved to appoint Frank Streeter to the Planning Board until the next Town election. Ms. Dickinson seconded. Ms. Turner supports Mr. Streeter, noting that all members of the Planning Board and the Select Board need to work to bridge the divide. Ms. Dickinson expressed how difficult the decision is but will support Mr. Streeter. Mr. Mirabito thinks Mr. Streeter would be an excellent candidate. Ms. Jackson said that Mr. Streeter would be a good candidate, as would Mr. Mahabir, but she would still prefer Mr. Christopher, and it is a tough decision. Mr. Christoph said that he has no doubt that Mr. Streeter would serve the town well. Mr. Kerrigan echoed Mr. Christoph's statement. Mr. Allison would support Mr. Streeter's candidacy; he said that he has been impressed with Mr. Streeter on the Ad Hoc MOU Committee.

*Vote taken, Alexandra Turner, Yes; Kendra Dickinson, Yes; Roy Mirabito, Yes; Carol Jackson, Yes; Peter Christoph, Yes; Stephen Kerrigan, Yes; Jason Allison, Yes. Vote passed [7-0-0].*

The chairs of both the Select Board and the Planning Board thanked the participants. Mr. Christoph moved for the Planning Board to adjourn; Ms. Jackson seconded. *Roll call vote was taken; Carol Jackson, Yes; Peter Christoph, Yes; Kendra Dickinson, Yes; Roy Mirabito, Yes. Vote passed, [4-0-0], Planning Board meeting adjourned.*

<b>V. PUBLIC COMMENT PERIOD</b>
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*Opportunity for the public to address their concerns, make comments, and offer suggestions on operations or programs, except personnel matters. Complaints or criticism directed at staff, volunteers, or other officials shall not be tolerated.*

Chairman Allison recognized George Franz, 13 Highfield Drive.

Mr. Franz talked about the number of tax-exempt entities in town and thinks that a campaign should be started among them to adopt payment in lieu of taxes. Secondly, as a member of the Economic Development Committee (EDC), he finds it curious that the Select Board would consider reducing the number of members of the EDC from seven to five, considering that they are currently working on fourteen projects, to research and bring back information to the Select Board. He respectfully suggests that seven are hardly sufficient to do the job.

Mr. Allison recognized Jeanne Rich, Mill Street Extension.

Ms. Rich wanted to speak about the candidates for the Government Study Committee. Mr. Allison cautioned against speaking negatively about individuals in Open Session, asking that if she was displeased with a particular candidate that this should be communicated by email. The speaker

stated that she had nothing positive to say, although many candidates other than the one she was concerned with were excellent candidates.

## **VI. TOWN ADMINISTRATOR'S REPORT**

Ms. Hodges presented the Draft Budget Preparation Calendar. She has sent it to members of the Select Board and to the Finance Committee and needs the Finance Committee to plug in some dates.

## **VII. ADMINISTRATION, BUDGET, AND POLICY**

### **1. Discussion and Motion on the following (tabled from Select Board meeting 6/6/22)**

#### **a. Delegation of Personnel Authority to Town Administrator**

Mr. Kerrigan, after conversation with Town Counsel, would like to remove this from the agenda. Ms. Hodges notes that the Town Code already has this designation. Mr. Allison and Ms. Turner agreed to remove this from the agenda.

#### **b. Delegation of Contract Administration and Signatories to Town Administrator**

Mr. Kerrigan moves to amend last week's motion to remove the word "full." The motion now reads, *"I move that the Select Board assign the following authority to the Town Administrator, pursuant to Massachusetts General Law, Chapter 41, Section 23A, the authority to negotiate, sign, administer and settle contracts, agreements, and other instruments, including but not limited to, Public Works Contracts, Architecture and Engineering Contracts, Agreements and Memoranda of Understanding with other government agencies, Permit Documents, Grant Documents, Environmental Review Documents, Enforcement Documents, Amendments and Change Orders for Town Projects. Further, the Board delegates to the Town Administrator the authority to execute agreements, reports, and other town business submittals relating to, but not limited to, grant applications, state aid, State and/or Federal programs, needs or any other contracts or agreement necessary for the administration of Town Housing Production, Community Development, or Human Resources."* Ms. Turner seconded. Ms. Turner asked if this countered the authority of any other independently elected boards. Ms. Hodges explained that this would only apply to projects under the Select Board's oversight, although she is also the Town's Procurement Officer. To illustrate, Ms. Hodges explained that the Town has recently issued several RFPs, but right now when they come back she cannot do anything with them. Ms. Turner asked if they could be signed by the Select Board; Ms. Hodges explained that the signature has to be from an MCPPO certified person in order to sign state bids. Mr. Kerrigan explained that he removed the word "full" because this would mean that the Select Board abdicated all signatory authority. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. [3-0-0].*

## **2. Select Board appointment to the Montachusett Joint Transportation Committee**

Ms. Hodges attended today's meeting of the Montachusett Joint Transportation Committee, noting that she was the only person there from Lancaster, although several Lancaster projects were discussed. It appears that this position has not been filled in some time. It was agreed that the position will be posted.

## **VIII. APPOINTMENTS AND RESIGNATIONS**

### **Appointments**

#### **Economic Development Committee – moving from 7 members to 5.**

Mr. Allison noted that at the Annual Town Meeting it was voted to make this committee permanent and to change membership to five; to change it back would require Town Meeting vote. Ms. Turner suggested not renewing membership of the two people expiring this month. Mr. Allison noted that Joseph D'Eramo shows an appointment expiration of 6/20/22, and both Lenay Yorko and Glenn Fratto show an appointment expiration of 6/30/22.

Ms. Turner moved to not renew the appointments of Joseph D'Eramo and Lenay Yorko to the Economic Development Committee. Mr. Kerrigan seconded for discussion. Mr. Kerrigan wondered if we use this opportunity to solicit five people, whether existing member or new members. Mr. Allison thinks that the Committee needs a particular mindset and he would be disinclined to support this motion. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. [3-0-0].*

Mr. Kerrigan moved to have the Select Board re-solicit five members to make up the Economic Development Committee, suggesting that current members stay on until the process is complete. Mr. Allison seconded for purposes of discussion. Mr. Allison is not sure that members with existing terms could be removed; it was questioned as to whether the Town Meeting vote negates prior appointments. Mr. Kerrigan agreed to withdraw the motion; Mr. Allison requested that the motion is tabled so that Ms. Hodges can check on this.

#### **Government Study Committee (term to expire automatically when final report is presented to Select Board)**

Applicants include:

- |                   |                       |
|-------------------|-----------------------|
| - Jay Moody       | - Monica Tarbell      |
| - Christine Burke | - Everett Moody       |
| - Anne Ogilvie    | - Michael Hansson     |
| - Kathy Hughes    | - Rob Zidek           |
| - David Mallette  | - Melinda Apgar       |
| - Russ Williston  | - Rebecca Young-Jones |

- Denise Hurley
- Sue Thompson
- Emily Taylor
- Kate Hodges (ex-officio)
- Jean Syria
- Phil Lawler
- Steve Kerrigan (Select Board representative)

This committee was created to have nine members. Mr. Allison suggested a “Round Robin” where each Select Board member move to appoint a member and the process continues until nine members are appointed. Mr. Kerrigan suggested that each member move to appoint a slate of nine, the Board agrees to appoint those with commonality on each slate, and then discussion continues. Ms. Turner would like to appoint Jay Moody, Anne Ogilvie, Kathy Hughes, Sue Thompson, Emily Taylor, Jean Syria, Russ Williston, Monica Tarbell, and Steve Kerrigan. Mr. Kerrigan would like Jay Moody, Anne Ogilvie, Christine Burke, Monica Tarbell, Rob Zidek, himself, Emily Taylor, Dave Mallette, and Russ Williston. Mr. Allison would like Everett Moody, Michael Hanson, Monica Tarbell, Christine Burke, Melinda Apgar, David Mallette, Emily Taylor, Phil Lawler, and Steve Kerrigan.

Three nominations each were received for Monica Tarbell, Steve Kerrigan, and Emily Taylor. Ms. Turner would like to hear from candidates. Mr. Kerrigan would like to nominate candidates, inform them that they have been nominated, and hear from them at the next meeting. Ms. Turner agreed that this was satisfactory. David Mallette, Christine Burke, Russ Williston, Anne Ogilvie, and Jay Moody all received two nominations. Mr. Allison made a case for both Chief Hanson and Chief Moody to serve, or at least one of the two. He would also like to hear from Melinda Apgar because it would be good to have a new and passionate person participating in town government. Mr. Kerrigan suggested that the Chiefs participate as ex-officio members. Mr. Kerrigan suggested Rob Zidek because of his passion for the Town. Ms. Turner would like to see Sue Thompson as the ninth nominee. Mr. Allison noted that although he has nothing personal against Mr. Zidek, but he found him difficult to work with at the formation of the Economic Development Committee. Mr. Kerrigan withdrew his support for Rob Zidek and agreed with Ms. Turner to support Sue Thompson.

It was agreed that the nominees are Monica Tarbell, Steve Kerrigan, Emily Taylor, David Mallette, Christine Burke, Russ Williston, Anne Ogilvie, Jay Moody, and Sue Thompson. Ms. Hodges will reach out to the nominees, advise them that they have been nominated, and ask them to speak at the next Select Board meeting so that the Select Board can clearly communicate the charge for this committee. Mr. Kerrigan moved to appoint the nine selected meeting and ask them to visit at an upcoming meeting; he stated that the Select Board has picked nine good members. Ms. Turner seconded. *Vote taken, Jason A. Allison, No; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. [2-1-0].*

North Lancaster Memorandum of Understanding Ad Hoc Committee - Kendra Dickinson

Mr. Kerrigan moved to appoint Kendra Dickinson to the Ad Hoc MOU Committee with a term to expire 6/15/23. Mr. Allison seconded. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. [3-0-0].*

**IX. LICENSES AND PERMITS - NONE**

**X. NEW BUSINESS**

*\*This item is included to acknowledge matters not reasonably anticipated by the Chair.*

1. Reorganization of the Select Board (Allison)

Mr. Allison moved to appoint Stephen Kerrigan to Chair of the Select Board. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. [3-0-0].*

2. Temporary reorganization of reporting structure for Council on Aging Director and Community Center Director (Allison)

Mr. Allison moved to temporarily change the reporting structure for the Council on Aging Director and Community Center Director to Select Board member Stephen Kerrigan. Mr. Kerrigan seconded. Ms. Turner noted that a letter that she has requested from the State Ethics Commission is long overdue, so this will work in the short term. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Abstain. [2-0-1].*

**XI. COMMUNICATIONS**

- Town Offices will be closed Monday, June 20, 2022, in observance of Juneteenth Independence Day.

**XIII. ADJOURNMENT**

Mr. Allison moved to adjourn the meeting. Ms. Turner seconded. *Vote taken, Jason A. Allison, Aye; Stephen J. Kerrigan, Aye; Alexandra W. Turner, Aye. [3-0-0].*

Respectfully submitted,

Kathleen Rocco  
Executive Assistant

**APPROVED**

Alexandra W. Turner, Clerk  
Approved and accepted: 8/1/2022



COMPREHENSIVE  
ENVIRONMENTAL  
INCORPORATED

41 Main Street  
Bolton, MA 01740  
508.281.5160  
www.ceiengineers.com

May 23, 2022

Town of Lancaster Select Board  
Attn: Kate Hodges, Town Administrator  
701 Main Street  
Lancaster, MA 01523

**RE: P.J. Keating Company**  
**Peer Review of Special Permit to Remove Earth Products**

Dear Ms. Hodges,

As requested by the Lancaster Select Board, Comprehensive Environmental Inc. (CEI) has provided a technical review of the P.J. Keating Company (Keating) facility located at 998 Reservoir Road in Lunenburg (the Site) and associated performance standards and monitoring as required per the Site's current Special Permit to Remove Earth Products (Special Permit; issue date of March 7, 2022).

CEI staff conducted a site walk with Keating staff on April 22, 2022 to observe conditions in the vicinity of the quarry operation, associated monitoring wells, the flow path of the quarry dewatering process, and other Site features relevant to the Special Permit. In addition to the site walk, CEI's review is based on the following documents provided by the Town and Keating:

- P.J. Keating Company, Town of Lancaster - Special Permit to Remove Earth Products (permit issue date March 7, 2022)
- P.J. Keating Company, Town of Lancaster - Special Permit to Remove Earth Products (permit issue date January 25, 2020)
- P.J. Keating Company, Town of Lancaster - Special Permit to Remove Earth Products (permit issue date January 25, 2005)
- Quarry Closure Plan Circa 2042 (S.J. Mullaney Engineering, Inc., rev. date 2/17/2022)
- SWPPP Figures 1-4 (TRC, January 2022)
- Site Plan – Drainage from Quarry to Lake Shirley (TRC, February 2022)
- Photo Log – Easter Brook Entering Lake Shirley (P.J. Keating, 2/24/2022)
- P.J. Keating Mining Plan 2022-2023 (P.J. Keating, 1/28/2022)
- Aerial Image of Quarry Seismograph Locations (2/22/2022)
- Lunenburg's Water System PWS ID # 2162000 (from MassDEP Online Map Viewer)
- Review of Application for Special Permit – Update (Tighe & Bond, 2/1/2022)
- Aerial Image of Extent of Existing Fence Around Quarry (Google Earth image)
- P.J. Keating Existing Conditions Plan (S.J. Mullaney Engineering, Inc., 1/26/2022)
- Response to Resident Questions and Concerns, Application for Special Permit Earth Products Removal, P.J. Keating Company (Tighe & Bond, 2/28/2022)
- Wetland Assessment, P.J. Keating Facility (Lucas Environmental, 11/30/2015)
- ANRAD Peer Review (LEC Environmental, 11/30/2016)



- Hydrogeologic Assessment of the Marble Quarry, P.J. Keating Company, Lancaster, MA (North American Reserve, June 2005)
- Hydrogeologic Monitoring Reports (2019, 2020; North American Reserve)
- Review of 2019 Groundwater Monitoring Report (Tighe & Bond, 9/16/2020)
- Quarterly Inspection Reports (2019, 2020, 2021; Tighe & Bond)
- Stormwater Pollution Prevention Plan (SWPPP), P.J. Keating Company, Lunenburg, MA Facility (TRC, February 20220)
- Quarterly Laboratory Analytical Reports and Year End Reports to EPA (2019-2022)

## 1. SPECIAL PERMIT CONDITIONS

Special Permit Conditions are presented verbatim below in **blue font** followed by related CEI review comments. The numbering below is based on the Condition numbering in the Special Permit. Conditions not listed below did not have suggested revisions or comments from CEI.

**Condition 2.** The shoreline of the end-use quarry pond and all disturbed non-bedrock surfaces shall be restored with a minimum depth of nine inches of loam which shall be capable of supporting grass growth. These areas shall be restored upon completion of the earth removal authorized by this special permit. These areas shall be hydroseeded and the planted area shall be protected from erosion during the establishment period using sound conservation practices. Areas that wash out shall be repaired immediately. Trees or shrubs of prescribed species shall be planted to provide screening and reduce erosion during the establishment period.

### **CEI Comments:**

- A minimum width of 25 feet is recommended for the required loam and vegetation establishment around the perimeter of the quarry pond. This width is based on (1) the assumption that end use quarry pond will become a wetland resource area protected per 310 CMR 10.00 and the Lancaster Wetlands Protection Bylaw after the quarry has been inactive for five or more consecutive years, and (2) establishment of a vegetated buffer consistent with the Bylaw 25-foot no disturb zone.
- A specification for loam should be required to ensure good quality planting conditions, including a minimum organic content of 4-6% by weight.
- Planted trees and shrubs should be species native to the Northeastern U.S. and from a list submitted by the Applicant and approved by the Town. In areas where trees or shrubs will be planted, a minimum topsoil depth of 18 inches is recommended. An equal depth of subsoil is also recommended to allow for an adequate rooting zone for woody species. Spacing for trees and shrubs should be specified (e.g., 8-feet on center for tree species, 5-feet on center for smaller shrub species).

**Condition 5:** Dust Control measures shall be undertaken as specified in the approved plans.

### **CEI Comments:**

- There are no approved plans associated with the Special Permit that specify dust control measures. Dust control appears to be an ongoing challenge for the portion of Fort Pond Road (Route 70) near the quarry, and inclusion of a plan and/or a detailed narrative specifying dust control measures is recommended.



As a reference, CEI reviewed the current Storm Water Pollution Prevention Plan (SWPPP) associated with the National Pollutant Discharge Elimination System (NPDES) permit for the Site. Although no reference to dust control measures is included in the SWPPP plans, the SWPPP document includes the following narrative:

*3.7.7 Dust Generation and Vehicle Tracking of Industrial Materials*

*Dust generation and vehicle tracking activities potentially occur in each of the Drainage Areas at the facility. The Lunenburg facility maintains dust control by pumping water from the detention basins and using it for dust suppression as necessary. A mobile water truck is also used at the facility to wet down on-site roads to minimize the amount of dust generated by vehicle traffic and the transport and deposition of sediment on surrounding public roadways. Locations where vehicles enter and exit the site are inspected regularly for sediment that has been tracked off site. If sediment has been tracked off site, the paved surfaces are swept.*

- Based on dust control measures required at similar quarry operations, the Town should consider requiring the following:
  - Dust monitoring (e.g., by installation of a high-volume air sampler) to identify periods when/if fugitive dust conditions warrant additional control actions to protect public health.
  - Additional control actions could include installation of a dust suppression system for haul trucks along the quarry interior roadways, such as a wheel wash system comprised of roadside sprinklers which spray trucks as they pass by.

**Condition 25:** The permit holder shall continue to undertake a hydrogeologic study that shall continue for the duration of the earth product removal operation. To facilitate the continuation of the long term hydrogeologic monitoring program the permit holder shall collect a minimum of monthly measurements of the groundwater water table and behavior in the monitoring wells, continuous weather station measurements, monthly stormwater flow measurements for the lower quarry and upper quarry flow meters, and monthly measurements of the sump water elevation for the duration of the earth product removal operation. Pressure transducers shall be implemented within groundwater monitoring wells to monitor groundwater water table behavior at hourly increments. Upon failure of any pressure transducers, the permit holder has 90-days to replace the equipment. These measurements shall be provided to the Board of Selectmen quarterly, or more frequently as requested by the Board of Selectmen, and these measurements shall be reviewed by the Town's consultant as requested by the Town. All costs for outside consultant services used for inspection, data review, comment, and recommendation purposes shall be paid for by the permit holder. The hydrogeologic study shall be modified, when needed, based on recommendations by the Board's consultant.

- a. New hourly reporting pressure transducers shall be replaced in all groundwater monitoring wells by April 15, 2022.

**CEI Comments:**

**1. Hydrogeologic Study**

In addition to ongoing monitoring of groundwater levels and stormwater flow volumes, Keating conducted a hydrogeologic study in 2005 (NAR) to partially address this permit condition. This study focused on a review of the general bedrock geology and a review of existing bedrock wells in the area. The 2005 NAR study concludes that the existing bedrock wells have fairly uniform characteristics based upon specific capacity calculations and that any higher yielding bedrock wells are likely influenced by proximate surface water bodies. One exception was existing bedrock well

#33, which had the highest yield of the sample group, likely associated with its location along the Wekepeke Fault System. Final recommendations of the 2005 NAR study were to install four bedrock monitoring wells, drilled to the permitted depth of quarry excavation. The recommended well locations were based on installing one in each direction (north, south, east, west) with the north/south monitoring wells located along the Wekepeke fault line.

The conclusions and recommended monitoring plan of the 2005 NAR study do not fully correlate with the geologic features and data limitations identified in the study. Specifically, we note the following key issues:

- The 2005 NAR study notes that the landfill site in general has a “*complicated array of jointing*” and “*near vertical fractures*” as observed at several of the NAR field reconnaissance locations. These features are due to the quarry site being transected by the Wekepeke Fault System. This extent of fracturing would logically increase the potential for groundwater movement in a multitude of directions.
- The 2005 NAR study evaluated existing bedrock wells in the vicinity of the quarry, classifying the wells as above or below average yield (i.e., 10 gallons per foot of drawdown) based on readily available data from the well drillers. Based on the location of most of the high yield wells (proximate to a lake or pond), NAR inferred that the higher well yields were influenced by surface water, even though these wells were approximately 500 feet deep. Location alone does not necessarily mean there is any connection between a surface water body and a 500-foot-deep bedrock well, as it is common for surface water bodies to be “perched” and protected by a bottom impervious (or semi-impervious) layer.
- The 2005 NAR study used well drilling records for the analysis, most likely from the date of installation for each bedrock well. These well drilling records are of limited value for determining regional groundwater flow patterns, since they are typically performed with the sole purpose of confirming sufficient water quantity and quality for a residential dwelling. A more detailed pump test (e.g., pumping to determine sustained yield) would be required as part of a hydrogeological study to determine overall regional groundwater flow patterns.
- The 2005 NAR study specifically notes that the “*quarry is generally very dry*”, most likely due to the “*strongly developed fracture system...allowing infiltration and recharge*” associated with steeply dipping cleavage planes that can be near vertical in some locations.

These observations and bedrock features appear to provide a potential viable path for surface water to flow deep into the bedrock and then travel along the extensive fracturing in a multitude of directions. The limited locations and depths of the four existing bedrock monitoring wells are not sufficient to identify potential impacts of the quarry operation on groundwater flows and water quality in the area.

- CEI recommends that additional bedrock monitoring wells be installed around the perimeter of the quarry, as follows:
  - Ideally, additional monitoring wells would be located along identified surface lineaments that reflect sub-surface bedrock fractures;
  - Alternatively, new wells could be located at regularly spaced intervals along the quarry perimeter. If this approach is used, CEI recommends installation of six wells at approximate 550-foot intervals along the southern/eastern quarry perimeter (from the southern tip of the quarry to the intersection of the quarry haul road and Fort Pond Road).

- CEI also recommends that water samples be collected and analyzed from these bedrock monitoring wells on an annual basis, to allow for assessment of any potential impacts of the quarry operation on off-site bedrock water supply wells. *See Section 2 for a list of recommended monitoring parameters.*

## 2. Monitoring Equipment

During the site walk on April 22, 2022, NAR stated that they will be installing In-Situ Level TROLL® 400 pressure transducers in all of the monitoring wells with the ability to connect to the instruments with Bluetooth for profiling and downloading data. NAR stated that the transducers will be set to monitor groundwater water table behavior at hourly increments and they will collect data using a cloud storage service and complete a quality control check before they are sent to the town for review. These transducers have a battery life of 10 years or 2 million readings. The Bluetooth capabilities will allow for a quicker and easier download of data and will remove some likelihood for human error and damage to transducers as a result of removing the instrument to download readings, clear the device, and reinstall the instrument.

Scheduled maintenance of these instruments is critical to sustain their accuracy and longevity, and should include the following:

- a. Scheduled maintenance should be required as described in the In-Situ Operator's Manual in order to sustain the accuracy and longevity of the probes and the cables.
- b. The transducers should be checked monthly for the first year to ensure they are working properly and then quarterly after that.
- c. The monitoring visits should include equipment inspections and documentation that the transducers are in the correct position, have been collecting measurements, that measurements are recording properly, and that the battery life as displayed in the Win-Situ software is sufficient.
- d. The transducers should undergo factory maintenance and calibration every year in May and proof of calibration should be submitted to the Town for review.

**Condition 30:** The deepest point of open excavation shall be no deeper than 20-ft above the elevation of the deepest groundwater monitoring well. Upon reaching this threshold, new monitoring wells shall be installed to deeper elevations.

### **CEI Comments:**

- The monitoring wells are currently set at an elevation of 180 feet NAVD, approximately 50 feet below the existing bottom elevation of the quarry (elevation 230 feet NAVD). Based on Condition 30, these existing monitoring wells would ultimately allow for excavation to a depth of 200 ft NAVD. In comparison, most residential bedrock wells in the area are approximately 800 to 1000 feet deep and are therefore set at an elevation of approximately -400 feet to -600 feet NAVD, approximately 580 to 780 feet below the present depth of the quarry monitoring wells.
- Based on the extensive bedrock fracturing in a multitude of directions (as noted in the 2005 NAR hydrogeological study and discussed above in CEI's comments on Condition 25), and the substantial difference in depth/elevation between the monitoring wells and the depth of bedrock water supply wells in the area, we recommend that the quarry monitoring wells be extended to a depth that is comparable to the deepest existing bedrock water supply wells in the area (i.e., approximately 1000 feet).



## 2. OTHER RECOMMENDATIONS

Additional CEI recommendations and comments that are not specific to a current Special Permit Condition are provided below.

### 2.1 Additional Water Quality Monitoring

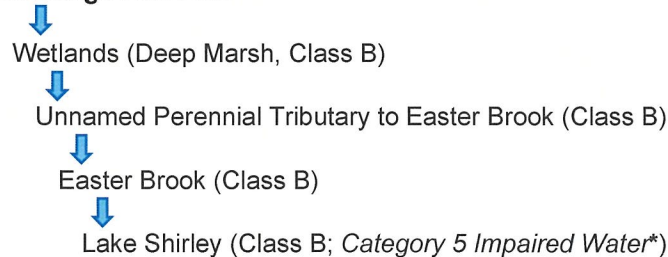
Stormwater discharges from the Keating site in Lunenburg and Lancaster are authorized under a NPDES Multi-Sector General Permit (MSGP). Under the MSGP, monitoring of quarry stormwater effluent is required for the following:

- **Total Suspended Solids:** benchmark concentration of 100 mg/l; quarterly sampling (*Note: TSS in the quarry settling basin is measured with an in-situ instrument. Keating staff stated that water is pumped and discharged only when TSS concentration is below 15 mg/L*)
- **Turbidity:** benchmark concentration of 50 NTU; grab sample required once per year
- **pH:** effluent limitation of 6.0-9.0; grab sample required once per year
- **Polyaromatic Hydrocarbons:** report only (no threshold/benchmark values); biannual sampling

Other similar facilities have discharges (both process wastewater and stormwater) authorized under NPDES Individual Permits which require more extensive monitoring. Monitoring parameters and associated effluent limitations for Individual Permits are typically established as needed to ensure that state and federal water quality standards are met for the receiving water bodies.

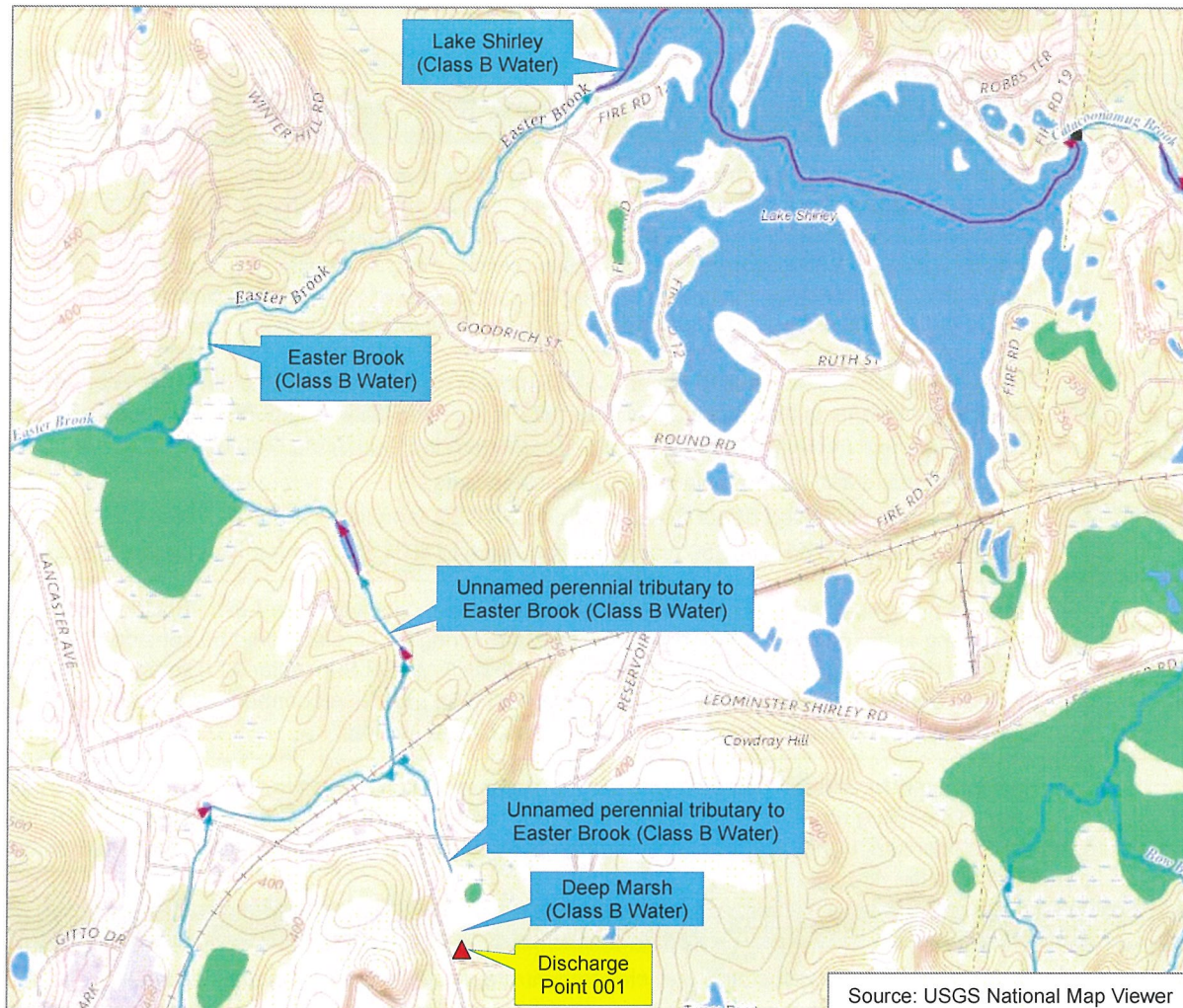
Stormwater effluent from the quarry is discharged to a series of Class B, High Quality Waters as defined in Massachusetts Surface Water Quality Standards ([314 CMR 4.00](#)). The flow path from the Quarry Dewatering Discharge (Discharge Point 001) is listed below and shown in Figure 1. The Class B Water Quality Standards are the same for all segments of the flow path listed below.

#### Discharge Point 001



\* Lake Shirley is listed in the [Massachusetts 2018/2020 Integrated List of Waters](#) as impaired for:

- *turbidity*
- *harmful algal blooms*
- *dissolved oxygen*
- *mercury in fish tissue*
- *non-native aquatic plants*



**Figure 1:** Flow Path from Quarry Dewatering Discharge to Lake Shirley

Based on review of monitoring required for similar facilities in the region, CEI recommends that the Town should consider requiring the additional monitoring parameters discussed in Table 1 as a condition of a future Special Permit authorization.

**Table 1: Additional Water Quality Monitoring Recommendations**

Parameter	Discussion/Recommendation
<b>Stormwater Effluent Monitoring<sup>1,2</sup></b>	
Turbidity	<ul style="list-style-type: none"> <li>CEI recommends that more frequent turbidity monitoring should be considered as a condition preceding pumping from the quarry settling basin, with an effluent discharge limit of 25 NTU. This recommendation is based on the Individual Permit for the Keating Acushnet facility, which states “a turbidity value of 25 NTU is consistent with several states that have established numeric water quality criteria for turbidity, including the New England states of Vermont and New Hampshire as well as the turbidity limitations imposed on similar facilities in Massachusetts and New Hampshire.”</li> </ul>
Whole Effluent Toxicity (WET)	<ul style="list-style-type: none"> <li>Based on use of explosives at the quarry, WET monitoring is recommended once per year. WET evaluates pollutants in the discharge to determine if their additivity, antagonism, synergism, or persistence have potential to cause toxicity. Recommended monitoring requirements include: <ul style="list-style-type: none"> <li>Use daphnid and fathead minnow as the test species</li> <li>Chronic No Observed Effect Concentration (C-NOEC) should be <math>\geq 100\%</math></li> <li>Acute effects based on LC50 (concentration lethal to 50% of test organisms) should be <math>\geq 100\%</math>.</li> </ul> </li> </ul>
Nitrate	<ul style="list-style-type: none"> <li>Because nitrogen-based compounds (ammonium nitrate explosives from Austin Blasting) are used for blasting at the quarry, CEI recommends that monitoring for nitrate should be considered. Although there are no numeric nitrate criteria for NPDES MSGP Subsector J2 (Dimension and Crushed and Nonmetallic Minerals), a benchmark of 0.68 mg/L is recommended based on the NPDES MSGP criteria for Subsector J1 (Sand and Gravel Mining).</li> </ul>
Total Metals	<ul style="list-style-type: none"> <li>Heavy metals have been detected with quarry discharges at similar sites. CEI recommends an initial (year 1) sampling round for total metals (antimony, arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, silver, and zinc). Requirements for any additional testing should be based on the initial results.</li> </ul>
<b>Bedrock Monitoring Wells (annual monitoring for existing and additional recommended bedrock wells)</b>	
Nitrate	<ul style="list-style-type: none"> <li>Health concerns are associated with elevated nitrate levels (<math>&gt;10</math> mg/L) in drinking water.</li> </ul>
Total Metals	<ul style="list-style-type: none"> <li>Annual monitoring for antimony, arsenic, cadmium, chromium, copper, iron, manganese, lead, nickel, selenium, silver, and zinc.</li> </ul>
Perchlorate	<ul style="list-style-type: none"> <li>Sampling for perchlorate is recommended due to the use of nitrogen-based explosives at the quarry. The NPDES permit the Keating Acushnet facility states, “Perchlorate may also be present in nitrogen-based explosives as an impurity or contained in detonators up to 4 to 60 milligrams of potassium perchlorate. EPA’s Interim Drinking Water Health Advisory for perchlorate is 15 <math>\mu\text{g/L}</math>.”</li> </ul>
pH	<ul style="list-style-type: none"> <li>pH is an inexpensive parameter that can be helpful in identifying if surface waters (with relatively higher pH) are mixing with groundwater (with relatively lower pH) via bedrock fractures.</li> </ul>

**Table 1 Notes:**

- Based on CEI’s review of operations at the quarry and related stormwater effluent discharges to Discharge Point 001, CEI recommends that additional monitoring is not needed for the following parameters listed for Class B Waters in 314 CMR 4.05(3)(b): pH, dissolved oxygen, temperature, taste and odor, oil and grease, and solids.



2. CEI recommends that some additional monitoring parameters required at similar sites are not applicable to stormwater discharges from the Lancaster/Lunenburg quarry operation. For example, naphthalene monitoring is required at sites where petroleum products are stored, but there are no petroleum products stored within the Keating quarry area.
3. If additional monitoring is required as condition of a future Special Permit, CEI recommends that results should be reported to the Town for review on a quarterly basis. The Town should reevaluate required monitoring frequencies in future Special Permits based on results from the first year of monitoring data.

## 2.2 Noise Monitoring

Based on requirements at similar quarry operations, the Town should consider requiring continuous 24/7 noise monitoring to determine if there are periods when quarry operations result in nuisance noise levels in nearby residential areas. Such monitoring could be required as either a long-term, ongoing requirement of operations, or as a shorter-term requirement intended to:

1. Identify any time periods and sources of nuisance noise levels; and
2. Address any identified sources with actions to minimize nuisance noise levels.

## 2.3 Potential Vernal Pools

The ANRAD Peer Review (LEC, 2016) notes the following with regard to two Isolated Vegetated Wetlands (IVWs) delineated with flags I-1 through I-6 and J-1 through J-15:

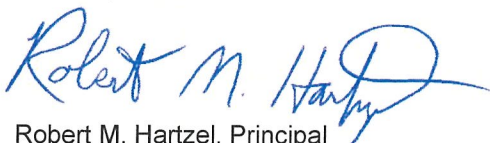
*Both of the IVWs have potential vernal pools, but a definitive determination of vernal pools at this time of the year is difficult. The status of these potential pools should be determined by the Applicant in the Spring of 2017.*

Based on communication with Keating staff, a field investigation to confirm the status of these potential vernal pools has not been conducted. CEI recommends that a vernal pool investigation should be required as a condition of future permit approval, with field investigations specified for the spring vernal breeding season for obligate vernal pool species. If vernal pool conditions are documented, an application for vernal pool certification should be submitted to the Massachusetts Natural Heritage and Endangered Species Program (NHESP).

*Note: The IVW J-series is located in Lancaster. The IVW I-series is located in Leominster, but if certified as a vernal pool would have a portion of its 100-foot buffer zone within Lancaster.*

If you have any questions regarding this review letter, please contact Bob Hartzel at 508-281-5160.

Sincerely,



Robert M. Hartzel, Principal  
Comprehensive Environmental, Inc.



June 1, 2022

Town of Lancaster Select Board  
Attn: Kate Hodges, Town Administrator  
By email (khodges@lanasterma.net)  
701 Main Street  
Lancaster, MA 01523

**RE: P.J. Keating Company Response to CEI Peer Review of Special Permit to Remove Earth Products**

Dear Ms. Hodges,

Thank you for forwarding the CEI peer review report. Please see comments by P.J. Keating (PJK) compiled with the assistance of our professional consultants, TRC's Andrew Smyth, Professional Geologist and Principal Consultant, Gary Hunt, Vice President and Air Sciences Technical Director and North American Reserve's Michael Wright, Principal Geologist. We have included CEI comments verbatim. PJK's comments may be found in **green font** following those comments.

**1. SPECIAL PERMIT CONDITIONS**

Special Permit Conditions are presented verbatim below in **blue font** followed by related CEI review comments. The numbering below is based on the Condition numbering in the Special Permit. Conditions not listed below did not have suggested revisions or comments from CEI.

**Condition 2.** The shoreline of the end-use quarry pond and all disturbed non-bedrock surfaces shall be restored with a minimum depth of nine inches of loam which shall be capable of supporting grass growth. These areas shall be restored upon completion of the earth removal authorized by this special permit. These areas shall be hydroseeded and the planted area shall be protected from erosion during the establishment period using sound conservation practices. Areas that wash out shall be repaired immediately. Trees or shrubs of prescribed species shall be planted to provide screening and reduce erosion during the establishment period.

***CEI Comments:***

- A minimum width of 25 feet is recommended for the required loam and vegetation establishment around the perimeter of the quarry pond. This width is based on (1) the assumption that end use quarry pond will become a wetland resource area protected per 310 CMR 10.00 and the Lancaster Wetlands Protection Bylaw after the quarry has been inactive for five or more consecutive years, and (2) establishment of a vegetated buffer consistent with the Bylaw 25-foot no disturb zone.

At the end of the life of the quarry, P.J. Keating (PJK) will provide a 25-foot natural vegetative perimeter around the rim of the quarry for those areas that are not naturally revegetated. The establishment of the 25-foot zone will include, if necessary, the application of loam to establish the vegetative zone which may include the planting of trees and shrubs based on site conditions at the time.

The quarry will naturally fill with groundwater and rainfall and become a static height at the approximate elevation of the nearest wetland, which is located at the southwestern end of the quarry. That wetland complex is at elevation 393<sup>±</sup> and the quarry rim is at elevation 403<sup>±</sup>



(MassMapper). Further, the quarry rim will be fenced, and the entire property is and will continue to be posted for no trespassing.

- A specification for loam should be required to ensure good quality planting conditions, including a minimum organic content of 4-6% by weight.

As stated above, at the end of the quarry life, a 25-foot vegetative perimeter around the rim of the quarry will be established for those areas not vegetated with natural vegetation. The establishment of the 25-foot zone will include, if necessary, the application of loam to establish the vegetative zone. It should be understood, that by the time the quarry is abandoned there will be vegetation all along the perimeter as PJK is going deeper over the next several decades, not horizontally. It would make little sense to remove this natural vegetation.

- Planted trees and shrubs should be species native to the Northeastern U.S. and from a list submitted by the Applicant and approved by the Town. In areas where trees or shrubs will be planted, a minimum topsoil depth of 18 inches is recommended. An equal depth of subsoil is also recommended to allow for an adequate rooting zone for woody species. Spacing for trees and shrubs should be specified (e.g., 8-feet on center for tree species, 5-feet on center for smaller shrub species).

Native vegetation present will continue to establish and encroach closer to the quarry rim. In particular, at the end of the life of the quarry. Should non-vegetated areas exist, supplemental endemic plantings (trees and shrubs) will take place based on the site conditions at the time.

**Condition 5:** Dust Control measures shall be undertaken as specified in the approved plans.

***CEI Comments:***

- There are no approved plans associated with the Special Permit that specify dust control measures. Dust control appears to be an ongoing challenge for the portion of Fort Pond Road (Route 70) near the quarry, and inclusion of a plan and/or a detailed narrative specifying dust control measures is recommended.

Dust suppression is paramount to PJK, and the quarry operation utilizes two water trucks and two street sweepers that circulate all areas of the facility on a daily basis. Also, as indicated to the CEI reviewers, PJK was about to, and since has made improvements to the grade of the paved surface at the exit drive (in Lunenburg) from the quarry to better shed water and control water tracking onto Fort Pond Road in Lunenburg. PJK will continue to monitor the situation on a constant basis.

Tighe & Bond conducted a site inspection on April 1, 2022, and noted that:

“Water Truck on site, used throughout the day on haul roads and quarry base. Two sweepers run daily at road crossings.”

Tighe & Bond did not identify any corrective action that needed to be taken by PJK and found that permit conditions were being met.

As a reference, CEI reviewed the current Storm Water Pollution Prevention Plan (SWPPP) associated with the National Pollutant Discharge Elimination System (NPDES) permit for the Site. Although no reference to dust control measures is included in the SWPPP plans, (PJK does not understand the inclusion of this statement; CEI indicates the SWPPP does not discuss dust control but then goes on to reference section 3.7.7 of the SWPPP which does include dust management; further, dust control measures are also included in other sections of the SWPPP).

Note the SWPPP document includes the following narrative:

### 3.7.7 Dust Generation and Vehicle Tracking of Industrial Materials

*Dust generation and vehicle tracking activities potentially occur in each of the Drainage Areas at the facility. The Lunenburg facility maintains dust control by pumping water from the detention basins and using it for dust suppression as necessary. A mobile water truck is also used at the facility to wet down on-site roads to minimize the amount of dust generated by vehicle traffic and the transport and deposition of sediment on surrounding public roadways. Locations where vehicles enter and exit the site are inspected regularly for sediment that has been tracked off site. If sediment has been tracked off site, the paved surfaces are swept.*

- Based on dust control measures required at similar quarry operations, the Town should consider requiring the following:

- Dust monitoring (e.g., by installation of a high-volume air sampler) to identify periods when/if fugitive dust conditions warrant additional control actions to protect public health.

*Given that aggressive dust control measures are currently in place as noted above air monitoring is not warranted. Further, the absence of nuisance dust complaints supports this position. In the event that PJK elects to perform air monitoring in the future, high volume air sampling methodology would not be the appropriate methodology.*

- Additional control actions could include installation of a dust suppression system for haul trucks along the quarry interior roadways, such as a wheel wash system comprised of roadside sprinklers which spray trucks as they pass by.

*PJK does not understand what “a wheel wash system comprised of roadside sprinklers which spray trucks as they pass by” would accomplish. Adding additional water to the wheels of 80-ton haul vehicles would merely track out additional haul road dirt into the roadway, not less. The balance of water addition directly to the road is carefully monitored and additional sprinkler water on the haul road would not serve to reduce water and soil tracking at the haul crossroads.*

**Condition 25:** The permit holder shall continue to undertake a hydrogeologic study that shall continue for the duration of the earth product removal operation. To facilitate the continuation of the long term hydrogeologic monitoring program the permit holder shall collect a minimum of monthly measurements of the groundwater water table and behavior in the monitoring wells, continuous weather station measurements, monthly stormwater flow measurements for the lower quarry and upper quarry flow meters, and monthly measurements of the sump water elevation for the duration of the earth product removal operation. Pressure transducers shall be implemented within groundwater monitoring wells to monitor groundwater water table behavior at hourly increments. Upon failure of any pressure transducers, the permit holder has 90-days to replace the equipment. These measurements shall be provided to the Board of Selectmen quarterly, or more frequently as requested by the Board of Selectmen, and these measurements shall be reviewed by the Town's consultant as requested by the Town. All costs for outside consultant services used for inspection, data review, comment, and recommendation purposes shall be paid for by the permit holder. The hydrogeologic study shall be modified, when needed, based on recommendations by the Board's consultant.

- a. New hourly reporting pressure transducers shall be replaced in all groundwater monitoring wells by April 15, 2022.

#### **CEI Comments:**

#### **1. Hydrogeologic Study**

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area. The 2005 NAR study concludes that the existing bedrock wells have fairly uniform characteristics based upon specific capacity calculations and that any higher yielding bedrock wells are likely influenced by proximate surface water bodies. One exception was existing bedrock well #33, which had the highest yield of the sample group, likely associated with its location along the Weepee (Wekepeke) Fault System. Final recommendations of the 2005 NAR study were to install four bedrock monitoring wells, drilled to the permitted depth of quarry excavation. The recommended well locations were based on installing one in each direction (north, south, east, west) with the north/south monitoring wells located along the Wekepeke fault line.

The conclusions and recommended monitoring plan of the 2005 NAR study do not fully correlate with the geologic features and data limitations identified in the study. Specifically, we note the following key issues:

- The 2005 NAR study notes that the landfill site in general has a “*complicated array of jointing*” and “*near vertical fractures*” as observed at several of the NAR field reconnaissance locations. These features are due to the quarry site being transected by the Wekepeke Fault System. This extent of fracturing would logically increase the potential for groundwater movement in a multitude of directions.

NAR performed an evaluation of the fractures within the quarry. The fractures observed were all on faces of rock that had been blasted. This is not what the rock looked like in any of the core holes that were drilled to construct the wells. In fact, the core showed quite the opposite. The rock core was evaluated for Rock Quality Designation (RQD), which is expressed as a percentage and its formula is the sum of the length of intact core pieces that are longer than twice the diameter of the core recovered during the core run divided by the total length of the core run. The quality (strength) of the rock core from the borehole is thereby assessed on a scale from very poor to excellent: 0-25% = very poor, 25-30% = poor, 30-75% = fair, 75-90% = good, and 90-100% = excellent. Therefore, RQD denotes the degree and depth of fracturing, weathering, shearing, and other areas of weakness in a rock mass. The RQD of the cores for the deep bedrock wells are typically between 90-100%.

The presence of intact massive bedrock at the quarry site indicates that the fractures are not extensive and testing data indicates that the fault is not more permeable than the surrounding massive rock. This is not uncommon, as processes such as fault zone sediment mixing, clay smears, cataclasis, and geochemical precipitation can result in lower fault zone permeability than source rock. For example, the NAR report identified that:

“Wells 5 and 7 are almost directly on-strike of the fault line that identifies the Wekepeke fault zone. It would be intuitive to most hydrogeologists that these wells would have been expected to have some of the highest yields because of enhanced fracturing and interconnection of fractures caused by the faulting. However, these wells have yields that are below the average of the data set, so it appears that the fault is not an important hydrogeologic factor in the yield of these wells.” In other words, the statement by CEI that the fractures are more permeable and lead to increased groundwater movement is incorrect and misleading.

- The 2005 NAR study evaluated existing bedrock wells in the vicinity of the quarry, classifying the wells as above or below average yield (i.e., 10 gallons per foot of drawdown) based on readily available data from the well drillers. Based on the location of most of the high yield wells (proximate to a lake or pond), NAR inferred that the higher well yields were influenced by surface water, even though these wells were approximately 500 feet deep. Location alone does not necessarily mean there is any connection between a surface water body and a 500-foot-deep bedrock well, as it is common for surface water bodies to be “perched” and protected by a bottom impervious (or semi-impervious) layer.

The data from well drillers is not exactly the data you would use or quote unless you know how the drillers got their values. Most well drillers do not do this correctly. Each well was tested at 5-foot intervals to evaluate the K value of the well. NAR calculated by three (3) varied sets of formulas and then averaged over the interval to arrive at a "conservative" value. All the K values obtained were between 10-1 to 10-3 ft/day. This is an average value for metamorphic rock and illustrated that the rock is not a good transmitter of flow. That is very slow movement for ground water.

The closest public water supply well (well 08G) has been Zone 2 modelled and the public well draws water from the surface water at Turner Pond. CEI has not presented any data to show that the surface water is "common[ly]" "perched" and unable to be the principal water source for bedrock wells.

- The 2005 NAR study used well drilling records for the analysis, most likely from the date of installation for each bedrock well. These well drilling records are of limited value for determining regional groundwater flow patterns, since they are typically performed with the sole purpose of confirming sufficient water quantity and quality for a residential dwelling. A more detailed pump test (e.g., pumping to determine sustained yield) would be required as part of a hydrogeological study to determine overall regional groundwater flow patterns.

See above. The wells were installed according to the lineaments. There has never been any substantive evidence presented that the quarry has had any impact on private wells. These unsubstantiated allegations are convenient but without merit. A comprehensive study was conducted, and professional geologists and hydrogeologist hired by PJK have agreed with the Town's consultant T&B, which also has Professional Geologists reviewing this work. It is PJK's understanding that T&B will also be analyzing CEI's findings and providing a letter to the Town.

- The 2005 NAR study specifically notes that the "quarry is generally very dry", most likely due to the "strongly developed fracture system...allowing infiltration and recharge" associated with steeply dipping cleavage planes that can be near vertical in some locations.

These statements do not go together. The walls of the quarry are shattered and fractured due to blasting. At approximately 10 to 20 feet into the highwall, these fractures are not present. The quarry has minimal water entering it because it is very tight rock.

These observations and bedrock features appear to provide a potential viable path for surface water to flow deep into the bedrock and then travel along the extensive fracturing in a multitude of directions. The limited locations and depths of the four existing bedrock monitoring wells are not sufficient to identify potential impacts of the quarry operation on groundwater flows and water quality in the area.

- CEI recommends that additional bedrock monitoring wells be installed around the perimeter of the quarry, as follows:

- Ideally, additional monitoring wells would be located along identified surface lineaments that reflect sub-surface bedrock fractures;

Wells were installed according to the lineaments. Additional wells are not needed as they would be redundant, providing no new information.

- Alternatively, new wells could be located at regularly spaced intervals along the quarry perimeter. If this approach is used, CEI recommends installation of six wells at approximate 550-foot intervals along the southern/eastern quarry perimeter (from the southern tip of the quarry to the intersection of the quarry haul road and Fort Pond Road).

See PJK response to Condition 30.



- CEI also recommends that water samples be collected and analyzed from these bedrock monitoring wells on an annual basis, to allow for assessment of any potential impacts of the quarry operation on off-site bedrock water supply wells. *See Section 2 for a list of recommended monitoring parameters.*

See PJK response to Condition 30.

## 2. Monitoring Equipment

During the site walk on April 22, 2022, NAR stated that they will be installing In-Situ Level TROLL® 400 pressure transducers in all of the monitoring wells with the ability to connect to the instruments with Bluetooth for profiling and downloading data. NAR stated that the transducers will be set to monitor groundwater water table behavior at hourly increments and they will collect data using a cloud storage service and complete a quality control check before they are sent to the town for review. These transducers have a battery life of 10 years or 2 million readings. The Bluetooth capabilities will allow for a quicker and easier download of data and will remove some likelihood for human error and damage to transducers as a result of removing the instrument to download readings, clear the device, and reinstall the instrument.

Presumably, this statement is in agreement with the installed transducers and the collection of data on an hourly basis.

Scheduled maintenance of these instruments is critical to sustain their accuracy and longevity, and should include the following:

- a. Scheduled maintenance should be required as described in the In-Situ Operator's Manual in order to sustain the accuracy and longevity of the probes and the cables.

In-Situ, among the largest manufacturers and distributors of water quality monitoring equipment in the world and the makers of the equipment under discussion, told us that by obtaining monthly elevation reading by hand and comparing them to the probes is a very good way to verify that the probes are operating correctly. This tests for equipment water level drift which is the basis for setting a maintenance plan for the instrument as described in the equipment manual.

- b. The transducers should be checked monthly for the first year to ensure they are working properly and then quarterly after that.

PJK and NAR follow In-Situ's operations manual

- c. The monitoring visits should include equipment inspections and documentation that the transducers are in the correct position, have been collecting measurements, that measurements are recording properly, and that the battery life as displayed in the Win-Situ software is sufficient.

PJK and NAR follow In-Situ's operations manual

- d. The transducers should undergo factory maintenance and calibration every year in May and proof of calibration should be submitted to the Town for review.

PJK and NAR follow In-Situ's operations manual

**Condition 30:** The deepest point of open excavation shall be no deeper than 20-ft above the elevation of the deepest groundwater monitoring well. Upon reaching this threshold, new monitoring wells shall be installed to deeper elevations.

**CEI Comments:**

- The monitoring wells are currently set at an elevation of 180 feet NAVD, approximately 50 feet below the existing bottom elevation of the quarry (elevation 230 feet NAVD). Based on Condition 30, these existing monitoring wells would ultimately allow for excavation to a depth of 200 ft NAVD. In comparison, most residential bedrock wells in the area are approximately 800 to 1000 feet deep and are therefore set at an elevation of approximately -400 feet to -600 feet NAVD, approximately 580 to 780 feet below the present depth of the quarry monitoring wells.

CEI and the Town were explicitly told that deeper wells will be installed in 2023 and that they will be 50- feet below the depth of the deepest quarry cut level as provided in the mine plan.

- Based on the extensive bedrock fracturing in a multitude of directions (as noted in the 2005 NAR hydrogeological study and discussed above in CEI's comments on Condition 25), and the substantial difference in depth/elevation between the monitoring wells and the depth of bedrock water supply wells in the area, we recommend that the quarry monitoring wells be extended to a depth that is comparable to the deepest existing bedrock water supply wells in the area (i.e., approximately 1000 feet).

This approximately \$200,000+ ask for six new wells and drilling the existing wells to 1,000 feet is entirely without merit and scientific basis. Assessing ground water movement and quality is done best nearest the quarry if it is believed the quarry is somehow negatively impacting groundwater quality. It would be very unusual to impossible for hypothetical quarry related contamination to be at higher levels 1,000 feet down than near the quarry floor. The classic plume is for highest concentrations near the source and declining away. Any water migrating off the quarry site would be easiest and best detected in the existing wells at their current/future depths.

The quarry wells should not be extended any deeper than necessary (within 50 feet of the mine plan final elevation). The suggestion that 1,000-foot-deep wells should be installed is reckless. It is well known that deeper wells have the potential to cause short circuiting of contamination from higher elevations to reach the deeper aquifer. The aquifer has a very low hydraulic conductivity and does not have sufficient vertical gradients to cause the downward flow of contaminants to reach any of the CEI proposed monitoring wells. The water supply well that seems to be CEI's concern (Lunenburg water supply well RW-08G "Keating well") has been groundwater tested for perchlorate and was non-detect. There is no basis for concern for perchlorate. CEI was provided the SDS sheet for blast emulsion used.

The closest town well raw water has also been tested for inorganic parameters including selenium, antimony, arsenic, fluoride, cyanide, cadmium, chromium, thallium, and beryllium and all were non-detect. The only inorganic parameter detected was barium (which is ubiquitous) and had a value of 0.014 mg/l versus a drinking water standard of 2.0 (142 times less than the standard). Therefore, there is no impact from inorganic parameters on the town well. CEI has also recommended sampling for nitrates but, once again, there is no problem with nitrates in the Town's Keating well. The measured value of nitrate in groundwater at this well varies from 0.46 to 0.86 mg/L but the water quality standard is 10 mg/L, much higher. Therefore, the proposed deep wells and suggested monitoring are not necessary and if anything could make a non-existent issue into one, when all water quality standards are already being met.



## 2. OTHER RECOMMENDATIONS

Additional CEI recommendations and comments that are not specific to a current Special Permit Condition are provided below.

### 2.1 Additional Water Quality Monitoring

Stormwater discharges from the Keating site in Lunenburg and Lancaster are authorized under a NPDES Multi-Sector General Permit (MSGP). Under the MSGP, monitoring of quarry stormwater effluent is required for the following:

- **Total Suspended Solids:** benchmark concentration of 100 mg/l; quarterly sampling (*Note: TSS in the quarry settling basin is measured with an in-situ instrument. Keating staff stated that water is pumped and discharged only when TSS concentration is below 15 mg/L*)
- **Turbidity:** benchmark concentration of 50 NTU; grab sample required once per year
- **pH:** effluent limitation of 6.0-9.0; grab sample required once per year
- **Polyaromatic Hydrocarbons:** report only (no threshold/benchmark values); biannual sampling

Other similar facilities have discharges (both process wastewater and stormwater) authorized under NPDES Individual Permits which require more extensive monitoring. CEI discussed the NPDES permit authorization for the facility with George Papadopoulos of EPA Region 1, to determine why this facility is permitted under the NPDES MSGP rather than an Individual Permit. Mr. Papadopoulos is the lead EPA staff for the current NPDES Individual Permit authorization for the Keating facility in Acushnet, MA. Key points of the discussion are summarized as follows:

The Acushnet facility – **What does the Acushnet facility have to do with the Lunenburg facility. Has CEI even visited the Acushnet facility?**

- From a NPDES permitting perspective, the Keating Lunenburg/Lancaster facility and operations are similar to the Acushnet facility. Both facilities conduct rock quarrying, aggregate processing, and production of hot mix asphalt.

**The CEI discussion is based on hearsay only. Under any reasonable court or fair hearing without all parties present, such discussions should and would be disallowed. No permit conditions can be made on hearsay discussions.**

- Mr. Papadopoulos stated that the type of operations and processing conducted at the Lunenburg/Lancaster facility and associated discharges to surface waters would appear to disqualify the facility from obtaining permit authorization under the MSGP.

**The conditions for PJK's stormwater discharge permit are based on national standards and they are not less stringent at Lunenburg than elsewhere. The CEI discussion is based on hearsay only. It is not clear what CEI was telling Mr. Papadopoulos' about the Lunenburg operation. The facility does have a stormwater permit and has had a stormwater permit for many years. Nothing has changed. CEI has provided no details about what specific operation they consider that PJK conducts that would disqualify them from qualification under a MSGP stormwater permit. At this point the statements by CEI to Mr. Papadopoulos and others appear unfounded. No letter of correspondence is provided to backup that these were Mr. Papadopoulos' thoughts, nor was he copied on CEI's contentions of what he may or may not have said.**

- Mr. Papadopoulos stated that the current MSGP permit authorization could have been approved because applications for coverage under the MSGP do not always get reviewed thoroughly.

Again, hearsay only. The facility has had a MSGP through several permit cycles and the EPA and MassDEP have had plenty of time to review the permit information if they thought there were errors. It is an affront by CEI to indicate that the EPA does not do a proper job of reviewing permits before approving. It is highly unlikely that anybody from EPA and in particular, Mr. Papadopoulos would indicate that they do not do an adequate job of reviewing permits.

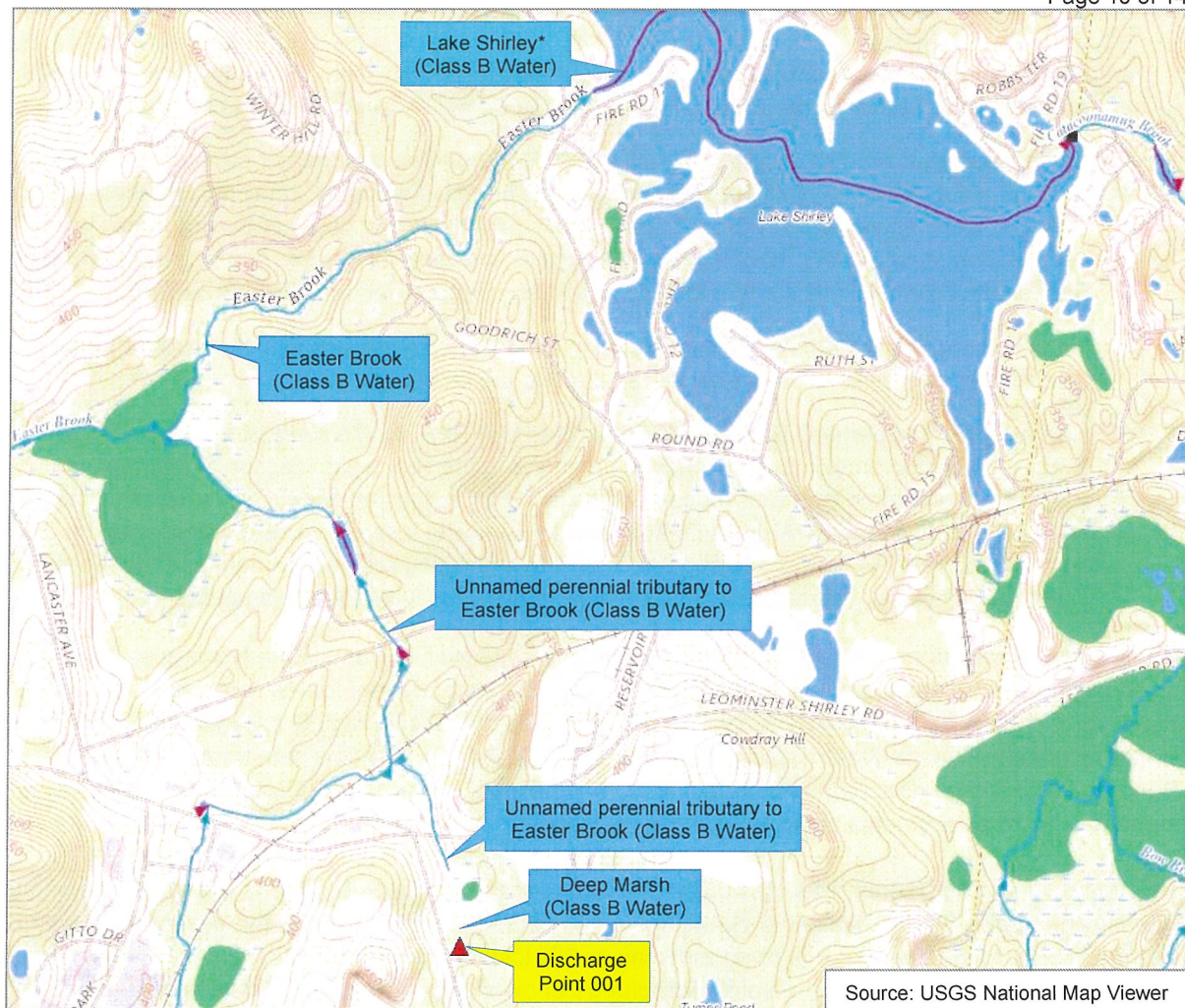
- Mr. Papadopoulos stated that EPA staff plan to conduct a site inspection in the near future to determine if an Individual permit will be required for the facility.

Hearsay only and perhaps libelous if CEI indicated that EPA should conduct an inspection at a facility based on providing them inadequate and/or at the very least, inaccurate information. PJK provided all data that was requested, including all requested water quality reports that have been provided to EPA on its DMR site. PJK conducts inspections and record keeping, as required. There is no basis to suggest that PJK is polluting the environment and therefore somehow in need of further costly restrictions and baseless water quality analyses.

Monitoring parameters and associated effluent limitations for Individual Permits are typically established as needed to ensure that state and federal water quality standards are met for the receiving water bodies. Stormwater effluent from the quarry is discharged to a series of Class B, High Quality Waters as defined in Massachusetts Surface Water Quality Standards ([314 CMR 4.00](#)). The flow path from the Quarry Dewatering Discharge (Discharge Point 001) is shown in Figure 1. The Class B Water Quality Standards are the same for all segments of the flow path listed below.

This figure, in another format, was previously provided to the Town by PJK. That is except for the purple line shown in Lake Shirley. While the purple line might be endeavoring to show the general flow path of Easter Brook through the lake it is of no meaning in this instance as no detention times or other typical factors are provided. Moreover, the point of discharge of clean, quarry water that traverses two (2) miles through a multitude of natural wetland resource areas and Easter Brook (with a drainage area that dwarfs that of the quarry) prior to entering Lake Shirley is scarcely worth mentioning again and again.





**Figure 1: Flow Path from Quarry Dewatering Discharge to Lake Shirley**

\* Note: Lake Shirley is listed in the Massachusetts 2018/2020 Integrated List of Waters as a Category 5 Impaired Water, with impairments for:

- turbidity
- harmful algal blooms
- dissolved oxygen
- mercury in fish tissue
- non-native aquatic plants

Based on review of monitoring required for similar facilities in the region, CEI recommends that the Town should consider requiring the additional monitoring parameters discussed in Table 1 as a condition of a future Special Permit authorization.

Please provide the locations/institutions 'of monitoring required for similar facilities in the region.'

The PJK facility has a MSGP, and those monitoring conditions are established nationally. Adding additional monitoring is not based on any scientific reasoning. The MSGP monitoring requirements were purposefully established by the USEPA based on scientific studies and extensive comment and response from various regulatory agencies. The most recent MSGP added a number of sampling requirements based on extensive studies of similar mining operations. It would be inappropriate to modify stormwater monitoring requirements



at the local level based on an unsubstantiated/non-scientific request. MassDEP and USEPA issued the facility permit jointly.

The monitoring request is based on misjudged information such as a request to conduct WET monitoring because of explosives – the only source of potentially unnatural substance in the quarry. However, as was explained, 95-100% of blasting emulsion is vaporized upon blast and non-vaporized nitrogen compounds are unlikely to have any significant impact on a freshwater receiving body. As an example, and to our knowledge, no other quarries discharging to a freshwater wetland system in Massachusetts conduct WET monitoring because of explosives. Why should the PJK quarry conduct nitrate monitoring based on CEI's opinion that industries different from PJK do it? This would be a slippery slope as should a gasoline station have to meet the monitoring limits for a dairy farm or vice versa. In terms of metals, once again, these would have been looked at by the USEPA and were not chosen by them for quarry monitoring.

**Table 1: Additional Water Quality Monitoring Recommendations**

Parameter	Discussion/Recommendation
<b>Stormwater Effluent Monitoring<sup>1,2</sup></b>	
Turbidity	<ul style="list-style-type: none"> <li>CEI recommends that more frequent turbidity monitoring should be considered as a condition preceding pumping from the quarry settling basin, with an effluent discharge limit of 25 NTU. This recommendation is based on the Individual Permit for the Keating Acushnet facility, which states “a turbidity value of 25 NTU is consistent with several states that have established numeric water quality criteria for turbidity, including the New England states of Vermont and New Hampshire as well as the turbidity limitations imposed on similar facilities in Massachusetts and New Hampshire.”</li> </ul>
Whole Effluent Toxicity (WET)	<ul style="list-style-type: none"> <li>Based on use of explosives at the quarry, WET monitoring is recommended once per year. WET evaluates pollutants in the discharge to determine if their additivity, antagonism, synergism, or persistence have potential to cause toxicity. Recommended monitoring requirements include: <ul style="list-style-type: none"> <li>Use daphnid and fathead minnow as the test species</li> <li>Chronic No Observed Effect Concentration (C-NOEC) should be <math>\geq 100\%</math></li> <li>Acute effects based on LC50 (concentration lethal to 50% of test organisms) should be <math>\geq 100\%</math>.</li> </ul> </li> </ul>
Nitrate	<ul style="list-style-type: none"> <li>Because nitrogen-based compounds (ammonium nitrate explosives from Austin Blasting) are used for blasting at the quarry, CEI recommends that monitoring for nitrate should be considered. Although there are no numeric nitrate criteria for NPDES MSGP Subsector J2 (Dimension and Crushed and Nonmetallic Minerals), a benchmark of 0.68 mg/L is recommended based on the NPDES MSGP criteria for Subsector J1 (Sand and Gravel Mining).</li> </ul>
Total Metals	<ul style="list-style-type: none"> <li>Heavy metals have been detected with quarry discharges at similar sites. CEI recommends an initial (year 1) sampling round for total metals (antimony, arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, silver, and zinc). Requirements for any additional testing should be based on the initial results.</li> </ul>
<b>Bedrock Monitoring Wells (annual monitoring for existing and additional recommended bedrock wells)</b>	
Nitrate	<ul style="list-style-type: none"> <li>Health concerns are associated with elevated nitrate levels (<math>&gt;10</math> mg/L) in drinking water.</li> </ul>
Total Metals	<ul style="list-style-type: none"> <li>Annual monitoring for antimony, arsenic, cadmium, chromium, copper, iron, manganese, lead, nickel, selenium, silver, and zinc.</li> </ul>
Perchlorate	<ul style="list-style-type: none"> <li>Sampling for perchlorate is recommended due to the use of nitrogen-based explosives at the quarry. The NPDES permit the Keating Acushnet facility states, “Perchlorate may also be present in nitrogen-based explosives as an impurity or contained in detonators up to 4 to 60 milligrams of potassium perchlorate. EPA’s Interim Drinking Water Health Advisory for perchlorate is 15 <math>\mu\text{g/L}</math>.”</li> </ul>
pH	<ul style="list-style-type: none"> <li>pH is an inexpensive parameter that can be helpful in identifying if surface waters (with relatively higher pH) are mixing with groundwater (with relatively lower pH) via bedrock fractures.</li> </ul>



**Table 1 Notes:**

1. Based on CEI's review of operations at the quarry and related stormwater effluent discharges to Discharge Point 001, CEI recommends that additional monitoring is not needed for the following parameters listed for Class B Waters in 314 CMR 4.05(3)(b): pH, dissolved oxygen, temperature, taste and odor, oil and grease, and solids.

It is unclear as to whether CEI is suggesting that EPA-required sampling parameters (i.e., pH, dissolved oxygen, oil and grease and 'solids') be eliminated for discharge water?

2. CEI recommends that some additional monitoring parameters required at similar sites are not applicable to stormwater discharges from the Lancaster/Lunenburg quarry operation. For example, naphthalene monitoring is required at sites where petroleum products are stored, but there are no petroleum products stored within the Keating quarry area.
3. If additional monitoring is required as condition of a future Special Permit, CEI recommends that results should be reported to the Town for review on a quarterly basis. The Town should reevaluate required monitoring frequencies in future Special Permits based on results from the first year of monitoring data.

PJK is required to provide all WQ testing results to USEPA. If a benchmark effluent limitation is exceeded it is automatically 'red-flagged' and depending on the exceedance, the USEPA has strict guidelines and a stepped process that must be met to rectify the situation. These guidelines went through extensive regulatory review and consideration over a multi-year process. Is the Town of Lancaster and or its consultants prepared to or capable of being more scientifically inclined than the USEPA? All of the data is readily available on the USEPA website. This request is merely meant to be one more measure of the myriad of requirements the facility is already required to meet. Moreover, as part of this peer review, all the requested data reports were provided to the Town's consultant.

This is not a landfill as listed by CEI. Landfills require sampling of metals because of the nature of the leachate of a landfill and the landfills components. This is a quarry. Water that enters the quarry from rainfall and groundwater is discharged only as necessary to keep the quarry bottom level from filling in with water. How would the groundwater become tainted with any of these metals and find their way to the perimeter wells? NAR has operated in over 1,000 quarries in the US and Canada and have never come across an aggregate quarry with a metal's issues, unless there are some reasonable explanations, like a landfill next door or the presence of those metals naturally occurring in the rock. This rock is a quartzite. It does not have these rare metals leaching out of it.

pH is analyzed in the surface water leaving the quarry and is consistently within permit parameters of 6.5-9.0. If the surface water is within this range what would make the quarry impact groundwater pH? What is driving this request, there is no proof or otherwise that the quarry pH is acidic or alkaline and the discharge meets the permit limits designed to protect water quality.

## **2.2 Noise Monitoring**

Based on requirements at similar quarry operations, please provide the locations and institutions 'of requirements at similar quarry operations' the Town should consider requiring continuous 24/7 noise monitoring to determine if there are periods when quarry operations result in nuisance noise levels in nearby residential areas. PJK has received no noise complaints from nearby residences, albeit whenever, you put this misconception in people's mind, it is likely that some should be expected soon. Further, why would 24/7 monitoring be suggested as an appropriate edict when PJK's operating hours per the Special Permit are from 7am to 5pm Monday thru Friday (with the ability to operate on Saturday from 8am to 12pm with prior permission of the Town). Such monitoring could be required as either a long-term, ongoing requirement of operations, or as a shorter-term requirement intended to:

1. Identify any time periods and sources of nuisance noise levels; and

Blasting operations are monitored with seismographs and are consistently under State guidelines. The Fire Departments in Lancaster and Lunenburg receive these data. All persons wishing to be on the pre-blast call line are notified well in advance of the blast.

2. Address any identified sources with actions to minimize nuisance noise levels.

No nuisance noise level sources have been identified. Residences are not in the near vicinity of the quarry and as stated operating hours are strictly controlled. A Contractor can build a subdivision and break rock with a hydraulic hammer but PJK needs to do 24/7 noise monitoring?

### 2.3 Potential Vernal Pools

The ANRAD Peer Review (LEC, 2016) notes the following with regard to two Isolated Vegetated Wetlands (IVWs) delineated with flags I-1 through I-6 and J-1 through J-15:

*Both of the IVWs have potential vernal pools, but a definitive determination of vernal pools at this time of the year is difficult. The status of these potential pools should be determined by the Applicant in the Spring of 2017.*

Based on communication with Keating staff, a field investigation to confirm the status of these potential vernal pools has not been conducted.

In fact, PJK's response was as follows: 'In reviewing the potential vernal pool(s) locations, these are not in an area we plan to ever enter – we have no need. J-1 thru J-15 is on the opposite side of the transmission corridor and the 150 East of Flag 17 reference, is immediately adjacent to the J series flagging. Again, there is no intent to go into this overall wet area for any reason. Looking thru records, I do not believe a vernal pool Certification was completed and there are no plans to go through the Certification process, at this time. These areas will be left as is, we have no reason to venture any closer in that area. The quarry rim is approximately 800 feet from these areas and will not be expanded further in that direction.'

CEI did not look at this area. The quarry has been operating for 100 years and the potential 'vernal pool' whether it exists or not and may or may not have been present for the 100 years of the quarry operations is not in the vicinity of any PJK operations and will not be going forward. PJK has no intention of examining or certifying areas that are not going to be encroached on its private property.

CEI recommends that a vernal pool investigation should be required as a condition of future permit approval, with field investigations specified for the spring vernal breeding season for obligate vernal pool species. If vernal pool conditions are documented, an application for vernal pool certification should be submitted to the Massachusetts Natural Heritage and Endangered Species Program (NHESP).

*Note: The IVW J-series is located in Lancaster. The IVW I-series is located in Leominster, but if certified as a vernal pool would have a portion of its 100-foot buffer zone within Lancaster.*

If you have any questions regarding this response, please contact Doug Vigneau, 978-732-3761 or by email at [douglas.vigneau@pjkeating.com](mailto:douglas.vigneau@pjkeating.com). PJK, TRC, and NAR would be pleased to meet with the Select Board.

Sincerely,  
PJ Keating Company

*Douglas E. Vigneau*

Douglas E. Vigneau, CEP, ENV-SP  
Environmental Compliance Manager

cc: Andrew Smyth, PG, Principal Consultant, TRC  
Gary Hunt, VP, Air Sciences Technical Director, TRC  
Michael Wright, PG, North American Reserve  
Robert Robinson, VP, Aggregate Operations, PJK  
Kayla M. Larson, PE, Project Manager, Tighe & Bond

## Kathi Rocco

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**From:** Kate Hodges  
**Sent:** Thursday, June 9, 2022 11:56 AM  
**To:** Tom Christopher; kris mahabir; Frank Streeter; theelitecompany@yahoo.com  
**Cc:** Jason A. Allison; roy mirabito; Carol Jackson; Stephen J. Kerrigan; electkendrad@gmail.com; Alexandra Turner; Jasmin Farinacci; Kathi Rocco; Peter Christoph  
**Subject:** Open Planning Board Seat - 6/15/22 Joint Meeting  
**Importance:** High

Good afternoon,

Thank you for your interest in becoming a member of the Lancaster Planning Board. As you may know, the matter is slated to be placed on the Select Board Agenda during a Special Meeting this coming Wednesday, June 15, 2022. The Board's meeting will begin at 6:00 PM and will be held in the Nashaway Meeting Room on the 2<sup>nd</sup> floor of the Prescott Building (Town Hall) and on Zoom. There are a number of matters which the Board will be discussing prior to the appointment item.

For your planning purposes, the Select Board and Planning Board will join a JOINT MEETING during this Wednesday's meeting beginning at approximately 8:00 PM. All interested planning board candidates, such as yourself, are being asked to attend the meeting and will be asked a series of questions. The impetus of my email today is two-fold. First, I would like to make you aware of the date and time of the meeting and agenda item; secondly, I have been asked to supply each candidate with the list of questions that are to be asked that evening.

### Candidate Questions:

- Who do you feel you are representing as a member of the Planning Board?
- What do you believe to be the most important quality in a Planning Board member?
- What is the greatest strength you will bring to the Planning Board?
- Do you believe data can contribute to how Lancaster approaches its permitting process? If yes, in what ways?
- The Massachusetts Municipal Association has a guidebook on permitting best practices. How could or should this be leveraged in Lancaster?
- What would you like to see done in North Lancaster?
- What are some of the proactive measures the Planning Board could take with the Housing Trust to move forward in smart ways?

Procedurally, please know that each candidate will be allowed to make a 4-minute opening statement and the boards will then ask the questions outlined above. In the interest of time, we ask that each candidate's answers be kept as succinct as possible. The Boards will be hearing from four candidates total on Wednesday evening.

If you would please acknowledge receipt of this email by reply to me when you are able, I would appreciate it. Additionally, if you would advise me of your plan to either attend in-person or via zoom, it would be helpful. If you choose to participate via Zoom, I will send a separate link via a follow up email when the agenda is set to ensure there is no confusion. The link will also be posted on the Town's Website within the meeting calendar platform under the Select Board.

Please feel free reach out directly with any questions you may have. Thank you for your interest in serving the Town of Lancaster. Both Boards and departmental staff members are excited to speak with you about this important decision for our community.