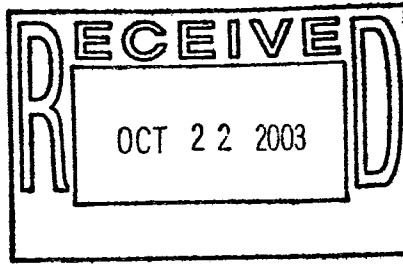


**D·R·A**

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October 21, 2003

Mr. A. Nicholas Parnell  
City of Newton  
Public Buildings Department  
52 Elliott St.  
Newton Highlands, MA 02461-1605

Re: Newton South High School  
DRA Project No: 20020.00

Dear Nick:

Enclosed please a letter from Griffith & Vary responding to the Chairperson of the School Committee's request. Please note that any renovation will require demolition and hazardous material removal. The scope of abatement is difficult to pre-determine. Also, please consider the issues of building occupancy while this work is occurring.

If you have any questions please feel free to contact the office.

Very truly yours,

**DRUMMEY ROSANE ANDERSON, INC.**

**Alan Pemstein**

**Principals**

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1958-1995

# Griffith & Vary, Inc.

Consulting Engineers

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October 6, 2003

Drummeey, Rosane, Anderson, Inc.  
Colby Hall  
141 Herrick Road  
Newton Centre, Massachusetts 02459

Attention: Mr. Alan Pemstein

RE: Newton North High School  
Newton, MA.

Dear Alan,

It has been brought to our attention that there exists some confusion regarding the extent of the HVAC issues at Newton North High School. This office would like to take this opportunity to offer the following insight relating to HVAC systems.

Although it may appear that the HVAC problems can be solved easily and inexpensively, the fact of the matter is, nothing could be further from the truth.

The ventilation issues go beyond being simply the result of unit ventilators being turned off or blocked by classroom fixtures such as shelves. The schools HVAC needs are presently being handled by systems that range in age from twenty four (24) to thirty (30) years old and have outlived their useful economic life. For the most part, the existing classroom unit ventilators are original and were designed to meet a less stringent ventilation code. Essentially, these units do not introduce the current code required outside air volumes into the classrooms. Modification of the existing unit ventilators to bring them up to current standards would be fairly extensive. The heating and cooling coils would have to be replaced with those of larger capacity in order to condition the increased quantity of outside air. Replacement of coils may be impossible due to their age. If replacement coils were available, disassembly of unit casing and modification of coil support structure would be necessary. All in all, this is an expensive, time-consuming, labor-intensive procedure and when complete, the school will still be operating with thirty (30) year old units that will become increasingly more difficult and expensive to maintain. Furthermore these modifications in and of themselves cannot guarantee code compliant ventilation rates.

The cleaning of the ductwork in this facility has been evaluated very carefully and presents a myriad of problems. The first major problem encountered is the fact that major portions of the

Mr. Alan Pemstein

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existing ductwork are too small to deliver the code required air quantities. Therefore, the cleaning of these systems by itself will do little to improve the overall ventilation effectiveness. It should be noted that due to the complex nature of the existing duct systems, replacement of undersized ductwork with correctly sized ductwork would not be a simple undertaking. This ductwork runs through many spaces of differing use. Replacing this ductwork would be very intrusive, would impact large groups of individuals at any one time and would require their temporary relocation. To further complicate matters the ductwork is also located in areas that contain asbestos thus requiring appropriate containment and abatement, which adds significantly to the cost and time those spaces would be out of service.

It is worth noting that the aforementioned corrections still would not address the major issue of thermal comfort. Presently, the school is plagued with temperature control problems that relate directly to the original HVAC system design and automatic temperature control system. Numerous complaints have been registered regarding the disparity of temperature between spaces and lack of control thereof.

It is our professional opinion, that approaching the HVAC issues in a simplistic manner is not realistic and does not begin to address the problem.

Should you have any questions, please do not hesitate to contact this office.

Very truly yours,

Griffith & Vary, Inc.



Wayne E. Mattson, P.E.  
Associate

WEM/cwm

3 006/Newton HVAC/1003