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**CONSTRUCTION PROJECTS COMMITTEE**  
**THURSDAY, JANUARY 29, 2009**  
**6:30 P.M.**  
**NASHUA HIGH NORTH CAREER CENTER**

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There was a Construction Projects Committee meeting held on Thursday, **January 29, 2009** at Nashua High School North. The meeting was called to order at **6:30 p.m.**

Present: Alderman McCarthy, Mr. Hallowell, Alderman Tabacsko

Also Present: Mr. Smith, Alderman Teeboom, Mr. DuBois

Also Present: *Channel 99, the Telegraph*, Members of the Public

*Recording in the Career Center is not clear for portions of meeting*

***DISCUSSION – HVAC System: Fairgrounds Elementary and Ledge Street Elementary Schools***

**Mr. Hallowell**

We go round and round on this geothermal thing. And I'm concerned because it seems that if you don't do it exactly right, you lose all the benefit of having done the geothermal. And quite frankly, I'm still concerned about the expertise that sits inside of Turner with that... to the point where I think it's just simpler to go with natural gas, which for the next 5 years is still going to be the cheaper way. I think I heard the guy from the Jordon Institute say the same thing that people are finding that people are not getting the benefit of those systems. And that's just what Phetteplace said, that if those systems are not put in correctly, that you lose all the benefits.

**Alderman Teeboom**

*Distributed spreadsheet.* You can see that the special construction is the same for the displacement air as for the unitary.

**Alderman McCarthy**

What's under special construction are the wells.

**Alderman Teeboom**

We don't have a breakout for the detailed items that I labeled HVAC Geothermal. This is the major part of the estimate.

**Alderman McCarthy**

You actually do, but not on that sheet.

**Alderman Teeboom**

Not on the unitary. That's a different design entirely. The costs are close. What surprised me is how expensive in kind replacement is. Also interesting is that the unitary system is second in line. I asked Turner to give us the operating costs for comparison. And he claims he gave them to us for 3-4 options. I found the original cost estimate that they did and they estimate about \$20,000 annual operating costs for our schools. It's \$13,220 for electric and \$6,000 for gas. The problem I have with that is that if you look at the actual data from Gorham, the operating costs are about \$171,000 a year. Now there's a sizable amount of electrical costs in there. You didn't know how much of that is lighting, but we can find that out. But Gorham is twice the size of Fairgrounds and has a super envelope. How are we going to achieve on an old school without proper envelope, \$20,000? It's questionable. I think every expert we've talked to said stay away from the displacement, super ducting system... or central air system. They all pushed unitary system. I would like somebody to make an independent assessment of what the operating costs would be for Turner's design for the unit.

**Alderman McCarthy**

From my perspective, the question was deeper than that. The original design I liked because it had displacement ventilation. If we going to abandon that idea for something else, then looking at a conventional design that has lower cost distribution heat form natural gas frees up a lot of dollars for building envelope.

**Alderman Teeboom**

Are you saying don't do geothermal at all? Do a gas fire system?

**Alderman McCarthy**

I think there's a separate decision of whether to do geothermal or not. The displacement system has a huge amount of substantial duct work to do. I would prefer to do displacement because I think it creates better classroom air quality. If we can't do that then I would look at something that has substantially lower cost and penetration. The only thing I like about the convection system is that it doesn't make any noise at all because there are no fans.

**Alderman Teeboom**

So what system is that? Is that a gas fire system or is it a geothermal system?

**Alderman McCarthy**

Once you switch to a hydronic loop that's got in classroom fin tube, it doesn't matter how you get the hot water in the other end of it.

**Mr. Hallowell**

I have some concerns as to whether 130 degree water can really effectively be moved around and still give you enough heat by the time you get to the last one it's got to do.

**Alderman Teeboom**

If you're going to a 4<sup>th</sup> or 5<sup>th</sup> option in here you're going to upset the apple cart.

**Mr. Smith**

I have asked Jordon Institute to give us proposals on this. I did receive a breakdown of mechanical pricing from Kevin this afternoon. I had a budget meeting so I haven't had a chance to look at it yet. I'll send it out electronically first thing tomorrow.

**Mr. DuBois**

*Discussed numbers (from report) with committee and various options.*

**Alderman Teeboom**

So you want to hire Jordan Institute? To do what?

**Alderman McCarthy**

I want them to do the envelope and give us some guidance on those designs so we can get some estimation on what those systems will look like.

**Alderman Teeboom**

Which designs?

**Alderman McCarthy**

On changing to the convection system.

**Mr. Hallowell**

The option is not on that chart.

**Alderman Teeboom**

But it's the new technology.

**Mr. DuBois**

The convection is not a new technology. We do a lot of that.

**Alderman Teeboom**

So forget geothermal altogether.

**Mr. Hallowell**

But it doesn't necessarily mean you can't do geothermal. We have to investigate whether the 130-140 degree water would be enough to do it. I would suspect that if we call up Dr. Phetteplace, he would say no.

**Alderman Teeboom**

So let's have Jordon Institute look at this whole problem and do an assessment.

**Mr. Hallowell**

So, do we want to make a motion and set a dollar limit? I don't think there's any benefit to doing more than one at one time, so let's just do Fairgrounds.

**Alderman McCarthy**

Right.

**Mr. Teeboom**

Let me ask you this... the JSSBC was given the charge to do HVAC systems. And a lot of the discussions now are about renovating schools, and envelopes. Do you need to go back and get authorization for that? You're getting into sizeable renovations here. Is that part of the charge?

**Mr. DuBois**

There was always the understanding of some renovations. If you were just going to replace the boilers you wouldn't need us or Turner.

**Alderman McCarthy**

If we have to ask the School Board if we can do a bigger project, we'll do that.

**Alderman Teeboom**

It was a \$5 million job for 3 schools. We're now talking about \$20 million.

**Alderman McCarthy**

The schematic estimate that was in the capital improvement plan was \$4 million. The schematic estimate in the capital improvement plan for the high school project was \$12 million. Those numbers do not reflect what happens. They come from studies that I wish we hadn't done, because they're never close to the reality of what the cost is going to be.

**Alderman Tabacsko**

I remember Harvey telling us about the looseness of the current envelope being an issue. What we have now is Jordon Institute coming in with a physical where they test this with some level of precision that I think we can learn from for the other schools.

**MR. HALLOWELL MOVED TO GET AN ESTIMATE FROM JORDON INSTITUTE TO EVALUATE THE SCHOOLS FOR ENERGY EFFICIENCY AND TO CONSULT ON HVAC OPTIONS.**

**SO VOTED.**

**Mr. Hallowell**

Should we set a dollar limit that would allow us to go ahead?

**Alderman McCarthy**

Yes, we'll have to go to JSSBC, but I guess we're anticipating a range of \$20,000 to \$25,000.

**MR. HALLOWELL MOVED TO AMEND THE MOTION NOT TO EXCEED \$25,000.**

**SO VOTED.**

**Alderman Teeboom**

How are they going to work with Turner? Has anybody thought of that?

**Alderman Tabacsko**

I don't think that's a particular problem.

**Mr. Hallowell**

My concern with Turner, is when we had the Phetteplace review, there were no changes made based on what he said. So I don't hold out much hope that if the Jordon Institute says we should do A, B, C or D there will be any changes made either.

**Alderman McCarthy**

I'm not sure I agree with that. There were constraints based on the fact that it's a school project. Phetteplace basically came in and said here's how I did every building I ever done. And when I thought about it, those buildings were mostly military bases. And that design works well there, but it's not the kind of school construction we're looking at. Turner said we hear you, but the other constraints stop us from doing it exactly that way. That's why looking at a unitary system reflects the cost of putting all the classroom equipment in closets, due to noise.

**Mr. Hallowell**

There are other things that were pretty clear to me that we should not be doing. There were minor things that could have been changed, and as far as I can see nothing was changed.

**Alderman Teeboom**

I'm glad to see Jordon come in.

**Mr. DuBois**

There are differences of opinion even amongst the experts.

**Mr. Hallowell**

I'm much more leaning towards doing natural gas, which everyone seems to understand. Because what is clear to me is that if we make even small mistakes with a geothermal system, we may lose all the benefits of what we're trying to do.

**Alderman Teeboom**

So you don't want to be the first in New Hampshire.

**Mr. Hallowell**

I don't generally like to buy the first series of cars off the lot, either.

**Alderman Teeboom**

Is there any money in this bailout package that we can pull out for this purpose?

**Mr. Smith**

Funny you should say that. I received an email from the State Department of Education a few weeks ago asking for a list of projects we have that might potentially qualify for stimulus requirements. And yesterday he said we potentially have \$3 million we can send you. No promises yet, but he asked if we're "shovel ready"... which means that from the time you get the money, within one year you're done. So there is some sense of urgency that maybe that money might come and we're not quite ready.

**Mr. Hallowell**

Does it have to be geothermal?

**Mr. Smith**

No, there are no strings attached.

**Alderman McCarthy**

We may be contracting more construction than there is capacity for at the moment.

**Mr. DuBois**

If the stimulus money comes all at once, it will drive up material and labor rates.

Alderman Tabacsko moved to adjourn. **So voted at 7:48 p.m.**

*Submitted by Jacki Waters*