

Facility Study for the Brentwood Borough School District



HHSDR ARCHITECTS / ENGINEERS

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- 201 Century Building
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Pittsburgh, Pennsylvania 15222-3413



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Commission #4115

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The Facility Study data was accumulated through site visitations, investigation, research, and interviews with District Staff and Administrators. It is organized to provide the following information:

- Enrollment Projections and Building Capacities
- Building Evaluations
- Construction Options and Budgets

Architects and Engineers from HHSDR have toured each building with District Staff. We have reviewed the facilities and compared their condition against present-day building codes and regulations, educational guidelines and operational needs.

The team also met with the Administrators to obtain their perspective and better understand the future educational goals of the District.

Comparisons of enrollments versus building capacities were made to determine space adequacy. This analysis also includes a preliminary determination of state reimbursement and financing requirements.

The following information on the Brentwood Borough School District is taken from their website, which is accessed by this URL: <http://www.bb-sd.com/index.asp>.

The District is situated in the South Hills of Allegheny County and educates more than 1,200 students from the Borough of Brentwood. This suburb of Pittsburgh was incorporated November 6, 1915, and contains almost 930 acres, or approximately 1.5 square miles. The 2010 US Census reported a population of 9,643 citizens, down from the 10,466 residents reported in 2000. The estimated population in 2016 was 9,422.

The Brentwood Borough School District is comprised of two elementary schools serving grades K-5, and a combined middle/high school serving grades 6-12.

The Administrative Offices are located at the High School at 3601 Brownsville Road, Brentwood, Pennsylvania, 15227-3117. Seven (7) staff members are housed at the DAO.

District-Wide Staff assigned to multiple school buildings total 14, and include library, art and music specialists, the elementary nurse, speech and special education services.

Elroy Elementary School staff numbers 25, including 15 teachers: Kindergarten (3), 1st Grade (3), 2nd Grade (2), 3rd Grade (2), 4th Grade (2), 5th Grade (2) and Physical Education (1).

Moore Elementary School staff numbers 22, including 12 teachers: Kindergarten (2), 1st Grade (2), 2nd Grade (2), 3rd Grade (2), 4th Grade (2), 5th Grade (1) and Physical Education (1).

Middle/High School staff numbers 56, including 46 teachers and aides: Art/Music (3), English/ESL/Language Arts/Foreign Languages (9), Health/Physical Education (4), History/Social Studies (7), Mathematics (6), Sciences (7), Special Education/Learning Support/Paraprofessional (7), Technology/Industrial Arts (3).

The study has been prepared by HHSDR Architects / Engineers of Sharon and Pittsburgh, Pennsylvania.

Over the past 64 years, HHSDR has served as the Architect for many school districts across the state. It has performed services on a wide range of construction projects, and has completed facility studies for hundreds of educational buildings in the Commonwealth.

The professionals who prepared the study are:

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METHODOLOGY

The format of this analysis and report follows Pennsylvania Department of Education's (PDE) guideline for facility studies.

The District's buildings have been analyzed by Architects and Engineers using PDE standards and guidelines for determining building capacities, educational programs and condition of major components. Prevailing standards and codes were utilized to evaluate components such as soundness of structure, building envelope, heating / plumbing / electrical systems, physical accessibility, asbestos containing materials and energy efficiency. The present building conditions were rated on the basis of excellent, good, fair or poor.

Enrollment projections prepared by PDE were reviewed and compared to the current enrollment figures provided by the District.

Proposed building reconfiguration solutions are presented in conceptual and programmatic form. The proposed solutions show space allocations necessary for construction and renovation priorities identified by the Board and Administration. The financial impact on the District is shown using current market construction costs. Escalation of costs into the future has not been projected.

All three schools have been well maintained, and the District effectively utilizes the buildings by capturing and using all available space. Improvements have been completed at all of the District's buildings throughout their history, most recently during the 1990's.

The historic Elroy Elementary School (1920) was identified to have some 22 capital improvement needs, ranging from items associated with the building envelope (roof system, windows and masonry) to building infrastructure (lighting, air conditioning and boilers and pumps). The overall building condition rating per the definitions in the Appendix is "Fair".

The historic Moore Elementary School (1914) was identified to have an almost identical list of capital improvements needs, as would be expected with a building of its vintage. The overall building condition rating per the definitions in the Appendix is also "Fair".

Brentwood Middle/High School (1939) contains also the offices for District Administration. It also has an expected set of capital improvements needs, which include items specific to the swimming pool, gymnasiums, auditorium and stage, cafeteria and kitchen and other common areas. Other needs include the exterior envelope such as roof and windows and various educational needs in areas like technology, media center, science etc. The overall building condition rating per the definitions in the Appendix is also "Fair".

Aside from reviewing the physical plant improvements, discussions also took place regarding each building's programmatic needs, to determine where spaces need to be modified, enlarged or relocated within the buildings in order to accommodate changes in the educational program or state mandates. These discussions should continue as the District moves forward to upgrade the facilities and they may determine overall improvements and option selection.

Whether the School District decides to pursue all the improvements needed at one time or address them in a piecemeal fashion, certain building components and systems need to be addressed before they significantly impact the students and staff in the building or the educational program.

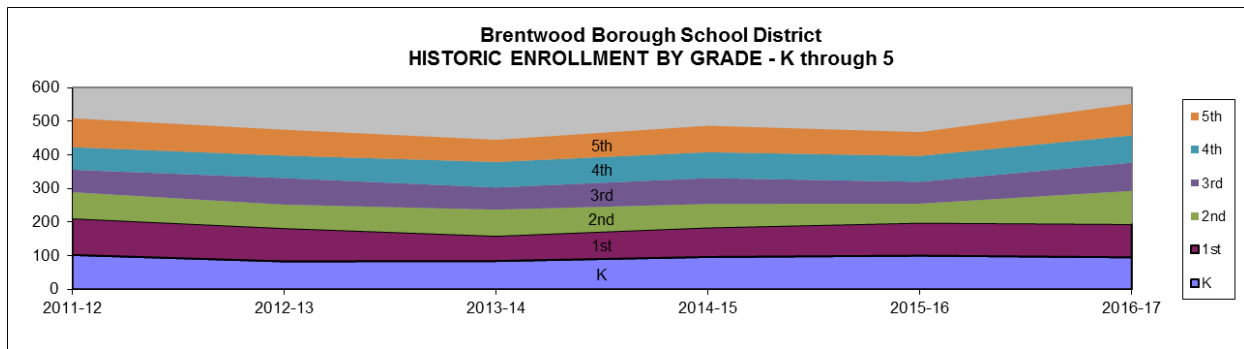
The study is based upon data available at this time. Modifications to the planning input may change as the project scope becomes more defined; however, the study is a good representation of the data that has been evaluated and can be an effective planning tool for the Board of School Directors and Administration. The cost estimates included are based on current market values and are subject to change due to economic conditions or other unforeseen circumstances.

Comparing Historic and Projected Enrollments

The following data was provided by the Brentwood Borough School District (October 3rd reports) with projections by PDE’s Division of Data Quality.

*Please note that the elementary grade population trend (increases or decreases) does not necessarily translate into a similar proportion of growth or decline in the middle or high school grades. This is due to migration into the District; outmigration from the District; and other factors. **These enrollment projections only address births, and factor in a retention rate using the historic enrollments.***

Enrollments at the Elementary Schools (K-5)



The graph above depicts **K-5 enrollment for the past 6 school years** at Elroy and Moore Elementary Schools combined. After a dip in 2013-'14, all grades generally show steady or increased enrollment over the period.

The corresponding table on the left, below, shows the **2016-2017 K-6 enrollment at Elroy and Moore** as compared to the three prior years (2013 through 2016). This is the data that is graphed above. Actual 2016-'17 enrollment was 552; PDE projected this figure to be 548.

As a means of comparison, the table on the right, below, shows the PDE projected enrollment six years from now, in 2022-2023.

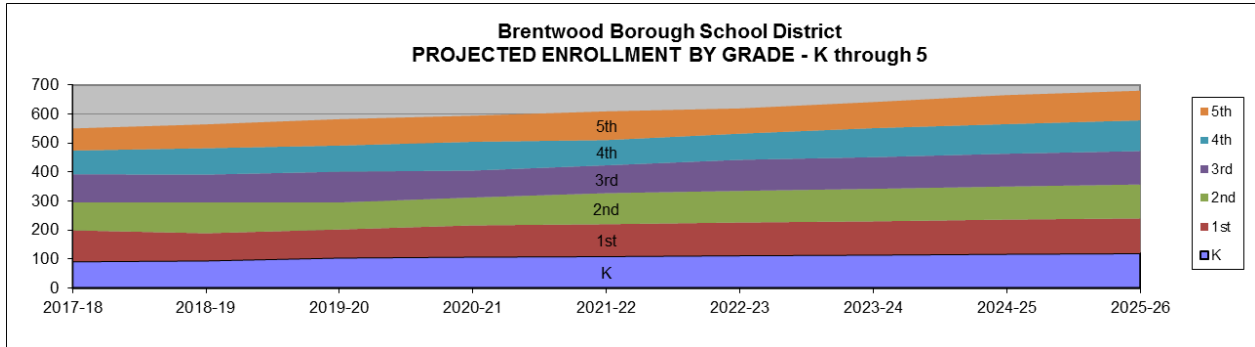
Elroy and Moore Elementary Schools Historic Enrollments	Grade	2016-2017	2015-2016	2014-2015	2013-2014
	K	95	100	96	84
	1	99	98	88	75
	2	99	88	78	95
	3	84	81	92	105
	4	61	86	103	89
	5	94	100	92	94
Total Historic K-5 Enrollment		532	553	549	542

Elroy and Moore ES Projected K-5 Enrollment (2022-2023)	Grade	2022-2023
	K	113
	1	113
	2	109
	3	107
	4	90
5	87	
Total PDE Projection		619

Enrollment in the elementary grades has generally held steady, ranging from a high of 553 in 2015-'16 to the low point of 532 last year (table on the left). This pattern is projected to become a growth trend, as projected elementary enrollment in 2022-'23 is estimated to be 619 (table on the right).

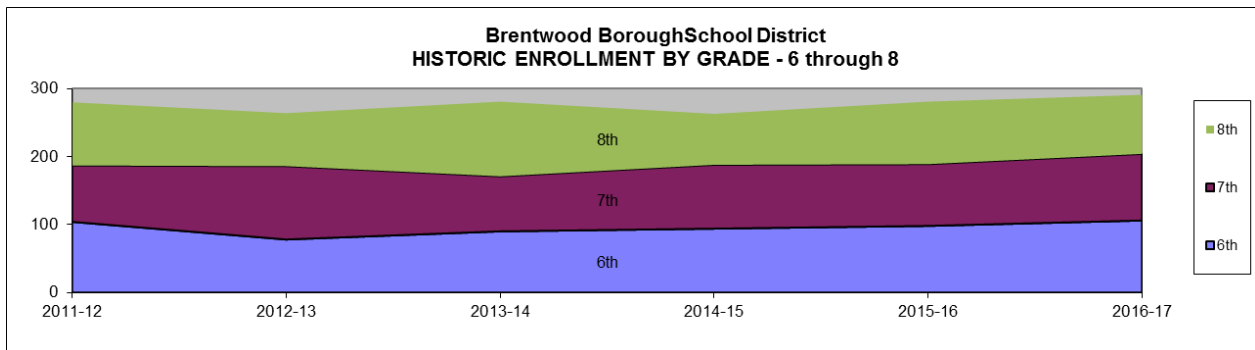
Enrollments at the Elementary Schools (K-5) - continued

The graph of **projected enrollment at Elroy and Moore Elementary Schools for grades K-5** is shown below. Generally, all grades are projected to see some level of growth. PDE's enrollment study is located in the Appendix.

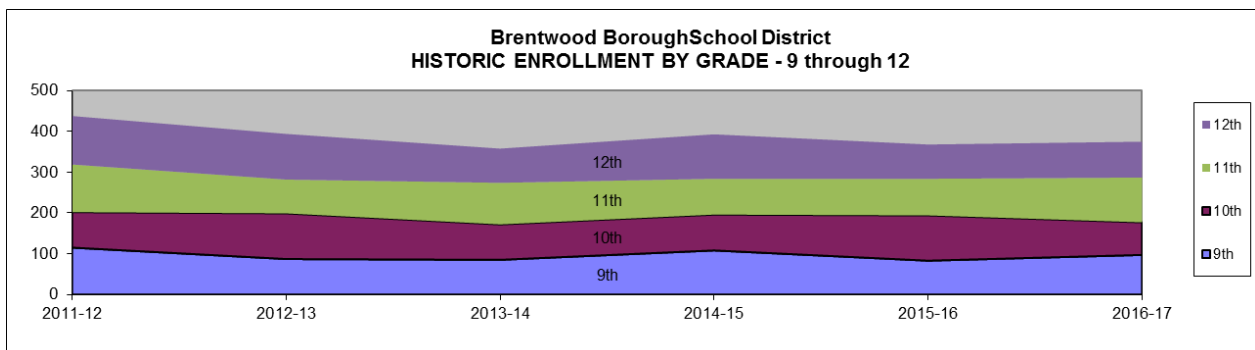


Enrollments at the Middle and High Schools (6-12)

This graph depicts **grades 6-8 enrollment over the past six years** at Brentwood Middle School. Enrollment during the period for these grade levels has been consistent, and by the 2016-'17 school year have peaked.



This graph depicts **grades 9-12 enrollment over the past six years** at Brentwood High School. Enrollment during the period for these grade levels has also been consistent, save for a decline in 12th grade students in the 2016-'17 school year.



ENROLLMENTS

Enrollments at the Middle and High Schools (6-12) (continued)

The corresponding table on the left, below, shows the **2016-2017 6-12 enrollment at Brentwood Borough Middle and High School** as compared to the three prior years (2013 through 2015). This is the data that is graphed above. Actual 2016-'17 enrollment was 291 and 375 at the Middle and High Schools; PDE projected it be 290 and 381, respectively.

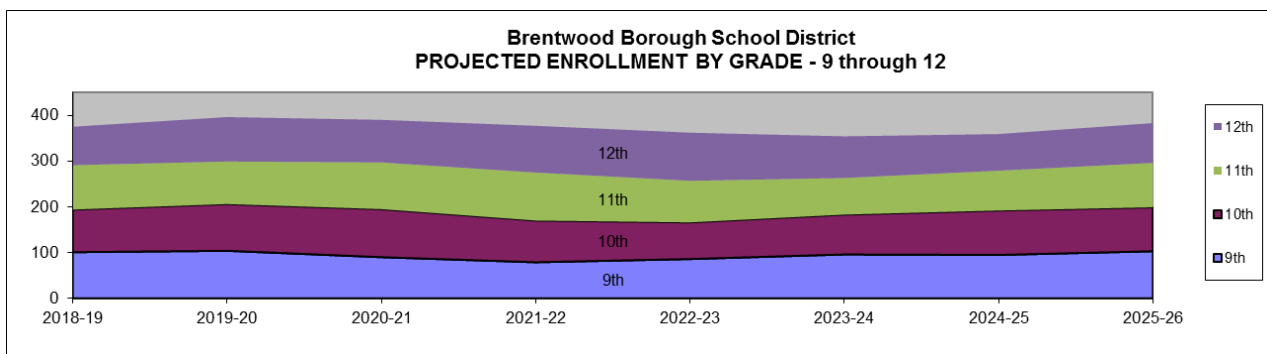
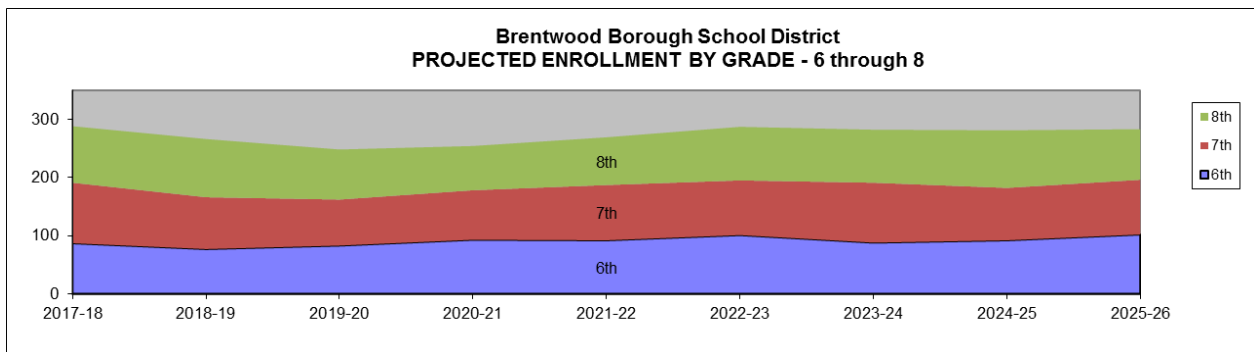
As a means of comparison, the table on the right, below, shows the PDE projected enrollment six years from now, in 2022-2023.

	Grade	2016-2017	2015-2016	2014-2015	2013-2014
Brentwood Borough Middle and High School	6	106	98	94	90
	7	98	91	94	81
	8	87	92	75	110
	9	97	83	108	85
	10	80	111	88	87
	11	110	90	88	102
	12	88	84	109	84
Total Historic 6-12 Enrollment		666	649	656	639

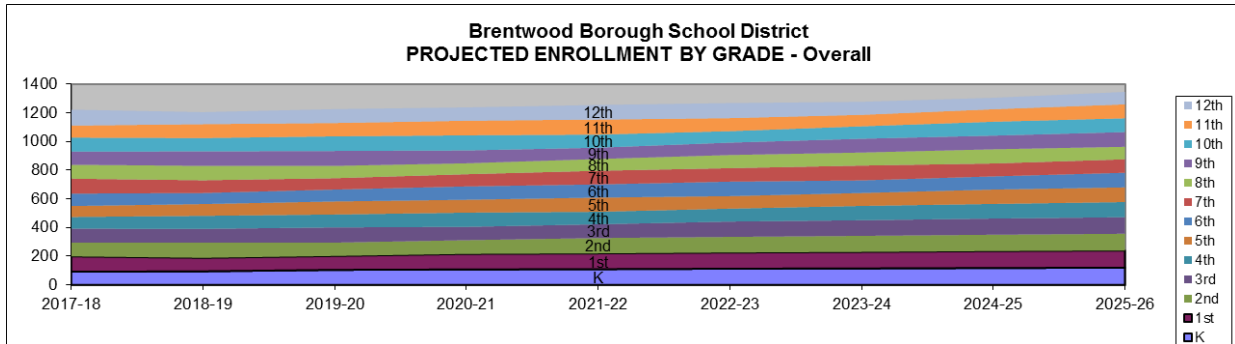
	G	2022-2023
BMS and BHS	6	101
	7	94
	8	92
	9	86
	10	80
	11	91
	12	105
Total PDE Projection		649

Enrollment in the Middle and High School grades ranged between 639 and 666 over the past four school years (table on the left). The projected secondary enrollment in 2022-'23 (649) is within this range, and portends stable enrollments in the future.

The graphs below depicts **projected 6-8 Middle School and 9-12 High School enrollment from 2017-2018 through 2025-'26**. The general trend is stable.



The overall enrollment projection table follows, below.



In the Elementary grades, the long-term trend appears to show some growth. The Middle and High School grades are all projected to be stable. District enrollment is projected to range between 1,205 (2018-'19) to 1,346 (2025-'26) students.

CAPACITIES

ELEMENTARY BUILDING CAPACITY											
District/CTC: Brentwood Borough School District				Project Name: Facility Study				Grades: K - 5			
		SCHOOL: Moore Elementary						SCHOOL: Elroy Elementary			
		PRESENT		PLANNED				PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6		
NAME OF SPACE	UNIT FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP		
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25	2	50			3	75				
REG CLSRM 660+ SQ FT	25	9	225			11	275				
OTHER: _____											
BUILDING TOTAL	XX	XXXXXX	275	XXXXXX		XXXXXX	350	XXXXXX			
		SCHOOL: _____						SCHOOL: _____			
		PRESENT		PLANNED				PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6		
NAME OF SPACE	UNIT FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP		
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25										
REG CLSRM 660+ SQ FT	25										
OTHER: _____											
BUILDING TOTAL	XX	XXXXXX		XXXXXX		XXXXXX		XXXXXX			
		SCHOOL: _____						SCHOOL: _____			
		PRESENT		PLANNED				PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6		
NAME OF SPACE	UNIT FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP		
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25										
REG CLSRM 660+ SQ FT	25										
OTHER: _____											
BUILDING TOTAL	XX	XXXXXX		XXXXXX		XXXXXX		XXXXXX			
		SCHOOL: _____						SCHOOL: _____			
		PRESENT		PLANNED				PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6		
NAME OF SPACE	UNIT FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP		
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25										
REG CLSRM 660+ SQ FT	25										
OTHER: _____											
BUILDING TOTAL	XX	XXXXXX		XXXXXX		XXXXXX		XXXXXX			
		SCHOOL: _____						SCHOOL: _____			
		PRESENT		PLANNED				PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6		
NAME OF SPACE	UNIT FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP	NUMBER OF UNITS	TOTAL FTE CAP		
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25										
REG CLSRM 660+ SQ FT	25										
OTHER: _____											
BUILDING TOTAL	XX	XXXXXX		XXXXXX		XXXXXX		XXXXXX			

Only kindergarten and regular classrooms 660 square feet or greater should be reported. Although special education rooms and pre-school rooms may be eligible for capacity, these spaces should not be included in the room counts reported above. The following spaces do not receive reimbursable capacity and therefore should not be included in the capacities for an elementary school building: science labs, computer rooms, art rooms, music rooms, small and large group instruction rooms, and multi-purpose rooms.

CAPACITIES

MIDDLE/SECONDARY BUILDING CAPACITY									
District/CTC: Brentwood Borough School District				Project Name: Facility Study				Grades: 6 - 12	
		SCHOOL: Brentwood Middle High School				SCHOOL: _____			
#1	#2	PRESENT		PLANNED		PRESENT		PLANNED	
		UNIT NUMBER OF FTE CAP	TOTAL FTE CAP	UNIT NUMBER OF FTE CAP	TOTAL FTE CAP	UNIT NUMBER OF FTE CAP	TOTAL FTE CAP	UNIT NUMBER OF FTE CAP	TOTAL FTE CAP
NAME OF SPACE									
REG CLSRM 660+ SQ FT	25	29	725						
SCIENCE CLSRM 660+ SQ FT	25								
SCIENCE LAB 660+ SQ FT	20	7	140						
PLANETARIUM W/CLSRM 660+ SQ FT	20								
ALTERNATIVE ED ROOM 660+ SQ FT	20								
BUSINESS CLSRM 660+ SQ FT	25								
BUSINESS LAB 660+ SQ FT	20								
COMPUTER LAB 660+ SQ FT	20	3	60						
TV INSTRUCTIONAL STUDIO 660+ SQ FT	20								
ART CLASSROOM 660+ SQ FT	20	2	40						
MUSIC CLASSROOM 660+ SQ FT	25								
BAND ROOM 660+ SQ FT	25	1	25						
ORCHESTRA ROOM 660+ SQ FT	25								
CHORAL ROOM 660+ SQ FT	25	1	25						
FAMILY/CONSMR SCIENCE 660+ SQ FT	20	2	40						
IA/SHOP 1800+ SQ FT	20								
TECH ED 1800+ SQ FT	20	2	40						
VO AG SHOP W/CLSRM 660+ SQ FT	20								
DRIVER'S ED 660+ SQ FT	20								
GYM 6500-7500 SQ FT	66	2.0	132						
AUX GYM 2500 SQ FT	33								
OTHER: _____									
OTHER: _____									
BUILDING TOTAL	XXX	XXXXXX	1,227	XXXXXX		XXXXX		XXXXX	
MS/SEC UTILIZATION (BLDG TOTAL X .9)	XXX	XXXXXX	1,104	XXXXXX		XXXXX		XXXXX	
		SCHOOL: _____				SCHOOL: _____			
#1	#2	PRESENT		PLANNED		PRESENT		PLANNED	
		UNIT NUMBER OF FTE CAP	TOTAL FTE CAP	UNIT NUMBER OF FTE CAP	TOTAL FTE CAP	UNIT NUMBER OF FTE CAP	TOTAL FTE CAP	UNIT NUMBER OF FTE CAP	TOTAL FTE CAP
NAME OF SPACE									
REG CLSRM 660+ SQ FT	25								
SCIENCE CLSRM 660+ SQ FT	25								
SCIENCE LAB 660+ SQ FT	20								
PLANETARIUM W/CLSRM 660+ SQ FT	20								
ALTERNATIVE ED ROOM 660+ SQ FT	20								
BUSINESS CLSRM 660+ SQ FT	25								
BUSINESS LAB 660+ SQ FT	20								
COMPUTER LAB 660+ SQ FT	20								
TV INSTRUCTIONAL STUDIO 660+ SQ FT	20								
ART CLASSROOM 660+ SQ FT	20								
MUSIC CLASSROOM 660+ SQ FT	25								
BAND ROOM 660+ SQ FT	25								
ORCHESTRA ROOM 660+ SQ FT	25								
CHORAL ROOM 660+ SQ FT	25								
FAMILY/CONSMR SCIENCE 660+ SQ FT	20								
IA/SHOP 1800+ SQ FT	20								
TECH ED 1800+ SQ FT	20								
VO AG SHOP W/CLSRM 660+ SQ FT	20								
DRIVER'S ED 660+ SQ FT	20								
GYM 6500-7500 SQ FT	66								
AUX GYM 2500 SQ FT	33								
OTHER: _____									
OTHER: _____									
BUILDING TOTAL	XXX	XXXXXX		XXXXXX		XXXXX		XXXXX	
MS/SEC UTILIZATION (BLDG TOTAL X .9)	XXX	XXXXXX		XXXXXX		XXXXX		XXXXX	

REVISED JULY 1, 2010

FORM EXPIRES 6-30-12

PLANCON-A08

School	2016 - 2017 PDE FTE Capacity	9/12/2017 School Enrollment	PDE FTE Capacity minus School Enrollment
Elroy Elementary School (K-5)	350	309	41
Moore Elementary School (K-5)	275	229	46
Brentwood Middle-High School (6-12)	1,104	664	440
	1,729	1,202	



BUILDING EVALUATIONS - ELROY ELEMENTARY SCHOOL



Address: 3129 Elroy Avenue
Pittsburgh, PA 15227-2824

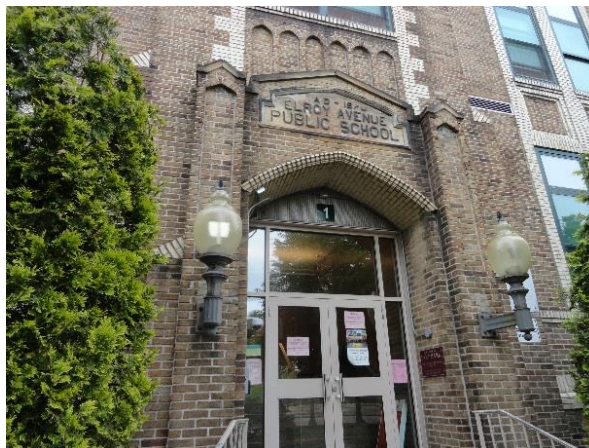
Constructed: 1920 Original
1925, 1955, 1965 -
Additions and Alterations
1997 Renovations

The building is registered as a historic landmark by the Pittsburgh History and Landmarks Foundation

Enrollment: 318 Students

Size: 42,000 square feet

Site: 2.93 acres at corner of Elroy Avenue and East Francis Avenue. The site slopes sharply onto the adjacent residential parcel. An asphalt play area exists with playground equipment. Parking on the site is very limited, with available spaces for 21 cars. The limited off street parking and vehicular access causes congestion during drop-off and pick-up times. The condition of the paving is poor. Concrete sidewalks on the site are in good condition.



A set of concrete steps which are in poor condition exist from the boiler room to grade. A metal stair on the Elroy Avenue side of the building provides emergency exiting from the first floor. The stairs are in poor condition and do not comply with the current codes. Only one accessible entrance exists to the building. The retaining walls between the building and playground have deteriorated and need to be repaired. The retaining wall between the playground and the street is failing and needs to be replaced.

Structure: The original building construction is masonry bearing with wood floor framing and wood framed interior partitions. During the 1997 renovation the wood structure was replaced with concrete flooring on steel joist at the floor and steel deck on steel joist at the roof. The 1955 addition is masonry bearing with steel columns and steel joist floor and roof structure. The steel is protected by masonry and the floor and roof framing by cement plaster on metal lath.

Roof: The roof is a bituminous built-up system installed during the 1997 renovations. The condition is poor with leaks reported at several locations. Drainage of the roof is limited to a few drains, causing potential ponding during severe storms.

Windows: The windows are double hung aluminum by Traco, installed in 1989. They are in fair condition with operational problems reported.

Exterior Doors: The exterior doors are aluminum at the main entrances and FRP at secondary entrances on aluminum frames. Their condition is fair.

**Interior Doors/
Frames:** The interior doors are wood on hollow metal frames. Areas where fire rating was required, such as stairs and mechanical rooms, are hollow metal. The glass on fire rated frames and on corridor doors is wire glass, which is no longer compliant with current codes, but is grandfathered in existing buildings.

Interior Spaces: In general the building is well maintained and has good housekeeping. Several spaces are inadequate in size and equipment, and storage is limited throughout.

Corridors: The corridors have vinyl composition tile flooring, painted plaster walls and lay-in acoustical ceilings. Two ramps on the second floor corridor have VCT flooring. We recommend use of a slip-resistant material at ramps for safety. Also due to the slight slope railings are not installed, but they would provide a safer condition. No lockers exist in the corridors.

**Multi-
Purpose/
Stage** The gymnasium and stage flooring is wood which has been refinished through the years. Their condition is fair. The walls are plaster with few acoustical panels, and the ceilings are exposed structure. The stage equipment is in poor condition.

Office: The office is inadequate in size. A transaction window and video surveillance exists at the security entrance. Additional space for offices, conference room and storage are desirable.

Nurse: The nurse's area is located in the basement floor and is not adjacent to the office, where it could have provided easier monitoring.

Classrooms: The classrooms have VCT flooring, painted plaster walls and lay-in acoustical ceilings. Visual displays are marker boards and smartboards. Storage cabinets are installed along the exterior walls, and wardrobe units along the corridor walls. The condition of the cabinets is fair.

**Kitchen /
Cafeteria:** The serving kitchen equipment was replaced during the 1997 renovation and is in good condition. The space is small and lacks adequate storage. The cafeteria is the size of approximately two classrooms and has a folding wall. The floors are VCT, the walls are painted plaster and the ceilings are lay-in acoustical panels. The space is small and laid out in a very institutional manner.

Interior Spaces (continued):

Restrooms: The restrooms have ceramic mosaic tile floors, ceramic tile wainscot on walls and plaster ceilings. The toilet partitions are solid plastic. The condition is good. Privacy is an issue at the restrooms because the doors remain open and there is no space for visual screening due to the size of the spaces.

HVAC:

Overall: The HVAC system is in general, a 2-pipe heating only type with only partial areas air conditioned. Main system components include boilers, pumps, piping, traditional classroom unit ventilators, air handling units, exhaust fans, pneumatic automatic temperature control (ATC) system, and miscellaneous terminal heating equipment.

Overall, the air handling units and boilers appear to be in fair condition. Unit ventilators and the pneumatic ATC system are in poor condition with multiple failures ongoing. To provide a temporary solution when the unit ventilators fail, facilities personnel have replaced with split-system units. This has been a stop gap measure but should not be considered permanent as these do not have the capability to properly ventilate for school occupancies and are inefficient in heating operation.

Boilers: The heating system is served by two (2) cast iron hot water boilers. The units are Peerless, date to 1997 and have rated output capacities of 1,680 Mbtuh. ASHRAE recommended lifespan for units of this type are in the 35-year timeframe give or take a few years depending on service and maintenance amongst other factors. As such, these units should provide reliable service for the foreseeable future.

Hot Water Pumps: The system is served by two (2) constant volume, base mounted distribution pumps. Equipment appears to be in fair condition. Future upgrades, when planned should incorporate variable frequency drives (VFD's) for long term energy savings.

Piping: The school is served by a 2-pipe, hot water system and dates to the 1998 renovation project. Systems were observed to be in good condition with no problems reported. X-ray testing would be recommended to confirm condition prior to any proposed renovation project.

Automatic Temperature Control (ATC) System: The ATC system dates to the 1997 project and is a pneumatic (compressed air) type. Facilities personnel reported having many problems with damaged and leaking copper tubing. This system has limited energy management/savings capability and at some time in the near future should be upgraded to a more efficient and controllable direct digital (DDC) type.

HVAC (continued):

Classroom

Terminal

Equipment: Classrooms are served by floor and ceiling mounted unit ventilators. Units date to the 1997 project and were reported to be in poor and in various instances failing condition.

Gymnasium

Terminal

Equipment: The gymnasium is served by an air handling unit. Unit is heating and ventilating only and dates to the 1997 project. Expected lifespan for interior equipment of this type would be 35 years depending on service / maintenance. Unit appears to be in good condition. As such, this unit should provide reliable service for the foreseeable future. If air conditioning is to be considered, it may be possible to rebuild, but replacement may turn out to be the most appropriate course of action.

Office: The office area is served by perimeter convectors only. No ventilation exists, as required by code.

Miscellaneous

Heating

Equipment: Various types of convectors, cabinet unit heaters, horizontal unit heaters and finned-tube radiation are spotted throughout the building. These date to the 1998 project, and appear to be in good condition with no problems reported.

Plumbing:

Central

Services:

The domestic water is supplied via PA American Water. There were no reports of water pressure issues throughout the building. The Sanitary Sewer System is connected to the Allegheny County Sanitary Authority system. The gas service is supplied by Columbia Gas.

Piping:

Most of the domestic water piping appears to have been replaced during the 1998 project. The kitchen piping was reported to be in very poor condition. The main water service has a back flow preventer installed.

Fixtures:

The majority of the plumbing fixtures are in fair condition. The existing flush valves and faucets are manual.

Equipment:

Domestic water heating is generated by a small, residential type unit. Unit dates to the 1998 renovation project and is rated at 179,000 BTUH input capacity. Unit is located in the boiler room and has a storage tank capacity of 86 gallons. Due to its age and condition, we recommend a new domestic hot water heating system be installed with thermostatic control valves to provide proper water temperature distribution throughout the facility.

Kitchen:

No issues reported.

Electrical:

Services: The existing electrical service consists of a 120/208 volt DLCO pole-top transformer with a 1200 amp feeder to a 1200 amp Cutler Hammer panelboard with 1200 amp main. This panelboard and feeder is about 20 years old and is in good condition.

Panels and Feeders: A majority of existing panelboards, feeders, and other distribution equipment were replaced in the last renovation 20 years ago and are in good condition.

Lighting /
Power Branch
Circuits
Switches
and

Receptacles: A majority of the existing branch circuits for lighting and power, switches and receptacles were replaced in the last renovation and are in good condition.

Exterior: The exterior lighting consists of HID fixtures mounted off the building as well as pole mounted HPS fixtures. These fixtures are in fair to good condition. Based on the condition of the fixtures and the potential maintenance and energy savings, these existing HPS light should be replaced with LED. The poles can remain.

Interior: Most of the fixtures in the building utilize T-8 fluorescent lamps with electronic ballasts. The corridors, lobbies, classrooms, and offices are lighted with pendant mounted direct indirect fixtures. The utility spaces are lighted with industrial strip lights and restrooms lighted with fluorescent cove fixtures. The gym is lighted with 400 watt HID low bay fixtures. The library has fluorescent fixtures. The exit signs are LED. Most of the fixtures in the school are in fair to good condition. The ballasts in these existing fixtures, if they were not replaced already, should be at the end of their useful life, and will need to be replaced. An upgrade of the existing lighting to LED and installation of lighting occupancy sensor controls should be considered at this time to provide energy and maintenance savings. Considering the re-ballasting and relamping costs of the exiting fixtures, energy savings, and rebates available for LED lighting and controls, a payback of 6-8 years could be realized.

Emergency
Power:

There is a Cummins 35 KW natural gas generator for the building serving life safety lighting and miscellaneous mechanical equipment. The generator is in good condition. The exhaust pipe for the generator should be insulated and extended 10'-12' above grade in order to provide separation from the air intake louver.

Telecom/Systems:

Service: The service entrance equipment is functioning. A comment was made regarding a crackling noise on the phone system when it rains outside. The exterior service phone cable should be inspected. The service entrance phone cable needs to be replaced.

Network Cabling: Cat 5e cabling is installed throughout the school for camera outlets, telephone outlets and network data outlets. This cabling is sufficient for their current usage. Any future updates to the building should utilize Cat 6 cabling or better. The existing fiber optic backbone cabling is sufficient.

PA/Clock System: The PA system consists of a Dukane Star Call system. The system appears to be functioning. National Time Digital Clocks are installed in the building. The clocks appear to be functioning, however, the system is approaching the end of its serviceable life.

Cameras: The School District has security cameras located throughout. These cameras seem to be sufficient.

Security: The security and door access systems appear to be sufficient.

Classroom Outlets: The School District is in the process of installing wireless access pints throughout the building. There are six computer drops in each classroom. This configuration is sufficient for their current needs. A ceiling-mounted projector and smart board is located in each classroom. This configuration is sufficient for their current needs.

Fire Alarm System: The existing fire alarm is a Simplex addressable system. The system can be expanded to accommodate additional devices. The audio-visual notification devices are needed in order to meet ADA requirements. Additional NAC power packs will be needed to power these additional devices. The magnetic door holders on all the classroom doors to not release. Confirm with Simplex if there are any issues with the FACP.

State Code

Compliance: In general, the building complied with the applicable building codes when it was constructed and when it was renovated. Since the building was approved by prior building codes, it is considered a certified building. However, if renovations take place that are beyond cosmetic or typical maintenance improvements the changes within the renovation areas and any replaced building systems will be required to comply with the requirements of the PA Uniform Construction Code and local regulations and ordinances.

ADA

Compliance: The three-story structure is accessible from the exterior and an elevator serves each floor. Areas of rescue assistance are located at each stairway. The restrooms are accessible, however further evaluation will be required if the building will be renovated for compliance with current ADA regulations.

Asbestos:

A facility re-inspection was conducted by Volz Environmental, Inc. The complete report is on file with the School. During the 1997 renovation asbestos containing materials were removed, however additional material sampling and removal will be required prior to any renovations.

Utilities:

Electricity: Duquesne Light Company
Gas: Columbia Gas of Pennsylvania
Water: Pennsylvania American Water Company
Sewage: Borough of Brentwood

Present Overall

Condition: Fair.

SUMMARY OF CAPITAL IMPROVEMENTS NEEDS

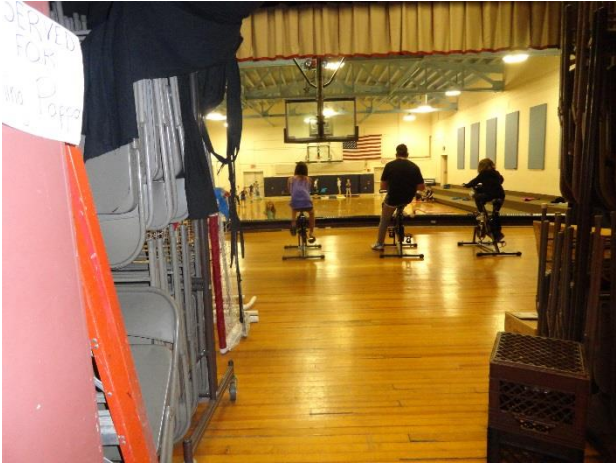
- Replace retaining wall between street and playground
- Repair retaining wall between building and playground
- New paving
- New roof
- New windows
- Masonry restoration
- Office and Nurse area reconfiguration
- Kitchen and Cafeteria improvements
- Painting
- Replace exterior doors
- Replace interior doors and hardware
- X-ray test the heating and domestic water piping
- Add air-conditioning
- Upgrade storm sewer system
- Replace air handling units
- Replace unit ventilators
- Upgrade temperature control system to DDC
- Replace domestic water system
- Replace plumbing fixtures with low flow type
- New electrical service if air-conditioning is added
- Replace switchboard
- Replace exterior lighting with LED
- Replace interior lighting with LED
- Provide audio visual notification devices for the fire alarm system
- Update Public Address, clocks and phone system



The paving is in poor condition and parking is inadequate.



Parking is inadequate.



Stage and Multi-purpose Room.



Emergency Exit Stairs leading to play area.



Emergency Exit Stairs leading to front sidewalk.



Severely eroded retaining wall between playground and street.



Retaining wall located between building and playground.



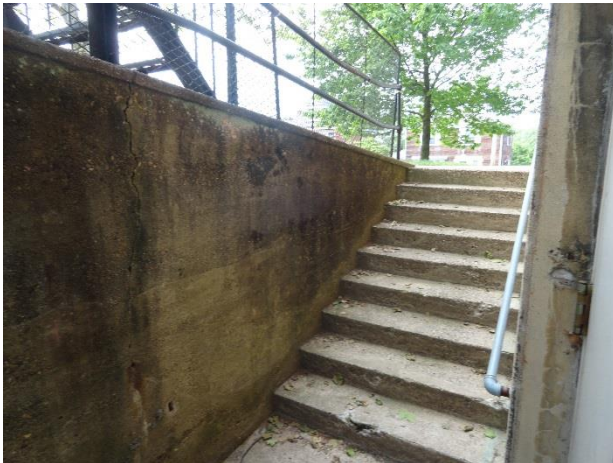
Another view of severely eroded playground retaining wall, located between playground and street.



Serving kitchen and cafeteria.



Mechanical space in basement.



Exterior concrete steps and retaining walls.

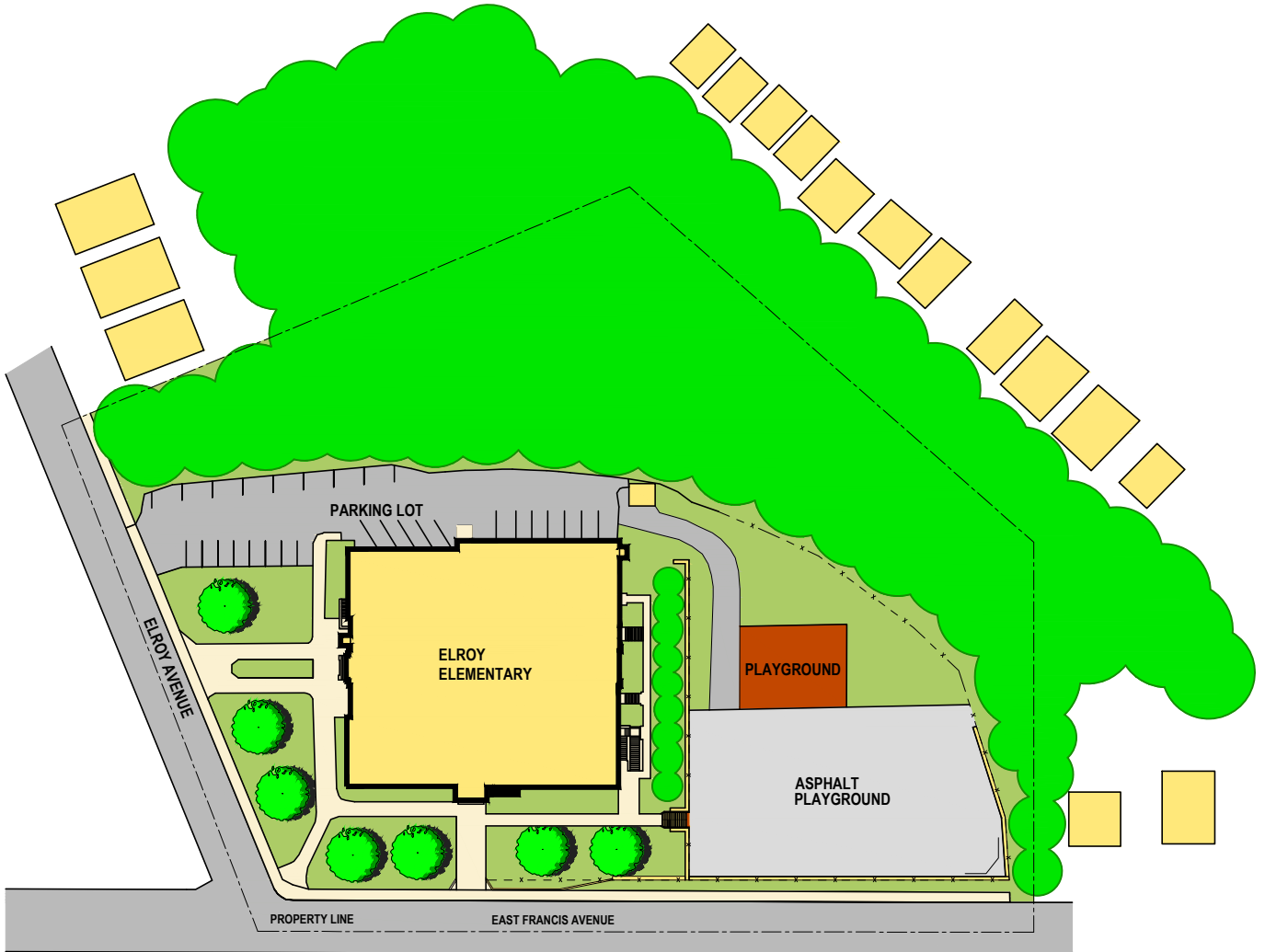


Roof is in poor condition.

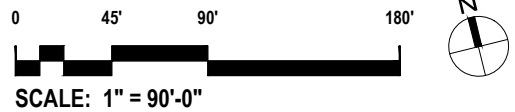
ELROY ELEMENTARY SCHOOL (GRADES K-5)

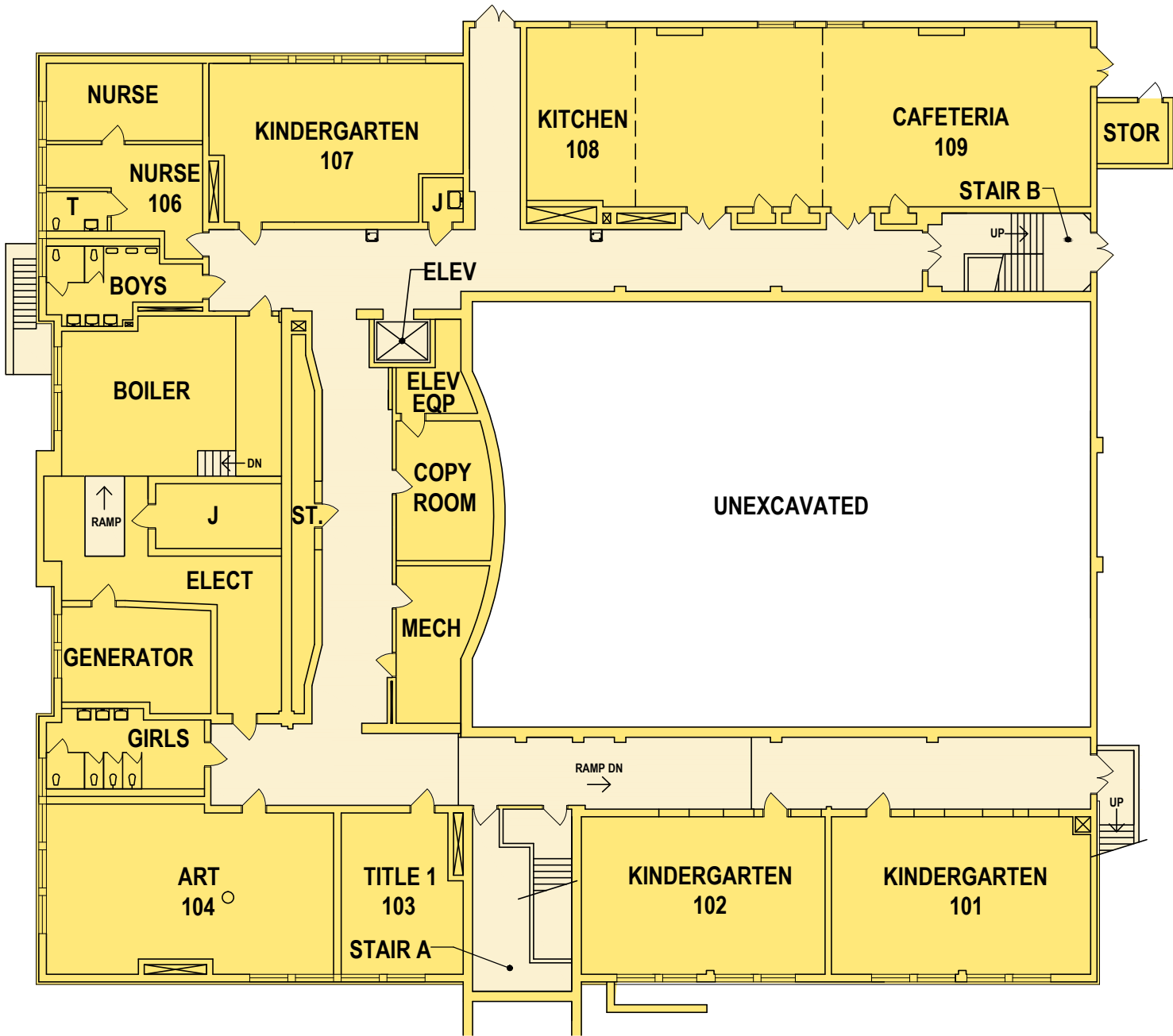
EXISTING

Basement:	12,968 S.F.
First Floor:	17,523 S.F.
Second Floor:	11,560 S.F.
Total:	42,051 S.F.

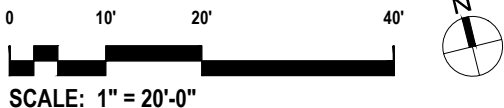


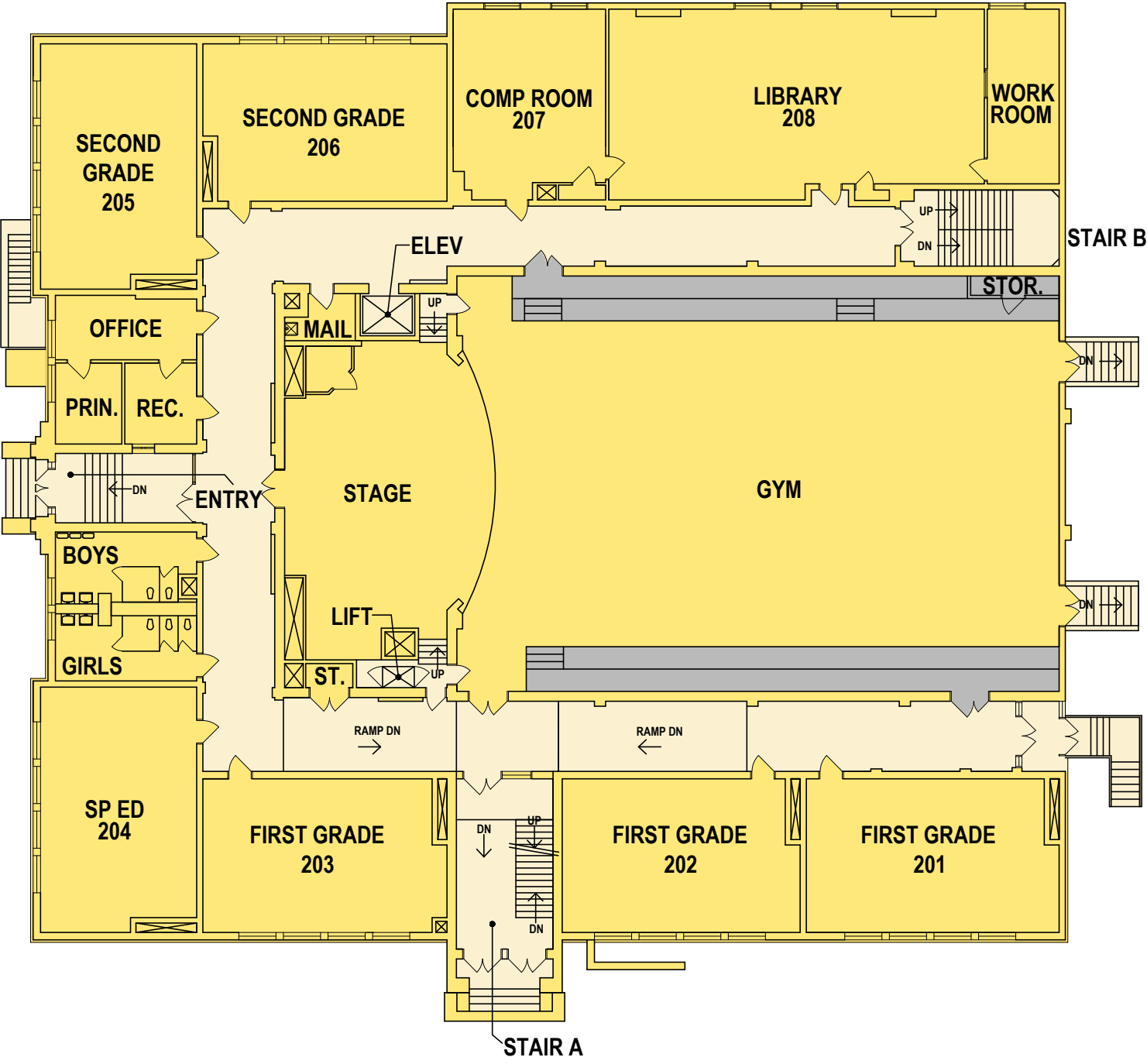
SITE PLAN



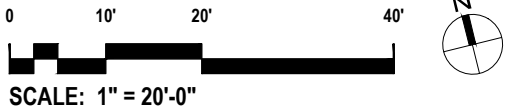


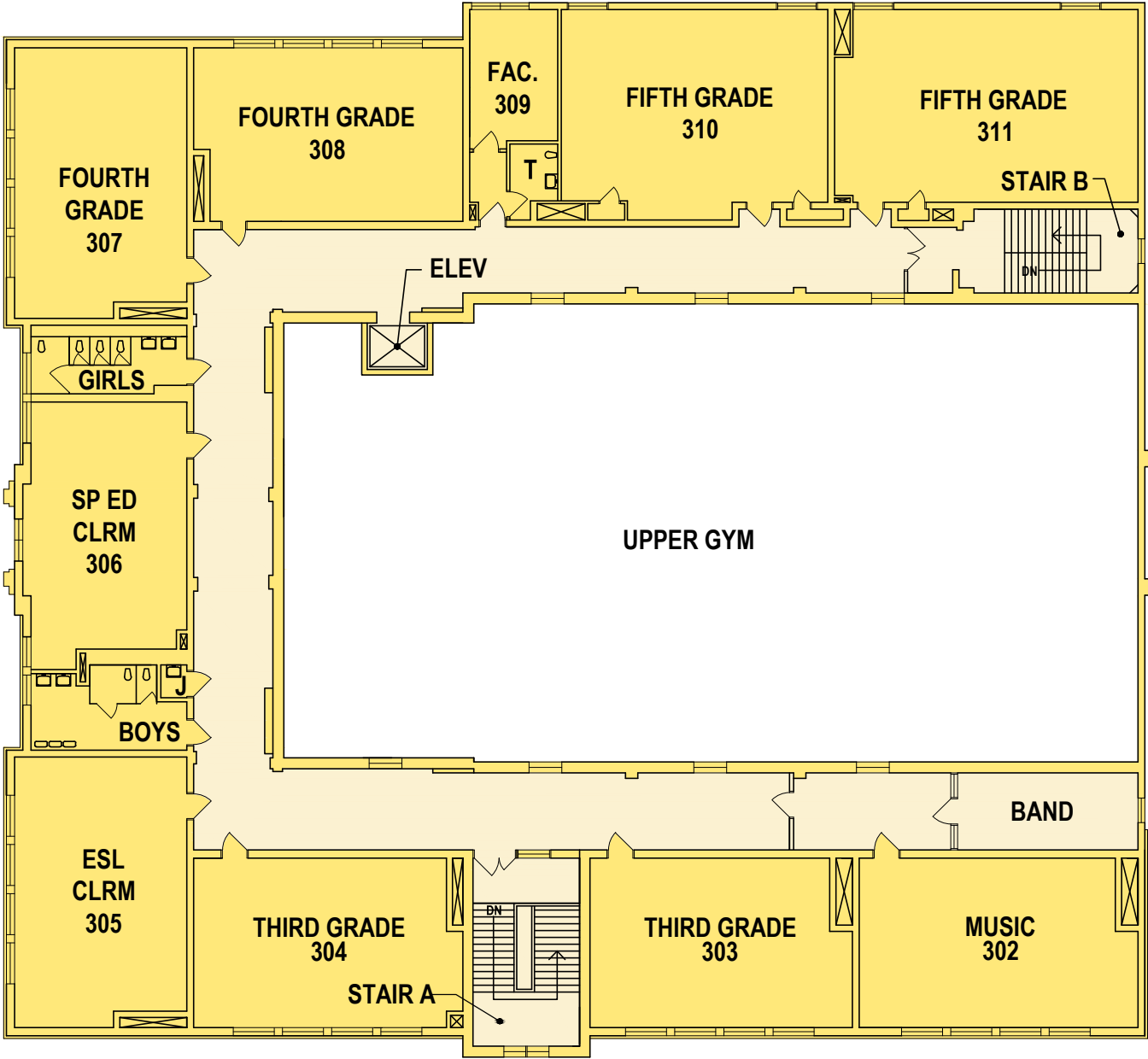
BASEMENT FLOOR PLAN



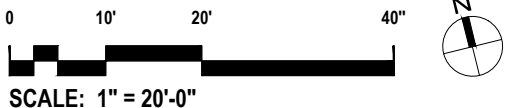


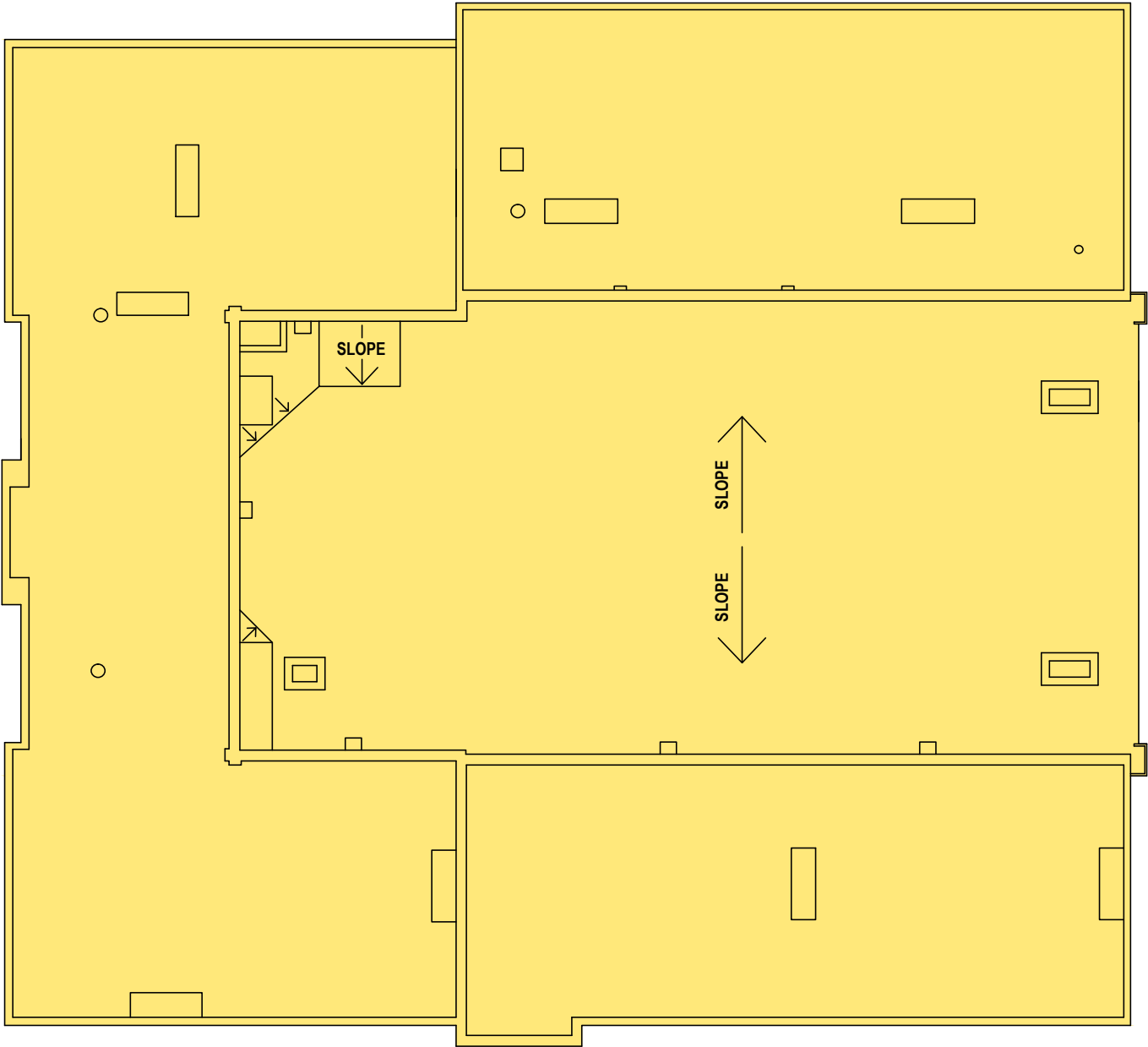
FIRST FLOOR PLAN



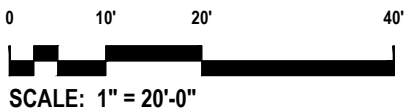


SECOND FLOOR PLAN





ROOF PLAN



BUILDING EVALUATIONS - MOORE ELEMENTARY SCHOOL



Address: 3809 Dalewood Street
Pittsburgh, PA 15227-2824

Constructed: 1914 Originally Constructed
1941 Addition
1997 Renovations & Addition

The building is registered as a historic landmark by the Pittsburgh History and Landmarks Foundation



Enrollment: 240 Students

Size: The building is approximately 32,200 square feet.

Site: The three story structure is located on a 2.4 acre site at the corner of Elton and Dalewood Streets. The adjacent properties are family residential. A fenced play area exists, and limited parking on site provides for approximately 20 cars, which does not meet the ordinance requirements. The parking area and playground paving is in poor condition. Exterior concrete stairs lead to the play area; they are in good condition. Other concrete steps and sidewalks on the site are in good condition. Concrete retaining walls exist at the boiler room exit, and concrete block walls support the walkway above the exit; their condition is poor. One accessible entrance exists to the building.

The playground equipment needs to be replaced, as it is approaching the end of its serviceable life.

Structure: The original 1914 part of the building is masonry bearing construction with wood floor, roof framing and wood framed partitions. During the 1997 renovation the wood was replaced with steel joist, concrete floor and roof deck construction. The wall wood framed construction was replaced with metal studs and drywall. The 1941 part of the building is masonry bearing with steel floor and roof framing. In 1997 a small, two classroom addition was constructed on the third floor, replacing the roof structure at that area.

Exterior Walls: A masonry restoration project was undertaken during the 1997 renovation that included brick replacement, lintel replacement or cleaning and repointing. Some repointing and replacement of brick and re-caulking of all joints is needed. A tall chimney on the Elton Street side of the building needs some masonry restoration, or it may be removed since it has no function at this time. The exterior wall at the Band room has moisture problems; it appears that leakage is occurring from the outside. This wall needs to be waterproofed and a French drain needs to be installed.

Roof: The roof is a bituminous built-up system installed during the 1997 renovations. It is in poor condition.

Windows:	The windows are double hung aluminum by Traco, installed in 1989. They are in fair condition with operational problems reported.
Exterior Doors:	The aluminum exterior doors on aluminum frames are in good condition.
Interior Doors / Frames:	The interior doors are on wood hollow metal frames. Areas where fire rating was required, like stairs and mechanical rooms the doors are hollow metal. The glass on fire rated frames and on corridor doors is wire glass which is no longer compliant with current codes, but it is grandfathered in existing buildings
Interior Spaces:	In general the building is well maintained and has good housekeeping. Several spaces are inadequate in size and storage is limited throughout.
Corridors:	The corridors have terrazzo flooring in the original building, with structural glazed facing tile wainscot and plaster walls. The condition is good. The 1941 part of the building has VCT flooring and plaster walls. The condition is good. The ceilings are lay-in acoustical panels, also in good condition.
Multi-Purpose / Stage	The gymnasium and stage flooring is wood which has been refinished through the years. The condition is fair. The walls are plaster with SGFT wainscot and few acoustical wall panels. The ceiling is plaster. The stage equipment is in poor condition.
Office:	The office is inadequate in size. There is a transaction window and video surveillance there at the security vestibule. Additional space for offices, conference room and storage are desirable.
Nurse:	The nurse's area is located across from the office and is inadequate in size.
Classrooms:	The classrooms have VCT flooring, painted plaster walls and lay-in acoustical ceilings. Visual displays are marker boards and smartboards. There are storage cabinets adjacent to the unit ventilators along the exterior walls. The rooms have wardrobe units with open shelving above. The condition of the cabinets is fair.
Kitchen/ Cafeteria:	There serving kitchen equipment in the cafeteria installed during the 1997 renovation. The cafeteria is small in size and lacks adequate storage. The gymnasium /multi-purpose room is also used for dining. The condition of the kitchen equipment is good. The floor is VCT, plaster walls and lay-in acoustical ceilings. The condition of the finishes is good.
Restrooms:	The restrooms have ceramic mosaic tile floors, ceramic tile wainscot on walls and plaster ceilings. The toilet partitions are solid plastic. The condition is good. Privacy is an issue at the restrooms because the doors remain open and there is no space for visual screening due to the size of the spaces.

HVAC:

Overall: The HVAC system is in general, a 2-pipe heating only type with only partial areas air conditioned. Main system components include boilers, pumps, piping, traditional classroom unit ventilators, air handling units, exhaust fans, pneumatic automatic temperature control (ATC) system, and miscellaneous terminal heating equipment.

Overall, the air handling units and boilers appear to be in fair condition. Unit ventilators and the pneumatic ATC system are in poor condition with multiple failures ongoing. To provide temporary solution when the unit ventilators fail, facilities personnel have replaced with split system units. This has been a stop-gap measure but should not be considered permanent as these do not have the capability to properly ventilate for school occupancies and are inefficient in heating operation.

Boilers: The heating system is served by two (2) cast iron hot water boilers. The units are Peerless, and appear to be from an earlier (1977) project. Boilers have rated output capacities of 2,352 Mbtuh. ASHRAE recommended lifespan for units of this type are in the 35 year timeframe give or take a few years depending on service and maintenance amongst other factors. As such, these units should be considered for replacement.

Hot Water
Pumps:

The system is served by two (2) constant volume, base mounted distribution pumps. Equipment appears to be in fair condition. Future upgrades, when planned should incorporate variable frequency drives (VFD's) for long term energy savings.

Piping
System:

The school is served by a 2-pipe, hot water system. Most of the piping dates to the 1998 renovation project. Some portions however date to the 1977 project. Systems were observed to be in good condition with problems reported. X-Ray testing would be recommended to confirm condition prior to any proposed renovation project.

Automatic
Temperature
Control
(ATC)
System:

The ATC system dates to the 1998 project and is a pneumatic (compressed air) type. Facilities personnel reported having many problems with damaged and leaking copper tubing. This system has limited energy management/savings capability and at some time in the near future should be upgraded to a more efficient and controllable direct digital (DDC) type.

HVAC (continued):

Classroom

Terminal

Equipment: Classrooms are served by floor and ceiling mounted unit ventilators. Units date to the 1998 project and were reported to be in poor and in various instances failing condition.

Gymnasium /

Multi-

Purpose

Terminal

Equipment: The gymnasium is served by an air handling unit. Unit is heating and ventilating only and dates to the 1997 project. Expected lifespan for interior equipment of this type would be 35 years depending on service and maintenance. Unit appears to be in good condition. As such, this unit should provide reliable service for the foreseeable future. If air conditioning is to be considered, it may be possible to rebuild, but replacement may turn out to be the most appropriate course of action.

Miscellaneous

Heating

Equipment: Various types of convectors, cabinet unit heaters, horizontal unit heaters and finned-tube radiation are spotted throughout the building. These date to the 1997 project, appear in good condition with no problems reported.

Plumbing:

Central

Services: The Domestic Water is supplied via the Municipal system. There were reports of water pressure issues throughout the building. The Sanitary Sewer System is connected to the municipal system. The gas service is supplied by Direct Energy.

Piping: Most of the domestic water piping appears to have been replaced during the 1997 project. The kitchen piping was reported to be in very poor condition. The main water service has a back flow preventer installed.

Fixtures: The majority of the plumbing fixtures are in fair condition. The existing flush valves and faucets are manual.

Equipment: Domestic water heating is generated by a small, residential type unit. Unit are Rheem/ Ruud dates to the 1998 renovation project and is rated at 179,000 BTUH input capacity. Unit is located in the Boiler Room and has a storage tank capacity of 75 gallon tank. Due to its age and condition, a new Domestic Hot Water Heating System is recommended to be installed with thermostatic control valves to provide proper water temperature distribution throughout the facility.

Kitchen: No issues reported.

Electrical:

Service: The existing electrical service consists of a 120/208 volt DLCO pole top transformer with a 1200 amp feeder to a 1200 amp Cutler Hammer panelboard with 1200 amp main. This panelboard and feeder is about 20 years old and is in good condition.

Panels and Feeders: A majority of existing panelboards, feeders, and other distribution equipment were replaced in the last renovation 20 years ago and are in good condition.

Lighting / Power Branch Circuits, Switches, and Receptacles: A majority of the existing branch circuits for lighting and power, switches and receptacles were replaced in the last renovation and are in good condition.

Exterior: The exterior lighting consists of HID fixtures mounted off the building as well as pole mounted HPS fixtures. These fixtures are in fair to good condition. Based on the condition of the fixtures and the potential maintenance and energy savings, these existing HPS lights should be replaced with LED. The poles can remain.

Interior: Most of the fixtures in the building utilize T-8 fluorescent lamps with electronic ballasts. The corridors, lobbies, classrooms, and offices are lighted with pendant mounted direct indirect fixtures. The utility spaces are lighted with industrial strip lights and restrooms lighted with fluorescent cove fixtures. The gym is lighted with 400 watt HID low bay fixtures. The library has fluorescent fixtures. The exit signs are LED. Most of the fixtures in the school are in fair to good condition. The ballasts in these existing fixtures, if they were not replaced already, should be at the end of their useful life, and will need to be replaced. An upgrade of the existing lighting to LED and installation of lighting occupancy sensor controls should be considered at this time to provide energy and maintenance savings. Considering the re-ballasting and relamping costs of the existing fixtures, energy savings, and rebates available for LED lighting and controls, a payback of 6-8 years could be realized.

Emergency Power: There is a Cummins 35 KW natural gas generator for the building serving life safety lighting and miscellaneous mechanical equipment. The generator is in fair condition, and at the end of its serviceable life. Provide insulation on exhaust pipe and muffler or replace.

Telecom/Systems:

- Service: The service entrance equipment is functioning. The District is planning to install VOIP in the next year.
- Network
Cabling: Cat 5e cabling is installed throughout the school for camera outlets, telephone outlets and network data outlets. This cabling is sufficient for their current usage. Any future updates to the building should utilize Cat 6 cabling or better. The existing fiber optic backbone cabling is sufficient.
- PA/Clock
System: The PA system consists of a Telcor system. The system appears to be functioning. There are master clocks in the building. The clocks appear to be functioning, however, the systems are approaching the end of their serviceable life.
- Cameras: The School District has security cameras located throughout. These cameras seem to be sufficient.
- Security: The security / door access systems appear to be sufficient.
- Classroom
Outlets: The School District is in the process of installing wireless access points throughout the building. There are six computer drops in each classroom. This configuration is sufficient for their current needs. There is a ceiling mounted projector and smart board in each classroom. This configuration is sufficient for their current needs.
- Fire Alarm
System: The existing fire alarm is a FCI addressable system. The system can be expanded to accommodate additional devices. The audio-visual notification devices are needed in order to meet ADA requirements. Additional NAC power packs will be needed to power these additional devices.

State Code

Compliance: In general, the building complied with the applicable building codes when it was constructed and when it was renovated. Since the building was approved by prior building codes, it is considered a certified building. However, if renovations take place that are beyond cosmetic or typical maintenance improvements the changes within the renovation areas and any replaced building systems will be required to comply with the requirements of the PA Uniform Construction Code and local regulations and ordinances.

ADA

Compliance: The three story structure is accessible from the exterior and an elevator serves each floor. Areas of rescue assistance are located at each stairway. The restrooms are accessible, however further evaluation will be required if the building will be renovated for compliance with current ADA regulations.

Asbestos:

A facility re-inspection was conducted by Volz Environmental, Inc. The complete report is on file with the School. During the 1997 renovation asbestos containing materials were removed, however additional material sampling and removal will be required prior to any renovations.

Utilities:

Electricity: Duquesne Light Company
Gas: Direct Energy
Water: Pennsylvania American Water Company
Sewage: Borough of Brentwood

Present Overall

Condition: Fair.

SUMMARY OF CAPITAL IMPROVEMENTS NEEDS

- New paving
- Replace playground equipment
- New roof
- New windows
- Masonry restoration
- Waterproof the Band room exterior wall
- Office and Nurse Area reconfiguration
- Kitchen and Cafeteria improvements
- Replace exterior doors and frames
- Replace interior doors and hardware
- Painting
- X-ray test the heating and domestic water piping
- Add air-conditioning
- Replace boilers, pumps
- Replace air handling units
- Replace unit ventilators
- Upgrade temperature control system to DDC
- Replace domestic water system
- Upgrade storm sewer system
- Replace plumbing fixtures with low flow type
- New electrical service if air-conditioning is added
- Replace switchboard
- Replace exterior lighting with LED
- Replace interior lighting with LED
- Provide audio visual notification devices for the fire alarm system
- Replace emergency generator
- Update Public Address, clock and phone system



Typical exterior brick with some areas that need repairs.



View of play area.



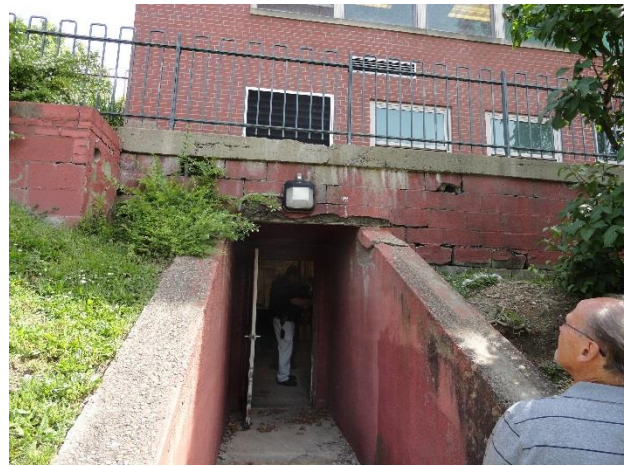
Boilers.



Gymnasium/Multi-purpose.



Exterior paving is in poor condition.



Exit from the boiler room has masonry/concrete deterioration.



Typical Classroom.



Roofing is in poor condition.

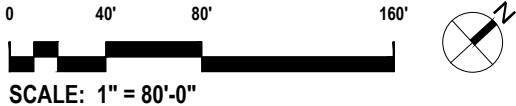
MOORE ELEMENTARY SCHOOL (GRADES K-5)

EXISTING

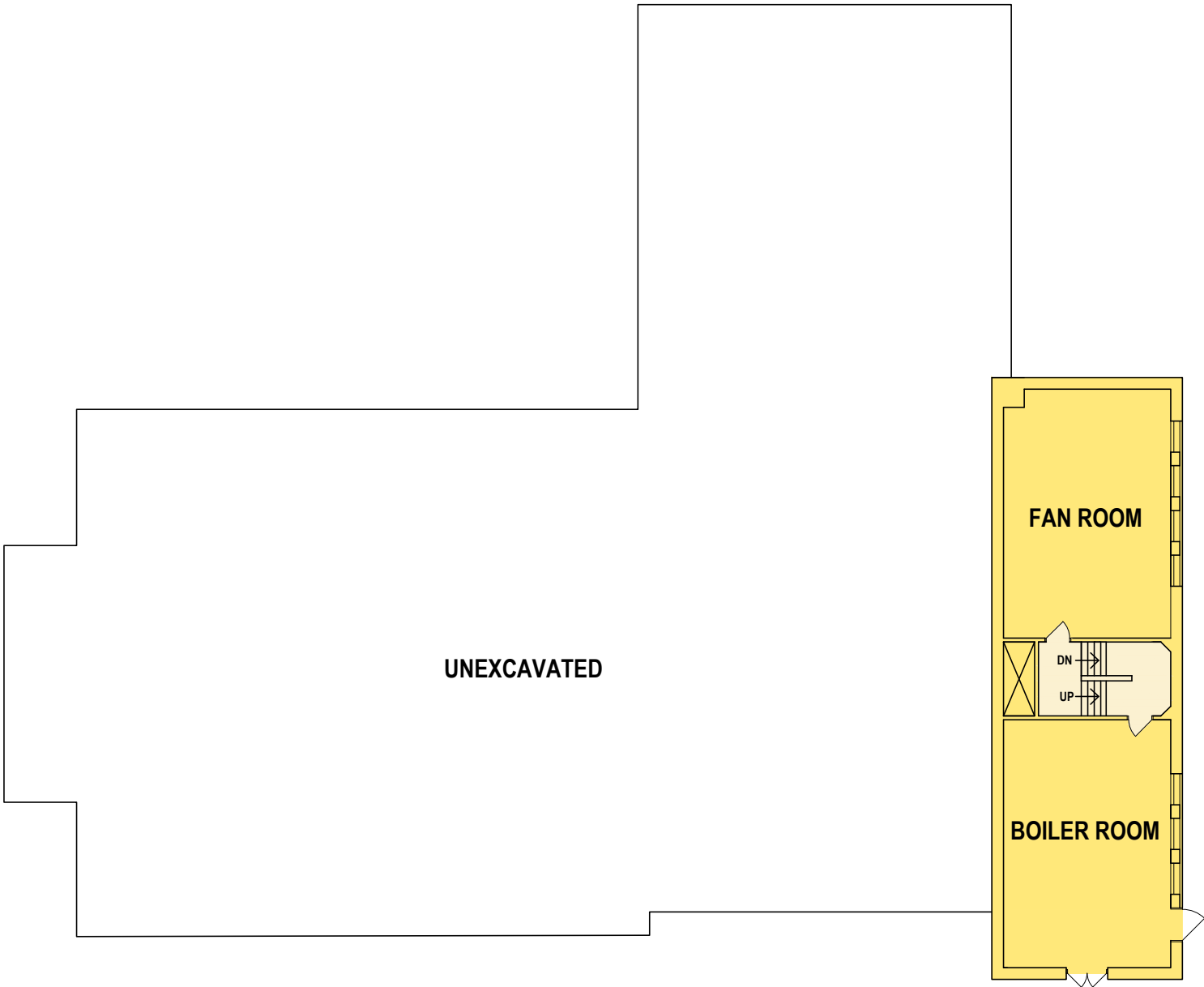
Basement:	1,900 S.F
First Floor:	12,588 S.F.
Second Floor:	8,699 S.F.
Third Floor:	9,772 S.F.
Total:	32,959 S.F.



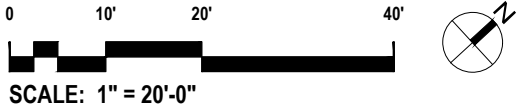
SITE PLAN

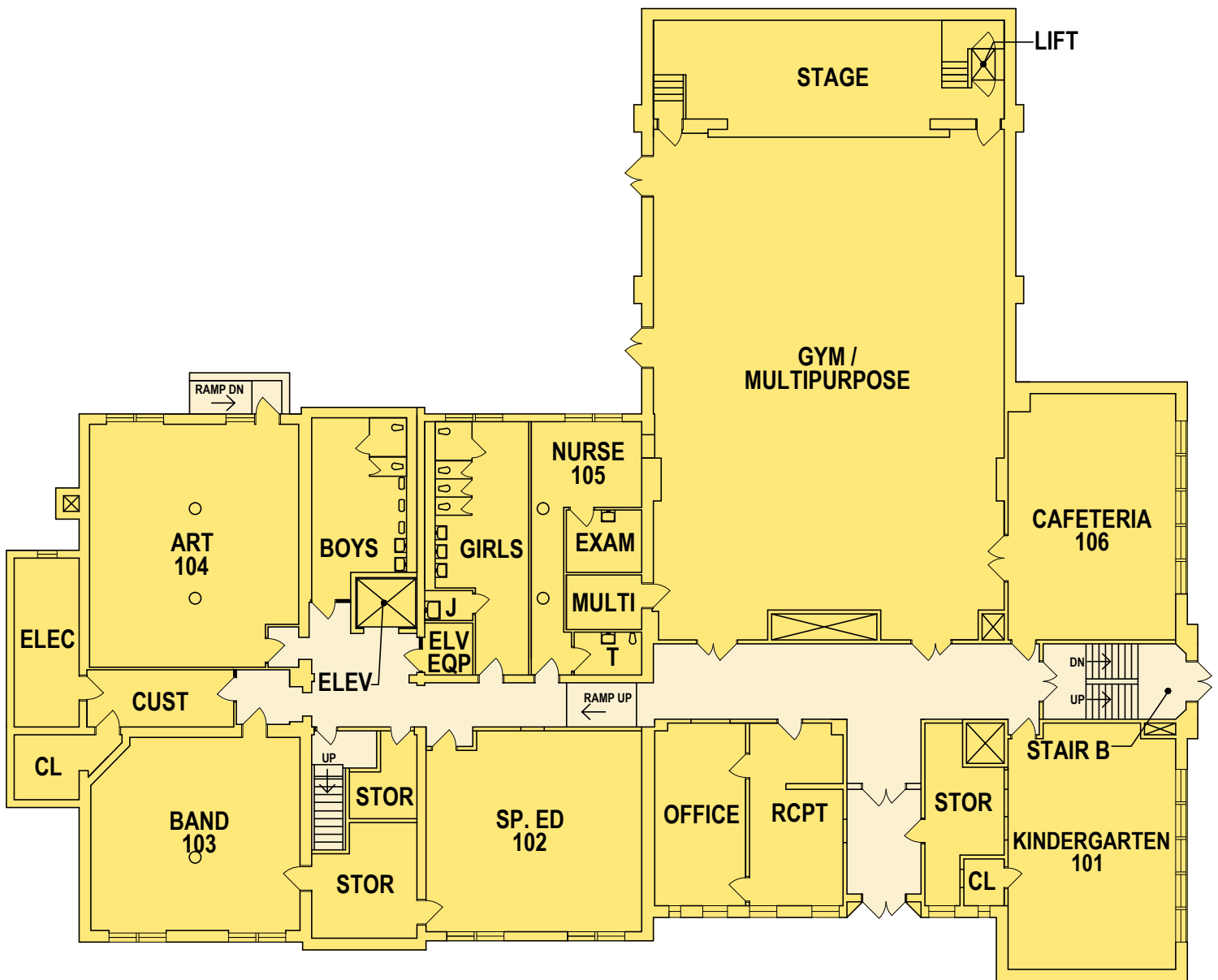


Basement:	1,900 S.F
First Floor:	12,588 S.F.
Second Floor:	8,699 S.F.
Third Floor:	9,772 S.F.
Total:	<u>32,959 S.F.</u>

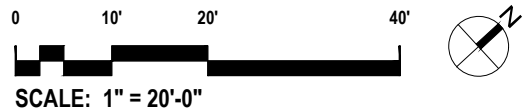


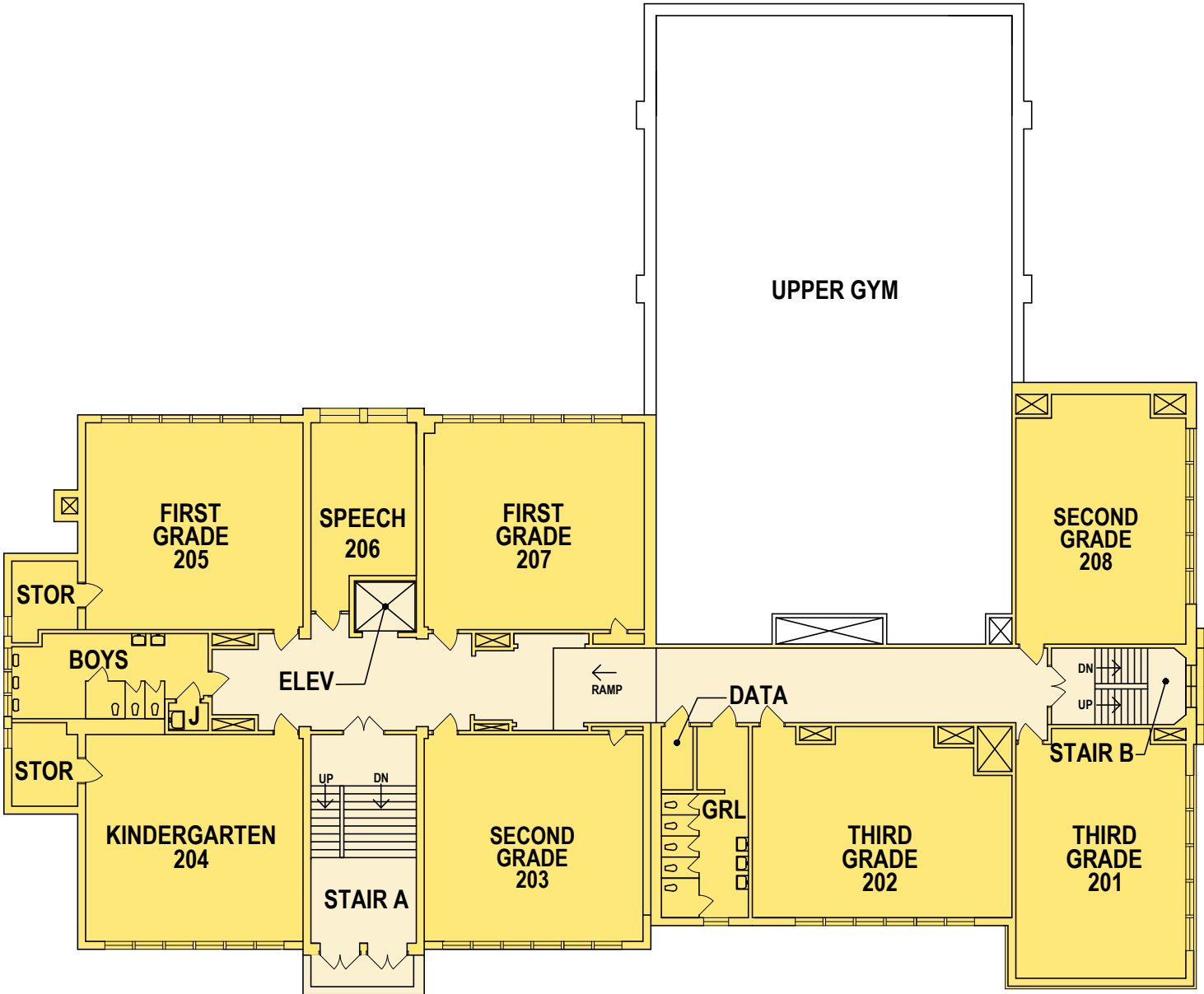
BASEMENT PLAN



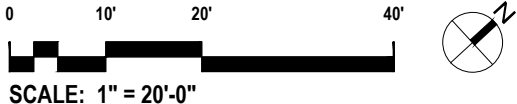


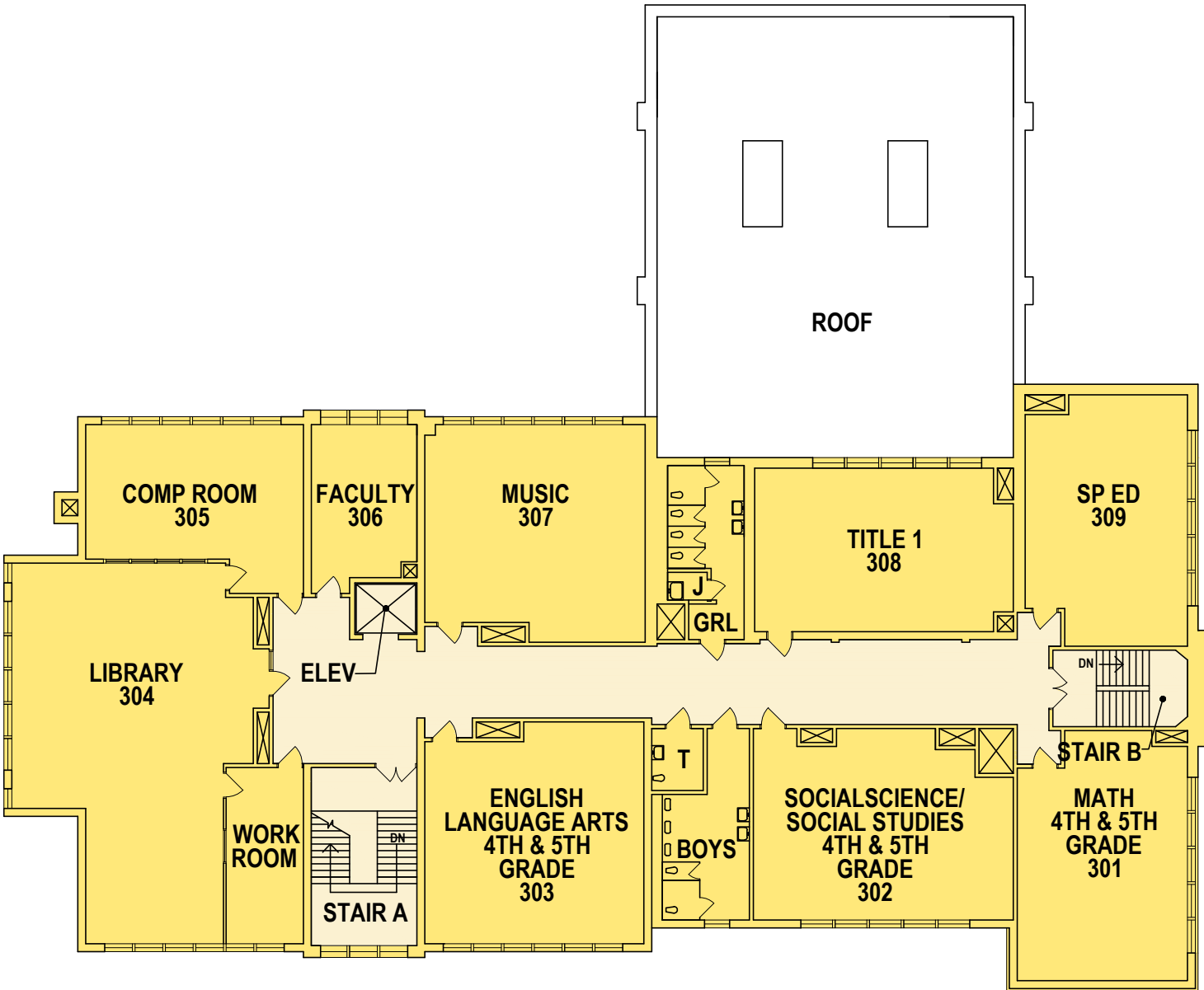
FIRST FLOOR PLAN



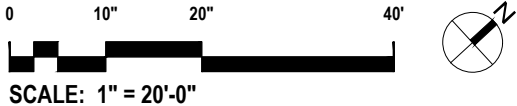


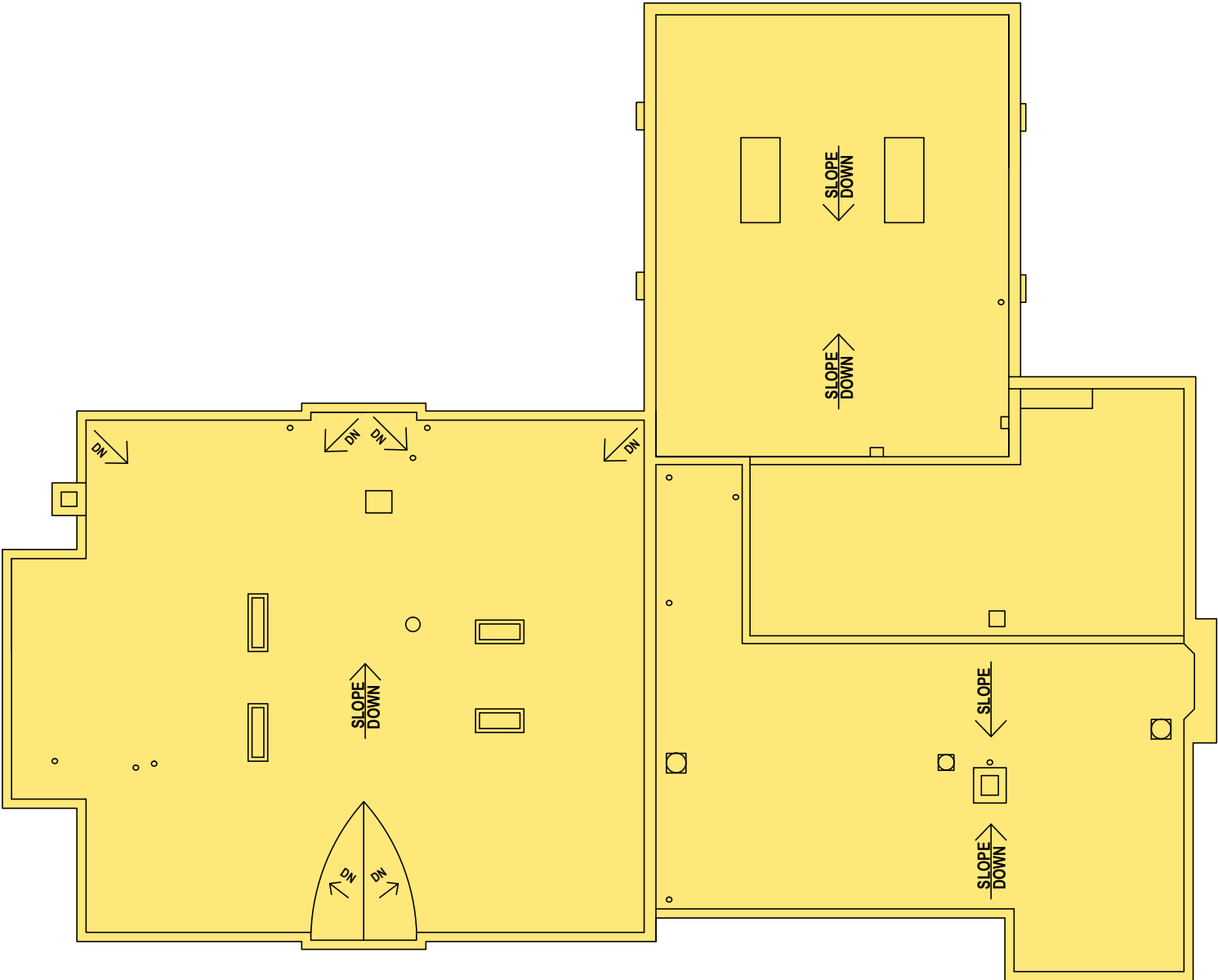
SECOND FLOOR PLAN



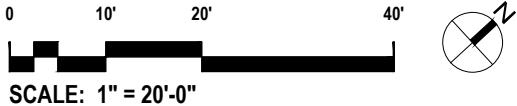


THIRD FLOOR PLAN





ROOF PLAN



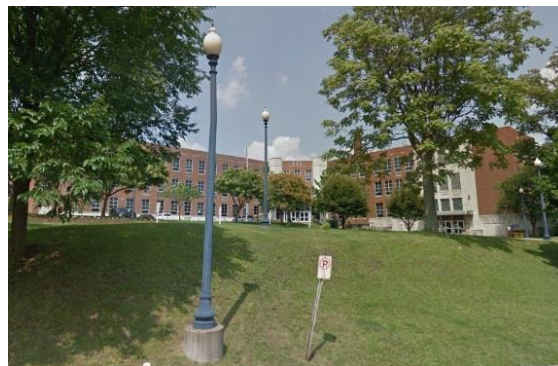
**BUILDING EVALUATIONS -
BRENTWOOD MIDDLE/HIGH SCHOOL AND DISTRICT ADMINISTRATION OFFICE**



Address: 3601 Brownsville Road
Pittsburgh, PA 15227

Constructed: 1930, 1939, 1950, 1959,
1973 Additions and
Alterations, 1989,
1997 Additions and
Renovations

Enrollment: Middle Schools (Grades 6-8):
292



High School (Grades 7-12): 367

Size: 211,580 s.f.

Site: 4.69 acres located centrally within the Borough on Brownsville Road, Point View Road and Windsor Road. Adjacent to the property is Brentwood Park, containing green space, the football stadium, baseball fields, tennis and basketball courts, Civic Center building and public swimming pool. The spaces at Brentwood Park, including the stadium are owned and maintained by the municipality.

The site is irregular in shape and slopes significantly at various directions. Parking on the site is limited and does not meet any ordinance requirements or the needs of the School. There are various levels of parking, sidewalks, exterior stairs and elevated walkways. The condition of the asphalt paving on the site is poor. Some of the concrete walkways are deteriorating and the steel structure supporting them needs to be painted, to prevent any additional rusting and deterioration. Retaining walls on the site are in fair condition, and some repairs may be required.

Structure: The building construction of the original 1930, 1939 and 1950 parts is masonry bearing with poured concrete floors. The 1973 addition is masonry bearing with structural steel interior supports and steel framed floor and roof.

The 1997 addition of classroom area is masonry bearing with structural steel supports and steel framed floor and roof.

The athletic wing is steel frame with structural steel columns and framed floors and roof. The exterior brick masonry has deteriorated at the pool and gymnasium area with cracks on the walls that show possible movement or settlement. Overall in other areas some repointing and recaulking of all joints is recommended.

Roof: The roof is an adhered EPDM system installed during the 1997 renovation. The condition of the roof is poor, with various leaks reported.

Windows: The windows are double hung aluminum by Traco, installed in 1989. They are in fair condition with operational problems and leaks reported.

Exterior Doors: The exterior doors are aluminum at the main entrances and FRP at secondary entrances. The condition is fair.

Interior Spaces: The building is well maintained; however some programmatic changes and maintenance issues may require future alterations.

Classrooms: The classrooms are in good condition. Additional storage cabinets are desirable.

**Natorium /
Swimming**

Pool: The natatorium / swimming pool is an area that needs attention. It appears that a significant amount of water is lost in addition to normal evaporation. This could be because a pool dehumidification unit with recovery capabilities does not exist, and also possibly leaking through the pool walls. The walls show some deterioration and cracks. In addition, the pool is not level, with approximately 1" difference between each end.

The exterior walls of the pool have significant cracks that require further evaluation. The adjacent spaces show signs of corrosion of metal items such as door frames and piping underneath. The pool filtration system needs to be evaluated and a new infrared sanitizing system should be considered.

The pool seating area above is adjacent to the Weight Room. Separate corridor entrances are required by current codes and regulations.

Corridors: The corridors have vinyl composition tile flooring, painted plaster walls and lay-in acoustical ceilings. Their condition is good.

Office Area: The office area is centrally located and has a secure entrance.

Auditorium /

Stage: The auditorium and stage are in fair condition. The auditorium seating has deteriorated. No handicapped seats are provided. The stage equipment is also at the end of its serviceable life. In addition, the auditorium acoustics and wall, floor and ceiling treatments need to be improved.

Gymnasium: The High School gymnasium is located above the pool. The condition of the floor and bleachers is good. The Middle School gymnasium is located at the original part of the building; floor and bleachers are in fair condition.

Locker

Rooms: The locker rooms are adequate in size and have durable finish materials, ceramic mosaic tile floors and ceramic tile walls. The lockers are perforated metal and are in fair condition, with operational and corrosion problems.

Interior Spaces (continued):

Library /

Media Center: Spaces such as the library need to be evaluated for instructional / educational program needs, and upgrades made as technology evolves around programs.

Kitchen /

Cafeteria: The majority of kitchen equipment is in fair condition, and is at the end of their serviceable life. The cafeteria is adequate in size. Some aesthetic upgrades are recommended to make the space more appealing.

Restrooms: The restrooms are in good condition. Floors are typically ceramic mosaic tile, walls are ceramic tile or painted concrete masonry units. The toilet partitions are solid plastic. Their condition is good.

D.A.O.: The District Administration Offices are at ground level and connected to the school. Their condition is good.

Tech Ed.: The tech area consists of two spaces, one with traditional shop equipment and the other with computer equipment. The condition of the traditional equipment is poor and the space is inadequate. A re-evaluation of the program will be required in order to assess Tech Ed's future needs.

Science

Rooms: These rooms and equipment are in good condition; however, an evaluation of the educational programs will be required in order to assess future needs and improvements.

Home

Economics: This room has the traditional teaching stations, which are in good condition. However, as with some of the other spaces, an evaluation of the educational program will determine the extent of future improvements.

HVAC:

Overall: The HVAC system is in general, a 2-pipe heating only type with only partial areas air conditioned. Main system components include boilers, pumps, piping, traditional classroom unit ventilators, air handling units, exhaust fans, pneumatic automatic temperature control (ATC) system, and miscellaneous terminal heating equipment.

Overall, the air handling units and boilers appear to be in fair condition. Unit ventilators and the pneumatic ATC system are in poor condition with multiple failures ongoing. To provide temporary solution when the unit ventilators fail, facilities personnel have replaced with split system units. This has been a stop gas measure but should not be considered permanent as these do not have the capability to properly ventilate for school occupancies and are inefficient in heating operation.

HVAC (continued):

Boilers: The heating system is served by two (2) cast iron hot water boilers. The units are HB Smith Mills Series, date to 2001 and have rated output capacities of 4,360 Mbtuh. Units are equipped with primary run around pumps and appears to be in fair condition. ASHRAE recommended lifespan for units of this type are in the 35 year timeframe give or take a few years depending on service and maintenance amongst other factors. As such, these units should provide reliable service for the foreseeable future.

Hot Water Pumps: The system is served by two (2) constant volume, base mounted distribution pumps. Equipment appears to be in good condition. Future upgrades, when planned should incorporate variable frequency drives (VFD's) for long term energy savings.

Piping: The school is served by a 2-pipe, hot water system. Most of the piping system dates to the 1998 renovation project. Some portions however date to the 1971 project. Systems were observed to be in good condition with minimal problems reported. X-ray testing would be recommended to confirm condition prior to any proposed renovation project.

Automatic Temperature Control (ATC) System: The ATC system dates to the 1997 project and is a pneumatic (compressed air) type. Facilities personnel reported having many problems with damaged and leaking copper tubing. This system has limited energy management/savings capability and at some time in the near future should be upgraded to a more efficient and controllable direct digital (DDC) type.

Classroom Terminal Equipment: Classrooms are served by floor and ceiling mounted unit ventilators. Units date to the 1997 project and were reported to be in poor and in various instances failing condition.

Gymnasium Terminal Equipment: Each gym is served by multiple air handling units. Units are heating and ventilating only and date to the 1997 project. Expected lifespan for interior equipment of this type is 35 years depending on service / maintenance. Units appear to be in good condition and should provide reliable service for the foreseeable future. If air conditioning is considered a rebuild may be possible, but replacement may be the most appropriate course of action.

HVAC (continued):

- Natorium: The natatorium is served by a heating and ventilating only air handling unit. Unit is a conventional space air handling unit and does not have the dehumidification and heat recovery capabilities as would normally be expected to be found serving a pool space.
- Office. The various office areas are served by ceiling mounted unit ventilators. Units date to the 1997 project, are in poor condition and set up for very little active zones of control.
- Misc. Heating Equipment: Various types of convectors, cabinet unit heaters, horizontal unit heaters and finned-tube radiation are spotted throughout the building. These date to the 1997 project, appear in good condition with no problems reported.
- D.A.O.: The District Administration Office areas are served by ceiling mounted unit ventilators. Units date to the 1997 project, are in poor condition and are set up for very little active zones of control.

Plumbing:

- Central Services: The domestic water is supplied via Pennsylvania American Water Company; no water pressure problems were reported. The Sanitary sewer System is connected to the municipal system. Gas service is supplied by Equitable Gas.
- Piping: Most of the domestic water piping appears to have been replaced during the 1997 project. The kitchen piping was reported to be in very poor condition. The main water service has a back flor preventer installed.
- Fixtures: The majority of the plumbing fixtures are in fair condition. The existing flush valves and faucets are manual.
- Equipment: Domestic water heating is generated by two (2) boilers in tandem. Units are RayPak, date to the 2001 renovation project and are rated at 750,000 BTUH input capacity. Units are located in the boiler room. There are also two (2) storage tanks, each of 680 gallons capacity. The system is likely oversized. Due to its age and condition, a new domestic hot water heating system is recommend to be installed with thermostatic control valves to provide proper water temperature distribution throughout the facility.
- Kitchen: Many trouble issues were reported such as clogged drain lines, and leaking domestic pipes. These should be replaced.

Electrical:

Services: Two electric services exist for the building. One consists of a 120/208 volt DLCO pad mounted transformer with 2000 amp underground service feeder to a 2000 amp Culter Hammer Switchboard with a 2000 amp main. The switchboard and feeder was replaced in the last renovation and is in good condition. The second service consists of a 277/480 volt DLCO pad mount transformer with 3000 amp feeder to a 3000 amp square D switchboard with 3000 amp main. This switchboard is about 50 years old and should eventually be replaced along with the service feeder.

Panels /

Feeders: Most existing panelboards, feeders, and other distribution equipment were replaced in the last renovation and are in good condition. Any original panels and feeders should be replaced.

Lighting /

Power

Branch

Circuits,

Switches, and

Receptacles: Most existing branch circuits for lighting and power, switches and receptacles were replaced in the last renovation and are in good condition. Original receptacles, switches and branch circuits should be replaced.

Exterior:

The exterior lighting consists of HID fixtures mounted off the building as well as pole mounted HPS fixtures. These fixtures are in fair to good condition. Based on the condition of the fixtures and the potential maintenance and energy savings. these existing HPS lights should be replaced with LED. The poles can remain.

Auditorium /

Stage:

The existing auditorium house lighting is primarily incandescent and should be replaced with LED. The dimmer rack is manufactured by Lehigh and was replaced during the last renovation. The dimmer rack is on the side of the stage and creates fan noise. It is recommended to replace the existing dimmer rack and incandescent stage lighting fixtures with new color changing LED and relay style rack suitable for dimming LED stage lighting.

Electrical (continued):

Interior: Most of the fixtures in the building utilize T-8 fluorescent lamps with electronic ballasts. The corridors, lobbies, and other circulation spaces are lighted with recessed prismatic fixtures with switching for control. The utility spaces are lighted with industrial strip lights and restrooms lighted with fluorescent cove fixtures. The gym is lighted with 400 watt HID high bay fixtures. The library has fluorescent fixtures. The exit signs are LED. Locate stairway lighting on wall at landings. Most of the fixtures in the school are in fair to good condition. The ballasts in these existing fixtures, if they were not replaced already, should be at the end of their useful life, and will need to be replaced. An upgrade of the existing lighting to LED and installation of lighting occupancy sensor controls should be considered at this time to provide energy and maintenance savings. Considering the re-ballasting and relamping costs of the fixtures, energy savings, and rebates available for LED lighting and controls, a payback of 6-8 years could be realized.

Emergency

Power: Two relatively new emergency generators exist in the building. A Cummins 125 KW natural gas unit outside of the Annex in an enclosure. It is in good condition. A second Cummins 40 KW natural gas generator in the building that is in good condition as well.

Telecom/Systems:

Service: The service entrance equipment is in good condition. The main phone system is located in the High School and is functioning. The other schools in the district are tied to this phone system.

Network

Cabling: Cat 5e cabling is installed throughout the school for camera outlets, telephone outlets and network data outlets. This cabling is sufficient for their current usage. Any future updates to the building should utilize Cat 6 cabling or better. The exiting fiber optic backbone cabling is sufficient.

PA/Clock

System: There are phones in all the classrooms. These are used to make calls to the office. The phone in the main office is used to make announcements. There is a bell tone system for class change. There are Sapling satellite clocks in the building. The clocks appear to be functioning.

Cameras: The School District has changed the existing cameras from analog to digital. These cameras seem to be sufficient.

Security: The security / door access systems appear to be sufficient.

Classroom

Outlets: The School District is in the process of installing wireless access points throughout the building. There is one cat 5E computer drop at each teacher's desk. There are four computer drops in each classroom for the students. This configuration is sufficient for their current needs. There is a ceiling mounted projector and promethium board in each classroom. This configuration is sufficient for their current needs.

**Telecom / Life
Safety Systems
(continued):**

Fire Alarm
System:

The existing fire alarm is a Simplex addressable system. The system can be expanded to accommodate additional devices. The audio-visual notification devices are needed in order to meet ADA requirements. Additional NAC power packs will be needed to power these additional devices. There is a water leakage problem over some of the existing fire alarm panels. These panels should be relocated across the room.

**State Code
Compliance:**

In general, the building complied with the applicable building codes when it was constructed and when it was renovated. Since the building was approved by prior building codes, it is considered a certified building. However, if renovations take place that are beyond cosmetic or typical maintenance improvements the changes within the renovation areas and any replaced building systems will be required to comply with the requirements of the PA Uniform Construction Code and local regulations and ordinances.

**ADA
Compliance:**

The multi-story structure is accessible from the exterior and an elevator serves each floor. Areas of rescue assistance are located at each stairway. The restrooms are accessible, however further evaluation will be required if the building will be renovated for compliance with current ADA regulations.

Asbestos:

A facility re-inspection was conducted by Volz Environmental, Inc. The complete report is on file with the School. During the 1997 renovation asbestos containing materials were removed, however additional material sampling and removal will be required prior to any renovations.

Utilities:

Electricity: Duquesne Light Company
Gas: Equitable Gas
Water: Pennsylvania American Water Company
Sewage: Borough of Brentwood

**Present Overall
Condition:**

Fair to Good.

SUMMARY OF CAPITAL IMPROVEMENTS NEEDS

- New paving
- Paint exterior steel structures
- Replace selected exterior concrete walks and steps
- Replace concrete pad for emergency generator
- New roof
- Update storm sewer system
- New windows
- Masonry restoration
- Painting and cosmetic improvements
- Replace exterior doors and frames
- Replace interior doors and hardware
- Upgrade swimming pool
- X-ray heating and domestic water piping
- Add air-conditioning
- Replace unit ventilators
- Replace air handling units
- Upgrade ATC system to DDC
- Replace domestic water heater
- Replace existing plumbing fixtures with low flow type
- Replace sanitary lines in problem areas (kitchen) and through the building
- New electrical service for air-condition if selected
- Replace switchboard
- Replace old panels, feeders, branch circuits, switches and receptacles that were not replaced at the last renovation
- Replace exiting lighting with LED
- Replace interior lighting with LED
- Replace auditorium and stage lighting
- Replace selected fire alarm panels that have water damage
- Add audio-visual notification devices to meet current ADA regulations
- Replace air handling unit serving pool space with one that has heat recovery and condensate reclaim capabilities
- Update or replace Public Address, clock and phone system



View of limited parking below the athletic complex.



Paving is in poor condition.



Emergency exit ramp from gym area.

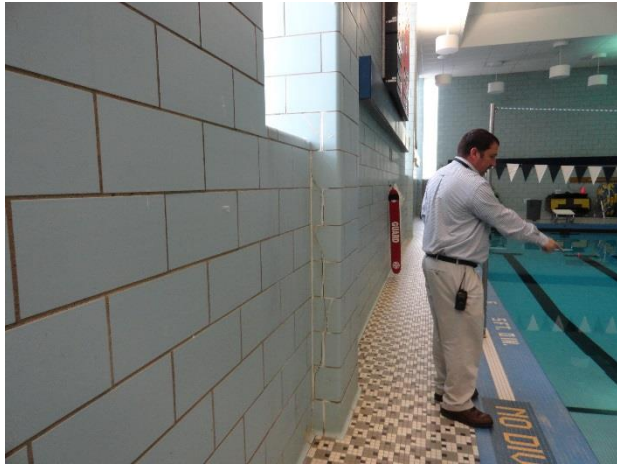


Brick wall crack at natatorium.



Roof is in poor condition.

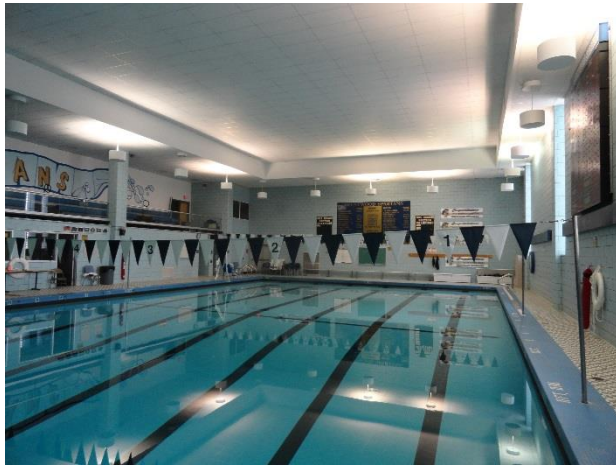




Cracks on Natatorium walls.



Natatorium: rusted exterior frames.



View of Natatorium.



Gymnasium.



Exterior at the rear of the building.



Corroded piping in basement.



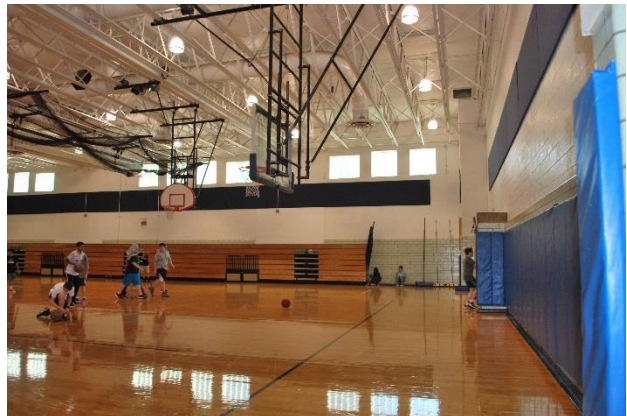
Tech Ed area.



Welding area.



CNC Machine room.



Middle School Gymnasium.



Cafeteria.



Kitchen.



Terrazzo flooring is cracked at some locations.



Auditorium.



Auditorium.



Auditorium Balcony.



Band room (above).
Handicap shower in pool locker rooms (right).



BRENTWOOD MIDDLE/HIGH SCHOOL (GRADES 6-12)

EXISTING

Level One:	2,190 S.F.	Level Four:	15,370 S.F.	Level Seven:	33,870 S.F.
Level Two:	17,260 S.F.	Level Five:	70,200 S.F.	Level Eight:	33,130 S.F.
Level Three:	8,380 S.F.	Level Six:	4,340 S.F.	Level Nine:	26,840 S.F.
				Total:	211,580 S.F.

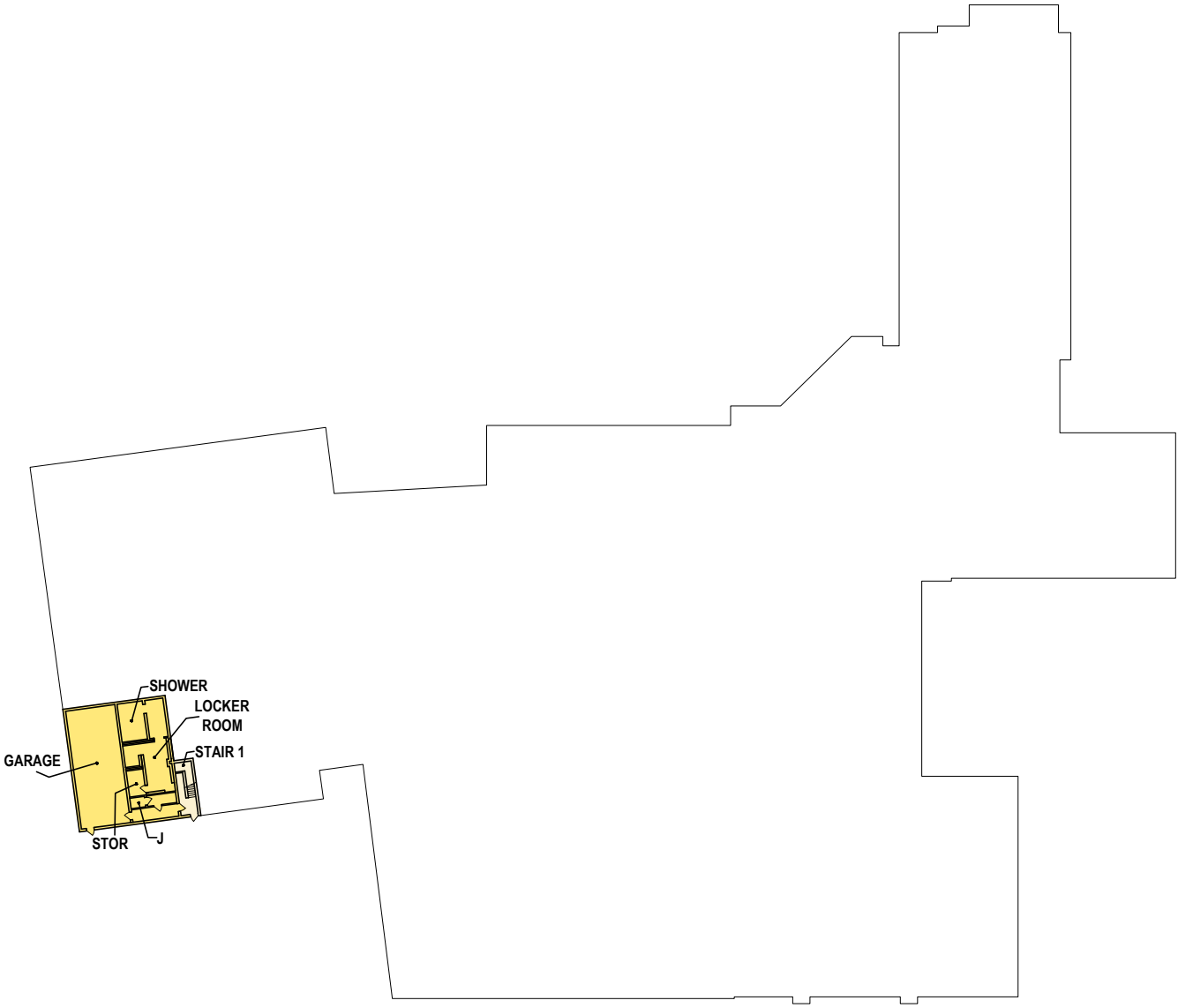


SITE PLAN



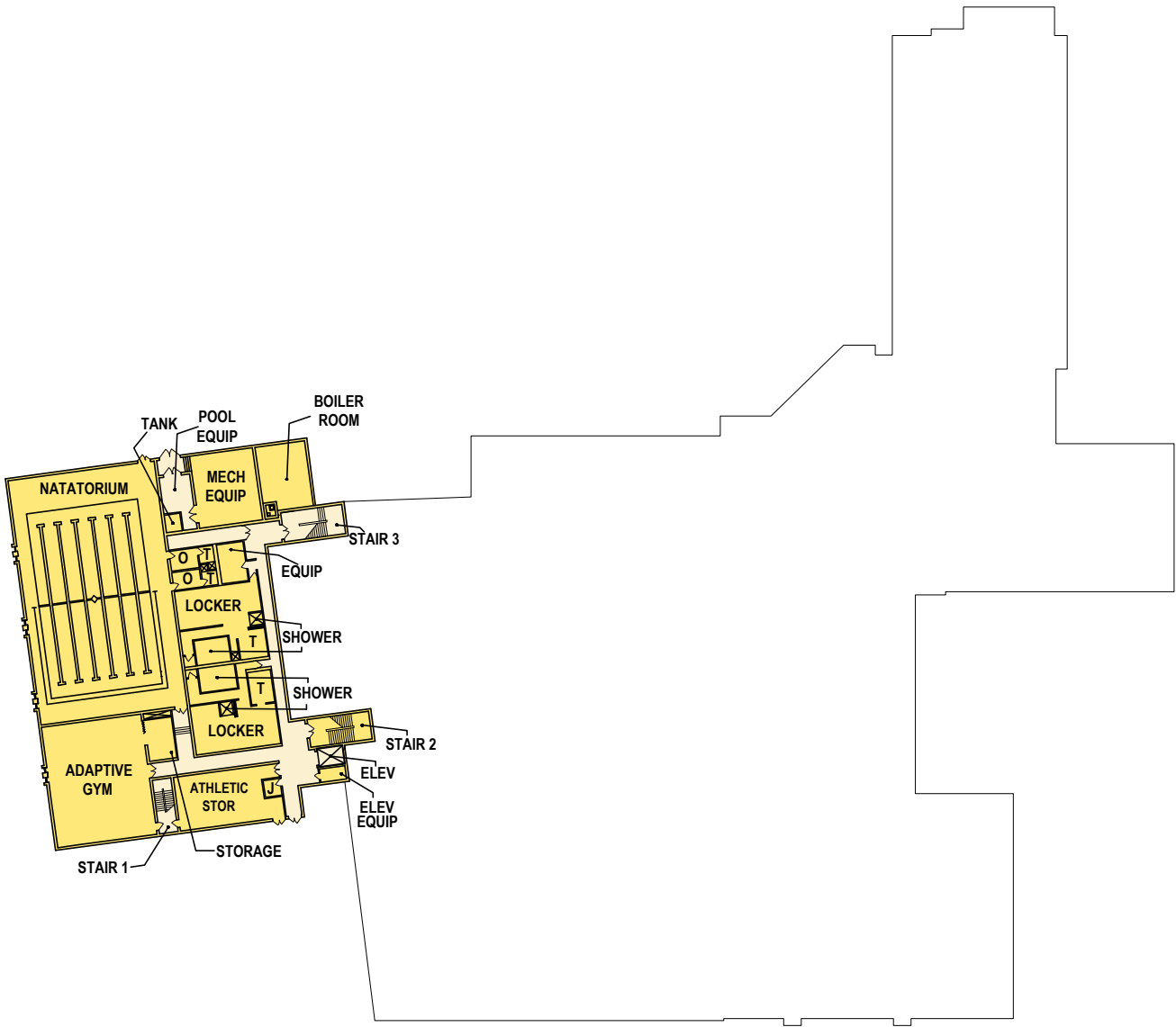
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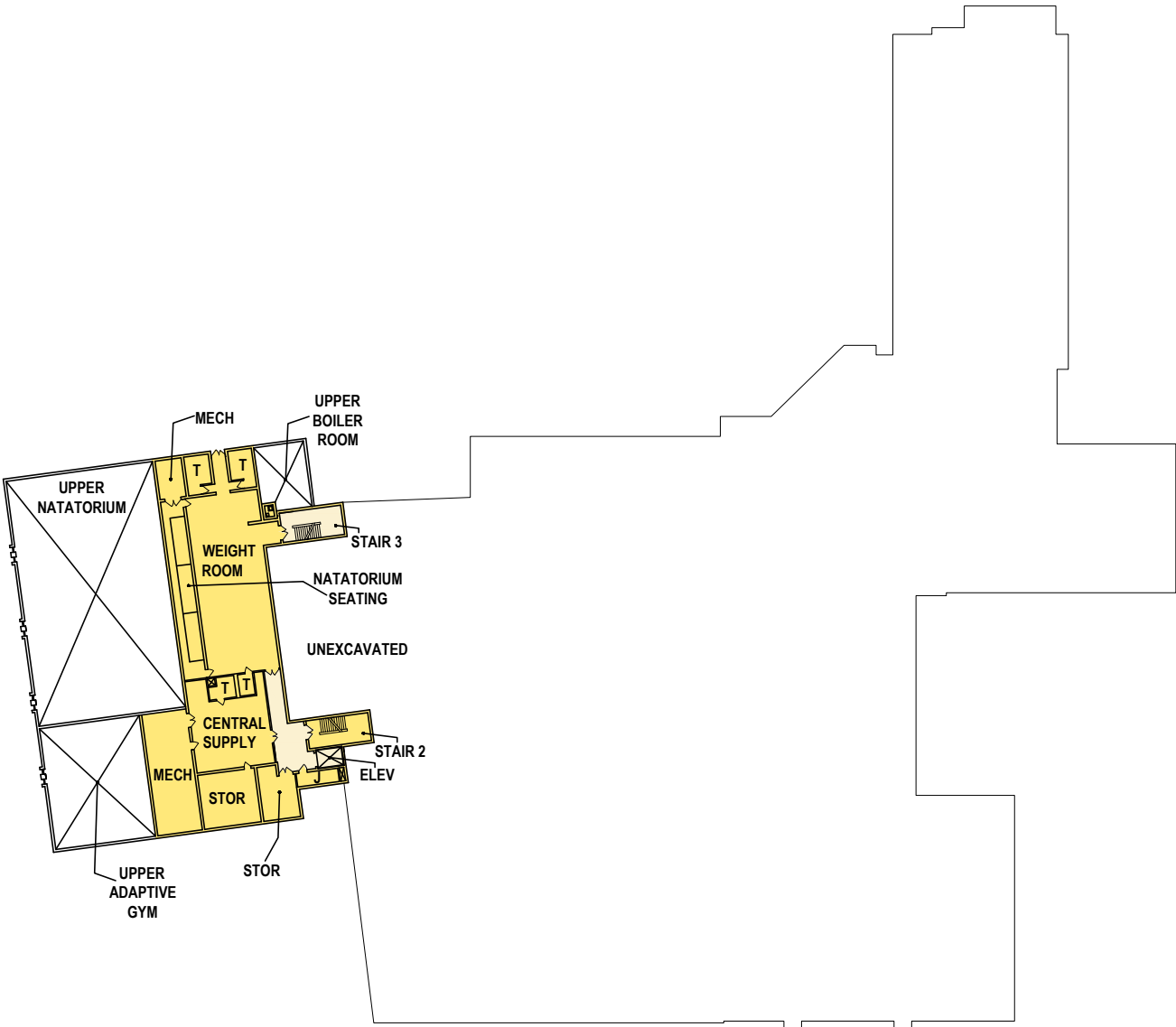
LEVEL 1 PLAN



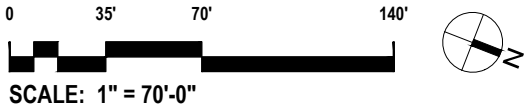


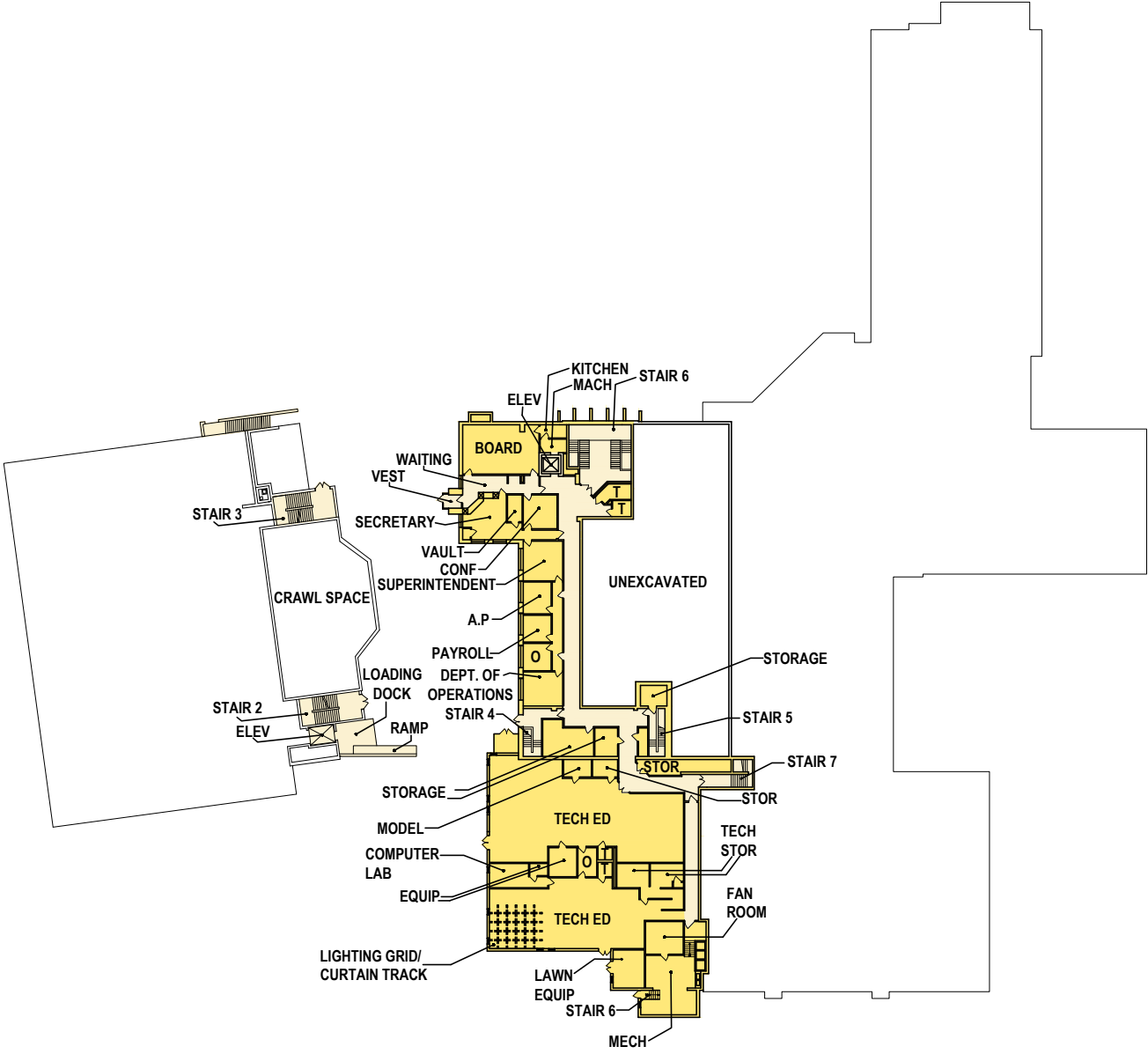
LEVEL 2 PLAN





LEVEL 3 PLAN

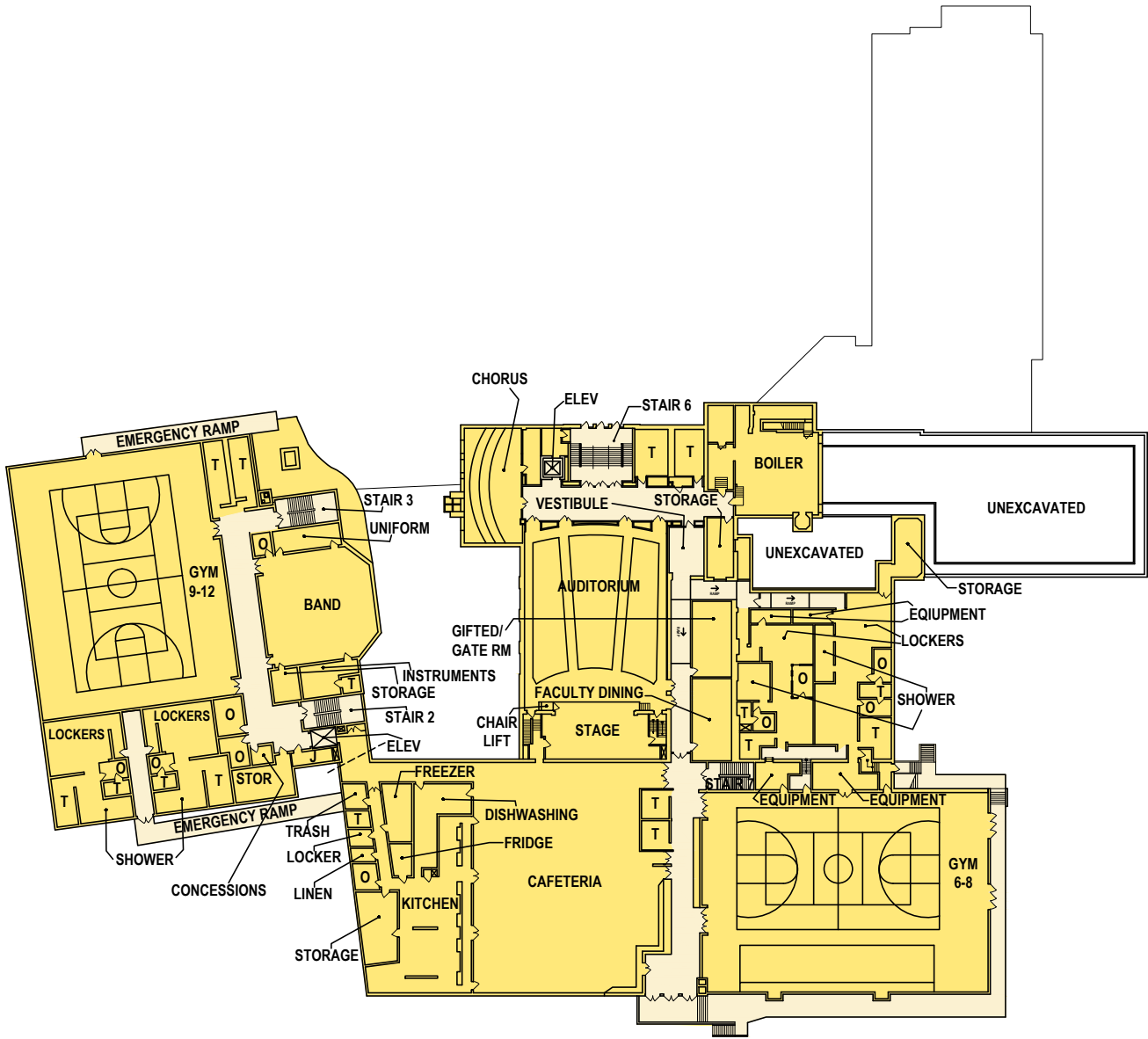




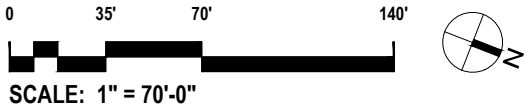
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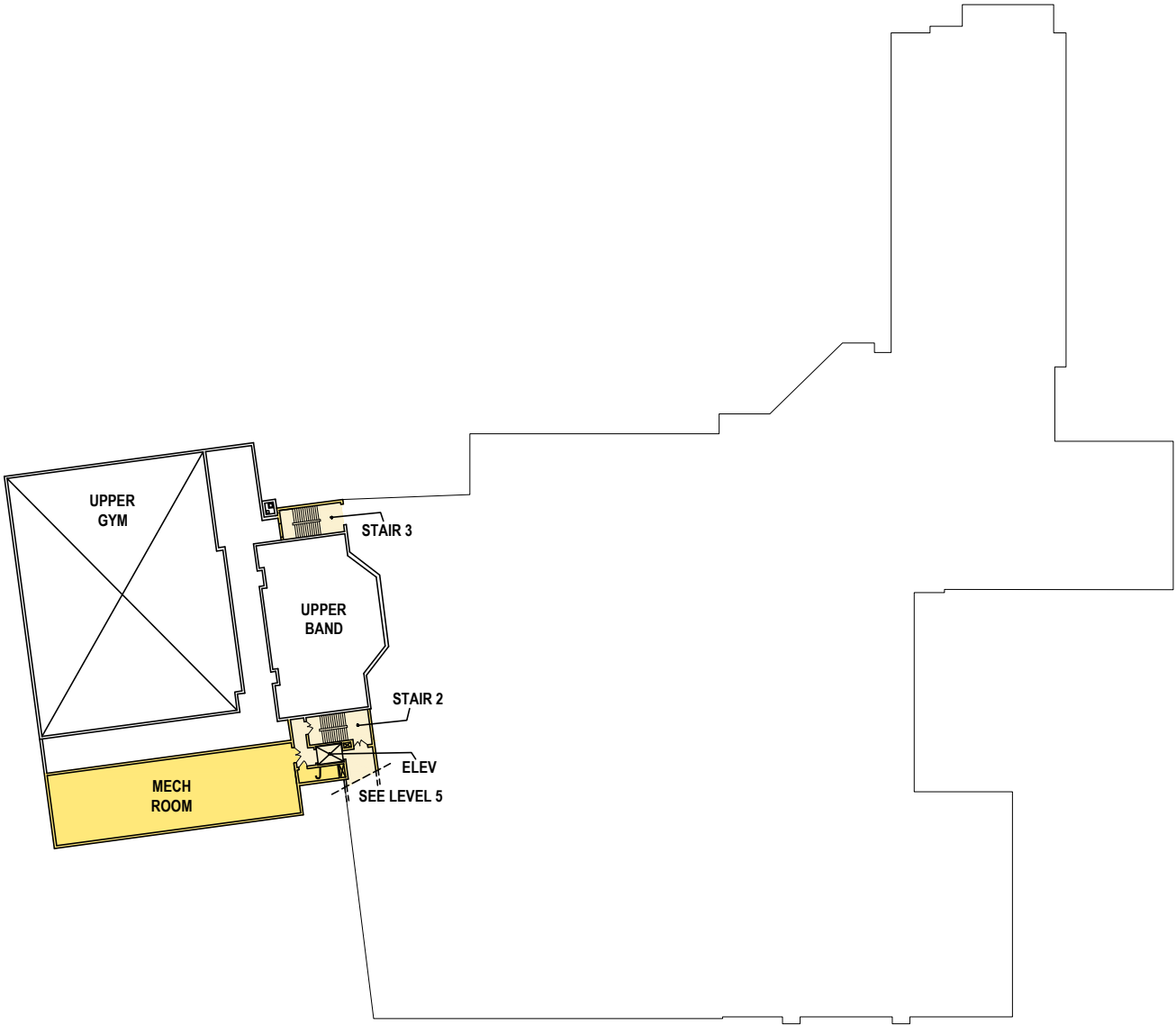


LEVEL 4 PLAN

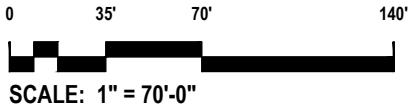


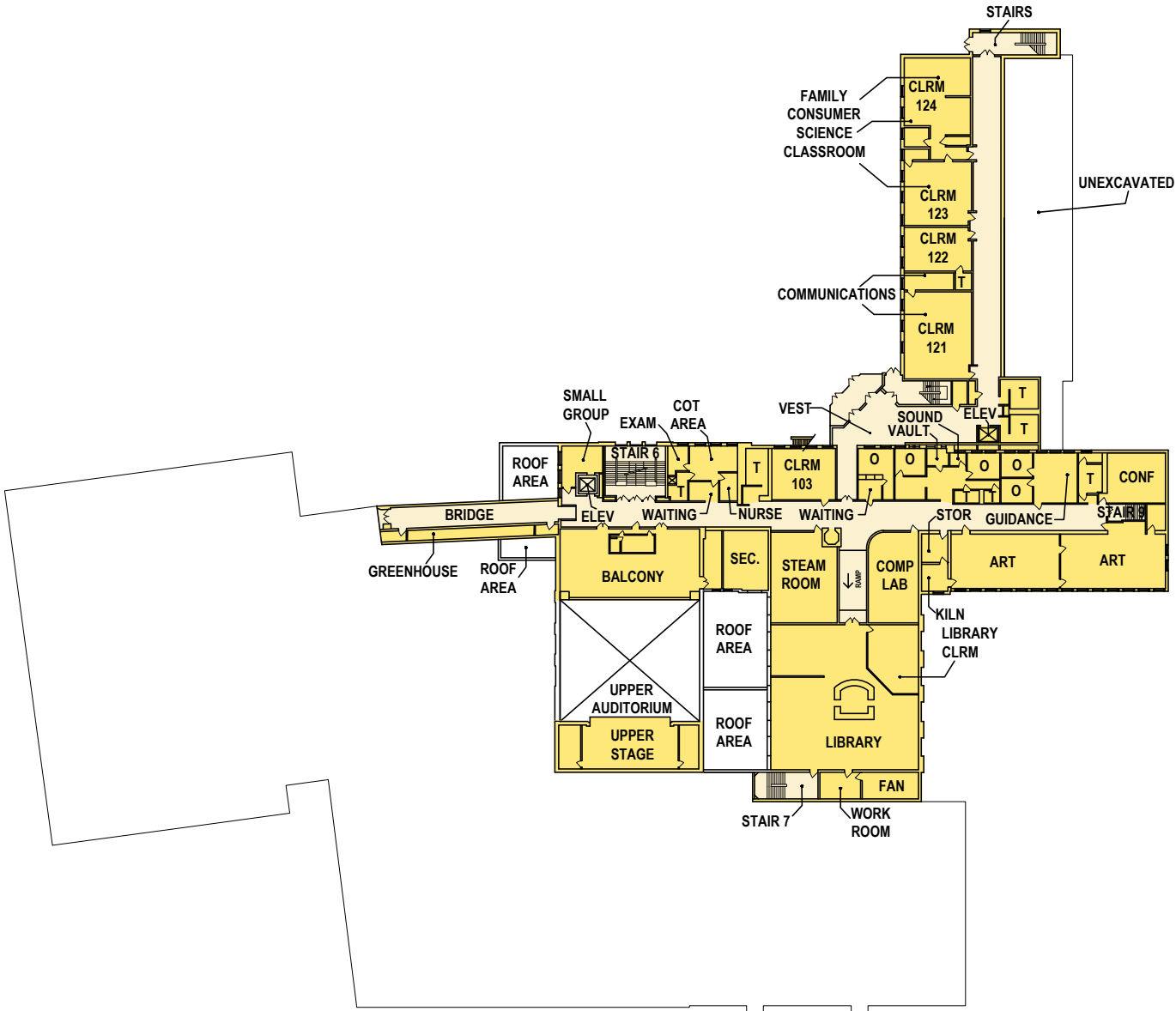
LEVEL 5 PLAN





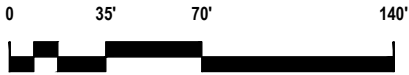
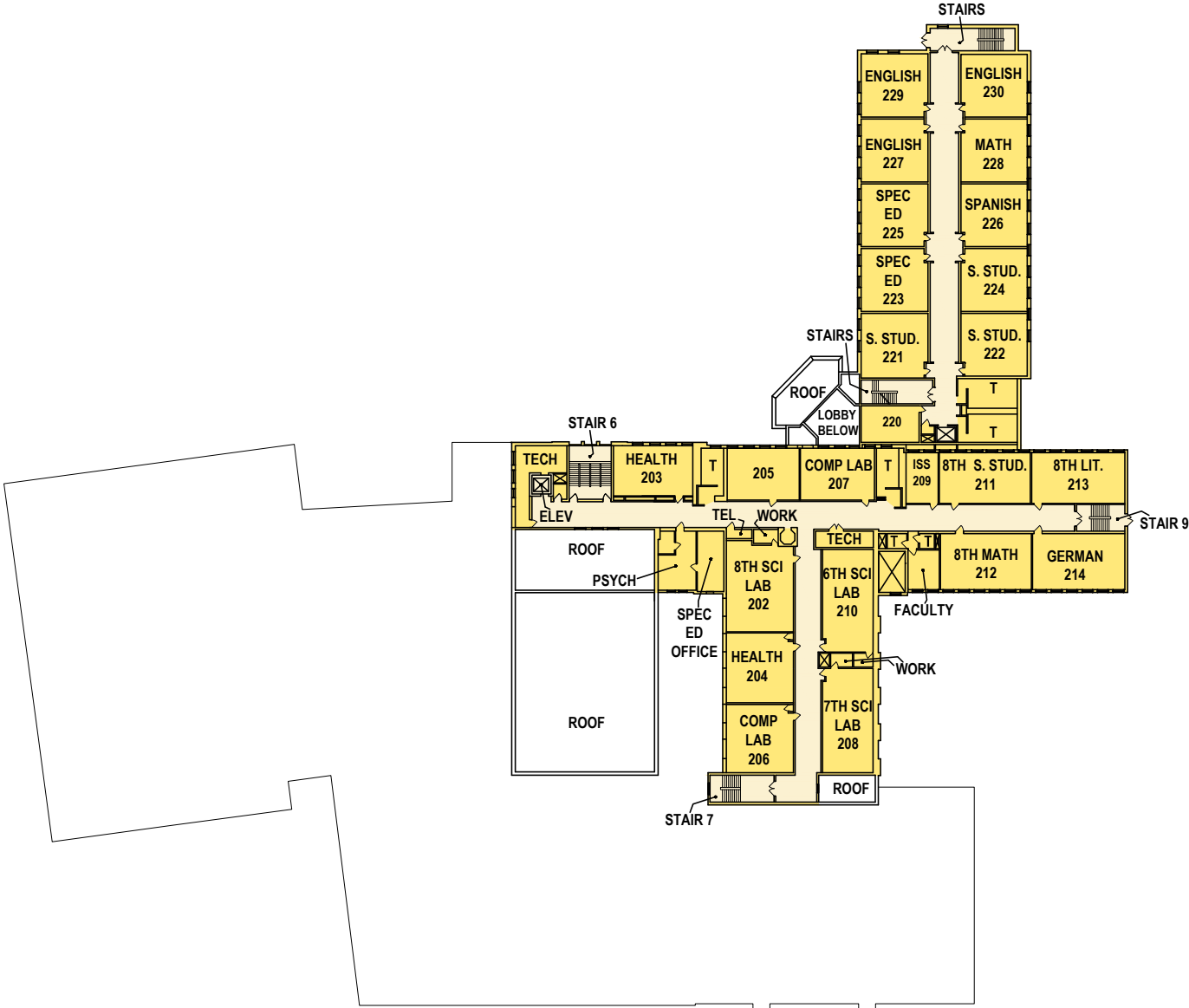
LEVEL 6 PLAN





LEVEL 7 PLAN

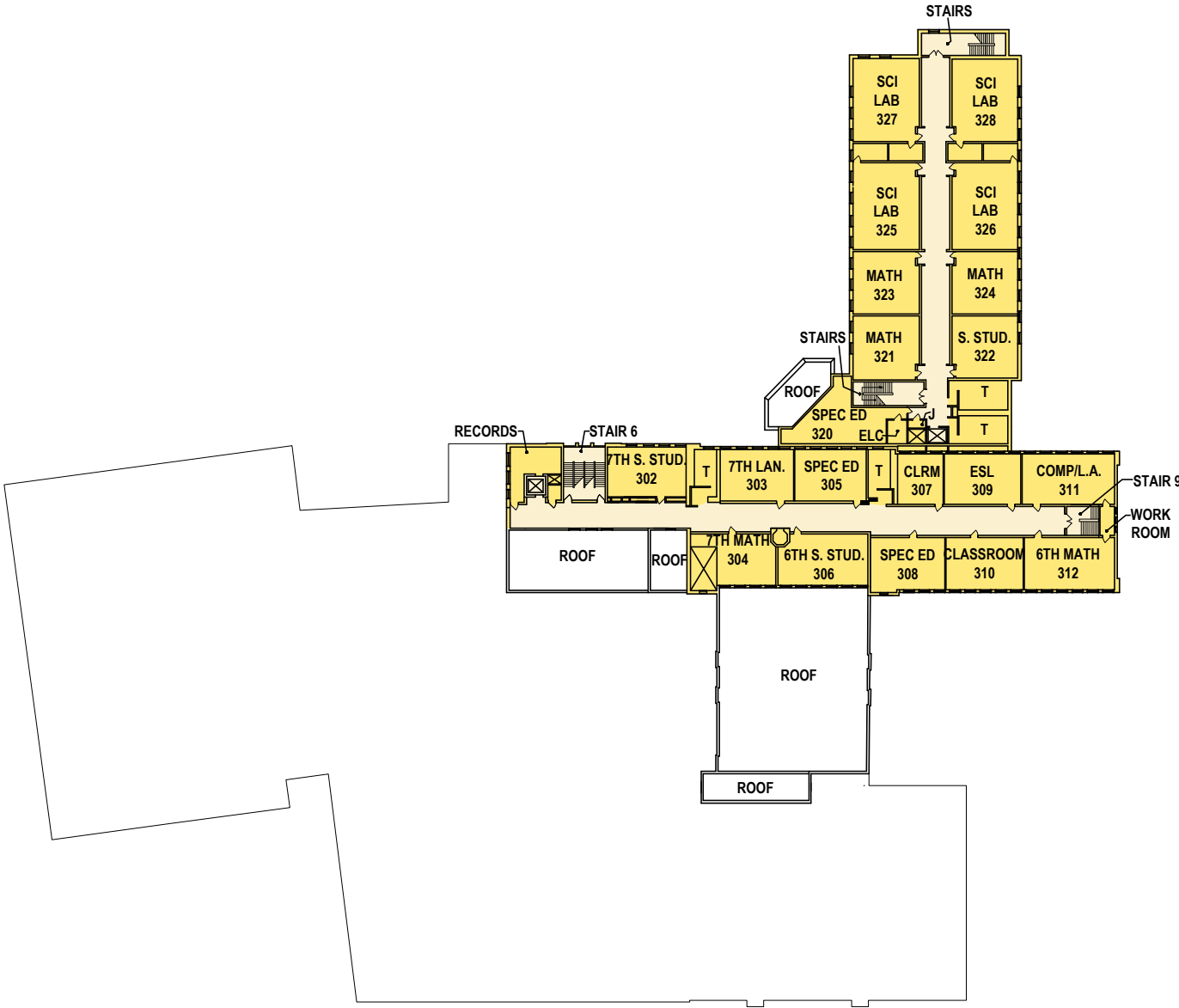




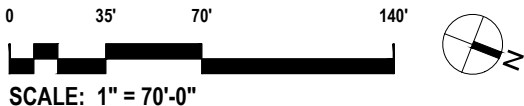
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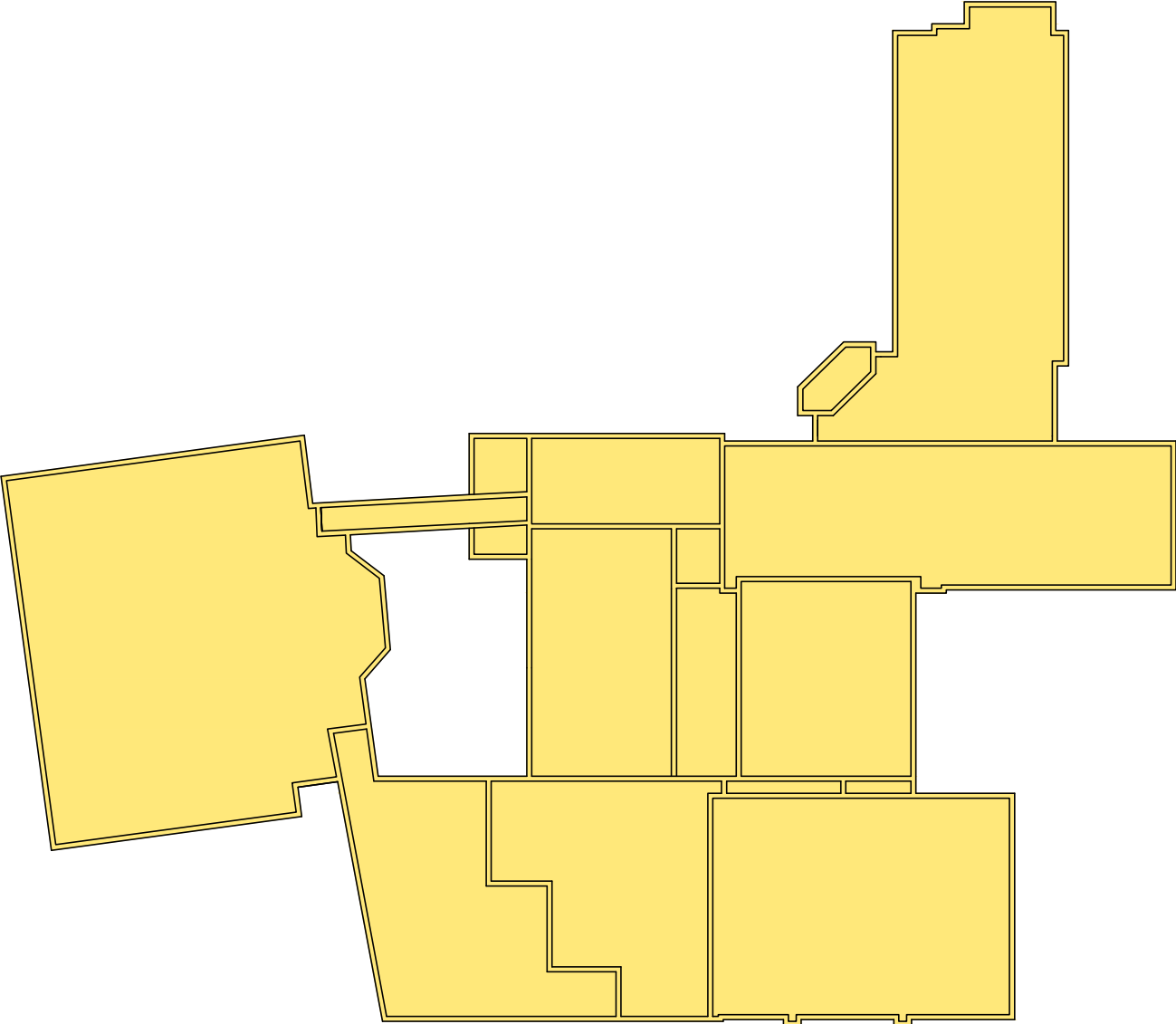


LEVEL 8 PLAN



LEVEL 9 PLAN





ROOF PLAN





Option 1: Renovate all Schools

- Renovations to Elroy Elementary (grades K-5)
- Renovations to Moore Elementary (grades K-5)
- Renovations to Brentwood Middle / High School (grades 6-12)

Option 1A: Renovate all Schools

- Renovations to Elroy Elementary (grades K-5)
- Renovations to Moore Elementary (grades K-5)
- Renovations to Brentwood Middle / High School (grades 6-12) and construct new athletic wing

Option 2: Renovate all Schools; Move 5th Grade to the Middle School

- Renovations to Elroy Elementary (grades K-4)
- Renovations to Moore Elementary (grades K-4)
- Renovations and Additions to Brentwood Middle / High School (grades 5-12)

Option 2A: Renovate all Schools; Move 5th Grade to the Middle School; Construct new athletic wing to the High School

- Renovations to Elroy Elementary School (grades K-4)
- Renovations to Moore Elementary School (grades K-4)
- Renovations and Additions to Brentwood Middle / High School (grades 5-12) and construction of new athletic wing and new 5th grade classroom wing

Option 3: Consolidate all grades to one K-12 building

- Construct new K-12 building on a site to be selected
- Close Elroy and Moore Elementary Schools and Brentwood Middle / High School

A. Construction Costs:

Site Work to Include:

• Extend parking lot for additional 20 parking spaces and improve clearances at existing parking	\$ 396,000
• Construct new retaining wall	250,000
• Repave existing parking lot	125,000
• Repave play area	50,000
• Repair / replace selective existing concrete steps sidewalks / railings	75,000
• Replace metal fire escape stair	50,000
• Replace exterior lighting with LED and add lighting at playground	75,000
• Replace exterior fence	45,000
• Repair retaining wall between building and playground	50,000
• Replace retaining wall between playground and street	320,000
• Replace railroad ties wall with new retaining wall	20,000
Sub-Total:	\$1,456,000

Exterior Building Renovations to Include:

• New roof system	\$ 285,000
• New windows	350,000
• New exterior doors and frames	55,000
• Masonry restoration	35,000
Sub-Total:	\$ 725,000

Interior Renovations to Include:

• Kitchen and cafeteria improvements	\$ 175,000
• Replace interior doors and hardware	245,000
• Replace ceilings	210,000
• Replace carpet at library and computer room	15,000
• Upgrade elevator	120,000
• Replace gymnasium and stage flooring	75,000
• Replace VCT flooring	85,000
• Painting	45,000
• Replace educational equipment	210,000
• Replace stage equipment	35,000
• Remove concrete bleacher steps and install new bleachers	125,000
• Ramp and stair railings	50,000
• Restroom renovations	150,000
Sub-Total:	\$1,540,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 12,000
• Replace unit ventilators (add air-conditioning)	300,000
• Selective hot water piping replacement	25,000
• Chilled water piping	175,000
• Replace air handling units	45,000
• Upgrade to automatic temperature control (ATC)	275,000
• New hot water pumps with VFD's	25,000
• New chilled water pumps with VFD's	25,000
• New chiller, with no cost to reuse existing boilers	95,000
• Testing, adjusting, balancing (TAB) and commissioning	75,000
Sub-Total:	\$1,052,000

Plumbing Improvements to Include:

• X-ray piping for condition and long term suitability	\$ 3,000
• Replace selective domestic water piping	15,000
• Replace domestic water heater	50,000
• Replace plumbing fixtures with low flow type	<u>165,000</u>

Sub-Total: \$ 233,000

Electrical Improvements to Include:

• New electrical service (if air-conditioning is added)	\$ 150,000
• Replace interior lights with LED	200,000
• Replace stage and gymnasium lighting	45,000
• Extend emergency generator exhaust	5,000
• Electrical work with proposed mechanical	50,000
• Telecom equipment service entrance cable replacement	10,000
• Upgrade fire alarm system to include audio-visual devices	<u>50,000</u>

Sub-Total: \$ 510,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$5,516,000

B. Soft Costs:

• Design and engineering	\$ 330,000
• Storm water management design and permitting	25,000
• Site survey	10,000
• Test borings and geotech inspections	45,000
• Printing and advertising	15,000
• Permits and inspections	110,000
• Utility company fees	50,000
• Construction services (Clerk of Works)	100,000
• Temporary housing for classrooms allowance	200,000
• Contingency (5%)	<u>276,000</u>

Sub-Total: \$1,161,000

TOTAL ESTIMATED PROJECT COSTS: \$6,677,000

A. Construction Costs:**Site Work to Include:**

• Repave existing parking lot	\$ 85,000
• Repave play area	50,000
• Replace lighting with LED and add lighting at playground	75,000
• Repair retaining wall and balcony wall above boiler room	50,000
• Waterproof exterior wall and install French drain in front of band room	<u>75,000</u>
Sub-Total:	\$ 335,000

Exterior Building Renovations to Include:

• New roof system	\$ 210,000
• New windows	330,000
• New exterior doors and frames	30,000
• Masonry restoration	35,000
• Removal of tall chimney not currently used	<u>25,000</u>
Sub-Total:	\$ 630,000

Interior Renovations to Include:

• Convert storage across from office to conference room	\$ 30,000
• Construct new storage with outside entrance adjacent to fan room	120,000
• Kitchen and cafeteria improvements	150,000
• Replace interior doors and hardware	175,000
• Replace ceilings	160,000
• Replace carpet at library, computer room and office	15,000
• Replace VCT flooring in classrooms	65,000
• Rubber tile at ramps	5,000
• Replace gymnasium and stage flooring	75,000
• Painting	40,000
• Replace educational equipment	160,000
• Upgrade elevator	110,000
• Replace stage equipment	<u>35,000</u>
Sub-Total:	\$1,140,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 10,000
• Replace unit ventilators (add air-conditioning)	250,000
• Selective new hot water piping	15,000
• Chilled water piping	150,000
• Replace air handling units	35,000
• Upgrade to automatic temperature control (ATC)	225,000
• New hot water pumps with VFD's	25,000
• New chilled water pumps with VFD's	25,000
• New boilers	175,000
• New chiller	80,000
• Testing, adjusting, balancing (TAB) and commissioning	<u>65,000</u>
Sub-Total:	\$1,055,000

Plumbing Improvements to Include:

• X-ray piping of existing domestic piping	\$ 3,000
• Selective new domestic water piping	10,000
• Replace fixture with low flow type	150,000
• Replace domestic water heater	<u>45,000</u>

Sub-Total: \$ 208,000

Electrical Improvements to Include:

• New electrical service (if air-conditioning is added)	\$ 140,000
• Replace interior lights with LED	175,000
• Extend emergency generator exhaust	3,000
• Electrical work associated with HVAC	40,000
• Upgrade fire alarm system to include audio-visual devices	30,000
• Replace stage and gymnasium lighting	<u>45,000</u>

Sub-Total: \$ 433,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$3,801,000

B. Soft Costs:

• Design and engineering	\$ 228,000
• Printing and advertising	15,000
• Permits and inspections	75,000
• Utility company fees	45,000
• Temporary housing for classrooms allowance	175,000
• Construction services (Clerk of Works)	75,000
• Contingency (5%)	<u>190,000</u>

Sub-Total: \$ 803,000

TOTAL ESTIMATED PROJECT COSTS: \$4,604,000

A. Construction Costs:

Site Work to Include:

• Repave existing parking lots	\$ 270,000
• Replace selective concrete walks	50,000
• Repair retaining walls	175,000
• Repair concrete deck and paint steel on gymnasium fire escapes	125,000
• Exterior lighting	<u>75,000</u>
Sub-Total:	\$ 695,000

Exterior Building Renovations to Include:

• Masonry restoration including repairs at pool and gymnasium existing walls	\$ 450,000
• New roof system	1,468,000
• New windows	945,000
• New exterior doors and frames	<u>175,000</u>
Sub-Total:	\$3,038,000

Interior Renovations to Include:

• Pool renovations (concrete structure repair, filtration system, infrared sanitizing system, deck pod ceramic tile, gutter, drain piping)	\$1,125,000
• Middle School and High School gymnasium floors	275,000
• Middle School and High School gymnasium bleachers	225,000
• Middle School and High School athletic equipment	175,000
• Library and media center renovations	250,000
• Cafeteria improvements	150,000
• Kitchen equipment and food court	650,000
• Science equipment upgrades and replacements	300,000
• Educational equipment upgrades and replacement	650,000
• Technology Education area improvements	600,000
• Elevator upgrades	450,000
• Flooring	550,000
• Ceilings	650,000
• Painting	350,000
• Bridge and greenhouse renovations	75,000
• New corridor lockers	245,000
• New locker room lockers	250,000
• Auditorium seating	250,000
• Stage equipment	<u>150,000</u>
Sub-Total:	\$7,370,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 30,000
• Selective new hot water piping replacement	100,000
• New chilled water piping	830,000
• New unit ventilators	1,450,000
• New air handling units	275,000

HVAC Improvements to Include (continued):

• Upgrade to automatic temperature control (ATC)	1,350,000
• New hot water pumps with VFD's	75,000
• New chilled water pumps with VFD's	75,000
• New chiller	525,000
• Testing, adjusting, balancing (TAB) and commissioning	175,000
• New pool dehumidification unit	250,000
• Paddle fans above pool spectator area	5,000
	<u>5,000</u>
Sub-Total:	\$5,140,000

Plumbing Improvements to Include:

• X-ray piping of existing domestic piping	\$ 10,000
• Selective domestic water piping replacement	85,000
• Replace fixture with low flow type	425,000
• Replace domestic water heater	90,000
• Replace pool water heater	75,000
• Replace sanitary piping in kitchen area	285,000
	<u>285,000</u>
Sub-Total:	\$ 970,000

Electrical Improvements to Include:

• New electrical service switchboard	\$ 150,000
• Replace selective panels and feeders	25,000
• Replace selective branch circuits, switches and receptacles	25,000
• Replace auditorium and stage lighting	200,000
• Replace interior lighting with LED fixtures	989,000
• Relocate fire alarm panels to an interior wall. Add audiovisual notifications.	110,000
• Electrical work associated with mechanical	100,000
• Replace score boards in gymnasiums and pool	300,000
	<u>300,000</u>
Sub-Total:	\$1,899,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$19,112,000

B. Soft Costs:

• Design and engineering	\$1,147,000
• Site survey	15,000
• Test borings	10,000
• Printing and advertising	20,000
• Permits and inspections	350,000
• Temporary classrooms housing	250,000
• Construction services (Clerk of Works)	250,000
• Contingency (5%)	955,000
	<u>955,000</u>
Sub-Total:	\$2,997,000

TOTAL ESTIMATED PROJECT COSTS: \$22,109,000

A. Construction Costs:

Site Work to Include:

• Repave existing parking lots	\$ 270,000
• Replace selective concrete walks	50,000
• Repair retaining walls	175,000
• Repair concrete deck and paint steel on gymnasium fire escapes	125,000
• Exterior lighting	<u>75,000</u>
Sub-Total:	\$ 695,000

New Athletic Wing Scope of Work:

Demolition of current athletic wing including natatorium, gymnasium, band room, weight room, locker rooms and other auxiliary spaces	\$ 275,000
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Construct New Athletic Wing (52,000 s.f.) to Include:

• New natatorium with six (6) lane pool	
• Locker rooms for natatorium	
• New High School gymnasiums	
• Locker rooms for gymnasiums	
• Band room, choral room and storage	<u>20,800,000</u>
Sub-Total:	\$21,075,000

Exterior Building Renovations to Include:

• Masonry restoration including repairs at pool and gymnasium existing walls	\$ 450,000
• New roof system	1,468,000
• New windows	945,000
• New exterior doors and frames	<u>175,000</u>
Sub-Total:	\$3,038,000

Interior Renovations to Include:

• Middle School gymnasium floor	\$ 150,000
• Middle School gymnasium bleachers	150,000
• Middle School athletic equipment	100,000
• Library and media center renovations	250,000
• Cafeteria improvements	150,000
• Kitchen equipment and food court	650,000
• Science equipment upgrades and replacements	300,000
• Educational equipment upgrades and replacement	650,000
• Technology Education area improvements	600,000
• Elevator upgrades	450,000
• Flooring	550,000
• Ceilings	650,000
• Painting	350,000
• New corridor lockers	245,000
• New Middle School locker room lockers	120,000
• Auditorium seating	250,000
• Stage equipment	<u>150,000</u>
Sub-Total:	\$5,765,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 30,000
• Selective new hot water piping replacement	100,000
• New chilled water piping	640,000
• New unit ventilators	1,450,000
• New air handling units	275,000
• Upgrade to automatic temperature control (ATC)	1,040,000
• New hot water pumps with VFD's	75,000
• New chilled water pumps with VFD's	75,000
• New chiller	525,000
• Testing, adjusting, balancing (TAB) and commissioning	<u>175,000</u>

Sub-Total: \$4,385,000**Plumbing Improvements to Include:**

• X-ray piping of existing domestic piping	\$ 10,000
• Selective domestic water piping replacement	85,000
• Replace fixture with low flow type	425,000
• Replace domestic water heater	90,000
• Replace sanitary piping in kitchen area	<u>285,000</u>

Sub-Total: \$ 895,000**Electrical Improvements to Include:**

• New electrical service switchboard	\$ 150,000
• Replace selective panels and feeders	25,000
• Replace selective branch circuits, switches and receptacles	25,000
• Replace auditorium and stage lighting	200,000
• Replace interior lighting with LED fixtures	800,000
• Electrical work associated with mechanical	100,000
• Replace scoreboard in Middle School gymnasium	<u>110,000</u>

Sub-Total: \$1,410,000**TOTAL ESTIMATED CONSTRUCTION COSTS: \$37,263,000****B. Soft Costs:**

• Design and engineering	\$2,236,000
• Site survey	15,000
• Test borings	20,000
• Geotechnical inspections	75,000
• Storm Water Management / E & S	35,000
• Printing and advertising	20,000
• Permits and inspections	670,000
• Temporary classrooms housing	250,000
• Construction services (Clerk of Works)	250,000
• Contingency (5%)	<u>1,863,000</u>

Sub-Total: \$5,434,000**TOTAL ESTIMATED PROJECT COSTS: \$42,697,000**

A. Construction Costs:

Site Work to Include:

• Extend parking lot for additional 20 parking spaces and improve clearances at existing parking	\$ 396,000
• Construct new retaining wall	250,000
• Repave existing parking lot	125,000
• Repave play area	50,000
• Repair / replace selective existing concrete steps sidewalks / railings	75,000
• Replace metal fire escape stair	50,000
• Replace exterior lighting with LED and add lighting at playground	75,000
• Replace exterior fence	45,000
• Repair retaining wall between building and playground	50,000
• Replace retaining wall between playground and street	320,000
• Replace railroad ties wall with new retaining wall	20,000
	Sub-Total: \$1,456,000

Exterior Building Renovations to Include:

• New roof system	\$ 285,000
• New windows	350,000
• New exterior doors and frames	55,000
• Masonry restoration	35,000
	Sub-Total: \$ 725,000

Interior Renovations to Include:

• Kitchen and cafeteria improvements	\$ 175,000
• Replace interior doors and hardware	245,000
• Replace ceilings	210,000
• Replace carpet at library and computer room	15,000
• Upgrade elevator	120,000
• Replace gymnasium and stage flooring	75,000
• Replace VCT flooring	85,000
• Painting	45,000
• Replace educational equipment	210,000
• Replace stage equipment	35,000
• Remove concrete bleacher steps and install new bleachers	125,000
• Ramp and stair railings	50,000
• Restroom renovations	150,000
• Relocate office to lower level adjacent to nurse. Construct new entrance canopy and re-assign existing space	225,000
	Sub-Total: \$1,765,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 12,000
• Replace unit ventilators (add air-conditioning)	300,000
• Selective hot water piping replacement	25,000
• Chilled water piping	175,000
• Replace air handling units	45,000
• Upgrade to automatic temperature control (ATC)	275,000
• New hot water pumps with VFD's	25,000

HVAC Improvements to Include (continued):

• New chilled water pumps with VFD's	25,000
• New chiller, with no cost to reuse existing boilers	95,000
• Testing, adjusting, balancing (TAB) and commissioning	<u>75,000</u>

Sub-Total: \$1,052,000

Plumbing Improvements to Include:

• X-ray piping for condition and long term suitability	\$ 3,000
• Replace selective domestic water piping	15,000
• Replace domestic water heater	50,000
• Replace plumbing fixtures with low flow type	<u>165,000</u>

Sub-Total: \$ 233,000

Electrical Improvements to Include:

• New electrical service (if air-conditioning is added)	\$ 150,000
• Replace interior lights with LED	200,000
• Replace stage and gymnasium lighting	45,000
• Extend emergency generator exhaust	5,000
• Electrical work with proposed mechanical	50,000
• Telecom equipment service entrance cable replacement	10,000
• Upgrade fire alarm system to include audio-visual devices	<u>50,000</u>

Sub-Total: \$ 510,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$5,741,000

B. Soft Costs:

• Design and engineering	\$ 344,000
• Storm water management design and permitting	25,000
• Site survey	10,000
• Test borings and geotechnical inspections	45,000
• Printing and advertising	15,000
• Permits and inspections	110,000
• Utility company fees	50,000
• Construction services (Clerk of Works)	100,000
• Temporary housing for classrooms allowance	200,000
• Contingency (5%)	<u>287,000</u>

Sub-Total: \$1,186,000

TOTAL ESTIMATED PROJECT COSTS: \$6,927,000

A. Construction Costs:**Site Work to Include:**

• Repave existing parking lot	\$ 85,000
• Repave play area	50,000
• Replace lighting with LED and add lighting at playground	75,000
• Repair retaining wall and balcony wall above boiler room	50,000
• Waterproof exterior wall and install French drain in front of band room	<u>75,000</u>
Sub-Total:	\$ 335,000

Exterior Building Renovations to Include:

• New roof system	\$ 210,000
• New windows	330,000
• New exterior doors and frames	30,000
• Masonry restoration	35,000
• Removal of tall chimney not currently used	<u>25,000</u>
Sub-Total:	\$ 630,000

Interior Renovations to Include:

• Convert storage across from office to conference room	\$ 30,000
• Construct new storage with outside entrance adjacent to furnace room	120,000
• Kitchen and cafeteria improvements	150,000
• Replace interior doors and hardware	175,000
• Replace ceilings	160,000
• Replace carpet at library, computer room and office	15,000
• Replace VCT flooring in classrooms	65,000
• Rubber tile at ramps	5,000
• Replace gymnasium and stage flooring	75,000
• Painting	40,000
• Replace educational equipment	160,000
• Upgrade elevator	110,000
• Replace stage equipment	<u>35,000</u>
Sub-Total:	\$1,140,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 10,000
• Replace unit ventilators (add air-conditioning)	250,000
• Selective new hot water piping	15,000
• Chilled water piping	150,000
• Replace air handling units	35,000
• Upgrade to automatic temperature control (ATC)	225,000
• New hot water pumps with VFD's	25,000
• New chilled water pumps with VFD's	25,000
• New boilers	175,000
• New chiller	80,000
• Testing, adjusting, balancing (TAB) and commissioning	<u>65,000</u>
Sub-Total:	\$1,055,000

Plumbing Improvements to Include:

• X-ray piping of existing domestic piping	\$ 3,000
• Selective new domestic water piping	10,000
• Replace fixture with low flow type	150,000
• Replace domestic water heater	<u>45,000</u>

Sub-Total: \$ 208,000

Electrical Improvements to Include:

• New electrical service (if air-conditioning is added)	\$ 140,000
• Replace interior lights with LED	175,000
• Extend emergency generator exhaust	3,000
• Electrical work associated with HVAC	40,000
• Upgrade fire alarm system to include audio-visual devices	30,000
• Replace stage and gymnasium lighting	<u>45,000</u>

Sub-Total: \$ 433,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$3,801,000

B. Soft Costs:

• Design and engineering	\$ 228,000
• Printing and advertising	15,000
• Permits and inspections	75,000
• Utility company fees	45,000
• Temporary housing for classrooms allowance	175,000
• Construction services (Clerk of Works)	75,000
• Contingency (5%)	<u>190,000</u>

Sub-Total: \$ 803,000

TOTAL ESTIMATED PROJECT COSTS: \$4,604,000

A. Construction Costs:**Site Work to Include:**

• Repave existing parking lots	\$ 270,000
• Replace selective concrete walks	50,000
• Repair retaining walls	175,000
• Repair concrete deck and paint steel on gymnasium fire escapes	125,000
• Exterior lighting	75,000
	Sub-Total: \$ 695,000

Classroom Addition to Include: (12,000 s.f. New Construction)

• Six (6) classrooms	
• Stair	
• Storage	
• Restrooms	
• Expansion of library to adjacent roof area	
• Modifications to library area	
	Sub-Total: \$4,200,000

Exterior Building Renovations to Include:

• Masonry restoration including repairs at pool and gymnasium existing walls	\$ 450,000
• New roof system	1,468,000
• New windows	945,000
• New exterior doors and frames	175,000
	Sub-Total: \$3,038,000

Interior Renovations to Include:

• Pool renovations (concrete structure repair, filtration system, infrared sanitizing system, pool deck ceramic tile, gutter, drain piping)	\$1,125,000
• Middle School and High School gymnasium floors	275,000
• Middle School and High School gymnasium bleachers	225,000
• Middle School and High School athletic equipment	175,000
• Library and media center renovations	350,000
• Cafeteria improvements	150,000
• Kitchen equipment and food court	650,000
• Science equipment upgrades and replacements	300,000
• Educational equipment upgrades and replacement	650,000
• Technology Education area improvements	600,000
• Elevator upgrades	450,000
• Flooring	550,000
• Ceilings	650,000
• Painting	350,000
• Bridge and greenhouse renovations	75,000
• New corridor lockers	245,000
• New locker room lockers	250,000
• Auditorium seating	250,000
• Stage equipment	150,000
	Sub-Total: \$7,470,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 30,000
• Selective new hot water piping replacement	100,000
• New chilled water piping	830,000
• New unit ventilators	1,450,000
• New air handling units	275,000
• Upgrade to automatic temperature control (ATC)	1,350,000
• New hot water pumps with VFD's	75,000
• New chilled water pumps with VFD's	75,000
• New chiller	525,000
• Testing, adjusting, balancing (TAB) and commissioning	175,000
• New pool dehumidification unit	250,000
• Paddle fans above pool spectator area	5,000
Sub-Total:	<u>\$5,140,000</u>

Plumbing Improvements to Include:

• X-ray piping of existing domestic piping	\$ 10,000
• Selective domestic water piping replacement	85,000
• Replace fixture with low flow type	425,000
• Replace domestic water heater	90,000
• Replace pool water heater	75,000
• Replace sanitary piping in kitchen area	285,000
Sub-Total:	<u>\$ 970,000</u>

Electrical Improvements to Include:

• New electrical service switchboard	\$ 150,000
• Replace selective panels and feeders	25,000
• Replace selective branch circuits, switches and receptacles	25,000
• Replace auditorium and stage lighting	200,000
• Replace interior lighting with LED fixtures	989,000
• Relocate fire alarm panels to an interior wall; add audiovisual notifications	110,000
• Electrical work associated with mechanical	100,000
• Replace score boards in gymnasiums and pool	300,000
Sub-Total:	<u>\$1,899,000</u>

TOTAL ESTIMATED CONSTRUCTION COSTS: \$23,412,000

B. Soft Costs:

• Design and engineering	\$1,405,000
• Site survey	15,000
• Test borings	20,000
• Geotechnical inspections	50,000
• Storm Water Management and E & S	35,000
• Printing and advertising	20,000
• Permits and inspections	375,000
• Temporary classrooms housing	250,000
• Construction services (Clerk of Works)	250,000
• Contingency (5%)	1,171,000
Sub-Total:	<u>\$3,591,000</u>

TOTAL ESTIMATED PROJECT COSTS: \$27,003,000

A. Construction Costs:

Site Work to Include:

• Repave existing parking lots	\$ 270,000
• Replace selective concrete walks	50,000
• Repair retaining walls	175,000
• Repair concrete deck and paint steel on gymnasium fire escapes	125,000
• Exterior lighting	<u>75,000</u>

Sub-Total: \$ 695,000

New Athletic Wing Scope of Work:

Demolition of current athletic wing including natatorium, gymnasium, band room, weight room, locker rooms and other auxiliary spaces	\$ 275,000
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Construct New Athletic Wing (52,000 s.f.) to Include:

• New natatorium with six (6) lane pool	
• Locker rooms for natatorium	
• New High School gymnasiums	
• Locker rooms for gymnasiums	
• Band room, choral room and storage	<u>20,800,000</u>

Sub-Total: \$21,075,000

Classroom Addition to Include: (12,000 s.f. New Construction)

- Six (6) classrooms
- Stair
- Storage
- Restrooms
- Expansion of library to adjacent roof area
- Modifications to library area

Sub-Total: \$4,200,000

Exterior Building Renovations to Include:

• Masonry restoration including repairs at pool and gymnasium existing walls	\$ 450,000
• New roof system	1,468,000
• New windows	945,000
• New exterior doors and frames	<u>175,000</u>

Sub-Total: \$3,038,000

Interior Renovations to Include:

• Middle School gymnasium floor	\$ 150,000
• Middle School gymnasium bleachers	150,000
• Middle School athletic equipment	100,000
• Library and media center renovations	250,000
• Cafeteria improvements	150,000
• Kitchen equipment and food court	650,000
• Science equipment upgrades and replacements	300,000
• Educational equipment upgrades and replacement	650,000
• Technology Education area improvements	600,000
• Elevator upgrades	450,000
• Flooring	550,000
• Ceilings	650,000
• Painting	350,000
• New corridor lockers	<u>245,000</u>

• New Middle School locker room lockers	120,000
• Auditorium seating	250,000
• Stage equipment	<u>150,000</u>
Sub-Total:	\$5,765,000

HVAC Improvements to Include:

• X-ray testing of existing hot water piping	\$ 30,000
• Selective new hot water piping replacement	100,000
• New chilled water piping	640,000
• New unit ventilators	1,450,000
• New air handling units	275,000
• Upgrade to automatic temperature control (ATC)	1,040,000
• New hot water pumps with VFD's	75,000
• New chilled water pumps with VFD's	75,000
• New chiller	525,000
• Testing, adjusting, balancing (TAB) and commissioning	<u>175,000</u>
Sub-Total:	\$4,385,000

Plumbing Improvements to Include:

• X-ray piping of existing domestic piping	\$ 10,000
• Selective domestic water piping replacement	85,000
• Replace fixture with low flow type	425,000
• Replace domestic water heater	90,000
• Replace sanitary piping in kitchen area	<u>285,000</u>
Sub-Total:	\$ 895,000

Electrical Improvements to Include:

• New electrical service switchboard	\$ 150,000
• Replace selective panels and feeders	25,000
• Replace selective branch circuits, switches and receptacles	25,000
• Replace auditorium and stage lighting	200,000
• Replace interior lighting with LED fixtures	800,000
• Electrical work associated with mechanical	100,000
• Replace scoreboard in Middle School gymnasium	<u>110,000</u>
Sub-Total:	\$1,410,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$41,526,000**B. Soft Costs:**

• Design and engineering	\$2,492,000
• Site survey	15,000
• Test borings	20,000
• Geotechnical inspections	75,000
• Storm Water Management / E & S	50,000
• Printing and advertising	20,000
• Permits and inspections	700,000
• Temporary classrooms housing	250,000
• Construction services (Clerk of Works)	250,000
• Contingency (5%)	<u>2,076,000</u>
Sub-Total:	\$5,948,000

TOTAL ESTIMATED PROJECT COSTS: \$47,474,000

A. Construction Costs:

Site Work to Include: \$ 5,000,000

- Parking and driveways
- Concrete walks.
- Play areas
- Landscaping
- Storm Water Management
- Exterior lighting

Building Construction: (Building Area 225,000 s.f.)

- | | |
|---------------------------|----------------|
| • General trades | \$40,500,000 |
| • HVAC | 7,875,000 |
| • Plumbing | 2,250,000 |
| • Electrical | 6,750,000 |
| • Food Service | 650,000 |
| • Educational equipment | 1,125,000 |
| • Science equipment | 563,000 |
| • Pool equipment | 500,000 |
| • Tech Ed equipment | 600,000 |
| • Data and communications | 450,000 |
| • Fire Protection | 675,000 |
| • Commissioning | <u>150,000</u> |

Sub-Total: \$62,088,000

TOTAL ESTIMATED CONSTRUCTION COSTS: \$67,088,000

B. Soft Costs:

- | | |
|---|------------------|
| • Site acquisition allowance | \$ 1,000,000 |
| • Engineering and design | 4,025,000 |
| • Traffic study | 25,000 |
| • Site survey | 50,000 |
| • Geotechnical investigations | 75,000 |
| • NPDES Permit | 15,000 |
| • Storm Water Management / E & S | 40,000 |
| • Land development fees | 5,000 |
| • DEP general permits | 15,000 |
| • Permits and inspections | 750,000 |
| • Utility company fees | 250,000 |
| • Geotechnical inspections | 125,000 |
| • Printing and advertising | 15,000 |
| • Sewer modules | 15,000 |
| • Servers, switches, projectors, cameras etc. | 350,000 |
| • Furniture | 350,000 |
| • Playground equipment | 100,000 |
| • Contingency | <u>3,354,000</u> |

Sub-Total: \$10,559,000

TOTAL ESTIMATED PROJECT COSTS: \$77,647,000

	Elroy Elementary School Grades (K-5)	Moore Elementary School Grades (K-5)	Brentwood Middle / High School Grades (6-12)	TOTAL
Construction	\$ 5,516,000	\$ 3,801,000	\$ 19,112,000	\$ 28,429,000
Soft Costs	\$ 1,161,000	\$ 803,000	\$ 2,997,000	\$ 4,961,000
Total Construction Costs	\$ 6,677,000	\$ 4,604,000	\$ 22,109,000	\$ 33,390,000
Financing Costs	\$ 134,000	\$ 92,000	\$ 442,000	\$ 668,000
Total Project Costs	\$ 6,811,000	\$ 4,696,000	\$ 22,551,000	\$ 34,058,000
Reimbursable Amount	\$ 3,055,470	\$ 2,512,620	\$ 7,579,110	\$ 13,147,200
Reimbursable Percentage	44.8 %	53.5 %	33.6 %	35.7 %
* Effective Reimbursable	32.9 %	39.2 %	24.6 %	26.1 %

* These figures are based on the 2016-2017 MVAR of .7329.

	Elroy Elementary School Grades (K-5)	Moore Elementary School Grades (K-5)	Brentwood Middle / High School Grades (6-12)	TOTAL
	\$ 5,516,000	\$ 3,801,000	\$ 37,263,000	\$ 46,580,000
Soft Costs	<u>\$ 1,161,000</u>	<u>\$ 803,000</u>	<u>\$ 5,434,000</u>	<u>\$ 7,398,000</u>
Total Construction Costs	\$ 6,677,000	\$ 4,604,000	\$ 42,697,000	\$ 53,978,000
Financing Costs	\$ 134,000	\$ 92,000	\$ 854,000	\$ 1,080,000
Total Project Costs	\$ 6,811,000	\$ 4,696,000	\$ 43,551,000	\$ 55,058,000
Reimbursable Amount	\$ 3,055,470	\$ 2,512,620	\$ 7,579,110	\$ 13,147,200
Reimbursable Percentage	44.8 %	53.5 %	17.4 %	23.9 %
* Effective Reimbursable	32.9 %	39.2 %	12.7 %	17.5 %

* These figures are based on the 2016-2017 MVAR of .7329.

	Elroy Elementary School Grades (K-4)	Moore Elementary School Grades (K-4)	Brentwood Middle / High School Grades (5-12)	TOTAL
Construction	\$ 5,516,000	\$ 3,801,000	\$ 23,412,000	\$ 32,729,000
Soft Costs	\$ 1,161,000	\$ 803,000	\$ 3,591,000	\$ 5,555,000
Total Construction Costs	\$ 6,677,000	\$ 4,604,000	\$ 27,003,000	\$ 38,284,000
Financing Costs	\$ 134,000	\$ 92,000	\$ 540,000	\$ 766,000
Total Project Costs	\$ 6,811,000	\$ 4,696,000	\$ 27,543,000	\$ 39,050,000
Reimbursable Amount	\$ 2,698,740	\$ 2,238,610	\$ 8,353,070	\$ 13,290,420
Reimbursable Percentage	39.6 %	47.7 %	30.3 %	34.0 %
* Effective Reimbursable	29.0 %	34.9 %	22.2 %	24.9 %

* These figures are based on the 2016-2017 MVAR of .7329.

	Elroy Elementary School Grades (K-4)	Moore Elementary School Grades (K-4)	Brentwood Middle / High School Grades (5-12)	TOTAL
Construction	\$ 5,516,000	\$ 3,801,000	\$ 41,526,000	\$ 50,843,000
Soft Costs	\$ 1,161,000	\$ 803,000	\$ 5,948,000	\$ 7,912,000
Total Construction Costs	\$ 6,677,000	\$ 4,604,000	\$ 47,474,000	\$ 58,755,000
Financing Costs	\$ 134,000	\$ 92,000	\$ 949,000	\$ 1,175,000
Total Project Costs	\$ 6,811,000	\$ 4,696,000	\$ 48,423,000	\$ 59,930,000
Reimbursable Amount	\$ 2,698,740	\$ 2,238,610	\$ 8,353,070	\$ 13,290,420
Reimbursable Percentage	39.6 %	47.7 %	17.2 %	22.2 %
* Effective Reimbursable	29.0 %	34.9 %	12.6 %	16.2 %

* These figures are based on the 2016-2017 MVAR of .7329.

	NEW Brentwood School Grades (K-12)	TOTAL
Construction	\$ 67,088,000	\$ 67,088,000
Soft Costs	\$ <u>10,559,000</u>	\$ <u>10,559,000</u>
Total Construction Costs	\$ 77,647,000	\$ 77,647,000
Financing Costs	\$ 1,553,000	\$ 1,553,000
Total Project Costs	\$ 79,200,000	\$ 79,200,000
Reimbursable Amount	\$ 11,092,400	\$ 11,092,400
Reimbursable Percentage	14.0 %	14.0 %
* Effective Reimbursable	10.3 %	10.3 %

* These figures are based on the 2016-2017 MVAR of .7329.

BUDGET SUMMARY AND COMPARISON OF ALL OPTIONS

	Option 1	Option 1A	Option 2	Option 2A	Option 3
Construction	\$28,429,000	\$46,580,000	\$32,729,000	\$50,843,000	\$67,088,000
Soft Costs	<u>\$ 4,961,000</u>	<u>\$ 7,398,000</u>	<u>\$ 5,555,000</u>	<u>\$ 7,912,000</u>	<u>\$10,559,000</u>
Total Construction Costs	\$33,390,000	\$53,978,000	\$38,284,000	\$58,755,000	\$77,647,000
Financing Costs	\$ 668,000	\$ 1,080,000	\$ 766,000	\$ 1,175,000	\$ 1,153,000
Total Project Costs	\$34,058,000	\$55,058,000	\$39,050,000	\$59,930,000	\$ 79,200,000
Bond Issue Size *	\$	\$	\$	\$	\$
Reimbursable Amount	\$13,147,200	\$13,147,200	\$13,290,420	\$13,290,420	\$11,092,400
Reimbursable Percentage	35.7 %	23.9%	34.0%	22.2%	14.0%
Effective Reimbursable **	26.1 %	17.5%	24.9%	16.2%	10.3%
Existing Maximum Annual Debt Service	\$	\$	\$	\$	\$
New Maximum Annual Debt Service	\$	\$	\$	\$	\$
Increase over Existing Annual Debt Service	\$	\$	\$	\$	\$
Final Maturity of New Bonds					

* Bond Issue Size and related Debt Service is to be determined by the District's Financial Advisor.

** These figures are based on the 2016-2017 MVAR of .7329.

Year 1

- Perform Elroy ES site work and exterior renovations;
- Perform Moore ES site work and exterior renovations;
- Perform Middle-HS pool wing renovations and structural repairs (Option 1);
- Construct new Athletic wing to the Middle-HS (Option 1A).

Year 2

- Perform Elroy ES interior renovations, including HVAC, Plumbing and Electrical;
- Perform Moore ES interior renovations, including HVAC, Plumbing and Electrical;
- Perform Middle-HS exterior renovations and site work.

Year 3

- Perform Middle-HS Middle School wing renovations.

Year 4

- Perform Middle-HS common area renovations (auditorium and stage, kitchen / cafeteria, technical education, music and library).

Year 5

- Perform Middle-HS High School wing renovations.

Year 1

- Perform Elroy ES site work and exterior renovations;
- Perform Moore ES site work and exterior renovations;
- Perform Middle-HS pool wing renovations and structural repairs (Option 2);
- Construct new Athletic wing to the Middle-HS (Option 2A);
- Construct new 5th Grade wing to the Middle-HS (Option 2A).

Year 2

- Perform Elroy ES interior renovations, including HVAC, Plumbing and Electrical;
- Perform Moore ES interior renovations, including HVAC, Plumbing and Electrical;
- Perform Middle-HS exterior renovations and site work.

Year 3

- Perform Middle-HS Middle School wing renovations.

Year 4

- Perform Middle-HS common area renovations (auditorium and stage, kitchen / cafeteria, technical education, music and library).

Year 5

- Perform Middle-HS High School wing renovations.

Years 1 - 2

- Procure the site for the new K-12 school.

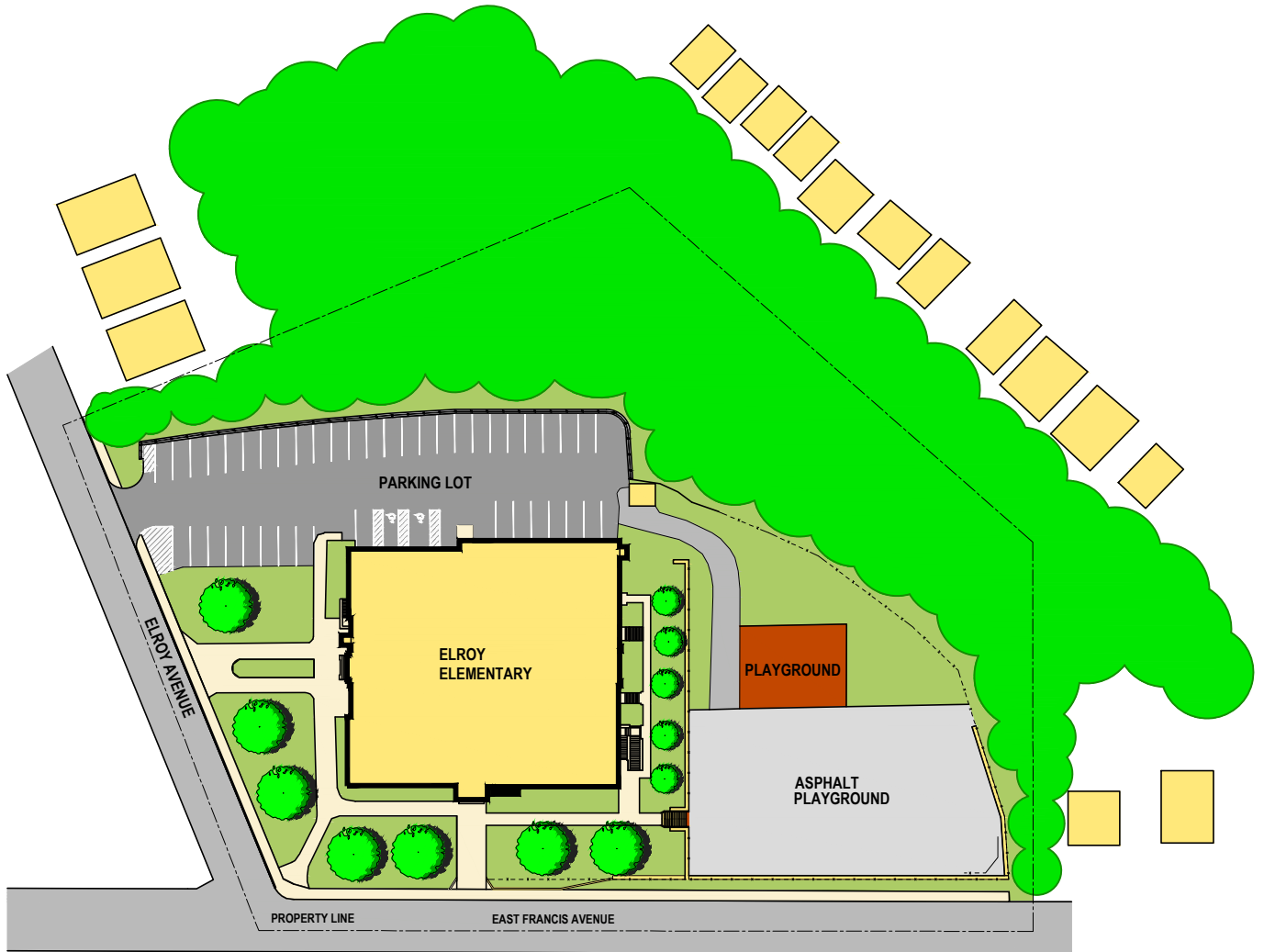
Years 2 - 3

- Construct new K-12 school.

Year 5

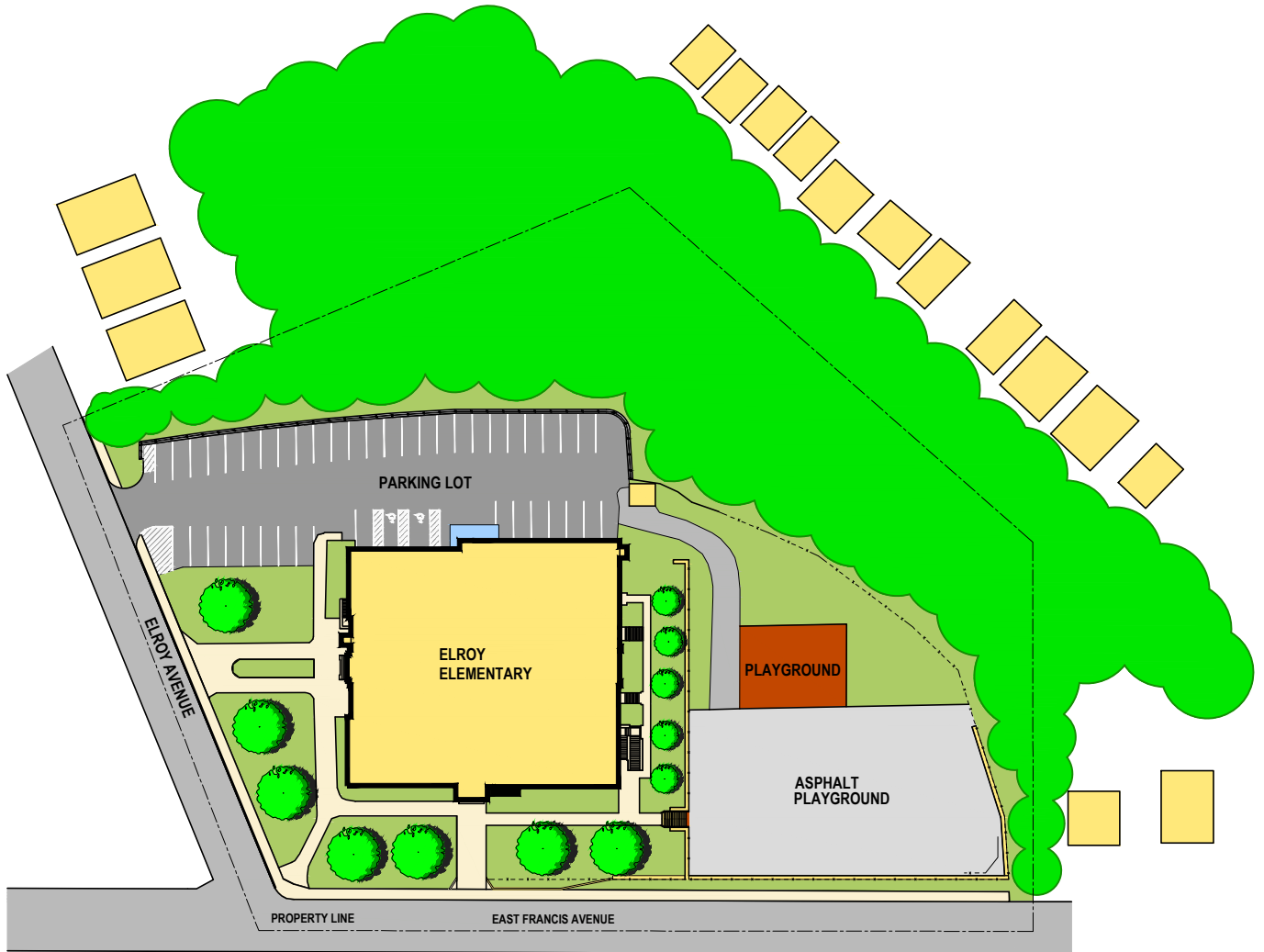
- Close the existing schools and occupy the new K-12 building.



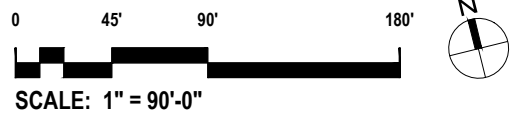


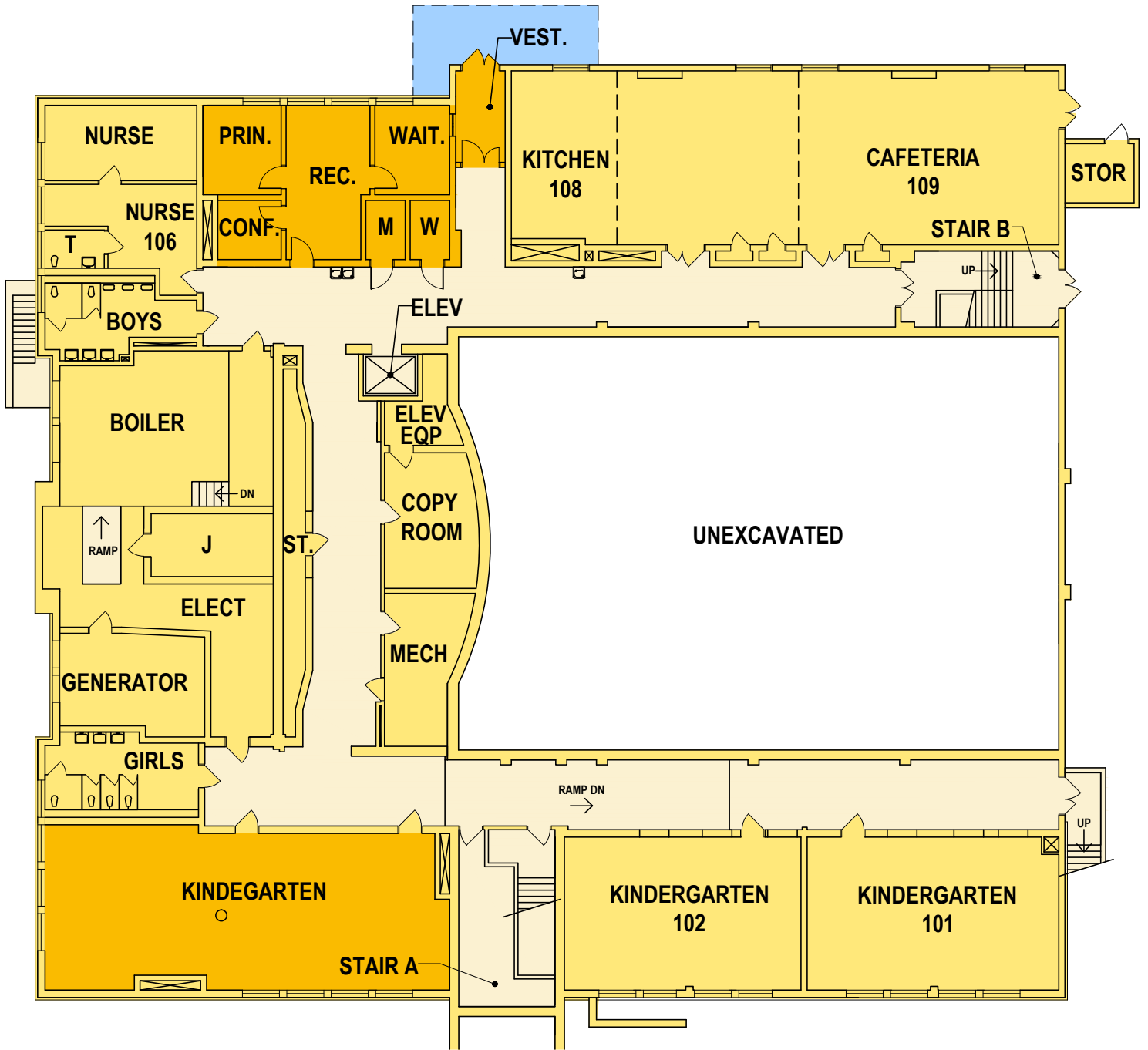
SITE PLAN





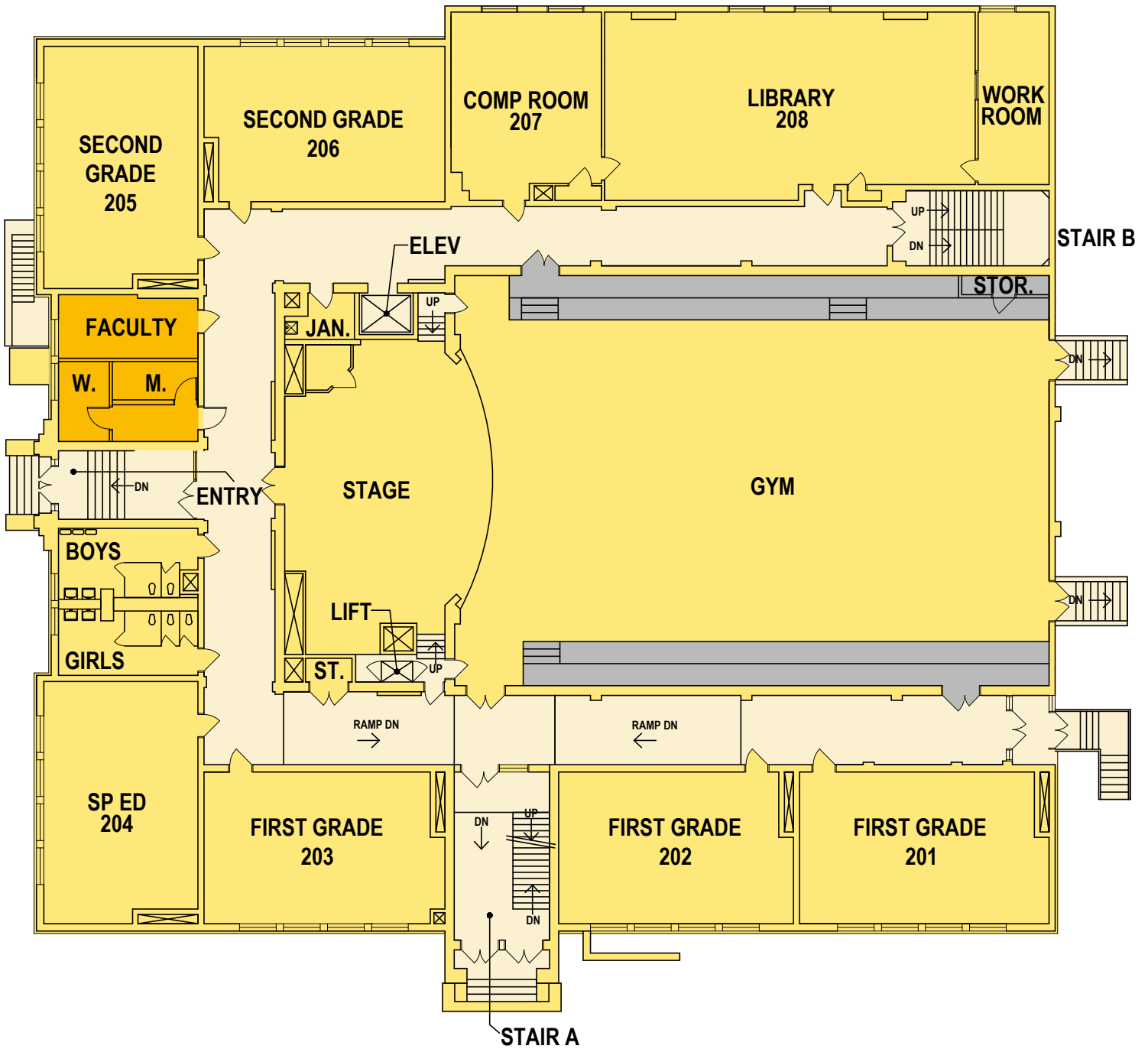
SITE PLAN





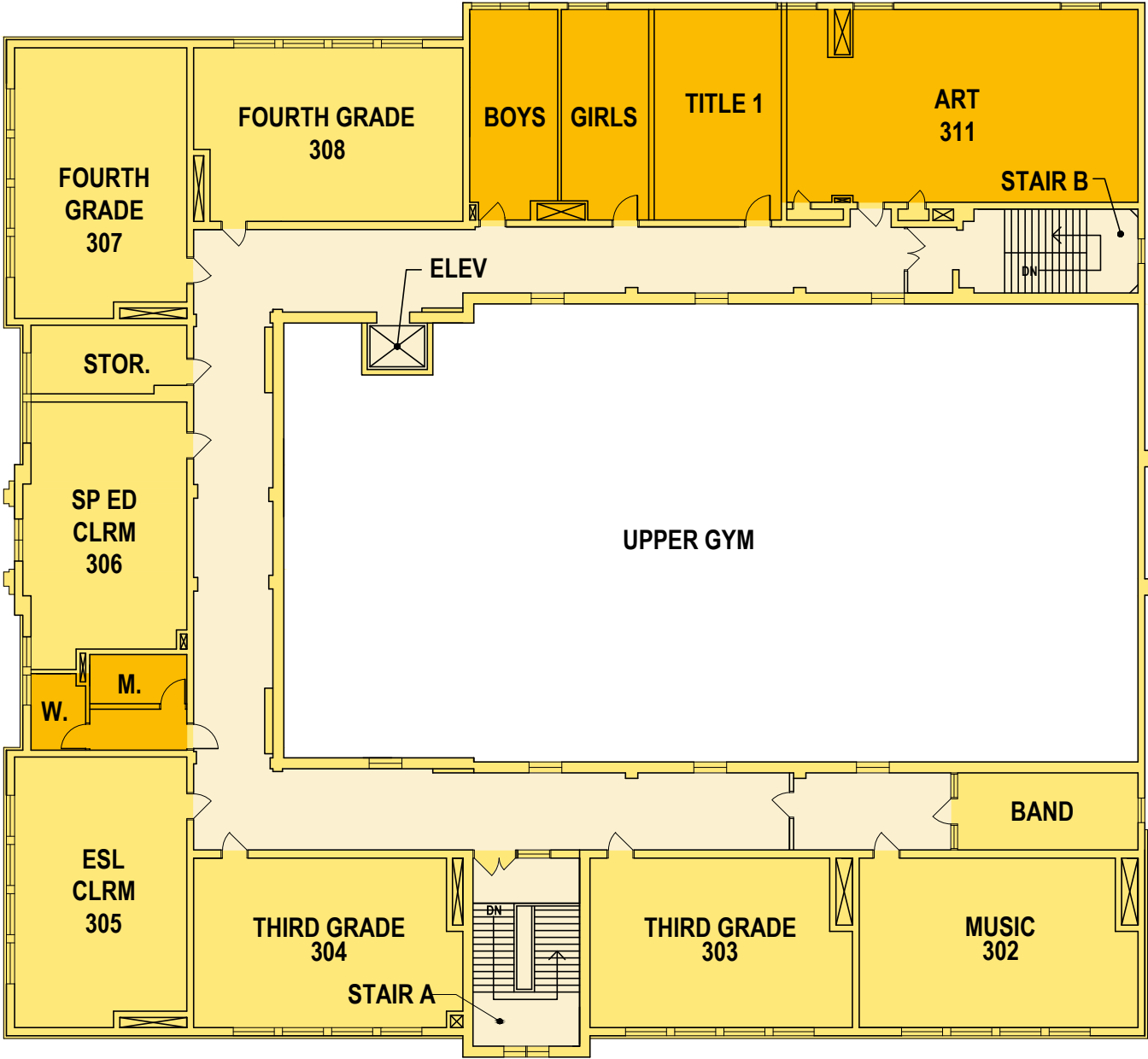
BASEMENT FLOOR PLAN



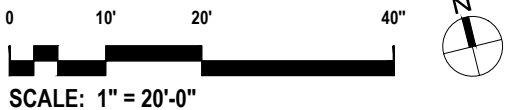


FIRST FLOOR PLAN





SECOND FLOOR PLAN



BRENTWOOD MIDDLE/HIGH SCHOOL (GRADES 6-12)

OPTION 2

Level One:	2,190 S.F.	Level Four:	15,370 S.F.	Level Seven:	33,870 S.F.
Level Two:	17,260 S.F.	Level Five:	70,200 S.F.	Level Eight:	33,130 S.F.
Level Three:	8,380 S.F.	Level Six:	4,340 S.F.	Level Nine:	26,840 S.F.
				Total:	211,580 S.F.

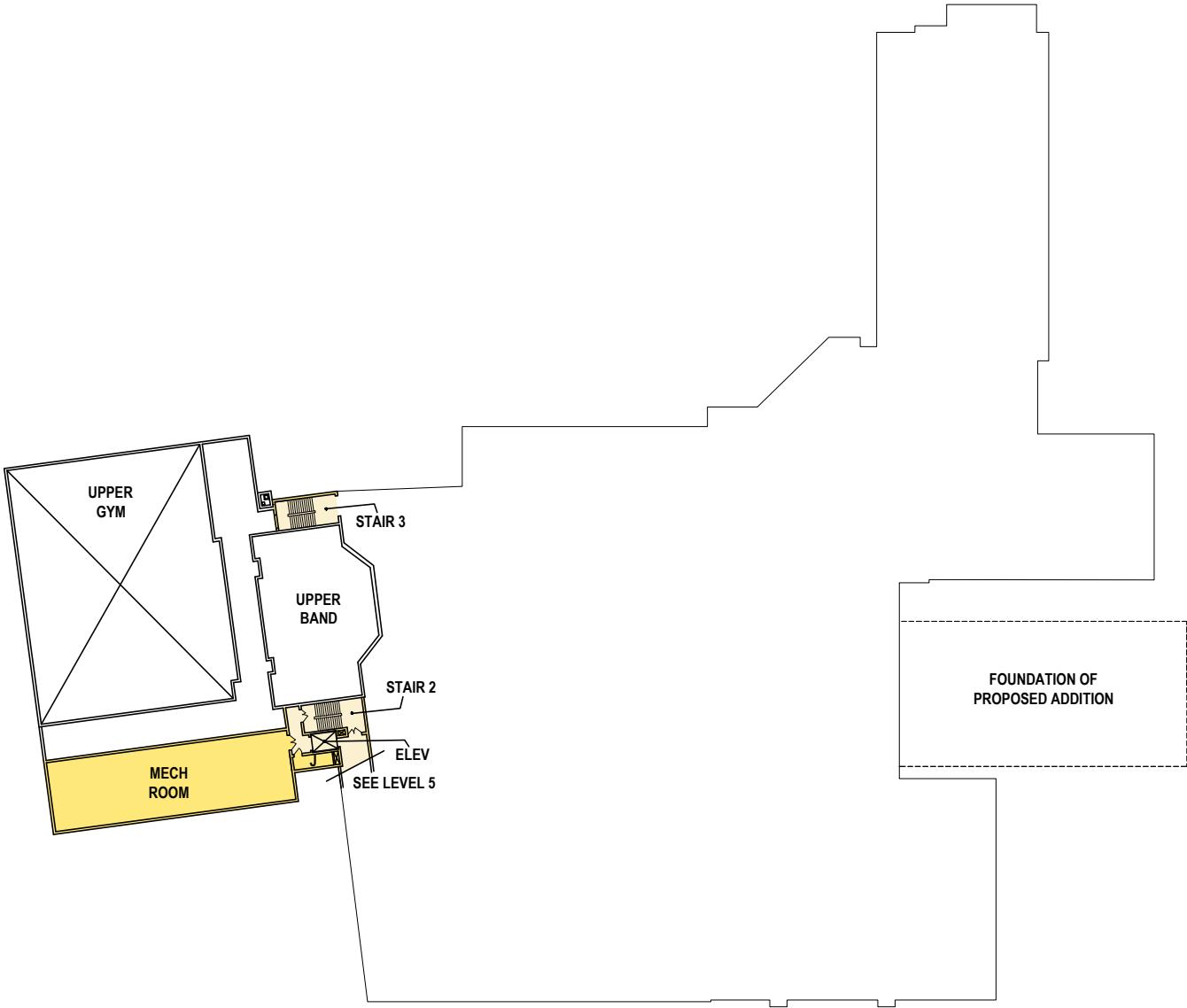


SITE PLAN



SCALE: 1" = 120'-0"



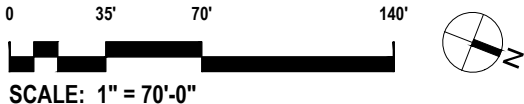


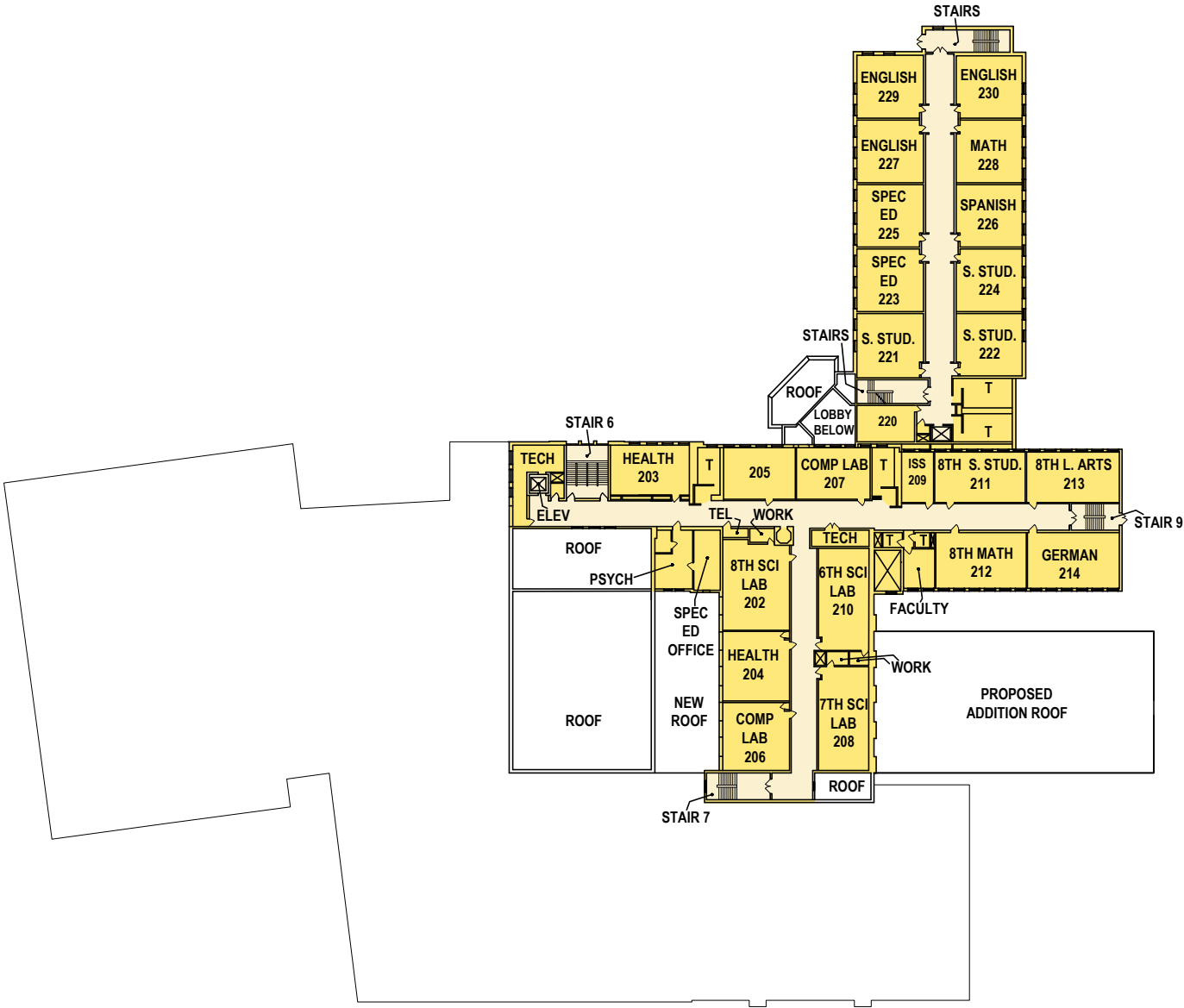
LEVEL 6 PLAN





LEVEL 7 PLAN

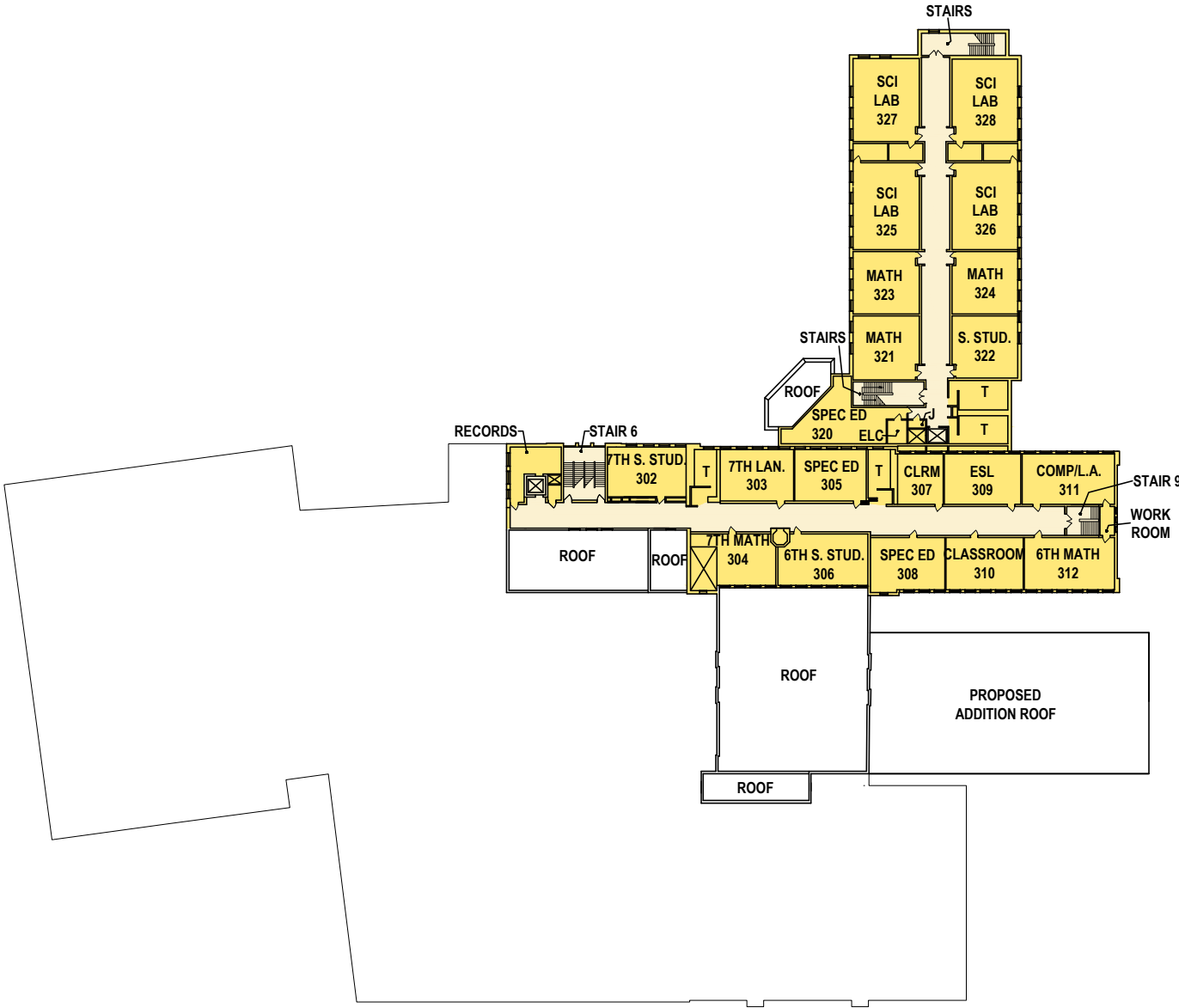




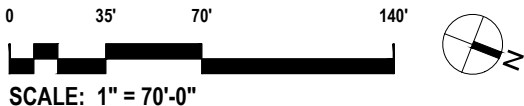
SCALE: 1" = 70'-0"

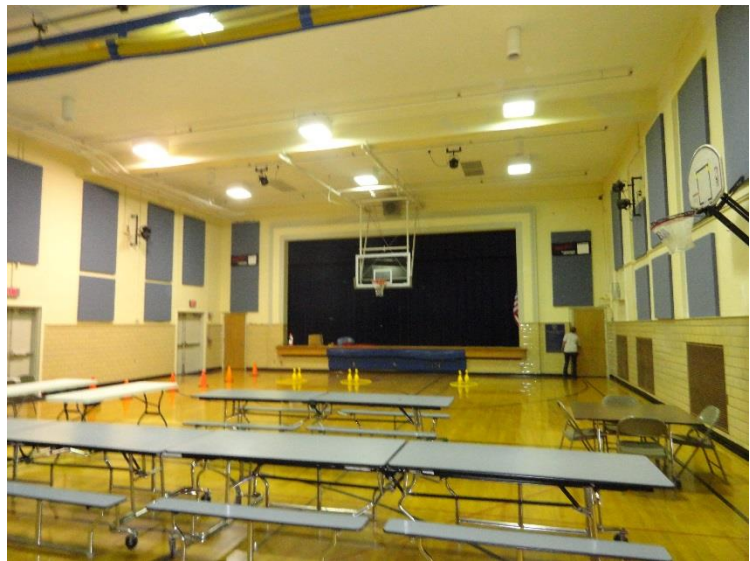


LEVEL 8 PLAN



LEVEL 9 PLAN





THE PDE ENROLLMENT PROJECTION MODEL

GENERAL

The enrollment projection model used by the Pennsylvania Department of Education (PDE) is patterned after projection models variously called educational progression or school retention. Projection models of this nature are based on the conception that students progress routinely from one grade to another and that any internal policies and external factors that influenced grade progression in the past will continue to influence the progression of students from grade to grade in the future.

The PDE model uses enrollment data reported annually by all local education agencies to the Division of Data Services on the Public School Enrollment Report (PDE-4035). Resident live birth data is provided by the Pennsylvania Department of Health. Grade progression is determined by calculating retention rates for grades 2 to 12 using the most recent five years of enrollment data. Retention rates for kindergarten are determined by births five years earlier and for first grade from births six years earlier. These rates are evaluated to determine if a pattern is discernable, or if any retention rates are unusual. If a pattern is found, the pattern is continued in making the projections. Unusual retention rates are discarded and the average of the remaining rates is used in making the projections. Non-graded elementary and secondary students are prorated across grades before retention rates are calculated. Because of the proration, the number of students shown in various grades will differ from the number of students reported. The total number of students may also differ slightly.

BASIC LIMITATIONS OF THE MODEL

1. Internal policy changes that can affect the accuracy of projections:
 - a. Policy on how old a child must be before being admitted into kindergarten and first grade.
 - b. Policy on when and how a student is evaluated for special education services.
 - c. Policy on how many students the area vocational-technical school is to receive.
 - d. Policy on who provides full-time special education programs.
 - e. Policy on scholastic retention and acceleration.
2. External factors that can affect the accuracy of projections:
 - a. The opening or closing of a non-public school.
 - b. A significant increase or decrease in new home building.
 - c. A shift in migration patterns.
3. Other considerations:
 - a. Enrollment projections for School Districts with less than 1,000 students tend to be less reliable.
 - b. Actual live birth data for the most recent year are added annually. However, live birth projections are not updated on an annual basis. Therefore, enrollment projections beyond five years are subject to errors in the lower grades resulting from inconsistencies between actual and projected live births and should be reviewed closely.

SCHOOL CONSTRUCTION REIMBURSEMENT - PRE K-12 SCHOOLS

Basic Education Circulars (Purdon's Statutes) {Updated} School Construction Reimbursement Criteria 24 P.S. §7-733

DATE OF ISSUE: September 1, 1997
DATE OF REVIEW: February 10, 2009; July 1, 2006; July 1, 2002; July 1, 1998

PURPOSE

The purpose of this Basic Education Circular (BEC) is to clarify existing policies governing requests for school construction reimbursement.

1. School districts must develop a complete building facility study of all district educational facilities including the district administration office. The study must be completed prior to, and within two years of, the date of the PlanCon Part A, Project Justification, submission. The study must provide an appraisal as to each facility's ability to meet current and planned educational program requirements, the degree to which the present facilities meet reasonably current construction standards, and an estimated cost of necessary repairs and improvements. Facility studies must contain documentation regarding the authors' credentials for producing the document.
2. A condition for all reimbursement is that the entire building be brought up to prevailing educational standards and reasonably current construction standards. The educational and construction standards applicable to a project will be determined by the Board of School Directors but must be based on applicable construction codes or professional guidelines.
3. School districts should evaluate their early childhood infrastructure as part of any renovation, expansion or new construction of an elementary school. For elementary school projects, school districts should consider providing enough space for pre-kindergarten, full-day kindergarten and preK-3 classes with no more than 17 students per teacher. Low interest loans through the Early Childhood Capital Investment Fund to support early childhood construction are available; information is available at our website:
http://www.portal.state.pa.us/portal/server.pt/community/early_childhood_education/8698.
4. School districts are encouraged to consider the impact of acoustics, daylighting and other factors on academic effectiveness and building efficiency in the design process. To accomplish this, school administrators should consider the U.S. Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System (LEED-NC™) standards or the Green Building Initiative's Green Globes™ Building Rating System.

Additional state reimbursement is available for projects receiving silver, gold or platinum LEED-NC™ or two, three or four Green Globes™ certification. High Performance Green Schools Planning Grants for LEED-NC™- or LEED for Schools™-certified projects are also available to help defray costs which are not typically included in the design fee but which are critical to the design of a high performance building. The grants are funded by the State Public School Building Authority and jointly administered by the Governor's Green Government Council and the Pennsylvania Department of Education; information is available at www.gggc.state.pa.us.

SCHOOL CONSTRUCTION REIMBURSEMENT - PRE K-12 SCHOOLS

5. Additions and renovations of existing buildings are eligible for additional state funding. Therefore, school districts are encouraged to consider building reuse (renovation or expansion) rather than new building construction. In addition, school construction projects should be planned in the context of sustainable community development.
 6. School districts should take all reasonable efforts to preserve and protect school buildings that are on or eligible for local or National historic registers. If for safety, educational, economic, or other reasons, it is not feasible to renovate an existing school building, school districts are encouraged to develop an adaptive reuse plan for the building that incorporates an historic easement or covenant to avoid the building's abandonment or demolition.
 7. For projects that involve the renovation of structures of more than one story which have wood framing (interior or exterior framing that is wholly or partially of wood), the district must describe the construction plans and methods designed to meet health and safety standards related to the use of wood in the building. This written description will be provided as a part of the PlanCon Part A, Project Justification.
 8. The Commonwealth will not reimburse alteration or renovation costs for any building which is less than 20 years old or for which a reimbursable project has been approved within the preceding 20 years unless a request for a variance is approved by the Department. The request for a variance from this requirement must be presented in writing as a resolution of the Board of School Directors and must state the need for such unusual treatment. For all buildings, the time elapsed for this purpose shall be based on the period from the bid opening date of the last reimbursable project to the bid opening date of the planned project.
 9. The Commonwealth will not reimburse costs for alterations or renovations to an existing school building (excluding costs specified in the Planning and Construction [PlanCon] Workbook) if the cost of alteration or renovation is less than twenty percent (20%) of the replacement value of the entire building unless a request for a variance is approved by the Department. The request for a variance from this requirement must be presented in writing as a resolution of the Board of School Directors and must state the need for such unusual treatment. The replacement value will be computed by multiplying the full-time equivalent (FTE) capacity of an existing facility by 92 square feet for elementary buildings and 123 square feet for secondary buildings multiplied by the cost of new construction, such cost to be determined annually by the Department.
- NOTE: The 20% rule does not apply to career and technical centers (CTCs).**
10. Costs for asbestos abatement not greater than twenty percent (20%) of other approved alteration costs (i.e., alteration costs excluding the cost for asbestos abatement, roof replacement and site development) will be considered eligible for reimbursement as part of a PlanCon project. This policy does not change the calculations for determining the maximum formula amount for reimbursement.

SCHOOL CONSTRUCTION REIMBURSEMENT - PRE K-12 SCHOOLS

11. Costs for roof replacement not greater than twenty percent (20%) of other approved alteration costs (i.e., alteration costs excluding the cost for asbestos abatement, roof replacement and site development) will be considered eligible for reimbursement as part of a PlanCon project. This policy does not change the calculations for determining the maximum formula amount for reimbursement.

REFERENCES:

Purdon's Statutes

24 P.S. §7-733

24 P.S. §25-2574

24 P.S. §25-2579

Department of Education Standards

22 Pa. Code, Chapter 349

CONTACT BUREAU/OFFICE:

Division of School Facilities
Bureau of Budget and Fiscal Management
Pennsylvania Department of Education
333 Market Street
Harrisburg, PA 17126-0333

Phone: 717.787.5480

THE PLANNING AND CONSTRUCTION (PlanCon) WORKBOOK

INTRODUCTION

When a school district undertakes a major construction project and seeks reimbursement from the Commonwealth, a process known as PlanCon is initiated. PlanCon, an acronym for Planning and Construction Workbook, is a set of forms and procedures used to apply for Commonwealth reimbursement. The PlanCon forms are designed to: (1) document a local school district's planning process; (2) provide justification for a project to the public; (3) ascertain compliance with state laws and regulations; and (4) establish the level of state participation in the cost of the project.

DESCRIPTION OF PLANCON

Part A: "Project Justification" provides the description of a proposed project and the reasons it is needed.

Part B: "Schematic Design" is a technical review conference of the conceptual drawings, site plan and educational specifications. The architect and district administrator who is knowledgeable about the project and the educational program must be present at the schematic design conference.

Part C: "Site Acquisition" deals with the acquisition of land for school building projects or the purchase of a building for school or district administration office use. This part is completed only if land is acquired as part of the scope of the project.

Part D: "Project Accounting Based on Estimates" is concerned with estimated project costs. It is in this part that various "tests" of a district's financial ability to make payments are made. Chapter 21, Section 21.51, of the State Board of Education Regulations establishes cost constraints and Sections 7-701.1 and 7-7313 of the Public School Code of 1949, as amended, establish requirements for public hearings on school building projects. Part D also provides an estimate of state reimbursement.

Part E: "Design Development" is a conference to review architectural aspects of a project when the design is fully developed. The architect and a district administrator must be present at this review conference.

Part F: "Construction Documents" provides for further refinement of the architectural aspects of the project and documentation that other state and local agency requirements have been met or will be met before entering into construction contracts. Departmental approval of PlanCon Part F authorizes a district to receive bids and enter into construction contracts.

Part G: "Project Accounting Based on Bids" is concerned with actual bid prices. Approval of Part G authorizes a district to award construction contracts. The average time from submission of Part A to approval of Part G is approximately one year.

Part H: "Project Financing" addresses the financing used for a project. Calculation of the temporary reimbursable percent for a project's financing occurs at PlanCon part H. Once PlanCon Part H is approved, reimbursement on a project commences.

Part I: "Interim Reporting" provides for the reporting of change orders and/or supplemental contracts during construction.

Part J: "Project Accounting Based on Final Costs" is the final accounting for the project. The permanent reimbursable percent is calculated at PlanCon Part J.

Part K: "Project Refinancing" is used if a reimbursable bond issue is refunded, refinanced or restructured.

MODERNIZATION / REPLACEMENT CRITERIA

According to an American Association of School Administrators report, three-fourths of the school buildings in use today are living on borrowed time; they have outlived their predicted useful life. Twelve percent, or 1 building in 8, are inadequate places for learning. For five million children, school is “no place to learn.”

As a nation, our school facilities are not keeping pace with growing expectations for American education. As we reshape education in America, we must also reshape our school facilities. Schools should be built for productivity. Every school building must be efficient, flexible, and functional enough to serve the changing dynamics of American education.

Equity issues are often directly reflected in the condition of school facilities - and those structural inequities can persist through the entire life of a school building.

Major problems that cause buildings to be inadequate include:

1. Too Old
2. Too Small, Not Enough Space
3. Building Not Structurally Sound
4. Poorly Maintained
5. Heating or Air Conditioning Bad or Non-existent
6. Electrical / Mechanical Systems Outdated / Poorly Maintained
7. Roof Repairs / Replacement
8. Insulation / Window Replacement
9. Asbestos
10. Energy Inefficient

The question has been raised, “What do we mean by poor facilities?” We are defining a poor facility as one which is 50 years old (and so is functionally obsolete) and is unable to accommodate modern technology properly. Poor facilities are also energy inefficient, and have become a financial burden to school districts and taxpayers in an era of escalating utility and operational costs.

In many other cases, the school building may not be in an overall poor state of repair, but does have elements of disrepair or obsolescence that, if left in place, will eventually create difficulties for staff to operate the building, or for teachers to conduct the educational process. Often these elements involve the heating, plumbing, mechanical systems. So, the decision facing an administrator then becomes “to what degree should the District renovate its facilities?”

MODERNIZATION / REPLACEMENT CRITERIA

The following concerns should be addressed when considering modernization or replacement of a school building:

1. *Safety:*
If the building is not safe, or cannot be made safe, it is not a proper place for children.
2. *Education adequacy:*
If the building cannot be adapted to meet the educational goals of the district and prevailing standards and codes, it should be abandoned.
3. *Location adequacy:*
If the building is located in an area where there aren't enough students, or if projections indicate that there will not be enough students within the next few years, it does not make sense to keep the old building.
4. *Site adequacy:*
If the site is too small to meet the current standards and safety and there is no way of adding to it, the building should be abandoned unless the district is willing to compromise.
5. *Economics:*
If it is possible to provide academic programs equivalent to those offered elsewhere in the district in an existing building without expending more than 50% of the estimated cost of a new building, modernization becomes a feasible route and a sound investment. When those costs exceed 50%, the District then needs to carefully review the benefits new construction will provide to the educational program. This is based on a projected additional life for the building from 20 to 30 years.

BUILDING OVERALL CONDITION RATING DEFINITIONS

The buildings' physical condition was evaluated using Pennsylvania Department of Education standards and guidelines and applicable national, state and local codes and regulations.

The following definitions were utilized for the buildings' overall condition rating.

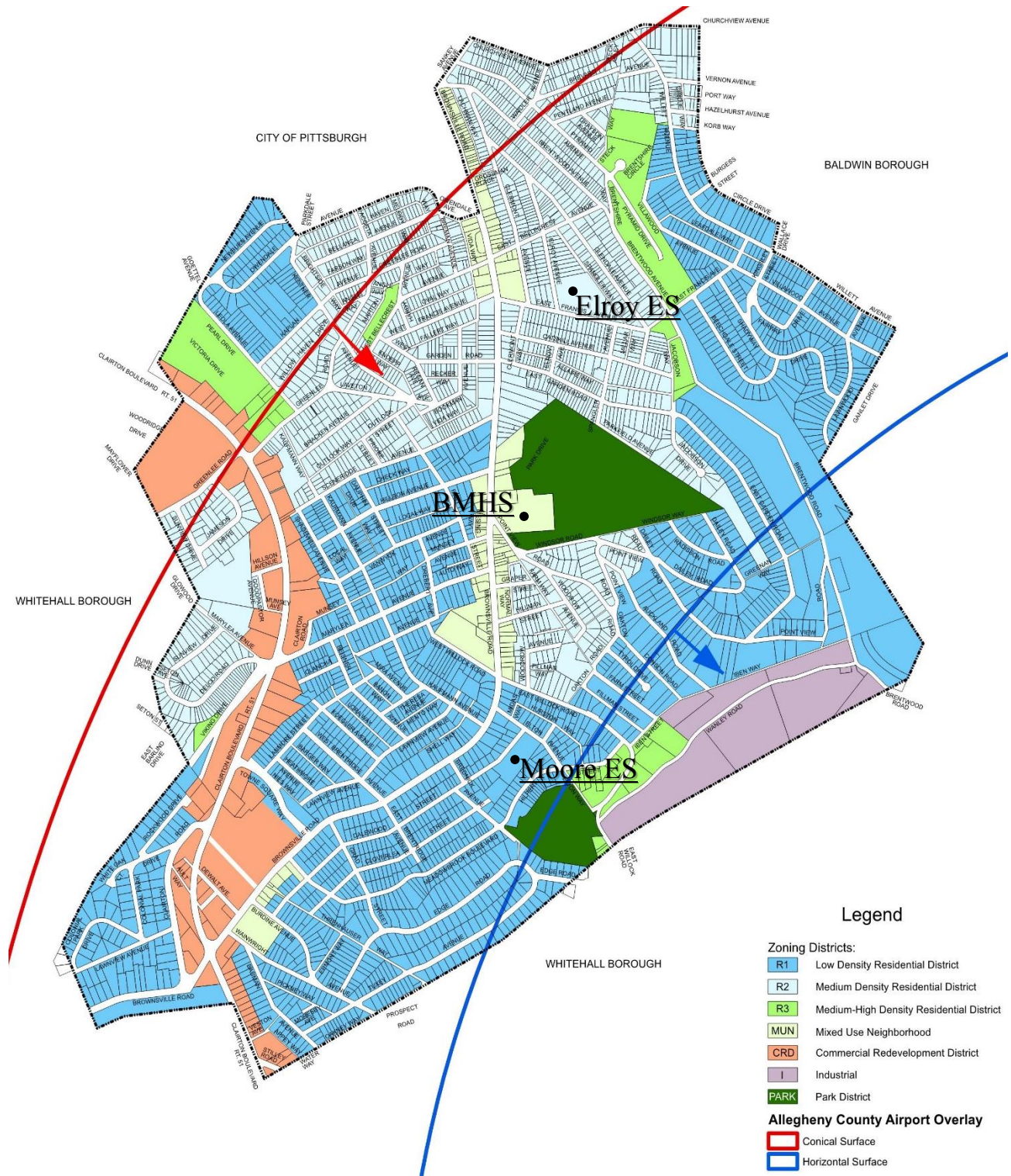
Excellent: The building meets or exceeds the current PDE standards and all applicable codes and regulations. Spaces support the educational program, and site size is adequate for the grade levels served.

Good: The building meets most current PDE standards and most applicable codes and regulations. Certain areas have deficiencies (i.e. code compliance, substandard room, etc.) but are small in comparison to the overall condition.

Fair: The building meets some current PDE educational standards and some applicable codes and regulations. Certain areas require updating for code, room size, etc. The physical plant requires major work such as a new roof, a new HVAC system, etc.

Poor: The building does not meet the current PDE educational standards and the applicable codes and regulations. There may be no handicapped access, substandard room sizes and location, antiquated mechanical and electrical systems, no technology, leaking roof, etc. Poor does not mean the building structure is failing or the building is necessarily unsafe.

BRENTWOOD BOROUGH SCHOOL DISTRICT MAP



Map from The Gateway Engineers



Enrollment Projections
Prepared by the Pennsylvania Department of Education
(717) 787-2644

Brentwood Borough SD 103021453

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
2011 - 2012	102	109	89	89	94	77	104	83	93	115	87	117	119	1278
2012 - 2013	83	99	105	90	92	91	78	108	78	87	112	83	112	1218
2013 - 2014	84	75	95	105	89	94	90	81	110	85	87	102	84	1181
2014 - 2015	96	88	78	92	103	92	94	94	75	108	88	88	109	1205
2015 - 2016	100	98	88	81	86	100	98	91	92	83	111	90	84	1202
Projection														
2016 - 2017	104	97	97	88	76	86	102	100	88	96	84	111	90	1219
2017 - 2018	92	107	96	97	82	76	87	104	97	92	97	84	111	1222
2018 - 2019	95	94	106	96	91	82	77	89	100	101	93	97	84	1205
2019 - 2020	105	97	93	106	90	91	83	79	86	104	102	93	97	1226
2020 - 2021	108	108	96	93	99	90	93	85	76	90	105	102	93	1238
2021 - 2022	110	110	107	96	87	99	92	95	82	79	91	105	102	1255
2022 - 2023	113	113	109	107	90	87	101	94	92	86	80	91	105	1268
2023 - 2024	115	115	112	109	100	90	88	103	91	96	87	80	91	1277
2024 - 2025	118	118	114	113	102	100	92	90	99	95	97	87	80	1305
2025 - 2026	120	120	117	115	106	102	102	94	87	103	96	97	87	1346

Brentwood Borough SD
103021453

Friday, December 30, 2016
Department of Education, Division of Data Quality

PDE ENROLLMENT PROJECTIONS

YEAR	Various Grade Groupings of the Enrollment Projections																
	K-4	K-5	K-5	K-6	K-7	K-8	K-9	K-12	5-8	6-8	7-8	6-9	7-9	8-12	9-12	10-12	
2015 - 2016	453	553	651	742	834	834	917	1202	381	281	183	364	266	551	460	368	285
2020 - 2021	504	594	687	772	848	848	938	1238	344	254	161	344	251	551	466	390	300
2025 - 2026	578	680	782	876	963	963	1066	1346	385	283	181	386	284	564	470	383	280

	Retention Rate by Grade by Year												
	Birth to K	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	
2011-12 to 2012-13	0.72807	0.96087	0.9633	1.01124	0.96809	1.01299	1.03846	0.93976	0.93548	0.97391	0.95402	0.95726	
2012-13 to 2013-14	0.77064	0.65789	0.9596	1	0.98889	1.02174	0.98901	1.03846	1.01852	1.08974	1	0.91071	
2013-14 to 2014-15	0.83478	0.80734	1.04	0.96842	0.98095	1.03371	1	1.04444	0.92593	0.98182	1.03529	1.01149	
2014-15 to 2015-16	0.86207	0.85217	1	1.03846	0.97087	1.06522	0.96809	0.97872	1.10667	1.02778	1.02273	0.95455	

Average Rate	0.79889	0.79457	0.99072	1.00453	0.9986	1.0168	1.02236	0.96573	1.02843	1.00925	0.97474	0.99812
Retention Rate Used	0.8225	0.84013	0.99072	1.00453	0.9986	1.0168	1.02236	0.96573	1.04396	1.00925	0.99608	0.99812

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Births	115	114	109	115	116	127	112	116	128	131	134	137	140	143	146

| ----- Projected Births ----- |

Notes:

1. Excludes students in full-time out-of-district special education, comprehensive AVTSs, charter schools, state-owned schools, consortium-operated alternative high schools, and juvenile correctional institutions.
2. Enrollment projections beyond five years are subject to errors in the lower grades resulting from inconsistencies between actual and projected live births and should be reviewed closely.
3. Four year old kindergarten students, if any, added to K enrollments.
4. Elementary and secondary ungraded students were distributed among the grades. Therefore, enrollments by grade may differ from those reported by the local education agencies.

Sources:

1. Pennsylvania Information Management System (PIMS)
2. Resident Live Birth file supplied by the Division of Health Statistics, Pennsylvania Department of Health.

The Department of Health specifically disclaims responsibility for any analyses, interpretations or conclusions.

In Latin, curriculum means “a path to run in small steps.” We, as a school district, spend a great deal of time deciding what paths to offer students and to what extent that path will prepare students for their futures in college and/or careers.

The Brentwood Borough School District is committed to providing a curriculum that marries relevant concepts and ideas with purposeful practices; a curriculum that infuses reasoning, creating, connecting, and transforming skills into concept development so that learning becomes authentic and engaging.

Our elementary core curriculum includes mathematics, English Language Arts, science, and social studies. The elementary mathematics program allows students to develop an understanding of math concepts through problem-based instruction, small-group interaction, and visual learning with a focus on reasoning and modeling. The core program contains all of the critical elements required by the PA Core Standards, including the required focus on ‘conceptual understanding, procedural skill and fluency, and applications.’ Students are taught mathematical concepts through a spiraling sequence to develop mastery over continuous years. The elementary English Language Arts program provides a balance of grade appropriate informational and literary texts, integration of domain-specific texts, and a focus on evidence-based writing and vocabulary development. Moreover, the nationally acclaimed K-5 ASSET science program promotes inquiry-based learning, allowing students to develop their own understanding through questioning, analyzing information, and communicating with others. Students work cooperatively to build analytical skills such as observing, recording data, categorizing, creating journals, and communicating results. The elementary social studies program explores topics related to civics and government, economics, geography, and history. In addition to the core curriculum, students are involved in art, music, physical education, computer technology, and library courses. The arts and special areas of the elementary curriculum give our students a well-rounded education; one that fosters creativity and innovation.

Furthermore, our secondary core curriculum includes mathematics, English Language Arts, science, and social studies courses with elective offerings in the fields of music, art, family consumer science, business and technology, physical education/health, engineering and design, industrial arts, communications and multimedia, and foreign language. Students at the secondary level are also able to participate in various career-oriented programs through our partnership with the Steel Center for Career and Technical Education and Mon Valley Career and Technical Center. As the students progress through high school, they have the opportunity to participate in AP level courses, dual enrollment programs, as well as career-oriented apprenticeships.

In our district, the integration of STEAM (Science, Technology, Engineering, Art, and Mathematics) provides students with cross-curricular projects and 21st century career-oriented tasks that ultimately challenge our students to become inventors, designers, and meaning makers. Our district is committed to developing the fullest potential of every student allowing them to be successful in college, career, and their individual life goals.





HHS DR
Architects/Engineers