

Pike Industries, Inc.
Ryan Crosbie
EH&S Coordinator
3 Eastgate Park Rd
Belmont, NH 03220

WATER QUALITY CERTIFICATION

In Fulfillment of

**Section 401 of the United States Clean Water Act (33 U.S.C 1341)
and NH RSA 485-A:12, III**

WQC # 2015-404I-001

Activity Name	Hooksett Crushed Stone Quarry Expansion
Activity Location	38 Hackett Hill Road, Hooksett, NH
Affected Surface waters	Brickyard Brook Unnamed Wetlands and Streams (see D-8)
Owner/Applicant	Pike Industries, Inc. 3 Eastgate Park Rd Belmont, NH 03220
Appurtenant State permit(s) (and any amendments):	DES Wetlands Permit File # 2012-3271 DES AoT Permit # AoT-0959
Applicable Federal permit(s):	Section 404 Individual Permit to be issued by the by the U.S. Army Corps of Engineers New England District (File # NAE-2012-192)

A. INTRODUCTION

Pike Industries Inc. (Applicant) proposes expansion of its existing rock quarry located in Hooksett, NH and processing of material from the expanded quarry at its existing processing facilities (Activity). A more complete description of the Activity is provided in item D-1 of this Certification.

This 401 Water Quality Certification (401 WQC or Certification) documents laws, regulations, determinations and conditions related to the Activity for the attainment and maintenance of NH surface water quality standards, including the provisions of NH RSA 485-A:8 and NH Code of Administrative Rules Env-Wq 1700, for the support of designated uses identified in the standards.

B. 401 CERTIFICATION APPROVAL

Based on the facts, findings and conditions noted below, the New Hampshire Department of Environmental Services (DES) has determined that there is reasonable assurance that construction and operation of the Activity will not violate surface water quality standards. DES hereby issues this Certification, subject to the conditions in Section E, in accordance with Section 401 of the United States Clean Water Act (33 U.S.C. 1341) and RSA 485-A:12, III.

C. STATEMENT OF FACTS AND LAW

- C-1. Section 401 of the United States Clean Water Act (33 U.S.C. 1341) states, in part: "Any applicant for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate...that any such discharge will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of this title.....No license or permit shall be granted until the certification required by this section has been obtained or has been waived...No license or permit shall be granted if certification has been denied by the State..."
- C-2. Section 401 further states, in part "Any certification provided under this section shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure that any applicant for a Federal license or permit will comply with any applicable effluent limitations and other limitations...and shall become a condition on any Federal license or permit subject to the provisions of this section."
- C-3. Section 401(d) of the CWA provides that: "Any certification provided under this section [401] shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure that any applicant for a Federal license or permit will comply with [enumerated provisions of the CWA]...and with any other appropriate requirement of State law set forth in such certification."

According to EPA 401 Guidance¹, "Under § 401(d) the water quality concerns to consider and the range of potential conditions available to address those concerns, extend to any provision of state or tribal law relating to the aquatic resource. Considerations can be quite broad so long as they relate to water quality. The U.S. Supreme Court has stated that, once the threshold of a discharge is reached

¹ *Clean Water Action Section 401 Water Quality Certification: A Water Quality Protection Tool for States and Tribes.* U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds. 2010.

(necessary for § 401 certification to be applicable), the conditions and limitations in the certification may address the permitted activity as a whole.”²

- C-4. NH RSA 485-A:12, III, states: “No activity, including construction and operation of facilities, that requires certification under section 401 of the Clean Water Act and that may result in a discharge, as that term is applied under section 401 of the Clean Water Act, to surface waters of the state may commence unless the department certifies that any such discharge complies with the state surface water quality standards applicable to the classification for the receiving surface water body. The department shall provide its response to a request for certification to the federal agency or authority responsible for issuing the license, permit, or registration that requires the certification under section 401 of the Clean Water Act. Certification shall include any conditions on, modifications to, or monitoring of the proposed activity necessary to provide assurance that the proposed discharge complies with applicable surface water quality standards. The department may enforce compliance with any such conditions, modifications, or monitoring requirements as provided in RSA 485-A:22.”
- C-5. NH RSA 485-A: IV states: “No activity that involves surface water withdrawal or diversion of surface water that requires registration under RSA 488:3, that does not otherwise require the certification required under paragraph III, and which was not in active operation as of the effective date of this paragraph, may commence unless the department certifies that the surface water withdrawal or diversion of surface water complies with state surface water quality standards applicable to the classification for the surface water body. The certification shall include any conditions on, modifications to, or monitoring of the proposed activity necessary to provide reasonable assurance that the proposed activity complies with applicable surface water quality standards.”
- C-6. NH RSA 485-A:8 and Env-Wq 1700 (Surface Water Quality Regulations), together fulfill the requirements of Section 303 of the Clean Water Act that the State of New Hampshire adopt water quality standards consistent with the provisions of the Act.
- C-7. Env-Wq 1701.02, entitled “Applicability”, states that:
- “(a) These rules shall apply to all surface waters.
- (b) These rules shall apply to any person who causes point or nonpoint source discharge(s) of pollutants to surface waters, or who undertakes hydrologic modifications, such as dam construction or water withdrawals, or who undertakes any other activity that affects the beneficial uses or the level of water quality of surface waters.”
- C-8. Env-Wq 1703.01 Water Use Classifications.

² PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700, 712 (1994).

- (a) State surface waters shall be divided into class A and class B, pursuant to RSA 485-A:8, I, II and III. Each class shall identify the most sensitive use which it is intended to protect.
- (b) All surface waters shall be restored to meet the water quality criteria for their designated classification including existing and designated uses, and to maintain the chemical, physical, and biological integrity of surface waters.
- (c) All surface waters shall provide, wherever attainable, for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the surface waters.
- (d) Unless the flows are caused by naturally occurring conditions, surface water quantity shall be maintained at levels adequate to protect existing and designated uses.

C-9. Env-Wq 1702.46 defines surface waters as "surface waters of the state" as defined in RSA 485-A:2, XIV and waters of the United States as defined in 40 CFR 122.2."

RSA 485-A:2, XIV defines "surface waters of the state" as "perennial and seasonal streams, lakes, ponds and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses and other bodies of water, natural or artificial."

40 CFR 122.2 defines 'Waters of the United States' (see Appendix A for the full definition as amended by the final Clean Water Rule which is effective August 28, 2015).

C-10. Wetlands are defined in 40 CFR 122.2 (see Appendix A) as "[t]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. This definition is the same as the definition of jurisdictional wetlands used for State wetland permitting in RSA 482-A:2, X (see C-11). 40 CFR 122.2 further states that wetlands generally include swamps, marshes, bogs, and similar areas.

C-11. RSA 482-A:2, X. defines "Wetlands" as "[a]n area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

C-12. RSA 485-A:8, I states that "Class A waters shall be of the highest quality" and that there "[s]hall be no discharge of sewage or wastes" into Class A waters. Sewage and waste are defined as follows:

RSA 485-A:2, X. " "Sewage" means the water-carried waste products from buildings, public or private, together with such groundwater infiltration and surface water as may be present."

RSA 485-A:2, XVI. ""Waste" means industrial waste and other wastes."

RSA 485-A:2, VI. ""Industrial waste" means any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from development of any natural resources."

RSA 485-A:2, VIII. ""Other wastes" means garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, ashes, offal, oil, tar, chemicals and other substances other than sewage or industrial wastes, and any other substance harmful to human, animal, fish or aquatic life."

C-13. Env-Wq 1702.17 "Biological Integrity" means the ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region.

C-14. Env-Wq 1702.17 "Designated uses" means those uses specified in water quality standards for each water body or segment whether or not such uses are presently occurring.

C-15. Env-Wq 1702.18 defines a discharge as:

- "a. The addition, introduction, leaking, spilling, or emitting of a pollutant to surface waters, either directly or indirectly through the groundwater, whether done intentionally, unintentionally, negligently, or otherwise; or
- b. The placing of a pollutant in a location where the pollutant is likely to enter surface waters."

C-16. Env-Wq 1702.23 "Existing uses" means those uses, other than assimilation waste transport, which actually occurred in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

C-17. Env-Wq 1702.39 defines a pollutant as: "pollutant" as defined in 40 CFR 122.2. This means "dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water."

C-18. The term "discharge", as applied under section 401 of the Clean Water Act means the potential for a discharge. It does not need to be a certainty, only that it may occur should the federal license or permit be granted. Further, the discharge does not need to involve the addition of pollutants (such as water released from the tailrace of a dam). As the U.S. Supreme Court has stated "[w]hen it applies to water, 'discharge' commonly means a 'flowing or issuing out'" and an addition of a pollutant is not "fundamental to any discharge". Two courts have found that a

withdrawal of water or reduction in flow does not constitute a discharge for the purposes of section 401 of the Clean Water Act³.

C-19. Env-Wq 1703.13 entitled "Temperature", states the following:

- "(a) There shall be no change in temperature in class A waters, unless naturally occurring.
- (b) Temperature in class B waters shall be in accordance with RSA 485-A:8, II, and VIII.

NH RSA-A:8,II states the following for Class B waters "[A]ny stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class."

NH RSA-A:8,VIII states the following: "In prescribing minimum treatment provisions for thermal wastes discharged to interstate waters, the department shall adhere to the water quality requirements and recommendations of the New Hampshire fish and game department, the New England Interstate Water Pollution Control Commission, or the United States Environmental Protection Agency, whichever requirements and recommendations provide the most effective level of thermal pollution control."

C-20. Env-Wq 1703.14, entitled "Nutrients", states that

- "a. Class A waters shall contain no phosphorous or nitrogen unless naturally occurring.
- b. Class B waters shall contain no phosphorous or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring.
- c. Existing discharges containing either phosphorous or nitrogen which encourage cultural eutrophication shall be treated to remove phosphorus or nitrogen to ensure attainment and maintenance of water quality standards.
- d. There shall be no new or increased discharge of phosphorous into lakes or ponds.
- e. There shall be no new or increased discharge(s) containing phosphorous or nitrogen to tributaries of lakes or ponds that would contribute to cultural eutrophication or growth of weeds or algae in such lakes and ponds."

C-21. Env-Wq 1703.19, entitled "Biological and Aquatic Community Integrity", states that

³ Information in this paragraph is from page 4 of the following guidance document: *Clean Water Action Section 401 Water Quality Certification: A Water Quality Protection Tool for States and Tribes*. U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds. 2010. The Supreme Court case that is referred to is *S.D. Warren Co. v. Maine Board of Environmental Protection et al*, 547 U.S. 370, 126 S. Ct. 1853 (2006).

"a. The surface waters shall support and maintain a balanced, integrated and adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region; and

b. Differences from naturally occurring conditions shall be limited to non-detrimental differences in community structure and function."

C-22. Env-Wq 1703.21 (a)(1) states that "Unless naturally occurring or allowed under part Env-Wq 1707, all surface waters shall be free from toxic substances or chemical constituents in concentrations or combinations that injure or are inimical to plants, animals, humans or aquatic life."

C-23. Env-Wq 1703.07 through 1703.11 contain standards relative to dissolved oxygen, bacteria, benthic deposits, oil and grease, and turbidity.

C-24. Antidegradation provisions are included in Env-Wq 1702 and Env-Wq 1708.

- a. Env-Wq 1702.02 states that "Antidegradation" means a provision of the water quality standards that maintains and protects existing water quality and uses.
- b. Env-Wq 1708.02 states that "Antidegradation shall apply to: (a) Any proposed new or increased activity, including point source and nonpoint source discharges of pollutants, that would lower water quality or affect the existing or designated uses;(b) Any proposed increase in loadings to a waterbody when the proposal is associated with existing activities; (c) Any increase in flow alteration over an existing alteration; and (d) Any hydrologic modifications, such as dam construction and water withdrawals."
- c. Antidegradation applies to all parameters as evidenced by Env-Wq 1708.08 (a) (Assessing Waterbodies) which states " The applicant shall characterize the existing water quality and determine if there is remaining assimilative capacity for each parameter in question."
- d. According to Env-Wq 1708.04 (b), "A proposed discharge or activity shall not eliminate any existing uses or the water quality needed to maintain and protect those uses".
- e. Env-Wq 1702.03 states that "Assimilative capacity" means the amount of a pollutant or pollutants that can safely be released to a waterbody without causing violations of applicable water quality criteria or negatively impacting uses.
- f. Env-Wq 1708.08 describes the process for assessing waterbodies to determine if there is remaining assimilative capacity for each parameter in question.
- g. Env-Wq 1708.09 Significant or Insignificant Determination states :(a) Any discharge or activity that is projected to use 20% or more of the remaining assimilative capacity for a water quality parameter, in terms of either concentration or mass of pollutants, or volume or flow rate for water quantity, shall be considered a significant lowering of water quality. The department shall not approve such a discharge or activity unless the applicant demonstrates that the proposed lowering of water quality is necessary to achieve important

economic or social development, in accordance with Env-Wq 1708.10, in the area where the waterbody is located.

- h. Env-Wq 1708.01 (b) states: "For significant changes in water quality, where the quality of the surface waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality shall be maintained and protected unless the department finds, after full satisfaction of the intergovernmental coordination and public participation provisions that, in accordance with Env-Wq 1708.10, allowing lower water quality is necessary to accommodate important economic or social development in the area in which the surface waters are located. In allowing such degradation or lower water quality, the department shall assure water quality adequate to fully protect existing uses. Further, the department shall assure that the highest statutory and regulatory requirements shall be achieved for all new and existing point sources and that all cost effective and reasonable best management practices for nonpoint source control shall be implemented".
- i. Env-Wq 1708.01 (c) states: "For insignificant changes in water quality, where the quality of the surface waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality shall be maintained and protected. In allowing such degradation or lower water quality, the department shall assure water quality adequate to protect existing uses fully. Further, the department shall assure that the highest statutory and regulatory requirements shall be achieved for all new and existing point sources and that all cost effective and reasonable best management practices for nonpoint source control shall be implemented".

C-25. Env-Wq 1708.06 – Protection of Class A Waters

- (a) In accordance with RSA 485-A:8, I, discharges of sewage or waste to Class A waters shall be prohibited.
- (b) Proposed new or increased activities that the department determines do not involve the discharge of sewage or waste shall be reviewed in accordance with Env-Wq 1708.01 through Env-Wq 1708.12.

C-26. Env-Wq 1708.05 - Protection of Water Quality in ORW

- (a) Surface waters of national forests and surface waters designated as natural under NH RSA 483:7-a, I, shall be considered outstanding resource waters (ORW).
- (b) Water quality shall be maintained and protected in surface waters that constitute ORW, except that some limited point and nonpoint source discharges may be allowed providing that they are of limited activity which results in no more than temporary and short-term changes in water quality. "Temporary and short term" means that degradation is limited to the shortest possible time. Such activities shall not permanently degrade water quality or result at any time in water quality lower than that necessary to protect the existing and designated uses in the ORW. Such temporary and short term degradation shall

only be allowed after all practical means of minimizing such degradation are implemented.

C-27. Env-Wq 1708.07 Protection of Water Quality in High Quality Waters

- (a) Subject to (b) below, high quality waters shall be maintained and protected, except that insignificant changes in water quality, as determined by the department in accordance with Env-Wq 1708.09, shall be allowed.
- (b) Degradation of significant increments of water quality, as determined in accordance with Env-Wq 1708.09, in high quality waters shall be allowed only if it can be demonstrated to the department, in accordance with Env-Wq 1708.10, that allowing the water quality degradation is necessary to accommodate important economic or social development in the area in which the receiving waters are located.
- (c) Economic/social benefits demonstration and alternatives analysis shall not be required for authorization of an insignificant lowering of water quality. However, in allowing a lowering of water quality, significant or insignificant, all reasonable measures to minimize degradation shall be used.
- (d) If the water body is Class A Water, the requirements of Env-Wq 1708.06 shall also apply.

C-28. Env-Wq 1708.12 entitled "Transfer of Water" defines "transfer" as "[t]he intentional conveyance of water from one surface water to another surface water for the purpose of increasing the volume of water available for withdrawal from the receiving surface water. The term does not include the transfer of stormwater, for the purpose of managing stormwater during construction, between basins created or otherwise lawfully used for stormwater detention or treatment, or both, and does not include the discharge of stormwater from a detention or treatment basin to surface water."

C-29. Env-Wq 1702.06 states ""Best management practices" means those practices which are determined, after problem assessment and examination of all alternative practices and technological, economic and institutional considerations, to be the most effective practicable means of preventing or reducing the amount of pollution generated by point or nonpoint sources to a level compatible with water quality goals."

C-30. RSA 483 regarding Designated Rivers, states the following:

RSA 483:4, XVIII. "River corridor" means the river and the land area located within a distance of 1,320 feet of the normal high water mark or to the landward extent of the 100 year floodplain as designated by the Federal Emergency Management Agency, whichever distance is larger.

RSA 483:8-a, III. The duties of such committees shall be:

- (a) To advise the commissioner, the advisory committee, the municipalities

through which the designated river or segment flows, and municipalities within tributary drainage areas on matters pertaining to the management of the river or segment and tributary drainage areas. Municipal officials, boards, and agencies shall inform such committees of actions which they are considering in managing and regulating activities within designated river corridors.

(b) To consider and comment on any federal, state, or local governmental plans to approve, license, fund or construct facilities that would alter the resource values and characteristics for which the river or segment is designated.

RSA 483:10-b. Withholding of Section 401 Certification. – The general court finds that the development of any dam or channel alteration activities within a natural river or segment or the development of any new dam within a rural or community river or segment, except as provided in RSA 483:9-a, II and RSA 483:9-b, II, will alter the physical and chemical characteristics of that river and will constitute violation of the water quality standards established under RSA 485-A:8. The commissioner shall deny certification of any federally licensed or permitted activity on such designated rivers or segments under section 401 of the Federal Water Pollution Control Act, P.L. 92-500, as amended.

RSA 483:12-a State Action; Notification of Rivers Coordinator; Petition for Review

I. Any state agency considering any action affecting any river or segment designated under this chapter shall notify the rivers coordinator prior to taking any such action. Such agency shall forward to the rivers coordinator for review and comment copies of all notices of public hearings, or, where a public hearing is not required, a copy of the application for issuance of a permit, certificate, or license within the designated river or corridor under RSA 485-C, RSA 485-A, RSA 483-B, RSA 12-E, RSA 270:12, RSA 482, RSA 482-A, RSA 149-M, RSA 430, or RSA 147-A. If an agency is notified by the rivers coordinator that a proposed activity would violate a protection measure under RSA 483:9, 483:9-a, 483:9-aa, or 483:9-b, such agency shall deny the application.

C-31. NH RSA 483:4 defines "interbasin transfer" and "river drainage basin":

XII. "Interbasin transfer" means any transfer of water for use from one river drainage basin to another.

XIX. "River drainage basin" means the Androscoggin, Coastal, Connecticut, Merrimack, Piscataqua, and Saco river basins as delineated on a map compiled by the department.

C-32. NH RSA 483:9 Natural Rivers Protection (at 9-a, 9-aa, and 9-b) states that no interbasin transfers from designated rural, rural-community, or community rivers or their segments shall be permitted.

C-33. NH RSA 488:3 regarding registration of withdrawals and discharges states the following:

- I. No person shall withdraw or discharge a cumulative amount of more than 20,000 gallons of water per day, averaged over any 7-day period, or more than 600,000 gallons of water over any 30-day period, at a single real property or place of business without registering the withdrawal or discharge with the department. Transfers of such volume of water shall also be registered. Registration shall be in addition to any required permits.
- II. No registration shall be transferred to another person without written notification to the commissioner.

C-34. NH RSA 485:61 regarding Rules for Water Conservation, states the following:

- I. The department shall adopt rules, pursuant to RSA 541-A, for water conservation practices for water users. These rules shall strike a reasonable balance between environmental, energy, and economic impacts and be consistent with current industry standards and practices for different types of water users.
- II. The water conservation rules in paragraph I of this section shall apply to all new permit applicants and applications for water withdrawals subject to the provisions of RSA 485:3, RSA 485:48, RSA 485-C:21 and section 401 of the Clean Water Act.
- III. Water conservation rules shall be consistent with applicable state or federal rules and regulations. Water Conservation Rules were adopted May 14, 2005 codified as Env-Wq 2101.

C-35. Env-Wq 2101.24 entitled Water Conservation Plan Required, states that

“(a) The applicants for approval of a source that would be a conservation source shall submit a water conservation plan that demonstrates compliance with the applicable provisions of Env-Wq 2101.05 through Env-Wq 2101.22 in accordance with the following:”

“(5) For a new withdrawal from a surface water associated with a project requiring a 401 Water Quality Certification, the water conservation plan shall be submitted prior to or in conjunction with the application for a 401 Water Quality Certification pursuant to Section 401 of the federal Clean Water Act;

(6) For a new withdrawal from a surface water that requires water quality certification pursuant to RSA 485-A:12, IV, the water conservation plan shall be submitted prior to or in conjunction with the certification request”.

Env-Wq 2101.23, entitled Waivers, allows DES to grant waivers of certain provisions in Env-Wq 2101 provided the person requesting the waiver submits a written request to DES that includes the information specified in Env-Wq

2101.23(d). On May 11, 2015, the Applicant submitted a written request to waive the deadline for submittal of a water conservation plan (WCP) in Env-Wq 2101.24. On May 12, 2015, DES approved the waiver request with the condition that the Applicant submit a WCP for each phase of the project and receive written approval of the WCP from DES prior to construction of that phase.

- C-36. In 2010, DES published guidance (hereinafter called the 2010 instream flow guidance or 2010 ISF guidance) for estimating instream flow requirements for the protection of aquatic life for situations. The guidance is available at: <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-11-3.pdf>.
- C-37. Section 303(d) of the Clean Water Act (33 U.S.C. 1313(d)) and the regulations promulgated thereunder (40 C.F.R. 130.0 – 40 C.F.R. 130.11) require states to identify and list surface waters that are violating state water quality standards (i.e., Section 303(d) List) that do not have an approved TMDL. For these water quality-impaired waters, states must establish Total Maximum Daily Loads (TMDLs) for the pollutants causing the impairments and submit the list of impaired surface waters and TMDLs to EPA for approval. TMDLs include source identification, determination of the allowable load and pollutant reductions (by source) necessary to meet the allowable load. Once a TMDL is conducted, the pollutant/surface water is transferred to the list of impaired waters with approved TMDLs (known as Category 4A waters). The Section 303(d) List is, therefore, a subset of all impaired waters. The most recent Section 303(d) list of impaired waters is the 2012 Section 303(d) List. A list of all impaired waters is available at <http://www.des.state.nh.us/organization/divisions/water/wmb/swqa/2010/index.htm>
- C-38. On December 20, 2007, EPA approved the Northeast Regional Mercury TMDL⁴ which addressed mercury impairments in all New Hampshire fresh surface waters.
- C-39. When a surface water does not meet water quality standards (i.e., when it is impaired), the addition of pollutants causing or contributing to impairment is prohibited in accordance with the following:
- a. Env-Wq 1703.03 (a) states that "The presence of pollutants in the surface waters shall not justify further introduction of pollutants from point or nonpoint sources, alone or in any combination".
 - b. NH RSA 485-A:12 (I) (Enforcement of Classification) states that "After adoption of a given classification for a stream, lake, pond, tidal water, or section of such water, the department shall enforce such classification by appropriate action in the courts of the state, and it shall be unlawful for any person or persons to dispose of any sewage, industrial, or other wastes, either alone or in conjunction

4. Northeast Regional Mercury Total Maximum Daily Load. Connecticut Department of Environmental Protection, Maine Department of Environmental Protection, Massachusetts Department of Environmental Protection, New Hampshire Department of Environmental Services, New York State Department of Environmental Conservation, Rhode Island Department of Environmental Management, Vermont Department of Environmental Conservation, New England Interstate Water Pollution Control Commission. October 24, 2007.

with any other person or persons, in such a manner as will lower the quality of the waters of the stream, lake, pond, tidal water, or section of such water below the minimum requirements of the adopted classification".

C-40. With regards to fertilizers, NH RSA 483:1, XXII defines turf as follows: "Turf" or "lawn" means non-agricultural land planted in closely mowed, managed grasses except golf courses, parks, athletic fields, and sod farms."

NH RSA 431:4-a Nitrogen Content of Fertilizer, states the following:

- I. No turf fertilizer sold at retail shall exceed 0.7 pounds per 1,000 square feet of soluble nitrogen per application when applied according to the instructions on the label.
- II. No turf fertilizer sold at retail shall exceed 0.9 pounds per 1,000 square feet of total nitrogen per application when applied according to the instructions on the label.
- III. No turf fertilizer shall exceed an annual application of 3.25 pounds per 1,000 square feet of total nitrogen when applied according to the instructions on the label.
- IV. No enhanced efficiency fertilizer shall exceed a single application rate of 2.5 lbs. per 1,000 square feet of total nitrogen and an annual application rate of 3.25 pounds per 1,000 square feet of total nitrogen nor release at greater than 0.7 pounds per 1,000 square feet per month when applied according to the instructions on the label."

NH RSA 431:4-b Phosphorus Content of Fertilizer, states the following:

- I. No fertilizer sold at retail that is intended for use on turf shall exceed a content level of 0.67% available phosphate unless specifically labeled for establishing new lawns, for repairing a lawn, for seeding, or for use when a soil test indicates a phosphorus deficiency.
- II. No fertilizer sold at retail that is intended for use on newly established or repaired lawns, or for lawns testing deficient in phosphorus shall exceed an application rate of one pound per 1,000 square feet annually of available phosphate.
- III. No natural organic turf fertilizer shall exceed a per application rate of one pound of available phosphate per 1,000 square feet when applied according to the instructions on the label."

C-41. NH Division of Pesticides regulations (Pes 1001.01-Restrictions on Pesticide Use by Residential Property Owners, Private Applicators and Commercial Applicators) states that "[N]o residential property owner, private applicator, or commercial applicator shall apply pesticides within the following distances of the reference line⁵:

- (a) Within 25 feet as it pertains to surface waters; and

⁵ Reference line is defined in Pes 101.28.

- (b) Beyond 25 feet in such a manner or by such methods that would result in the presence of pesticides within 25 feet of the reference line of any lake, pond, river or coastal water."

According to Pes 1001.02 (Pesticide Applications Within 25 Feet of the Reference Line): "[T]he restrictions in Pes 1001.01 shall not apply to the following:

- (a) Pesticide applications inside structures provided there is no soil contact or soil incorporation;
- (b) Pesticide applications to control termites provided the applicator is in possession of a special permit issued by the division in accordance with the provisions of Pes 502.04;
- (c) Pesticide applications which are subject to prior approval of the division through issuance of a special permit where distances from surface water are determined on a case by case basis; and
- (d) Pesticide applications to control vegetation along the embankments of sewage lagoons of wastewater treatment facilities."

C-42. Section 404 of the Clean Water Act requires a U.S. Army Corps of Engineers (USACOE) permit for the discharge of dredged or fill material into navigable waters. The USACOE has determined that an individual CWA § 404 permit is required for this Activity (File # NAE-2012-192). From November 19, 2013 to December 19, 2013 the USACOE issued a public notice and solicited comments for the Activity.

C-43. RSA 482-A (Fill and Dredge in Wetlands) requires any person who excavates, removes, fills, dredges or constructs any structures in or on any bank, flat, marsh, or swamp in and adjacent to any waters of the state to obtain a wetlands permit from DES [RSA 482-A:3 I (a)]. On April 16, 2015, DES issued a wetlands permit approval notice with conditions for the Activity. One of the conditions states that the wetlands permit is contingent on receipt of payment of \$200,000 into the DES Aquatic Resources Mitigation (ARM) fund and that if payment is not received by August 14, 2015, DES will deny the application. On July 23, 2015, the Applicant filed a waiver request with DES to delay the ARM fund payment. On September 11, 2015 DES issued an approval to delay ARM fund payment until prior to construction or within 30 days of when the Applicant receives all federal, state and municipal approvals authorizing commencement of excavation activities and no later than August 14, 2016.

C-44. RSA 485-A:17 (Terrain Alteration) requires any person proposing to dredge, excavate, place fill, mine, transport forest products or undertake construction in or on the border of the surface waters of the state, and any person proposing to significantly alter the characteristics of the terrain, in such a manner as to impede the natural runoff or create an unnatural runoff to obtain a permit from DES. Regulations for the Alteration of Terrain (AoT) program are provided in Env-Wq 1500. On August 15, 2014, the Applicant submitted an application for an AoT permit and on August 7, 2015 DES issued permit # AoT-0959.

- C-45. The Applicant submitted an application for 401 Water Quality Certification to DES on May 8, 2015 which included the application, additional project information and plans. Supplemental information was submitted in August, 2015.
- C-46. DES issued a draft Section 401 Water Quality Certification for public comment from September 1, 2015 to October 5, 2015. No comments were received.

D. FINDINGS

- D-1. The Applicant proposes the construction and operation of a 106.5 acre quarry expansion consisting of a 102-acre expansion northwest of the current quarry (i.e., the northwest expansion) and a 4.5 acre expansion located northeast of the existing quarry (i.e., the northeast expansion) in Hooksett, New Hampshire (the Activity). The proposed Activity includes erosion control measures, clearing and removal of vegetation and overburden soils to access the bedrock, mining of rock (including blasting and ripping) and the manufacturing of stone aggregate from the mined rock at the existing aggregate crushing facility. The proposed quarry activities are similar to the activities that have been occurring in the existing mined quarry area. The Activity is anticipated to occur in an undetermined number of phases that will take place gradually over a 50-year time period and will ultimately result in a depression ranging from 100 to 200 feet below adjacent existing topography with finished mined floor elevation of approximately 275 above mean sea level. The Activity is expected to produce an average of approximately 800,000 tons of material per year. The Activity includes two existing outfalls that discharge treated water from the existing plant operations area to Brickyard Brook downstream of the Hooksett Village Precinct dam (Dam #120.04).

The Activity is bordered to the north by a wetland complex, a perennial stream, and an ephemeral stream, to the south by Brickyard Brook and to the east by overhead power lines and a right-of-way. The majority of the quarry expansion (76 acres or 71%) is within the Brickyard Brook watershed.

With regards to stormwater management, the Applicant proposes to institute erosion control and sedimentation devices to manage runoff from the quarry area during the initial clearing and removal of overburden soil. The majority of stormwater entering the proposed quarry expansion as precipitation or run-on overland flow will not contribute to runoff as it will be retained in the quarry where it is expected to infiltrate through the mined quarry floor into the bedrock. Observed areas of concentrated runoff from the quarry area will be managed using velocity control devices to aid against erosion. When practicable, the Applicant will utilize infiltration practices to mitigate runoff from the quarry area by routing the runoff into the existing quarry. During episodic extreme rain events and likely during spring thaw, the Applicant proposes to dewater the quarry by pumping the captured stormwater into detention basins to infiltrate the stormwater. Other best management practices (BMPs) as identified in the DES Stormwater Manual may be used to aid in slowing, detaining and infiltrating runoff from the quarry activity areas.

Additional details regarding the proposed Activity are provided in the application for 401 Certification (see C-45).

- D-2. The Applicant is responsible for the Activity, including construction and operation.
- D-3. Surface waters as defined in Env-Wq 1702.46 are navigable waters for the purposes of certification under Section 401 of the Clean Water Act and include jurisdictional wetlands that are subject to State wetlands permitting under RSA 482-A.
- D-4. Storm water runoff during construction and/or operation of the Activity, including snowmelt, and groundwater flow to surface waters from within the area affected by the Activity during warm and cold-weather conditions are discharges under the definition of Env-Wq 1702.18 (see C-15). They are also discharges according to Section 401 of the CWA (see C-18). The discharges may cause the permanent alteration of, or temporary impacts to surface waters if not properly abated.
- D-5. The Activity requires a federal U.S. Army Corps of Engineers (USACOE) individual permit under Section 404 of the Clean Water Act to dredge and fill wetlands. The USACOE public noticed the Activity and solicited public comment from November 19, 2014 to December 19, 2014. It is expected that the USACOE will issue a permit following issuance of the section 401 Certification.
- D-6. The Activity requires a federal license or permit (see D-5) and may result in a discharge (as that term is applied under section 401 of the federal Clean Water Act)) to surface waters of the state (see C-18 and D-4). Consequently a section 401 water quality certification is required in accordance with section 401 of the Clean Water Act (see C-1) and RSA 485-A:12, III (see C-4).
- D-7. DES received an application from the Applicant for 401 Water Quality Certification (see C-45).
- D-8. The named and unnamed fresh water rivers and streams, lakes and ponds, and wetlands in NH affected by the Activity, are surface waters under Env-Wq 1702.46. DES has assigned Assessment Unit (AU) identification numbers to many, but not all surface waters. Surface waters that do not have an AU number are still considered surface waters in accordance with Env-Wq 1702.46. Surface waters that could be potentially affected by the Activity (and their associated AU numbers (where available) and legislative classification) include, but are not limited to the following:

Assessment Unit ID	Description	Class
NHRIV700060802-03	Brickyard Brook upstream of impoundment formed by Hooksett Village Water Precinct Dam (Dam# 120.04)	A ⁶

⁶ Brickyard Brook and its tributaries [Hooksett, Bow]. 1967, 311:1, XXVII. Brickyard Brook and all its tributaries, in the towns of Hooksett and Bow, from their sources to the crest of the intake dam for the Hooksett Village Water Precinct, Class A.

NHIMP700060802-01	Brickyard Brook impoundment formed by Hooksett Village Water Precinct Dam (Dam# 120.04)	A ⁶
NO AUID	All unnamed surface waters upstream of the Hooksett Village Water Precinct Dam (Dam# 120.04)	A ⁶
NHRIV700060802-31	Brickyard Brook from NHIMP700060802-01 downstream to NHIMP7000600802-08	B
NHIMP700060802-08	Brickyard Brook – small pond	B
NHRIV700060802-04	Brickyard Brook from NHIMP700060802-08 downstream to the Merrimack River	B
No AU ID	All other Unnamed wetlands and tributaries in the watersheds affected by the Activity	B

D-9. As indicated in section D-8, the potentially affected surface waters include waters that are legislatively classified as A and B. Class A waters include all surface waters within the Brickyard Brook watershed that are upstream of the Hooksett Village Water Precinct dam (Dam # 120.04), which is located approximately 600 feet downstream of the proposed "northwest" quarry expansion ⁶. All other surface waters are Class B. Both Class A and Class B waterways are considered suitable for aquatic life, primary and secondary contact recreation, fish consumption, wildlife, and, after adequate treatment, as a water supply⁷.

According to RSA 485-A:8,I, Class A waters shall be of the highest quality and there shall be no discharge of sewage or wastes (see C-12). As indicated in section C-12, "Waste" means industrial waste and other wastes (RSA 485-A:2, XVI) and "Industrial waste" means any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from development of any natural resources (RSA 485-A:2, VI). "Other wastes" means garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, ashes, offal, oil, tar, chemicals and other substances other than sewage or industrial wastes, and any other substance harmful to human, animal, fish or aquatic life (RSA 485-A:2, VIII). According to the antidegradation provisions for Class A waters (see C-25), "[P]roposed new or increased activities that the department determines do not involve the discharge of sewage or waste shall be reviewed in accordance with Env-Wq 1708.01 through Env-Wq 1708.12."

It is DES's understanding that the Applicant does not currently discharge sewage or waste (as defined above) into the Class A waters and does not intend to do so with the proposed expansion. To confirm that degradation is not occurring due to the Activity, monitoring can be required in potentially impacted surface waters.

D-10. The Applicant proposes to implement stormwater management and erosion and sedimentation control to minimize sedimentation impacts to the surface water quality to limit the potential impact on aquatic life and drinking water, as the Hooksett Village Water Precinct periodically withdraws surface water from Brickyard

⁷ 2012 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. July, 2013. NH Department of Environmental Services. NHDES-R-WD-12-2.

Brook to supplement its storage in Pinnacle Pond. It is important to note that the Hooksett Village Water Precinct does not withdraw surface water for direct input into the water distribution system. The diverted surface water is discharged to Pinnacle Pond which has a hydraulic nexus to the gravel-pack, overburden, groundwater wells which are the source for the drinking water supply (see D-11).

D-11. According to the Applicant, the Hooksett Village Water Precinct withdraws water from three gravel-packed, overburden groundwater wells in the vicinity of Pinnacle Pond. Pinnacle Pond is located 500 feet northeast of the existing quarry and east of Interstate 93. Additionally, the Precinct occasionally withdraws surface water from Brickyard Brook to supplement the water level in Pinnacle Pond during drought or extended dry periods. The surface water is collected from an intake structure in Brickyard Brook at the dam (#120.04) which is approximately 600 feet downstream of the proposed "northwest" quarry expansion area. Water is diverted on the upstream side of the dam through a concrete intake structure which has a 1.5 ft x 1.5 ft bar screen opening on the side with an invert that is approximately two feet below the dam crest. On the downstream side of the intake structure is an opening leading to a 16 inch pipe that conveys water to Pinnacle Pond. When water is not diverted to Pinnacle Pond, a simple slide gate is manually inserted in the intake structure between the bar screen opening and the 16 inch outlet pipe to redirect water back over the dam crest. Approximately 2700 feet downstream of the dam there is a "Tee" section in the diversion pipe with two gate valves. One controls flow to Pinnacle Pond and the other controls flow back into Brickyard Brook via a short section of pipe. The Hooksett Village Water Precinct has withdrawn water from the Brickyard Brook diversion weir (DES Dam # 120.04) nine times in the last three years. On average a total of 132,275 gallons of surface water has been diverted from Brickyard Brook to Pinnacle Pond annually.

The Hooksett Village Water Precinct is required to monitor the baseflow of Brickyard Brook during the diversion to ensure that an acceptable flow rate is maintained in the brook. The staff gage is located just upstream of the confluence of the brook with the Merrimack River and downstream of the "Tee" section in the pipeline described above. According to Hooksett's Large Groundwater Permit (2006-0001) the Hooksett Village Water Precinct cannot divert water to Pinnacle Pond when flow in Brickyard Brook (as measured at the gage) is less than, or equal to, the following seasonal Q60 flow rates ⁸.

Time Period	Seasonal Q60 Flow (cfs)	Staff Gage Reading (ft)
January - March 15	1.55	0.46
March 16 – May 31	5.90	0.80

⁸ The Q60 flow is the flow that is exceeded, on average, 60% of the time.

Time Period	Seasonal Q60 Flow (cfs)	Staff Gage Reading (ft)
June 1 – October 31	0.25	0.14
November 1 – December 31	2.28	0.54

The Hooksett Village Water Precinct collects quarterly water quality samples from the groundwater wells (not from surface waters). The samples are analyzed for volatile organic compounds by EPA method 524.2, 1,2-dibromoethane and dibromochloropropane by EPA method 504, chlordane and toxaphene by EPA method 505, organic compounds by EPA method 525, chlorinated acids by EPA method 515, nitrate by EPA method 353.2, metals by EPA method 200.8, fluoride and sulfate by EPA method 300.0 and chloride by EPA method 4500. Generally, constituents detected in the raw water before treatment include barium, copper, manganese, zinc, sulfate, and chloride at levels above laboratory reporting limits but below EPA maximum or secondary contaminant levels. Based on the Applicant's review of analytical results for 2012, 2013 and 2014 years, raw groundwater quality (before treatment) did not detect constituents of nitrate above the laboratory reporting limit (0.5 milligrams per liter).

On April 13, 2015, Pike and their consultant, Loureiro Engineering Consultants, Inc., met with the Hooksett Village Water Precinct to discuss the quarry expansion and to identify any concerns regarding the quarry activities as it relates to drinking water supply and quality. The Hooksett Village Water Precinct stated that they were not aware of past quarry mining activities creating impacts to the water supply quality or quantity. Based upon the understanding that the proposed quarry activities will generally be consistent with past practices, the Hooksett Village Water Precinct did not express any concerns regarding the project.

D-12. The Activity is not within the watershed of an Outstanding Resource Water (see C-26).

D-13. According to the 2012 list of impaired waters (see C-37), the following surface waters in the vicinity of the proposed Activity are listed as impaired. All impairments, with the exception of those highlighted in bold (which have approved TMDLs), are on the Section 303(d) List:

Assessment Unit (AU)	Waterbody Name	Cause of Impairment (Designated Use Impaired)
See Table in Section D-8	See Table in Section D-8	Mercury (FC)
Notes: AL = Aquatic Life, PCR = Primary Recreation, SCR = Secondary Recreation, FC = Fish Consumption, SFC = Shellfish Consumption		
Impairments highlighted in bold have approved TMDLs. All other impairments are on the Section 303(d) List.		

As stated in section C-39 of this Certification, when a surface water does not meet water quality standards (i.e., when it is impaired), the addition of pollutants causing or contributing to impairment is prohibited. That is, existing loadings must be held.

According to the DES Waterbody Report Cards⁹ for the 2012 reporting cycle, there is no data available to assess any of the designated uses (other than fish consumption) in any of the potentially impacted waters identified in section D-8.

With regards to the mercury, all fresh surface waters in New Hampshire are listed as impaired for mercury based on a statewide mercury fish consumption advisory. The advisory was issued because of elevated levels of mercury found in fish tissue throughout the state. The vast majority of the mercury is believed to be from atmospheric deposition. In 2007 the Northeast States completed a mercury Total Maximum Daily Load Study (see C-38) for the region which focused on reductions in atmospheric deposition.

Since construction or operation of the Activity is not expected to be a source of additional mercury, conditions are not necessary to comply with the mercury TMDL.

- D-14. Since the Activity is not within a Designated River corridor (as defined in RSA 483 – see C-30) the regulatory requirements, which include but are not limited to those cited in C-30, C-31 and C-32, do not apply.
- D-15. Since the Activity does not involve a “Transfer of Water” as defined in Env-Wq 1708.12 (see C-28) regulatory requirements in Env-Wq 1708 regarding “Transfer of Water” do not apply.
- D-16. According to the Applicant, “[B]ased upon the surface elevation of nearby wetlands, the elevation of the overburden groundwater in the upland areas is estimated at 450 feet above mean sea level; and 350 feet for areas near Brickyard Brook.”
- D-17. The Activity involves the diversion of surface water since the proposed quarry expansion will decrease the drainage areas to adjacent downstream surface waters (including, but not limited to Brickyard Brook and several wetlands). That is, precipitation that currently drains into these surface waters will instead fall directly into the deep depression formed by the proposed quarry expansion where it would no longer contribute to flow in the affected surface waters.

Env-Wq 1708.02 (d) states that antidegradation shall apply to “Any hydrologic modifications, such as dam construction and water withdrawals.” Env-Wq 1708.09(a) states that : (a) Any discharge or activity that is projected to use 20% or more of the remaining assimilative capacity for a water quality parameter, in terms of either concentration or mass of pollutants, or volume or flow rate for water quantity, shall be considered a significant lowering of water quality. Per Env-Wq 1708.09(b), if the Activity causes an insignificant impact, it is not necessary to

⁹ DES Waterbody Report Cards are available at https://www2.des.state.nh.us/WaterShed_SWQA/WaterShed_SWQA.aspx

demonstrate compliance with the antidegradation provisions. The Activity will be considered to have an insignificant impact if less than 20% of the remaining assimilative capacity is used, unless otherwise determined by DES pursuant to Env-Wq 1708.09(d). The department shall not approve such a discharge or activity unless the applicant demonstrates that the proposed lowering of water quality is necessary to achieve important economic or social development, in accordance with Env-Wq 1708.10, in the area where the waterbody is located.

With regards to hydrologic modifications the Activity will reduce the drainage area and therefore volume of water in many of the potentially impacted surface waters. Such changes could adversely influence designated uses such as aquatic life by impacting the available habitat and biota that inhabit it.

To determine if the impact is considered "insignificant" or "significant" for compliance with antidegradation regulations, the percent reduction in drainage area can be used as a first cut approximation of the percent reduction in volume per Env-Wq 1709(a). If the reduction in drainage area is less than 20%, the impact can be considered insignificant. If the reduction in drainage area is 20% or greater additional work can be required to determine if the surface water is significantly impacted. The above does not apply to wetlands which have been allowed to be dredged or filled in accordance with the DES Wetlands permit issued for the Activity.

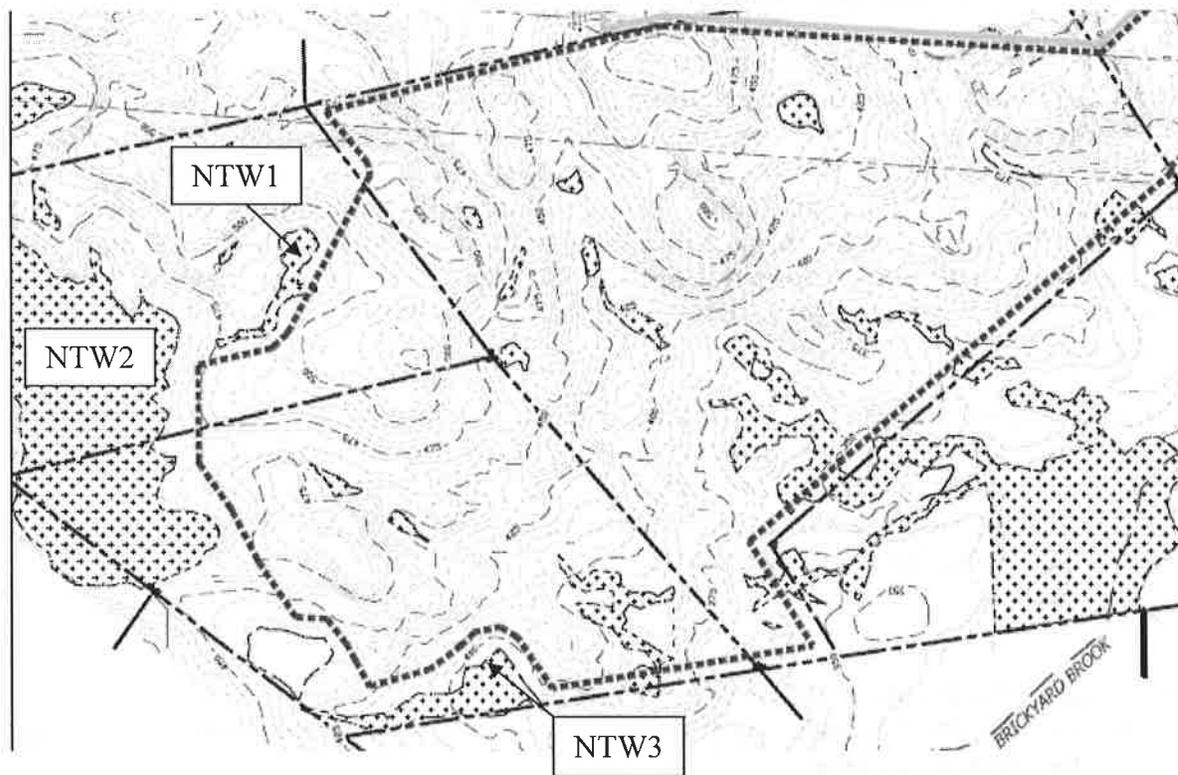
For Brickyard Brook, the change in volume was estimated to be 13.2%, and therefore considered insignificant in regards to the antidegradation provisions, based on the information and calculations shown in the table below. As shown, the analysis includes reductions in drainage area due to both the proposed quarry expansion and the existing quarry.

Total Drainage Area of Brickyard Brook to the first road crossing just downstream of the existing quarry	1574.4 acres (2.46 square miles)
Reduction in Brickyard Brook drainage area due to existing quarry (when fully mined)	106 acres
Reduction in Brickyard Brook drainage area due to proposed quarry (when fully mined)	102 acres
Total % reduction in Brickyard Brook drainage area	$= (106 + 102) / 1574.4 = 13.2 \%$

For wetlands which will have their drainage areas reduced by the Activity, but which are not directly impacted and, therefore, are not addressed in the DES

Wetlands permit¹⁰ (the wetlands permit addresses wetlands that will be eliminated and wetlands which will be partially eliminated (i.e., truncated), by the Activity), the Applicant can be required to provide the reductions in drainage area. Such wetlands are hereinafter referred to as "non-truncated" wetlands and are shown in Figure 1 as NTW1, NTW2 and NTW3. Similar to the provisions¹⁰ in the DES Wetlands permit for truncated wetlands, the Applicant can be required for the non-truncated wetlands that will have drainage areas reduced by 20% or more, to submit a sampling plan, conduct sampling and propose and implement DES approved remedial action for wetlands determined to be significantly impacted.

Figure 1: Non-Truncated Wetlands Requiring Further Analysis



¹⁰ The DES conditional Wetlands permit approval notice dated April 16, 2015 includes the following conditions:

13. The permittee shall designate a New Hampshire Certified Wetland Scientist ("CWS") who will have the responsibility to assure monitoring of each truncated wetland. The department shall be notified of the designated CWS prior to the start of work and if there is a change of the designated CWS during the project.
14. The CWS shall submit a sampling/monitoring protocol and location plan (for the truncated wetlands) for review and approval by the department prior to conducting the wetland impacts.
15. Monitoring of the truncated wetlands shall commence a minimum of one full growing season before the wetland is impacted and monitored biannually thereafter. If no impacts are observed after 5 years of consecutive monitoring (or as approved by the department) the monitoring of the truncated wetland will no longer be required. If impacts are identified the applicant shall propose remedial actions to the department for review and approval.

D-18. The database for the DES Water Use Registration and Reporting program (WURRP) in early August 2015, indicated that the Applicant withdraws water from surface waters and groundwater wells to provide water for operation of the Activity. These include two surface water withdrawals from Brickyard Brook (# 20258-S01 and 20258-S02). Both withdrawals were reported to be located in the pond formed in Brickyard Brook located just downstream of the Hooksett Village Water Precinct dam, and are therefore in Class B waters. One withdrawal was reported to be for irrigation and the other for wash water makeup and dust suppression. If not properly controlled the withdrawals could deplete the brook of water necessary to support and maintain the integrity of the biological and aquatic community (see C-21). On August 20, 2015, the Applicant informed DES that the surface water withdrawals from Brickyard Brook (i.e., # 20258-S01 and 20258-S02) have been discontinued.

D-19. The Activity involves dredge and fill of wetlands that requires a DES Wetlands permit in accordance with RSA 482-A (see C-43). The DES Wetlands permit will address wetlands that are dredged or filled. On April 16, 2015, DES issued a wetlands permit approval notice with conditions for the Activity. One of the conditions states that the wetlands permit is contingent on receipt of payment of \$200,000 into the DES Aquatic Resources Mitigation (ARM) fund. On July 23, 2015, the Applicant filed a waiver request with DES to delay the ARM fund payment. On September 11, 2015 DES issued an approval to delay ARM fund payment until prior to construction or within 30 days of when the Applicant receives all federal, state and municipal approvals authorizing commencement of excavation activities and no later than August 14, 2016. Other conditions that will help protect surface waters include requirements to:

- maintain appropriate siltation/erosion/turbidity controls;
- control discharges from dewatered areas;
- stabilize soils; and
- prevent oil and fuel spills from equipment.

This Certification relies in part on an approved DES Wetlands permit since compliance with the Wetlands permit is expected to help protect surface waters from potentially adverse impacts associated with the Activity.

D-20. The Activity involves alteration of terrain that requires a DES Alteration of Terrain (AoT) permit. AoT regulations are included in Env-Wq 1500. The purpose of these regulations "[i]s to implement the intent of RSA 485-A:1 to protect drinking water supplies, surface waters, and groundwater by specifying the procedures and criteria for obtaining permits required by RSA 485-A:17" (Env-Wq 1501.01). The regulations include the following requirements:

- protecting water quality during terrain alteration activities (including erosion and sediment control); and

- permanent methods for protecting water quality with a focus on stormwater control.

AoT permits also typically include best management practices for blasting and fuel/oil spill prevention measures.

The Applicant submitted an application for a DES AoT permit and on August 7, 2015 DES issued an AoT permit for the Activity (see C-44). Prior to any alteration of terrain activities the permit requires submittal of a blasting plan that describes best management practices that will be implemented to prevent and monitor for groundwater contamination. The permit also requires that the Applicant provide DES with a written update of, and revised plans documenting, the project status every five years from the issuance of the AoT permit.

This Certification relies in part on an approved DES AoT permit since compliance with the AoT permit is expected to help protect surface waters from potentially adverse impacts associated with the Activity.

D-21. According to the Applicant, the Activity falls under Sand and Gravel Operations (Sector J): Mineral Mining and Dressing; SIC Code 1442 and is therefore required to comply with conditions in the federal NPDES Multi-Sector General Permit (MSGP). This sector includes mineral exploration, mine development, and active or inactive mineral mining and dressing activities. This includes washing, screening, or otherwise preparing sand and gravel for construction use. In addition to storm water discharges, dewatering discharges composed entirely of storm water or groundwater seepage are covered¹¹.

According to the Applicant, the Activity has been subject to the terms of the 2008 Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activity, which was reissued by EPA on September 29, 2008. On June 4, 2015, EPA reissued the MSGP¹². Consequently, the Applicant must now comply with the terms of the 2015 MSGP.

In accordance with the 2008 MSGP, the Applicant has developed a Storm Water Pollution Prevention Plan (SWPPP that includes quarterly facility inspections, quarterly stormwater discharge assessment and sampling, and an annual comprehensive evaluation of the SWPPP). Currently, the Applicant monitors the outfalls from the existing quarry at two outfalls, both of which discharge to Brickyard Brook downstream of the Hooksett Village Water Precinct Dam (# 120.04). Outfall A discharges treated stormwater from the quarry area and is located on the east side of the facility near the highway. Outfall B discharges stormwater from parking and stockpiling storage areas and is located about 100 feet east of the dam. According to the Applicant, no new outfalls are proposed for

¹¹ This information is from http://www.epa.gov/region1/npdes/stormwater/industrial_act.html

¹² The 2015 MSGP is available at http://water.epa.gov/polwaste/npdes/stormwater/upload/msgp2015_finalpermit.pdf.

the Activity. The Applicant will update the 2008 SWPPP as necessary to comply with the 2015 MSGP. According to section 5.4 of the 2015 MSGP, the SWPPP must be immediately available to DES upon request.

Each outfall is currently sampled for total suspended solids (TSS) and nitrite/nitrate on a quarterly basis with results submitted to EPA. These outfalls will continue to be sampled quarterly under the 2015 MSGP. According to the 2015 MSGP, benchmark concentrations¹³ for the outfalls are 100 mg/L for TSS and 0.68 mg/L for nitrite/nitrate. In addition, the 2015 MSGP permit requires annual sampling of the outfalls for pH which must meet the following effluent limits (within pH of 6.0 to 9.0). Any pH values that fall outside of this range are considered a permit violation. Although outfall pipes are sampled, the Applicant does not currently collect any surface water samples (such as from Brickyard Brook).

Section 8.J.4 of the 2015 MSGP includes requirements for earth disturbing activities conducted prior to active mining that meet the following definition:

"8.J.3.2 Earth-disturbing activities conducted prior to active mining activities – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:

- a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and
- b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional effluent limits in Part 8.J .4.2."

Earth disturbance activities that do not meet the definition in section 8.J.3.2 (see above) may require an EPA Construction General Permit (CGP) (see D-22).

The 2015 MSGP (section 8.J.4) includes requirements for earth disturbance conducted prior to mining activities for erosion and sediment control, maintenance of erosion and sediment control, perimeter control, sediment track-out,

¹³ According to section 6.2.1 of the 2015 MSGP, benchmark concentrations are provided to give permittees an idea of the overall effectiveness of control measures. They are not effluent limitations; consequently an exceedance is not a permit violation. However, if a corrective action is required as a result of benchmark exceedance, failure to conduct required corrective action is a permit violation. An exceedance of the benchmark concentration is determined by averaging the four quarterly monitoring values.

soil/sediment stockpiles, sediment basins, dust minimization, the use of treatment chemicals, soil stabilization, providing natural buffers for construction activities within 50 feet of a water of the U.S. (or an equivalent sediment load reduction), dewatering practices, inspection of stormwater controls, benchmark and effluent limitations, and reporting requirements.

Section 8.J.4.4 of the 2015 MSGP requires the Applicant to inspect erosion and stormwater control devices and active clearing, grading and excavation areas either at least once every 7 days or at least once every 14 days and within 24 hours of the end of a storm event of 0.25 inches or greater with maintenance and repairs performed as necessary.

This Certification relies in part on compliance with the latest MSGP since it is expected to help protect surface waters from potentially adverse impacts associated with the Activity.

D-22. Earth disturbance activities that are not covered under the MSGP (see D-21) may require compliance with conditions in the federal National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP)¹⁴. CGPs are typically reissued by the U.S. Environmental Protection Agency (EPA) every 5 years. The most recent CGP was issued in 2012. Activities must comply with the CGP if they "[d]isturb 1 or more acres of land, or will disturb less than 1 acre of land but is part of a common plan of development or sale that will ultimately disturb 1 or more acres of land". The CGP covers construction related stormwater discharges (including stormwater runoff, snowmelt runoff and surface runoff and drainage) as well other discharges, including but not limited to, construction dewatering that has been treated by an appropriate control. The CGP requires development of a Stormwater Pollution Prevention Plan (SWPPP) that describes how the Activity will meet the requirements of the CGP. This includes identification of the stormwater team (i.e., those responsible for the SWPPP and compliance with the permit) , a description of the nature of construction activities, emergency-related projects, identification of other site operators, the sequence and estimated dates of construction activities, a site map, identification of construction site pollutants and non-stormwater discharges, buffer documentation, a description of stormwater control measures, pollution prevention procedures, procedures for inspection, maintenance and corrective action, staff training, documentation of compliance with other federal requirements, SWPPP Certification and Post-Authorization Additions to the SWPPP. According to the CGP the SWPPP must be made available to DES upon request.

If necessary (see D-21), this Certification relies in part on compliance with the CGP since it is expected to help protect surface waters from potentially adverse impacts associated with the Activity. As discussed in section D-21, a CGP is not necessary if the construction activities comply with those covered in the MSGP.

¹⁴The 2012 Construction General Permit issued by the United States Environmental Protection Agency (EPA) is available at http://water.epa.gov/polwaste/npdes/stormwater/upload/cgp2012_finalpermit.pdf

D-23. With regards to Best Management Practices (BMPs), section C-24 h and C-24 i of this Certification includes excerpts from Env-Wq 1708.01 regarding antidegradation which state that "the department shall assure that the highest statutory and regulatory requirements shall be achieved for all new and existing point sources and that all cost effective and reasonable best management practices for nonpoint source control shall be implemented". In addition to being cost effective and reasonable, best management practices must be selected to ensure attainment of water quality standards in receiving waters as evidenced by the following:

- a. As stated in section C-29 of this Certification, "Best Management Practices" (BMPs) are defined in Env-Wq 1702.06 as "those practices which are determined, after problem assessment and examination of all alternative practices and technological, economic and institutional considerations, to be the most effective practicable means of preventing or reducing the amount of pollution generated by point or nonpoint sources to a level *compatible with water quality goals*" (italics added).
- b. Env-Wq 1708.01 (b) and (c) (see C-24 h and C-24 i) which states "In allowing such degradation or lower water quality, the department shall assure water quality adequate to fully protect existing uses".

Best management practices that are designed, constructed, inspected, maintained and operated in accordance with the DES Alteration of Terrain regulations (Env-Wq 1500) are considered to be cost effective and reasonable best management practices for nonpoint sources that comply with the regulations cited above.

D-24. As reported in D-1, when practicable, the Applicant will utilize infiltration practices to mitigate runoff from the quarry area by routing the runoff into the existing quarry. During episodic extreme rain events and likely during spring thaw, the Applicant proposes to dewater the quarry by pumping the captured stormwater into detention basins to infiltrate the stormwater. The infiltrating detention basins are located east of the existing asphalt plant. Other best management practices (BMPs) as identified in the DES Stormwater Manual may be used to aid in slowing, detaining and infiltrating runoff from the quarry activity areas.

D-25. If not properly controlled, projects involving alteration of terrain can result in discharges to surface waters of nutrients such as phosphorus and nitrogen that can lead to excessive aquatic plant growth and impairment of aquatic life and contact recreational uses such as swimming or wading. Application of fertilizers can be a primary source of nutrients. NH RSA 431:4-a and 431:4-b (see C-40), which became effective January 1, 2014, limits the nitrogen and phosphorus content of fertilizers sold at retail and intended for use on home lawns (i.e., turf). Among other things, these statutes include annual application rates for nitrogen and phosphorus. Other examples of state fertilizer statutes include NH RSA 483-B:9 (d) of the Shoreland Water Quality Protection Act which states the following: "No fertilizer shall be applied to vegetation or soils located within 25 feet of the reference line of any public water. Beyond 25 feet, slow or controlled release fertilizer, as defined by rules adopted by department, may be used."

If fertilizer is to be applied more regularly than needed to initially stabilize disturbed, non-vegetated areas, submittal of a Fertilizer Minimization plan and implementation of the approved plan, can help address potential nutrient concerns associated with fertilizers. As a minimum, the plan should require the following:

- a. Soil testing before seeding a new lawn and at least once every three years following establishment¹⁵ to determine appropriate application rates and use of fertilizers with slow release nitrogen and little to no phosphorus as soils in New Hampshire most likely have sufficient phosphorus. Results of soil tests should be maintained and submitted to DES within 30 days of receiving a request.
- b. For areas that meet the definition of turf under RSA 483:1, XXII (see C-40) a description of how the annual application rates under RSA 431:4-a and 431:4-b (see C-40) will be ensured.
- c. A prohibition of fertilizer to vegetation or soils located within 25 feet of surface waters.
- d. Frequency of application.
- e. A description of how pesticides in fertilizers used on turf (as defined above) will be minimized.
- f. For areas that do not meet the definition of turf under RSA 483:1, XXII (see C-40C-30) (i.e., such as golf courses, parks, athletic fields, and sod farms), the plan should provide a description of the fertilizer used (including the percent of nitrogen and phosphorus), annual application rates and loadings of nitrogen and phosphorus, and recommendations for minimizing the amount of fertilizer applied each year. Records should be maintained and if requested by DES, submitted to DES within 30 days of receiving a request.

D-26. It is possible that operation of the Activity during the winter may include application of deicing chemicals to roads and other impervious surfaces that contain chloride (i.e. rock salt). Chlorides are conservative substances that persist in the environment and are not treatable by structural BMPs. Frequent application of road salt can result in levels of chloride in surface waters that are harmful to aquatic life. Application of road salt can be minimized by requiring applicators to be properly trained.

Training can be accomplished by requiring applicators to be certified in accordance with the UNH T2 Green SnowPro program (see <http://t2.unh.edu/green-snowpro->

¹⁵ From "New Hampshire's Turf Fertilizer Law – What You Should Know". Agriculture Fact Sheet. Spring 2014. University of New Hampshire Cooperative Extension. Available at http://extension.unh.edu/resources/files/Resource004116_Rep5835.pdf

training-and-certification). Establishment of a certification program was authorized under NH RSA 489-C. The goal of the program is to improve efficiency in salt use, such that the least amount of salt is used to ensure safe conditions for pedestrians and vehicles. Under the new law certified salt applicators (and property owners who hire them) who follow best management practices and keep basic records, are provided with limited liability for damages arising from hazards caused by snow or ice. Certification expires every June.

In addition to maintaining certification, obligations of certified salt applicators also include record keeping and annual reporting of the amount of salt used, the town it was applied, the number of acres of paved surface maintained and the type and amount of each salt alternative used. This information can be reported in the web-based tracking system available at <http://www.roadsalt.unh.edu/Salt/>.

- D-27. It is possible that operation of the Activity could result in application of pesticides such as herbicides and insecticides. Improper application of pesticides can harm aquatic life and result in surface water quality violations. In New Hampshire, pesticides are regulated by the Department of Agriculture Pesticide Division. As stated in Pes 1001.01(see C-41), and unless otherwise allowed per Pes 1001.02 (see C-41), no residential property owners, private applicator, or commercial applicator shall apply pesticides within the 25 feet of the reference line of surface waters or beyond 25 feet in such a manner or by such methods that would result in the presence of pesticides within 25 feet of any lake, pond, river or coastal water. The NH Pesticide regulations also require licensing or permitting of all commercial and private pesticide applicators as well as pesticide dealers. Through this process, only persons demonstrating satisfactory competence in the safe and legal use of pesticides within New Hampshire may apply pesticides. Compliance with the NH Pesticide Division regulations regarding the application of pesticides is expected to prevent water quality standard violations due to pesticides.
- D-28. Confirmation that operation of the Activity does not cause or contribute to surface water quality violations can be determined by development and implementation of a surface water monitoring plan with appropriate quality assurance/ quality control provisions.

E. WATER QUALITY CERTIFICATION CONDITIONS

Unless otherwise authorized by DES, the following conditions shall apply:

- E-1. **Compliance with Water Quality Standards:** The Activity shall not cause or contribute to a violation of surface water quality standards. DES may modify this 401 Certification to include additional conditions to ensure the Activity complies with surface water quality standards, when authorized by law, and after notice and opportunity for hearing.
- E-2. **Inspections:** In accordance with applicable laws, the Applicant shall allow DES to inspect the Activity and affected surface waters to monitor compliance with the conditions of this 401 Certification.

- E-3. **Proposed Modifications to the Activity:** The Applicant shall consult with DES regarding any proposed modifications to the Activity, including construction or operation, to determine whether this 401 Certification requires modification in the future.
- E-4. **Transfer of Certification:** Should this Certification be transferred to a new owner, contact information for the new owner (including name, address, phone number and email) shall be provided to DES within 30 days of the transfer.
- E-5. **No Discharges of Sewage or Waste into Class A Waters:** The Applicant shall not discharge any sewage or waste, as defined in RSA 485-A:2, into any Class A water (see D-8 and D-9).
- E-6. **Fertilizers:** The Applicant shall minimize the use of fertilizer and shall only apply it when needed to stabilize disturbed areas. If fertilizer is to be applied more regularly than needed to initially stabilize disturbed, non-vegetated areas, the Applicant shall submit a Fertilizer Minimization Plan that includes the elements stated in D-25, to DES for review, and receive DES' approval, prior to construction. The Applicant shall then implement the approved plan.
- E-7. **Pesticides (Insecticides and Herbicides):** The Applicant shall minimize use of all pesticides to the maximum extent practicable and shall comply with all applicable state, federal and local laws and regulations regarding application of pesticides, including, but not limited to, Pes 1001.01 and 1001.02 (see D-27). If requested by DES, the applicant shall provide DES with a list of pesticides applied, the name of the applicator and their NH pesticide license or permit number within 30 days of receiving the request.
- E-8. **Certification of Road Salt Applicators and Tracking of Road Salt:** All applicators of road salt containing chloride that are retained to de-ice impervious surfaces associated with the Activity shall be certified per the Green SnowPrq program (see <http://t2.unh.edu/green-snowpro-training-and-certification>) within two years of the issuance date of this Certification and shall maintain records of road salt use on the web-based tracking system available at <http://www.roadsalt.unh.edu/Salt/>. If requested by DES the Applicant shall provide the names of all road salt applicators and proof they are certified within 30 days of receiving a request.
- E-9. **Compliance with Other Permits:** The Applicant shall comply with all applicable permits associated with the Activity, including but not limited to those listed below, and any amendments or reissuances. The conditions of these permits shall become conditions of this Certification upon issuance of this Certification. Should there be any discrepancies between permit requirements, the more stringent requirement shall apply.
- DES Wetland Permit
 - DES Alteration of Terrain Permit
 - U.S Army Corp of Engineers Section 404 permit

- NPDES Multi-Sector General Permit
- NPDES Construction General Permit (if needed)

- E-10. **Storm Water Pollution Prevention Plan (SWPPP):** The Applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP or plan) and file a Notice of Intent for coverage as required under the EPA National Pollutant Discharge Elimination System (NPDES) program for the Multi-Sector General Permit (and the Construction General Permit, if required – see D-21). If requested by DES, the Applicant shall submit the SWPPP(s) to DES within 30 days of receiving a request.
- E-11. **Stormwater Best Management Practices (BMPs).** Temporary and permanent stormwater BMPs shall be designed and constructed in accordance with the DES Alteration of Terrain regulations (Env-Wq 1500). If alternative BMPs are proposed they shall be no less effective than those designed in accordance with Env-Wq 1500 and shall be approved by the DES Alteration of Terrain Bureau prior to construction.
- E-12. **Permanent BMP Inspection and Maintenance Plan:** In order to ensure the long-term effectiveness of approved permanent stormwater practices, the Applicant shall develop an Inspection and Maintenance (I & M) plan for permanent BMPs approved by DES. The plan may be submitted as part of the stormwater pollution prevention plan (SWPPP) required for the EPA Multi-Sector General Permit (see D-21). Unless otherwise authorized by DES, the I & M plan shall comply with the requirements of the Alteration of Terrain regulations (Env-Wq 1507.08 Long Term Maintenance). Prior to construction, the Applicant shall submit the I & M plan to DES for approval and then implement the approved plan. The Applicant shall maintain records of BMP inspection and maintenance and submit such records to DES within 30 days of receiving a request from DES.
- E-13. **Water Conservation Plan:** Prior to construction, the Applicant shall consult with the DES Water Conservation Program to determine if a water conservation plan is required in accordance with Env-Wq 2101 (see C-35). If required, the Applicant shall submit a water conservation plan that meets the requirements of Env-Wq 2101 and receive DES approval of the plan by the time specified by the DES Water Conservation Program. The Applicant shall then implement the approved plan.
- E-14. **DES Water Use Registration and Reporting:** The Applicant shall register, measure, and report all withdrawals and discharges with the DES Water Use Registration and Reporting program in accordance with RSA 488:3 and its supporting regulations, Env-Wq 2102. Prior to construction of the Activity, the Applicant shall consult with the DES Water Use Registration and Reporting program to determine specific monitoring requirements for the Activity. The Applicant shall then implement the DES approved measuring and reporting requirements.
- E-15. **Wetlands Monitoring, Reporting and Remedial Actions:** Prior to construction, the Applicant shall submit plans and supporting information that identifies the percent reduction in drainage area due to the Activity for all non-truncated wetlands (see D-17). For the non-truncated wetlands that will have drainage areas

reduced by 20% or more, the Applicant shall submit a sampling plan, conduct sampling and propose and implement DES approved remedial action for wetlands determined to be significantly impacted, in accordance with the conditions in the DES Wetlands permit approval letter of April 16, 2015 for truncated wetlands (see D-17).

- E-16. **Brickyard Brook Water Quality Monitoring Plan:** Prior to construction, the Applicant shall submit a surface water monitoring plan to DES for approval that includes monitoring of Brickyard Brook prior to initiation of, and during quarrying activities. The purpose of the plan is to determine if the Activity is causing or contributing to violations of surface water quality regulations (Env-Wq 1700). The plan shall include appropriate quality assurance/quality control procedures and specify that within 90 days of when the Applicant receives sample results, all data collected by the Applicant (and metadata) shall be provided to DES in a format approved by DES that can be automatically uploaded into the DES Environmental Monitoring Database. The Applicant shall then implement the approved plan. By January 1st of each year the Applicant shall provide a summary of sampling results for the previous year which includes a comparison to appropriate state water quality criteria and identification of any violations.

Violations of surface water quality criteria (Env-Wq 1700) shall be reported in writing (emails are acceptable) to DES within 48 hours of when results are known along with a description of remedial actions taken to prevent such violations in the future.

- E-17. **Brickyard Brook Withdrawals:** Unless authorized by DES, water for the Activity shall not be withdrawn from Brickyard Brook. Any equipment used to withdraw water in the past from Brickyard Brook shall be dismantled with confirmation sent to DES prior to construction of the Activity.
- E-18. **Upload NPDES General Permit Monitoring Data into DES EMD:** By January 1st of each year, the Applicant shall submit all water quality data (and metadata) collected in accordance with NPDES Multi-Sector general permit requirements in a format approved by DES that can be automatically uploaded into the DES Environmental Monitoring Database (EMD).
- E-19. **Status Reports:** At least 60 days prior to construction the Applicant shall provide DES with a plan and narrative indicating the extent of proposed quarrying activities planned over the next 5 years and the extent of surface waters that are most likely to be impacted in that period. Similar plans and narratives shall be submitted every 5 years thereafter beginning 5 years from the date of issuance of this Certification. Beginning with the second submittal (i.e., in 5 years), the submittals shall also include summaries of water quality monitoring conducted to date.

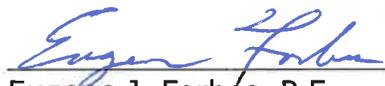
F. APPEAL

Any person aggrieved by this decision may appeal to the N.H. Water Council ("Council") by filing an appeal that meets the requirements specified in RSA 21-O:14 and the rules

adopted by the Council, Env-WC 100-200. The appeal must be filed directly with the Council within 30 days of the date of this decision and must set forth fully every ground upon which it is claimed that the decision complained of is unlawful or unreasonable. Only those grounds set forth in the notice of appeal can be considered by the Council.

Information about the Council, including a link to the Council's rules, is available at <http://nhec.nh.gov/> (or more directly at <http://nhec.nh.gov/water/index.htm>). Copies of the rules also are available from the DES Public Information Center at (603) 271-2975.

If you have questions regarding this Certification, please contact Owen David at (603) 271-0699 or Owen.David@des.nh.gov



Eugene J. Forbes, P.E.

Director, DES Water Division

cc: Dave Keddell, USACOE
Carol Henderson, NHFG
Hooksett Town Council
Hooksett Village Water Precinct Commission
Bow Board of Selectmen

Appendix A Waters of the United States

(Final amended definition of “Waters of the United States” in 40 CFR 122.2 (and other rules) as published the Federal Register on 6/29/2015 (Vol. 80, No. 124). The final rule becomes effective 8/28/2015.)

PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

■□11. The authority citation for part 122 continues to read as follows:

Authority: The Clean Water Act, 33 U.S.C. 1251 *et seq.*

■□12. Section 122.2 is amended by:

■□a. Lifting the suspension of the last sentence of the definition of “Waters of the United States” published July 21, 1980 (45 FR 48620);

■□b. Removing the definition of “wetlands” and revising the definition of “Waters of the United States” and

■□c. Suspending the last sentence of the definition of “Waters of the United States” published July 21, 1980 (45 FR 48620).

The revision reads as follows:

§ 122.2 Definitions.

* * * * *

Waters of the United States or waters of the U.S. means:

(1) For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (2) of this definition, the term “waters of the United States” means:

(i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) The territorial seas;

(iv) All impoundments of waters otherwise identified as waters of the United States under this section;

(v) All tributaries, as defined in paragraph (3)(iii) of this section, of waters identified in paragraphs (1)(i) through (iii) of this section;

(vi) All waters adjacent to a water identified in paragraphs (1)(i) through (v) of this definition, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;

(vii) All waters in paragraphs (1)(vii)(A) through (E) of this definition where they are determined, on a case specific basis, to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. The waters identified in each of paragraphs (1)(vii)(A) through (E) of this definition are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition.

Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(A) *Prairie potholes.* Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(B) *Carolina bays and Delmarva bays.* Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(C) *Pocosins.* Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(D) *Western vernal pools.* Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(E) *Texas coastal prairie wetlands.* Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

C-1. (viii) All waters located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (iii) of this definition and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (1)(i) through (v) of this definition. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in (1)(i) through (iii) of this definition or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when

performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(2) The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (1)(iv) through (viii) of this definition.

- (i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.]
- (ii) Prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.
- (iii) The following ditches:
 - (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
 - (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
 - (C) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (1)(i) through (iii) of this definition.
- (iv) The following features:
 - (A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
 - (B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
 - (C) Artificial reflecting pools or swimming pools created in dry land;
 - (D) Small ornamental waters created in dry land;
 - (E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
 - (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and
 - (G) Puddles.
- (v) Groundwater, including groundwater drained through subsurface drainage systems.
- (vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.
- (vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

(3) In this definition, the following terms apply:

- (i) *Adjacent*. The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (1)(i) through (v) of this definition, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. For purposes of adjacency, an open water such as a pond or lake includes any wetlands within or abutting its ordinary high water mark. Adjacency is not limited to waters located laterally to a water identified in paragraphs (1)(i) through (v) of this definition. Adjacent waters also include all waters that connect segments of a water identified in paragraphs (1)(i) through (v) or are located at the head of a water identified in paragraphs (1)(i) through (v) of this definition and are bordering, contiguous, or neighboring such water. Waters being used for established normal farming, ranching, and silviculture activities (33 U.S.C. 1344(f)) are not adjacent.
- (ii) *Neighboring*. The term *neighboring* means:
 - (A) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark;
 - (B) All waters located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (v) of this definition and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100-year floodplain;
 - (C) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (1)(i) or (iii) of this definition, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes.
- (iii) *Tributary and tributaries*. The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (1)(iv) of this definition), to a water identified in paragraphs (1)(i) through (iii) of this definition that is characterized by the presence of the physical indicators of a bed and banks

and an ordinary high water mark. These physical indicators demonstrate there is volume, frequency, and duration of flow sufficient to create a bed and banks and an ordinary high water mark, and thus to qualify as a tributary. A tributary can be a natural, man-altered, or man-made water and includes waters such as rivers, streams, canals, and ditches not excluded under paragraph (2) of this definition. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there are one or more constructed breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an ordinary high water mark can be identified upstream of the break. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if it contributes flow through a water of the United States that does not meet the definition of tributary or through a nonjurisdictional water to a water identified in paragraphs (1)(i) through (iii) of this definition.

(iv) *Wetlands*. The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(v) *Significant nexus*. The term *significant nexus* means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (1)(i) through (iii) of this definition. The term “in the region” means the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. For an effect to be significant, it must be more than speculative or insubstantial. Waters are similarly situated when they function alike and are sufficiently close to function together in affecting downstream waters. For purposes of determining whether or not a water has a significant nexus, the water’s effect on downstream (1)(i) through (iii) waters shall be assessed by evaluating the aquatic functions identified in paragraphs (3)(v)(A) through (I) of this definition. A water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Functions relevant to the significant nexus evaluation are the following:

- (A) Sediment trapping,
- (B) Nutrient recycling,
- (C) Pollutant trapping, transformation, filtering, and transport,
- (D) Retention and attenuation of flood waters,
- (E) Runoff storage,
- (F) Contribution of flow,
- (G) Export of organic matter,
- (H) Export of food resources, and
- (I) Provision of life cycle dependent aquatic habitat (such as foraging, feeding, nesting, breeding, spawning, or use as a nursery area) for species located in a water identified in paragraphs (1)(i) through (iii) of this definition.

(vi) *Ordinary high water mark*. The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(vii) *High tide line*. The term *high tide line* means the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.