



## RESOLUTION

### ENCOURAGING THE JOINT SPECIAL SCHOOL BUILDING COMMITTEE TO PROCEED WITH A CONVENTIONAL NON-PROPRIETARY GEOTHERMAL HVAC SOLUTION FOR FAIRGROUNDS ELEMENTARY SCHOOL

#### *CITY OF NASHUA*

*In the Year Two Thousand and Eight*

**RESOLVED** by the Board of Aldermen of the City of Nashua that,

WHEREAS, the Joint Special School Building Committee (“JSSBC”) is currently evaluating replacement of aging boiler plants in three elementary schools;

WHEREAS, Fairgrounds Elementary School is most urgently in need of replacing its failing boilers;

WHEREAS, the JSSBC has identified geothermal HVAC to be the preferred replacement solution, for this technology is expected to save tens of thousands of dollars per school in annual operation compared with conventional HVAC systems, while providing for heating, air conditioning and a high volume of fresh air ventilation thus creating a healthier environment, and while consuming up to 75% less fossil fuel;

WHEREAS, the school department’s HVAC engineer Turner Building Science and Design, LLC (“Turner”) has identified several alternative solutions, ranging from a lowest-cost “in-kind” boiler replacement to an unconventional and partially proprietary geothermal HVAC system based on Turner’s concentric tube and air handling design that includes solar panels, a solar heat reservoir and an auxiliary peaking boiler, requiring extensive renovation of the school building;

WHEREAS, the JSSBC has been unable to select Turner’s unconventional geothermal HVAC system design because its estimated cost, including associated renovations, exceeds \$6.5 million per school, and because its complex design has never been implemented, anywhere;

WHEREAS, conventional non-proprietary geothermal HVAC solutions have been successfully implemented in school buildings more than twice the size of Nashua’s elementary schools for less than \$2 million, for example, as reported in an independent evaluation of the 136,000 sq. ft. Gorham Middle School prepared for the Maine Department of Education dated November 21, 2006;

WHEREAS, other successful conventional non-proprietary geothermal HVAC implementations have been reported and documented, for example for a 45,900 sq. ft. elementary school in Maryland, a 133,000 sq. ft. K-12 school in Ohio, a 185,000 sq. ft. high school in Idaho and a 149,000 sq. ft elementary school in Pennsylvania, with all installations reporting significant operating savings over conventional HVAC systems; and

WHEREAS, a pilot geothermal HVAC school building implementation in Nashua is highly desired to evaluate operation, maintenance, expected operating savings and life-cycle payback, with the objective to replace the aging and inefficient boiler and heat distribution plants with cost-effective conventional non-proprietary geothermal HVAC systems in other identified school buildings, namely Ledge Street Elementary School and Charlotte Avenue Elementary School.

NOW THEREFORE BE IT RESOLVED, *by the Board of Aldermen of the City of Nashua* that the JSSBC is encouraged to proceed with the competitive solicitation and implementation of a proven conventional non-proprietary geothermal HVAC solution for Fairgrounds Elementary School to replace its failing boiler plant;

AND BE IT FURTHER RESOLVED, that funds in an amount not to exceed \$2,500,000 are available in Account # 781-3775 (“HVAC Replacement – Ledge Street, Fairgrounds, and Charlotte Avenue”) designated for this purpose;

AND BE IT FURTHER RESOLVED, that the Board of Aldermen will not transfer or appropriate any additional funds to the School Department for the design, construction and evaluation of geothermal solutions for any other Nashua school building until a conventional non-proprietary geothermal HVAC system for the Fairgrounds Elementary School has been constructed, evaluated, documented and expected operating and life cycle savings have been reported to the Board of Aldermen.

**LEGISLATIVE YEAR 2008**

**RESOLUTION:** R-08-102

**PURPOSE:** Encouraging the Joint Special School Building Committee to proceed with a conventional non-proprietary geothermal HVAC solution for Fairgrounds Elementary School

**SPONSOR(S):** Alderman-at-Large Fred S. Teeboom

**COMMITTEE  
ASSIGNMENT:**

**FISCAL NOTE:** None.

---

**ANALYSIS**

This resolution encourages the Joint Special School Building Committee to implement a conventional non-proprietary geothermal HVAV solution at Fairgrounds Elementary School in an amount not to exceed \$2,500,000.

Any subsequent resolutions transferring or appropriating additional funds to the School Department for other or additional geothermal solutions would take precedence over the limiting language in this resolution.

---

**Approved as to form:**

**Office of Corporation Counsel**

**By:** Douglas Clarke

**Date:** July 28, 2008

**RESOLUTION** R-08-102

**Encouraging the Joint Special**

**School Building Committee to**

**proceed with a conventional**

**non-proprietary geothermal**

**HVAC solution for Fairgrounds**

**Elementary School**

Endorsed by

*[Handwritten signature]*  
*[Handwritten signature]* DEANE

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**IN THE BOARD OF ALDERMEN**

1<sup>ST</sup> READING AUGUST 12, 2008

Referred to:  
COMMITTEE ON INFRASTRUCUTRE and the  
~~JOINT SPECIAL SCHOOL BUILDING COMMITTEE~~

\_\_\_\_\_  
\_\_\_\_\_

2<sup>nd</sup> Reading OCTOBER 14, 2008

3<sup>rd</sup> Reading \_\_\_\_\_

4<sup>th</sup> Reading \_\_\_\_\_

Other Action \_\_\_\_\_

Passed \_\_\_\_\_

Indefinitely Postponed OCTOBER 14, 2008

Defeated \_\_\_\_\_

Attest: \_\_\_\_\_  
City Clerk

\_\_\_\_\_  
President

Approved \_\_\_\_\_  
(Date)

\_\_\_\_\_  
Mayor's Signature

Vetoed: \_\_\_\_\_

Veto Sustained: \_\_\_\_\_

Veto Overridden: \_\_\_\_\_

Attest: \_\_\_\_\_  
City Clerk

\_\_\_\_\_  
President