

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333



DEPARTMENT ORDER
IN THE MATTER OF

DRAGON PRODUCTS COMPANY) SITE LOCATION ORDER
Thomaston, Maine)
QUARRY 1 EXPANSION)
#L-004152-16-B-A) FINDINGS OF FACT AND ORDER

Pursuant to the provision of Title 38, M.R.S.A., Section 483, the Department of Environmental Protection has considered the application of DRAGON PRODUCTS COMPANY with its supportive data, staff summary, agency review comments, and other related materials on file and finds the following facts:

1. Background/Project Description

By Board Order #04-4152B-13140 dated 27 January 1982, the Martin Marietta Cement Co. was granted a site location permit to mine limestone at its quarry in Thomaston, Maine. In subsequent Orders, this permit was transferred first to Cianbro Corporation, then to Dragon Products Company.

Dragon Products Company now intends to increase the area of Quarry 1 on the south side of Route 1, by three acres (so-called Section B). This expanded area lies just east of Quarry 1, which quarry predates the Site Location of Development Act. The new area to be mined is depicted on a plan submitted by the applicant entitled, "Dragon Products Company, Thomaston, Maine, August 20, 1987."

2. Site Description

The site is bordered by Route 1 to the north and by the grandfathered Quarry 1 to the west. The site is flat to the edge of Quarry 1, then steep to the Quarry 1 floor. It is 50% cleared and 50% scrub vegetation. The nearest body of water is 3/4 mile away. The site is not located on a mapped sand and gravel aquifer.

3. Title, Right or Interest

The applicant holds a warranty deed to the project parcel.

4. Technical Ability & Financial Capacity

Dragon Products Company has operated the Thomaston quarry site for more than 2 years, and has done so in a satisfactory manner.

The applicant estimates the total cost of this expansion to be about \$202,000. Since virtually all of the mined limestone will be used for Portland Cement manufacturing, this cost is a cement plant operational expense. Dragon Product Company's annual revenue exceed \$30 million; it should be fully able to meet the financial requirements of this project.

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5. Traffic Movement

The project site is accessed via interior roads of the quarry, which lead to U.S. Route 1. No adverse traffic operational impacts are expected to result from this expansion.

6. Site Development

Approximately 242,000 cubic yards of high calcium limestone will be removed to a maximum of 70 feet below existing grade, such that final elevation of quarry floor will be 25 feet above mean sea level ("MSL"). Quarrying will extend the limit of the existing quarry 1 face by about 250 feet. The main section of quarry 1 is about 50 feet deeper than section B will be.

Blasting of rock will occur at the quarry and all large blasts will be monitored with a recording seismograph. The U.S. Bureau of Mines has established a limit of 2 inches per second for ground accelerations, to protect dwellings in the vicinity of blasts. Dragon's monitoring of many large blasts at buildings around the quarry has never indicated accelerations exceeding 0.5 inch per second. Thus blasting has not been a problem in the past and is not expected to be a problem in the future. Technical review of this proposal has resulted in a recommendation that particle velocity not exceed 1 inch per second at the property line closest to the nearest occupied dwelling. These recommendations are based upon Federal guidelines.

The primary crusher used to crush stone will be located at the finish elevation of +25 MSL. The access road to the quarry site will be located below the primary crusher. The site will be mined for about 8 months, after which the area will be used for storage of process materials.

It will be necessary to remove 15 feet (72,600 cubic yards) of overburden to access the limestone. This overburden is Presumpscot formation marine clay. This clay will be used for reclamation and dust control (cover material for dust dump areas). Also, the earthen berm which extends along the northern face of Quarry 1 (between Quarry 1 and Route 1) will be extended around the new area, Section B, using this clay. The quarry site is also separated from Route 1 by a chain link fence and locking gate, to control access. Reclamation per se will not occur; a vertical face and a flat surface draining to the Quarry 1 pond will result from this expansion. Erosion is not expected to be a problem.

7. Soils/Geology

Overburden consists of Presumpscot formation marine clay; underlying product is high calcium limestone.

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8. Groundwater

Flow

There is essentially no "flow" of groundwater into Quarry 1. Although the rock in the area being quarried is fractured, the displacement of the rock is so minimal that transmittal of significant quantities of groundwater has not occurred. There are some areas of damp rock on the quarry faces, but no areas of flow. The amount of water collecting in the quarries is almost entirely dependent on precipitation.

It is possible that future quarrying activity could encounter a zone where the rock is sufficiently fractured or displaced to allow transmission of groundwater. It is, therefore, also possible that quarrying activity could affect the local groundwater table elevation. If an adverse impact is determined to exist, the applicant has proposed to drill and pressure grout the fracture zone to establish a cutoff wall or impermeable zone to eliminate the lowering of the groundwater table.

Depth

The depth of the groundwater table in the vicinity of the cement plant is variable. There are many ancient quarries (those operated for production of lime since the 1800's) in the Thomaston, Rockland, and Rockport area. Those nearest Dragon's active quarrying operation are filled to near ground level or to overflowing and there is no indication at this time that the Dragon quarry has impacted the depth of the water table.

Quantity

Dragon's quarrying operations have had no noticeable effect on the local groundwater quality, either because of drawdown due to inflow to the quarry, or because of infiltration of rainwater within the quarry. In both situations, the relative impermeability of the stone being quarried is the controlling factor.

As indicated in the groundwater flow section, if, as a result of future quarrying operations, adverse effect on groundwater quality are noted, cutoff walls will be installed as necessary to eliminate the effect.

BASED on the above findings of fact, the Department makes the following conclusions,

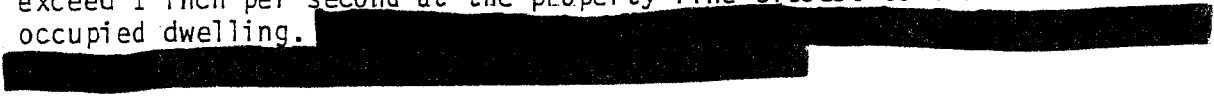
- A. The applicant has provided adequate evidence of financial capacity and technical ability to meet air and water pollution control standards as described in Finding of Facts #4.
- B. The applicant has made adequate provision for solid waste disposal, the control of offensive odors, and the securing and maintenance of sufficient and healthful water supplies as described in Finding of Facts #8.

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- C. The applicant has made adequate provision for traffic movement of all types into, out of or within the development area as described in Finding of Facts #5.
- D. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character or natural resources in the municipality or in neighboring municipalities as described in Finding of Facts #1, 2, 4, 5, 6, 6, and 8.
- E. The proposed development will be built on soil types which are suitable to the nature of the undertaking as described in Findings of Facts #7.
- F. The proposed development will not pose an unreasonable risk that a discharge to a significant ground water aquifer will occur as described in Findings of Facts #2.

THEREFORE, the Department APPROVES WITH THE ATTACHED CONDITIONS the application of DRAGON PRODUCTS COMPANY to mine "Section B", a 3-acre area adjacent to Quarry 1, for limestone in Thomaston, Maine, in accordance with the following conditions:

1. The Standard Conditions of Approval, a copy attached.
2. The applicant shall submit to this Department results of seismic monitoring at the active quarry site, and at a site at Section B at the property line closest to the nearest occupied dwelling. Particle velocity shall not exceed 1 inch per second at the property line closest to the nearest occupied dwelling. 
3. In addition to any specific erosion control requirements set forth in the order, the applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in noticeable erosion of soils on the site during the construction and operation of the project covered by this approval.

DONE AND DATED AT AUGUSTA, MAINE, THIS 3RD DAY OF NOVEMBER, 1987.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
Dean C. Marriott, Commissioner

PLEASE NOTE ATTACHED SHEET FOR APPEAL PROCEDURES....

Date of initial receipt of application 8/25/87

Date of application acceptance 8/25/87