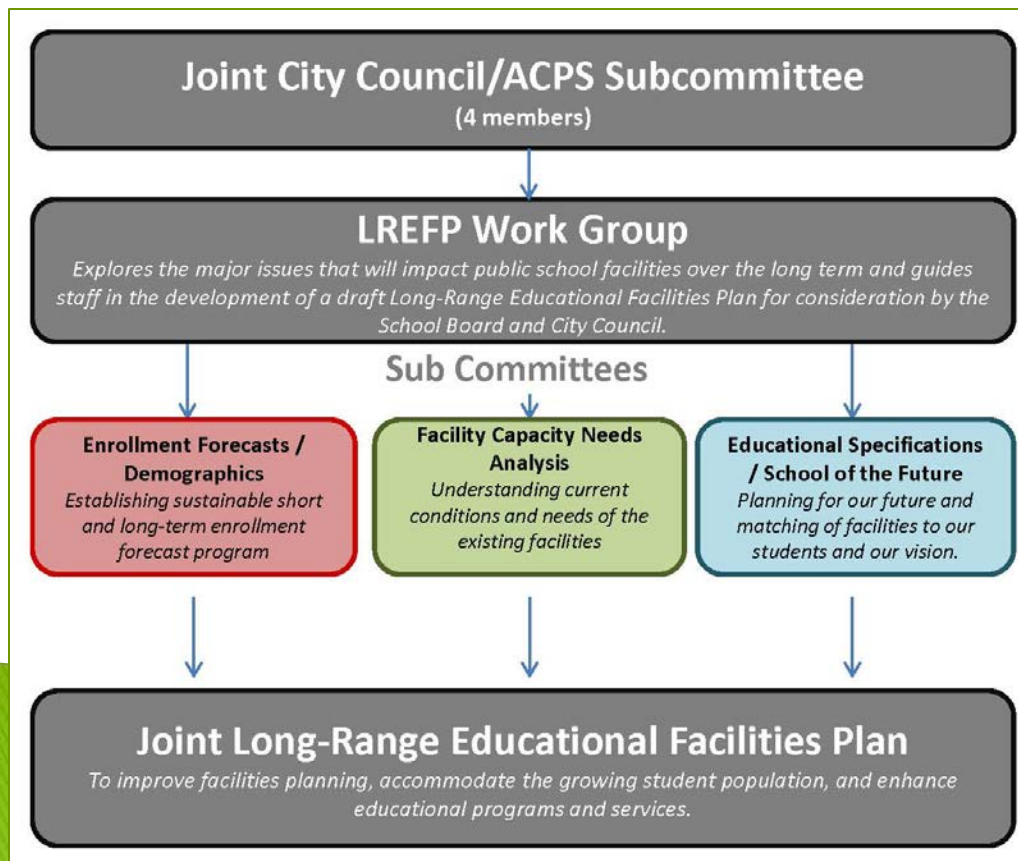


Facility Capacity Needs Analysis Subcommittee

ACPS & City of Alexandria



Calculating School Capacity

- ▶ The number of students that can be reasonably accommodated by a school, building and site
 - 3 variables:
 - Physical: building size, # of teaching stations
 - Operational: utilization rate, staffing, space management
 - Programmatic: class-size caps, educational program
- ▶ Capacity numbers are not fixed. Can increase number of classrooms, change or move programs, etc. that will result in a new capacity figure for a particular building. Must be updated annually to stay current.

Scope of Work– Hughes Group Architects

▶ Phase I

- Inventory spaces of building's interiors
- Classify space & appropriateness
- Document general space quality
- Provide electronic floor plans of each school
- Attend meetings with stakeholders

▶ Phase II

- Describe property ownership and boundaries
- Document usable acreage of open space & recreational features
- Document general size & condition of playgrounds
- Document natural resource areas
- Describe adequacy of site utilities to accommodate new construction
- Provide electronic site plans
- Attend meetings with stakeholders

Phase I– Building Interior Inventory

- ▶ Goals and Objectives
 - ▶ Establish an inventory of school facility floor plans with supporting quantitative data for analysis
 - ▶ Analyze existing educational space as relative to ability to meet current educational standards
 - ▶ Evaluate appropriateness and viability as an educational environment
 - ▶ Compare against benchmark standards (Virginia Dept. of Education (VDOE) guidelines)
 - ▶ Provide data and baseline analysis to allow for informed decision making as to where to focus ACPS resources most effectively
 - ▶ Empower ACPS and its Facilities department with a building information model as a tool for managing future changes and analysis
 - ▶ Analyze existing auxiliary educational spaces as relative to current facility standards for education and community use
 - ▶ Assess community use of educational facilities in terms of appropriateness and viability as an educational environment as compared to benchmarks

Phase I– Building Interior Inventory

- ▶ Community Use of Educational Facilities
 - Three Major Users
 - Campagna Center– after school programs
 - Recreation, Parks & Cultural Activities– after school programs, youth & adult sports, summer camps
 - PTAs– after school clubs, tutoring programs
 - Each group has space needs and standards
 - Continue to investigate the needs and include in space considerations

Phase I– Building Interior Inventory

- ▶ Baseline provided by Architect will inform the subcommittee's next tasks:
 - Review existing capacity analysis methodology
 - Make recommendations for modifications to the methodology for both elementary and secondary
 - Develop a capacity and utilization assessment for each school site
- ▶ Completed three elementary schools

Phase I– Proposed Process

TC Williams High School Minnie Howard Campus

Analysis



Building
Interior

Phase I– Proposed Process

Process: Building Assessment & Analysis

1

Evaluate Existing Records

- completeness
- confirmation
- check sources

2

Develop Base CAD
Floor Plan Drawings

3

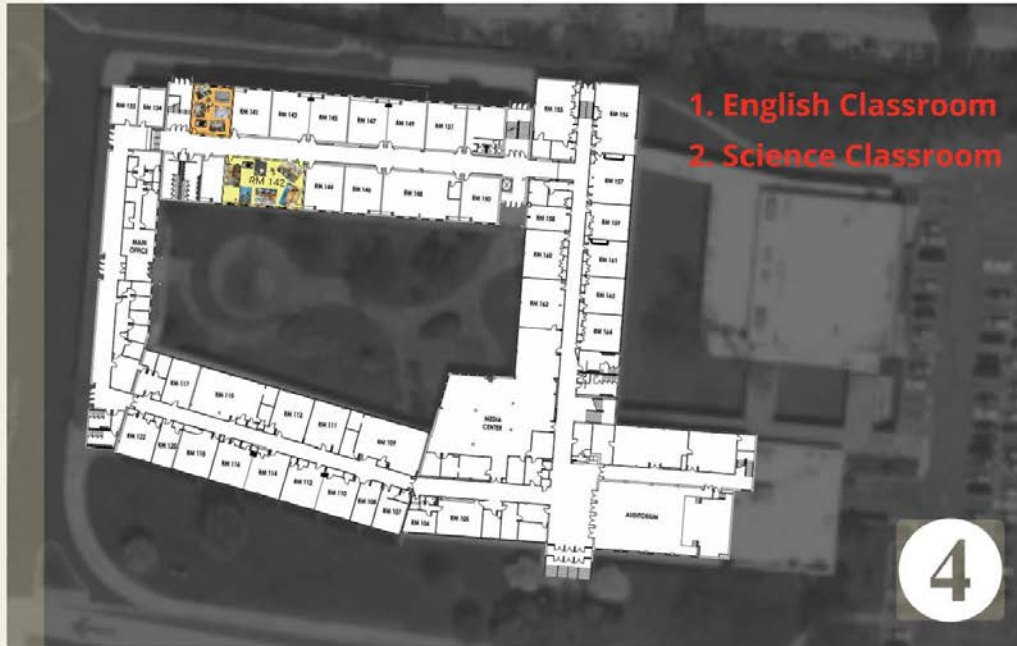
Meetings

- Principal
- Staff
- Maintenance



Phase I– Proposed Process

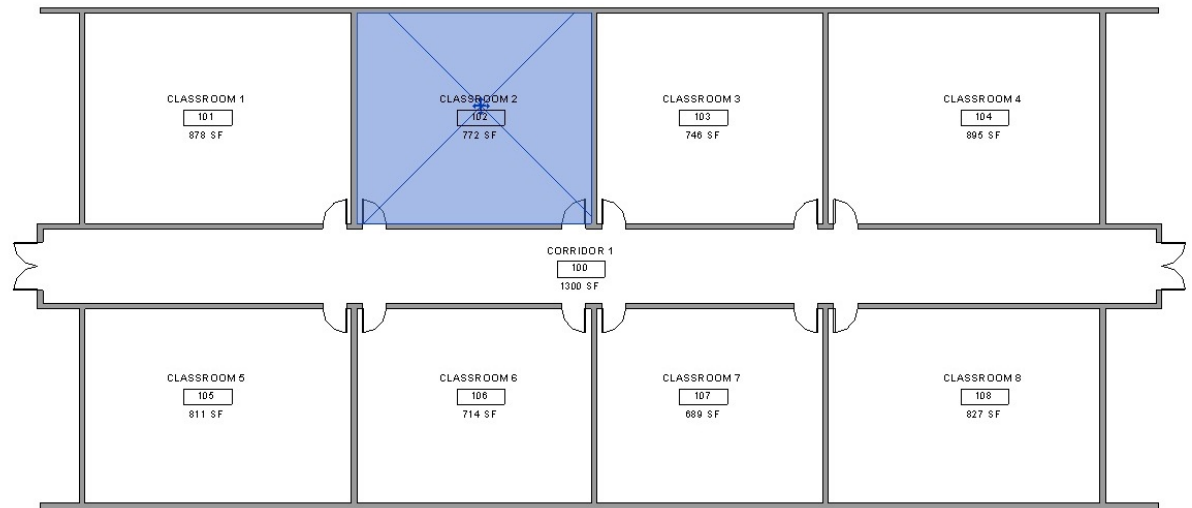
Process: Building Assessment



TC Williams High School Minnie Howard Campus

Phase I- Proposed Process

Properties	
Rooms (1) Edit Type	
Constraints	
Level	Level 1
Upper Limit	Level 1
Limit Offset	10' 0"
Base Offset	0' 0"
Dimensions	
Area	772.44 SF
Perimeter	111' 4"
Unbounded Height	10' 0"
Volume	Not Computed
Computation Height	0' 0"
Identity Data	
Number	102
Name	CLASSROOM 2
Comments	
Occupancy	Classroom
Department	English
Base Finish	
Ceiling Finish	
Wall Finish	
Floor Finish	
Occupant	
Program Area	
Light Level	Good
Foot-Candles	53.000000
Decibel Reading	32.000000
Room Area	
Phasing	
Phase	New Construction



Phase I– Proposed Process

Schedule: Lighting Schedule - Test Project

<Lighting Schedule>

A	B	C	D	E
#	Room Name	Room Area	Foot-Candles	Light Level
100	CORRIDOR 1	1300 SF		
101	CLASSROOM 1	878 SF	55.00	Good
102	CLASSROOM 2	772 SF	53.00	Good
103	CLASSROOM 3	746 SF	35.00	Fair
104	CLASSROOM 4	895 SF	10.00	Poor
105	CLASSROOM 5	811 SF	30.00	Fair
106	CLASSROOM 6	714 SF	15.00	Poor
107	CLASSROOM 7	689 SF	48.00	Good
108	CLASSROOM 8	827 SF	57.00	Good

Schedule: Acoustics Schedule - Test Project

<Acoustics Schedule>

A	B	C	D
	Name	Area	Decibel Reading
100	CORRIDOR 1	1300 SF	
101	CLASSROOM 1	878 SF	20
102	CLASSROOM 2	772 SF	32
103	CLASSROOM 3	746 SF	40
104	CLASSROOM 4	895 SF	60
105	CLASSROOM 5	811 SF	24
106	CLASSROOM 6	714 SF	36
107	CLASSROOM 7	689 SF	22
108	CLASSROOM 8	827 SF	32

Live Demonstration

