A Presentation to the
Norwood School Committee:

Goals of the Study & Long Range Plan

November 2016

Project Goals & Schedule

Goals of Study & Long Range Plan

- Accurately assess existing buildings and sites (physical condition)

- Provide strategies for maximum efficiency at each site including traffic, parking, playfields, pedestrian access, and neighborhoods

- **Evaluate existing educational facilities against 21st Century learning environments**

- **Determine educationally-apporopriate capacity at each facility**

- **Provide options for insuring all facilities are represetative of 21st Century learning environments**

- **Educate the committee and the community on 21st Century learning environments**

- Determine projected school enrollments for the town

- Determine financial impact of any proposed recommendations

Project Goals & Schedule

October 2016

- **Begin development of AutoCAD floor plans for each existing school**
- Review existing building reports and documents

November 2016

- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016

- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- **Review existing building reports and documents**

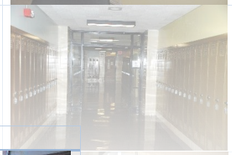
November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

SAVAGE CENTER
275 Prospect St, Norwood, MA

Cons
- 470V induction heaters are hazards; offices and extended day programs use them as storage shelves, which generate dangerous amounts of heat
- The building is not sprinklered
- All heat is electric and there is no air conditioning, even though the building operates all year long as various offices

- Lockers are obsolete now that the school is used as office space; create a dark and oppressive circulation route



CLEVELAND ELEMENTARY SCHOOL
33 George Willett Parkway, Norwood, MA

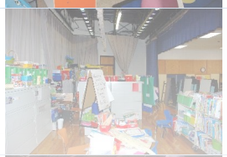
Cons
- 470V induction heaters are hazards; offices and extended day programs use them as storage shelves, which generate dangerous amounts of heat
- The building is not sprinklered
- There is no air conditioning

- Boilers (replaced in 2000) surrounded by storage is a potential hazard

WILLETT EARLY CHILDHOOD CENTER
100 Westover Parkway, Norwood, MA

Cons
- 470V induction heaters are hazards; offices and extended day programs use them as storage shelves, which generate dangerous amounts of heat
- The building is not sprinklered/fireproofed
- There is no air conditioning

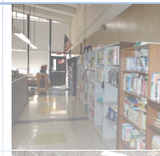
- Extremely overcrowded; stage is being used as the SPED and ELL classrooms, with additional classrooms partitioned off in the rest of the cafeteria
- With all those students in the same room, noise becomes an issue and there is less 1:1 attention between teacher and child



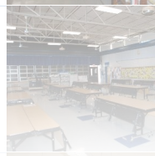
- Along the same lines of overcrowding, the gym is being divided to suit the needs of both a gym and library
- As a result, the library is loud, uncomfortable, and unorganized

PRESCOTT ELEMENTARY SCHOOL
66 Richland Rd, Norwood, MA

Cons
- Every square foot of available non-circulation space is used; the library and computer lab are housed in the open corridor
- By storing books, paper, the library, the admin desk, and extraneous office materials in what should be the egress corridors, there is a higher element of hazard present
- The building is not sprinklered or air conditioned

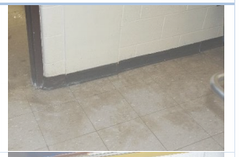


- 3 classrooms are located directly off the gym and 5 are located directly off the cafeteria; disruptive
- There are 3 lunch times per day, meaning that class is in session while students are having lunch right outside the door
- School is over-crowded



PHILIP O. COAKLEY MIDDLE SCHOOL
1315 Washington St, Norwood, MA

Cons
- Interior finishes show signs of old age and degradation
- Cafeteria and corridor tile is original



- Kitchen and cafeteria need updating
- All electric heat

BALCH ELEMENTARY SCHOOL
1168 Washington St, Norwood, MA

Cons
- School is land-locked in a dense neighborhood
- Baseball field used by community teams
- Most students walk to school
- Local leaders are sentimentally attached to the 103-year-old school, resisting its change or closure

- Kitchen is used as the main prep kitchen for all elementary schools; kitchens in the other elementary schools are only for re-heating
- Kitchen too small to accommodate so much prep and food storage; old appliances and no dishwashers (freezer and cooler are new though)

- Insufficient and unorganized storage; closets used by everyone and custodial

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

NESDEC

Norwood, MA Historical Enrollment

School District: **Norwood, MA** **10/25/2016**

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2001	392	2006-07	104	242	249	242	242	261	287	276	239	261	281	266	276	259	5	3386	3490
2002	387	2007-08	94	272	222	250	235	249	273	289	278	237	268	277	265	275	7	3397	3491
2003	413	2008-09	95	270	262	214	261	232	249	262	291	286	224	263	275	248	7	3344	3439
2004	371	2009-10	99	275	266	259	214	253	226	254	263	285	281	219	258	281	4	3338	3437
2005	364	2010-11	91	299	276	272	254	222	246	225	266	272	256	285	226	257	7	3363	3454
2006	364	2011-12	93	279	297	264	253	263	220	252	238	259	285	256	294	226	0	3386	3479
2007	362	2012-13	106	274	292	283	256	257	255	229	243	240	268	290	263	291	0	3441	3547
2008	407	2013-14	109	280	276	287	266	248	261	249	235	232	245	264	276	249	0	3368	3477
2009	365	2014-15	100	274	275	270	275	282	253	249	249	228	243	249	264	267	0	3378	3478
2010	382	2015-16	121	277	268	267	262	271	272	258	250	250	220	237	249	267	0	3348	3469
2011	402	2016-17	106	294	287	258	254	259	253	265	241	251	253	226	235	251	0	3327	3433

Historical Enrollment in Grade Combinations

Year	PK-K	K-5	1-5	K-8	5-8	6-8	7-8	7-12	9-12
2006-07	346	1523	1281	2299	1063	776	500	1582	1082
2007-08	366	1501	1229	2305	1077	804	515	1600	1085
2008-09	365	1488	1218	2327	1088	839	577	1587	1010
2009-10	374	1493	1218	2295	1028	802	548	1587	1039
2010-11	390	1569	1270	2332	1009	763	538	1562	1024
2011-12	372	1576	1297	2325	969	749	497	1558	1061
2012-13	380	1617	1343	2329	967	712	483	1595	1112
2013-14	389	1618	1338	2334	977	716	467	1501	1034
2014-15	374	1629	1355	2355	979	726	477	1500	1023
2015-16	398	1617	1340	2375	1030	758	500	1473	973
2016-17	400	1605	1311	2362	1010	757	492	1457	965

Historical Percentage Changes

Year	K-12	Diff.	%
2006-07	3386	0	0.0%
2007-08	3397	11	0.3%
2008-09	3344	-53	-1.6%
2009-10	3338	-6	-0.2%
2010-11	3363	25	0.7%
2011-12	3386	23	0.7%
2012-13	3441	55	1.6%
2013-14	3368	-73	-2.1%
2014-15	3378	10	0.3%
2015-16	3348	-30	-0.9%
2016-17	3327	-21	-0.6%
Change		-59	-1.7%

Project Goals & Schedule

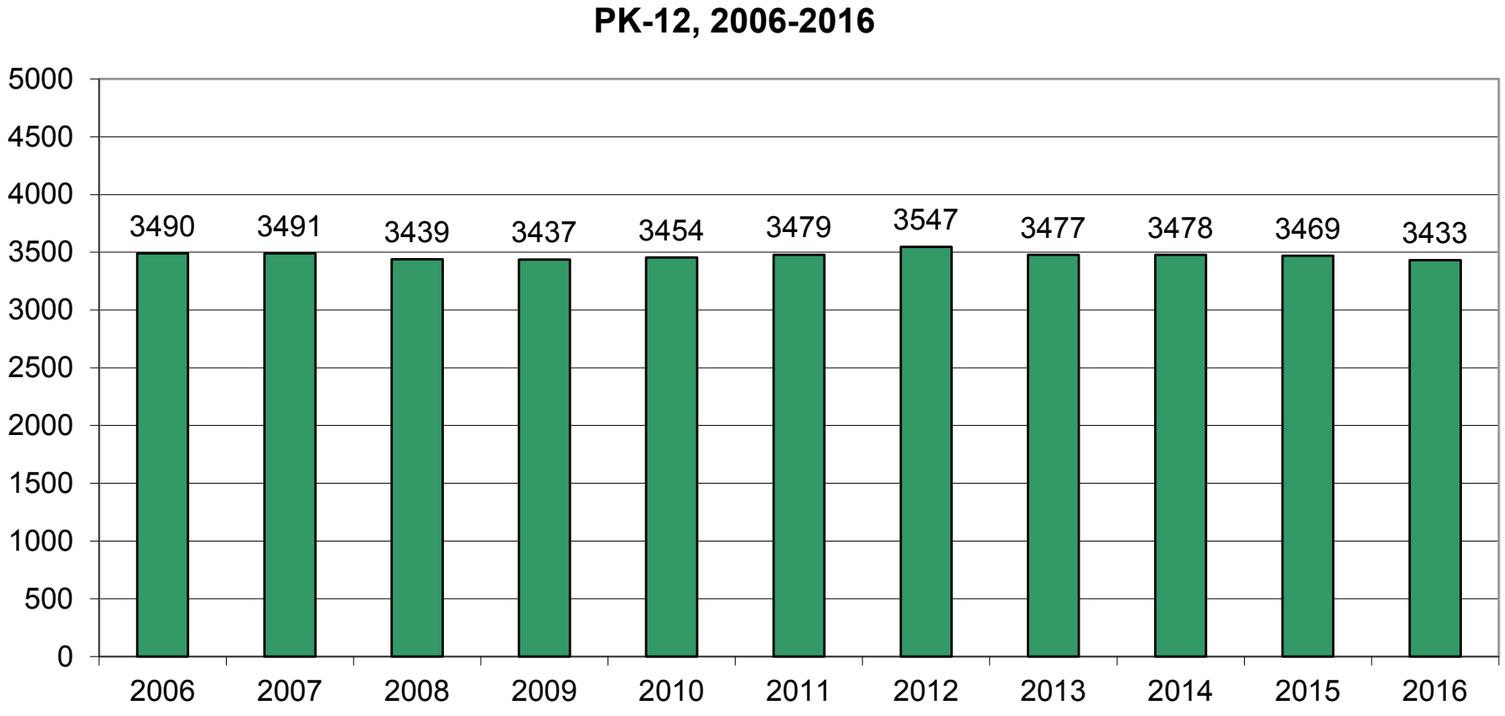
October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

NESDEC

Norwood, MA Historical Enrollment



Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

NESDEC

Norwood, MA Projected Enrollment

School District: **Norwood, MA** **10/25/2016**

Enrollment Projections By Grade*

Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2011	402		2016-17	106	294	287	258	254	259	253	265	241	251	253	226	235	251	0	3327	3433
2012	375		2017-18	106	276	294	279	248	255	253	249	261	239	253	255	225	234	0	3321	3427
2013	379		2018-19	106	279	276	285	268	249	249	249	245	259	241	255	254	224	0	3333	3439
2014	403		2019-20	106	296	279	268	274	269	243	245	245	243	261	243	254	253	0	3373	3479
2015	412	(prov.)	2020-21	106	303	296	271	257	275	263	239	241	243	245	263	242	253	0	3391	3497
2016	394	(est.)	2021-22	106	290	303	287	260	258	269	258	235	239	245	247	262	241	0	3394	3500
2017	393	(est.)	2022-23	106	289	290	294	276	261	252	264	254	233	241	247	246	261	0	3408	3514
2018	396	(est.)	2023-24	106	291	289	281	282	277	255	248	260	252	235	243	246	245	0	3404	3510
2019	400	(est.)	2024-25	106	294	291	281	270	283	271	251	244	258	254	236	242	245	0	3420	3526
2020	399	(est.)	2025-26	106	293	294	282	270	271	277	266	247	242	260	256	235	241	0	3434	3540
2021	396	(est.)	2026-27	106	292	293	285	271	271	265	272	262	245	244	262	255	234	0	3451	3557

*Projections should be updated on an annual basis in order to reflect changes in births, real estate sales, in-/out-migration of families, and housing construction.

Based on an estimate of births — Based on children already born — Based on students already enrolled

Projected Enrollment in Grade Combinations*

Year	PK-K	K-5	1-5	K-8	5-8	6-8	7-8	7-12	9-12
2016-17	400	1605	1311	2362	1010	757	492	1457	965
2017-18	382	1605	1329	2354	1002	749	500	1467	967
2018-19	385	1606	1327	2359	1002	753	504	1478	974
2019-20	402	1629	1333	2362	976	733	488	1499	1011
2020-21	409	1665	1362	2388	986	723	484	1487	1003
2021-22	396	1667	1377	2399	1001	732	474	1469	995
2022-23	395	1662	1373	2413	1003	751	487	1482	995
2023-24	397	1675	1384	2435	1015	760	512	1481	969
2024-25	400	1690	1396	2443	1024	753	502	1479	977
2025-26	399	1687	1394	2442	1032	755	489	1481	992
2026-27	398	1677	1385	2456	1044	779	507	1502	995

Projected Percentage Changes

Year	K-12	Diff.	%
2016-17	3327	0	0.0%
2017-18	3321	-6	-0.2%
2018-19	3333	12	0.4%
2019-20	3373	40	1.2%
2020-21	3391	18	0.5%
2021-22	3394	3	0.1%
2022-23	3408	14	0.4%
2023-24	3404	-4	-0.1%
2024-25	3420	16	0.5%
2025-26	3434	14	0.4%
2026-27	3451	17	0.5%
Change		124	3.7%

Project Goals & Schedule

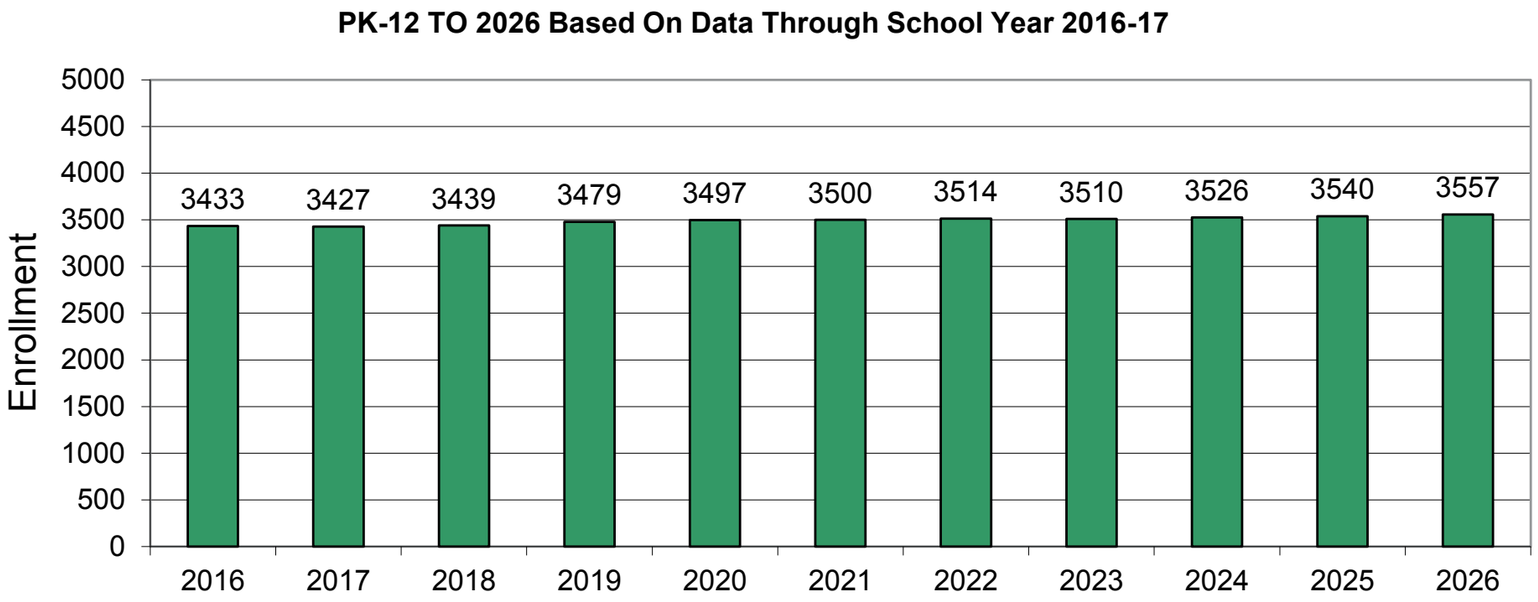
October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

NESDEC

Norwood, MA Projected Enrollment



Project Goals & Schedule

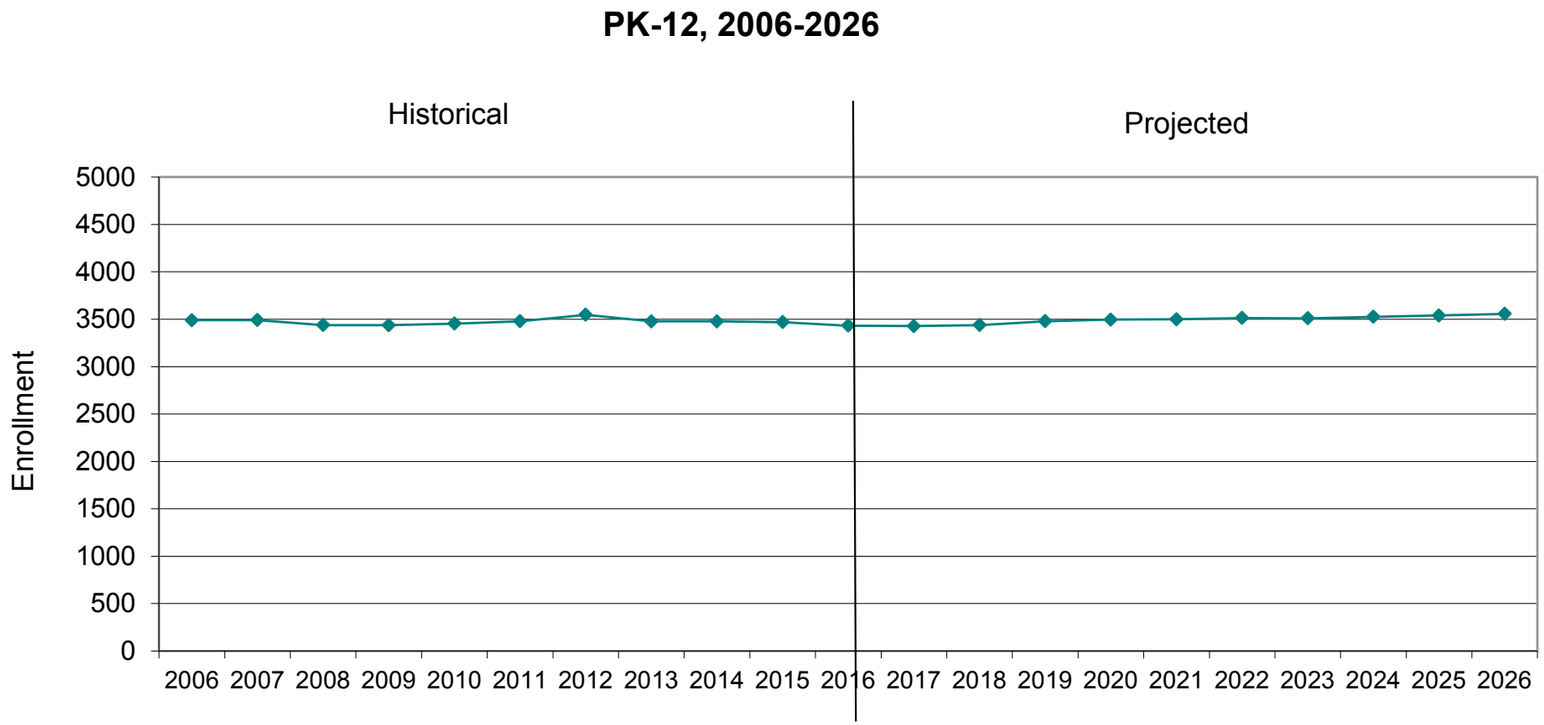
October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

NESDEC

Norwood, MA Historical & Projected Enrollment

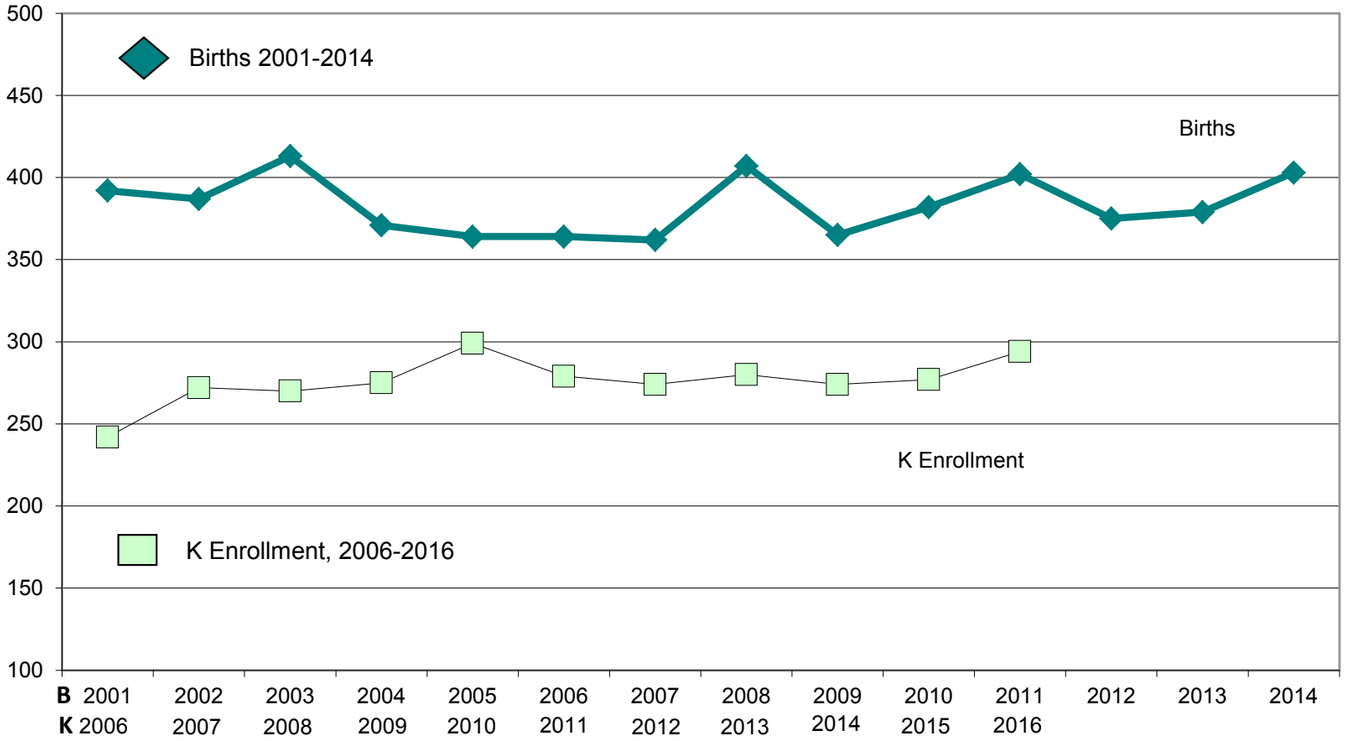


Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- **Begin demographic analysis for long range enrollment projections**
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

NESDEC

Norwood, MA Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	33	6
2012	5	12
2013	13	0
2014	9	0
2015	12	44
2016	11 to Jun 30	6 to Jun 30

Source: HUD and Building Department

Enrollment History		
Year	Voc-Tech 9-12 Total	Non-Public K-12 Total
2005-06	n/a	n/a
2012-13	81	478
2013-14	70	n/a
2014-15	n/a	427
2015-16	60	384
2016-17	64	n/a

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollment Jan. 1, 2016	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	35	29	29	24	32	26	33	30	40	21	26	33	26	384

K-12 Home-Schooled Students	
2016	20

K-12 Residents "Choiced-out" or in Charter or Magnet Schools	
2016	46

K-12 Special Education Outplaced Students	
2016	62

K-12 Choiced-In, Tuitioned-In, & Other Non-Residents	
2016	0

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- **Prepare space summaries for existing buildings**
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

Existing Space Summary- Elementary School

Balch Elementary School	Existing Conditions			PROPOSED									MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
				Existing to Remain/Renovated			New			Total						
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			**14,856**			**0**			**0**			**0**		**0**	**0**	
(List classrooms of different sizes separately)																
Pre-Kindergarten w/ toilet																1,100 SF min - 1,300 SF max
Kindergarten w/ toilet																1,100 SF min - 1,300 SF max
General Classrooms - Grade 1-5	700	20	14,000													900 SF min - 1,000 SF max
ESL Classroom	856	1	856													
SPECIAL EDUCATION			**0**			**0**			**0**			**0**			**0**	
(List rooms of different sizes separately)																
Self-Contained SPED																8% of pop. in self-contained SPED
Self-Contained SPED - toilet																
Resource Room																1/2 size Genl. Clrm.
Small Group Room / Reading																1/2 size Genl. Clrm.
ART & MUSIC			**867**			**0**			**0**			**0**			**0**	
Art Classroom - 25 seats																assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln																
Music Classroom / Large Group - 25-50 seats	867	1	867													assumed schedule 2 times / week / student
Music Practice / Ensemble																
HEALTH & PHYSICAL EDUCATION			**2,866**			**0**			**0**			**0**			**0**	
Gymnasium	2,438	1	2,438													6000 SF Min. Size
Gym Storeroom	248	1	248													
Health Instructor's Office w/ Shower & Toilet	180	1	180													
MEDIA CENTER			**1,460**			**0**			**0**			**0**			**0**	
Media Center / Reading Room	1,460	1	1,460													
DINING & FOOD SERVICE			**5,258**			**0**			**0**			**0**			**0**	
Cafeteria / Dining	2,753	1	2,753													2 seatings - 15SF per seat
Stage	874	1	874													
Chair / Table / Equipment Storage	428	1	428													
Kitchen	1,203	1	1,203													1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room																20 SF/Occupant
MEDICAL			**0**			**0**			**0**			**0**			**0**	
Medical Suite Toilet																
Nurses' Office / Waiting Room																
Examination Room / Resting																
ADMINISTRATION & GUIDANCE			**2,585**			**0**			**0**			**0**			**0**	
General Office / Waiting Room / Toilet	284	1	284													
Teachers' Mail and Time Room																
Duplicating Room	182	1	182													
Records Room	81	1	81													
Principal's Office w/ Conference Area	83	1	83													
Principal's Secretary / Waiting																
Assistant Principal's Office																
Supervisory / Spare Office	191	3	573													
Conference Room	486	1	486													
Guidance Office	240	2	480													
Guidance Storeroom	138	1	138													
Teachers' Work Room	278	1	278													
CUSTODIAL & MAINTENANCE			**2,198**			**0**			**0**			**0**			**0**	
Custodian's Office	60	1	60													
Custodian's Workshop	788	1	788													
Custodian's Storage	744	1	744													
Recycling Room / Trash																
Receiving and General Supply	356	1	356													
Storeroom	250	1	250													
Network / Telecom Room																
OTHER			**3,395**			**0**			**0**			**0**			**0**	
Other *(specify)*																
Boiler	966	1	966													
Storage (off Music)	366	1	366													
Equipment Garage	594	1	594													
Janitor	793	1	793													
Office (off Kitchen)	262	1	262													
Lobby	414	1	414													
Total Building Net Floor Area (NFA)			**33,485**			**0**			**0**			**0**			-	
Proposed Student Capacity / Enrollment			290												**0**	
Total Building Gross Floor Area (GFA)[2]			54,017												-	
Grossing factor (GFA/NFA)			**1.61**									**#DIV/0!**			**#DIV/0!**	

existing conditions

proposed conditions

MSBA guidelines

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- **Prepare space summaries for existing buildings**
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

Balch Elementary School	Existing Conditions		
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals
CORE ACADEMIC SPACES			**14,856**
(List classrooms of different sizes separately)			
Pre-Kindergarten w/ toilet			
Kindergarten w/ toilet			
General Classrooms - Grade 1-5	700	20	14,000
ESL Classroom	856	1	856
SPECIAL EDUCATION			**0**
(List rooms of different sizes separately)			
Self-Contained SPED			
Self-Contained SPED - toilet			
Resource Room			
Small Group Room / Reading			
ART & MUSIC			**867**
Art Classroom - 25 seats			
Art Workroom w/ Storage & kiln			
Music Classroom / Large Group - 25-50 seats	867	1	867
Music Practice / Ensemble			
HEALTH & PHYSICAL EDUCATION			**2,866**
Gymnasium	2,438	1	2,438
Gym Storeroom	248	1	248
Health Instructor's Office w/ Shower & Toilet	180	1	180
MEDIA CENTER			**1,460**
Media Center / Reading Room	1,460	1	1,460
DINING & FOOD SERVICE			**5,258**
Cafeteria / Dining	2,753	1	2,753
Stage	874	1	874
Chair / Table / Equipment Storage	428	1	428
Kitchen	1,203	1	1,203
Staff Lunch Room			
MEDICAL			**0**
Medical Suite Toilet			
Nurses' Office / Waiting Room			
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			**2,585**
General Office / Waiting Room / Toilet	284	1	284
Teachers' Mail and Time Room			
Duplicating Room	182	1	182
Records Room	81	1	81
Principal's Office w/ Conference Area	83	1	83
Principal's Secretary / Waiting			
Assistant Principal's Office			
Supervisory / Spare Office	191	3	573
Conference Room	486	1	486
Guidance Office	240	2	480
Guidance Storeroom	138	1	138
Teachers' Work Room	278	1	278
CUSTODIAL & MAINTENANCE			**2,198**
Custodian's Office	60	1	60
Custodian's Workshop	788	1	788
Custodian's Storage	744	1	744
Recycling Room / Trash			
Receiving and General Supply	356	1	356
Storeroom	250	1	250
Network / Telecom Room			
OTHER			**3,395**
Other *(specify)*			
Boiler	966	1	966
Storage (off Music)	366	1	366
Equipment Garage	594	1	594
Janitor	793	1	793
Office (off Kitchen)	262	1	262
Lobby	414	1	414
Total Building Net Floor Area (NFA)			**33,485**
Proposed Student Capacity / Enrollment			290
Total Building Gross Floor Area (GFA)[2]			54,017
Grossing factor (GFA/NFA)			**1.61**

existing conditions

CORE ACADEMIC SPACES			**14,856**
(List classrooms of different sizes separately)			
Pre-Kindergarten w/ toilet			
Kindergarten w/ toilet			
General Classrooms - Grade 1-5	700	20	14,000
ESL Classroom	856	1	856
SPECIAL EDUCATION			**0**
ART & MUSIC			**867**
HEALTH & PHYSICAL EDUCATION			**2,866**
MEDIA CENTER			**1,460**
DINING & FOOD SERVICE			**5,258**
MEDICAL			**0**
ADMINISTRATION & GUIDANCE			**2,585**
CUSTODIAL & MAINTENANCE			**2,198**
OTHER			**3,395**

add program square footages

Total Building Net Floor Area (NFA)			**33,485**
Proposed Student Capacity / Enrollment			290
Total Building Gross Floor Area (GFA)[2]			54,017
Grossing factor (GFA/NFA)			**1.61**

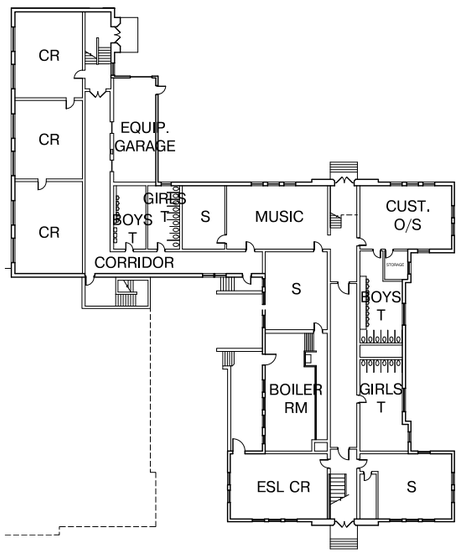
how efficiently the existing building is using its square footage

Project Goals & Schedule

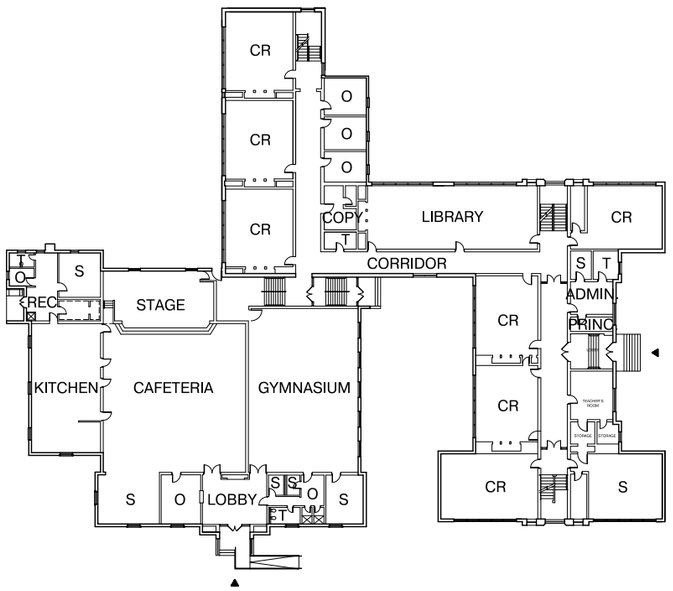
October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

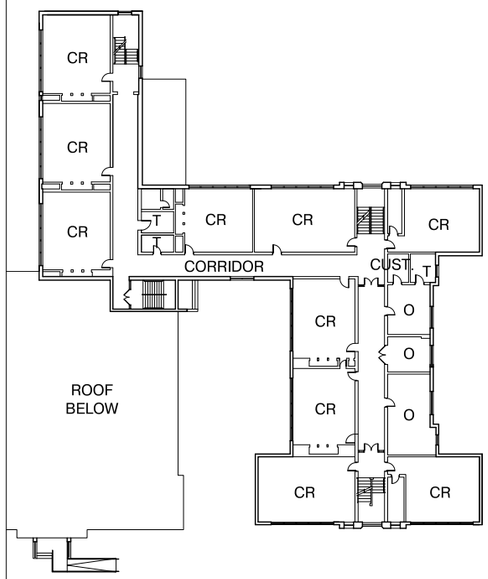
December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



FL. G



FL. 1



FL. 2

526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

BALCH ELEMENTARY SCHOOL
Norwood, MA

SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

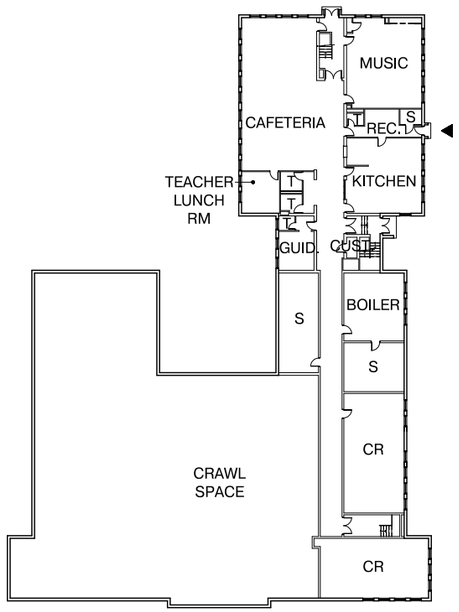
N

Project Goals & Schedule

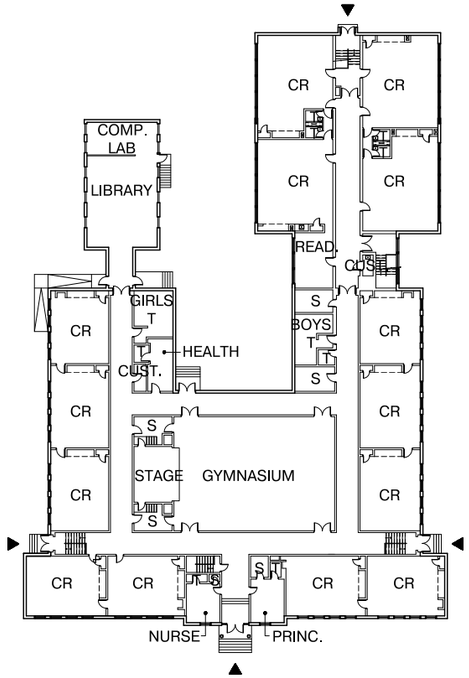
October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



FL. G



FL. 1

526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

CALLAHAN ELEMENTARY SCHOOL
Norwood, MA

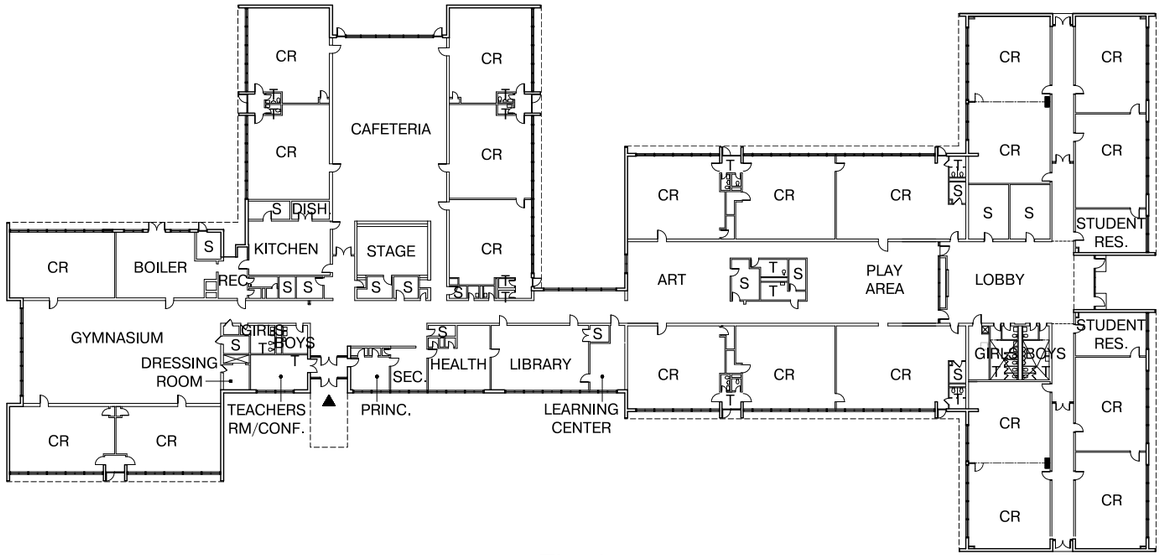
SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



FL. 1

526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

CLEVELAND ELEMENTARY SCHOOL
Norwood, MA

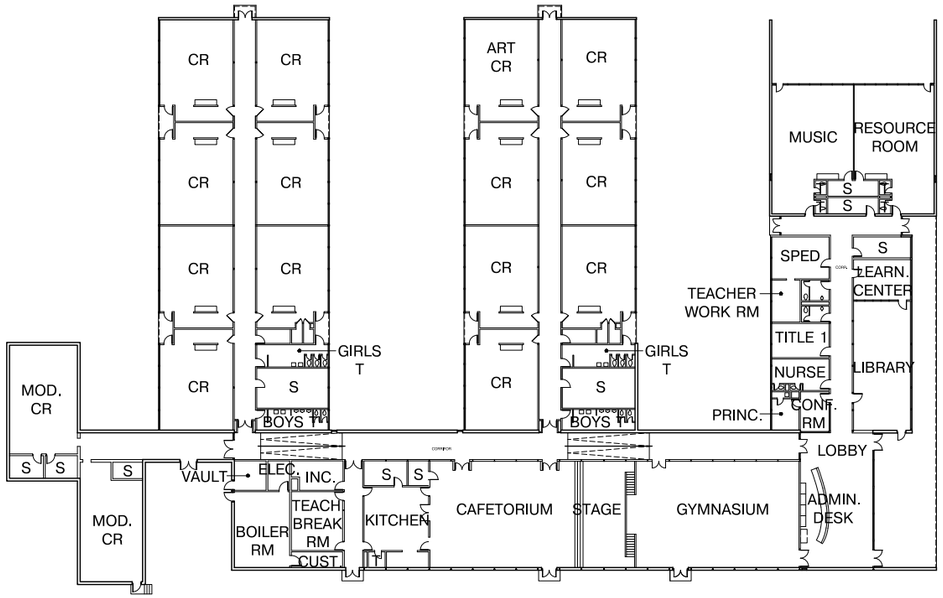
SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



FL. 1

526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

OLDHAM ELEMENTARY SCHOOL
Norwood, MA

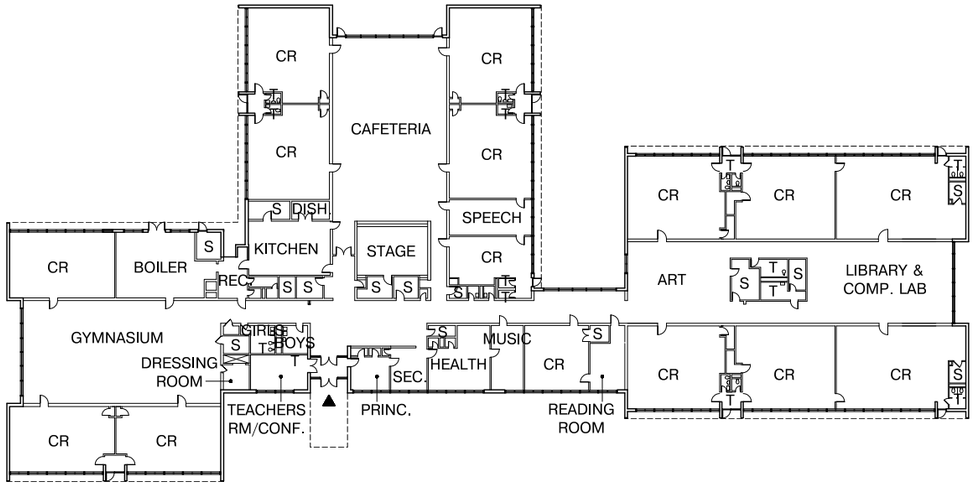
SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



FL. 1

526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

PRESCOTT ELEMENTARY SCHOOL
Norwood, MA

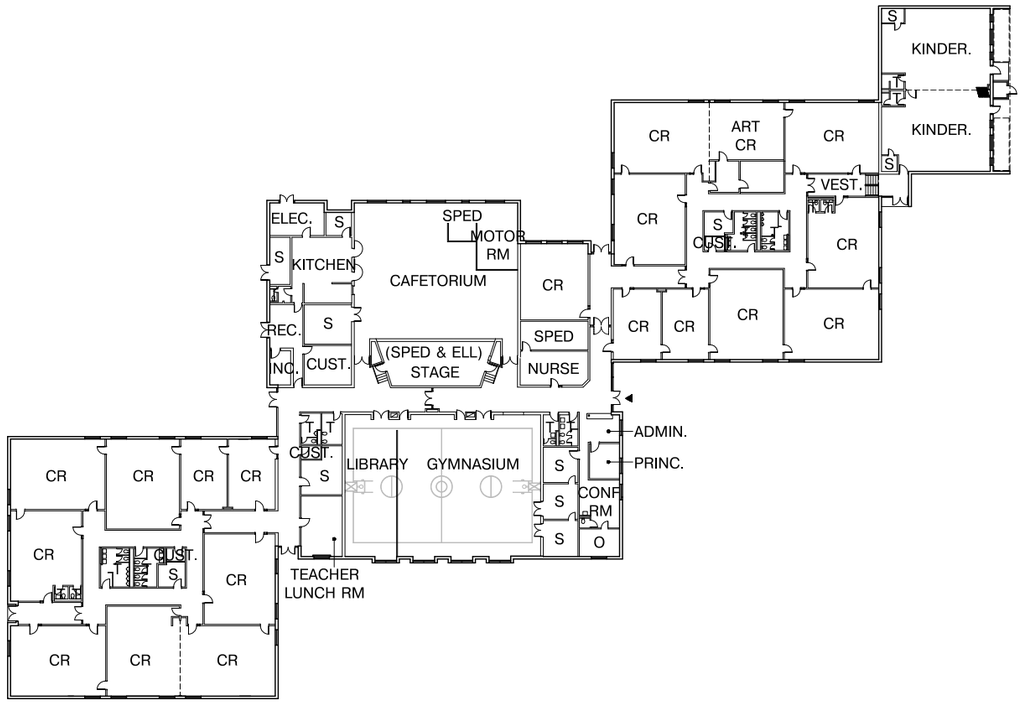
SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis



FL. 1

526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

WILLETT EARLY CHILDHOOD CENTER

Norwood, MA

SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

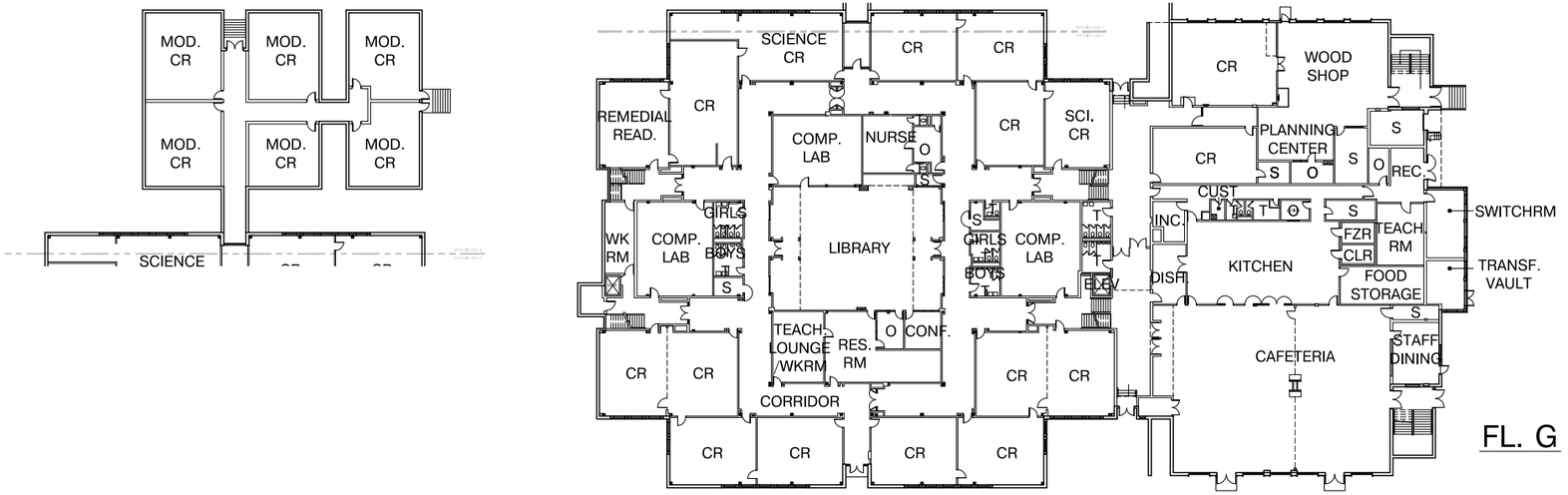
N

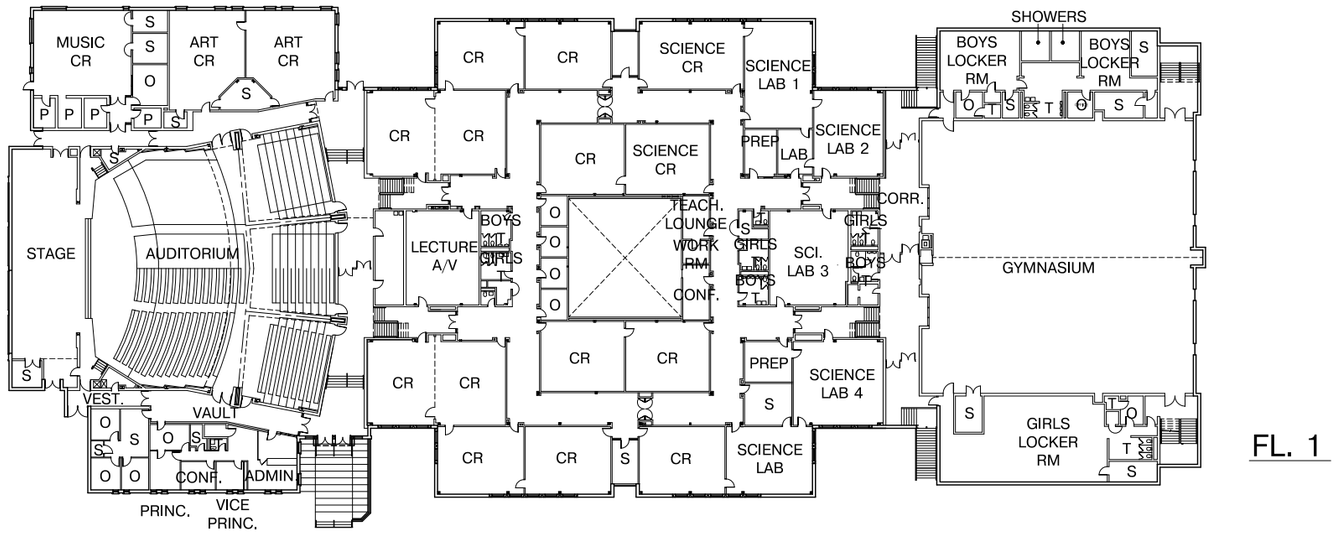
Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis





526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

COAKLEY MIDDLE SCHOOL
Norwood, MA

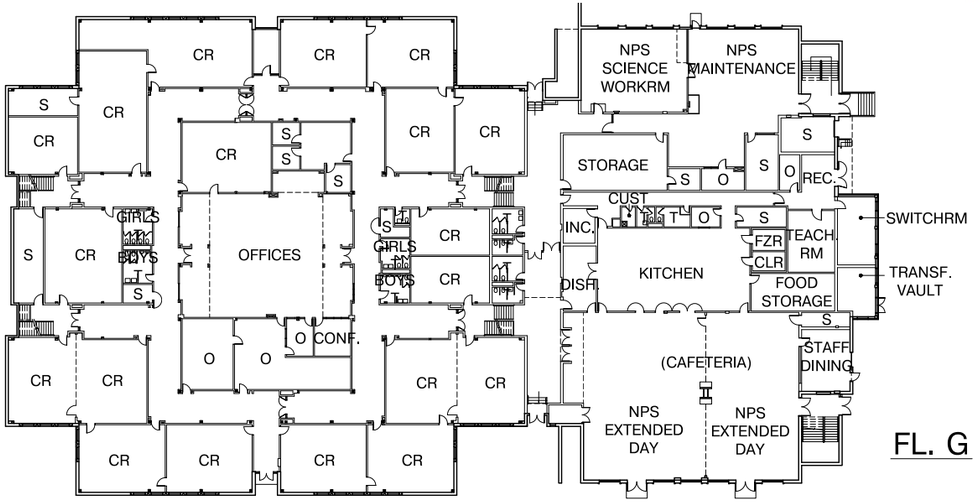
SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

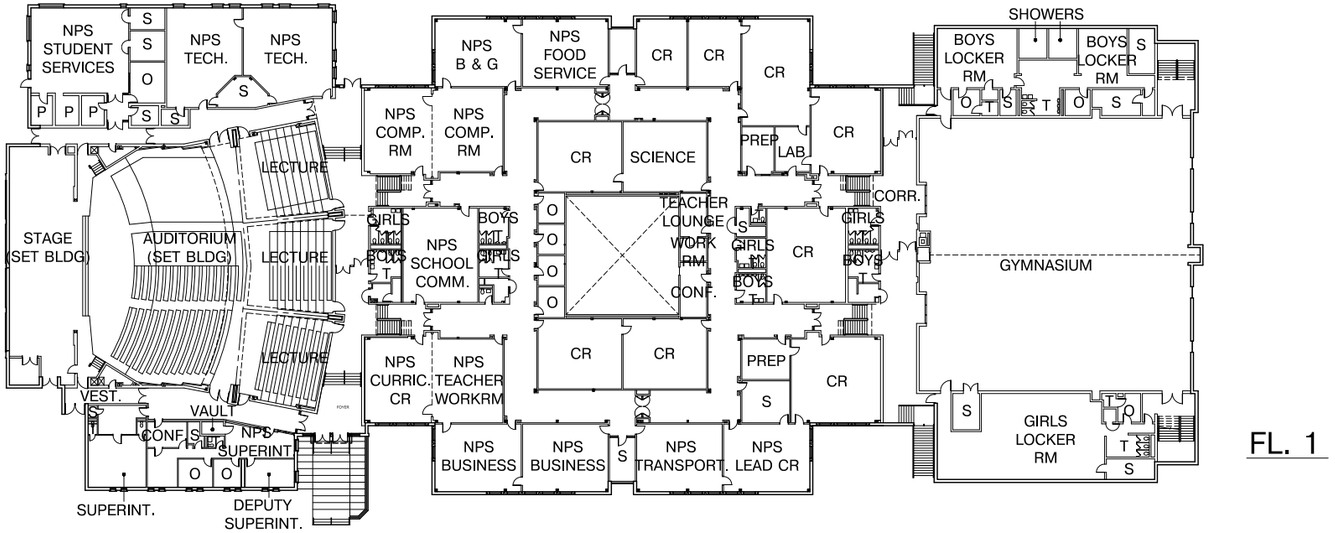
Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- **Continue development of AutoCAD floor plans**
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis





526 Boston Post Road
Wayland, MA 01778
TEL. 508.358.0790
FAX. 508.358.0791

SAVAGE EDUCATIONAL CENTER
Norwood, MA

SCALE:	1/16" = 1'-0"
JOB NO:	1606.00
DATE:	Nov. 2016

Project Goals & Schedule

October 2016

- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016

- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- **Begin site analysis of existing schools**
- Begin building analysis of existing schools
- Meet with school administration and building principals (one-on-one)

December 2016

- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

Project Goals & Schedule

October 2016

- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016

- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- **Begin building analysis of existing schools**
- Meet with school administration and building principals (one-on-one)

December 2016

- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

design, there has been much change in the organizational and educational strategies employed in an educational environment, and there has been significant advancement in our understanding of the environmental factors that can influence teaching and learning. Additionally, many decades of focus on energy conservation have yielded dramatic improvements in the physical components and systems of a modern school building, resulting in buildings which are much more energy efficient than those constructed 50 years ago. Our goal in evaluating each of the existing Norwood schools is not only to assist the reader in understanding any physical deterioration of the building's components or systems that must be addressed in the future, but to also inform the reader about the environmental, educational, energy efficiency, or organizational deficiencies that exists within the building when compared to a modern 21st century school facility.

GENERAL

Balch Elementary School, constructed in 1913, is the oldest operating school facility in Norwood. Two additions have been constructed during its lifetime: a classroom addition in 1923, followed by a cafeteria and gym addition in 1965. The facility currently houses first through fifth grade.

maintaining the building's interior finishes, the overall appearance of the building's interior is very good, but can be deceptive in defining the building's overall condition. Many of the major building systems lurking behind the nicely maintained interior finishes have now reached or surpassed their intended life expectancy and will have to be addressed in the near future. The 100-year-old building lacks many of the educational amenities featured in a modern 21st Century elementary school. The building will soon require comprehensive renovation to many of the major building systems and components in order to avoid costly failures which may also disrupt the teaching and learning environment. Depending on the magnitude of proposed renovations, some additional code compliance and regulatory requirements will be triggered as part of the required renovations. Required renovations may also trigger a number of handicap accessibility requirements throughout the building. Additionally, if the Town wishes to receive reimbursement funding from the Massachusetts School Building Authority (MSBA) for any proposed project which goes beyond window, roof, or boiler replacement, the project will have to fully address educational deficiencies within the school such as undersized classrooms, lack of specialized classrooms, insufficient special education space, and outdated classroom amenities. Despite the inherent character and charm of the vintage Balch school, this kind of 100 year-old-facility generally requires a rather comprehensive renovation of building systems, unless the Town is willing to address unanticipated and disruptive system repair and replacement on an emergency basis. A comprehensive renovation to address all issues for decades to come is a significant project, and extends well beyond a series of capital improvements.

EDUCATIONAL PLAN ORGANIZATION

The Balch Elementary School is a 51,500 square foot, three story facility, with a student population

AIS Architects, LLC HP21 Balch Elementary School

DRAFT – 11/14/16

The basement level of the building is a mix of service, support, and academic spaces. The Music Classroom, located on this level, occupies a space which is open to the egress stairs (no longer allowed by the MA building code) and adjacent to the boiler, custodian, and toilet rooms. Though the rooms are generous, their basement level location limits natural daylight in many of these spaces to small windows which are above eye level, resulting in rooms which are undesirable for full day occupancy. Approximately half of the basement level footprint is only a crawl space for access to piping distribution and building systems. The main (first) floor of the building includes the primary building entry point, and the administrative offices. These offices are unusually small and limiting, even for a building of this era, resulting in significant functional and administrative challenges, as parents, students, and office equipment and workspace spills out into the corridor and down the hallway and administrators and secretaries squeeze into cramped work areas. The library, cafeteria, and gymnasium are all located on the main floor level, and occupy excellent functional and centralized locations. Academic classrooms exist on the main and second floor levels, and are nicely clustered to help break down the scale of the grade-level academic neighborhoods. Support offices are distributed throughout the main and second floor, their adequacy will be evaluated as part of the educational analysis.

The current building plan, constituted under an industrial revolution model, isolates each classroom from its surrounding neighborhood

considered when evaluating options for future renovation and long-term use of the Balch Elementary School building.

The building's main floor level is located above the surrounding site elevation by approximately half of a floor level, burying the basement by approximately 7'. This was a popular approach in the 1800s, when it was felt that burying a lower floor level (partial basement) was a cost-effective means for reducing the building height and thus reducing the amount of exposed exterior wall that had to be constructed. Unfortunately, this approach provides two major challenges to modern handicap accessibility and building security requirements: 1) It requires an elaborate system of ramping and/or elevators to provide accessibility at the building's primary entrance, 2) It presents security challenges in that it allows someone to enter the building and immediately be inside the classroom corridor with students without any requirement to pass through an administrative control point. The location of the building's main administration area is convenient to the front entry along Washington Street, and central to both side parking lots. However, the building's lack of a control vestibule in this area does not provide the required observation and control of visitors entering the building. The school department is to be commended for the addition of a video entry system at this main door in recent years; however, future plans should evaluate modifications that provide a higher level of security for students and staff. The 1965 cafeteria and gym addition includes an entry lobby directly off the main parking lot. Although this entry is excellent for promoting and supporting community use of the space, it also requires security considerations to ensure that this highly utilized entry does not allow unwanted visitors. Upon entry, one immediately has access to the two largest gathering spaces in the building, spaces which are occupied by students for much of the day. This condition should be evaluated as part of any future planning. School security and safety strategies have evolved dramatically over

AIS Architects, LLC HP22 Balch Elementary School

DRAFT – 11/14/16

Additionally, the classroom addition results in an organization of classroom groups into small academic grade-level neighborhoods. However, these classroom neighborhoods do not include common areas for student projects, exhibits, or team teaching. They also lack project-based learning labs, small group instruction rooms, teacher planning areas, and student/teacher work areas which are common in modern elementary school environments. The undersized classrooms are stacked along a corridor with no strategy for organizing them into teams or academic neighborhoods. There are a few individual offices, but there is no incorporation of planning areas for faculty and staff and no incorporation of smaller group rooms to support testing, partnering, or small group instruction.

The student dining area is located on the main level of the building. It includes a small stage on the south end, but lacks the flexibility often incorporated into a modern student dining, socialization, and learning area. It was designed as a 1960's model for student dining, which assumed students would sit in rows along linear tables and eat in shifts. Today, the modern cafeteria serves many purposes for students and staff, and is designed as a flexible space which provides all-day usage for exhibits, presentation, projects, and student socialization. Modernization of the current cafeteria for increased flexibility should be considered as part of any future planning for the building. There is no auditorium at Balch Elementary, as the small stage in the cafeteria functions as the available performance space in the building. This is not uncommon, even by today's standards, but several improvements could be made to enhance its use for student presentation and performance.

The Library/Media Center is located on the main floor level, and has a desirable central location within the building. As this space was originally two classrooms that have since been joined, it lacks the transparency often associated with the media center and its surrounding academic

lab space. A modern elementary school environment would include sufficiently sized classrooms and wireless computer access such that every classroom becomes a lab, rendering the use of dedicated computer labs as obsolete. However, these spaces tend to make excellent video production or broadcasting studios, which do require fixed amenities and equipment.

EXTERIOR ENVELOPE
(Foundations, Walls, Roof, Windows, and Doors)

FOUNDATION
The exterior poured concrete foundation walls appear to be in good condition with only minor cracking at a few locations. The school has a basement. (Refer to structural evaluation for additional information.)

WALLS

The exterior envelope of the building has seen little change since its original construction, with the 103-year-old exterior walls remaining very much as they were originally constructed. These walls consist of face brick and cut or cast stone panels, carvings, and water table. The face brick is backed up with concrete masonry unit blocks, which are exposed on the interior of the building in many locations. The appearance of a whitish deposit locally or uniformly over the surface may be efflorescence, the surface deposition of soluble

AIS Architects, LLC HP23 Balch Elementary School

DRAFT – 11/14/16

salts. There are numerous sources for the soluble salts which create the hazy appearance; salts can originate from mortar, improper cleaning agents, rising damp, de-icing salts, chemical landscaping treatments or air pollution.

Both the face brick and the stone show some signs of efflorescence. This is a salt residue which generally indicates some form of moisture problem, salt migration and/or sub-florescence. It should be considered a symptom which should be investigated in more detail as part of any proposed renovations, in an effort to identify the source of the soluble salts and/or the moisture. Corrective action should then be taken to eliminate both if possible.

The existing mortar joints in the brick are somewhat chalky, deteriorating, and missing in places. The two most important qualities of mortar are its ability to bond to masonry (brick) and its internal strength. A sign of poorly made mortar can be random cracking at the bond joints, the Balch Elementary School does not suffer from this condition. At the time that the original Balch was constructed, the standard mortar for masonry was a mixture of sand and pure lime or lime-pozzolan-sand. These low-strength mortars gave masonry the ability to absorb considerable strain. Accordingly, the tendency to crack was reduced and when cracks did appear in the mortar joints, they were capable of chemical reconstitution or self-healing. Thus, mortar joints of this era can survive for a very long time. However, the one enemy of this (soft) mortar composition is long-term exposure to moisture. Over time, the joint deteriorates and becomes even softer than its original composition. This deterioration is compounded by increased exposure to moisture such as a leaking downspout. The mortar deterioration at the Balch Elementary School is not a sign of an unsound wall, but instead is a result of years of exposure and simply requires repointing of the necessary joints. The newly installed joints must be of the same composition such that they can flex with or act in a similar way to the rest of the joint. Additionally, it is important to recognize that mortar acts as a drainage system to equalize hydrostatic pressure within the masonry wall. Nothing should be done to reduce its porosity and thereby block water flow to the exterior surface. For this reason, sealants applied directly to the brick surface are rarely a good idea and do not represent a long-term solution.

Repointing the exterior wall surfaces, combined with limited masonry renovation will allow the building's exterior wall system to remain functional for many decades. The original

renovation of the building. The basement level of the building includes exterior window grates that were added subsequent to the original construction. These show evidence of deterioration and water damage and their repair and/or replacement should be considered as part of any proposed renovations.

Building reports maintained by the facilities department indicate that the front steps were repaired in 2016. A site inspection has confirmed this work.

ROOF

The roofing system at the Balch Elementary School has been replaced on multiple occasions, as would be true of any building of this age. The last replacement occurred in 2002, and included a rubber membrane system (EPDM - ethylene propylene diene monomer) over the entire roof area. It does not appear that any insulation has ever been added to the roof system. Though the replacement may be considered a recent capital project, the life expectancy of a rubber membrane roof is approximately 20 years, which means the existing roof will need to be addressed again

In 2002 the exterior windows of the building were replaced with single-hung aluminum windows with insulated glass. The ground floor windows are covered with metal mesh screen for protection. These new windows significantly improved the thermal characteristics of the building and eliminated moisture infiltration that was occurring around the old windows. However, although the 2002 replacement window system represented the respectable standards at the time, it is important to note that recent focus on energy conservation has since resulted in the Commonwealth's adoption of significantly higher energy code standards. These standards yielded much higher performing windows and glass within the industry, and the potential benefits and requirements for new windows should be evaluated as part of any comprehensive renovation to the current facility. The window system would likely be almost 20 years old at that time, and would certainly not meet new standards. Additionally, improvements required by the energy code continue to evolve, and it's possible that replacement might be a requirement at that time.

DOORS
As part of the window replacement project, the exterior doors to the building were also replaced. The doors are constructed of metal, and have vision panels inserted within metal frames. Overall the door systems remain in good condition.

INTERIOR
(Floors, Walls, Doors, and Ceilings)

FLOORS
There are numerous floor materials throughout the building. These finishes include the following: painted concrete on the ground floor, original hardwood on the first and second floor corridors

and often covered with area rugs in order to increase comfort for the students and to decrease noise levels associated with reverberation on the hard surfaces. The joints between dissimilar flooring materials, including ceramic tile in toilet rooms, often vary significantly in height resulting in abrupt flooring transitions. These abrupt transitions create handicap accessibility challenges and will need to be addressed as part of any future renovations.

The wood flooring in the gymnasium visually appears to be in fair condition, showing signs of wear as a result of its many years of service. The system has likely been sanded many times, reducing its overall thickness and strength. Many of these older gym wood flooring systems had a limited number of wood sleepers (support members) underneath and relied heavily on the integrity of the finished tongue-and-groove wood flooring. The current system has exceeded its intended life expectancy and should be further reviewed as part of any future renovations.

WALLS
The ground floor interior walls are painted brick or concrete masonry units (CMU), and the first

products, and equipment. This makes accessing the items inefficient and cumbersome.

The walls within the cafeteria are painted CMU, in good condition. They currently incorporate one band of 4'-0" high acoustical panels for sound absorption in the space.

The walls in the gymnasium are painted CMU with no bleachers. The walls of the space do not have any acoustical treatment for absorbing or reflecting sound in the space.

DOORS
The interior painted wood doors with hollow metal frames throughout the school are original, and are in poor-to-fair condition. Hollow metal doors are present in the addition. Many of them show signs of wear and chipped paint. The current door hardware lacks many of the modern safety and security features, and is difficult to operate. Therefore, the staff currently applies a magnetic strip to subract the latching mechanism during the school day, and will remove the strip if locking is required as a security measure. The classroom doors vary in style, but all have some amount of glass within the door or as part of a transom panel above the door. These older doors provide very little acoustical separation between the corridor and classroom when compared to modern doors and construction standards. Although the glass found in the corridors represents typical standards (wired glass) at the time it was installed, modern codes, regulations, and standards would require that this glass be fire rated and provide a greater degree of fire separation between the classroom and the exit corridor. The doors from the corridor to the egress stairs also lack compliance with modern codes, regulations, and standards and do not provide the necessary fire ratings for protection of the egress stairways.

Project Goals & Schedule

October 2016
- Begin development of AutoCAD floor plans for each existing school
- Review existing building reports and documents

November 2016
- Begin demographic analysis for long range enrollment projections
- Prepare space summaries for existing buildings
- Continue development of AutoCAD floor plans
- Begin site analysis of existing schools
- Begin building analysis of existing schools
- **Meet with school administration and building principals (one-on-one)**

December 2016
- Finalize building analysis of existing schools
- Finalize site analysis of existing school sites
- Finalize space summaries for existing schools
- Finalize demographic analysis

8:45 am

Balch Elementary
Jean Selines

9:30 am

Coakley Middle School
Jackie Mann

10:15 am

Cleveland Elementary
Nancy Cappola

11:00 am

Willett Early Childhood
Diane Ferreira

11:45 am

Oldham Elementary
Wes Manaday

1:00 pm

Callahan Elementary
Bob Griffin

1:45 pm

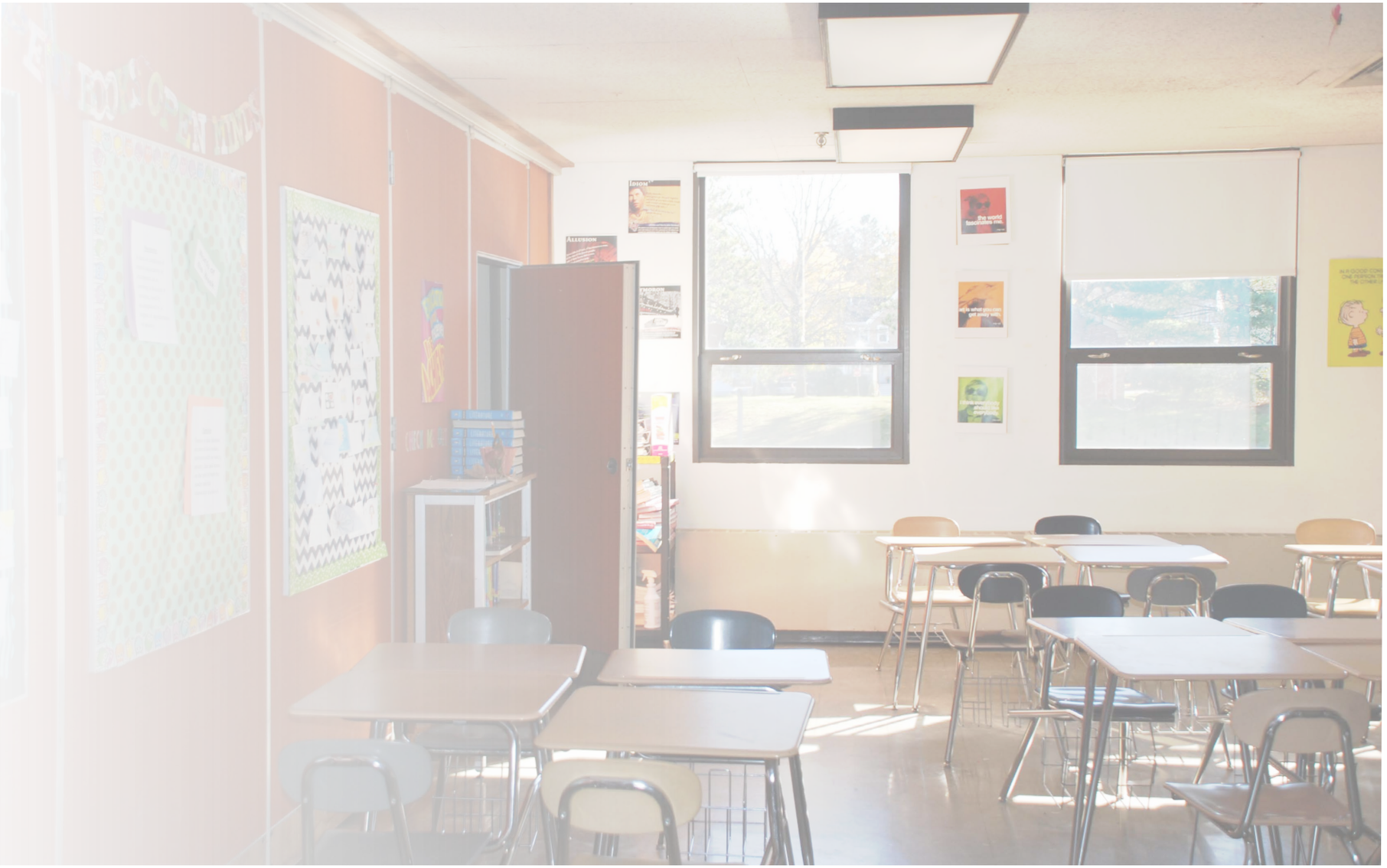
Prescott Elementary
Brianne Killion

Project Goals & Schedule

January 2017
- Present building analysis
- Present site analysis
- Present space summaries
- Present demographics
- Begin educational programming and master planning

February 2017
- Present preliminary options for educational programming and master plan

March 2017
- Present updated options for educational programming and master plan

April 2017
- Present draft report

May 2017
- Present final report and schedule community presentations