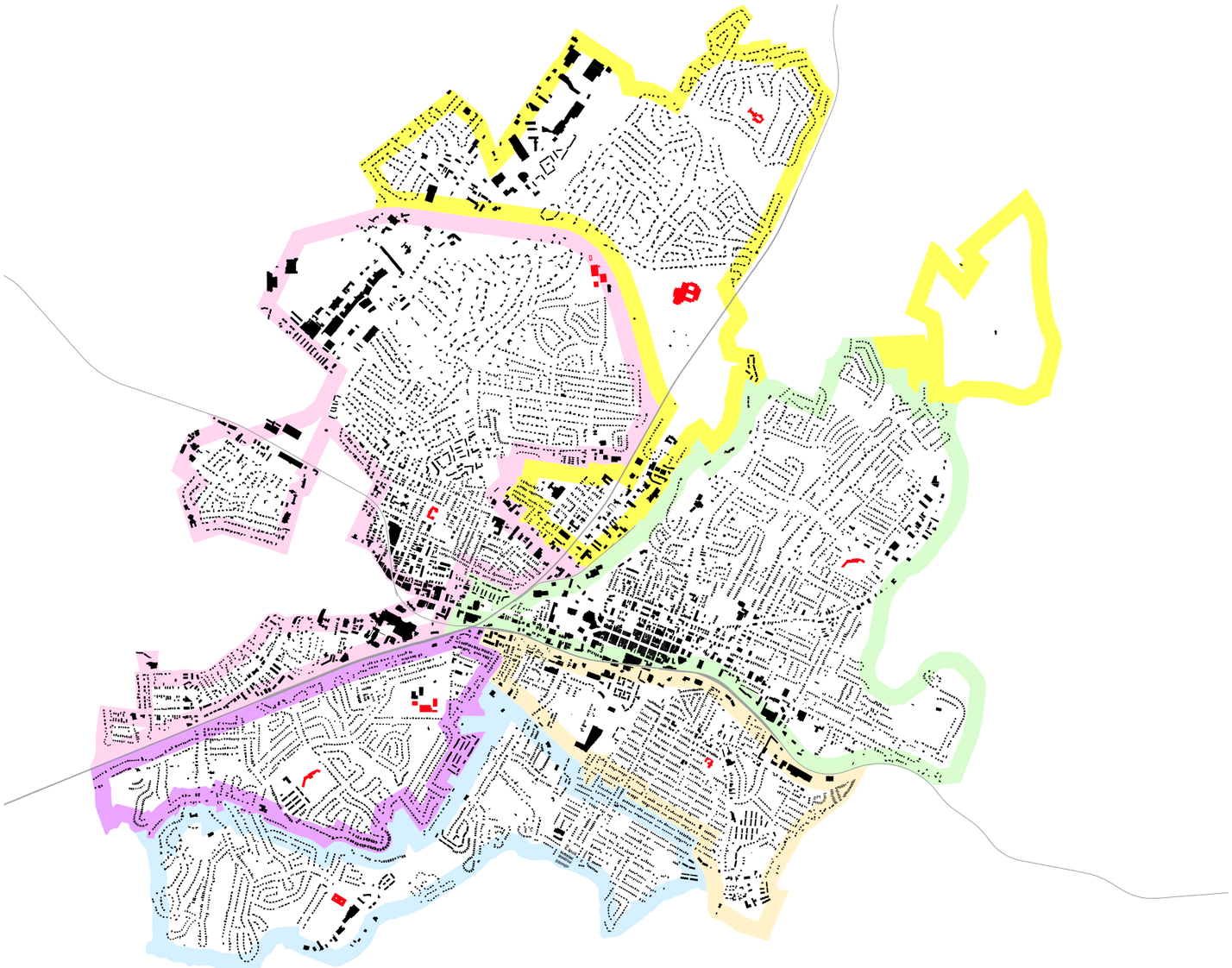


Charlottesville City Schools

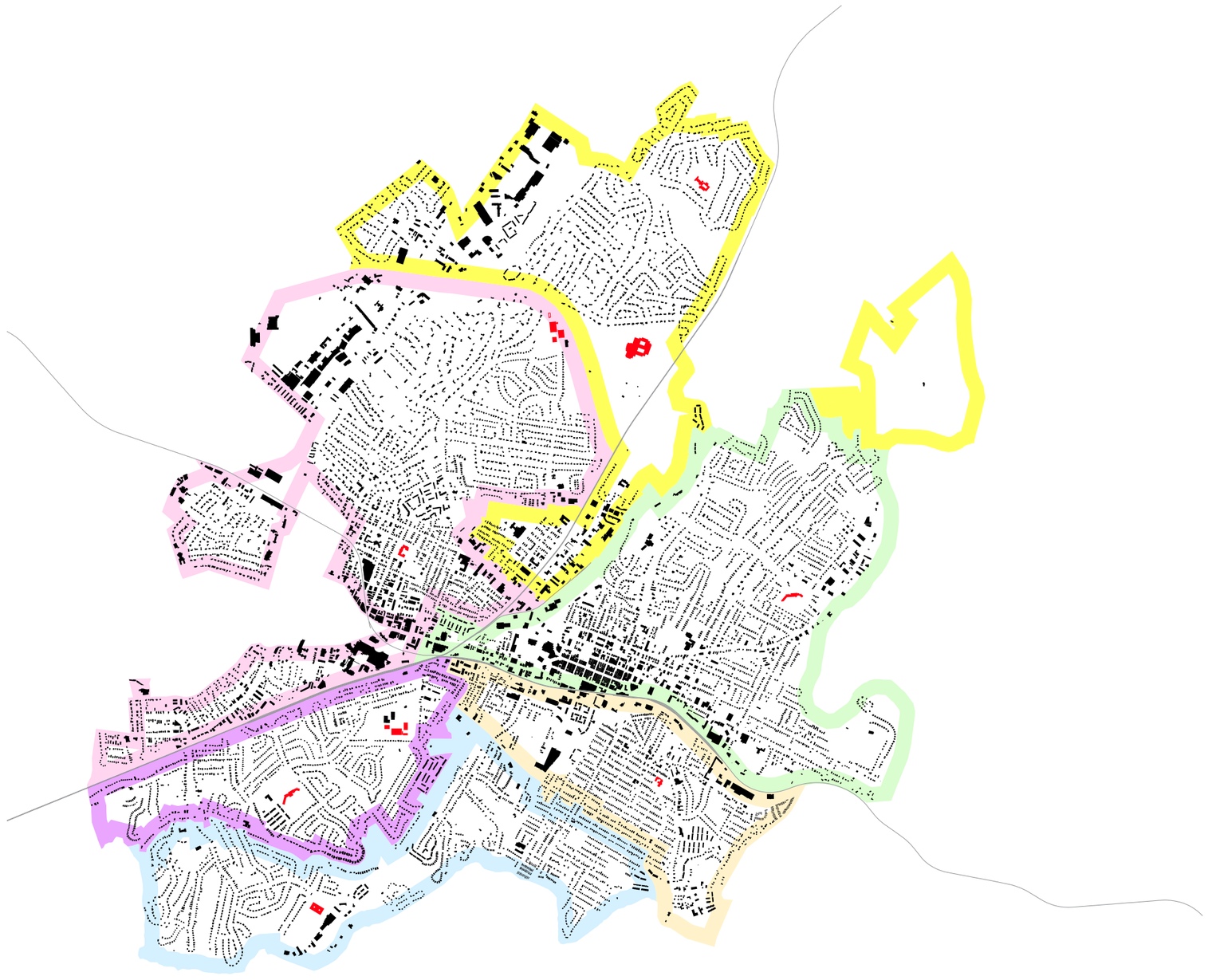
2017 Capacity Study

Volume I: Assessment

PREPARED BY

VMDO

06.14.2017



1” = 3000’

2017 Capacity Study

Charlottesville City Schools

VMDO

06.14.2017

In response to a marked increase in CCS enrollment at the elementary level over the past 6 years, the City of Charlottesville's Department of Facilities Development contracted with VMDO in late 2016 to calculate each of Charlottesville City Schools' capacities, evaluate growth projections and recommend conceptual solutions for addressing these facility needs. In addition to developing architectural scenarios, anticipated timelines and cost data have been developed.

Simultaneously, CCS invited Mr. Hamilton Lombard to evaluate enrollment projections in the context of population growth trends that the Weldon Cooper Center frequently studies. VMDO worked extensively with Mr. Lombard to better understand growth projection methodologies and to more accurately anticipate growth patterns in Charlottesville and its vicinity.

VMDO staff visited each of the City's nine schools, interviewed administrators, walked the campuses and evaluated existing conditions. On multiple occasions, VMDO met with CCS leadership to review our findings and refine our results. Over the coming months, the Capacity Study team will present its findings and conclusions to the School Board, the City Council and the community at large.

Please note that this planning study is not to be confused with "School Modernization" projects, which are included in the study as small-scope renovation and improvement efforts in each of the City's schools, in line with appropriated funding by City Council. VMDO were also involved in conceptualizing example projects at each of the City's nine schools. These projects are of limited scope and are intended to exemplify best practices in school facility improvements on a small scale. Funding is now in place and projects will be implemented over the coming years.

Growth & Capacity Assessment

VMDO

06.14.2017 | Vol. I

"Charlottesville's population increased from 43,475 recorded in the 2010 Census to an estimate of 49,071 on July 1, 2016. That is a 12.9 percent increase over six years and the **third-highest growth rate** among Virginia's cities. **Only Alexandria and Falls Church had higher increases.**"

CHARLOTTESVILLE TOMORROW

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Population growth in Albemarle, Charlottesville outpaces state rate

Sean Tubbs | Monday, January 30, 2017 at 8:02 p.m.

New estimates released Monday by the Weldon Cooper Center at the University of Virginia show the region's population continues to grow, reflecting a statewide trend of growth in urban areas close to Northern Virginia.

There are now 232,452 people in the Charlottesville Metropolitan Statistical Area, which consists of the counties of Albemarle, Fluvanna, Greene and Nelson and the city of Charlottesville. The population of the MSA has increased in overall population by 6.3 percent since the 2010 Census.

"Compare that with Blacksburg, which has not had that kind of growth even though it is a very similar place to Charlottesville," said Hamilton Lombard, a demographer with the Weldon Cooper Center.

Blacksburg's metro area has increased by 2.5 percent from 2010 with a 2016 population of 182,659. The Roanoke metropolitan area had an increase of 1.6 percent while Lynchburg experienced 2.9 percent growth.

Population increase since 2010

	2010 Census	Weldon Cooper 2016 estimate	Percent change
Charlottesville	43,475	49,071	12.9%
Albemarle	98,970	105,715	6.8%
Buckingham	17,146	16,913	-1.4%
Fluvanna	25,691	26.133	1.7%
Greene	18,403	19,785	7.5%
Louisa	33,153	34,316	3.5%
Nelson	15,020	14,835	-1.2%

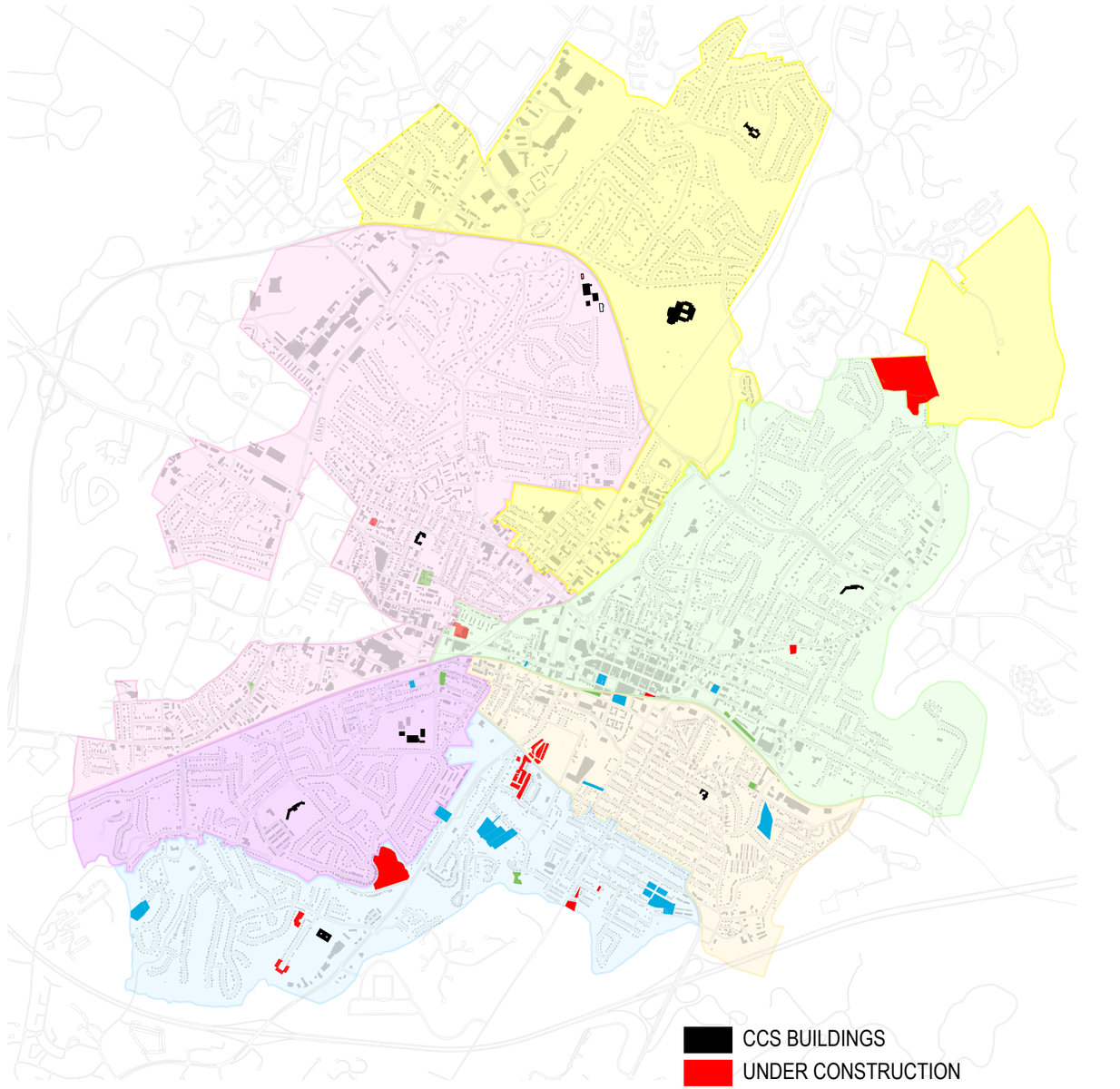
Data from the Weldon Cooper Center
Chart by Charlottesville Tomorrow

	Project unit totals Net increase not known			Net increase		
	Units Under Construction	Approved Units Not Under Construction	Units Currently in Review	Friendship Court Redevelopment Master Plan	CRHA Master Plan	TOTAL
Burnley-Moran	11	24	182	0	63	**280**
Clark	50	35	147	330	51	**613**
Greenbrier	140	0	4	0	3	**147**
Jackson-Via	349	6	121	0	40	**516**
Johnson	0	6	6	0	0	**12**
Venable	0	0	0	0	28	**28**
TOTAL	**550**	**71**	**460**	**330**	**185**	1,596

Projects currently on Charlottesville NDS Site Plan Review Chart

Significant Public Master Plans

Notes:
1. Presumed UVA Student Housing: 72 units removed from Approved Projects Under Construction and 192 units removed from projects Under Construction.







*City of Charlottesville Strategic Investment Area Plan December 2013

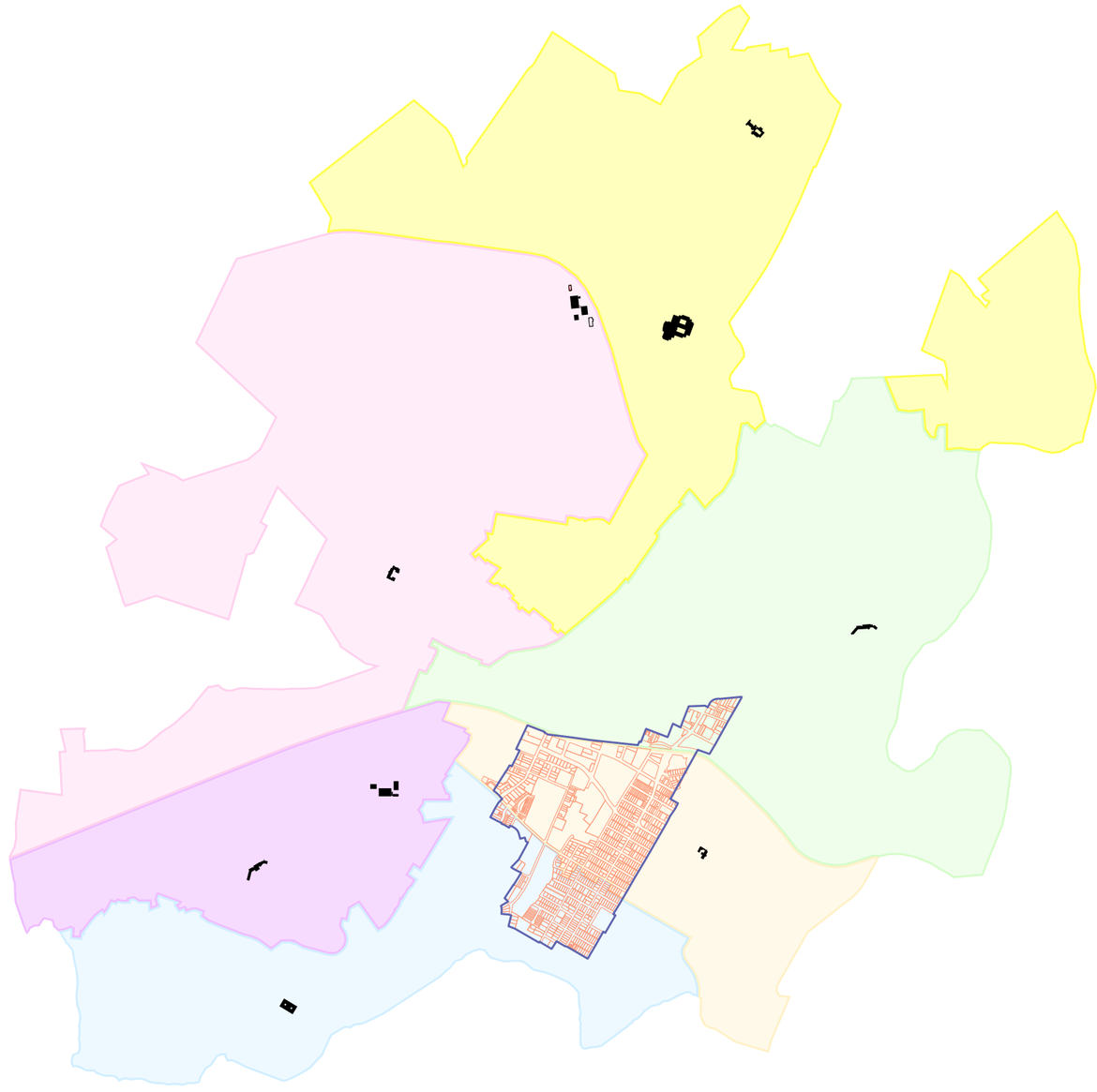
Net Increase of Units = **approx. 1,300 units**

330 units are from Friendship Court redevelopment

488 units are from CRHA redevelopment

	Existing in SIA	Estimated Net New Construction	Estimated Full Buildout in SIA
Residential Units (Single family attached & detached homes)	766	+ 200	+/- 950
Residental Units (Multifamily Units)	239	+ 1,100	+/- 1,350
CRHA Units (188) + Section 8 Units (150)	188 + 150		188+150
Residential Subtotal	**1,345**	**1,300**	**2,645**

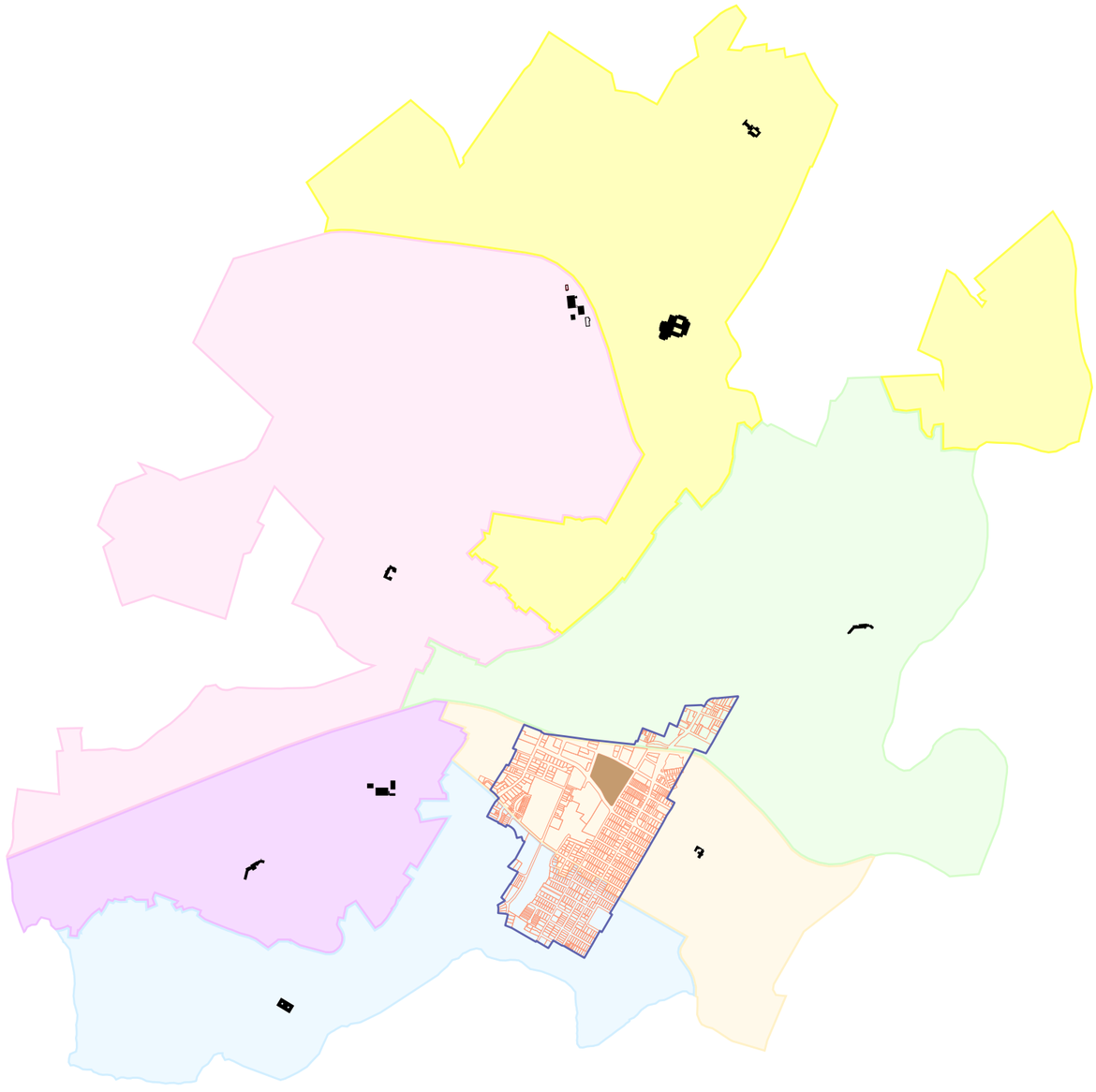
Notes:
1. All number are approximate
2. "Net new" does not include replacement of existing in-kind.
3. Section 8 Housing within the SIA boundary refers to Friendship Court.
4. 188 + 150 is the minimum required number of units for CRHA and Section 8 Housing
5. Some existing commercial space is expected to be demolished and redeveloped. This is reflected in the estimated full buildout.



	Project unit totals Net increase not known			Net increase		
	Units Under Construction	Approved Units Not Under Construction	Units Currently in Review	Friendship Court Redevelopment Master Plan	CRHA Master Plan	TOTAL
Burnley-Moran	11	24	182	0	63	**280**
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Greenbrier	140	0	4	0	3	**147**
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TOTAL	**550**	**71**	**460**	**330***	**185**	**1,596**

Projects currently on Charlottesville NDS Site Plan Review Chart

Significant Public Master Plans



Notes:
1. Presumed UVA Student Housing; 72 units removed from Approved Projects Under Construction and 192 units removed from projects Under Construction.

*PHA may request rezoning to allow a net increase of up to **490 units**.

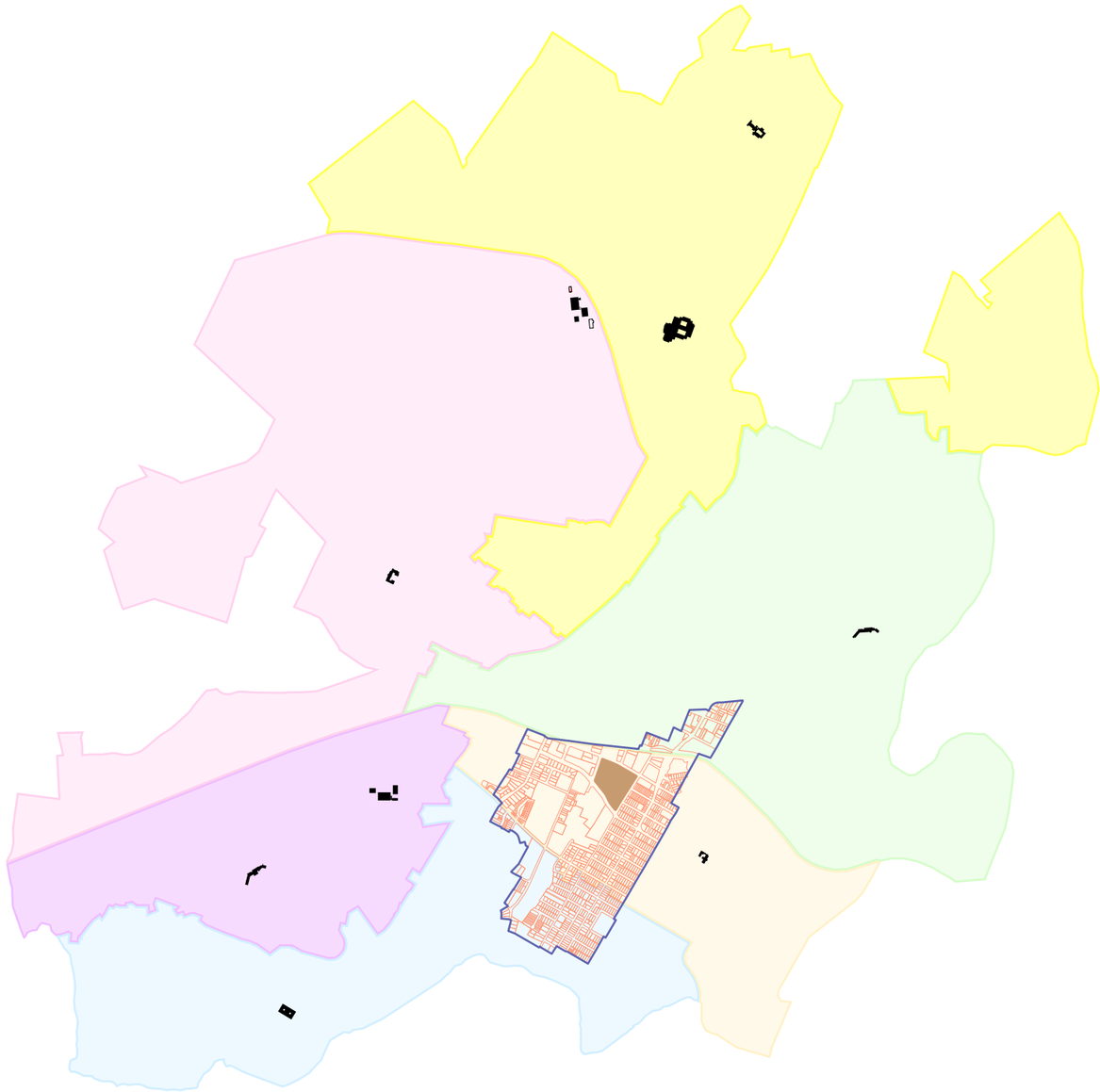
10-year buildout

Phases 1-6: net increase of **330 units**
(150 units currently)

Phase 7: potential **Early Childhood Center**
(6,000 sq. ft.)



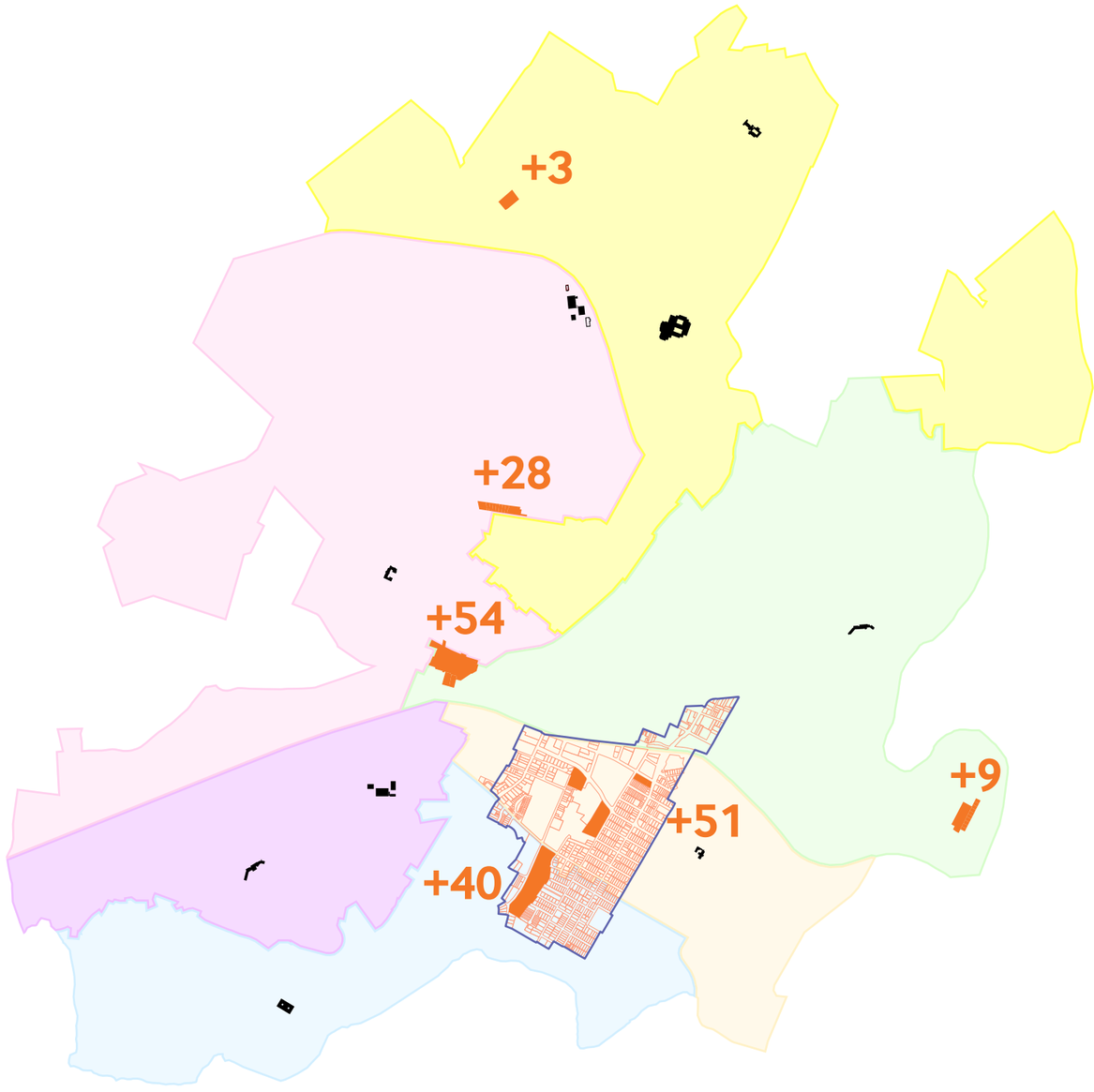
*Piedmont Housing Alliance's Friendship Court Master Plan June 2016



	Project unit totals Net increase not known			Net increase		
	Units Under Construction	Approved Units Not Under Construction	Units Currently in Review	Friendship Court Redevelopment Master Plan	CRHA Master Plan	TOTAL
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TOTAL	**550**	**71**	**460**	**330**	**185**	**1,596**

Projects currently on Charlottesville NDS Site Plan Review Chart

Significant Public Master Plans



Notes:
1. Number of units demolished unknown; totals do not necessarily represent net increase in units.
2. Presumed UVA Student Housing; 72 units removed from Approved Projects Under Construction and 192 units removed from projects Under Construction.

-0.97%

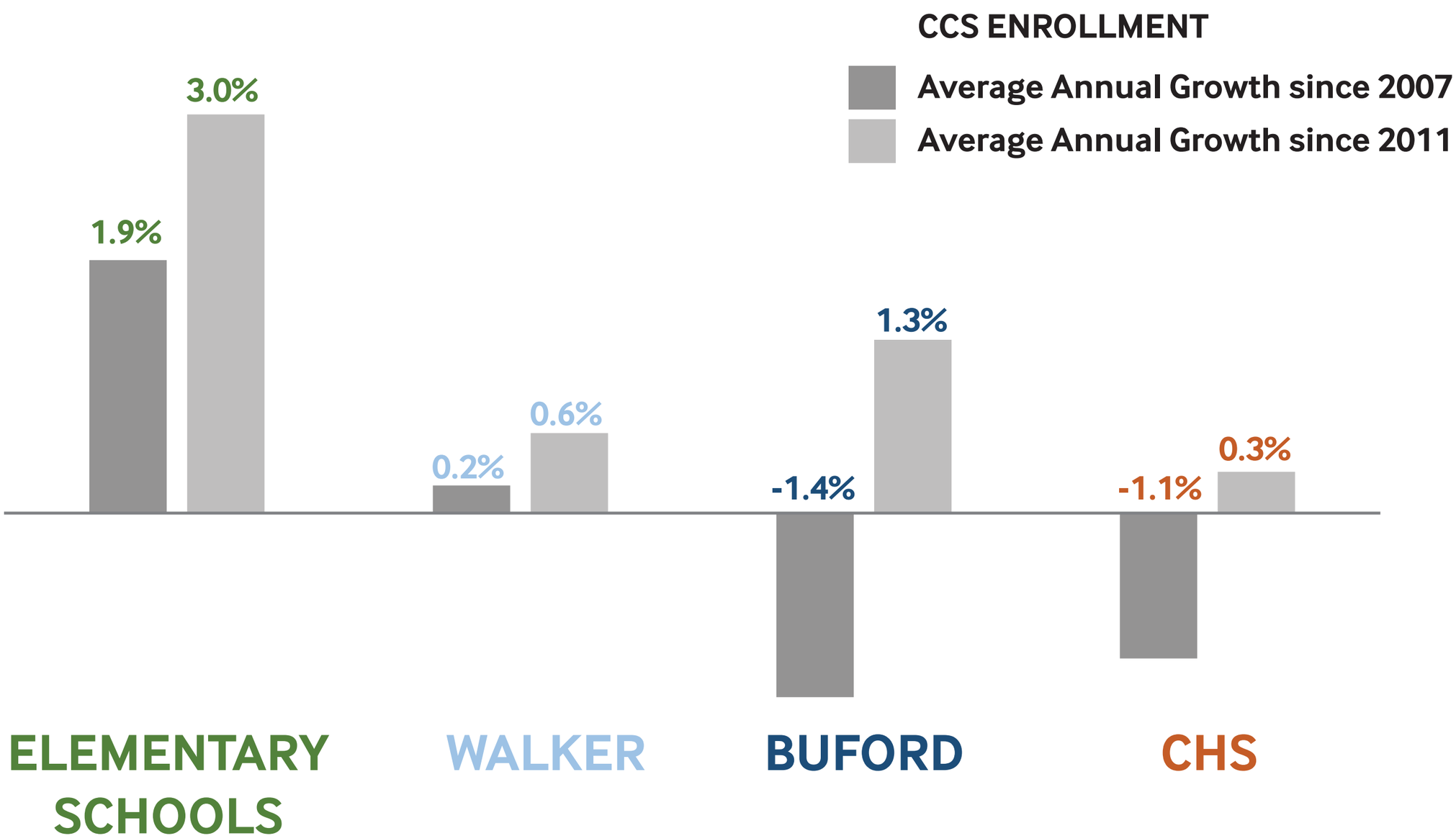
1986 - 2011

Average Annual growth

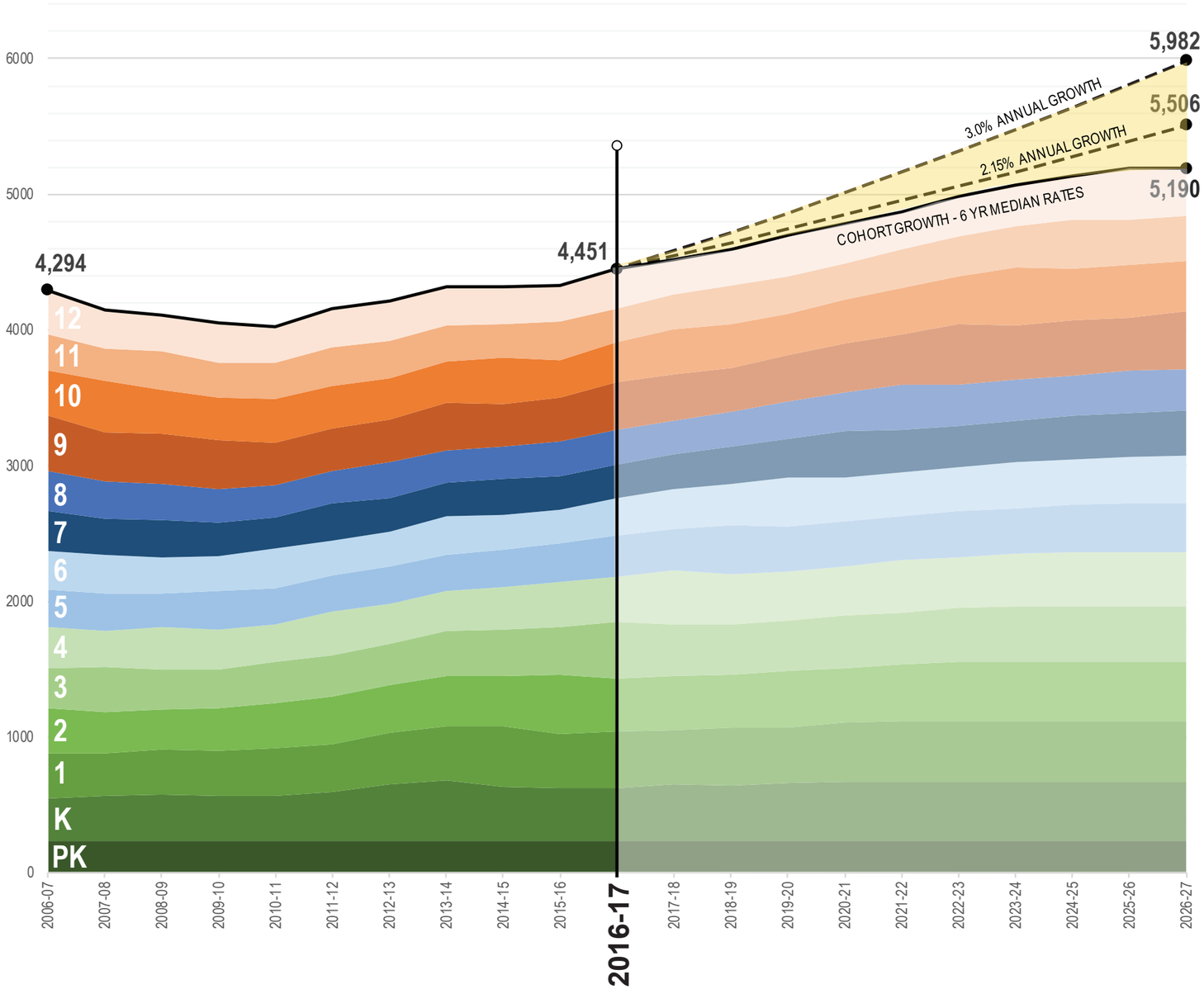
+3.0%

2011 - 2016

Average Annual growth


CCS ENROLLMENT
Average Annual Growth since 2007
Average Annual Growth since 2011
1.9%
3.0%
0.2%
0.6%
-1.4%
1.3%
-1.1%
0.3%
ELEMENTARY SCHOOLS
WALKER
BUFORD
CHS

CCS SYSTEM-WIDE STUDENT POPULATION



3% = CCS Average Annual Elementary Enrollment Growth since AY 2011-2012

2.15% = Per Weldon Cooper Ctr, estimated Charlottesville City average annual pop. growth since 2010

YEAR

GRADE	2011	2012	2013	2014	2015	2016	2017
1	107.3%	104.8%	104.1%	95.0%	97.8%	98.6%	104.1%
2	97.3%	96.9%	98.0%	96.9%	95.3%	98.4%	96.1%
3	98.1%	95.4%	89.8%	96.5%	89.8%	93.7%	95.8%
4	97.5%	102.9%	93.9%	97.7%	95.2%	99.1%	95.0%
5	92.1%	95.3%	88.1%	90.1%	90.4%	90.8%	89.7%
6	99.3%	98.9%	97.3%	99.6%	97.0%	92.3%	96.2%
7	88.5%	95.1%	91.3%	96.1%	96.4%	97.3%	100.0%
8	97.1%	100.9%	96.3%	100.4%	96.8%	95.9%	101.6%
9	127.1%	133.3%	136.6%	135.0%	128.9%	137.2%	135.5%
10	90.2%	97.5%	95.9%	93.4%	96.6%	90.1%	90.2%
11	83.5%	90.0%	89.1%	88.4%	81.1%	84.5%	89.7%
12	102.3%	109.1%	103.5%	102.5%	106.0%	110.0%	100.7%

2010-11 TO 2016-17
CCS GRADE PROGRESSION RATIOS
(a.k.a. COHORT GROWTH RATES)

CCS System-Wide Past Enrollment + Projections

Capacity Assessment: Elementary Schools

sample calculation



TOTAL # OF CLASSROOMS:

COUNT *ALL CODE-COMPLIANT ROOMS IN SCHOOL BIG ENOUGH TO BE CLASSROOMS*

sample calculation



1 X 8 = 8
(VDOE MAX = 8)

TOTAL # OF CLASSROOMS:

COUNT *ALL CODE-COMPLIANT ROOMS IN SCHOOL BIG ENOUGH TO BE CLASSROOMS*

SCSE:

***COUNT** ALL SELF-CONTAINED SPECIAL EDUCATION CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **8** STUDENTS PER ROOM*

sample calculation



1 X 8 = 8
(VDOE MAX = 8)

3 X 16 = 48
(VDOE MAX = 18)
(CCS MAX = 16)

TOTAL # OF CLASSROOMS:

COUNT *ALL CODE-COMPLIANT ROOMS IN SCHOOL BIG ENOUGH TO BE CLASSROOMS*

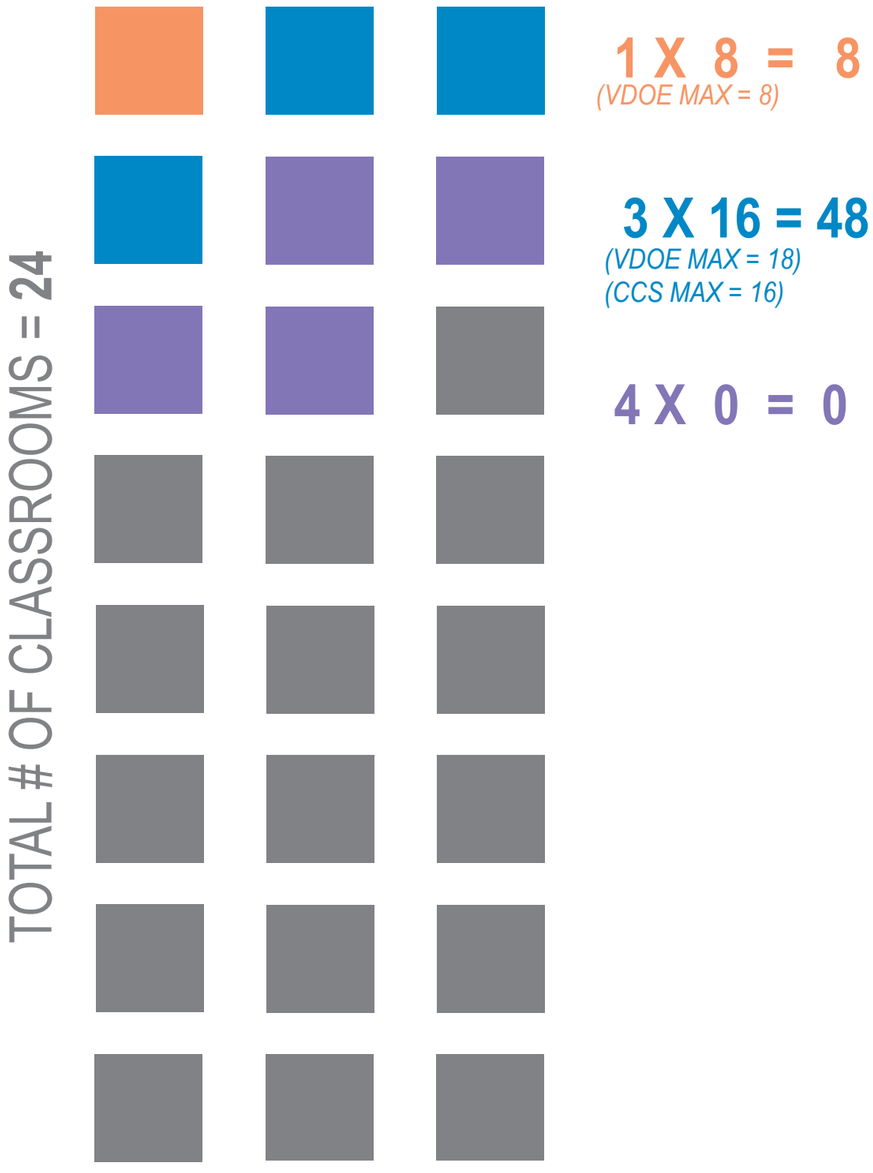
SCSE:

***COUNT** ALL SELF-CONTAINED SPECIAL EDUCATION CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **8** STUDENTS PER ROOM*

PRE-K:

***COUNT** ALL PRE-K CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **16** STUDENTS PER ROOM*

sample calculation



1 X 8 = 8
(VDOE MAX = 8)

3 X 16 = 48
(VDOE MAX = 18)
(CCS MAX = 16)

4 X 0 = 0

TOTAL # OF CLASSROOMS:

COUNT *ALL CODE-COMPLIANT ROOMS IN SCHOOL BIG ENOUGH TO BE CLASSROOMS*

SCSE:

***COUNT** ALL SELF-CONTAINED SPECIAL EDUCATION CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **8** STUDENTS PER ROOM*

PRE-K:

***COUNT** ALL PRE-K CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **16** STUDENTS PER ROOM*

NON-CAPACITY SPACES:

4 NON-CAPACITY CLASSROOMS ALLOTTED PER SCHOOL - USED AT PRINCIPAL'S DISCRETION FOR MUSIC, ART, QUEST, & ISTEM, ESL, SPECIALISTS, ETC.

sample calculation



1 X 8 = 8
(VDOE MAX = 8)

3 X 16 = 48
(VDOE MAX = 18)
(CCS MAX = 16)

4 X 0 = 0

16 X 22 = 352
(VDOE MAX = 24)
(CCS MAX VARIES BY SCHOOL BY YEAR)

TOTAL # OF CLASSROOMS:

COUNT *ALL CODE-COMPLIANT ROOMS IN SCHOOL BIG ENOUGH TO BE CLASSROOMS*

SCSE:

***COUNT** ALL SELF-CONTAINED SPECIAL EDUCATION CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **8** STUDENTS PER ROOM*

PRE-K:

***COUNT** ALL PRE-K CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **16** STUDENTS PER ROOM*

NON-CAPACITY SPACES:

4 NON-CAPACITY CLASSROOMS ALLOTTED PER SCHOOL - USED AT PRINCIPAL'S DISCRETION FOR MUSIC, ART, QUEST, & ISTEM, ESL, SPECIALISTS, ETC.

NET CLASSROOMS:

***COUNT** ALL REMAINING ROOMS AND MULTIPLY BY*

CCS MAX ELEMENTARY CLASS SIZE

sample calculation



1 X 8 = 8
(VDOE MAX = 8)

3 X 16 = 48
(VDOE MAX = 18)
(CCS MAX = 16)

4 X 0 = 0

ADD STUDENT SUBTOTALS

16 X 22 = 352
(VDOE MAX = 24)
(CCS MAX VARIES BY SCHOOL BY YEAR)

TOTAL # OF CLASSROOMS:
COUNT *ALL CODE-COMPLIANT ROOMS IN SCHOOL BIG ENOUGH TO BE CLASSROOMS*

SCSE:
***COUNT** ALL SELF-CONTAINED SPECIAL EDUCATION CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **8** STUDENTS PER ROOM*

PRE-K:
***COUNT** ALL PRE-K CLASSROOMS CURRENTLY AT SCHOOL. MULTIPLY BY **16** STUDENTS PER ROOM*

NON-CAPACITY SPACES:
4 NON-CAPACITY CLASSROOMS ALLOTTED PER SCHOOL - USED AT PRINCIPAL'S DISCRETION FOR MUSIC, ART, QUEST, & ISTEM, ESL, SPECIALISTS, ETC.

NET CLASSROOMS:
COUNT** ALL REMAINING ROOMS AND MULTIPLY BY **CCS MAX ELEMENTARY CLASS SIZE

408 = MAXIMUM CAPACITY
***ADD SUBTOTALS** OF STUDENTS CONTAINED IN EACH ROOM TYPE*

Functional Capacity

@ Grades PK-8 = (**85%** Utilization Factor) x (Maximum Capacity)

@ Grades 9-12 = (**80%** Utilization Factor) x (Maximum Capacity)

Functional Capacity is the anticipated actual capacity of a school. It is calculated by multiplying the building's maximum capacity by a utilization factor, which typically ranges from 0.8 - 0.9. The utilization factor represents the probability of actual class sizes not always being at the maximum allowable size. At the high school level, it additionally accounts for the inability to schedule the entire building at 100% efficiency for all periods of the school day.

Charlottesville City Schools Capacity 2017

	Total # of Classrooms	Art	Music	Computer Lab	SCSE	Special Programs	Pre-K @ 16/1	Net # of Classrooms	Maximum Class Size	Functional Capacity	Maximum Capacity	2017 K+ Enrollment	2017 Pre-K Enrollment	2017 Total Enrollment	Current Excess Functional Capacity	Remarks
Burnley-Moran	24	0	1	0	3	1	1	18	24	360	424	364	20	384	-24	*Exclusions from Total Classroom Count: iSTEM room due to egress concerns; Art Rm due to inadequate size (425 SF)*
Clark	25	1	1	0	1	1	4	17	19	320	376	285	57	342	-22	*Exclusions from Total Classroom Count: (1) 2nd grade classroom not counted due to insufficient size (570 sf)*
Greenbrier	23	1	0	0	1	1	2	18	24	360	424	346	26	372	-12	*Music on stage*
Jackson-Via	27	1	1	0	2	5	3	15	21	376	442	302	40	342	34	*Exclusions from Total Classroom Count: Afterschool (CLASS) room due to access & ADA compliance problems*
Johnson	24	1	0	0	1	2	3	17	22	347	408	325	52	377	-30	*Exclusions from Total Classroom Count: (1) undersized SCSE PK (510 SF); (1) undersized Music Rm (435 SF)*
Venable	22	1	0	0	1	3	2	15	24	340	400	316	36	352	-12	*Music on stage*
Total PK-4	145	5	3	0	9	13	15	100	22	2103	2474	1938	231	2169	-66	

NOTES:

1) Total # of Classrooms represents total quantity of full size classroom spaces in the building. At CHS, (25) classrooms are less than 90% of the VDOE standard of 700 SF; they are on average 73% of the required size. These rooms have been multiplied by a 73% room size factor.

2) SCSE represents number of full size self-contained special education classrooms (including Pre-K SPED).

3) Special Programs represents number of full size classroom spaces currently needed for Resource, Quest, Title I, ESL and similar 'pull-out' programs.

4) Pre-K @ 16/1 represents number of preschool rooms with 16 pupils (max.). Pre-K SPED is included under SCSE - see note 2.

5) Net # of Classrooms represents quantity of full size classrooms other than those needed for Art, Music, Computer Lab, SCSE, and Pre-K.

6) Maximum Capacity
@ Grades PK-4 = ([Total # of Classrooms - SCSE - PreK - 4] x Maximum Class Size) + (SCSE rooms x 8 pupils each) + (Pre-K rooms x 16 pupils each)
@ Grades 5-8 = (Net # of Classrooms x Maximum Class Size) + (SCSE rooms x 8 pupils each)
@ Grades 9-12 = (Net # of Classrooms x Maximum Class Size) + (SCSE rooms x 8 pupils each) + (Art rooms x 24 pupils each) + (Music Rooms x 30 pupils each)
Note that CHS classrooms are available for capacity use 6 out of 7 periods. 1 period per day classrooms are used for teacher planning (teachers "own" classrooms and do not have office space available outside classroom). To represent this, classroom counts have been multiplied by 6/7.

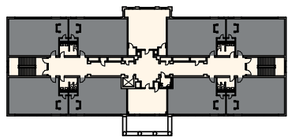
7) Functional Capacity
@ Grades PK-4 = (0.85) x (Maximum Capacity)
@ Grades 5-8 = (0.85) x (Maximum Capacity)
@ Grades 9-12 = (0.80) x (Maximum Capacity)

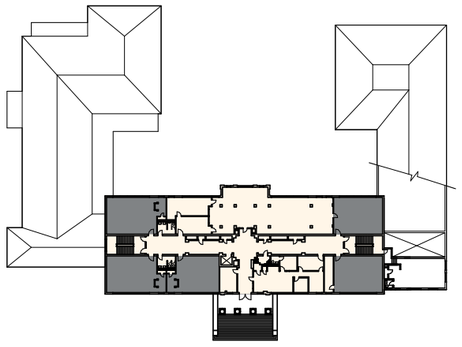
8) Current Excess Functional Capacity equals the difference between 2017 Total Enrollment and Functional Capacity

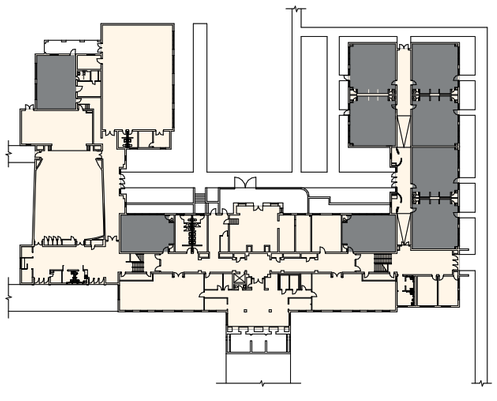
3.5 = 2016-17 Average # of non-capacity classrooms at CCS Elementaries

TOTAL CLASSROOMS

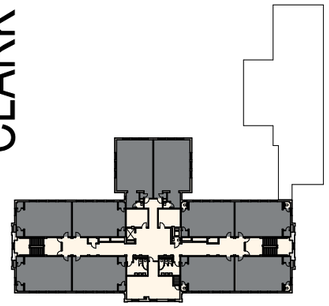
VENABLE

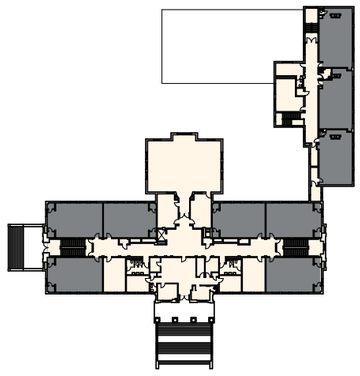


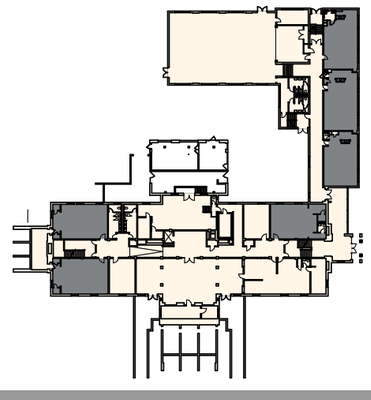




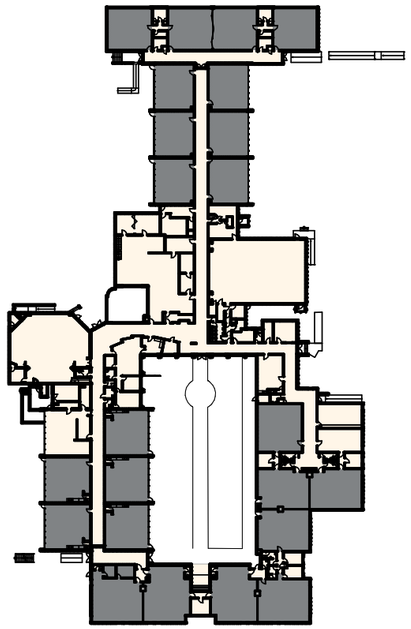
CLARK



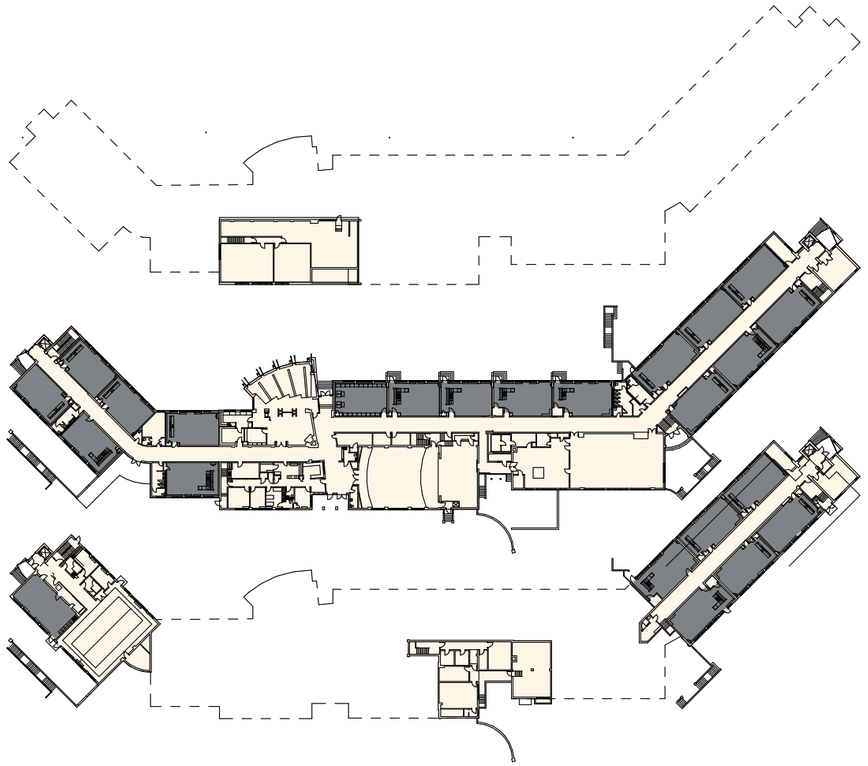




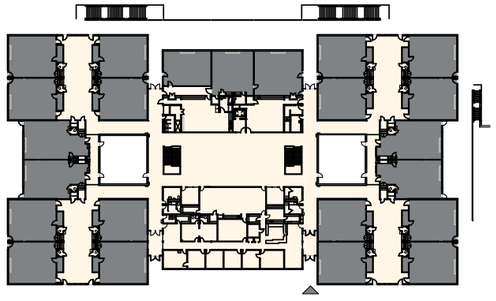
GREENBRIER

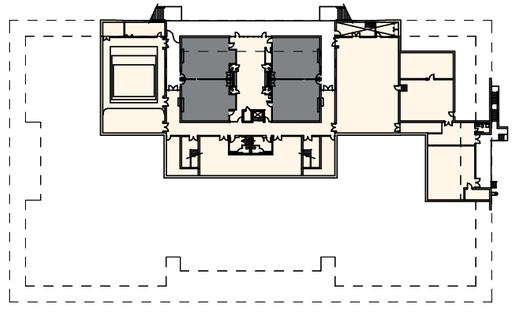


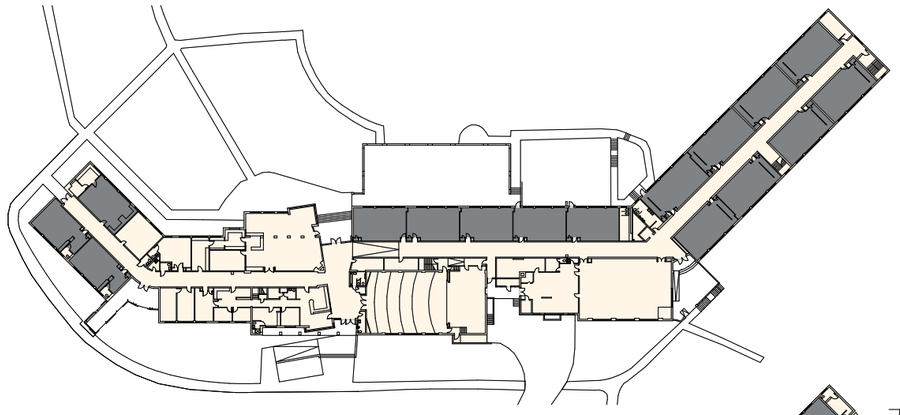
BURNLEY-MORAN



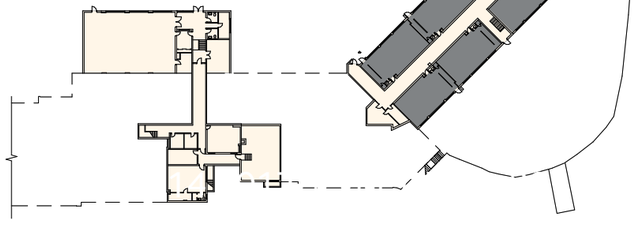
JACKSON-VIA







JOHNSON

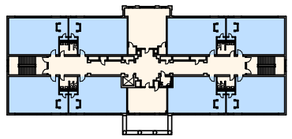


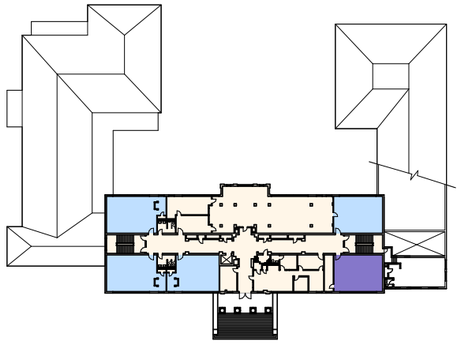
Elementary Capacity

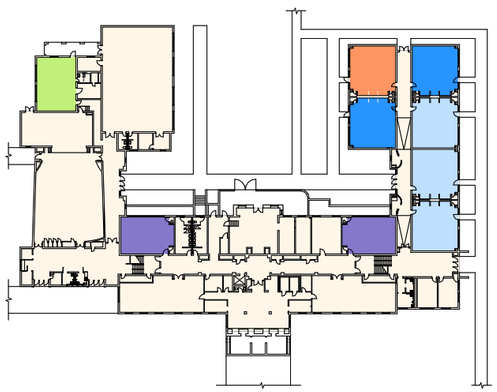
CCS 2017 Capacity Study

ART
CLASSROOM
CLASSROOM PK
MUSIC
SCSE
SPEC PRGRM

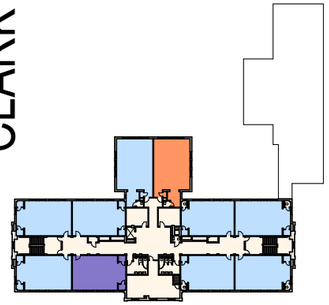
VENABLE

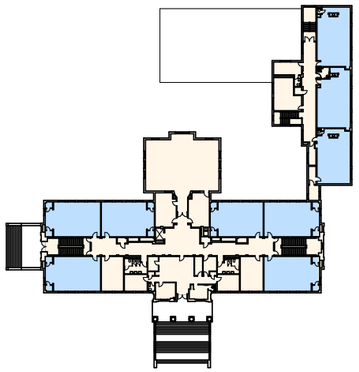


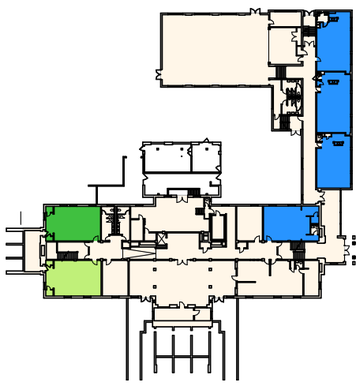




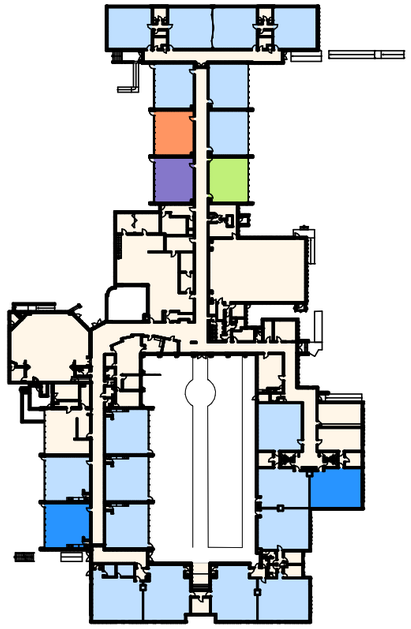
CLARK



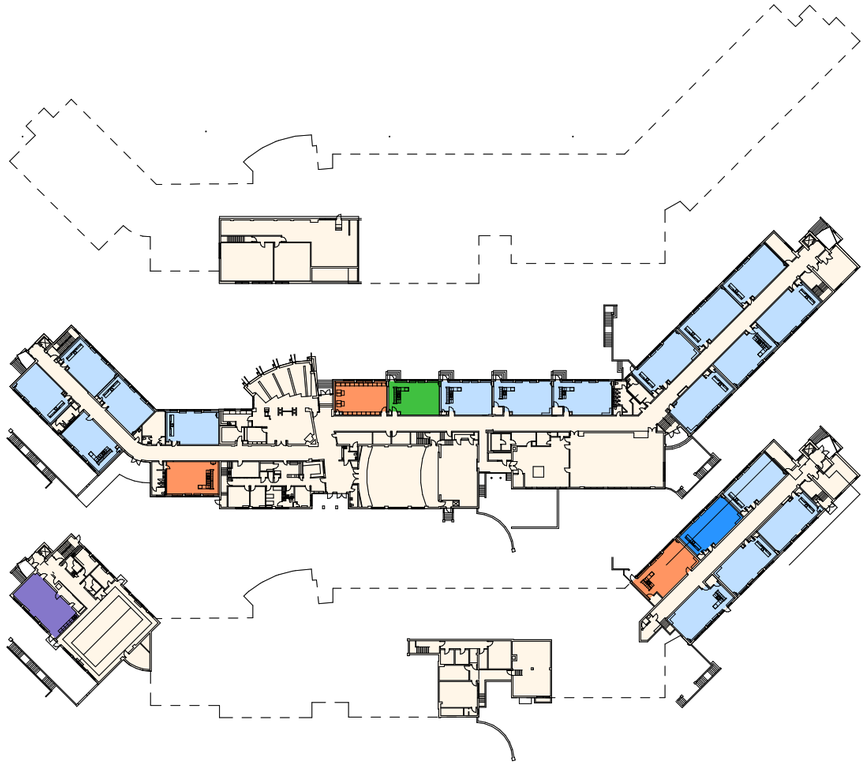




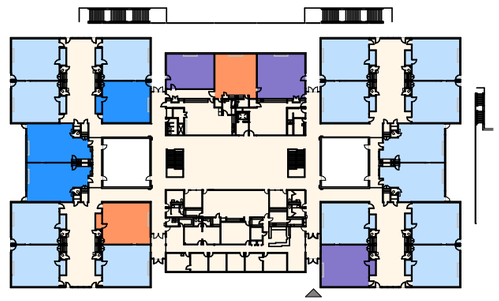
GREENBRIER

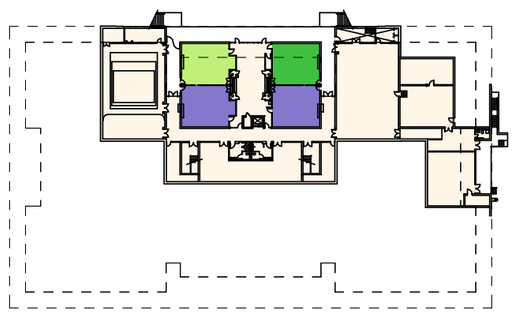


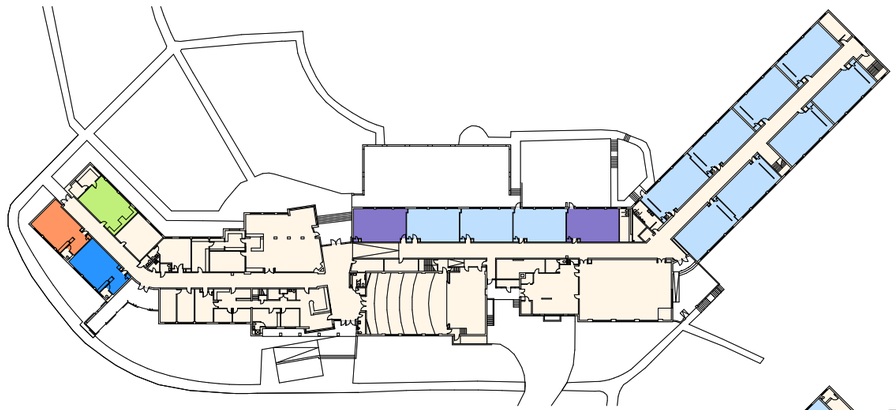
BURNLEY-MORAN



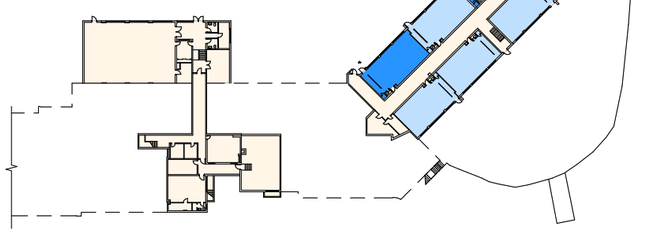
JACKSON-VIA







JOHNSON

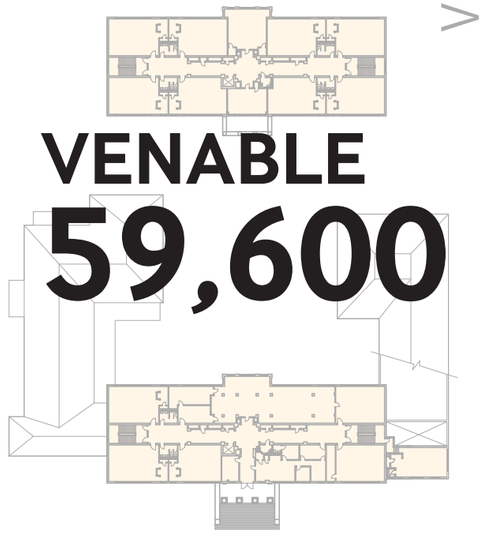


2016-17 Classroom Usage

CCS 2017 Capacity Study

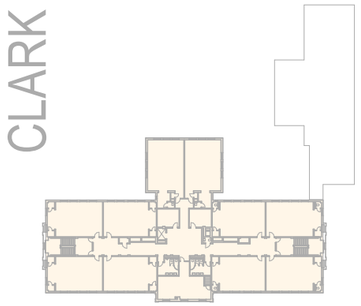
BUILDING GROSS SQUARE FOOTAGE

VENABLE

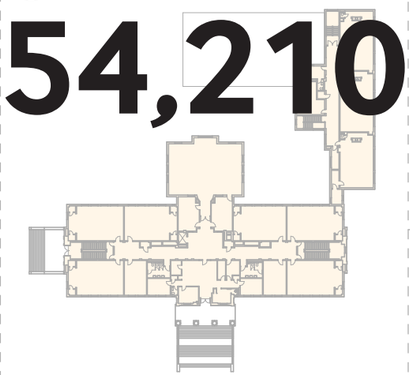


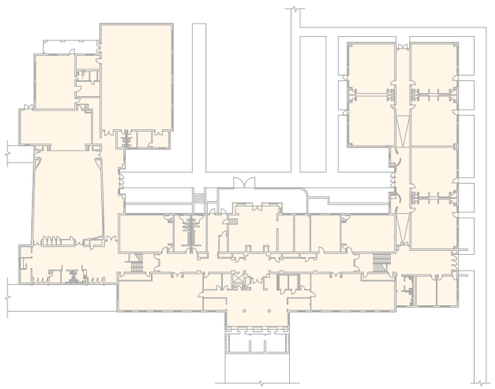
VENABLE
59,600

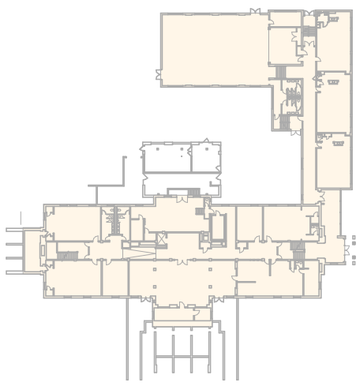
CLARK



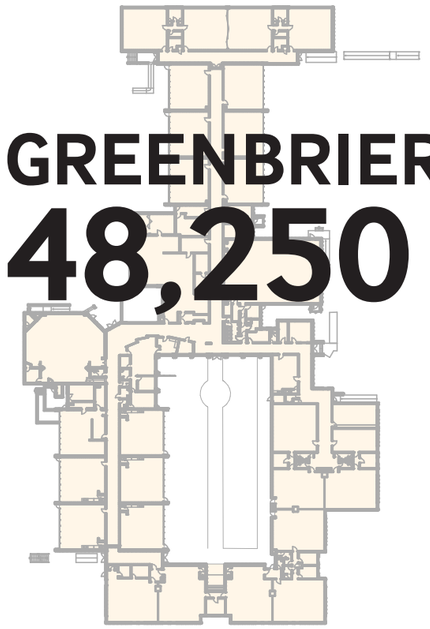
CLARK
54,210





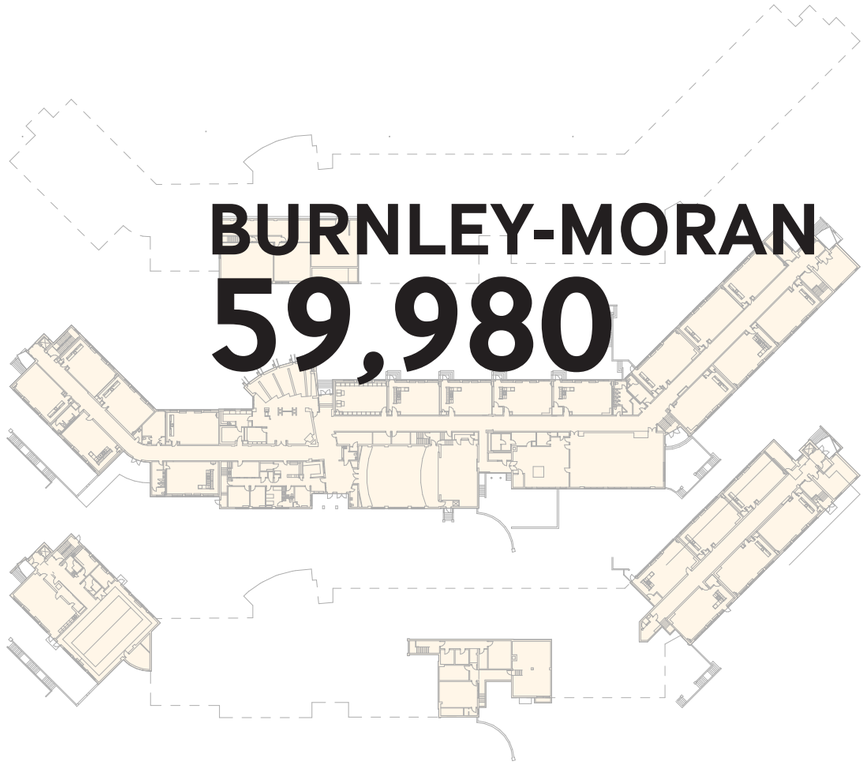


GREENBRIER



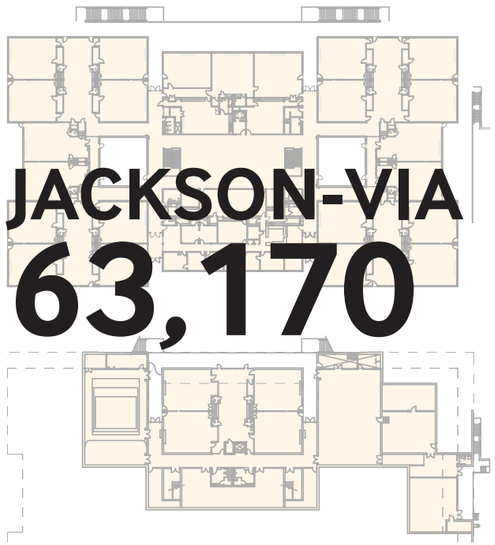
GREENBRIER
48,250

BURNLEY-MORAN



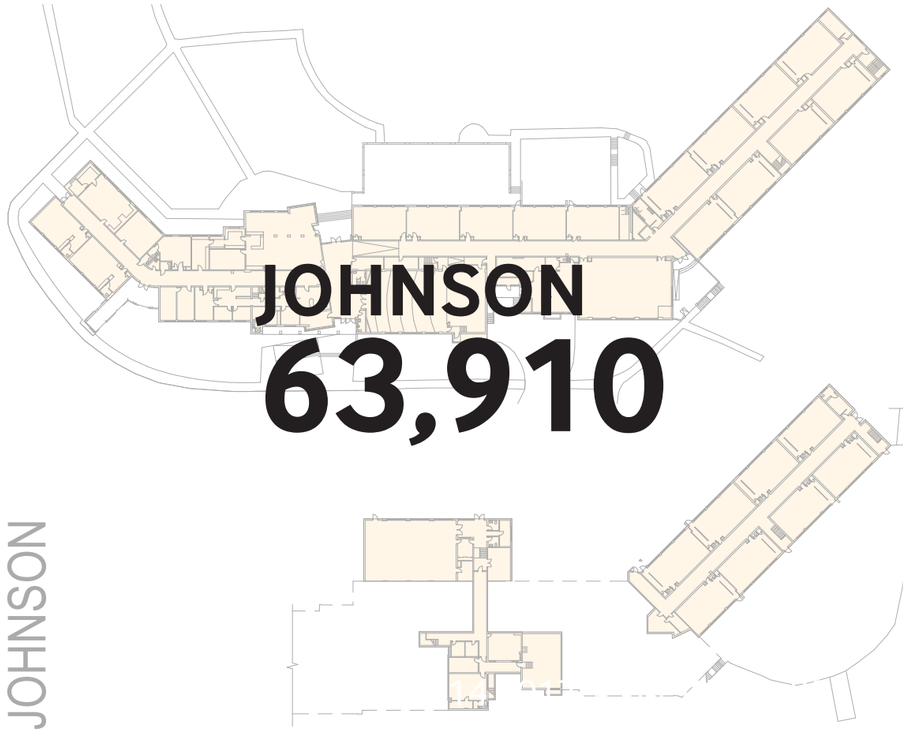
BURNLEY-MORAN
59,980

JACKSON-VIA



JACKSON-VIA
63,170

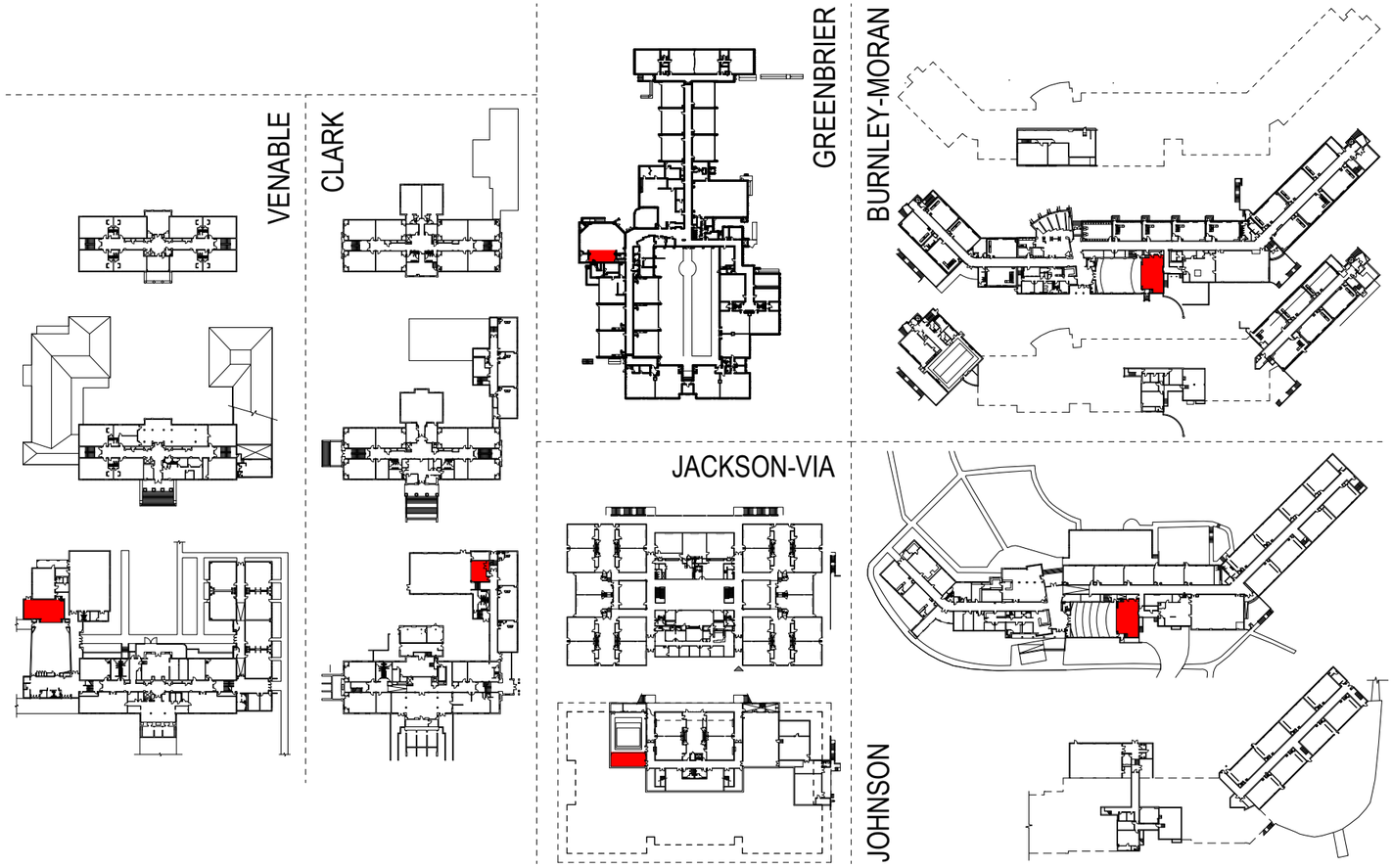
JOHNSON



JOHNSON
63,910

Elementary Capacity

CCS 2017 Capacity Study



School	Stage Size (SF)
Burnley-Moran	**1020**
Clark	480
Greenbrier	430
Jackson-Via	680
Johnson	**1030**
Venable	**1130**

Elementary Music Classroom
Target Size: **1000 SF**

VDOE Guidelines for School Facilities In Virginia's Public Schools, Appendix B Prototype Elementary Space Program Model

Clark, Jackson-Via, and Greenbrier have stages too small to effectively accommodate Music Classrooms.

B**urnley-Moran, Johnson, and Venable** have sufficient square footage; however, storage and acoustics would have to be evaluated to determine whether spaces meet VDOE Guidelines

CCS Elementary Schools

	GSF	GSF/pupil*					
		@ Current net classrooms	*@ 2 non-capacity classrooms*	*@ 3 non-capacity classrooms*	*@ 4 non-capacity classrooms*	*@ 5 non-capacity classrooms*	***Notes***
Burnley-Moran	59,980	127	127	134	141	150	*Small gym*
Clark	54,210	113	108	113	119	125	*No auditorium*
Greenbrier	48,250	102	102	108	114	121	*No Cafeteria; only one stair; outdoor circulation*
Jackson-Via	63,170	149	116	121	127	134	*No central cafeteria; no kitchen*
Johnson	63,910	135	129	135	143	151	
Venable	59,600	149	133	141	149	159	*Large auditorium & stage*
Average (sf)	**58,190**	**129**	**119**	**125**	**132**	**140**	
Median (sf)	**59,790**	**131**	**122**	**128**	**134**	**142**	

*Per VDOE calc: Pre-K classrooms counted at 16 students; grades K-4 classrooms counted at 24 students; SCSE classrooms counted at 8 students

VDOE School Construction Cost Data
State Averages – New Construction

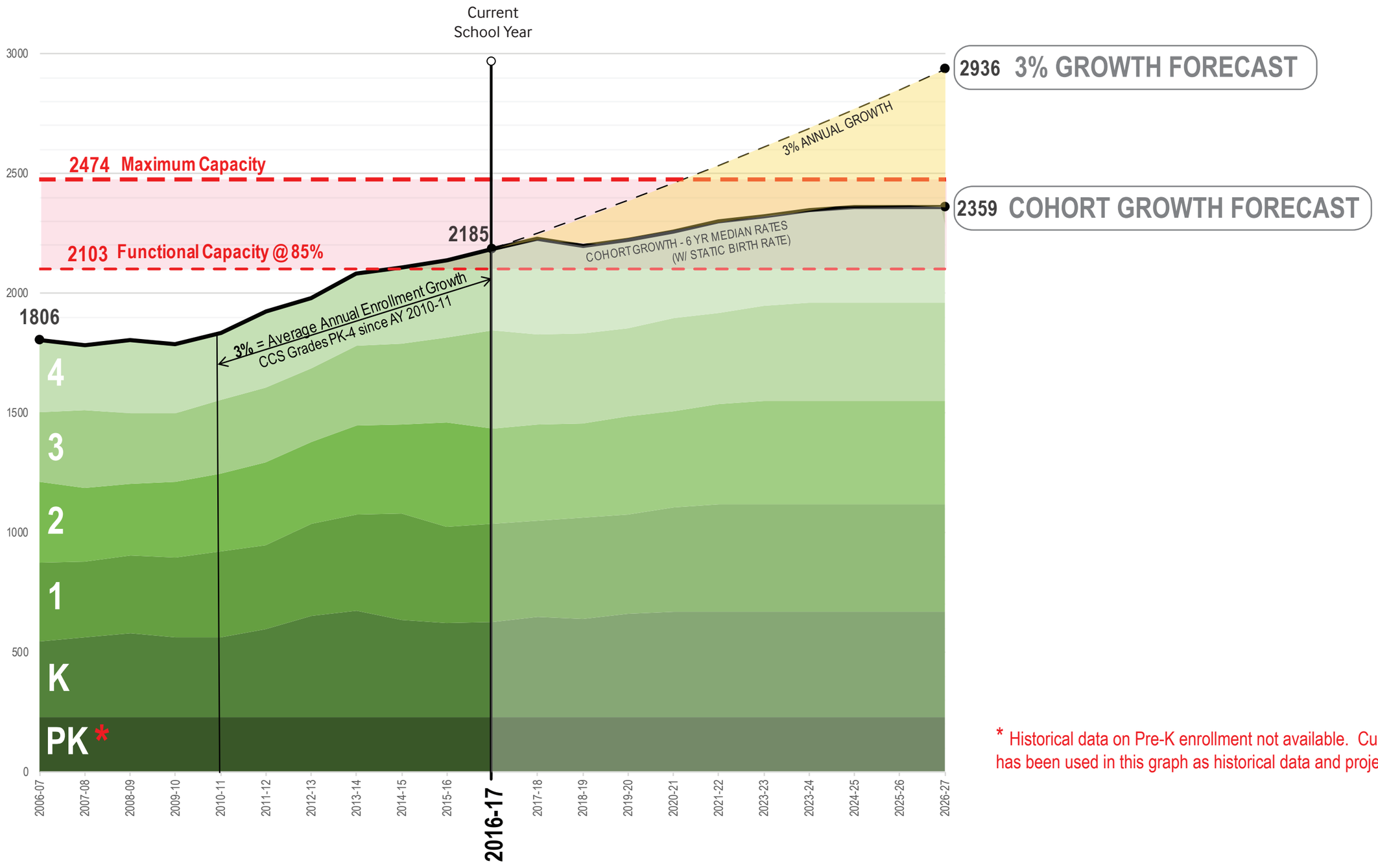
	Elementary	Middle	High
2009-2010	125	134	
2010-2011	123		164
2011-2012	111		175
2012-2013	124	168	166
2013-2014	129		158
2014-2015	109		183
2015-16	111	151	
Avg (sf)	**119**	**151**	**169**
Median	**124**	**151**	**166**

For CCS Elementaries, VMDO recommends a school capacity based on 4 non-capacity classrooms per school

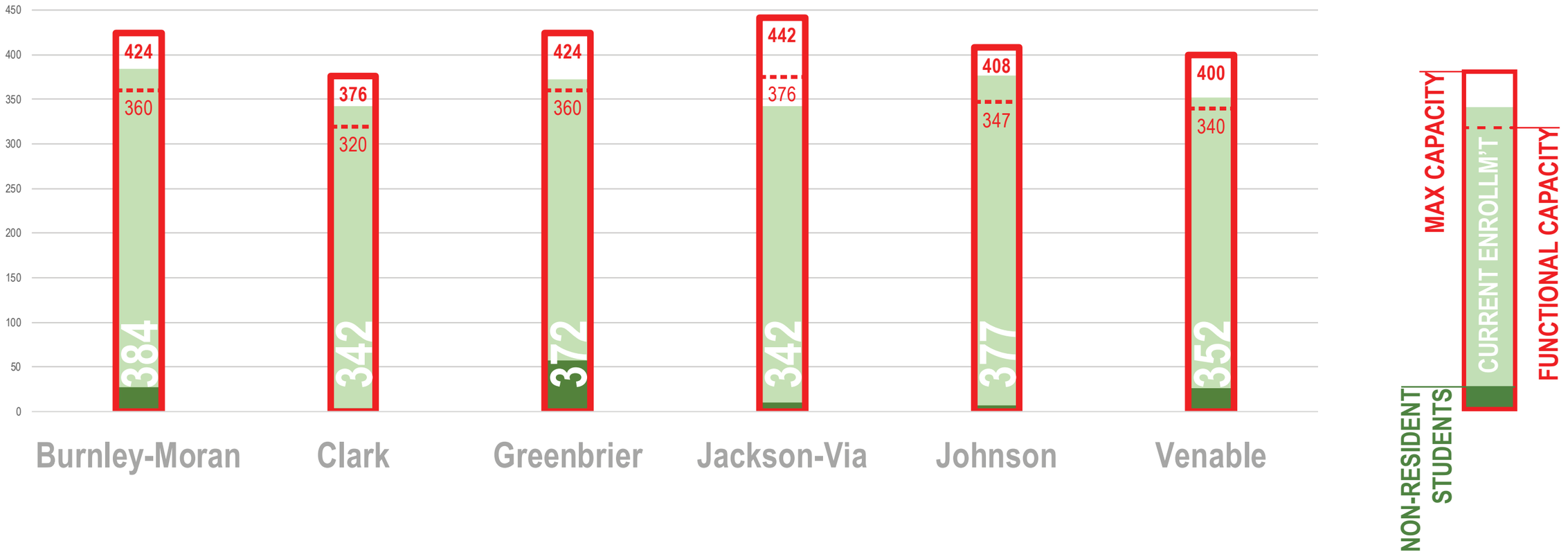
BENCHMARK:

143 GSF/PUPIL

Discovery Elementary
Arlington County Public Schools / VMDO Architects

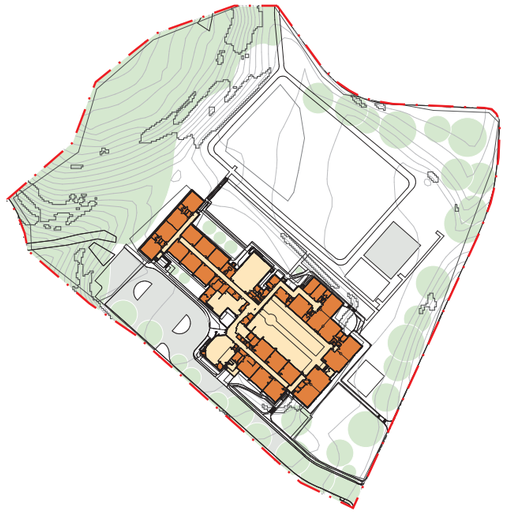


* Historical data on Pre-K enrollment not available. Current year's population has been used in this graph as historical data and projected data.

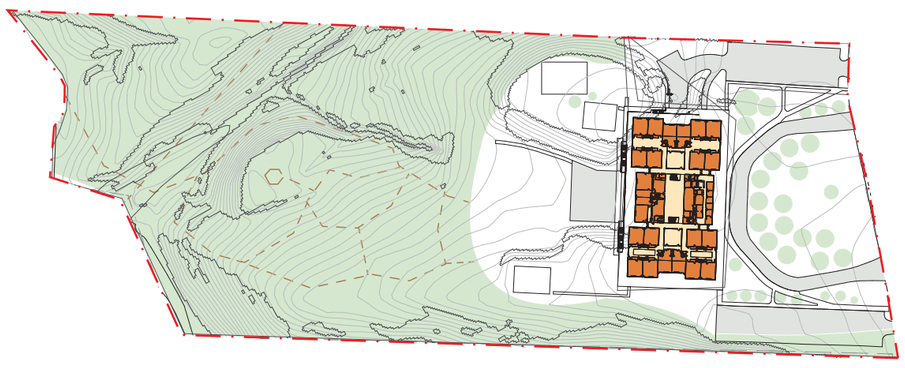


January 2017 CCS Elementary Enrollment and Capacity by School

Greenbrier
Gross Building Area: 48,251 sq. ft
Parcel Area: 10.3 acres



Jackson-Via
Gross Building Area: 63,173 sq. ft
Parcel Area: 20.36 acres



Burnley-Moran
Gross Building Area: 59,980 sq. ft
Parcel Area: 10.12 acres



Venable
Gross Building Area: 59,601 sq. ft
Parcel Area: 7.1 acres

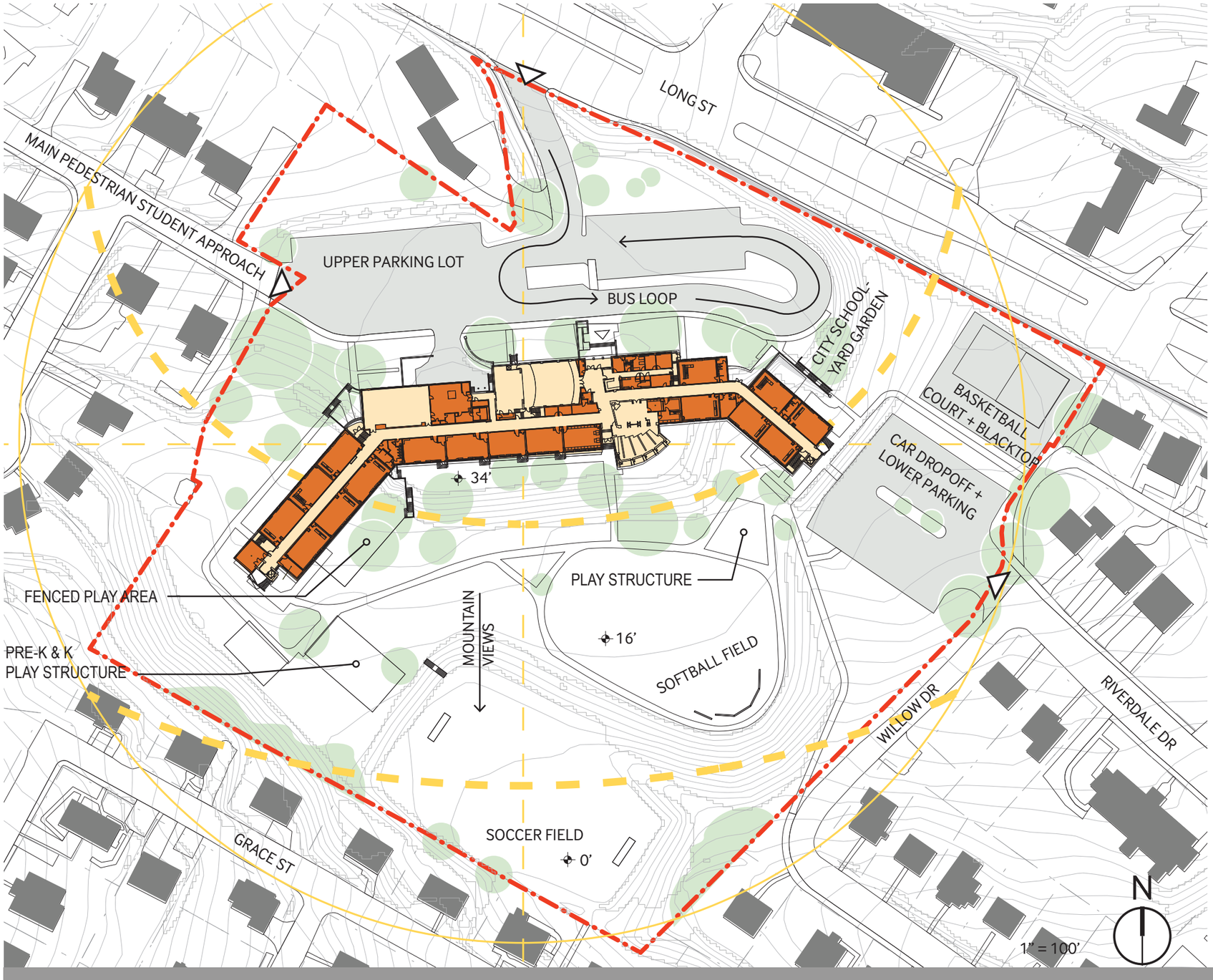


Johnson
Gross Building Area: 63,913 sq. ft
Parcel Area: 17.35 acres



Clark
Gross Building Area: 54,209 sq. ft
Parcel Area: 3.07 acres





Burnley-Moran Elementary School

Grades: PK - 4
Current Enrollment: 384 students
Gross Building Area: 59,980 sq ft
Parcel Area: 10.12 acres

Original build date: 1955

Latest significant improvements: 1994 (library addition, window replacement, HVAC and accessibility upgrades)

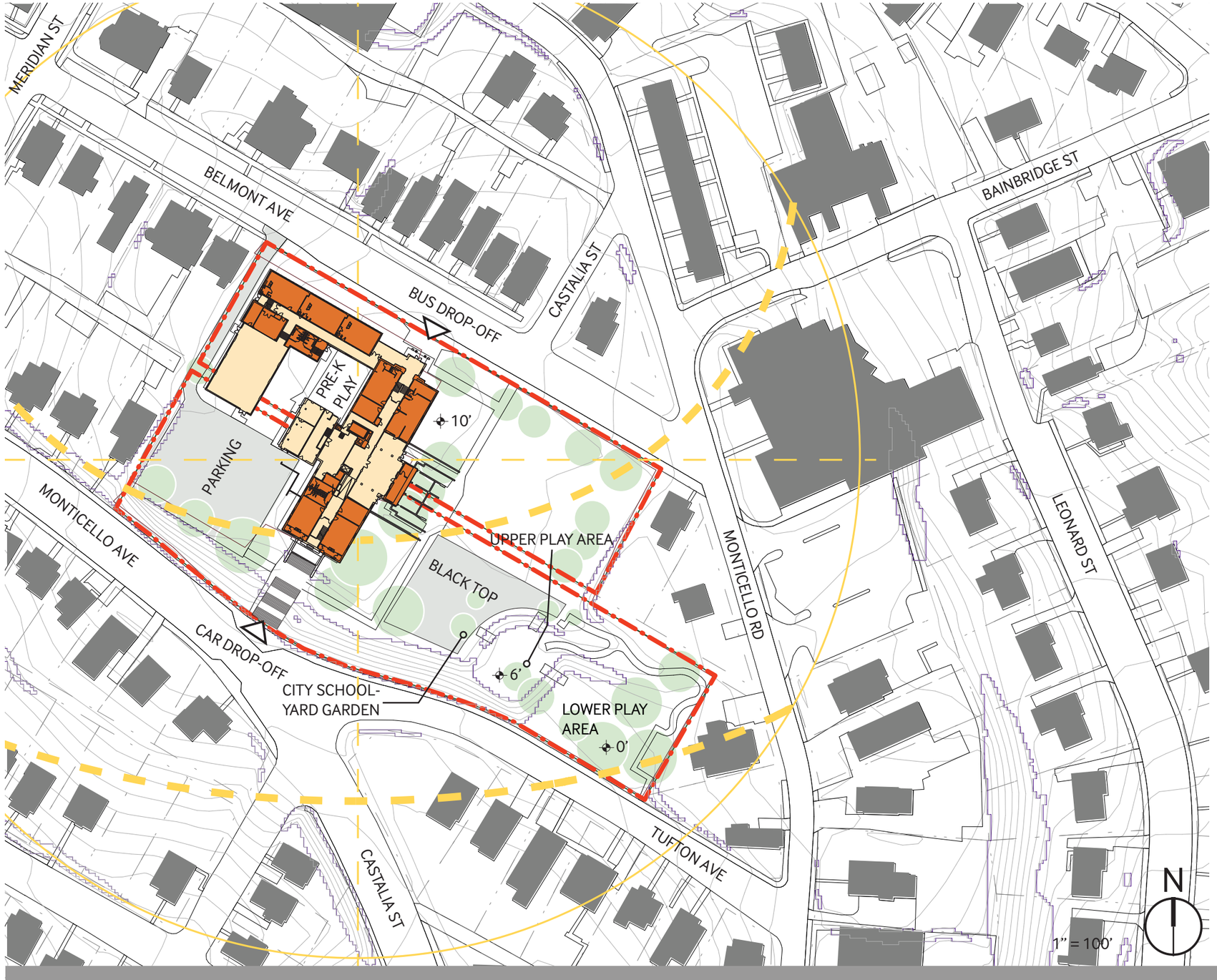
Visit 1 - date: 05.DEC.2016

Initial impressions:

- sister school to Johnson
- stately building
- nice library
- elongated plan arrangement
- great solar orientation
- good views
- (two) isolated lower levels

Burnley-Moran Site Plan: Existing Conditions

CCS 2017 Capacity Study



Clark Elementary School

Grades: PK - 4
Current Enrollment: 342 students
Gross Building Area: 54,210 sq ft
Parcel Area: 3.07 acres

Original build date: 1930

Latest significant improvements: 1980's (small library and classroom addition, HVAC, lighting and accessibility upgrades

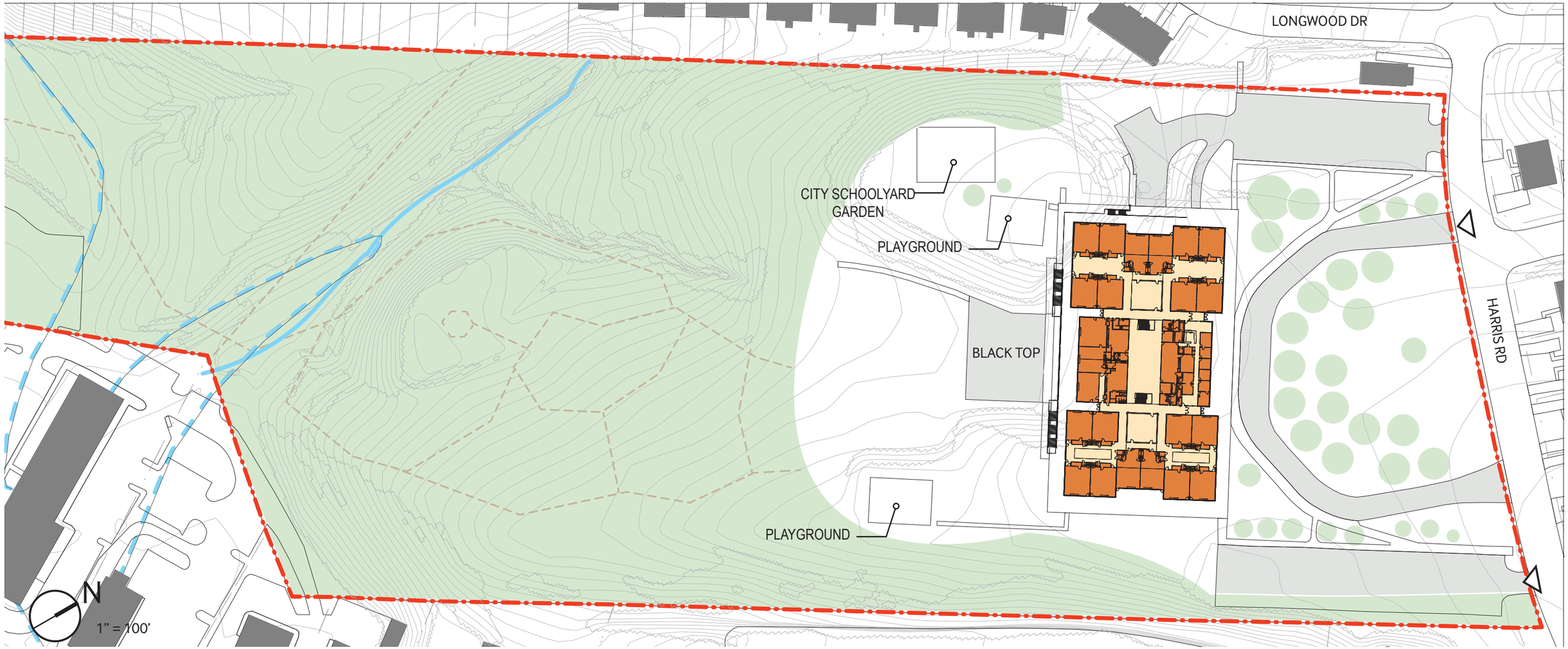
Visit 6 - date: 10.JAN.2017

Initial impressions:

- smallest of all elementary campuses, tightly embedded in existing Belmont neighborhood
- traffic/parking issues pushed into neighborhood
- five different interior levels
- significantly sized but isolated wing
- small, noisy courtyard
- fully built-out volume- well utilized former basement space
- great views

Clark Site Plan: Existing Conditions

CCS 2017 Capacity Study



Jackson-Via Elementary School

Grades: PK - 4
Current Enrollment: 342 students
Gross Building Area: 63,170 sq ft
Parcel Area: 20.36 acres

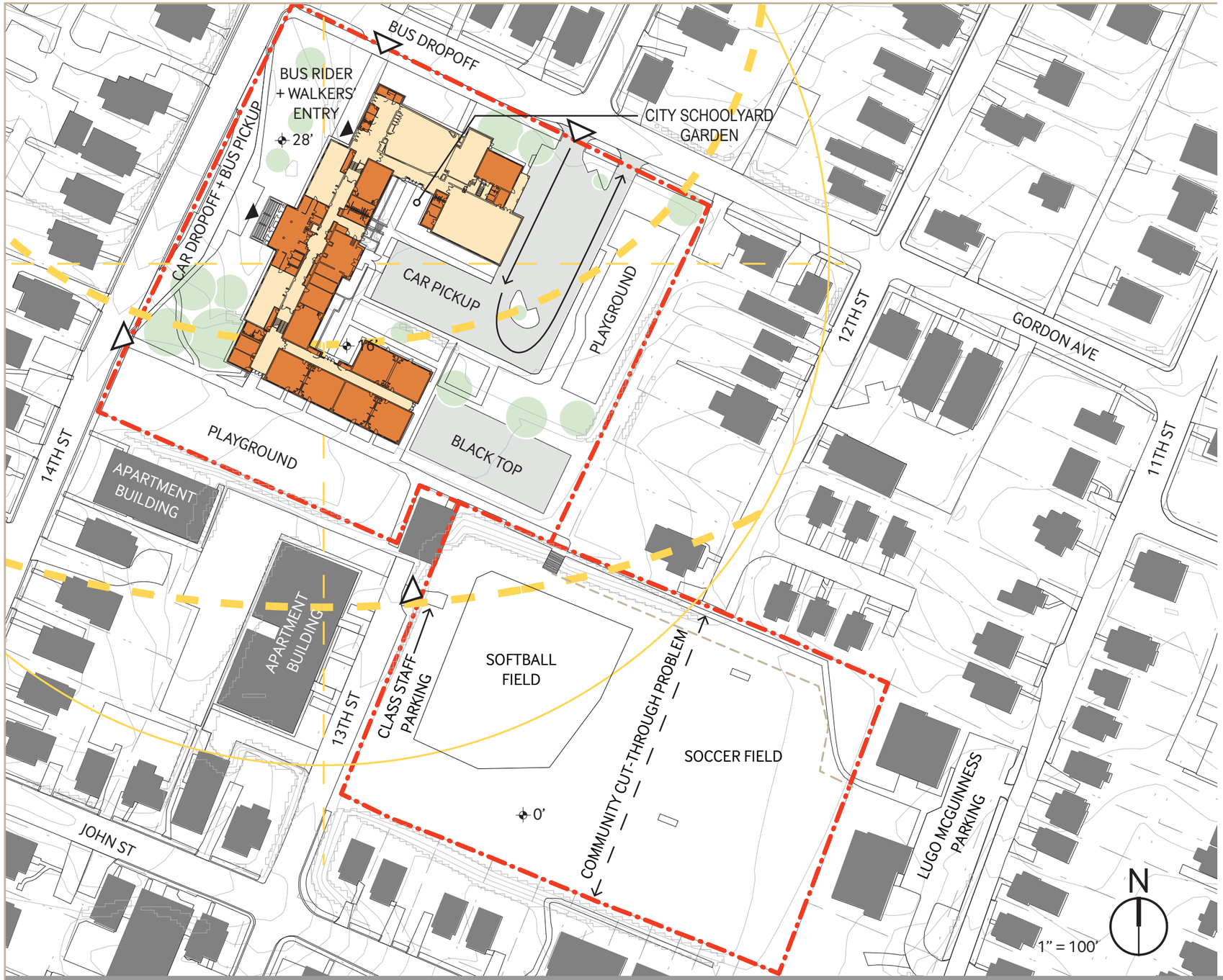
Original build date: 1969

Latest significant improvements:
1990's? (HVAC upgrades)

Visit 1 - date: MON 12.DEC.2017

Initial impressions:

- quincunx pattern of mature oaks
- long setback from street
- unclear entry
- open library
- multi-purpose space
- (two) nice courtyards
- many "landlocked" classrooms
- no kitchen- hot food sourced from CHS kitchen
- expansive campus area
- some unauthorized site intrusion from RTF trail spur



Venable Elementary School

Grades: PK - 4
Current Enrollment: 352 students
Gross Building Area: 59,600 sq ft
Parcel Area: 7.1 acres

Original build date: 1925

Latest significant improvements: 1980's (small library and classroom addition, HVAC, lighting and accessibility upgrades)

Visit 8 - date: 17.JAN.2017

Initial impressions:

- tightly embedded in existing University neighborhood
- expansive playfield to southwest
- lots of cut-through pedestrian traffic
- four different interior levels
- big auditorium used for community events
- two roughly equivalent, significantly sized wings form a central courtyard used for parking
- awkward service court at heart of school campus
- nice-sized courtyard ripe with potential
- fully built-out volume- well-utilized former basement space

Venable Site Plan: Existing Conditions

CCS 2017 Capacity Study

Johnson Elementary School

Grades: PK - 4
Current Enrollment: 377 students
Gross Building Area: 63,910 sq ft
Parcel Area: 17.35 acres

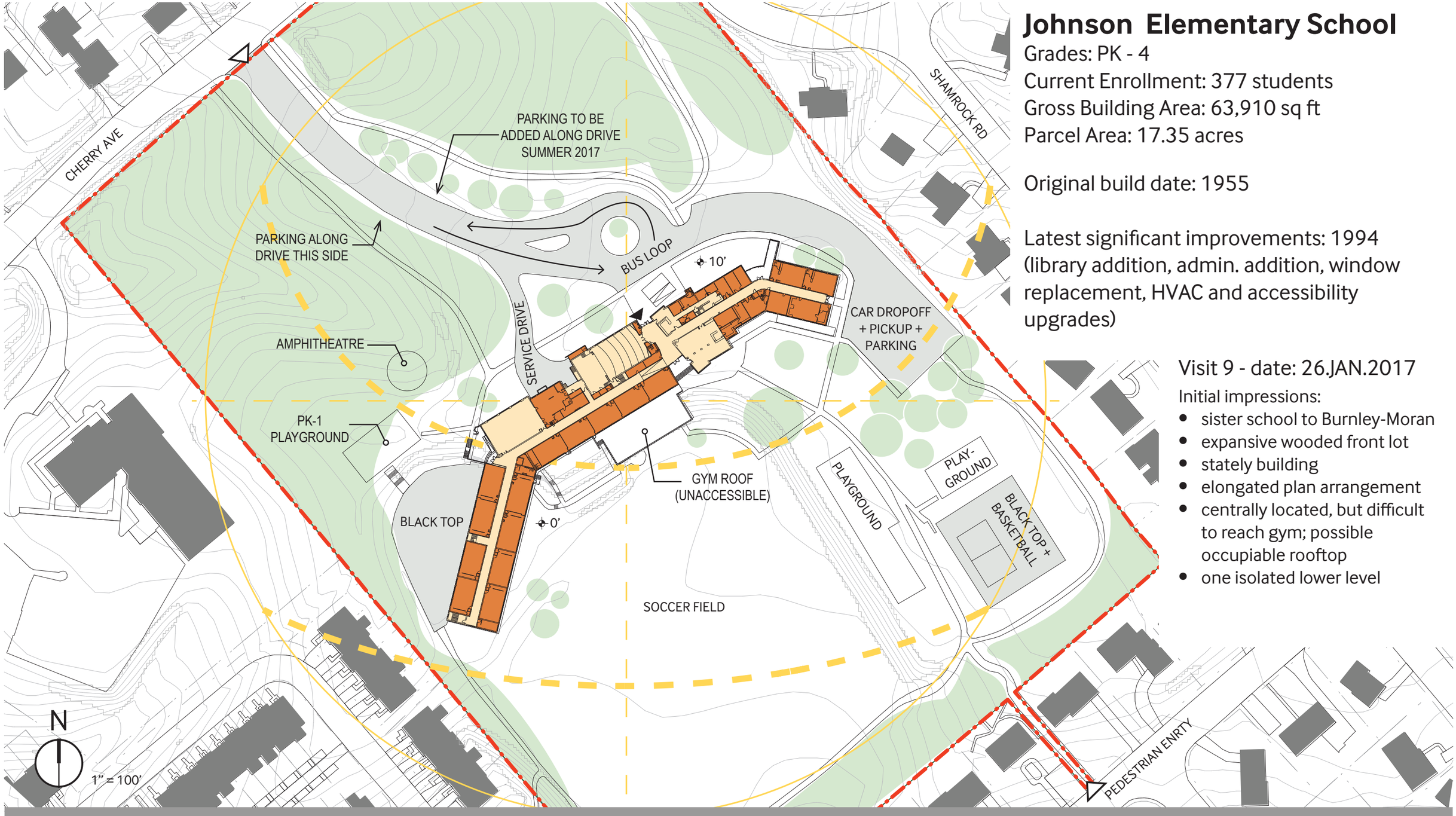
Original build date: 1955

Latest significant improvements: 1994 (library addition, admin. addition, window replacement, HVAC and accessibility upgrades)

Visit 9 - date: 26.JAN.2017

Initial impressions:

- sister school to Burnley-Moran
- expansive wooded front lot
- stately building
- elongated plan arrangement
- centrally located, but difficult to reach gym; possible occupiable rooftop
- one isolated lower level



Johnson Site Plan: Existing Conditions

CCS 2017 Capacity Study

Greenbrier Elementary School

Grades: PK - 4
Current Enrollment: 372 students
Gross Building Area: 48,250 sq ft
Parcel Area: 10.3 acres

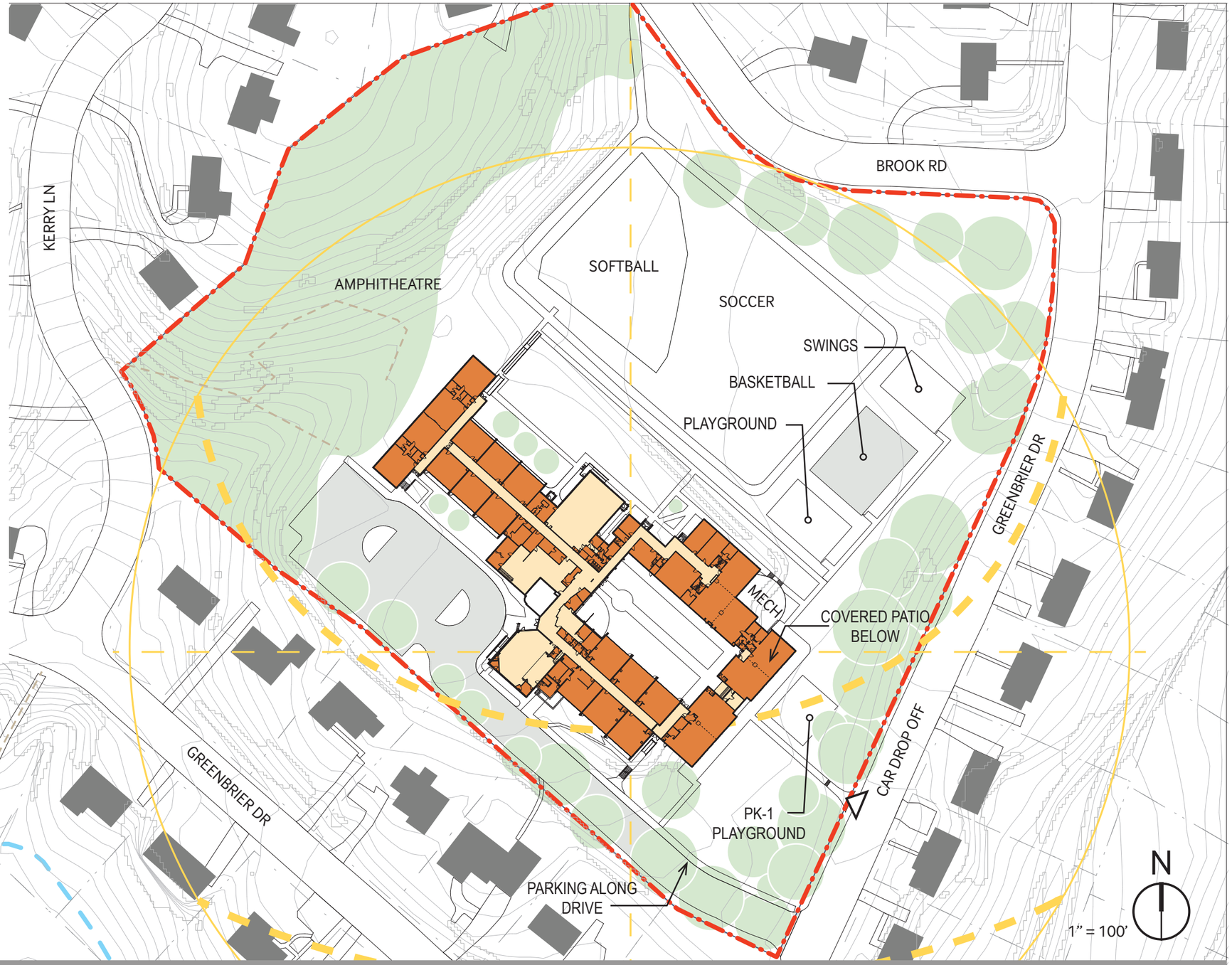
Original build date: 1962

Latest significant improvements: 1995
(reception area renovation)

Visit 4 - date: 03.JAN.2017

Initial impressions:

- awkward arrival sequence
- byzantine library
- no cafeteria
- small auditorium
- great central courtyard
- dim artificial lighting in corridors, but nice borrowed light
- some classrooms difficult to access
- under-utilized covered outdoor space



Greenbrier Site Plan: Existing Conditions

CCS 2017 Capacity Study

Capacity Assessment: Walker & Buford

Charlottesville City Schools Capacity 2017

	Total # of Classrooms	Art	Music	Computer Lab	SCSE	Special Programs	Pre-K @ 16/1	Net # of Classrooms	Maximum Class Size	Functional Capacity	Maximum Capacity	2017 K+ Enrollment	2017 Pre-K Enrollment	2017 Total Enrollment	Current Excess Functional Capacity	Remarks
Burnley-Moran	24	0	1	0	3	1	1	18	24	360	424	364	20	384	-24	*Exclusions from Total Classroom Count: iSTEM room due to egress concerns; Art Rm due to inadequate size (425 SF)*
Clark	25	1	1	0	1	1	4	17	19	320	376	285	57	342	-22	*Exclusions from Total Classroom Count: (1) 2nd grade classroom not counted due to insufficient size (570 sf)*
Greenbrier	23	1	0	0	1	1	2	18	24	360	424	346	26	372	-12	*Music on stage*
Jackson-Via	27	1	1	0	2	5	3	15	21	376	442	302	40	342	34	*Exclusions from Total Classroom Count: Afterschool (CLASS) room due to access & ADA compliance problems*
Johnson	24	1	0	0	1	2	3	17	22	347	408	325	52	377	-30	*Exclusions from Total Classroom Count: (1) undersized SCSE PK (510 SF); (1) undersized Music Rm (435 SF)*
Venable	22	1	0	0	1	3	2	15	24	340	400	316	36	352	-12	*Music on stage*
Total PK-4	145	5	3	0	9	13	15	100	22	2103	2474	1938	231	2169	-66	
Walker 5-6	41	1	4	0	0	9	0	27	25	574	675	574	0	574	0	*Exclusions from Total Classroom Count: "C" Building Rooms 300 & 301due to inadequate size (460 SF); A 221SCSE (485 SF)*
Total PK - 6	186	6	7	0	9	22	15	127	23	2677	3149	2512	231	2743	-66	
Buford 7-8	36.2	1	2.5	0	1	7	0	24.7	25	533	627	502	0	502	31	*Chorus/Spanish room counted as 0.5 Music + 0.5 Net Classroom. Total Classroom Count : (8) undersized classrooms @ "D" Building multiplied by room size factor of 78%*
Total PK - 8	222	7	9.5	0	10	29	15	152	23	3209	3776	3014	231	3245	-36	
CHS 9-12	73.1	3.4	2.6	0	1.7	6.9	0	59	25	1309	1636	1191	0	1191	118	*Classroom counts:: See note #6. Net Classroom Count : (25) undersized classrooms multiplied by room size factor of 73%*
TOTAL PK-12	295	10.43	12.07	0	11.71	35.86	15	210	24	4518	5411	4205	231	4436	82	

NOTES:

1) Total # of Classrooms represents total quantity of full size classroom spaces in the building. At CHS, (25) classrooms are less than 90% of the VDOE standard of 700 SF; they are on average 73% of the required size. These rooms have been multiplied by a 73% room size factor.

2) SCSE represents number of full size self-contained special education classrooms (including Pre-K SPED).

3) Special Programs represents number of full size classroom spaces currently needed for Resource, Quest, Title I, ESL and similar 'pull-out' programs.

4) Pre-K @ 16/1 represents number of preschool rooms with 16 pupils (max.). Pre-K SPED is included under SCSE - see note 2.

5) Net # of Classrooms represents quantity of full size classrooms other than those needed for Art, Music, Computer Lab, SCSE, and Pre-K.

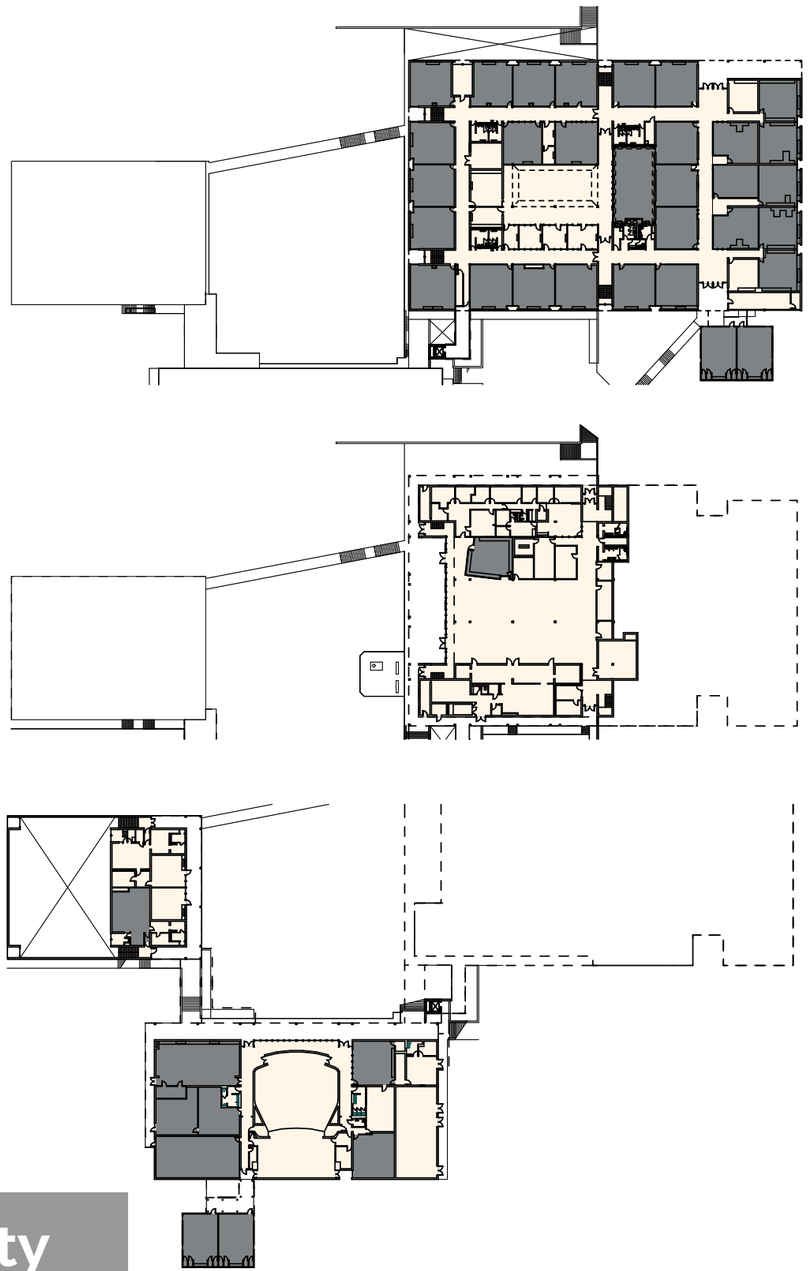
6) Maximum Capacity
@ Grades PK-4 = ([Total # of Classrooms - SCSE - PreK - 4] x Maximum Class Size) + (SCSE rooms x 8 pupils each) + (Pre-K rooms x 16 pupils each)
@ Grades 5-8 = (Net # of Classrooms x Maximum Class Size) + (SCSE rooms x 8 pupils each)
@ Grades 9-12 = (Net # of Classrooms x Maximum Class Size) + (SCSE rooms x 8 pupils each) + (Art rooms x 24 pupils each) + (Music Rooms x 30 pupils each)
Note that CHS classrooms are available for capacity use 6 out of 7 periods. 1 period per day classrooms are used for teacher planning (teachers "own" classrooms and do not have office space available outside classroom). To represent this, classroom counts have been multiplied by 6/7.

7) Functional Capacity
@ Grades PK-4 = (0.85) x (Maximum Capacity)
@ Grades 5-8 = (0.85) x (Maximum Capacity)
@ Grades 9-12 = (0.80) x (Maximum Capacity)

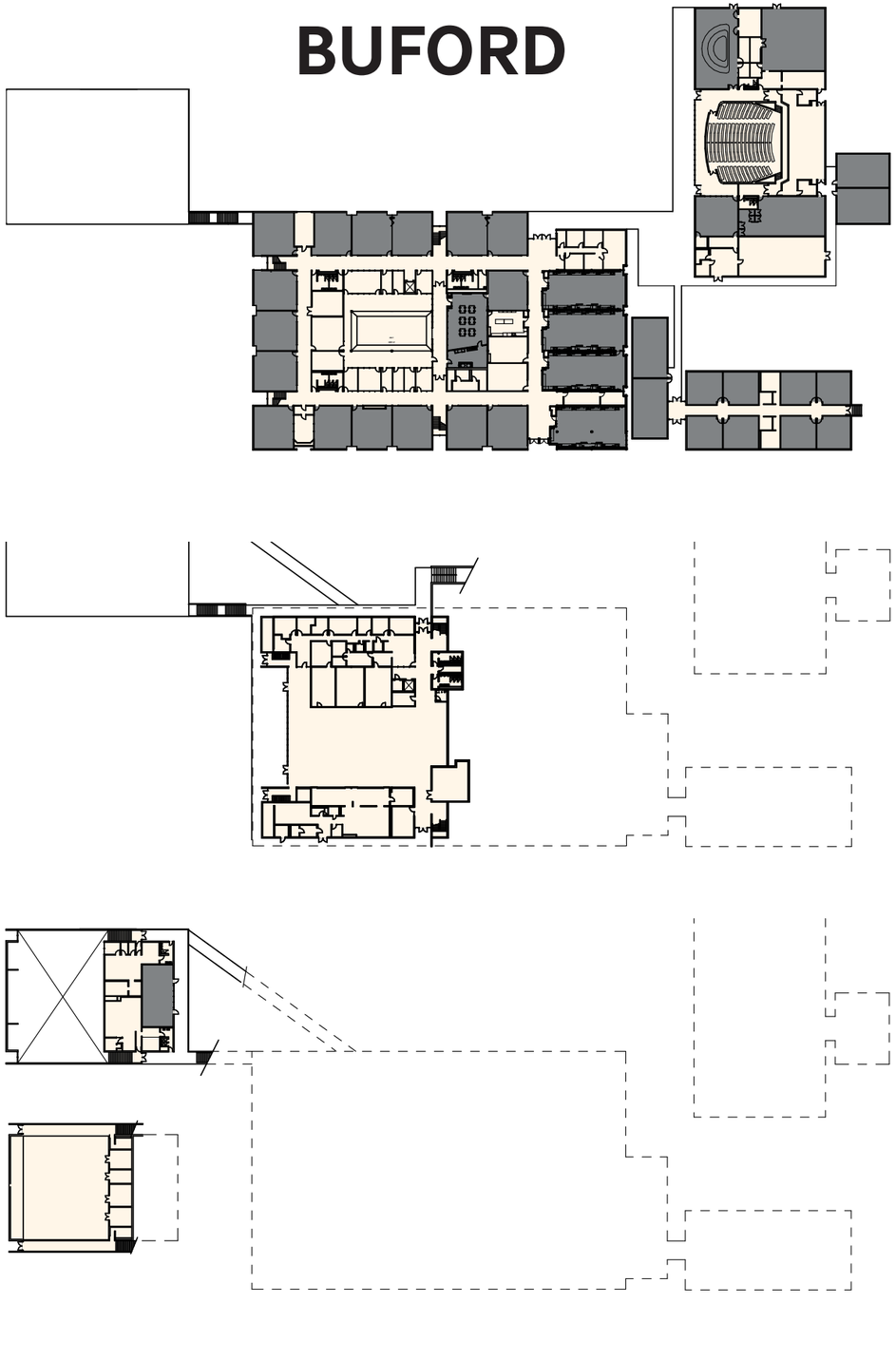
8) Current Excess Functional Capacity equals the difference between 2017 Total Enrollment and Functional Capacity

TOTAL CLASSROOMS

WALKER



BUFORD



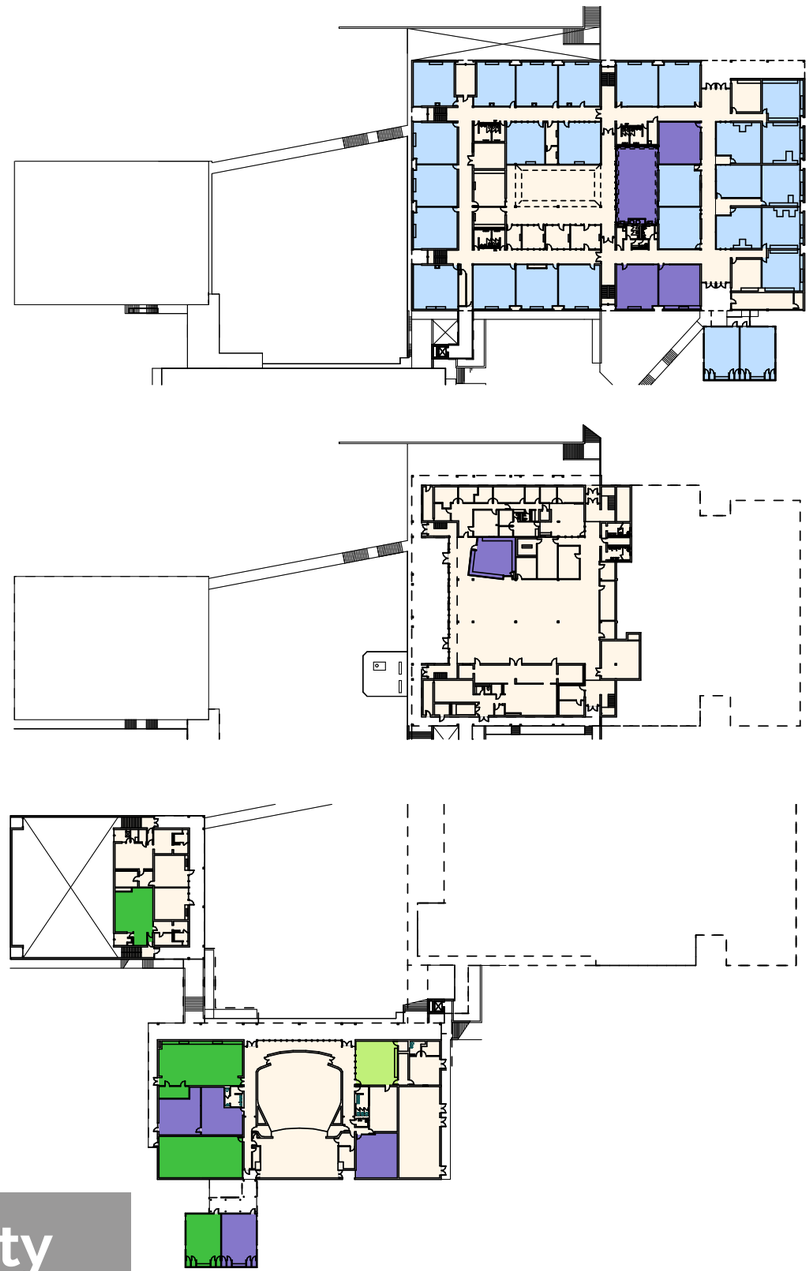
Grades 5-8 Capacity

CCS 2017 Capacity Study

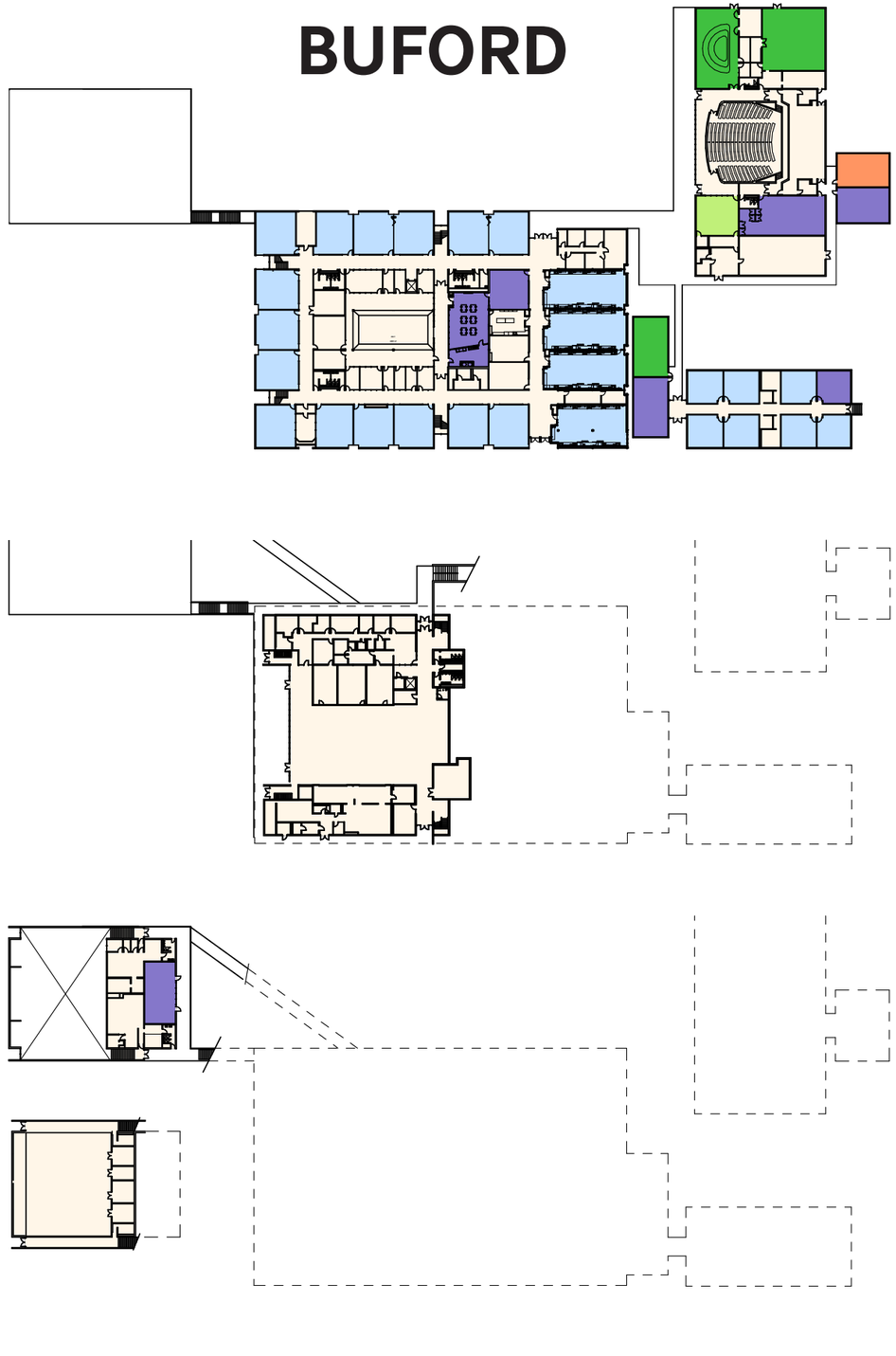
2016-17 CLASSROOM USAGE

- CLASSROOM
- SCSE
- ART
- MUSIC
- SPEC PRGRM

WALKER



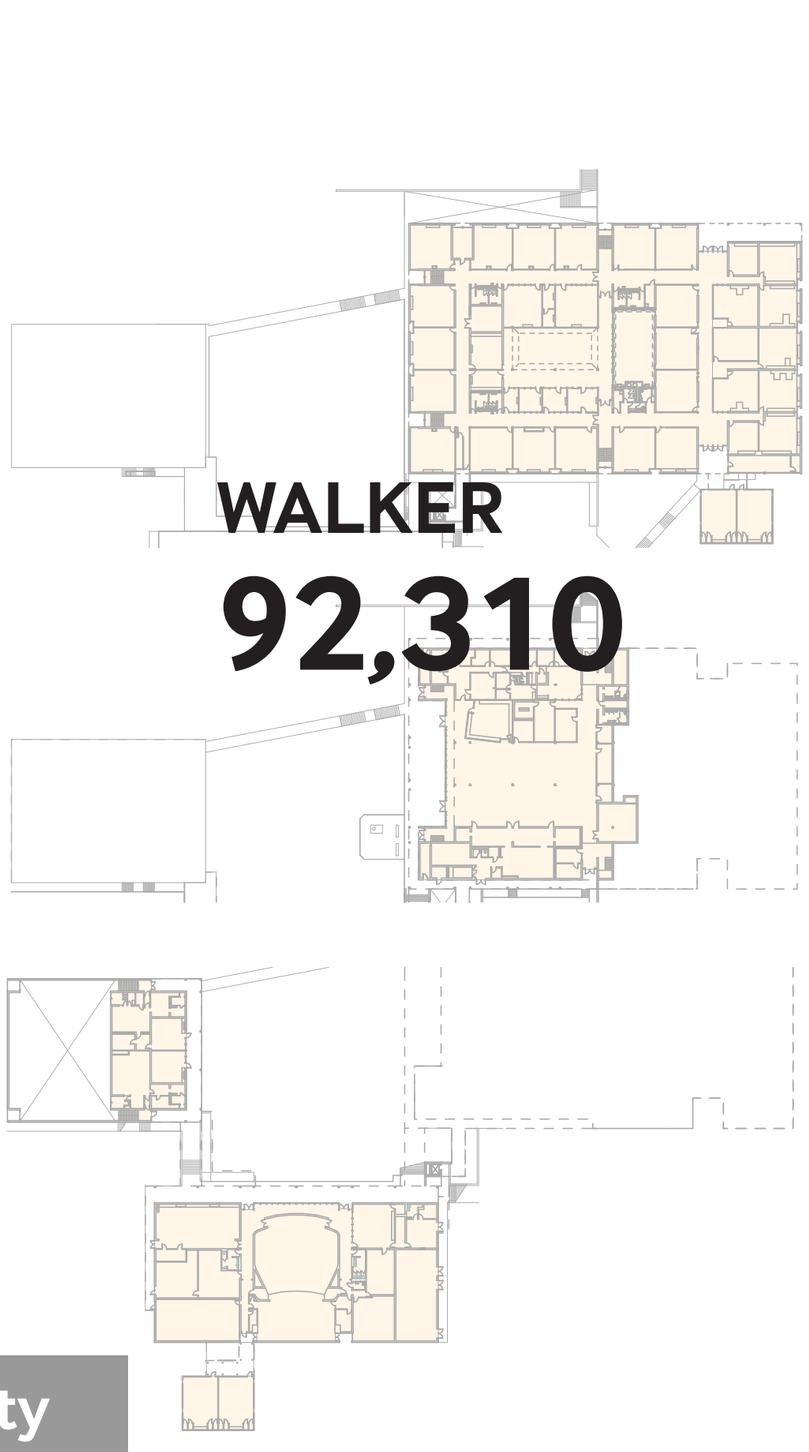
BUFORD



Grades 5-8 Capacity

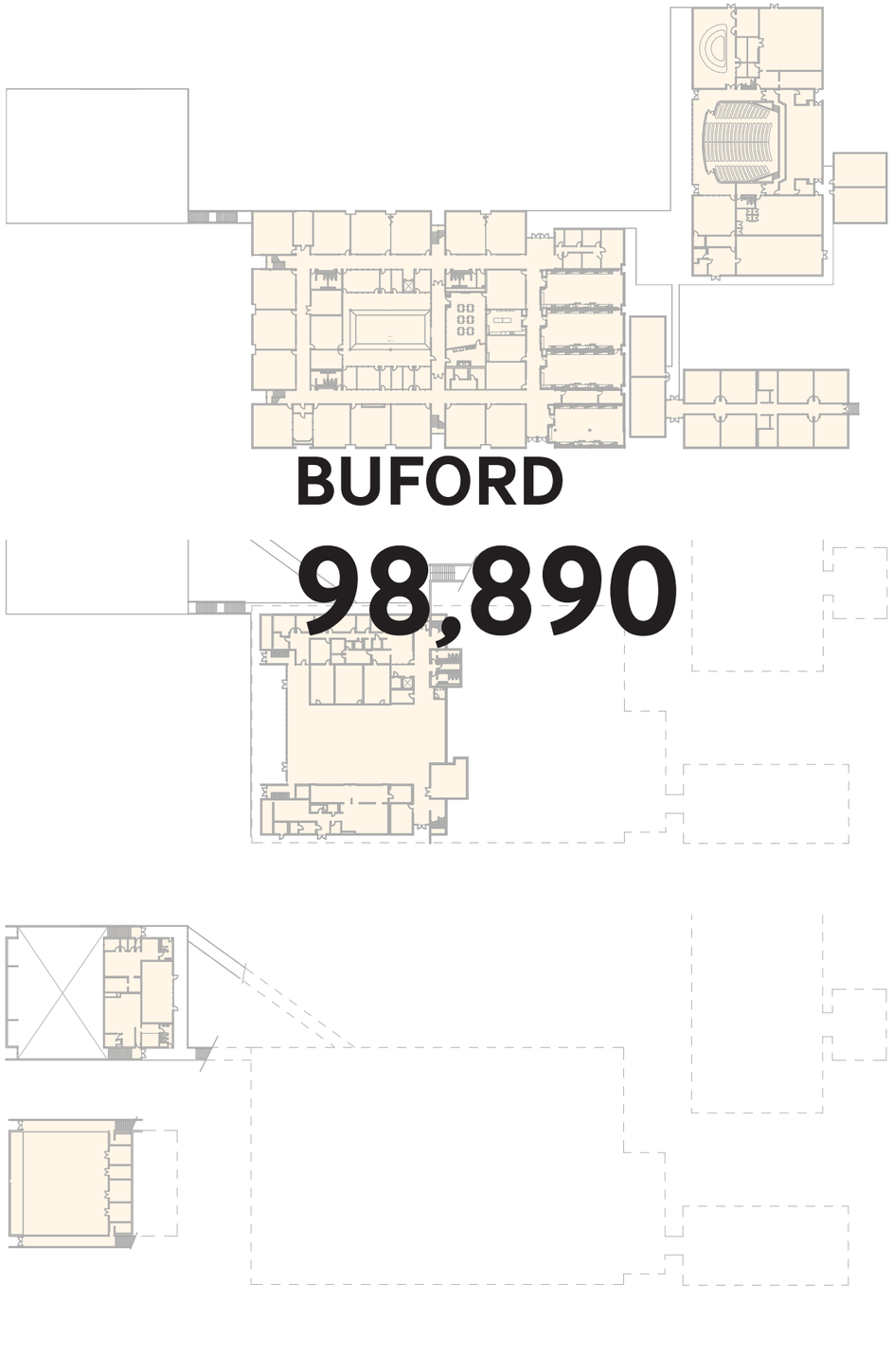
CCS 2017 Capacity Study

BUILDING GROSS SQUARE FOOTAGE



WALKER

92,310

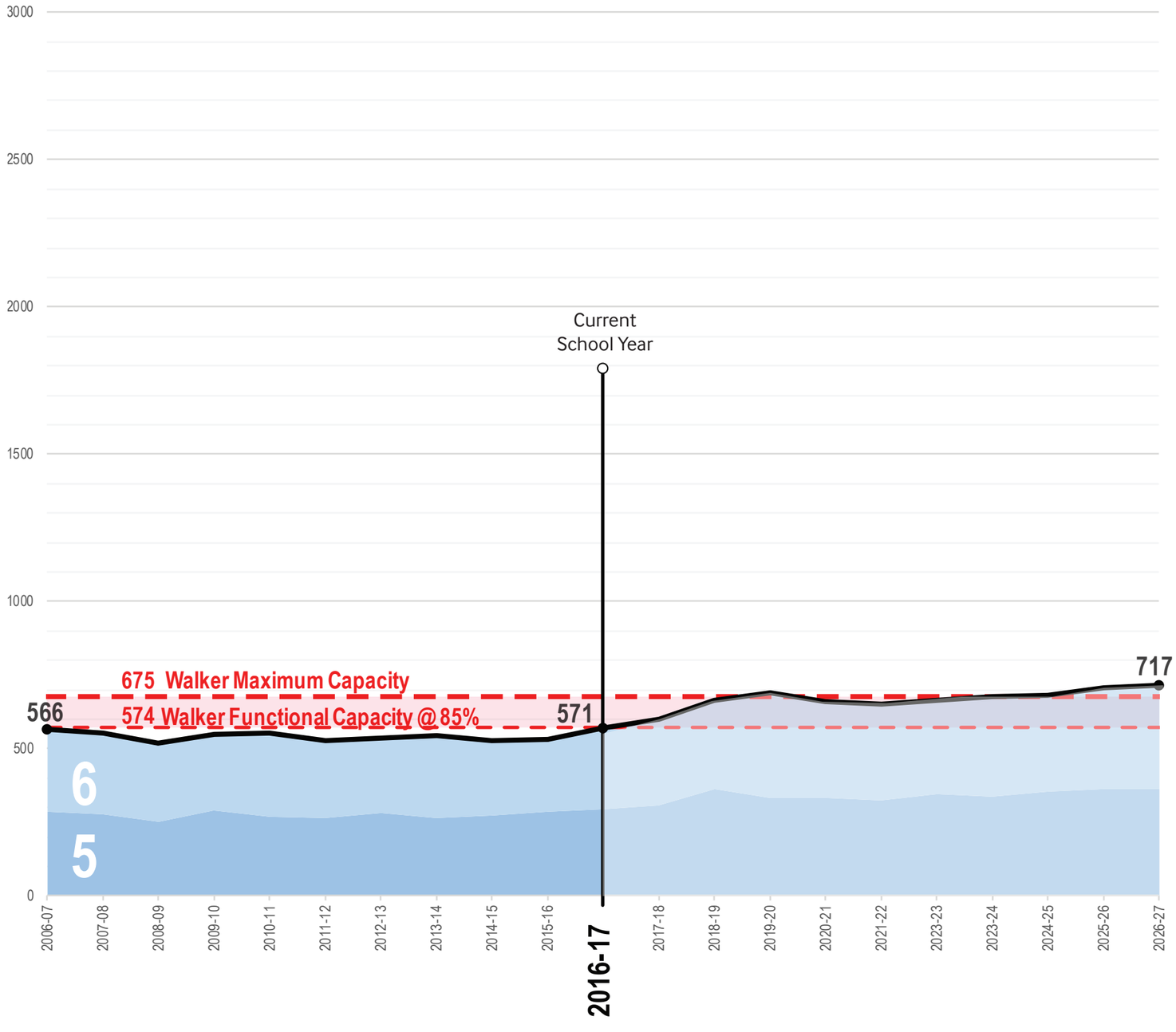


BUFORD

98,890

Grades 5-8 Capacity

CCS 2017 Capacity Study



VDOE School Construction Cost Data

State Averages – New Construction

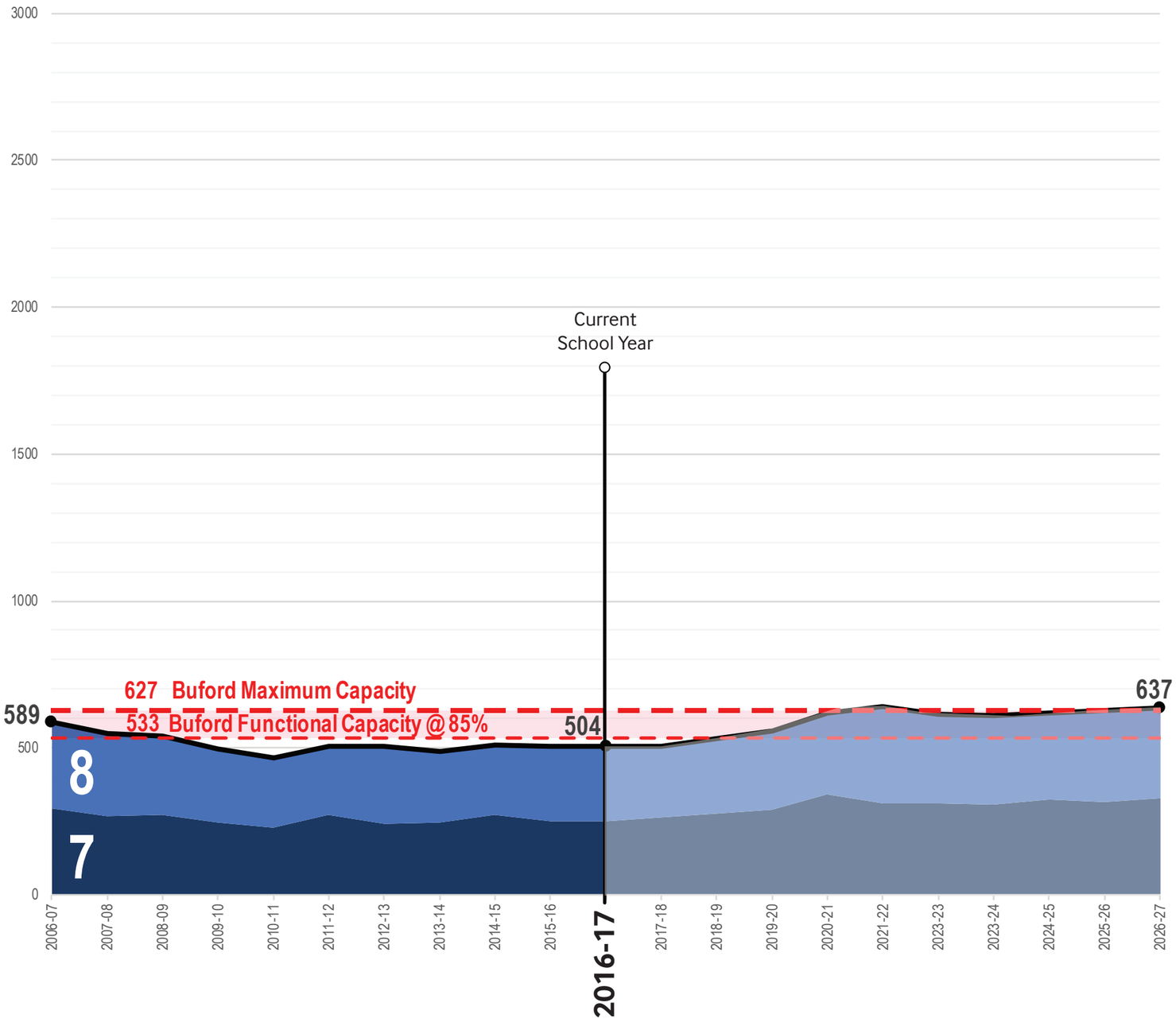
	Elementary	Middle	High
2009-2010	125	134	
2010-2011	123		164
2011-2012	111		175
2012-2013	124	168	166
2013-2014	129		158
2014-2015	109		183
2015-16	111	151	
Avg (sf)	**119**	**151**	**169**

Upper Elementary + Middle

	GSF	GSF/pupil*	
		@ Current net classrooms	*@ 33 net + 3 SCSE*
Walker	92,310	137	128
Buford	98,890	158	
Average (sf)	**95,600**	**147**	

*Net classrooms counted at 25 students; SCSE classrooms counted at 8 students

Maximum Capacity based on current room usage



VDOE School Construction Cost Data

State Averages – New Construction

	Elementary	Middle	High
2009-2010	125	134	
2010-2011	123		164
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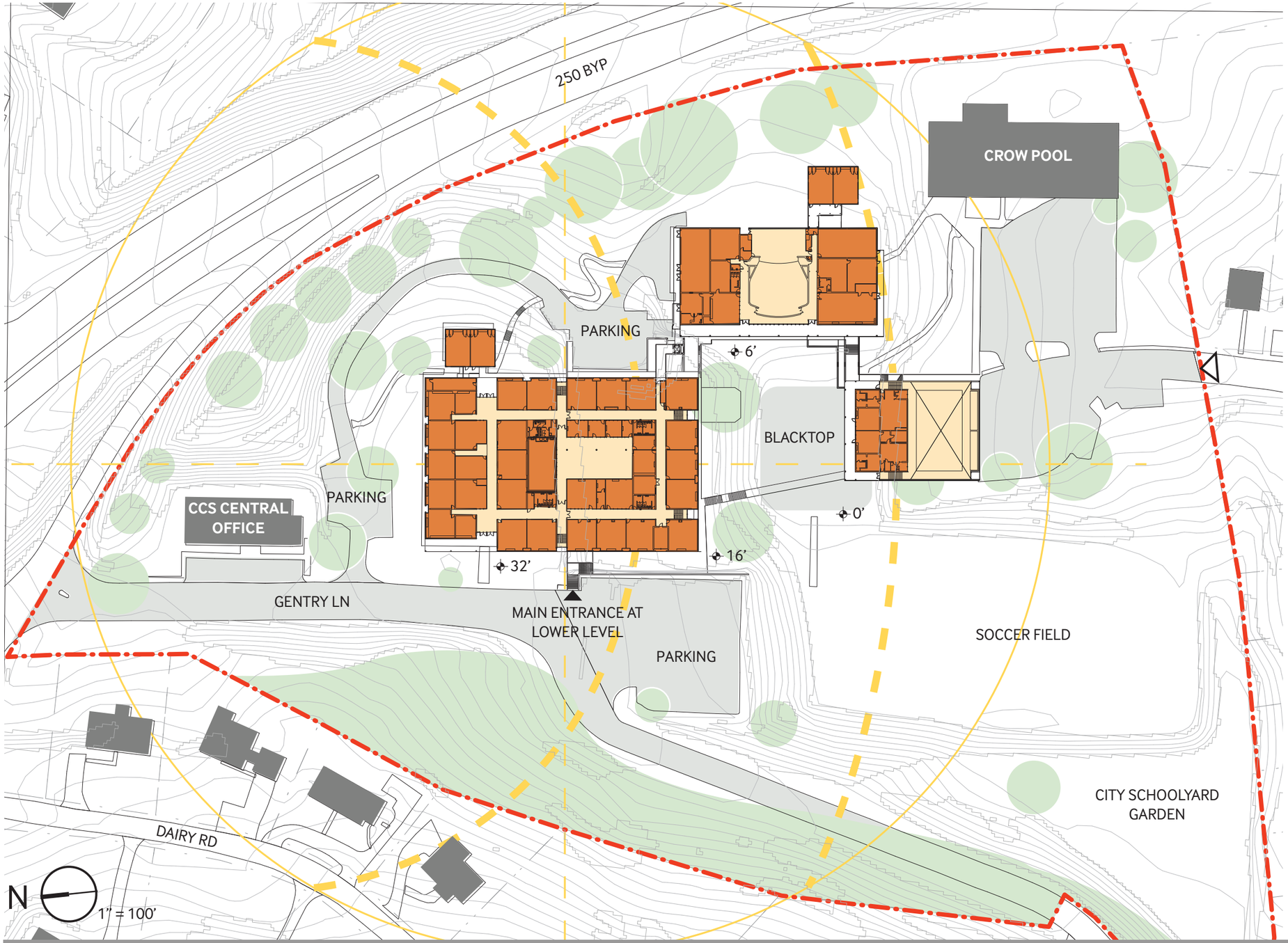
Upper Elementary + Middle			
	GSF	GSF/pupil*	
		@ Current net classrooms	*@ 33 net + 3 SCSE*
Walker	92,310	137	128
Buford	98,890	158	
Average (sf)	**95,600**	**147**	

*Net classrooms counted at 25 students; SCSE classrooms counted at 8 students

Maximum Capacity based on current room usage

Buford Capacity + Enrollment Projections

CCS 2017 Capacity Study



Walker Upper Elementary School

Grades: 5 - 6
Current Enrollment: 574 students
Gross Building Area: 92,310 sq ft
Parcel Area: 15.96 acres

Original build date: 1965

Latest significant improvements: 2001 (courtyard infill, HVAC and accessibility upgrades)

Visit 5 - date: 05.JAN.2017

Initial impressions:

- sister school to Buford
- congested vehicular routes
- unclear front door location
- campus arrangement of three separate buildings
- grades 5 and 6 intentionally separated
- glass canopied courtyard (infill precedent)
- two pairs of modular classrooms - one pair of reasonable quality, one pair disposable
- extensive site verticality connected by stairs, ramps and covered open-air paths
- shares site with Crow Recreation Center - used by all students for swim lessons

Walker Site Plan: Existing Conditions

CCS 2017 Capacity Study

Buford Middle School

Grades: 7 - 8
Current Enrollment: 502 students
Gross Building Area: 98,890 sq ft
Parcel Area: 18.45 acres

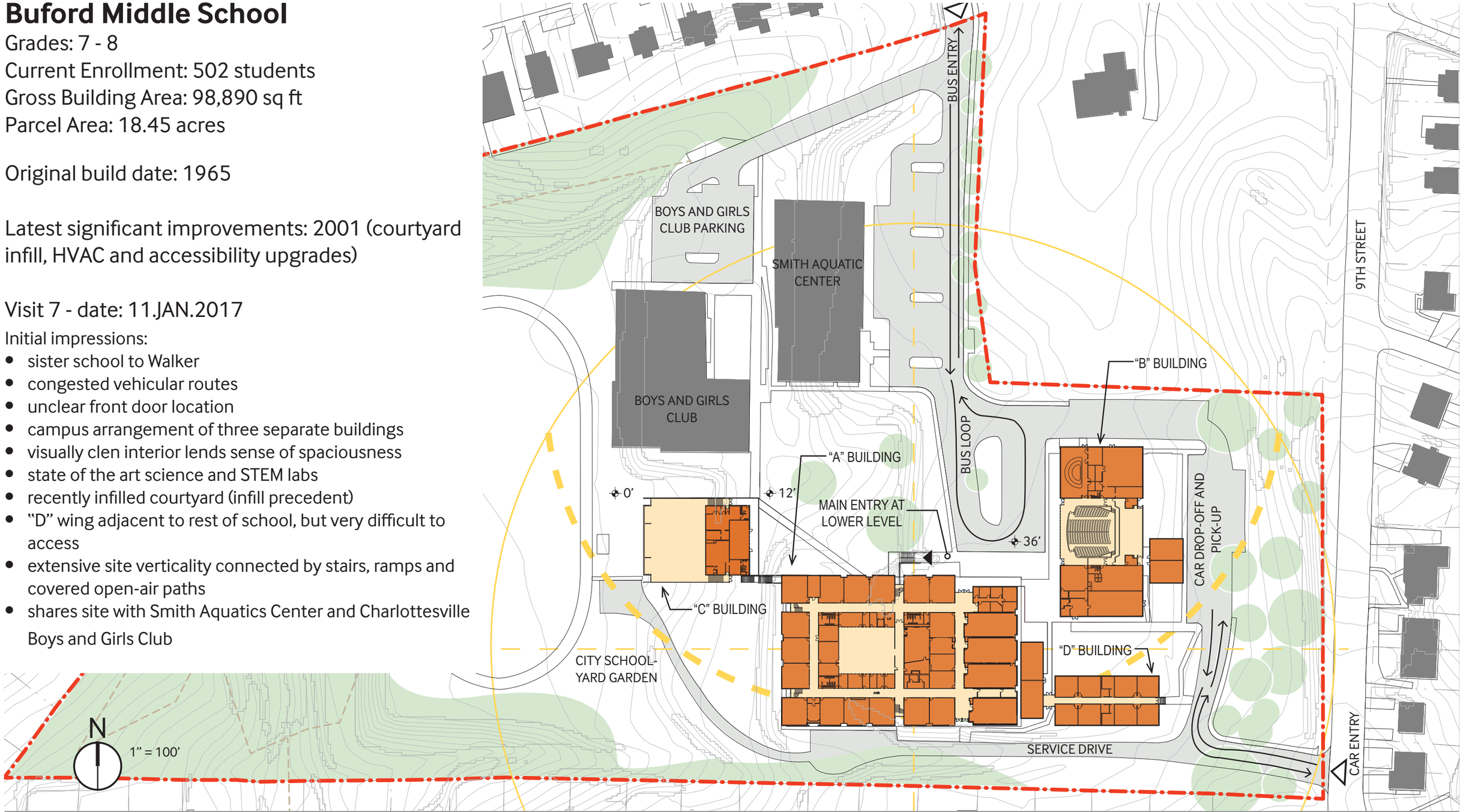
Original build date: 1965

Latest significant improvements: 2001 (courtyard infill, HVAC and accessibility upgrades)

Visit 7 - date: 11.JAN.2017

Initial impressions:

- sister school to Walker
- congested vehicular routes
- unclear front door location
- campus arrangement of three separate buildings
- visually clen interior lends sense of spaciousness
- state of the art science and STEM labs
- recently infilled courtyard (infill precedent)
- "D" wing adjacent to rest of school, but very difficult to access
- extensive site verticality connected by stairs, ramps and covered open-air paths
- shares site with Smith Aquatics Center and Charlottesville Boys and Girls Club



Buford Site Plan: Existing Conditions

CCS 2017 Capacity Study

Capacity Assessment:

Charlottesville High School

Charlottesville City Schools Capacity 2017

	Total # of Classrooms	Art	Music	Computer Lab	SCSE	Special Programs	Pre-K @ 16/1	Net # of Classrooms	Maximum Class Size	Functional Capacity	Maximum Capacity	2017 K+ Enrollment	2017 Pre-K Enrollment	2017 Total Enrollment	Current Excess Functional Capacity	Remarks
Burnley-Moran	24	0	1	0	3	1	1	18	24	360	424	364	20	384	-24	*Exclusions from Total Classroom Count: iSTEM room due to egress concerns; Art Rm due to inadequate size (425 SF)*
Clark	25	1	1	0	1	1	4	17	19	320	376	285	57	342	-22	*Exclusions from Total Classroom Count: (1) 2nd grade classroom not counted due to insufficient size (570 sf)*
Greenbrier	23	1	0	0	1	1	2	18	24	360	424	346	26	372	-12	*Music on stage*
Jackson-Via	27	1	1	0	2	5	3	15	21	376	442	302	40	342	34	*Exclusions from Total Classroom Count: Afterschool (CLASS) room due to access & ADA compliance problems*
Johnson	24	1	0	0	1	2	3	17	22	347	408	325	52	377	-30	*Exclusions from Total Classroom Count: (1) undersized SCSE PK (510 SF); (1) undersized Music Rm (435 SF)*
Venable	22	1	0	0	1	3	2	15	24	340	400	316	36	352	-12	*Music on stage*
Total PK-4	145	5	3	0	9	13	15	100	22	2103	2474	1938	231	2169	-66	
Walker 5-6	41	1	4	0	0	9	0	27	25	574	675	574	0	574	0	*Exclusions from Total Classroom Count: "C" Building Rooms 300 & 301due to inadequate size (460 SF); A 221SCSE (485 SF)*
Total PK - 6	186	6	7	0	9	22	15	127	23	2677	3149	2512	231	2743	-66	
Buford 7-8	36.2	1	2.5	0	1	7	0	24.7	25	533	627	502	0	502	31	*Chorus/Spanish room counted as 0.5 Music + 0.5 Net Classroom. Total Classroom Count : (8) undersized classrooms @ "D" Building multiplied by room size factor of 78%*
Total PK - 8	222	7	9.5	0	10	29	15	152	23	3209	3776	3014	231	3245	-36	
CHS 9-12	73.1	3.4	2.6	0	1.7	6.9	0	59	25	1309	1636	1191	0	1191	118	*Classroom counts:: See note #6. Net Classroom Count : (25) undersized classrooms multiplied by room size factor of 73%*
TOTAL PK-12	295	10.43	12.07	0	11.71	35.86	15	210	24	4518	5411	4205	231	4436	82	

NOTES:

1) Total # of Classrooms represents total quantity of full size classroom spaces in the building. At CHS, (25) classrooms are less than 90% of the VDOE standard of 700 SF; they are on average 73% of the required size. These rooms have been multiplied by a 73% room size factor.

2) SCSE represents number of full size self-contained special education classrooms (including Pre-K SPED).

3) Special Programs represents number of full size classroom spaces currently needed for Resource, Quest, Title I, ESL and similar 'pull-out' programs.

4) Pre-K @ 16/1 represents number of preschool rooms with 16 pupils (max.). Pre-K SPED is included under SCSE - see note 2.

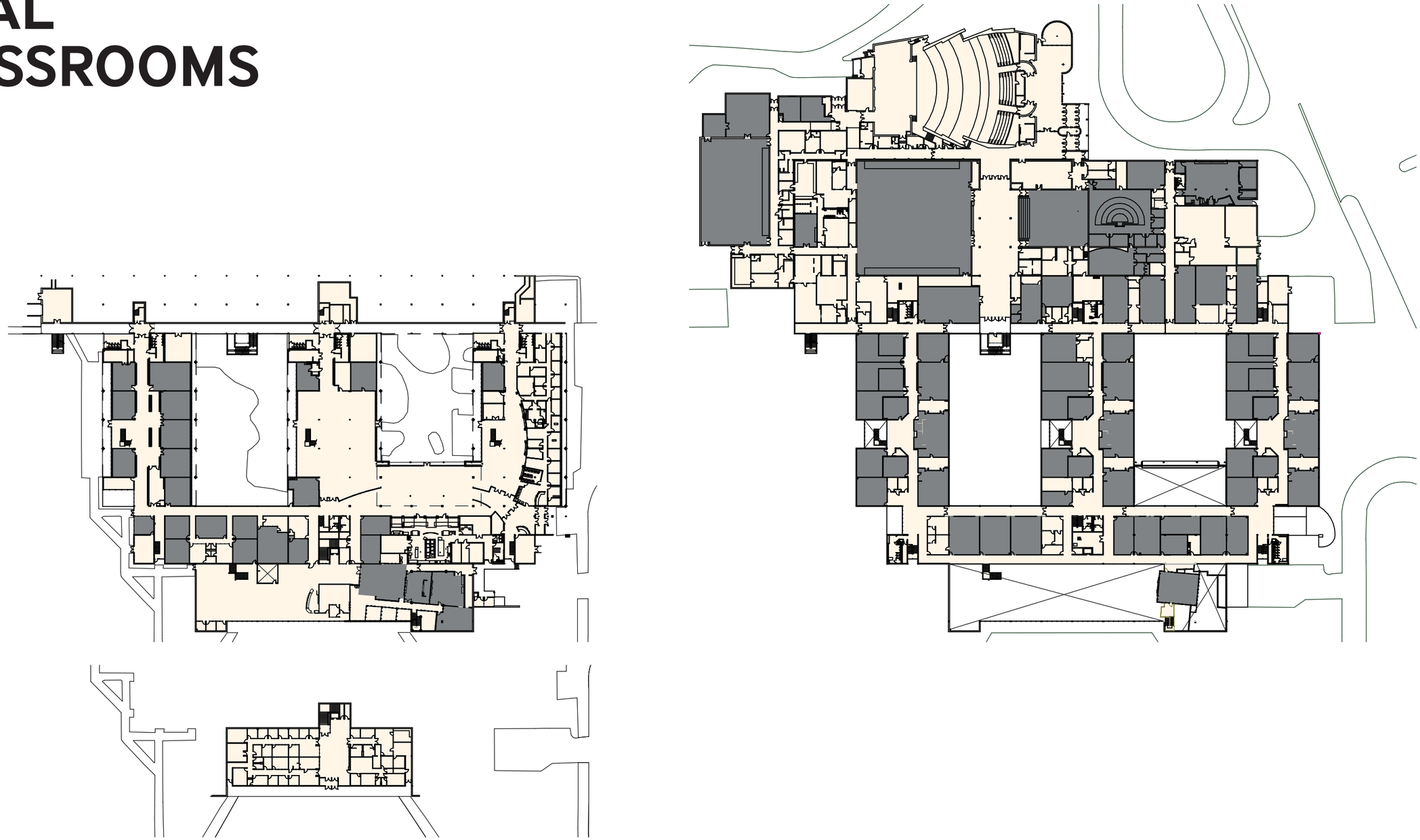
5) Net # of Classrooms represents quantity of full size classrooms other than those needed for Art, Music, Computer Lab, SCSE, and Pre-K.

6) Maximum Capacity
@ Grades PK-4 = ([Total # of Classrooms - SCSE - PreK - 4] x Maximum Class Size) + (SCSE rooms x 8 pupils each) + (Pre-K rooms x 16 pupils each)
@ Grades 5-8 = (Net # of Classrooms x Maximum Class Size) + (SCSE rooms x 8 pupils each)
@ Grades 9-12 = (Net # of Classrooms x Maximum Class Size) + (SCSE rooms x 8 pupils each) + (Art rooms x 24 pupils each) + (Music Rooms x 30 pupils each)
Note that CHS classrooms are available for capacity use 6 out of 7 periods. 1 period per day classrooms are used for teacher planning (teachers "own" classrooms and do not have office space available outside classroom). To represent this, classroom counts have been multiplied by 6/7.

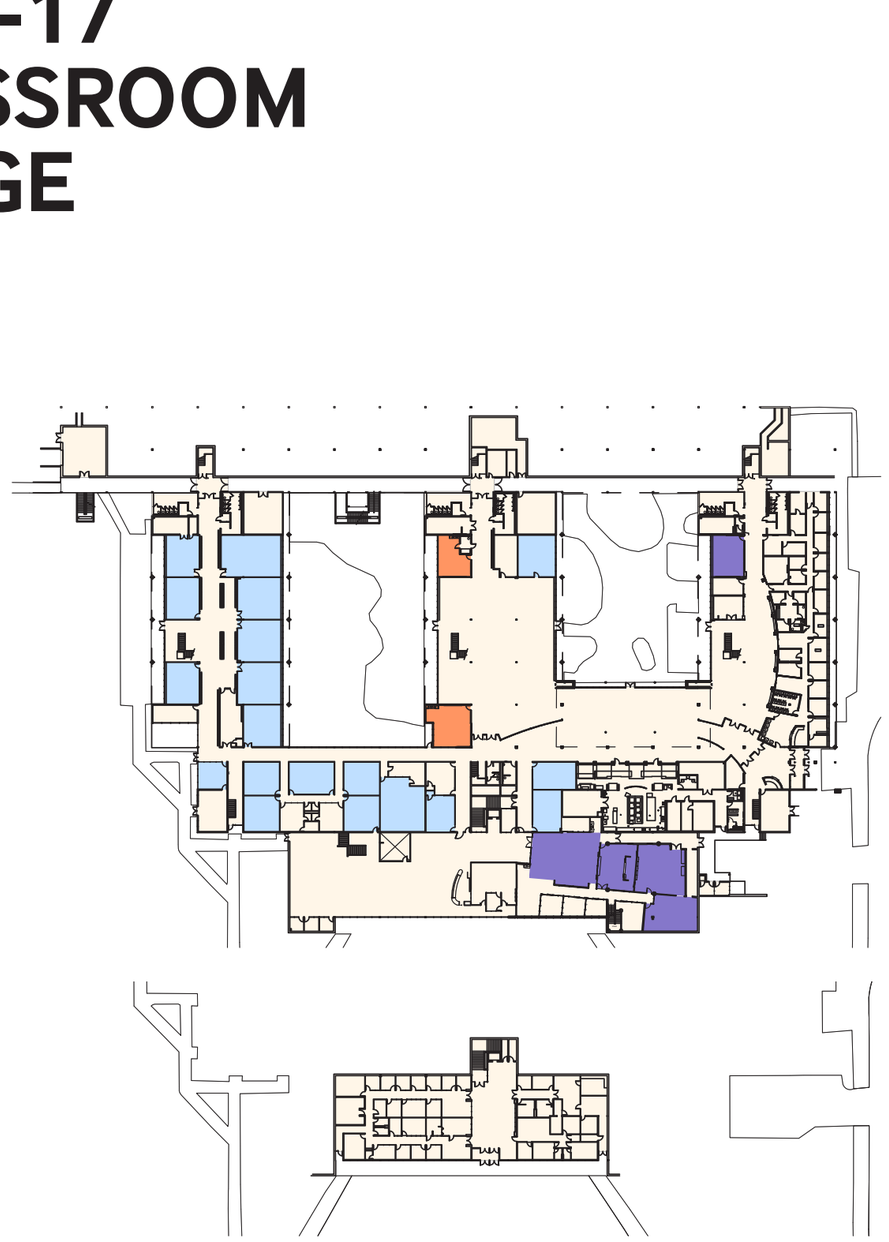
7) Functional Capacity
@ Grades PK-4 = (0.85) x (Maximum Capacity)
@ Grades 5-8 = (0.85) x (Maximum Capacity)
@ Grades 9-12 = (0.80) x (Maximum Capacity)

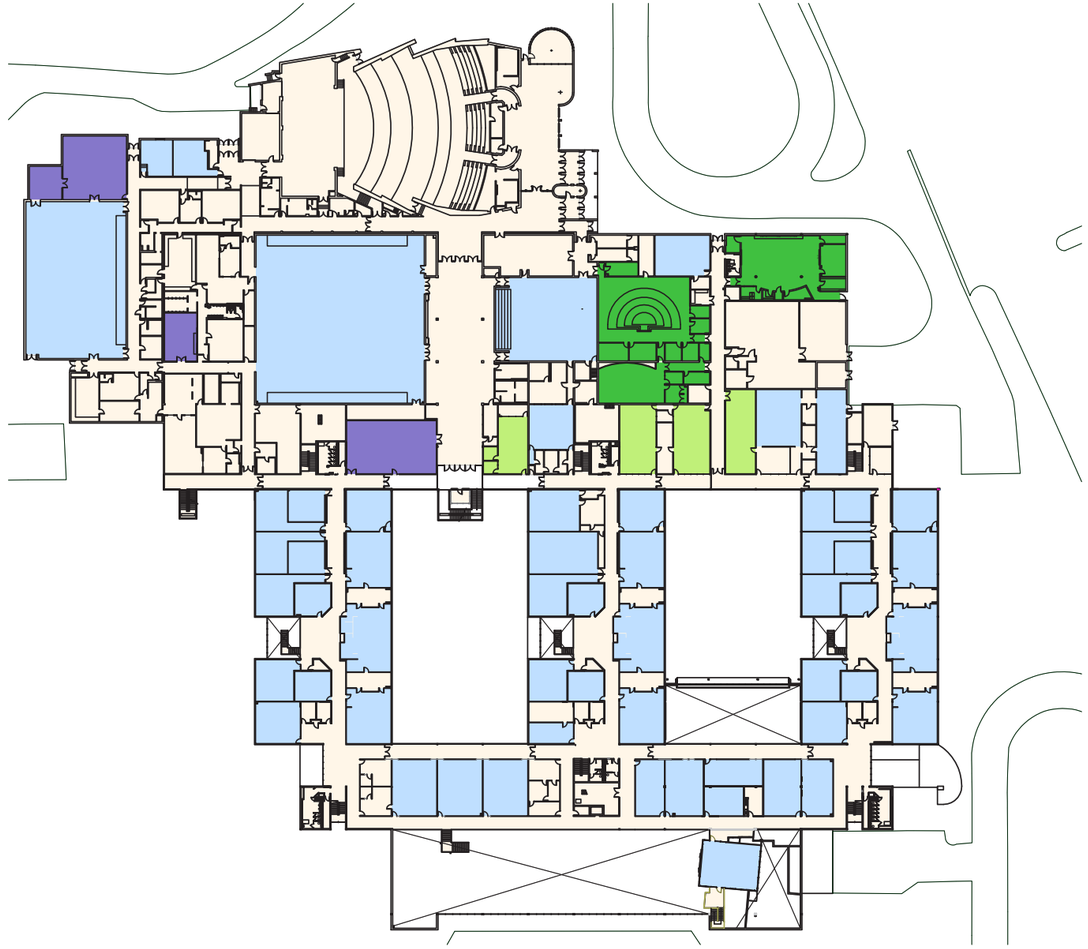
8) Current Excess Functional Capacity equals the difference between 2017 Total Enrollment and Functional Capacity

TOTAL CLASSROOMS



2016-17 CLASSROOM USAGE

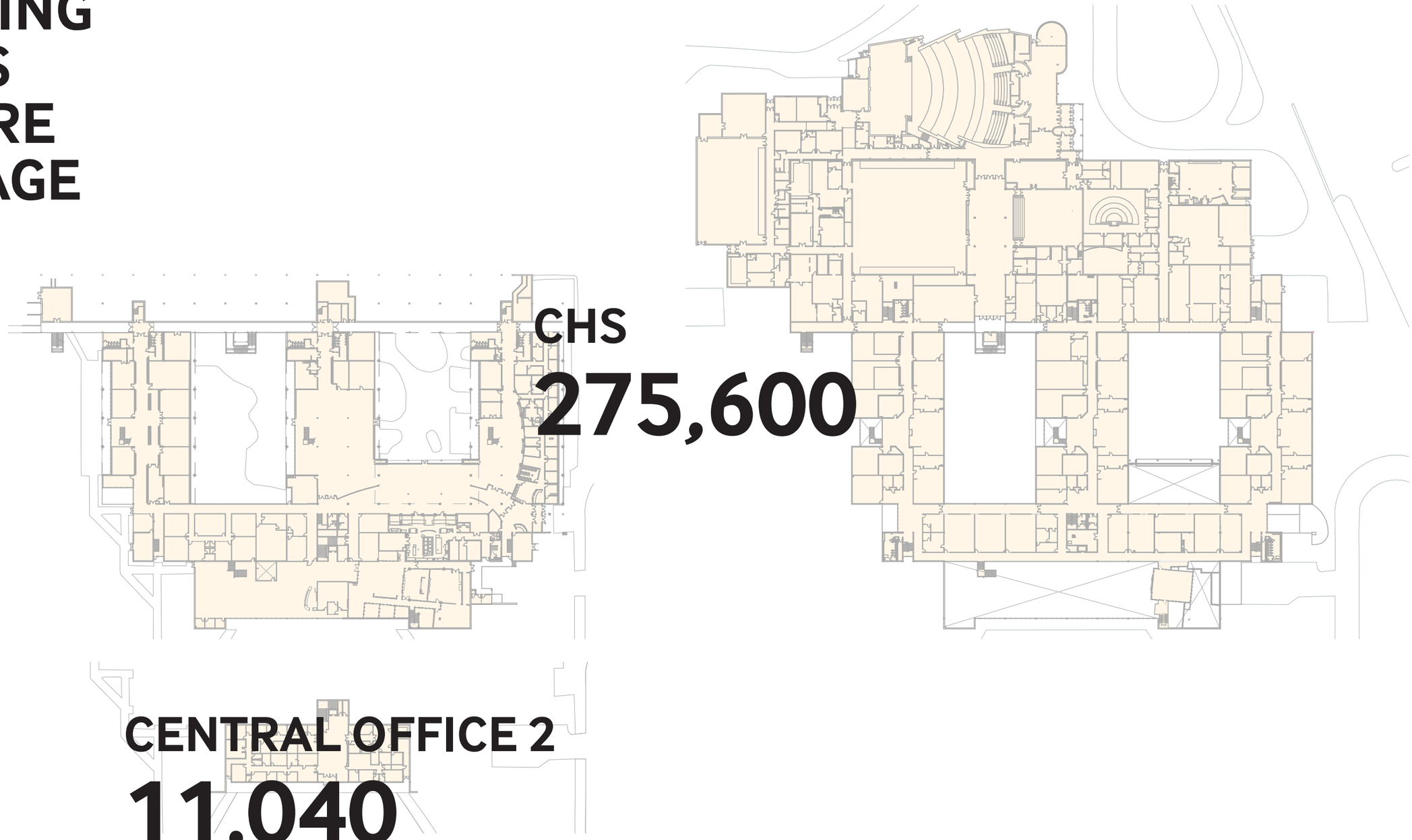




CLASSROOM
MUSIC
SPEC PRGRM
ART
SCSE

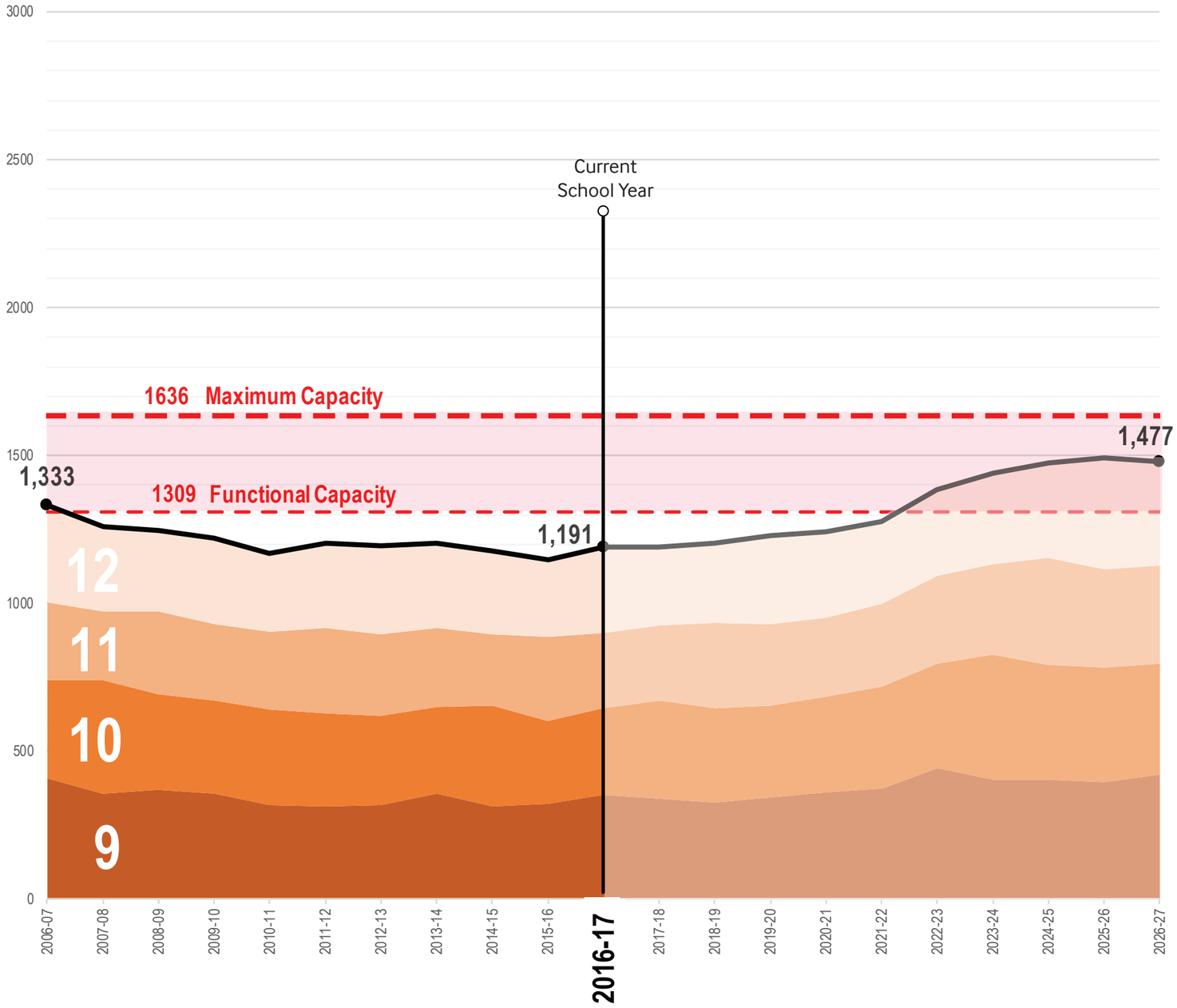
Note that CHS classrooms are available for capacity use (6) out of (7) periods. Classrooms are used for teacher planning (1) period per day (teachers "own" classrooms and do not have office space available outside classroom). In the CHS capacity calculation, this has been accounted for by multiplying the classroom count by 6/7ths.

BUILDING GROSS SQUARE FOOTAGE



CHS
275,600

CENTRAL OFFICE 2
11,040



VDOE School Construction Cost Data

State Averages – New Construction

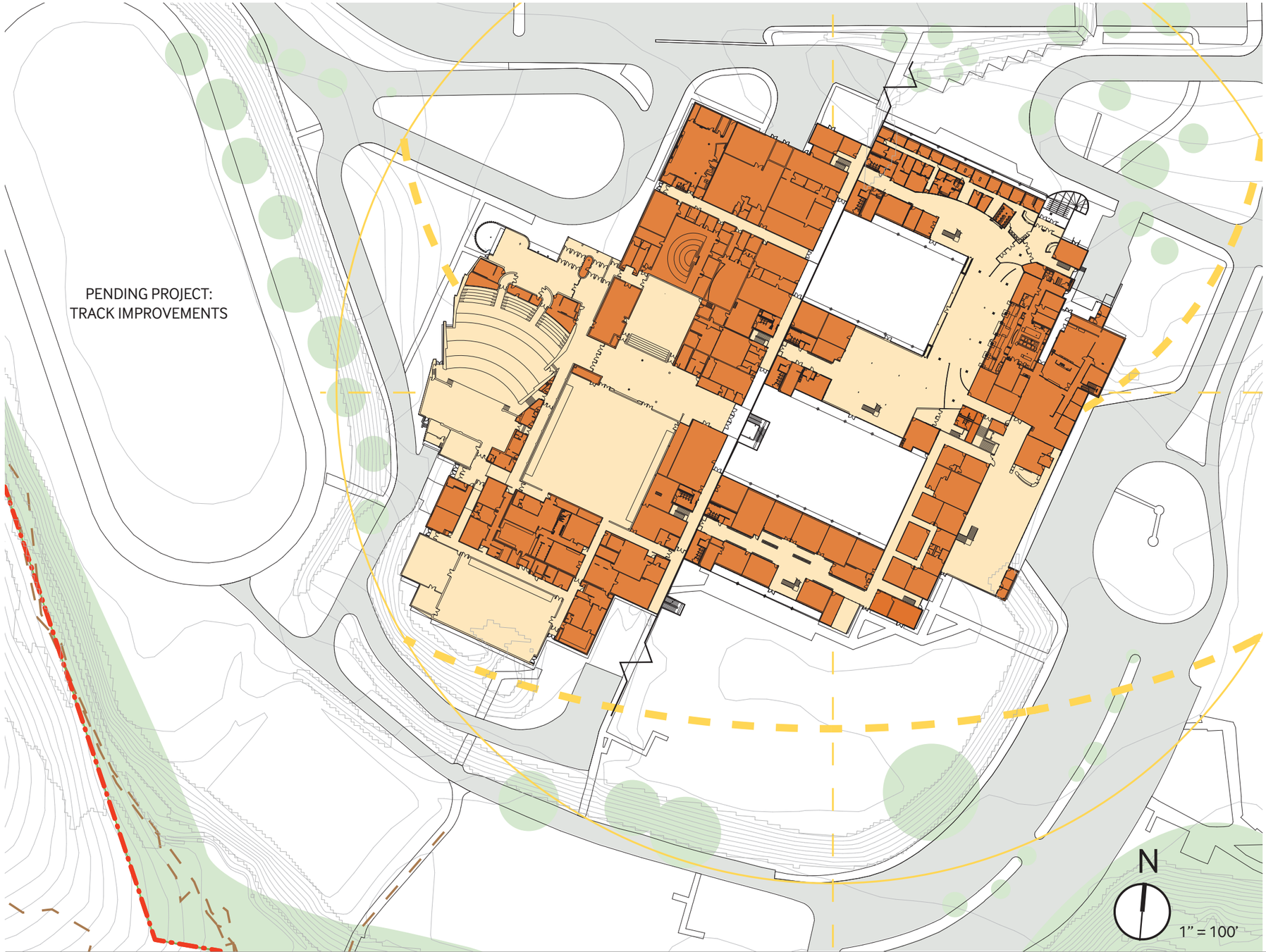
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2010-2011	123		164
2011-2012	111		175
2012-2013	124	168	166
2013-2014	129		158
2014-2015	109		183
2015-16	111	151	
Avg (sf)	**119**	**151**	**169**
Median	**124**	**151**	**166**

High School

	GSF	GSF/pupil* @ *Current net classrooms*
CHS	275,600	167

*Net classrooms counted at 25 students; Visual Arts & Drama @ 24 students; Music @ 30 students; Health @ 30 students Main Gym @ 30 x 2 TS; SCSE classrooms @ 8 students

CCS Grades 9-12 Past Enrollment + Projections



Charlottesville High School

Grades: 9 - 12
Current Enrollment: 1,199 students
Gross Building Area: 272,980 sq ft
Parcel Area: 41.8 acres

Original build date: 1974
Latest significant improvements: 2014 (science lab renovations, sprinkler system installation)

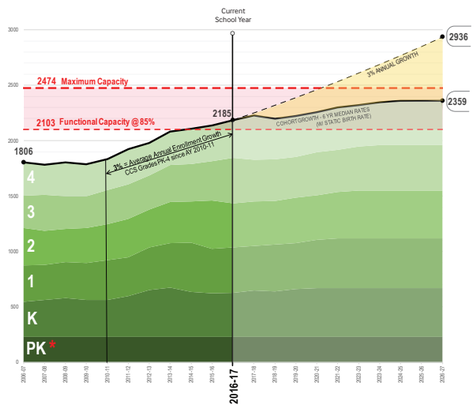
Visit 3 - date: 13.DEC.2017

Initial impressions:

- very large school with significant athletic and performing arts facilities
- suburban, car-dominated campus
- two major outdoor courtyards
- spacious library with School Board meeting area
- state of the art STEM labs
- inter-classroom acoustical challenges
- lack of natural light in many rooms
- some under-utilized circulation spaces
- locker commons virtually un-used
- auxilary central administration and IT uses lowest level

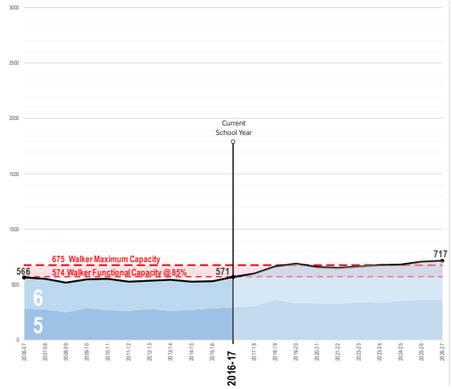
PROJECTED TIMELINE FOR ENROLLMENT TO SURPASS **FUNCTIONAL CAPACITY** OF EXISTING FACILITIES:

2014-15
(ACTUAL)



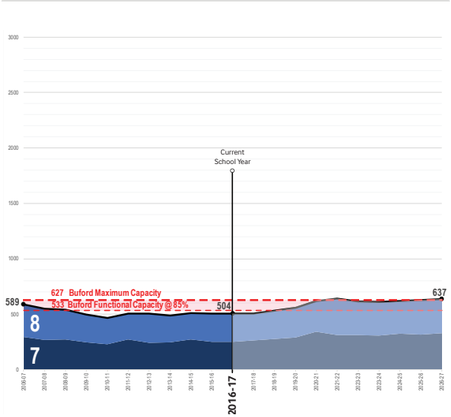
ELEMENTARY
PK-4

2017-18



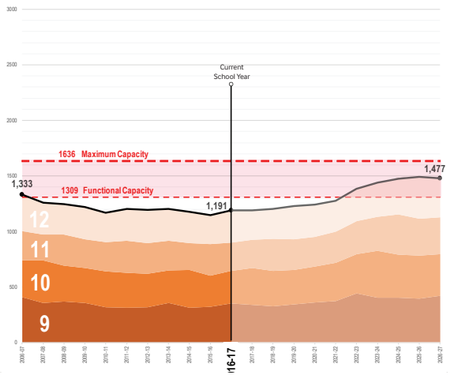
WALKER
5-6

2019-20

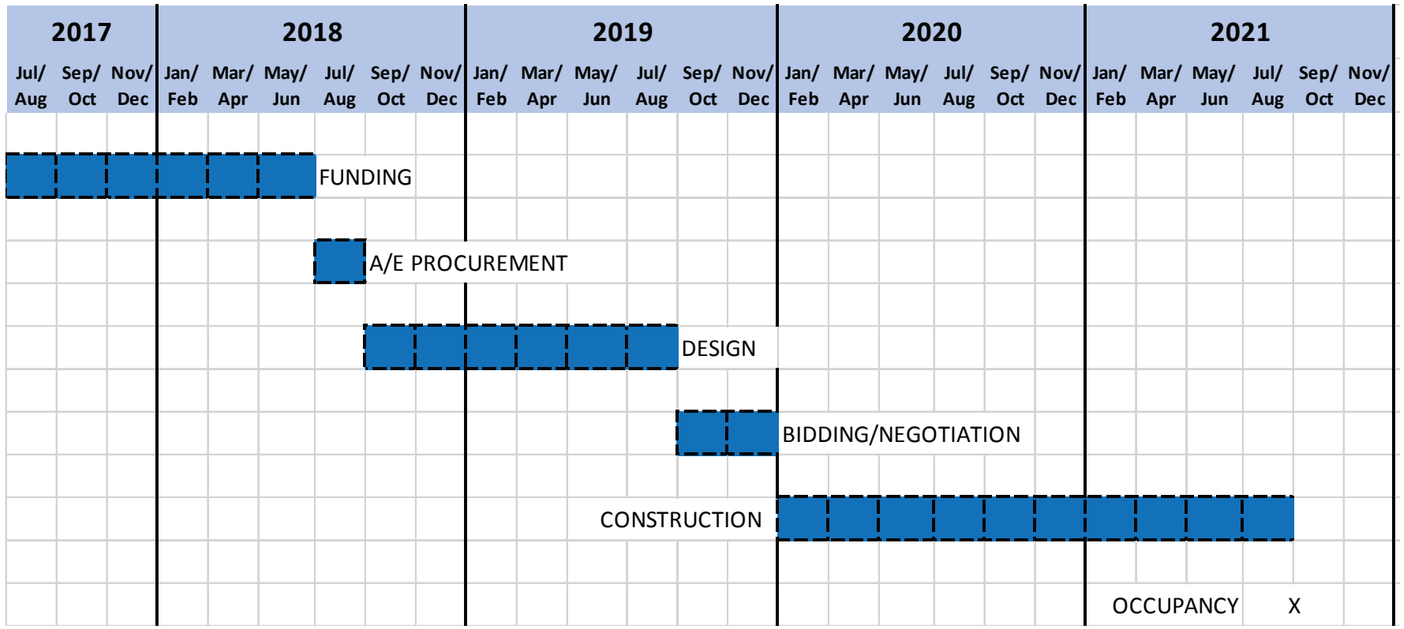


BUFORD
7-8

2022-23



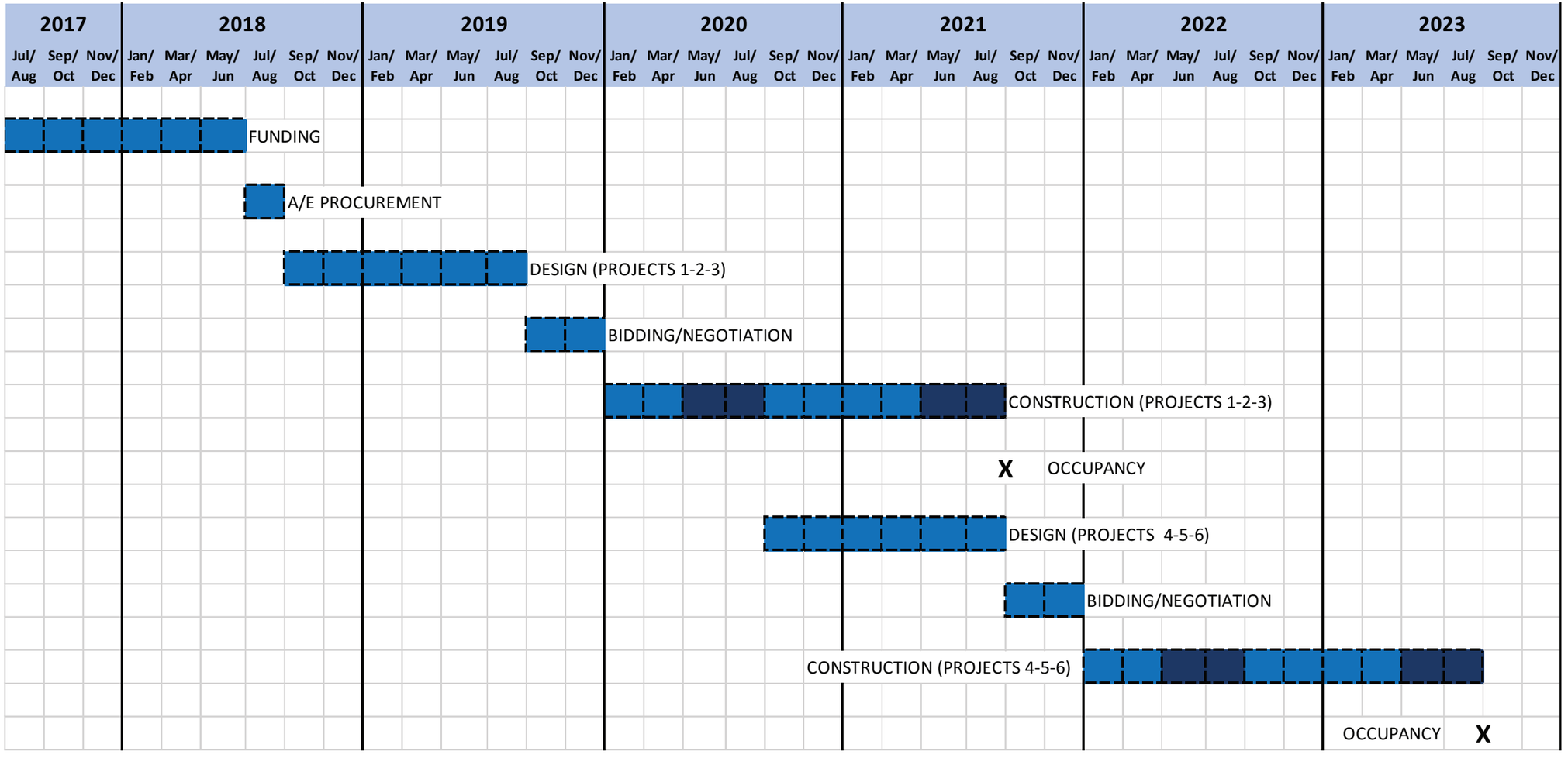
CHS
9-12



CCS GROWTH SCENARIOS & SCHEDULES

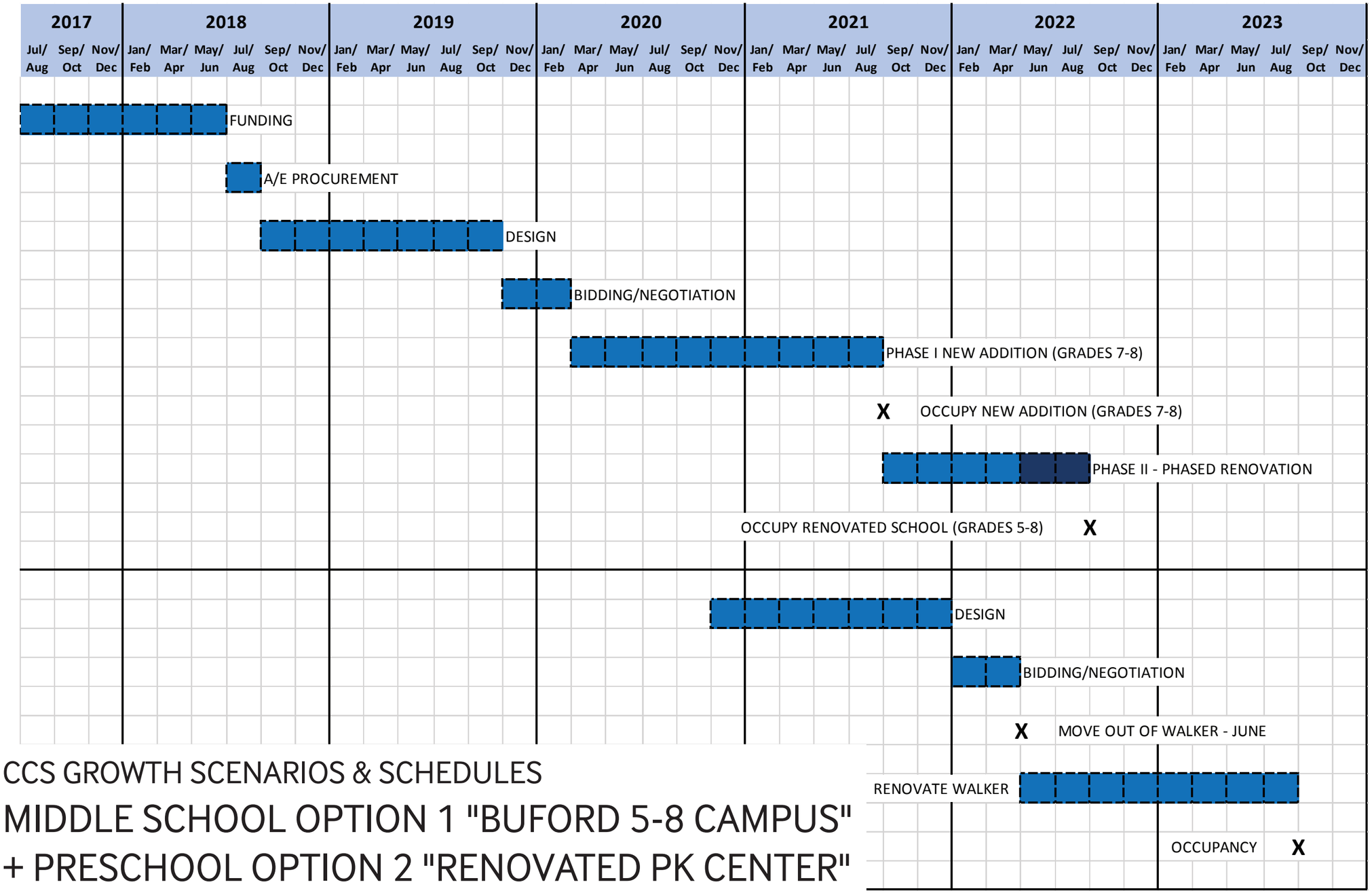
PRESCHOOL OPTION 1 "NEW PK CENTER"

OR ELEMENTARY SCHOOL OPTION 2 "NEW PK-4 ELEMENTARY"



CCS GROWTH SCENARIOS & SCHEDULES

ELEMENTARY SCHOOL OPTION 1 "DISPERSED ADDITIONS"



CCS GROWTH SCENARIOS & SCHEDULES

MIDDLE SCHOOL OPTION 1 "BUFORD 5-8 CAMPUS" + PRESCHOOL OPTION 2 "RENOVATED PK CENTER"