

June 27, 2017 Meeting  
Ad Hoc Joint City-Schools Facility Investment Task Force

The Task Force is required by R. 2775 to “develop and recommend” a CIP and provide related comments to Council. The School Board has proposed funding relating to high school buildings and potential restructuring. The Task Force should not adopt any recommendation that would subdivide the current T.C. Williams High School into a greater number of schools, however they might be denominated. The City benefits from our single, comprehensive high school that affords complete access to all programs and all facilities. No compelling case has been made for any other high school structure in Alexandria.

**Background**

- Critical role of the Task Force
- Likelihood of substantial Council reliance on Task Force findings and recommendations
- High School EdSpecs document identifies School Board plans (**see attached annotated excerpts**)

**T.C. Williams High School Issues**

- Comprehensive, universal-access, all-programs nature of TC
- Is T.C. really overcrowded?
- Comparisons – scope of facilities, square feet per student – have not been presented
- If there is crowding, potential mitigation – e.g., class change/passing times, class scheduling – has not been considered
- Explicit declarations by ACPS officials that there is no safety issue whatsoever

**EdSpecs**

- The EdSpecs document is an important reflection of the School Board’s plans
- The School Board must have intended the exact terms of the EdSpecs: they were reviewed at four different School Board meetings and unanimously adopted four times
- EdSpecs are not advisory or hypothetical in nature - they set forth “requirements” for “compliance” – these and similar terms are repeated throughout the EdSpecs document
- School Board plan is based on nothing more than an unadjusted arithmetic average of the student populations of other high schools in the extended region, including small special-purpose campuses, without any attention to the unique geographic and demographic features exhibited by Alexandria

**What has the School Board announced in the EdSpecs that it will do?**

- Explicitly-stated model: Two or more full-service, 9-12 high schools, each small, each stand-alone, based solely on raw averaging of other schools
- Negative effects of a geographic split on comprehensive nature of TC
- Desirability of any TC split has not been established
- Will a split TC provide every student with **equal** and **comprehensive** access to all academic programs, athletic programs, co-curricular activities and facilities, and student support?
  - Or, instead, will students at one or more new High School campuses not have access to the particular programs?
- No consideration of any alternatives:
  - No proposal for special-program building(s)
  - Explicit rejection of 9/10 and 11/12 structure
  - No consideration of build-out options – TC was designed to be scalable
  - No options were considered except a subdivision of the existing TC

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The EdSpecs establish that the School Board intends to split TC into what would amount to multiple 9-12 high schools. This proposal has not been justified. The Task Force should not adopt it.

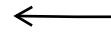
Mark C. Williams  
(Submitted as a Private Citizen)

## High School Educational Specifications for

### Alexandria City Public Schools 1600 Student Capacity Prototype

**FINAL | Jan. 2017**

NOTE: Fourth iteration, all unanimously adopted by School Board



# INTRODUCTION

## PURPOSE

NOTE: The EdSpecs are not hypotheticals; they are intended to be binding guidelines, not theoretical references

The purpose of these educational specifications (“Ed Specs”) is to **serve as the guiding recipe and benchmark** for future school renovations and new construction projects for Alexandria City Public Schools. The Ed Specs should encourage a school facility design that lends itself to a culturally competent student workplace for a broad range of diverse learners in our high schools.

Per the National School Boards Association:

*The purpose of educational specifications (“Ed Specs”) is to define the programmatic, functional, spatial, and environmental requirements of the educational facility, whether new or remodeled, in written and graphic form for review, clarification, and agreement as to **scope of work and design requirements** by the architect, engineer, and other professionals working on the building design.<sup>i</sup>*

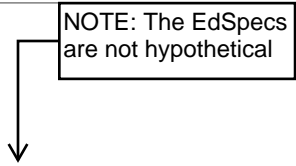
The Ed Specs tell the story of the school facility and how the built learning environment will support the academic programs and vision of the school’s leadership. This generic high school Ed Spec is primarily intended for use as a **planning guide** by architects and project planners, but it is **also intended to serve as a communication and benchmarking tool** for all project stakeholders: students, parents, and families; faculty and administrators; civic leaders and community members; and project design and construction partners.

The general concept embodied in the specifications is to **provide adequate details for proposed spaces** while leaving ample flexibility for creativity and options in design by the architects. **They define expectations** among project stakeholders but do not limit creativity. The Ed Specs are also a living document; amendments can be discussed, developed, and issued over time.

## PROJECT PLANNING:

During the planning phase of a project, the Ed Specs should be utilized to understand and develop future project scopes of work and budgets. They should be included in project procurements to ensure that interested vendors are clearly and uniformly communicated the intent of a project and, therefore, provide well informed responses to meet actual project needs. While the unique site locations of new schools may necessitate floor plan modifications, the program and space requirements should be modified only as allowed within the parameters of this document.

NOTE: The EdSpecs are not hypothetical



#### **PROJECT IMPLEMENTATION:**

During the implementation phase, the Ed Specs should be used for quality control, allowing ACPS to measure project deliverables against the stated benchmarks and standards. Design deliverables and construction should be reviewed for compliance with the standards and goals stated herein noting, however, that flexibility of +/- 10% is allowed when applying square footage requirements (particularly in the case of renovating an existing structure). Additionally, the Ed Specs will help provide the foundational support for project decisions during implementation, as responses can be measured against their compliance with the Ed Specs.

#### **PROJECT TURNOVER AND OCCUPANCY:**

Ed Specs serve as a valuable aid in the turnover of the facility to staff and administrators and other occupants. They comprise a user-friendly document that allows people outside of the design and construction professions to understand the building and the intent of its spaces.

### **PROCESS**

Planning a state-of-the-art school requires the consideration of several influencing factors:

- ◆ Historical and forthcoming context of the community
- ◆ Current and future learning pedagogy and curricular goals
- ◆ Technical expertise of the faculty and administrators
- ◆ National and regional trends and benchmarks, and
- ◆ Strategic visioning goals and objectives of the Division

Developing the plan requires the cooperative efforts of facility specialists, administrators, faculty, and instructional consultants, in addition to the careful involvement of outside partners and community stakeholders. In order to create the best possible learning environment for children, an effort has been made to incorporate the best ideas from existing plans and facilities and to anticipate future needs for educating Alexandria's children.

As mentioned, ACPS and the City are working together to develop a long range educational facilities plan in order to develop a thoroughly coordinated plan that responds to projected enrollment growth and considers city-wide needs in a comprehensive manner. The LREFP process, shown in Figure 1.0, focuses on updating the LREFP based on technical details from the ACPS School Board approved Educational Specifications, Enrollment Forecasts, and Current Facility Conditions and Capacities. The joint work group will update the LREFP, progress community involvement, and report recommendations to the full work group.

NOTE: The EdSpecs propose small, geographically distributed schools, and present no other proposals



# STRATEGIC VISIONING

In 2014, ACPS leadership was guided through a series of visioning sessions with educators and administrators that challenged them to clarify their expectations related to facility operations, sustainability, architectural quality, space priorities, and the community context. The visioning sessions focused on identifying gaps between ACPS' future goals and its current realities. An update to this visioning was performed in 2016. The following narrative summarizes the areas of greatest dissonance and formulates the concept for the construction and operation of a school of the future in Alexandria.

## PROGRAMMATIC STRUCTURE, SCALE, AND PROPORTIONALITY

ACPS desires to offer comprehensive primary and **secondary education facilities** that provide students with access to educational and extracurricular learning opportunities in local **neighborhood communities**. The Division also desires to provide citywide early childhood education by providing regionally-located centers that increase the amount of early childhood education available. A center will also centralize early childhood expertise for stronger collaboration and professional development.

**Future high schools will be comprehensive schools distributed throughout the city** that offer students access to a broad range of educational and extracurricular learning opportunities. All schools will be sized to offer students a strong sense of culture while also ensuring they have access to teachers and administrators as needed by emphasizing the implementation of smaller learning communities throughout the buildings. The Division's desire for students to learn whenever and wherever drives the need for future facilities to implement a spatial organization that provides both formal and informal learning areas and maximizes collaboration and interaction between students and faculty.

School designs should focus on creating collaborative, interdisciplinary, and adaptable learning spaces supported by a robust and seamless integration of technology, and flexible and ergonomic furniture. Incorporating an overall organization of small learning communities with breakout spaces in hallways known as extended learning areas (ELAs), collaborative spaces in classrooms, and spaces that facilitate chance interactions throughout the school should allow teachers to collaborate across disciplines and tailor learning objectives and lessons to students' individual needs.

Providing multifunctional spaces for third-party partner and community programs that extend educational and extra-curricular services to students, families and the community is a priority. The facility should operate as one organism that can be segmented into different functions and zones, depending on the time of day and use.

NOTE: These EdSpecs propose only the 1600 student model that would require a TC split. They are phrased as firm rules.

- ◆ **Facilities and the Learning Environment:** ACPS will provide optimal and equitable learning environments.
- ◆ **Health and Wellness:** ACPS will promote efforts to enable students to be healthy and ready to learn.
- ◆ **Effective and Efficient Operations:** ACPS will be efficient, effective, and transparent in its business operations.

## PLANNING CONCEPTS

The following sections elaborate on the planning and design concepts for a prototypical High School with an enrollment of approximately 1,600 students. While there is no current capital improvement plan (“CIP”) commitment for a comprehensive high school, ACPS is developing the high school prototypical Ed Spec to help the Division plan for future enrollment needs. High school enrollment in the city is expected to increase by nearly 1,000 students in the next 10 years. The prototypical high school Ed Spec is a benchmark against which to measure an existing facility and establish gaps and deficiencies. The analysis of these gaps and deficiencies will inform future CIPs and the updated LREFP. A combination of renovations and new facilities can be expected based on the enrollment growth ACPS is experiencing. Architects and designers should be mindful that the following sections are a guideline and a tool to advance the design of a high school. These rules should be vetted throughout the schematic design phase by coordinating with the professional planning staff of ACPS and its stakeholders.

NOTE: The range-of-schools below includes micro-programs, disregards Alexandria's geography, and states no basis for the comparison

### CAPACITY

Every school project begins with establishing the number of students who will be served when the project is complete, or the ‘capacity’. Capacity is the primary driver in determining the number, type, and size of the spaces in any new or modernized building.

To establish the ideal high school capacity for ACPS, the Planning Team reviewed local and national data about high school enrollment. As summarized in figure five on page 25, the average high school enrollment in the United States is approximately 854 students. High schools in the region range in size from 100<sup>1</sup> students to nearly 2,900 students, with an average high school enrollment being 1,614 students.

<sup>1</sup> Schools with capacities under 500 are outliers and are typically academies or schools within a school.

AREA	Quantity of High Schools	Largest	Smallest	Average	Ideal
Arlington County <sup>1</sup>	4	2,193	108	1,445	2,200*
Fairfax County <sup>2</sup>	25	2,782	1,755	2,190	2,500
Loudoun County <sup>3</sup>	9	2,157	960	1,531	1,800
Prince William <sup>4</sup>	11	2,897	941	2,305	2,800
Prince George's <sup>5</sup>	22	2,573	775	1,543	1,700
Montgomery <sup>6</sup>	15	2,790	1,202	1,790	1,500
District of Columbia <sup>7</sup>	28	1,696	146	496	NP
<b>Average</b>	<b>16</b>	<b>2,441</b>	<b>841</b>	<b>1,614</b>	<b>2,083</b>
<b>USA</b>	<b>26,407</b>	<b>9,010</b>	<b>NP</b>	<b>854</b>	<b>-</b>
<b>Alexandria</b>	<b>1</b>				<b>1,600</b>

Notes:

np = not provided

High Schools include comprehensive public schools serving grades 9-12

\*In Arlington, 2,200 students is the maximum high school facility size

Sources:

High school enrollment information is from National Center for Education Statistics Common Core Data

<sup>1</sup>Arlington Facilities and Student Accommodation Plan, FY 2016-25

<sup>2</sup>Fairfax County Public Schools Strategic Facilities Plan, 2012

<sup>3</sup>Loudoun County Public Schools FY 2016 - FY 2020 Capital Improvement Plan

<sup>4</sup>Prince William County Public Schools - Regulations

<sup>5</sup>Prince George's County Public Schools Educational Specification Prototypes, 2015

<sup>6</sup>Montgomery County Public Schools Educational Facilities Master Plan and FY 2015-2020 Capital Improvement Plan

NOTE: Above chart mis-measures by adding in special-school micro-programs.

NOTE: Language below makes clear that the sole basis for the EdSpecs school-size proposal is averaging other schools, and no other option was considered.

FIGURE 5: Regional Benchmarks

In alignment with other school systems in the region, high schools in the ACPS system will have a student capacity no smaller than 1,400 and no larger than 1,800. For the purposes of planning, this educational specification is illustrative of a 1,600-student school and intended to be a planning tool. The ACPS Division has an active, editable spreadsheet that will allow planners and architects to develop facility needs for a range of schools based on the capacity and program desires at the time of planning a new high school facility.

Simply defined, high school capacity is a product of the number of classrooms at a school and the student stations assigned to each room type. Only classrooms that are 600 square feet or more with a teacher and students regularly assigned to the space count toward full-time capacity. Capacity-driving classrooms generally include spaces such as core instruction, art classrooms, music classrooms, science and lab classrooms, gymnasiums, performing art spaces, CTE spaces, and resource rooms. Due to year-over-year changes in classroom use, it is possible for a school's capacity to change in minor ways each year. Other factors such as the ACPS Division-defined planning caps (determined by the budget) also impact the overall capacity of the facility.

By applying actual school staffing to the current enrollment it can be determined that for the ACPS high school, class sizes range from 25 to 30 students in all core classes, with a range of 30 to 35 in the encore and physical education classes. This is in alignment with the Virginia Board of Education Standards of Quality guidelines:<sup>2</sup> However, class size caps are often used to further advance educational outcomes, and ACPS desires to maintain average class sizes near 25 students per class in core academics.

The current high school operates on a block schedule with alternating classes every other day. This unique block schedule allows students to take 3.5 classes a day, where the first class of the day is half the length of a regular class and repeats each day of the week. Teachers usually teach six out of seven periods of the day, **giving the building a utilization of approximately 86%. For this educational specification, the maximum capacity will be factored at 86% utilization and at this rate,** the facility will have space to accept for future growth without being too large to support the current population.

For the purposes of planning, the following class sizes should be used to calculate a planning capacity. It is important to size all classrooms to accommodate the maximum number of students indicated rather than the target that is used for capacity planning. This allows for program flexibility and interchangeable uses year to year.

Once a capacity is proposed, many other areas of the building are sized to support the enrollment based on ratios and national benchmarking best practices. The number of small group rooms, art rooms, music labs, and support staff offices is based on student-to-teacher ratios. The size of the core areas such as library, dining and food services, physical education facilities, and site amenities is based on local and national benchmarks as they relate to size. The balance of this document outlines the functionality and program of spaces for this sample prototype.

Per the Guidelines for School Facilities in Virginia's Public Schools, the goal of the optional guidelines developed by the Virginia Department of Education is:

*"...to provide recommendations that will help local school Divisions ensure that their school sites and facilities support the principles of good teaching and learning and promote sound educational programs."*

The guidelines developed here by the project team respond to, or exceed, the Virginia State guidelines and recommendations. It is the responsibility of the architect to ensure the plans meet or exceed the current state

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<sup>2</sup> <http://www.doe.virginia.gov/boe/quality/>



It is optimal for high school facilities in Alexandria to provide regulation sized competition pool facilities. Per the Virginia High School League standards, competition swimming pools should include at least 8-lanes in width and 25-yards in length. Additionally, competitive diving requires a diving well with two 1-meter diving boards. It is optimal to separate the diving well from the lap pool to prevent accidental injury and allow both sports maximum water time for training. All required support facilities should be included adjacent to pool facilities as needed. These facilities include, but are not limited to locker rooms, restrooms, spectator seating, chemical delivery, chemical storage, pump / filtration rooms, custodial facilities, scoring areas, sound system, first aid facilities, storage, offices, ticketing booth, dry-land exercise space, and lobby areas. It is important to provide diffused light, so as not to create glare that can distract spectators, pool users, and lifeguards. Natural light is desired in pool spaces when accompanied with shading devices. Direct sunlight into the water should be avoided to best control the temperature of the water and prevent glare for the athletes. Finishes should be impervious and non-corrosive. Pool facility design should incorporate materials that can reduce acoustic reverberation and appropriate ventilation / dehumidification. Supervision is key to ensuring that all users can enjoy the pool safely.

When the need is identified, ACPS school facilities have the opportunity to provide community pools for non-competitive practice, swimming lessons, and group rental. The size and style of this pool or water zone may range from a splash pad to a competition 50 meter pool. Demand for pool spaces within the city will determine the need and size of such water areas.

A pool consultant, designer, and space programmer should be engaged when designing a pool for high school or community use.

### ***Student Support, Testing, and Community Gathering Spaces***

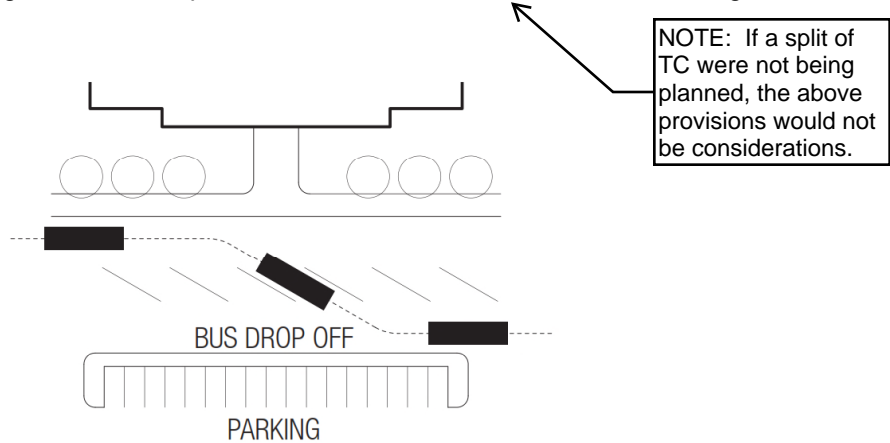
NOTE: If a 9/10 and 11/12 model will be considered, why would each school need a college/career center? A 9/10 school would not need one.

ACPS has the need to provide a communal space in a high traffic area of the school for students to access student run support services and a centralized testing area. The type and size of space envisioned is large enough to also supply significant community space for before or after school use. The following section describes what the student support, testing, and community space could be in an ACPS high school. At the time of site specific planning, designers and ACPS administrators should discuss the current need to appropriately size the space.

The 21st century high school ACPS envisions is preparing Alexandria students for advanced education beyond high school. Colleges and universities provide students an opportunity to service each other through activities offices, student stores, and information technology help centers. ACPS values providing students with the additional academic and wellness support needed to succeed. Spaces such as the writing center, math center, tech support, help desk, teen wellness and college and career center should be located in a designated and accessible space. ACPS should consider locating these services in a location accessible to the cafeteria so that students may use these services during their lunch time.

ACPS transportation provides services to 5,800 students daily and approximately 2,200 of those students attend T.C. Williams and Minnie Howard schools. At school facilities where space can be provided for school bus parking, it is desirable to orient the buses in such a way that prevents them from ever reversing out of a parking space – in a manner similar to that seen in a bus depot. If a bus loop must be used, avoid parallel, double-wide parking during loading and unloading, as this increases danger to the students.

It is important to note that most ACPS schools are located in densely-populated neighborhoods and many students either walk to school or receive rides from parents. Currently, ACPS’ policy is to provide transportation only for students living more than 1.5 miles from their designated school site. **If ACPS expands to multiple high school campuses, the Division will offer transportation to all students.** Due to the high percentage of students arriving by alternate means, designers should be careful to separate parking lots and school bus loading areas from each other and from student drop-off areas and pedestrian walkways. Furthermore, the use of bicycles should be encouraged by providing bike racks in quantities at a minimum consistent with LEED guidelines.



**FIGURE 8:** Bus Diagram

The minimum parking requirements should be recommended by the architect and are to be based upon the proposed capacity prototype. Actual parking requirements may be impacted by factors such as zoning, site constraints, absence or presence of other modes of transportation, etc. The architect must coordinate at time of design and it should be noted that ACPS offers incentives to encourage carpooling and the use of mass transit by staff.

# BUILDING ORGANIZATION

## CONCEPT

The careful and thoughtful consideration of building organization during design is critical to the success of a future school program. This conceptual building organization diagram ( ) illustrates relevant adjacencies for the typical high school model.

NOTE: The provisions below make clear that a 9/10 and 11/12 structure is rejected, and not under consideration, and that School Board is moving to multiple 9-12 schools.

ACPS currently operates its high school education from two campuses—a ninth grade center and a grade 10 through 12 campus a few blocks away. ACPS desires to provide high schools that serve students in grades nine through 12 at a comprehensive campus with a junior college atmosphere. The basic organizational structure of the school should reflect a learning community concept consisting of an anchoring commons facility and supplementary classroom extensions. These specialized extensions, or wings, create learning communities that each serve a specific academic purpose. These extensions will be organized around a shared common area or anchor building.

The anchors are areas where students will attend whole-school events, specialty classes, and lunch. The anchor will provide space for cross-collaboration as well as individualized learning spaces; however, the majority of learning will occur in the classroom extensions, or wings, that house approximately one-quarter of the school population. The anchor will have public and private zoning to support security separation that allows for afterschool activities.

The classroom extensions will foster learning communities that enhance interdisciplinary collaboration and a modern work culture feeling. Each classroom extension will be dedicated to a specific subject area and students will rotate between extensions, using the anchor as circulation and an extended learning area. Each extension should feel like a small learning community and consist of general purpose classrooms, space for informal instruction, small group rooms, two- and three-dimensional display areas, group breakout areas, and a teacher collaboration suites. The extensions will incorporate smaller personalized spaces within the larger whole that allow students to personalize their individual learning environment. The integration of technology throughout all spaces is required to enhance the core curriculum.

Students from all grades should mix and be inspired by what their upper classmates are creating as they pass through the classroom extensions. Each classroom extension will have theme-based academies and flexible use of the overall space to accommodate and adapt to the needs of different programs.

NOTE: This provision makes clear that teachers will mostly be using carts, not assigned classrooms. EdSpecs plan would not resolve the claimed classroom issue.

The school will remain flexible enough to incorporate new academies and programs with time. The learning community concept best meets the needs of the educational programs, students, and staff as it facilitates a variety of instructional strategies and provides a learning environment which is characterized by having a sense of community for the students and teachers, and a safe, well-supervised environment.

It is desirable that grade levels have separation at core academics to build individual community and focus. Currently, students in the ninth grade campus have a full year to build community, culture, and relationships before they transition into the larger high school. The ability to create these connections is an important quality that any new high school should provide and ACPS wants to maintain.

Administrators will continue to be dispersed among the learning communities to support student supervision and facilitate teacher / student collaboration. Most teachers will not own classrooms, rather teacher collaboration suites and combined offices spaces will be provided to encourage cross-disciplinary collaboration.

Teacher collaboration suites are shared, medium-sized office spaces that provide teachers with a location to store their personal items and teaching materials in a personal wardrobe and/or a personal file cabinet. Teacher collaboration suites are assigned based on staff alignment in either subject matter. Teacher collaboration suites are designed to provide enough hoteling space for teachers to use during their planning period(s).

The environment of the suite is intended to provide shared and professional working space for grading papers and preparing lesson plans while also allowing teachers to cross-collaborate on project based work. It is important to note that the teacher collaboration suite is not a replacement for a standard workroom or faculty lounge. Other department related administration may be collocated near or adjacent to the teacher collaboration suite. Each teacher collaboration suite provides up to six hoteling spaces per room. In a school of 1,600 students, approximately 14 to 17 teachers will have a planning period at the same time. By providing six teacher collaboration suites with up to six hoteling spaces in each room, each teacher will have a desk to work from during their planning period. Each hoteling space will be fully outfitted with electrical, data ports and other tools necessary for teachers to make home calls and continue their day to day responsibilities.

Immediately adjacent and connected to the teacher collaboration suite will be one breakout space for one-on-one instruction. Students who visit teachers during the teacher's planning period will have a separate space of approximately 80 square feet to meet that will not be disruptive to the other staff but is adjacent to the teachers planning area.

Teacher collaboration suites are not intended to limit the ownership and customization of the individual classrooms. Teachers of the same subject will be scheduled to use the same classroom a majority of the time. Teacher collaboration suites are intended to increase teacher collaboration and improve the utilization of each classroom. Provide one teacher collaboration suite for approximately every 10 classrooms.