

The Sensible Solution:

A Compelling Alternative Design Proposal for the SCASD High School Renovation

January 21, 2007

Produced by David Paterno and Volunteer Team of Concerned Citizens

Acknowledgements:

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This report is the result of the hard work and dedication of concerned citizens. Without the volunteer help of the contributors and other community members, the “Sensible Solution” would not have been possible. The team also thanks SCASD administrators: Dr. Patrica Best, Ed Poprick, and MaryJenn Dorman for providing necessary district documents for this report.

Intent:

The Intent of this report is to present information for assisting the State College Area School District (SCASD) Board, Administrators, and Community with the decisions regarding the alterations to the high school facilities.

EXECUTIVE SUMMARY:

The purpose of this document is to demonstrate that the alternative Sensible Solution conceptual design is equivalent to the SCASD proposed one-building State High in terms of satisfying the district's requirements - and that it is a superior and less risky approach with regard to the following major considerations:

- **Improved Delivery of Student Education:** The Sensible Solution is more in line with and adaptable to the modern delivery of education for the 21st century in terms of school size and facility design - with multiple learning and teaching methods in mind. It is also a high school configuration that has a 20+ year proven track record of successful academic outcomes in our district. This alternative delivers comparable space increases for program needs.
- **Lower Construction Cost:** This alternative delivers cost savings of \$30 - \$36 million (30%-36%) and meets/exceeds the requirements outlined in the SCASD plan. Including financing costs, the Sensible Solution saves taxpayers over \$42 million.
- **Enhanced Flexibility:** Should enrollments increase over the expected life of the facility and/or the district experiences fluctuating enrollments due to a host of factors, including nationally anticipated increases in school choices (e.g. charter schools), two moderately sized and fully renovated buildings will provide significant flexibility for the future.
- **Safety, Security, and Comfort Improvements:** The Sensible Solution addresses concerns about crossing the street. It provides asbestos removal, up-to-date heating, ventilation, and air conditioning (HVAC) systems throughout, new main entrance office areas to each building and controlled access to the building. Every square foot of each building is either fully renovated, or demolished and replaced with new construction. All renovated and new areas are modernized and finished to the same extent and quality as in the Kimball plan.
- **Greater Community Consensus:** Increased community support for a project of this scope is a critical component of the district's future success. The Sensible Solution is based on an analysis of abundant public input from various stakeholders. Therefore, it is more likely to be a better consensus point within our community.

The Sensible Solution includes sufficiently complete conceptual designs to estimate cost. The proposal is to completely renovate the two existing high school buildings and make necessary additions – providing the same total square footage as the SCASD one building plan for an “apples-to-apples” comparison. This alternative plan is not a “minimal” renovation and it is not the cheapest possible solution. It provides for a beautifully restored, completely up-to-date educational facility for the future.

This document has been prepared by a professional team led by David Paterno and has been reviewed and endorsed by other respected community professionals in the fields of construction, high school operation and maintenance, engineering, business, education, and architecture.

Recommendation: Based upon the overwhelming favorable comparison of benefits and costs of the Sensible Solution detailed in this document, the team recommends that the SCASD Board postpone the commencement of the one building plan so that the Sensible Solution can be further evaluated. Further evaluation would include: constructive community dialogue on the Sensible Solution plan with input from the community, students, teachers, and administrators; and a detailed design and cost estimate produced by an independent architect.

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INTRODUCTION:

1.1: Objective:

The objective of this report is to demonstrate that an alternative comparable plan exists that would more effectively meet the requirements of the school district than the one-building option.

1.2: Background:

The State College Area School District (SCASD) has proposed a new \$98 million, 545,396 sq. ft¹. single-building State High as a renovation and expansion of the North Building. This building is designed to accommodate only the current enrollment of approximately 2700 students.² The South Building has been slated for demolition, but has been removed from the PlanCon process and demolition is put on hold with no known future use planned. Due to PlanCon regulations for this specific project, removing it from the project means it cannot be used again as a high school educational facility.³ If the current PlanCon process is discontinued, however, the South Building could continue to be used as a High School facility indefinitely.

1.3: The Concern:

The SCASD proposed single building is an enormous investment for this community and yet brings few significant benefits over other less costly alternatives. Moreover, it carries unnecessary financial and educational risks. There is also no evidence that the SCASD proposal is based on a solidly documented design process. The documented needs for the district's project could be just as easily and more affordably met with the original two-building renovation concept. In fact, the team found no justification within the design documents indicating that this district requires a one-building high school.⁴

Since new construction is significantly more expensive than renovating existing structures, nearly 1/3 of the cost for SCASD's new high school (or about \$30 million) is simply due to the abandonment of the South Building and thus the need to rebuild its essential functional square footage onto the North Building.⁵ This superfluous expense involved in just having one building as opposed to two buildings is extreme.

Given the financial impact that this facility project will place on local municipalities, those increased unnecessary taxes will exacerbate our community's already deficient stock of affordable housing and potentially limit our ability to further address facility needs in the remaining balance of the district-wide master plan. Further, the construction complexity of essentially adding an entire building within the existing North Building (in an area with geo-

¹ As per 90% design estimate of square footage presented 1/17/07 public information session.

² At an 11/27/06 board meeting, Physical Plant Director, Ed Poprick, stated that the new building is designed only for the current enrollment (which is 2686) and that it is not being built to accommodate any growth.

³ See Board Meeting Minutes of August 14, 2006

http://www.scasd.org/2497_7587161156/cwp/view.asp?A=3&Q=322381&C=53730 .

⁴ See Appendix 1

⁵ See March 13, 2006 recorded statement, Susan Werner/board meeting/Contact C-Net for copy of meeting. When asked, "what do we get for 30 million over the two-building plan" she responds that essentially 9-12 grade students are together in one building as opposed to two. Further, cost figures are estimated from the district's own cost estimation models – See appendix 4 for cost estimation details.

technical concerns) - while 2700 students are on site trying to learn - is ambitious and challenging – likely leading to cost overruns and a need for more value engineering (cost cutting in other areas). The reader should also be clearly aware that anything that is done to the South side of the campus would carry additional costs beyond the \$98 million figure (the documented plan on record for this part of the campus is \$4.4 million for demolition, and new sports fields).

School districts are often in the position of having to make tough choices about priorities. In this case, one has to ask whether the additional \$30 million to make one building as opposed to two is worth the expense given other compelling district needs. Some of the elementary schools in this district have deficiencies and needs that will not even begin to be addressed in the next five to eight years, according to the updated information in the District Wide Master Plan. In fact, after the high school project, the board plans to focus next on administrative offices, plans for the South building, and Memorial Field.⁶ Gray's woods (which has already outgrown its attendance area) and Park Forest Middle School are not included in the remaining District Wide Master Plan (DWMP) costs at all. The concern is that these priorities may not be in order. Given the fact that every town – even State College – has possible financial limits, it is imperative that the district addresses its most salient priorities first and that it does so with wise investments that directly relate to improved educational results district-wide. To fully understand the concern here, one should visit Ferguson Township Elementary and realize that despite the trailer and other deficiencies – including the fact that Ferguson Township students are being bused elsewhere because it too has become too small for its designated attendance area - this school will not be addressed until 2013-2014.⁷

The board did examine the two-building design concept and abandoned it before it was ever fully developed beyond a rather general campus site sketch. When the board looked at different site plan drawings – thinking primarily of the current facility deficiencies - they chose the one-building design. This “deficiency model” of decision-making is akin to jumping out of the pan and into the fire, however, since there was never a documented determination of existing facility strengths or the potential weaknesses of the one-building design. Put simply, this selection was made in a very short time frame without any documented evidence of the kind of comparative analysis that should have been done before making a decision of this scope⁸. Since this decision, on May 9th, 2005, the community has become educated and engaged; and has become informed about the process the board followed. Since May 9th, the overwhelming majority of those who have participated in the public process put forth by the board have clearly opposed this decision.

⁶ Discussed at public school board meeting 12/04/06.

⁷ See power point presentation from January 17, 2007 update on the DWMP at:

http://www.scasd.org/249710026193544/lib/249710026193544/HS_Community_Info_Session_January_2007.pdf

⁸ It is apparent from public records that the school board was first presented with the one-building design for the North Building in April 2005 (see <http://www.scasd.org/2497%5F7587161156/cwp/view.asp?A=3&Q=295627&C=51121>). Within approximately one month of looking at general concept drawings of campus sketches for the high school site, they selected their current design concept. Since there is no publicly available or supplied documented prioritization of criteria or comparative analysis and no documented process that they went through to arrive at that decision, we have no way of knowing exactly what they were considering when they chose to abandon the two-building plan. They have only offered post-hoc explanations for the basis for their decision. This rigorous analysis should have been done for a project of this scope.

Much of the public concern has been related to the scale and size of the SCASD one-building plan and the negative impact this could have on students. Educational research over the past 15-20 years abundantly favors smaller learning environments and none of the research suggests that a high school for 2700+ students should be built today.⁹ The unique existing configuration, which divides the large student population into two smaller learning environments, likely provides a protective factor against the negative effects of the large enrollment. There is no evidence that the school board or administrators have seriously analyzed this potential benefit of the existing facilities or the risks of moving the entire high school population to one building.

In addition, concern has been raised about flexibility for the future since the one-building plan is not being built to accommodate any growth in enrollment. The use of the Westerly Parkway buildings over the past 40-50 years demonstrates how SCASD has had a long history of flexibly using the two high school facilities to affordably accommodate incremental growth of enrollment and changes in educational delivery. This district's single large building plan with no room for growth, is a significant departure from the cost control strategy historically utilized by the district. The demographic information that is used as a basis for the school board's decision to not plan for growth is limited by a variety of factors outlined in Appendix 2 of this report. One main limitation is that the enrollment predictions are only projected through 5 to 6 years after project completion.

1.4: Rationale:

The main assumption is that the school board *would want* a project to have broad community support. Associated with this idea is that the team believes such a consensus is possible and that we do not have that consensual agreement regarding the current one-building plan.

A district official's own analysis of the Act 34 testimony shows that the combined oral and written comments are 3 to 1 against the board's plan, and that the two-building renovation option has had the most support. It is insightful to note that the people who were engaged at the time remained mostly silent through April of 2005, as the board explored a variety of general two-building renovation options. It was obvious then, as it is now, that the community generally supports the option of a renovation of the two buildings.

While cost is an important consideration, the intent of this proposal is not to offer the "cheapest" or "most minimal" solution. In fact, much cheaper and more "minimal" renovations than the Sensible Solution exist at \$10-20 million per building.¹⁰ The team's priority in the Sensible Solution design was "learning first" with a strong belief that schools should be built first and foremost for educational priorities. The team found that in exploring options for providing the best future learning environment, it just so happens that the best solution for education may also simply cost less than the current proposal.

⁹ See Appendix 3 for a literature review of school size issues.

¹⁰ According to Ed Poprick, Director of Physical Plant, estimate during a tour of the facilities on what it would take just to address deficiencies and renovate every square inch of the facilities.

The report is also about building community support for a viable option – at a time when this community is sorely in need of consensus. This report is not meant in any way to be an attack upon anyone involved in the process thus far. It is simply time to change the conversation from talking about each other toward talking about the district’s educational future. This report should serve as a platform for a constructive dialogue between the school board and the community it serves as to whether or not this district should continue with its plan in light of an existing better solution. With all due respect to assertions made otherwise, this type of community-building and effective dialogue has simply not yet occurred.

The crux of the debate over the high school renovation project comes down to whether the community supports one large high school or the continued use of the existing two-school approach (with total renovation) as the best next step in our educational future.

The reader should give careful attention to sorting through the relevant information to tease out the true differences between the options and reach his or her own conclusion - being wary of seeming benefits of one plan over another. For instance, providing a laptop for every teacher can be accomplished in any building configuration for the same cost. What the reader needs to look for is a compelling reason that would justify the additional expense and potential educational risk of moving toward one building as opposed to a full renovation of the existing two-building configuration - a configuration that has proven to be so successful for our district for the past 20 years. Based on concerns of the SCASD plan and benefits of efficiently utilizing existing facility assets, the team believes that the two-building design merits further investigation.

1.5: The Sensible Solution:

The team requested and obtained documentation of the district’s facility requirements, needs assessments, design documents, goals, and priorities. From this input and a study of stated community needs and educational research, the team designed an alternative plan for a new State High called the Sensible Solution. This compelling alternative solution to the SCASD’s one-building design is offered to the school board and the community to demonstrate that at least one better option is possible for State High. The Sensible Solution meets the district’s own stated three priorities, which are:

1.5.1: SCASD’s Priorities:

1. **Maintain the current curriculum.** Obviously, the current buildings can successfully accomplish this goal with a high degree of certainty.
2. **Engage students in a small school’s initiative.** Programs for engaging students are best done in smaller schools! The Sensible Solution is more in line with personalizing and engaging students in two smaller learning environments - and is a configuration that has already proven itself to be quite effective for the district.
3. **Balancing costs for the community.** The Sensible Solution fully utilizes the existing, well-maintained facility assets of the district; thereby significantly reducing the costs while making equivalent and significant overall improvements to the high school. The SCASD plan is unnecessarily expensive due to the abandonment of an entirely useful facility and the need to rebuild that discarded South Building onto the North Building.

1.6: Summary and Two Summary Sheets (Benefits and Highlights):

The team shows that its alternative two-building high school renovation design meets the district's documented and implied design requirements to an equivalent degree - and at a fraction of the cost of the SCASD one-building plan. The team's plan delivers better alignment with modern educational delivery methods, flexibility for the future, improved safety and security, and better community support. Since the alternative plan is less complicated, it is also less likely to produce unforeseen delays and cost overruns. On the following two pages are summary sheets of the benefits and highlights of the Sensible Solution.

Summary Sheet of Benefits:

The Sensible Solution:

- **Is More in Line with the Modern Delivery of Education:**

Provides significant and comparable learning environment improvements such as aesthetics, technology access, flexible instructional and student-focused spaces, mechanical systems, air handling and temperature control, natural light, and asbestos abatement. It also includes additional instructional space for educational programs such as the Career and Technical Center (CTC), library, and music.

Maintains the current configuration of housing a large enrollment in two distinct and developmentally appropriate smaller learning units – in line with educational small-schools research and the district’s proven track record of academic success in this building arrangement.

- **Is More Affordable:**

The Sensible Solution adequately meets the district’s documented and implied design requirements for \$32-\$35 million dollar less construction cost and less risk of cost overruns and/or delays. The savings allow more flexibility for the remaining facility upgrades in the district-wide master plan. When you factor in debt service costs, the total savings are over \$40 million.

- **Is More Flexible for the future:**

As anticipated growth occurs in our community, enrollment shifts will be easier to manage with two moderately sized facilities. If it becomes necessary and/or desirable in the future, the Sensible Solution will allow for an easy transition to two high schools or variations of grade level distributions and changes in delivery of education. The current SCASD plan is not being built for any increase in enrollment at all.

- **Provides Significant Safety and Security Improvements:**

Main offices are relocated to the main entrances of both buildings and both buildings will utilize district-wide controlled access systems. Monitored entrances are included at both sides of the totally enclosed pedestrian bridge.

The pedestrian bridge provides weather shelter and eliminates pedestrian crossing on the Parkway.

- **Is Based on Community Support and Community Needs**

This is the only design concept for the high school that was recommended by the CAC for facilities and the original DWMP. It was the only configuration seriously considered from December, 2001 to April, 2005.

Oral testimony at the Act 34 hearing indicated that 98 of the 222 speakers (44%) would prefer a two-building design (compared with 27 of the 222 speakers (12%) who supported the school board’s one-building design).

The Sensible Solution allows two auditoria for housing simultaneous school and community events - with more total seating and stage space than the one-building option. The Sensible Solution adds technology to allow for both auditoria to observe the same program at the same time (one via screen) for certain events.

The Sensible Solution’s renovated buildings do not require the use and denigration of Community Field and do not negatively impact the quality of life for adjacent neighborhoods.

Highlights of the Alternative Design:

- ❑ All spaces are fully renovated for aesthetics, safety and comfort, and better program use
- ❑ Renovated and expanded CTC classrooms
- ❑ New Administration/Counseling offices Located as Main Entrances
- ❑ New Dedicated Student Center (not a cafeteria)
- ❑ New Expanded Library
- ❑ New traditional classroom wings
- ❑ New and Expanded Cafeteria
- ❑ Controlled Access Throughout as per new district security standards
- ❑ Two additional Gymnasiums
- ❑ Two Fitness Centers – one in each building
- ❑ All New and Expanded Music Suite: Band Room, Scene Shop, Costume Shop, Choral room, Practice Rooms, etc.
- ❑ Both Auditoria fully renovated
- ❑ Connecting enclosed bridge over the Parkway for safe travel between buildings
- ❑ New variably-sized flexible learning centers and rooms for multiple faculty/instruction use throughout buildings
- ❑ All new HVAC and Electrical systems throughout
- ❑ New Data networking systems in each building for wireless access throughout
- ❑ Natural lighting in all instruction areas
- ❑ All deficiencies addressed such as asbestos abatement, flooding problems, etc

II. GUIDING PRINCIPLES:

In order to organize data for generating the alternative two-building design, the team first collected the district's needs assessments and design criteria from SCASD administrators¹¹. In addition to the documented needs and requirements from the district, the team examined publicly available broad priorities and goals in the high school renovation project. Most of the district's information was not in a relevant format to easily generate the design of a building. However, the team did analyze and organize this information to inform the design process for a school facility.

Since the SCASD "priorities" are insufficient and/or not met by the option the district selected, the team researched "best practices" from professional literature in educational facility design. In the context of the current local situation and in order to support a more unbiased set of selection criteria, the team synthesized this professional literature and came up with the following five broad principles for guiding and comparing the designs:

- Modern Delivery of Education
- Controlling Cost
- Flexibility for the Future
- Safety, Security, and Comfort
- Community Consensus

These five principles are based on the U.S. Department of Education's National Symposium on School Design's Principles¹² (endorsed by the American Institute of Architects; the American Association of School Administrators; the Council of Educational Facility Planners, International; and the Construction Managers Association of America).

These professionally based guiding principles became selection criteria used in Section V of this report to compare and contrast the SCASD plan and the Sensible Solution. The following descriptions define the scope and intent of these guiding principles.

2.1: Modern Delivery of Education:

The existing two-building configuration is more in line with abundant research on school size - and most notably, it has a 20-year proven track record for success in our district. The SCASD's proposed factory-model, large comprehensive high school is a facility that many modern educators would say is already outdated and not optimal for educating our students. The team also believes strongly that school buildings should be built first and foremost for the learner. The current SCASD plan is skewed in favor of extracurricular improvements (such as the auditorium for performances) and the administrative convenience of organizing the building by department, as opposed to a student-focused

¹¹ See Appendix 1.

¹²The Team has provided a copy of this document at the Schlow Memorial Library reference desk for those who wish to further study this topic. It is entitled: "*Schools as Centers of Community: A Citizen's Guide for Planning and Design*" (2003). Printed by the National Clearinghouse for Educational Facilities. These principles are also used as criteria to select DesignShare's Annual award winners for best educational facilities (See <http://www.designshare.com> for more information).

and/or developmentally appropriate organization. Modern improvements that *are* being made in the district’s proposal – like wireless technology and laptops for teachers – could be just as easily done in any building configuration. By more efficiently utilizing the existing building assets, it was possible to add a new Dedicated Student Center and flexible spaces for modern small-group and project-based learning methods that are accessible to all “departments” and teachers for use¹³.

2.2: Controlling Cost:

Cost implies more than just a dollar amount and should be viewed in terms of its investment value in relationship to district-wide priorities. In other words, “how can we make the most use of our dollar to deliver what we need and most want?” Because all requirements and most of the needs/wants can be met in two buildings – it is wise to compare what the SCASD plan offers as a *true advantage* over the two-building design and determine what that is “worth” to this community. “Worth” implies dollar amounts – but the bigger question is: “What is significant to us about having one HS building over other priorities in our high school and district?” Since there is no evidence of a documented comparative process from the district regarding its selection criteria, it is not clear exactly why the school board valued this option as being worth the extra \$30 million dollar expense over a two –building option.

2.3: Flexibility for the Future:

When making such an enormous and long-term educational investment, the resulting facility should be designed for flexibility and sustainability for the community’s future. District officials admit that the new high school is only being built to accommodate the exact number of students currently enrolled – approximately 2700 - and if that number were to increase, it would require additional investments.¹⁴ Given multiple signs of growth in the Centre Region – that are not predictable in demographic prediction models – such as expanded growth boundaries, anticipated new employers and companies coming to this area with the completion of the I-99 Corridor, and policy changes for freshman enrollment at Penn State, it is simply unrealistic to assume that the district will always have approximately 2700 students in the high school for the next 30-50 years.¹⁵

Making this large investment in one huge building that is already at its full capacity before it is even built (bearing in mind that the two existing middle schools are currently near full capacity as well), limits options for the future. If adopted, the Sensible Solution would allow more flexibility to address an increase in enrollment. For example, the North building would become one of two high school buildings and the South Building would become a third middle school or variations of grade level groupings could occur.

¹³ See appendix 3 for literature review on educational and safety issues as related to the SCASD facility decision.

¹⁴ In a district letter sent to parents (12/15/05) Dr. Best and Susan Werner write: “No one can accurately predict what will happen 15 to 20 years from now. The board believes a larger building is not the long-range answer. Therefore, if the student population increases significantly in future decades, we will explore alternate ways of accommodating this growth.” At an 11/27/06 board meeting, Physical Plant Director, Ed Poprick, stated that this new building is not being built for any potential growth beyond the current enrollment.

¹⁵ See appendix 2 on local and district demographic/enrollment information.

2.4: Safety, Security, and Comfort:

Both the SCASD plan and the Sensible Solution will provide students with comparable upgrades in terms of accessibility, aesthetics, natural light, air quality, noise control, asbestos abatement and safety considerations. These criteria are “givens” and were considered to be requirements of the project.

2.5: Community Consensus:

Community support and consensus is vital to the school district’s future success. Given anticipated statewide legislation that could require voter referendum for some types of educational spending, the need for collaboration between district officials and the community they serve is more important than ever. If our community is to meet the educational challenges ahead of us and fully take advantage of all the exciting future possibilities, we must find better ways of understanding one another and building consensus on significant decisions.

This community has spoken very clearly in the Act 34 process that it prefers the two-building renovation option. The public was not given adequate ability to comment on the one-building option prior to decision-making since the one- building option was not conceived of until one month prior to the decision.¹⁶

A high school, particularly the *only* high school in a town, is an important civic focal point for a community. It often symbolizes collective values and hopes for the future. It is clear that this community wants to offer future generations the “best” and that we live in a community that is fortunate enough to be able to provide the very best. Agreement about “what” is best has yet to occur.

The SCASD facility will be used for the next 30-50 years as our high school. This commitment should be a cause for celebration, and yet, there is little to celebrate since *there is no evidence of significant community support or excitement for SCASD’s new proposed building*. Also, a significant portion of our community is strongly and persistently opposed to the current SCASD plan. While the Sensible Solution is one better consensus point than the SCASD plan, there is ample room for further consensus work on these and future facility issues.

Meeting community needs is also an important and relatively overlooked piece of this principle. One issue of concern is that the one-building plan actually encroaches onto Community Field and brings with it a new parking lot and road through one of the last remaining open green spaces in the downtown and Holmes-Foster areas. This could also be considered a “cost” of the project.

¹⁶ The first public hearing regarding the two-building high school renovation was October of 2004. See board meeting notes at:

<http://www.scasd.org/2497%5F7587161156/cwp/view.asp?A=3&Q=284483&C=51121>

In terms of usability of the building, there has been little public discussion about how the new building will be able to provide the simultaneous events that currently take place several evenings out of every week at the two current buildings. While analyzing the loss of that community use was beyond the scope of this project, it would be worth a general consideration before making final commitments that would decrease the community's ability to use the facilities.

The team encourages continued public dialog to tap into the collective intelligence and experiences of our community. Ideally, before moving ahead with this major investment, there should be evidence that the majority of the community is confident that the district is making the best decision for the future.

2.6: Summary:

Using the professionally based guiding principles to direct the process, along with the district's documented needs, the team created a conceptual design for a new State High. The following sections will present schematics of the conceptual two-building design and supporting arguments to show that this is a compelling and superior approach for the community.

III. THE DESIGN AND COST ESTIMATING METHOD:

3.1: Scope:

The team is presenting a conceptual design and construction cost estimate for a two-building renovation of and additions to the North and South High School Buildings for SCASD. The total square footage of this design is comparable to the SCASD plan for ease in comparison. All areas of re-use in both buildings will be fully renovated. Some areas will be demolished and replaced to better meet modern educational, accessibility and safety needs. The design also calls for new additions.

This study is limited to high-level considerations of the high school design options. Cost estimates are based on previous estimates published and furnished by the district with realistic additions and deductions as appropriate and utilizing the same cost per square foot factors utilized by the district architects.

3.2: Design and Cost Estimating Process:

The top-level overview of the process steps used to generate the building design and cost estimate is shown in the diagram below:

Step 1	Step 2	Step 3	Step 4	Step 5
Obtain design data from: - Web site - 2001 Master Plan - SCASD -Additional sources - 30% and 60% Design Report	Compile & categorize into - Physical attributes - Functional attributes - Selection criteria	Translate physical and functional attributes into conceptual design matching space allocations	Conservatively estimate cost using SCASD/Kimball factors	Compare design (that meet physical and functional rqmts.) against selection criteria

Step 1:

The information obtained from the school district consisted of design input documents listed, presented and discussed in Appendix 1 of this report. Additional information was gathered from the district’s web site, professional educational and architectural literature, and publicly expressed community input.

Step 2:

Some of the district’s information was directly related to the physical design of a HS facility, but was not quantified. Other SCASD information related to broad program ideas, but lacked specificity with regard to how the physical space would need to be designed to meet program needs. However, the team did compile and categorize this rough data to adequately inform the alternative design and ensure that the Sensible Solution comparably meets SCASD stated needs, and total and functional square footage.

Step 3:

Beginning with computer drawings of the existing two buildings, modifications to the facility were done in the following manner: spaces were re-assigned to different or the original use, expansions to existing spaces were added, and new space was added. These were done keeping in mind optimal/flexible educational arrangements, environmental aspects, and aesthetic design features. This was a lengthy, iterative process of examining each modification with respect to all the direct, indirect and multiple considerations a holistic, synergistic, coherent, and integrated design has to satisfy. This has resulted in a conceptual design for the North and South buildings.

Step 4:

The cost of renovation was estimated using the different SCASD approved factors for new construction, demolition, and modification. In several places it is felt that the Board's estimates are high for the Sensible Solution since construction activity is not as extensive and as likely to require the higher contingencies associated with the Kimball plan's more complicated renovation project¹⁷. Nevertheless, the team used the same cost factors as the Kimball plan's.

Step 5:

The final step consisted of preparing a chart comparing each design with respect to high-level school design selection criteria. These charts, along with a discussion of associated risks, are included in Section V.

3.3: Summary:

The SCASD board apparently did not provide a design that can be justified by its own "priorities" or a quantified basis for the sizes chosen. Therefore, for the sake of this design exercise, the team chose to match the district's total and functional square footage for comparison. The rigor and accuracy of the Sensible Solution are at a more sophisticated level than the site plans examined by the board when they abandoned the two building design. Construction cost estimates for the Sensible Solution were generated and reviewed by professional architects on the team to confirm the fundamental feasibility and reasonableness. The cost estimates are considered to be very conservative.

¹⁷ The estimating factors are designed to include an average estimate of contingency percentage. Since in most cases the degree (amount of space affected and the magnitude of the alteration) is much less than these factors would anticipate – as; for example, where they would be most appropriate in the case of the single building demolition/construction. Consequently the cost estimates are quite likely to be higher than actual. Furthermore, since the degree of disruption caused by the renovation is much less than the single building design and the need to consider educational "work-arounds", the risk to cost and time over runs is much less.

IV. THE ALTERNATIVE DESIGN AND IT'S COST:

This section describes the high-level themes and rationale used to develop the conceptual design schematics, how the design embodies these attributes, and the cost for the two-building design based on the schematic drawings. The section begins with summary tables of the cost analysis and program spaces highlighting the expansions by program category. Color-coded schematics of the site and the North and South buildings are included along with high-level descriptions of these physical changes and how they meet the project goals.

4.1: Cost Comparison Summary Table:

Below is a cost table indicating a summary of the spaces to be renovated, demolished and added. Unit cost factors used are the same factors utilized by the Kimball plan for comparison. See appendix 4 for further costing details.

Sensible Solution Cost is \$62M – \$67M using Kimball’s Estimation factors

	Sensible Solution				Kimball Estimate (60% Schematic)		
	area	cost range	unit cost		area	cost	unit cost
Total Reno	408,000	\$25M – 28M	\$66 /SF	Total Reno	179,200	\$10.7M	\$60 /SF
Additions	132,000	\$18M – 20M	\$144 /SF	Additions	358,052	\$51.7M	\$144 /SF
BUILDING	540,000	\$43M – 48M	\$85 /SF	BUILDING	537,252	\$62.4M	\$116 /SF
DEMOLITION	33,000	\$200,000	\$6 /SF	DEMOLITION	280,994	\$1.3M	\$5 /SF
SITE acres	8	\$1.3M		SITE acres		\$10.4M	
Temporary Facilities		\$150,000		Temporary Facilities		\$350,000	
Design Contingency	5%	\$2.4M		Design Contingency	5%	\$3.7M	
HARD COSTS		\$47M - \$52.5M		HARD COSTS		\$78.1M	
SOFT COSTS		\$10.5M		SOFT COSTS		\$16.3M	
Construction Contingency	5%	\$2.5M		Construction Contingency	5%	\$3.9M	
Bridge		\$2M		Bridge		N/A	
TOTAL		\$62M – \$67M		TOTAL		\$97M - \$99M	

4.2: Program Space Requirements Summary Table:

The table below shows the type of existing program spaces and those that are included in the Sensible Solution and the SCASD one-building designs. The reader will note that the two plans are not “exact” matches; detailed descriptions and rationale for space allocations are included in appendix 4.

4.2.1 Program Area Comparison Table

<u>Program Area</u> (SF = Square Feet)	Existing Areas (SF)	Sensible Solution total, (SF)	Kimball plan Single Building total, (SF)
Instructional Spaces	105,833	119,500	116,050
Educational Support	15,112	21,800	21,384
CTC and Tech Ed	28,035	41,300	41,103
Music & Theatre	24,643	33,000	35,480
Physical Education	73,338	86,900	86,862
Food Service	18,065	26,300	26,295
Building Admin / Support Spaces	15,083	18,500	18,476
Other	*36,889	41,000	21,900
Total Program Space	316,999	388,300	367,550

** The Kimball Plan includes “Other” as part of Program Space, but mistakenly did not account for any of existing “Other” spaces. According to Ed Poprick Director of State College Area School Facilities, Existing Other Spaces are 36,889 SF. All other Existing Areas and Kimball plan Areas as reported by Kimball in 60% Design Documents.*

4.3: Design Schematics:

Table of Design Schematics, 11” x 17” Inserts:

Sensible Solution Site Plan	Illustration 1
Sensible Solution North Building Plan	Illustration 2
Sensible Solution South Building Plan	Illustration 3
Sensible Solution Pedestrian Bridge Detail	Conceptual Pedestrian Bridge

4.4: The High School Campus:

Illustration 1 shows a site view of the Sensible Solution’s full High School Campus. Every square foot of each building is either fully renovated, or demolished and replaced with new construction. Additions are added appropriately to both North and South buildings (Colored in Blue), as well as a covered pedestrian overpass that connects both buildings (shown in green). An illustration of this overpass is provided in Illustration 1 and the Conceptual Pedestrian Bridge Insert. All building deficiencies identified in the 2001 District Feasibility Report are considered project requirements, and are fully satisfied for all spaces at both the North and South buildings. All spaces, whether new construction or renovation, will include up-to-date Heating Ventilation and Air Conditioning (HVAC) systems. North building flooding will be resolved promptly.¹⁸ The Sensible Solution includes equivalent building security; video cameras at controlled

¹⁸ The flooding could have been solved many years ago. Kimball has correctly stated that the flooding is a site problem that can be solved completely exterior to the buildings.

access points, all non-controlled entry doors will be locked for emergency exit only and wired to trigger an alarm if opened – as per new district-wide standards. These security changes can be implemented at once. Security Offices are located adjacent to secondary building entries, which can allow more convenient alternate entry points, and separated parent and bus drop off points. The North building bus entrance and lane be changed and extended to improve the bus staging and coordination with the South Building.

4.5: The Two-Building Design Philosophy:

Based on professionally obtained guiding principles related to school design, one primary objective of the Sensible Solution is to maintain the smaller, distinct, and developmentally appropriate educational environments of the two buildings. This design also provides for a ready conversion of the South Building to a middle school, if needed in the future,¹⁹ and more efficiently re-uses the well-maintained facility assets of our district.

The distinct cultures of the two buildings are reflected in the more structured feel of the South Building (with the predominance of standard class rooms) - while in the North Building, the atmosphere is more career and college preparatory oriented. Cafeteria facilities are improved and maintained in both buildings for the same potential use reason and to avoid to the maximum extent possible unnecessary pedestrian movement between buildings.

Two auditoria are maintained - one in each building - with video communication connection for the simultaneous experiencing of an event in each setting.

¹⁹ For example, there are shop/CTC spaces and fitness centers in both buildings – again for this same flexibility consideration for future use.

4.6: The Physical Design Discussion:

4.6.a: High School North Building:

Area A: Music Expansion and Library

Area B: Core Common Areas

Area C: Instructional Areas

Area D: Physical Education and CTC additions

The Primary Project goals / principles met by this suggested implementation for each area are:

Area A: Music Expansion, Administrative Office Location, and Library

1) Controlled Access to the building, 2) Front Administration Office space, Guidance Counseling, and Administrative support adjacencies, 3) Open sense of flow within building and better connection between existing building sections, 4) Integrated Pedestrian overpass, 5) Additional new spaces needed for Music & Theatre with appropriate adjacencies, and 6) A brand new modern and expanded Library.

Area B: Core Common Areas

1) A new and enlarged Cafeteria, Kitchen, Serving and Holding area, 2) A renovated and enlarged Faculty Dining Area, 3) A more open Main Lobby area, tied nicely into the Cafeteria and Dedicated Student Center, 4) A new, appropriately-scaled and comfortable Student Center for multiple social and educational usages and available every class period of every day, and 5) an Exciting central location for the ROAR Store at the corner of two main hallways and two entry points to the Student Center.

Area C: Instructional Areas

1) Increase the Instructional Spaces, 2) Include adjacent flexible-use smaller spaces that can support multiple instructional needs, 3) Educational/Faculty Support Space needs, 4) Indoor access to existing CTC labs, and 5) A security office controlled secondary building entrance off Logan Ave., which could be used as a designated parent drop-off.

Area D: Physical Education and CTC additions

1) Additional CTC & Vo-Tech large areas, 2) Public Safety Lab & Storage increases, 3) CTC Class room increases, 4) Additional spaces for Physical Education, 5) An additional Fitness center at the North building, 6) Added Team rooms, 7) Significantly increased physical education storage areas, and 8) Support Offices.

4.6.b: High School South Building

Major modifications to the South building primarily occurred in areas (colored blue):

Area SA: Front Lobby/Main Office

Area SB: Lower Main Classroom Wing

Area SC: New Classroom Wing Replacing Existing Ramp

Area SD: Central Upper South Building

Area SE: Upper Kitchen Area

The Primary Project goals and principles for each area are:

Area SA: Front Lobby/Main Office

1) Modernized Main Lobby Entrance, 2) Secure Main Office “check-in” area for main entrance, and 3) Adequate adjacent spaces for a variety of educational support and administrative/counseling needs.

Area SB: Lower Main Classroom Wing

1) Provides desired flexible instructional/faculty support spaces – centrally located for access by all departments, 2) Is part of the overall goal to have natural light in every instructional area, and 3) Provides for totally updated classrooms and facilities throughout, and also 4) Provides for a Security Office to monitor traffic into the building from the pedestrian bridge.

Area SC: New Classroom Wing Replacing Existing Ramp

1) Provide additional Instructional spaces with natural light, 2) Add one larger group instruction room, and 3) Improve Americans with Disabilities Act (ADA) accessibility at right side of the South Building.

Area SD: Central Upper South Building

1) Best utilizing the physical assets currently held (the gymnasium with high ceiling and gymnasium flooring is best used as a gymnasium - for example!), 2) Reducing the need for students to cross the street for Physical Education and Fitness Center needs, 3) Converting windowless classrooms into a new fitness center and adding natural light to this area.

Area SE: Upper Kitchen Area

1) Increased space and upgraded organization for the Culinary Arts and District Kitchen areas.

4.7: Summary:

While not all areas are described in full detail, all are accounted for by complete renovation or replacement, with costing proportional to needs. While the initial intent was to exactly match the program category increases to the Kimball plan, there are too many inconsistencies and under-reporting of the existing and desired spaces for that to be entirely possible. To be conservative in the estimates, the team addresses these inconsistencies by over-fulfilling the program space increases - and does so with several

thousand additional square feet of flexible spaces at both the North and South Buildings. As such, the projected costs over-deliver on program space requirements, and thus give *more* flexibility - instead of the “lowest cost possible” equitable solution.

In addition to these major renovation / new addition areas highlighted here, this report reiterates that every single square foot of the North and South Buildings will be renovated or replaced in our plan – leaving the feel and appearance of all new facilities. The extent and budgeted cost per square foot are appropriate to the age and needs of each specific area. Further, The Sensible Solution uses the same six renovation-cost categories as the Kimball design at 60%.²⁰ Since new construction is significantly more expensive than renovation, this accounts for much of the cost difference in the plans.

While the effort here is not intended to imply that the two-building re-design is at the same maturity as the 90% single-building design from Kimball, it is evident even at this cursory conceptual design stage that it could satisfy the design and space requirements of the district (an instinctive feeling the community has had for the two-building design - without the benefit of even this preliminary stage of additional consideration).

²⁰ For example, like in the Kimball plan, the 1956 wing is budgeted in the Sensible Solution for the greatest renovation spending per square foot category, and the 2001 additions the least cost per square foot – and so on. Naturally, even though the two-building renovation costs are higher (as it contains more total square feet to be renovated) – The Sensible Solution’s new construction costs are significantly lower. The Kimball plan needs to build 358,052 SF new, and the alternative plan builds only 132,000 SF new. These details are further documented in Appendix 4.

V. COMPARATIVE ANALYSIS:

The school district provided three broad “priorities” for their high school plan:

1) To maintain the current curriculum, 2) To engage students in a small schools initiative, and 3) To balance costs to the community. Clearly, if we just look to these priorities provided by the district, it is plain to see that a new building is not necessary at all.

While the current SCASD plan may meet its first priority, it clearly is not in line with small schools initiatives or containing costs. Since these priorities are insufficient and/or not met by the district’s own plan, the team researched professional literature to find guidance and ensure a proper perspective for designing a high school renewal project.

The U.S. Department of Education held a National Symposium on school design²¹ – bringing together nationally recognized individuals and organizations - and came up with the six following design principles – which have been used as a basis for design selection criteria (the team’s terminology/principle in parenthesis):

U.S. Department of Education Six School Facility Design Principles:

School Learning Environments Should:

1. Enhance teaching and learning and accommodate the needs of all learners (“The Modern Delivery of Education”)
2. Serve as the center of the community (Combined into “Community Consensus”)
3. Result from a planning and design process that involves all community interests (“Community Consensus”)
4. Provide for the health, safety and security (“Safety, Security, and Comfort”)
5. Make effective use of available resources (“Controlling Cost”)
6. Be flexible and adaptable (“Flexibility for the Future”).

Thus, it was worthwhile to optimize the Sensible Solution along the following five guiding principles: **Cost; Flexibility for the Future; Modern Delivery of Education; Safety, Security, and Comfort; and Community Consensus**. The team further utilized the SCASD documented needs, documented public input, and professional educational research to ensure that the plan best meets the stated and implied needs and wants of the school district and community.

For a summary comparison of the plans, along the five broad guiding principles and criteria, see the following charts:

²¹ Binger, S., Quinn, L., Sullivan. (2003). “*Schools as Centers of Community: A Citizen’s Guide for Planning and Design*”. National Clearinghouse for Educational Facilities. U.S. Department of Education.

5.1: COMPARISON CHARTS:

MODERN DELIVERY OF EDUCATION (1 of 2):

Variable:	SCASD Plan	Sensible Solution
School Size	<p>A verbally stated goal of SCASD’s design is to “create a sense of community for the school.” There is no reason to believe that a stronger connection between grade levels and/or teachers could not be achieved in other non-construction ways – including providing the <u>time</u> to connect.</p> <p>It is hard to assume that 2700 very busy students will feel “connected” just by virtue of being contained in the same building together; particularly when the students are not housed or grouped in any way and interactions in hallways and the large cafeteria will be rather random.</p> <p>Based on abundant research on school size, there are also likely to be other social and academic drawbacks associated with creating a school building that will house 2700 students.²²</p>	<p>The existing unique two-building high school has proven to provide a proper facility configuration for the comprehensive curriculum and documented outstanding academic success enjoyed by our district.</p> <p>A two-building configuration divides the large student body into two developmentally appropriate, culturally different, and physically separate smaller units – thus offsetting the large-school effect. This existing protective factor is likely preventing State High from fully experiencing the typical effects seen in more traditionally designed large high schools with similar enrollments.</p>
Small Schools Initiative & Advisory Groupings	<p>Some such program can and should be done in the large building. However, the current tentative plan seems insufficient for dealing with a school of 2700 that is not organized by any student-focused groupings.</p>	<p>A personalization program of some sort can and should be done in a two-building plan. The exact space requirements and details for this program would need to be determined as the program develops. Building support among stakeholders is essential.</p>
Technology	<p>The modern enhancements are wireless and/or equipment based and can be done in either configuration.</p>	<p>The Sensible Solution provides comparable technology updates.</p>

²² See Appendix 3 for full discussion and literature review of educational impact of school size

MODERN DELIVERY OF EDUCATION (2 of 2):

Variable:	SCASD Plan	Sensible Solution
<p>Flexible Modern Spaces for Small-Group and Project-based Learning</p>	<p>The Kimball plan shows many regular, traditional classrooms.</p> <p>In some departments, there are additional smaller spaces – but these are apparently for use in that specific department and not accessible to all teachers.</p> <p>No evidence of project-based or small-group learning areas except potentially in the library.</p>	<p>The Sensible Solution is also primarily a traditional design with many regular classrooms.</p> <p>In the North Building, the old Library converts to a Student Center that includes areas for project-based learning. In the Sensible Solution, there is room for individual and group learning in the new library and throughout the classroom wings to be flexible smaller spaces available to teachers for variable teaching/learning/faculty uses.</p> <p>In the South Building, some classrooms are converted to formal and informal flexible project-based learning area that is centrally located and designed to be utilized by all departments.</p>
<p>Student Center</p>	<p>The only student center listed is the 900-seat cafeteria.</p> <p>This student center will obviously not be available for lunch periods. The large scale and distracting odors may also reduce its usability as a true student center.</p>	<p>In the Sensible Solution, the current North Building library is converted to a Dedicated Student Center with the features noted above plus additional technology to allow multiple uses. The feel of this informal space is meant to encourage social contact, group learning, and personalization. The Roar Store is also located in this Student Center to heighten a sense of student/school connections. This is also an ideal space for after-school club meetings, etc.</p>
<p>Increases for Programs</p>	<p>The plan calls for significant increases for CTC, Music programs, etc.</p>	<p>The Sensible Solution matches these space increase requirements.</p>

CONTROLLING COST:

Variables	SCASD Plan	Sensible Solution												
Construction Cost	\$97-99 Million (does not include any improvements to the South Campus).	\$62-67 Million (Includes improvements to the South and North Buildings). (30- 36% cost reduction).												
\$43 Million Savings	<p>Total cost to tax payers is project cost less state reimbursements, and debt service cost. Estimated using 20 year debt service at 4.0% interest makes</p> <table border="0"> <tr> <td>\$ 98M</td> <td>1-Building Price</td> </tr> <tr> <td>- 7.5M</td> <td>State Reimbursement</td> </tr> <tr> <td><u>+ 41.1M</u></td> <td>Debt. Service</td> </tr> </table> <p>= \$131.6 Million Total Cost</p>	\$ 98M	1-Building Price	- 7.5M	State Reimbursement	<u>+ 41.1M</u>	Debt. Service	<p>Total cost to tax payers is project cost less state reimbursements, and debt service cost. Estimated using 20 year debt service at 4.0% interest makes</p> <table border="0"> <tr> <td>\$ 66M</td> <td>2-Building Price</td> </tr> <tr> <td>- 5M</td> <td>State Reimbursement</td> </tr> <tr> <td><u>+ 27.7M</u></td> <td>Debt. Service</td> </tr> </table> <p>= \$88.7 Million Total Cost</p>	\$ 66M	2-Building Price	- 5M	State Reimbursement	<u>+ 27.7M</u>	Debt. Service
\$ 98M	1-Building Price													
- 7.5M	State Reimbursement													
<u>+ 41.1M</u>	Debt. Service													
\$ 66M	2-Building Price													
- 5M	State Reimbursement													
<u>+ 27.7M</u>	Debt. Service													
South Building	<p>\$4.4+ Million.</p> <p>While currently on hold or “up in the air,” the plan on record still calls for the demolition of the South Buildings and the placement of ball fields at 4.4+ million.</p> <p>If the board chooses to deviate from this plan, it will cost an estimated \$10 - 15 Million to renovate the building.</p>	<p>The South Building is included in the above cost.</p>												

FLEXIBILITY FOR THE FUTURE:

Variables	SCASD Plan	Sensible Solution
<p>Increase in Future Enrollment</p>	<p>In the case of any enrollment growth, the large building will be crowded and the district will be facing the need to build a second high school building and perhaps a third middle school. If SCASD moves to two high schools, the one-building high school will be too large to occupy efficiently with a greatly reduced population. The building is rather physically constrained and offers few options for minor expansions.</p> <p>The likely scenario is that district officials may be pressured to simply squeeze as many students as possible into the large building -and for as long as possible - to avoid having to make the expensive transition to two high schools.</p>	<p>If there is growth in the district or a broad desire to create two high schools, this will be relatively easy to do with two moderately sized, completely updated buildings. The two buildings also have ample room around their perimeters for minor expansions as needed.</p> <p>The North Building could easily be converted to a 9-12 grade high school and the South Building could be easily converted to a third middle school if two high schools are needed in our future. This would mean that the district would only be facing having to build one new moderately sized high school facility if enrollments increase.</p> <p>The Sensible Solution thus also addresses the need to accommodate middle schools into the consideration of potential growth in our district.</p>
<p>Educational Flexibility</p>	<p>Our culture is moving away from the “one-size-fits-all” educational model where all students are expected to thrive in a large comprehensive high school. New possibilities like Magnet, charter and private schools are expected to increase.²³ Different learning methods may require different spaces. There may be reasons in the future to separate 9th grade from the rest of the senior high school, for example. The large building organized by department is less adaptable to these types of changes.</p>	<p>It would be ideal to not be limited by a large facility and its capacity/organization issues when making educational choices about new and innovative possibilities.</p> <p>The two buildings historically have shown great flexibility in adapting to different programmatic and grade-distribution needs over the past 40-50 years. With two complete sets of science wings, auditoriums, cafeterias, etc., there are simply more options available.</p>

²³ See Appendix 3

SAFETY, SECURITY, AND COMFORT (1 of 3):

Variable:	SCASD Plan	Sensible Solution
Safety (Student-to-Student)	Students generally fare worse on many scales in larger schools. Discipline problems, attitudes toward school, violence, and substance abuse are more prevalent in larger schools ²⁴ .	“The size of the student population and scale of school buildings also have a substantial effect on school safety. When schools and classrooms are small enough to allow teachers and students to form personal relationships, a sense of community is established that promotes a safe environment. By limiting the population of an individual school – or by providing spaces for smaller schools within large ones - school designers can help maximize supervision and encourage healthy social interactions among students, teachers, administrators, and community users.” ²⁵
Street Crossing Safety	Students still need to cross for parking, athletic facilities and gym. Street crossing during the school day greatly reduced.	Construction of bridge and controlled access would eliminate need to cross the street at all. Better utilization of each building and scheduling reduces need for students to leave their building.
Fire, Air Quality Emergency (e.g. gas leak), etc. Evacuation Issues	2700 students exposed to risk (i.e. smoke inhalation) in some types of emergencies. Potentially more difficult crowd control in emergency when 2700 students are suddenly outside, in and around parking lots, etc.	Only 1300 students exposed to risk at any time. Multiple ground-level ER exits throughout for ease in evacuation and especially handicapped accessible evacuation. The unaffected building can be used for controlling and safely housing the evacuees of the affected building.

²⁴Cotton, K. (1996). “*New Small Learning Communities: Findings from Recent Literature*”. Northwest Regional Educational Library, Portland OR: found at www.nwrel.org/scpd/sirs/nslc.pdf

²⁵ Binger, S., Quinn, L., Sullivan. (2003). “*Schools as Centers of Community: A Citizen’s Guide for Planning and Design*”. National Clearinghouse for Educational Facilities. U.S. Department of Education. p. 11.

SAFETY, SECURITY, AND COMFORT (2 of 3):

Variable:	SCASD Plan	Sensible Solution
<p>SECURITY: (Intruders): Also includes evacuation and isolation of threat issues (See Above)</p>	<p>Only two main entrances (front and back). Front entrance controlled with buzzer-surveillance method with adjacent main office. Will likely include other district-wide equipment upgrades such as surveillance cameras.</p> <p>Greatly reduced pedestrian traffic flow in and out of the building.</p>	<p>Only two main entrances (one at each building). Each front entrance controlled with buzzer-surveillance method and adjacent main offices. Will include other district-wide equipment upgrades such as surveillance cameras. All other exits are ER only during the school day.</p> <p>Placement of monitoring/security office at two bridge entrances. Pedestrian flow b/w buildings remains - but is reduced from the current level due to reorganization of program space.</p>
<p>COMFORT: Natural Light, Noise, Air Quality, Electrical Upgrades, Physical Appearance, Asbestos</p>	<p>These qualities have all been shown to affect learning. In the SCASD plan, all of this will be improved with all new systems and materials.</p> <p>Asbestos must be abated in both existing facilities in both plans.</p>	<p>In the Sensible Solution, all of this will be improved with all new systems and materials to a comparable degree.</p> <p>Example: the Kimball plan’s 1956 wing is going to be renovated to be comparable to brand new spaces. Renovation can and would be done as well in the two-building plan. The Sensible Solution provides comparable spaces with natural light and all new air and temperature and electrical systems.</p> <p>All asbestos will be abated properly.</p>

SAFETY, SECURITY, AND COMFORT (3 of 3):

Variable:	SCASD Plan	Sensible Solution
Scale and Social Climate:	<p>Students not organized by any student groupings like grade-level, etc. 2700 randomly placed students roaming throughout the building. Difficult to maintain order and familiarity among students and faculty. Teachers may need to assume more responsibility for maintaining order in the school.</p>	<p>Students in each grade grouping are in the same smaller building most of the day.</p> <p>The scale is manageable from a “crowd control” perspective - and more intimate.</p>
Flooding and Site Issues	<p>Of course, the flooding at the North Building will be addressed by the Kimball plan.</p> <p>It should be noted that this flooding is a problem exterior to the North Building. This flooding could have been addressed many years ago and has nothing to do with the age or condition of the building.</p> <p>The Geo-technical concerns are being addressed in the plan, but still carry some potential risks that may not be apparent until construction begins.</p>	<p>The alternative two-building plan would likewise first correct the site-flooding problem.</p> <p>Due to the simplicity of the Sensible Solution, much less green space or new land is disturbed, reducing the risks of unforeseen geo-technical difficulties.</p>

COMMUNITY CONSENSUS (1 of 2):

Variable:	SCASD Plan	Sensible Solution
2001 District Wide Master Plan	Single-building design not recommended	Two building renovation recommended
Citizen’s Advisory Committee for Facilities	Did not make a recommendation for the one-building design	Recommended renovations to two buildings
Historical Public Input	All public input except the hearing in April of 2005 (just weeks before the decision) was based on a two-building design. The concept of the one-building design at the North Building was not conceived of until one month prior to the decision.	The first public hearing about renovating the two-building high school was held in October 2004. Prior to this date, there were only brief, general public discussions of the high school renovation in the context of the DWMP and other facilities.
Post-Decision Input And Act 34²⁶	<p>Significant community opposition to the one-building option since the decision to switch from a 2-building plan to a 1-building plan.</p> <p>Unheard of attendance and testimonies for an Act 34 hearing - over 10 hours of oral testimony showing 195 of 222 speakers spoke in opposition to the board’s 1-building decision.</p> <p>74% of the oral & written Act 34 testimony opposed the SCASD plan.</p>	<p>The 2-Building Renovation Received the most support of any option, in both oral and written Act 34 testimony. + 44% supported in oral testimony (98 speakers of 222).</p> <p>Act 34 testimony included 11% support for a Two High School option. While the Sensible Solution is not a Two High School option, by renewing both North & South Buildings now, it provides the flexibility and superior cost effectiveness to allow a 2nd High School in the future.</p>

²⁶ All Act 34 data based on SCASD board member analysis of Act 34 Testimony obtained from website on 12/09/06: <http://www.scasd.org/249710026193544/FileLib/browse.asp?a=374&BMDRN=2000&BCOB=0&c=56419&249710026193544Nav=|&NodeID=1146> . It should be noted here that the ACT 34 hearing was not meant to offer alternative solutions. The fact that so many people mentioned renovation of the two buildings anyway is a clear indication that the two-building option is worth further consideration.

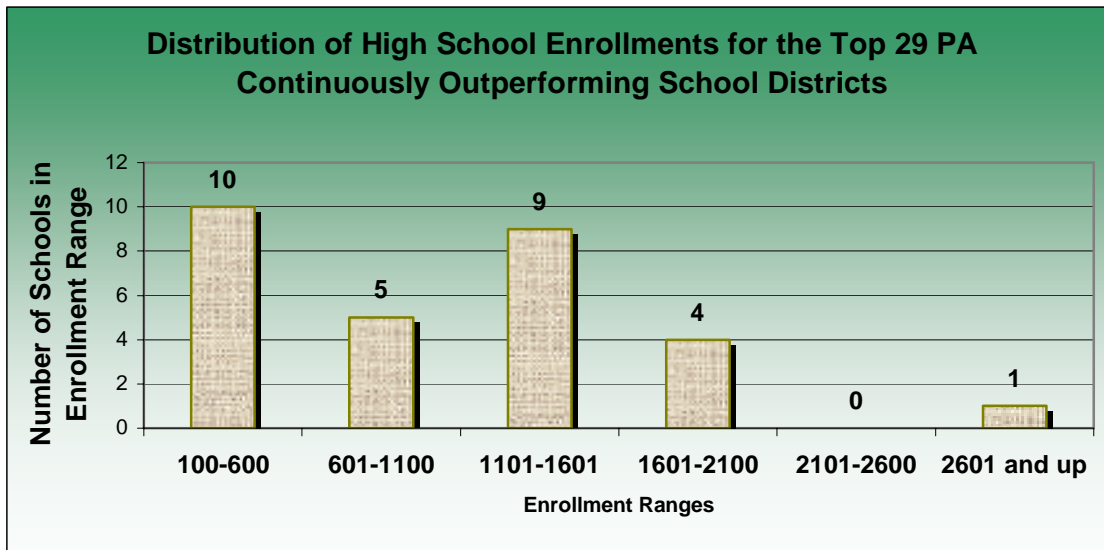
COMMUNITY CONSENSUS (2 of 2):

Variable:	SCASD Plan	Sensible Solution
Community Use of School Building (s)	<p>The one building may actually reduce the ability to house events. With only one auditorium so close to the large Cafeteria, it may be hard to house simultaneous events as we do now. The one auditorium is quite nice, including sunken orchestra pit and balcony. Reduces total seating to 1300 seats and reduces total stage area.</p>	<p>The two auditoria with lobby space and two cafeterias in the Sensible Solution currently allow and will continue to nicely allow multiple, simultaneous school and community events. Both will be fully restored. Does not include a sunken orchestra pit. Does include combined total seating for 1500 and slightly more combined stage area. Will utilize video-conferencing technology to display same program to 1500 simultaneously.</p>
Neighborhood Impact	<p>In the SCASD plan, the building and new roadways and parking facilities are placed onto a significant portion of Community Field. This permanently reduces an important community green space and the cars, extra traffic, lighting, etc. of this facility may interfere with quality of life issues for the adjacent neighborhood.</p>	<p>The Sensible Solution makes no major changes to Community Field and does not need to utilize this green space for any parking lots, etc.</p> <p>Nothing in the Sensible Solution will adversely impact adjacent neighborhoods.</p> <p>The current facilities, when renovated, will still be scaled appropriately to the adjacent neighborhood.</p>
Athletic/Parking/ Traffic Site Issues	<p>Due to a lack of a plan for the South Building, parking, traffic, and athletic field needs for the full high school facility have not yet been determined as of 1/17/07. This indicates that that these things are either not a true priority of the district or it is not being adequately addressed. If it is a true priority, it should be addressed prior to any bidding or construction effort to avoid holistic campus design problems that would need to be fixed in the future. Moving ahead with only half a campus plan seems disorganized and inconsistent with the district’s previously stated needs for the facility.</p>	<p>The full campus will function much as it does now with improvements made to the bus drop-off areas to address stated concerns about bus circulation.</p> <p>It was beyond the scope of the team to determine what the parking/traffic/athletic needs truly are for the district at this time. Athletic needs have not been provided to the team for a determination and there is no way to infer what is needed from the district’s incomplete plan for these issues.</p> <p>Since there is no current plan for much of the high school campus (the entire South Side), it is not clear what the district’s site design priorities are. When/if those priorities are determined, they could likely be addressed in the Sensible Solution.</p>

5.2: Risk Factors and Other Considerations:

While it is apparent that the two–building design is more likely to meet the criteria of the Guiding Principles outlined above, there are other factors to consider. When thinking about creating a new high school, a consideration of the significant risks is also prudent.

The main risk is to our educational system. It is quite reasonable to consider that the academic success of the district for the last 25 years (since there were two buildings serving as a high school campus) is a fortuitous result of having the large enrollment divided between two smaller buildings. SCASD is one of only 29 in Pennsylvania to be placed on Standard and Poor’s Outperforming School Districts, four years in a row (out of 496 districts).²⁷ Looking at the chart below of actual high school enrollments of those 29 districts, it is obvious that SCASD has the largest high school enrollment – and is well above the average enrollment of 1047 for these excelling school districts.



** Only one district (Central Bucks) had more than one high school and they were both under 2100 and similar – so these were averaged and counted once. These two Central Bucks High Schools were only 10-12 grade. Some of the smaller schools were actually 7-12. Recent enrollments -All data obtained from www.schoolmatters.com 1/4/07.*

As evident from the above chart, SCASD is a bit unusual in this distribution at an enrollment of 2700. To be considered as an Outperforming School District, districts are compared with others in their socio-economic status – thus controlling for the effects of economic conditions in the community. Judging from the above data, it seems plausible that having the two smaller learning environments of approximately 1300 each is an important factor in SCASD’s noted success. This unique configuration of two smaller learning units could help explain why SCASD’s enrollment number may actually be more realistically in line with the other outperforming school enrollments above, even though the total number looks so different from the others. Will SCASD continue to be on the “outperforming” school district list at all if its 2700 high school students are housed in one large building?

²⁷ See a report from Standard and Poor on PA Outperforming School Districts at <http://schoolmatters.com>. Obtained information from website on 12/20/06.

Now that evidence has come in from other school districts that adopted the educational philosophy of the large comprehensive factory model school, it seems foolhardy to repeat this failed experiment to the potential detriment of State College students. Since we won't know until we do it, and even then, it will take several years to know the impact - it is a risky, ill-advised, and unnecessary educational experiment for our currently successful district.

The main financial risk of the SCASD plan is simply that it does not offer flexibility for the future. Consequently, the district will be likely to spend more than it should have to in the mid-term just to accommodate *any* enrollment growth. The physical constraints of the site limit easy minor additions. Ideally, a facility investment like the Kimball plan should be built with more flexibility for the long-term – especially considering that the one-building plan is as big as the board has stated it would ever want a high school to be. The district's demographic studies used to justify not planning for growth only project to the years 2013-2015 – or 5-6 years after the building will be completed.²⁸

The other financial risk is associated with cost overruns and complications due to geo-technical concerns and other construction issues. This Kimball plan is a complicated project that may carry unforeseeable costs that will only become evident when construction begins. The complexity of the design and the plan to demolish and re-build most of the central portion of the building is challenging indeed. There are simply fewer geo-technical concerns and complexities that could lead to cost overruns in the Sensible Solution.

5.3: Summary:

It is plain to see that in terms of the professionally based criteria of: delivering modern education; controlling costs; flexibility for the future; safety, security, and comfort; and community consensus - the Sensible Solution is clearly the better choice.

It is also plain to see that there are fewer actual risks associated with this alternative design, in terms of future shifting enrollments; cost overruns, and most of all, the certainty of continued academic success.

²⁸ See Appendix 2 for more limitations of the studies used.

VI. CONCLUSION:

6.1: Discussion:

In Review:

- 1) The team examined the SCASD's documented design criteria and found that this information was not detailed enough to adequately inform a design process. Utilizing this data – along with educational research and community input - and within the framework of the U.S. Department of Education School Design Principles, the team came up with an equivalent conceptual design as an alternative to the SCASD one-building plan.
- 2) The team compared the SCASD design to the Sensible Solution across high-level considerations of educational delivery, cost, flexibility, community consensus, community use, and safe/comfort/secure environment and found the SCASD plan did not adequately address many of these broad criteria and in some cases, like flexibility, present perhaps the worst possible option available to the school district.
- 3) The team found its design adequately met “community use” and “safety/comfort/secure environment” criteria and surpassed the SCASD plan in terms of advantages in educational delivery, cost, flexibility, and community consensus.
- 4) The team also found that there were less overall risks associated with the Sensible Solution.
- 5) The team found no educational requirements or other critical criteria to warrant a single-building design over a two-building design.

The team spent a great deal of time reviewing and evaluating the documented history of this decision and design process. The team's primary recommendation is presented below and further recommendations for SCASD are contained in Appendix 5.

6.2: Primary Recommendation:

Based upon the overwhelming favorable comparison of benefits and costs of the Sensible Solution detailed in this document, the team recommends the SCASD postpone the commencement of the one building plan so that the Sensible Solution can be further evaluated. Further evaluation would include: constructive community dialogue on the Sensible Solution plan with input from the community, students, teachers, and administrators; and a detailed design and cost estimate produced by an independent architect.