



TIDEWATER
PRESERVATION INC.

3917 Bull Street
Savannah, GA 31405
Phone: (912) 547.6911

April 30, 2015

Savannah-Chatham County Public School System
Attn.: Mr. Michael Coon
208 Bull Street
Savannah, GA 31401

RE: Savannah Arts Academy – Window Analysis

Dear Mr. Coon,

On behalf of Tidewater Preservation, Inc. (TPI), I would like to thank you for allowing me an opportunity to provide input as you consider how best to address the issue of deteriorating windows at Savannah Arts Academy (SAA). As a proud parent of a SAA sophomore, I am relieved that the Savannah-Chatham County Public School System (SCCPSS) is committed to repairing what has become an unsafe condition at the school. As a preservationist, I am grateful that you are taking the time to carefully consider the significance of this iconic building and its place of prominence within a cherished historic neighborhood. As a taxpayer, I am pleased that SCCPSS is working to make an informed decision which takes into account both immediate and long-term consequences.

As a result of much analysis and our ongoing dialogue, I have taken a very careful look at the current condition of the windows and have considered the best approach for their treatment. At the outset, I want to express my dismay at the deteriorated state of the windows which were restored only twelve years ago. TPI is responsible for the restoration of thousands of historic wood windows, and while it is to be expected that some deterioration will occur, it is deplorable that a restoration effort of a mere twelve years ago has yielded windows in such a state of degradation. While I am unaware of the precise means and methods used at that time, I am confident that the best restoration practices were not implemented.

As SCCPSS considers whether to restore the existing windows again or replace them, it is unfortunate that the results of the previous sub-standard restoration effort may have tainted the idea of restoration as a viable option. I trust that SCCPSS recognizes that the improper treatment

of the windows during the last restoration has been a primary reason for their premature failure. Proper restoration methods, coupled with routine maintenance, will ordinarily provide a life-cycle that can be measured in centuries, not years. In the long run, that option can be more economically beneficial. After only twelve years since the last restoration attempt, there should not be a reason to fully restore the windows again so soon. However, that is clearly what is needed.

1. In the analytical data provided by you and your staff, you present a comparison between restoring the existing windows and replacing them with new, aluminum clad units. Your analysis includes repair costs during the first twenty years of service. Assumptions were made relative to how many windows would require full restoration, how many require only glazing and paint, and how many require sash replacement. According to the spreadsheet you provided, it was assumed that all windows require glazing and paint, 50% require “structural repairs,” 20% require sash replacement, and 25% require the repair and/or replacement of trim. Based on my observations, I contend that in order to provide the best life-cycle service, all of the windows require full restoration. Therefore, I think your Year 1 restoration cost of \$1,052,800 is low. In order to capture all of the required costs associated with proper restoration methods, it is my estimate that Year 1 restoration costs would be approximately \$2,282,500.
2. Your projection that all windows would require painting every five years thereafter is presumably based on the poor performance of the windows since their sub-standard restoration twelve years ago. You have allocated a painting cost of \$714,000 per occurrence, which means by year twenty the windows will have been painted four additional times at a total cost of \$2,856,000. If the restoration is performed properly, the windows should have to be painted only every ten years. I would allow approximately \$547,000 every ten years which equates to \$600 per double-hung set (factoring in inflation and assuming that costs will increase by the time painting is performed in year twenty).
3. It is to be expected that some deterioration will occur and maintenance will be required. However, I do not support your notion that such a large amount of sash replacement will have to occur. I think it is safe to assume that within every ten year period 5% of the window’s structural members, trim, or sashes will require repair and/or replacement. That would equate to a cost of around \$125,000. It has been noted over the course of the last twelve years you have spent \$100,000 in “reactive” maintenance. Once again, let me point out that if proper restoration is performed, any subsequent repairs are isolated and result in the maintenance of stable windows. Repairs performed within the last twelve years have been a “patch” for failing windows that have deteriorated at a faster than

normal rate. As the advanced deterioration was not planned for, funding for repairs has been inadequate. In summary, I assert that the projected maintenance costs during the first 25 years following restoration equates to \$1,409,216. The maintenance costs in conjunction with the initial restoration cost equates to a total 25-year lifecycle cost of \$3,691,716. I have attached a spreadsheet for your reference.

4. In the lifecycle comparison you provided, costs for complete window replacement are indicated. I cannot attest to costs for new windows, but I assume that the costs shown are valid. I do believe, however, that two very important aspects of window replacement are being overlooked. First, there needs to be a very careful set of specifications developed to ensure that the installation of replacement windows does not cause future maintenance issues. I have seen countless cases where new windows were improperly installed resulting in leaking, trapping of moisture, mold, condensation (metal windows), etc. I am unsure whether the cost provided for window replacement takes into account a proper installation. Therefore, the costs associated with window replacement need to be carefully scrutinized. Second, and perhaps more importantly, the comparison you provided does not take into account the actual lifecycle of replacement windows. You indicate that the windows come with a ten year warranty and, therefore, most maintenance will not occur until years 11-20. My concern is for the longevity of the replacement windows. I have seen innumerable cases where replacement windows fail after fifteen to twenty years of service. Failure is already demonstrated by three replacement samples on the west elevation of the courtyard, and those are only twelve years old. If making a comparison between restoring the existing windows versus replacing them with new units, it is reasonable to assume that the replacement windows will begin to fail during years 15-20. As they are difficult and impractical to repair, they too will require replacement by year 20, or shortly thereafter. I contend that the comparison is only accurate if you consider the cost of replacing the replacement windows as a realistic future expense. If the replacement and associated maintenance costs you have provided are correct, the 20-25 year lifecycle cost of replacement windows is approximately \$4,246,363.

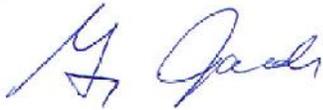
I have summarized the figures described above in the attached spreadsheet. As you can clearly see, the cost of replacement windows far exceeds the cost of properly restoring and maintaining the historic windows during the course of a 20-25 year lifecycle. The historic windows are a valuable component to the overall historic and architectural integrity of this building in the Ardsley Park Chatham Crescent National Register Historic District. If properly restored and maintained as suggested, the existing windows are easily renewable every ten years and can be maintained in that fashion indefinitely. Replacement windows are not renewable, and they will need to be replaced, resulting in an increased expense to SCCPSS and taxpayers.

In the analysis above, I have made numerous references to the “proper” means and methods for window restoration. I suggest that proper treatment is based on time-tested efforts that take into account material compatibility, longevity and economic efficiency. If the decision is made to restore the existing windows I would be happy to draft the specifications for the bid package. I would also consider restoring one entire window unit so the process could be demonstrated and emulated. I am convinced that any concerns regarding the performance of restored windows can be alleviated.

Action is required to ensure that students and faculty of the school are not injured due to falling glass. As such, I recommend immediate stabilization of any window members that appear to be in danger of falling. This can be done in a manner that does not further damage historic window members. Please let me know if I can be of any assistance in that regard.

I would be pleased to share my findings to the school board, and I appreciate the opportunity to study this issue. It is my hope that SCCPSS considers these points before it makes a final decision. If you have any questions regarding my assertions, please feel free to contact me at 912-547-6911.

Sincerely,

A handwritten signature in blue ink, appearing to read "Greg Jacobs". The signature is fluid and cursive, with the first name "Greg" and last name "Jacobs" clearly distinguishable.

Greg Jacobs

cc: Vanessa Miller-Kaigler
SCCPSS Board
Historic Savannah Foundation

