



Davie County Schools

Facilities Assessment & Long Range Plan

**Board of Education Workshop
Discussion Outline**

March 16, 2012

LITTLE
DIVERSIFIED ARCHITECTURAL CONSULTING



KBR

INITIAL INFORMATION

Methodology – Process for Obtaining and Evaluating Information County Map – School Locations Executive Summary



MOCKSVILLE

- 1. Central Davie Academy
- 2. Mocksville Elementary School
- 3. South Davie Middle School
- 4. Davie County Early College High School
- 5. Davie County High School
- 6. Conratzer Elementary School
- 7. William R. Davie Elementary School
- 8. North Davie Middle School
- 9. Pinebrook Elementary School

ADVANCE

- 10. Shady Grove Elementary School
- 11. William Ellis Middle School

COOLEEMEE

- 12. Cooleemee Elementary School



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01 VISION

1. Davie County School Mission and Vision



Davie County Schools Mission and Vision

Mission

The Davie County Schools, working with parents and the **community**, will provide a quality education for all students preparing them to become responsible, productive citizens for the **21st Century**.

Vision

The Davie County Schools' district goals provide direction and focus for our continuous process of improvement. The driving force behind each strategic priority goal is the single-minded consideration of **what is best** for the **education of each student** we serve.

Our Beliefs

We believe that all individuals have intrinsic **worth** and the right to be **respected**.

We believe that **high expectations for academic achievement** and **responsible behavior** for all students lead to success.

We believe that positive parental and **community involvement** is essential to the **success** of our students.

We believe that all individuals have a right to **safe, healthy, supportive and inviting** school environments.

We believe that all staff must serve as **positive role models** for our students.

We believe that all individuals have the **ability and need to learn**.

We believe that the development of the **whole individual** should be honored and protected.

We believe that **lifelong learning** is imperative for an informed citizenry

02 DISCOVER

2. Existing Physical Conditions

- a. Each Site visited by the team
- b. Interviews were conducted with operations and maintenance staff
- c. Existing documents were obtained
- d. Assessment reports generated for site, building, and MEP conditions
- e. Facilities well maintained; age and program obsolescence are biggest facility issues

3. Existing Program Conditions

- a. Each site visited by the team
- b. Interviews were conducted with principals at each school site
- c. Observations and use of facilities reported
- d. Comparisons to NCDPI guidelines

4. Energy Analysis

- a. 2009-2010 Energy Cost Summary Report
- b. 2010-2011 Energy Cost Summary Report
- c. 2010-2011 Energy Cost Report Chart
- d. Energy Recommendations
- e. Schools are being optimally operated

5. Demographics

- a. Population & Enrollment Forecasts, 2012-2022
- b. Map – Demographic Center of Davie County
- c. Enrollment trend is flat – overall -0.6% change over all schools between 2007-08 and 2021-22.
- d. Elementary Schools. Total change 2007-08 to 2021-22 is (-0.9%); 2022 enrollment is 2758; average number of students per site is 460; 2011-12 enrollment 2965.
- e. Middle Schools. Total change 2007-08 to 2021-22 is 0.6%; 2022 enrollment is 1465; average number of students per site 489; 2011-12 enrollment is 1588.
- f. Davie County High School. Total change 2007-08 to 2021-22 is (-1.1%); 2022 enrollment is 1805; 2011-12 enrollment is 1720.
- g. Davie Early College High School. Total change 2007-08 to 2021-22 is (-1.6%); 2022 population 180; 2011-12 enrollment 179.

6. Stakeholder / Community Interviews

a. Purpose

- The primary purpose of the interviews was to solicit from the *Key Actors* (defined as knowledgeable, interested and influential citizens) a general sense of the *Key Actor's* assessment of the community interest in pursuing a study of this nature and a gauge of who supports and who opposes the project.
- A second purpose for the interviews was to solicit a listing of the items, issues or concerns that need to be addressed in the study, thereby allowing it to be seriously considered by the public. In other words, what does a study of this nature need to address so that it will not be discarded out of hand as unnecessary, irrelevant or inadequate in its design?

b. Interviews - What They Told Us

- Overall, the citizens reported a clear satisfaction with the programs delivered by the school division.
- Generally, the citizens spoke favorably about the quality of school faculties, administration and central office leadership.
- The people interviewed expressed a desire for a long range facility plan that is data driven and not driven by emotions.
- People who were interviewed expressed a clear desire for a long range facility improvement plan that will be acceptable to the public and will be followed by the School Board and County Commissioners.
- The citizens want a long range facility plan that can serve as a unifying document for the county.
- The citizens said that the long range facility improvement plan does not have to solve all problems immediately. A phased plan based on an incremental spending plan phased in over several years would be satisfactory provided all parties (School Board and Commissioners) are committed to the plan.
- The community wants to be involved in the decision making process. They also emphasize that any plan should be child/student centered.
- There was a clear message from the citizens that the status quo is not acceptable and that the discourse about what to do with facilities has gone on too long.
- Although there seems to be a clear split between those who want two high schools and those who support one large high school, the people seem to be resolved that the construction of two high schools will not occur in the foreseeable future.
- Many citizens expressed concern that the one story high school occupies much of the acreage of the current high school site, leaving little space for parking, athletic facilities, etc. Traffic in the area is also heavy during arrival and dismissal times at the school, thus creating a potential safety problem.
- The interviewees stated that the current high school building was initially built for a much smaller student population. Although there have been numerous additions since the original building was built, the halls are no wider, there is no auditorium, there are 28 mobile units (23 are used as classrooms), and developing a comprehensive security plan is very difficult.
- Some citizens expressed concern about the number of students attending the current high school; the main concern focused around the fact that the facility was

not designed to accommodate the number of students currently enrolled in the school.

- People were split on the optimum size of a high school. The consensus of the people who supported two high schools was that two high schools of 1000-1200 students would be ideal.
- Other people said the size of the high school is not as important as the need to have a facility that is adequate to accommodate the 1700 students who attend it. They felt that if the high school remains on the current site, the building needs to be replaced or at least major renovations must take place.
- Although location of the high school - if built on a new site - is important, the majority of the interviewees said that the location should not be a deal breaker. They clearly indicated that location is not as important as the fact that a new school is needed.
- The citizens interviewed stated that if the high school is moved to another site, alternative uses for the existing high school must be developed. Several suggestions for use were mentioned, but obviously a comprehensive use plan needs to be developed.
- The citizens were not pleased with the number of "Learning Cottages" mobile units that are located in the school system. They indicated that mobile units should be temporary solutions to overcrowding, but feel that currently they are used as permanent facilities. Several mobile units have been in place for many years.
- There are several elementary schools that are over capacity and some that are under capacity. A comprehensive plan for redrawing attendance lines, including parental options for implementation, needs to be developed in order to use building space to capacity. A community advisory committee to assist with this process is recommended. The school board should decide the optimum size for each school and attendance lines should be adjusted until such time as the schools are within those limits.
- Although the citizens reported that they felt the Board of Education disbursed funds and programs equitably to the elementary and middle schools, there was a feeling that the PTO in some of the wealthier schools could add needed resources to some schools and the PTO in other schools are less able to raise money for programs.
- People said that they felt the optimum size of an elementary school is approximately 500 students. They liked the size of the current middle schools (around 600).
- A majority of the citizens interviewed were supportive of the K-5, 6-8, 9-12 organizational structure although a few suggested alternative approaches like K-6, 7-9, 10-12 or K-5, 6-8, 10-12 with the 9th grade being a 9th grade academy. There was also the mention of utilizing a year-round schedule to relieve overcrowding situations.
- The citizens were supportive of the Science, Technology, Engineering and Math initiative (STEM). They want to see that program extended and expanded.
- The citizens feel that significant progress has been made in the utilization of technology, particularly the robotics program. Many people proudly shared that there are Smart Boards in every classroom.

- Concern was expressed about the low graduation rate and people felt that addressing this issue should be a priority in the future.
 - The citizens felt that the schools are generally well maintained. There were positive comments about the work of the maintenance director and the maintenance staff. That being said, there were several comments about the need for renovations and upgrades at all schools.
 - The individuals interviewed felt that the elementary and middle schools were in reasonably good condition and none of them needed to be closed because of their condition. The responses were mixed when asked about the high school, with the majority favoring a new high school.
 - The citizens acknowledged that resources to build new school facilities were limited and a property tax increase at this time would be very unpopular.
- c. Interviews – What Else We Heard. In addition, the interviewers heard a number of concerns expressed that were not necessarily directly related to the facility study. They are presented below in no particular order.
- It was suggested by several individuals that a focused effort to inform the public about some of the facility needs would be helpful since many people had not visited schools in recent years.
 - The minorities who were interviewed felt that more minority representation in leadership roles would be helpful.
 - Almost all of the individuals interviewed felt that the current discussion about school facilities has focused on issues other than what is good for children academically, and that future discussion should refocus on the academic needs of the students.
 - Programmatically, the citizens interviewed felt that although current programming was very good, they would like to see more emphasis on programs for academically gifted students, science, and advanced placement classes.
 - In order to prevent future overcrowding issues associated with in-district transfers, it was suggested that the current student transfer policy should be reviewed and possibly updated.
- d. Analysis and Discussion. While some of the statements above are paraphrased to protect the anonymity of the contributors, they do represent the wide and often passionate views of those interviewed. The challenge is to make some sense of all this. To create a summary that reflects a "Corporate Community" view about the general condition of the Davie County School facilities relative to the teaching-learning process, we have attempted to pose and then respond to a few questions.

What about the Need for a Comprehensive Study?

Views were slightly mixed about the need for completing the comprehensive facility survey described in the RFP.

- A small percentage of those interviewed referred to previous studies that were conducted internally by various committees and were reviewed but not acted upon.
- A second portion of those interviewed were ambivalent with respect to whether the outcome of the study had any chance of being implemented for fiscal reasons.

- Another portion of those we talked with are in the "show me" camp; they believe that the data supplied in the study would need to express clearly the necessity for renovation or construction.
- And another portion was supportive of having the study completed if that is what it takes to move the process forward. There is also some strong sentiment for completing the study if, for no other reason, the product could define the end of a chapter on what for some seems to be a continuous dialogue on problems related to the high school. Nearly all of those interviewed want some closure and they hope the study will accomplish just that.

What is the General Consensus of those Interviewed?

- The overwhelming majority of those interviewed exhibited strong support of the schools, the administration, and the faculty.
- The large majority of those interviewed were appreciative of being involved in the process.
- There is a feeling of strong support for doing something with the current high school facility to make the teaching/learning process even stronger.
- There is the sense of a strong need to balance elementary school enrollments, involving representatives of the community in adjusting attendance zones.
- And finally, there was an overwhelming expression exhibited on the part of those interviewed that the future of Davie County is good and that the pride felt by the community is intact and looking towards the future with enthusiasm.

03 CREATE

7. Facility Program Recommendations

- a. Cooleemee Elementary School
 - Current estimated facility capacity is 612 students; 2011-12 enrollment is 467 students; 2021-22 projected enrollment is 483 students; ten year projected enrollment range is 450-490
 - Expand & renovate administration
 - Consolidate, add classrooms to main building
 - Remove corridors from media center
 - Existing two story gym and dining building is not accessible; classrooms, other spaces separated from main school building
 - Construct new cafeteria and gym facility that is accessible and functional
 - Add art program spaces to the school
- b. Cornatzer Elementary School
 - Current estimated facility capacity is 492 students; 2011-12 enrollment is 354 students; 2021-22 projected enrollment is 381 students; ten year projected enrollment range is 334-384
 - Program adequacy of the existing facility is in good condition
 - Add new music classroom
- c. Mocksville Elementary School

- Current estimated facility capacity is 628 students; 2011-12 enrollment is 661 students; 2021-22 projected enrollment is 668 students; ten year projected enrollment range is 667-706
 - Expand & renovate administration
 - Provide classroom additions to accommodate number of students and eliminate windowless classrooms
 - Remove corridors from media center and add media support space
 - Eliminate corridor between kitchen and dining
 - Add new arts classroom
- d. Pinebrook Elementary School
- Current estimated facility capacity is 539 students; 2011-12 enrollment is 523 students; 2021-22 projected enrollment is 459 students; ten year projected enrollment range is 459-537
 - Expand & renovate administration
 - Provide classroom additions and renovations to accommodate number of students and eliminate windowless classrooms
 - Remove corridors from media center and add media support space
 - Construct new cafeteria
 - Add stage and office to gym
- 1e. Shady Grove Elementary School
- Current estimated facility capacity is 654 students; 2011-12 enrollment is 593 students; 2021-22 projected enrollment is 463 students; ten year projected enrollment range is 463-593
 - Expand & renovate administration
 - Provide classroom additions and renovations to accommodate number of students and eliminate windowless classrooms
 - Remove corridors from media center and add media support space
 - Expand dining
 - Add stage and office to gym
- 2 William R. Davie Elementary School
- Current estimated facility capacity is 450 students; 2011-12 enrollment is 361 students; 2021-22 projected enrollment is 331 students; ten year projected enrollment range is 331-365
 - Renovate administration
 - Provide classroom additions and renovations to accommodate number of students and eliminate windowless classrooms
 - Remove corridors from media center and add media support space
 - Expand dining
 - Add stage and office to gym
 - Add new arts classroom
- g. Redistricting the elementary schools would require a new space analysis recommendation for each of the elementary schools
- h. North Davie Middle School
- Current estimated facility capacity is 624 students; 2011-12 enrollment is 505 students; 2021-22 projected enrollment is 471 students; ten year projected enrollment range is 465-505

2 Science Labs For Each Middle School

- Expand & renovate and administration
 - Provide classroom addition for sciences
 - Add media support space
 - Expand arts classroom
- i. South Davie Middle School
- Current estimated facility capacity is 572 students; 2011-12 enrollment is 553 students; 2021-22 projected enrollment is 565 students; ten year projected enrollment range is 556-559
 - Expand & renovate and administration
 - Provide classroom addition for sciences
 - Add media support space
 - Expand arts classroom
- j. Davie County High Schools
- See attached recommendations report

8. Cost Models

- a. Summary Sheet
- b. Cooleemee Elementary School
- c. Cornatzer Elementary School
- d. Mocksville Elementary School
- e. Pinebrook Elementary School
- f. Shady Grove Elementary School
- g. William R. Davie Elementary School
- h. North Davie Middle School
- i. South Davie Middle School
- j. Davie High School
- k. Central Davie Academy
- l. Central Office
- m. Cash Flow Summary

Davie County High School Facility Assessment & Long Range Plan

Davie County High School – Avenues for Consideration and Recommendation for an Enriched, Immersive, Learning Environment Future

As part of the analysis and recommendations, the team has explored three avenues for how to address the future of Davie County High School:

Avenue A – Continue to Expand, Replace, and Improve the Existing High School Campus

Avenue B – Construct new Davie County High School on new Greenfield Site

Avenue C – Construct new Davie County High School on Existing Site

After reviewing these avenues for the future facilities for Davie County High School, it is the recommendation of this long range plan, based on the information data, that a new high school be constructed on a new site, preferably centrally located to the population of the county. The analysis of the three explored avenues is on the following pages. A summary of the many factors that have contributed to this conclusion are as follows:

Location

- *The current high school is located south of Mocksville. The demographic center of the county is located near the intersection of Sain Road and Milling Road, located to the north of Mocksville (see the demographic center map, located in section 4. Demographics of the study report). By locating to a site central to the county and near Mocksville, the high school would be more accessible to the entire community.*

Existing Site

- *There are several limitations with the current site.*
- *Traffic and safety continues to be a concern along Highway 601. 601 is a major thoroughfare through Davie County, and is therefore heavily used by cars and trucks. A student was recently struck by a car beside the school. 340 new jobs have been announced since this assessment began, 140 of those in the immediate vicinity of the school. While this is a very positive event for Davie County, this will also only contribute to congestions and safety concerns along 601.*
- *High School programs are limited by the size of the current site. The site is bound by 601 to the west, Southwood Drive to the south, residences to the east, and the lodge to the north. This limits the ability for the site to grow. The six acres to the north could be investigated for possible expansion. Athletic programs that are not offered on site include baseball, softball, soccer practice, and tennis (tennis courts on site are currently being used for parking). This presents logistical problems for scheduling practices and events for these programs. This also limits their use for physical education during the day. The*

location of these events off-site also contributes to loss of time due to travel, as well as additional safety concerns.

- *Limitations of the site also affect how the current high school could expand its educational facilities and program needs. Since the site is currently maxed out, logistics of future new construction and renovation projects could become costly and disruptive. Where would new construction go? How would temporary classroom needs be met, and what would it cost to accommodate these? Where would temporary classrooms go on an already crowded site? What disruptions to utility services, such as IT infrastructure, would be affected? How would student safety and circulation issues be addressed? How would student performance be affected by the noise and disruption caused by a series of phased construction projects over several years of duration?*

Educational Program Limitations of Current School Facilities

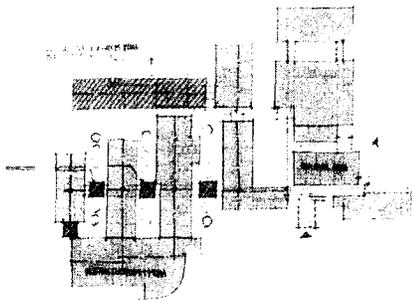
- *Buildings at the existing site date back to the 1950's. The 'newest' building is now nearly twenty years old. Buildings are scattered across the site, making it difficult for students to get from one class to the next.*
- *The media and performing arts building is the newest building on the campus. At nearly twenty years old, this building was designed at a time when the student population was much less than what it is today, and will be in the future. The media center is currently undersized – computer labs take up about 20% of the space because there are no computer labs in the area of the media center. Media support space is also undersized. IT functions have taken over some of the support space. Both the band and choral spaces are undersized. These spaces are difficult to just add on to. In addition to being undersized, the choral room is separated from the drama room by an operable wall – not the best acoustical solution.*
- *Due to the number of mobile classrooms, it is very evident that there is not enough classroom space. Also, the existing science labs do not meet NCDPI guidelines, in many cases significantly undersized. Services to these rooms are also old, and do not necessarily support the particular functions of the rooms. Adding new science space is a more costly proposition, due to utility and furnishing requirements. Additionally, the relationship of these spaces to other programs that integrate with the STEM initiative is not ideal in the current setting.*
- *Arts Education is lacking in many areas. Music programs have already been noted above. There is no auditorium. This limits the ability of students seeking careers in the performing arts. Utilization of off-site facilities is difficult to coordinate and secure, particularly when musical or drama productions are being planned. Visual art classrooms are undersized; kiln rooms for 3d art do not exist.*
- *In addition to the field limitations for physical education and athletics already noted, the main gym has additional limitations. Seating capacity is only 1200, which does not support the current or projected student capacity of 1700-1800 students. Recent tournament events had to be closed due to capacity limitations. Additionally, leaking roofs have also recently altered a band event in the gym (which would ideally take place in an auditorium).*
- *Service, business, and workforce labs will need to undergo some renovation as curriculum for these programs undergo change with new technologies and post-high school career opportunities.*

- *Administration and faculty support spaces are well undersized. This makes administration of the school and support to students, parents, and teachers more challenging.*
- *21st century learning environments. Education and learning as we are all aware is changing rapidly. The existing facilities need to be upgraded to support the new pedagogies, such as project based learning, STEM initiatives, and technology, to best prepare students for their future.*

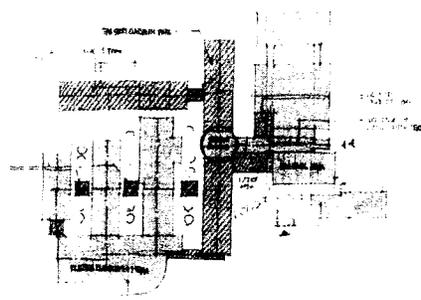
Costs

- *Financial resources and responsibility are obviously critical in making any decision regarding the future of Davie County High School.*
- *Costs are considered in the three avenues that have been explored for Davie County High School.*
- *Avenue A, Continue to Expand, Replace, and Improve the Existing High School Campus, has a cost impact from many sources. These include a) construction and renovation of new and existing facilities to meet the programmatic and curriculum needs of the school; b) costs for the logistics of constructing in phases and on an occupied site; c) costs to demolish existing buildings that will not be a part of the future of the campus; and d) costs of maintenance and operational improvements to the existing facilities, due to age and maintenance needs. It is estimated that to accommodate all these needs would exceed \$28,000,000 dollars, as noted in the cost analysis reports. This would still not address all of the program needs of the high school.*
- *Avenue B, Construct new Davie County High School on new Greenfield Site, has a cost impact from a couple sources. These include a) construction of a new high school to meet the programmatic and curriculum needs of the school; and b) cost of land to locate a proposed new high school. It is estimated that to accommodate all these needs would exceed \$44,000,000 dollars.*
- *Avenue C, Construct new Davie County High School on Existing Site, has a cost impact from a couple sources. These include a) construction of a new high school to meet the programmatic and curriculum needs of the school; and b) cost of land to accommodate all athletic programs and phased construction of a proposed new high school. It is estimated that to accommodate all these needs would exceed \$43,000,000 dollars.*

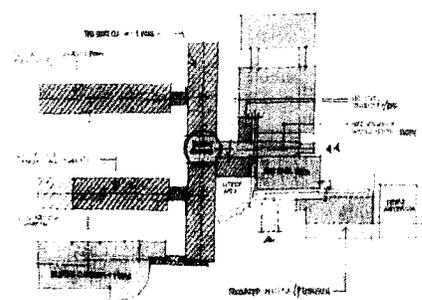
Avenue A – Continue to Expand, Replace, and Improve the Existing High School Campus



Phase One Conceptual Planning



Phase Two Conceptual Planning



Phase three Conceptual Planning

Why Consider This Option?

Pros

- *eliminates mobiles*
- *brings campus together to a core*
- *uses existing stadium*
- *uses existing site*
- *new classrooms at the core of campus; improves student/pedestrian circulation*

Cons

- *demolition would need to take place while students are out of school*
- *demolition/construction in the center of the campus*
- *instructional distractions-major*
- *displacing students into more mobile units during construction*
- *cost of more mobiles and may have to place on practice fields or in parking areas*
- *major interruption in technology and utility infrastructure*
- *impact to student safety*
- *a band-aid to long term solution*
- *a long, phased approach*
- *continue to have traffic concerns*
- *still inadequate athletic facilities limited space on existing site*
- *still have outdated underground infrastructure*
- *not a long term solution*
- *option MOST disruptive to students*

Location

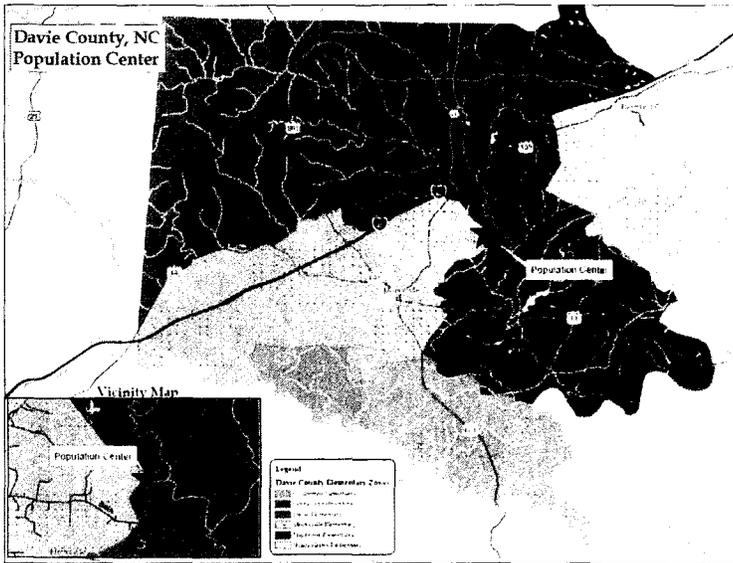
- *site south of Mocksville*
- *current location 6.3 miles to SW of population center*

Cost Considerations

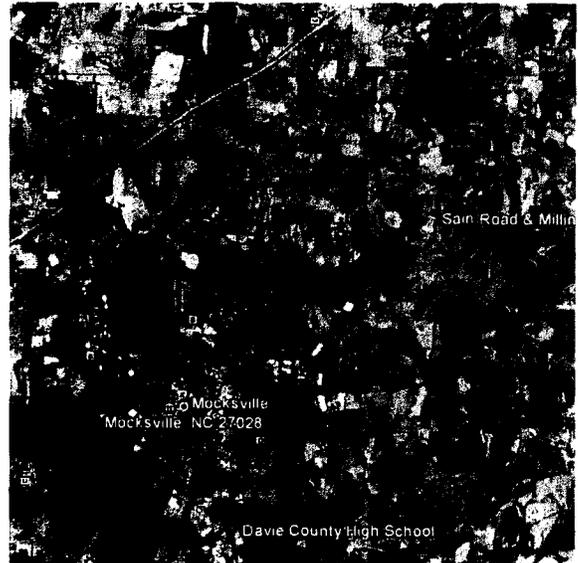
Cost Model

Operations and Maintenance Costs	\$5,824,265
Addition & Renovation	\$20,478,250
Subtotal	\$26,302,515
Contingency @ 8.00%	\$2,104,201
Subtotal	\$28,406,716
Soft Costs @ 21% (FFE, fees, testing, surveying, etc)	\$5,965,410
Total	\$34,372,126

Avenue B – Construct new Davie County High School on new Greenfield Site



Population Center of Davie County



Population Center of Davie County

Why Consider This Option?

Pros

- *eliminates safety and traffic concerns*
- *can be designed around needs of 21st century learning and not adapted as with renovation projects*
- *NO interruption to the instructional process*
- *keeps ALL students together on a single campus - eliminates rumors of two high schools - this is NOT two high schools*
- *no utility issues*
- *if existing campus was repurposed to accommodate all athletic facilities could become an athletic complex*
- *brings everyone together as a community*
- *could be centrally located to accommodate all citizens/students*
- *if this is the most cost effective solution it definitely is the preference from an educational perspective*

Cons

- *initial cost up front, financing options*

Location

- *identified by the demographer as a location that makes the most sense*
- *demographic center near intersections of Sain Road and Milling Road, approximately three miles NE of the center of Mocksville*

Cost Considerations

Cost Model

New Construction Cost – 258,906 sf @ \$156/sf *	\$40,907,148
(Assumes 1800 students / core 2000)	
Subtotal	\$40,907,148
Contingency @ 8.00%	\$3,272,572
Subtotal	\$44,179,719
Soft Costs @ 21% (FFE, fees, testing, surveying, etc)	\$9,277,740
Total	\$53,457,460

*based on average cost of 17 new high schools constructed between 2005 and 2011

Location

- *location is not central to entire Davie County community*

Cost Considerations

- *purchase adjacent property, approximately six acres -is this really a good investment?*
- *eliminates need to purchase or trade for large greenfield site*
- *cost of phasing likely to be higher due to spreading out execution of work*

Cost Model

New Construction Cost – 258,906 sf @ \$146/sf *	\$37,800,276
(Assumes 1800 students / core 2000)	
<u>Building Demo Cost - 194,379 sf @ \$10/sf</u>	<u>\$1,943,790</u>
Subtotal	\$39,744,066
<u>Contingency @ 8.00%</u>	<u>\$3,179,525</u>
Subtotal	\$42,923,591
<u>Soft Costs @ 21% (FFE, fees, testing, surveying, etc)</u>	<u>\$9,013,954</u>
Total	\$51,937,545

*based on average cost of 17 new high schools constructed between 2005 and 2011 & assumes some cost savings for not constructing new stadium