

MEMO

To: Jay McCusker, Ken Ross

From: Bob Browning BB

Date: January 31, 2020

Re: Technology Design Planning

I fall into the category of dinosaur when it comes to current technology that should be available in a modern classroom. To a large extent, I don't even know what questions to ask. However, I do have some questions when it comes to the method and effort we make to determine how we make sure the new Jonesborough School is as up-to-date as possible technologically.

Question: With the current design team, who are we relying on to make sure we are covering the key components to a strong technology system in the school? Is that the electrical engineer? If so, do we know that the electrical engineer has a top-notch person spearheading that aspect of the design?

Question: Is there an example of school in reasonable driving distance that is considered to have a state-of-the-art technology program? Do we know what makes up a state-of-the-art technology program?

Question: We have heard that the new Boones Creek School did not complete the technology installation that very likely should have been in place when the school opened. There were security-based measures involving technology that were not designed into the school, and there were at least four computer labs that even during construction were determined not to be needed. How do we avoid any similar criticism in the design of the Jonesborough School?

Question: Does it make sense to bring together a "subcommittee" of knowledgeable IT personnel or consultants, including the Washington County IT staff, to talk about the key components with technology that should be available when the Jonesborough School opens, and what should be in place to allow for future upgrades? For example, do we need conduit for additional wiring, if it is ever needed? Is there some way to facilitate the ease of installation of any future wireless technology?

We know that installation of technology systems after the fact is much more difficult and much more expensive. How do we avoid saying "I wish we would have done that when we had a chance"? It seems to me to be worthwhile to have a study committee on this issue with people in the know (including the school staff, design team, maybe some sales people and hopefully someone that helped create a top-notch school-based technology program).

Let me know what you think, and if it's a good idea, who might be on the study committee?

School Design Planning Meeting
12/2/19, 2:00pm, at Ken Ross Architects
Discussion on Mechanical and Electrical Issues

Present Tommy Burleson, Wayne Woods-Burleson-Contraction, Rusty Wilcox-ESG (Mechanical Engineers), Harold Damion-Vreeland Engineers (Electric), Philip Patrick-County Schools, Ken Ross, Jay McCusker-KRA, Washington County School Staff (Curtis Fullbright-Director of Technology, Vince Sweeney-Communications, Jeremy Moore-HVAC, Gary Lyons-Maintenance, Keith Lyons-Maintenance), and Bob Browning.

Ken Ross opened the discussion by talking about the boiler problem at the new Boones Creek School that failed for the second time that morning. Jeremy Moore said the big problem was there was no redundancy; no back up boiler. It can be a little part that shuts it down, but if the boiler doesn't work in cold weather the kids have to go home. Jeremy said every other school does have a back-up unit. Jeremy also said that Lockinvar Boilers had been specified but a different unit was selected. He said they have Lockinvar units in other schools and they have had great service. He said they are familiar with Lockinvar units and it made sense to him that they keep consistency in the units if they are having a good experience with them.

When talking about the mechanical system, the comments included the following:

- Trane units were good especially because of local supplier.
- The inside units should not be in the ceiling where a technician cannot get to them for repair or replacement.
- Armstrong pumps were good because Valley Equipment was close and could repair them quickly.
- It is always better to have individual controls in each room because one teacher is too cold and one too hot. Having controls that control temperature in two or more rooms is always a problem.
- Mixing valves in bathrooms are problematic, and if they have to be used a quality brand must be specified. Also, someone that knows what they are doing needs to oversee the installation of mixing valves because the installation is critical.
- They need 1.6 toilets with flush tubes.

Water/Sewer

- The water heaters at Boones Creek School are fine, and gas is better because of instant heat.
- Need all copper lines.
- There have been some problems with sprinkler heads, especially the flex heads – don't need for them to turn 90 degrees.
- There was discussion about make-up air, filters, bottle fillers with water coolers.

A discussion took place about the significant cost savings of designing the building so there was no need for sprinklers in the attic.

ESG talked about bidding so that a specific brand is used that must be bid, but there is a section for alternates that could be submitted for the owner's consideration and what cost would be added or deducted, if selected.

Electrical

- LED lighting needs to be used, and you can avoid a lot of light pollution.
- Need to the lighting and HVAC to tie to a sensor system that reduces use when building is unoccupied. ALC all purpose sensor (sonic) should be considered.
- It should be clear who is responsible for caring and maintaining sensor systems.

School signs need to be considered with message boards. The control needs to be in the school's administrative area. The school zone flashing sign needs to be wireless with the control in the administrative area.

Security

Security alarms, panic buttons, etc. were discussed at some length. It was pointed out that at the Boones Creek School, there were some obvious areas that should have had cameras. Curtis Fullbright said it would help to keep the same type of control panel – key pad and camera brand. He said at the Boones Creek School it was too early to tell if the equipment would be trouble free, but it seemed okay now. He said there was an “Open Eye” system at the Boones Creek School, but he preferred a different brand. When the power is down there has to be a reliable back-up system.

Mr. Fullbright said there is technology to do anything you want alarm wise. The wiring was put in at the new Boones Creek School but not the equipment needed. Teachers can talk to the administration area from an intercom unit on the wall of each classroom or from a “fob” around their neck. There could be a panic button on the fob that could signal the SRO office and the administration area of an emergency, and exactly where the problem (or the teacher) was located.

A discussion took place about outside doors to classrooms, and whether a door propped open in a classroom could show up in the SRO office if there were sensors. It was pointed out that any outside door could be censored to show it was open, but most classroom doors at Boones Creek were not censored. The entrance doors were, and they would show up if opened, and left open.

There was a discussion about doors that could shut down a wing of the school, either from a security standpoint or because of a fire alarm. It was pointed out that when a fire alarm went off all kids have to exit the school and are extremely vulnerable. The design team is going to look to see if fire codes could be met if a wing is isolated and not all the students in the other part of the building have to exit.

The need for computer labs was discussed, and School System Staff said only one was needed and wi-fi should be in classrooms.

There needs to be a hardwired system in administration and the cafeteria cashiers.

They like "Proximity" card systems.

It was agreed upon that it would be really helpful for Curtis Fullbright and Vince Sweeney to meet with Jonesborough Police staff and Major Jameson of the Sheriff's Dept. to discuss alarm systems related to security.

9. Because schools can be designed to lockdown, it is important to have an outside KnoxBox where public safety can get access to keys.
10. There needs to be some thought into how emergency vehicles can get access to the school building when vehicles are stacked waiting for student pick-up.

Bob Browning discussed the need for all parties to work together to develop an emergency response plan for the new Jonesborough School so there would be no question about how different agencies were expected to respond in various situations. All agreed a plan should be developed before the Jonesborough School is opened.

Jay McCusker said after some design elements were developed and options researched, the group would be asked to get back together to provide additional feedback.

Note: There needs to be serious attention to security lighting associated with the school, both inside and out. Also, the use of LED lighting is a major issue long term because of energy costs. Internal security lighting should be a separate circuit or designated so that every light in the building does not have to be on in order to have adequate security lighting. Should classrooms be locked after cleaning with lights out overnight, or should some light be on in each classroom? Because of energy costs there should be attention to only providing the lighting necessary overnight for adequate security.