TEAM

KCBA – Arch /Interior /Structural Design

Snyder Hoffman Associates – MEP Engineering

K&W Engineers – Civil Engineering

Landmark Commercial Realty – Real Estate

Graphic Icons by The Noun Project – www.thenounproject.com
YOU’RE NOT ALONE
YEAR OF ORIGINAL CONSTRUCTION FOR 1,194 SCHOOL BUILDINGS IN PA

66% OF SCHOOLS WERE CONSTRUCTED BEFORE 1970

*Data drawn from Pennsylvania Department of Education’s 2014 School Facilities Survey.*
<table>
<thead>
<tr>
<th>Future challenges</th>
<th>All School Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget pressures/lack of funding</td>
<td>86.4%</td>
</tr>
<tr>
<td>Bargaining issues</td>
<td>38.9%</td>
</tr>
<tr>
<td>School construction/maintenance</td>
<td>25.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Increasing enrollment</th>
<th>5.1%</th>
<th>0.7%</th>
<th>0.0%</th>
<th>12.2%</th>
<th>6.7%</th>
<th>4.8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal/Administrator recruitment/retention</td>
<td>4.3%</td>
<td>2.8%</td>
<td>16.7%</td>
<td>4.1%</td>
<td>6.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>IDEA and state special education requirements (IUs Only)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>19.0%</td>
</tr>
<tr>
<td>Student recruitment/quotas (CTCs Only)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>24.4%</td>
<td>n/a</td>
</tr>
<tr>
<td>Relations with participating school districts (CTCs and IUs Only)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>17.8%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

*Data drawn from 2016-17 study commissioned by the Pennsylvania Public Education Foundation*
# Building System Problems in Pennsylvania’s Schools

Data drawn from 2016-17 study commissioned by the Pennsylvania Public Education Foundation

<table>
<thead>
<tr>
<th>Problem</th>
<th>All School Districts</th>
<th>Urban</th>
<th>Suburban</th>
<th>CTCs</th>
<th>IU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical/Electrical/HVAC issues</td>
<td>43.0%</td>
<td>12.5%</td>
<td>17.5%</td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>Structural issues</td>
<td>11.3%</td>
<td>10.4%</td>
<td>12.5%</td>
<td>12.5%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Inadequate space</td>
<td>10.4%</td>
<td>5.6%</td>
<td>18.8%</td>
<td>16.3%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

*Data drawn from 2016-17 study commissioned by the Pennsylvania Public Education Foundation*
YESTERDAY’S MANUFACTURING JOBS
Interesting STEM Statistics:

- Between 2005 and 2015, STEM employment grew by 24.4%, over five times more than non-STEM employment.

- Average STEM-employment wages are 29% higher than non-STEM employment wages.

- Average unemployment in STEM fields is 2.5%, compared with 5.5% for non-STEM employment.
BUILDING ASSESSMENT REVIEW
Halifax Elementary School (Grades 2-5) = 315 Students

Enders-Fisherville Elementary School (Grades K-1) = 160 Students

Halifax School District 2016 Elementary Enrollment = 475 Students
Enders-Fisherville ES (Grades K-1)

• The building (1958) is 58 years old many of its systems are at the end of their functional lifespan

• Uncertainty about the septic / well

• Uncertainty electrical service

• Code + Safety issues

• $31,218.43 major repairs in 2015
  • Additional $17,872 in 2016

• Probable sale - $269,950 - $404,925

• Student Capacity = 200 students

• Lacks SGI’s / LGI’s / Dedicated Science
Enders-Fisherville ES (Grades K-1)

- Enders-Fisherville Elementary School (EES) originally built in 1958, with alterations and additions completed in 1988, 2002

- 1 story building - 26,995 SF

- Modular Classroom: 1600 SF

- The building is 58 years old many of its systems are at the end of their functional lifespan.
Enders-Fisherville ES (Grades K-1)

- The building is located on a relatively flat 10.2 acre site adjacent in Jackson Township, about 6.2 miles outside of the Borough of Halifax

- 5 buses service this school

- Uncertainty about the septic system size / capacity / condition / water pressure

- Rural roads deteriorate quickly during weather events.
Enders-Fisherville ES (Grades K-1)

- Building does not have a building-wide fire suppression system
- Building does not have a secure entrance
- Building does not have separate restrooms for visitors + students
- Loss of water pressure and/or inadequate flow is routinely experienced based on intensity of facilities usage
Enders-Fisherville ES (Grades K-1)

- There are many areas where surface deterioration can be seen on the exterior.
- Windows are in poor condition showing signs of age and are in need of replacement.
- Signs of water infiltration were noticed in the ceilings.

Building Analysis – Security + Building Code
Halifax Area School District
Enders-Fisherville ES (Grades K-1)

- Door hardware not ADA compliant
- Issues throughout the building with restricted approach
- Classroom sinks are not ADA compliant
- Classroom doors + hardware are not sufficient for modern security standards
Enders-Fisherville ES (Grades K-1)

- Majority of the HVAC systems are 18 years old and nearing end of their useful lives
- The school does not have a central cooling plant, packaged terminal air conditioning units serve select locations
- The classroom unit ventilators are outdated by today’s standards for indoor air quality
- Art Classroom does not meet ventilation rates required by the International Mechanical Code
Enders-Fisherville ES (Grades K-1)

- Majority of the plumbing fixtures + equipment are nearing, or have exceeded, the end of their useful lives

- Renovations to the toilet rooms should address any ADA/Accessibility issues as well as current water conservation requirements and the “Reduction of Lead in Drinking Water Act”
Enders-Fisherville ES (Grades K-1)

- Average classroom contains four receptacles (two front + two rear of room) which is less than today’s standards with six to eight receptacles per classroom

- Building mounted lighting switches do not meet ADA requirements

- The emergency generator should be replaced with a unit capable of adding walk-in coolers, freezers and minimal building heat

- Frequent power outages occur
Enders-Fisherville ES (Grades K-1)

- Classrooms in the building are of adequate size, although the attached restrooms have accessibility issues.
- Several Classrooms are underused during parts of the day.
- No Small Group Instruction areas in the school.
Enders-Fisherville ES (Grades K-1)

- The multi-purpose room acts as the school’s gymnasium, cafeteria and auditorium
- The school does not have a Large Group Instruction space
- There is no dedicated Science Classroom
## Enders-Fisherville ES (Grades K-1)

- **$31,218.43** major repairs in 2015
- **Additional $17,872** in 2016

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/2016</td>
<td>Freezer Down</td>
<td>2,000.00</td>
<td></td>
</tr>
<tr>
<td>11/30/2016</td>
<td>Various Minor Repairs Month of July through November</td>
<td>1,387.31</td>
<td>Our maintenance did labor</td>
</tr>
<tr>
<td>Note: This included a crumbling sewer pipe under boys bathroom.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/1/2016</td>
<td>Electrical outlet on stage caught fire- Outlet bypassed</td>
<td>0.00</td>
<td>Our maintenance did labor</td>
</tr>
<tr>
<td>10/6/2016</td>
<td>Generator Repair</td>
<td>4,670.10</td>
<td></td>
</tr>
<tr>
<td>10/6/2016</td>
<td>Fire Alarm Repair</td>
<td>420.00</td>
<td></td>
</tr>
<tr>
<td>11/3/2016</td>
<td>McClure Water Repair</td>
<td>644.77</td>
<td></td>
</tr>
<tr>
<td>6/16/2016</td>
<td>Freezer Down</td>
<td>1,225.42</td>
<td></td>
</tr>
<tr>
<td>6/14/2016</td>
<td>Walk in Cooler Down</td>
<td>3,475.00</td>
<td></td>
</tr>
<tr>
<td>10/10/2015</td>
<td>Freezer Down</td>
<td>2,643.81</td>
<td></td>
</tr>
<tr>
<td>6/30/2016</td>
<td>Various Minor Repairs Month of July 2015 through June 2016</td>
<td>1406.45</td>
<td>Our maintenance did labor</td>
</tr>
<tr>
<td>Various Date Sewage alarm goes off. Cost above in minor repairs</td>
<td></td>
<td>0.00</td>
<td>Our maintenance did labor</td>
</tr>
<tr>
<td>Summer 16</td>
<td>Bypass faulty intercom system, bells ring through phone</td>
<td>0.00</td>
<td>CAIU Gratis: Test case</td>
</tr>
</tbody>
</table>

| Total               |                                                               | 17,872.86 |                                             |

**Large Items Prior to July 2015**

- 2014/2015 Building repairs to Infrastructure: **8,770.67**
- 2014/2015 Building repairs to Infrastructure: **4,574.90**

**Total Large Items**

- **31,218.43**

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Building Analysis – Cost Events

Halifax Area School District

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**Halifax Area School District**

"Prepared, Engaged & Responsible Citizens"

**kcba Architects**
Halifax Elementary School (Grades 2-5) = 315 Students
Halifax ES (Grades 2-5)

- Halifax Elementary School (1968) is 48 years old and many of its systems are at the end of their functional lifespan
- HVAC fair condition/10 years of life
- Parking + Bus safety issues
- Code + Safety issues
- $87,245.55 major repairs in 2015
- Additional $34,514 in 2016
- Additional $40,000 recently for boiler
- Probable sale - $556,250 - $834,375
- Student Capacity = 400 students
- Lacks SGI’s / LGI’s / Dedicated Science

Building Analysis - Assessment Summary
Halifax Area School District
Halifax ES (Grades 2-5)

- Halifax Elementary School (HES) was originally built in 1968, with alterations and additions completed in 1988
- 55,625 sq. ft. (1.5 story building)
- Upper Level Floor Plan: 34,784 SF
- Lower Level Floor Plan: 20,841 SF
- Halifax Elementary School is 48 years old and many of its systems are at the end of their functional lifespan, it is also in need of aesthetic and infrastructure renovations

Building Analysis - History
Halifax Area School District
Halifax ES (Grades 2-5)

- The building is located on a **7.3 acre steeply sloping** site adjacent to the Halifax Area School District (HASD) Middle and High School complex within the Borough of Halifax on School Road.

- Not enough space for all of the buses to line up in this area (stacking back onto School Street) - students/parents cross in-between the buses traveling to/from parked vehicles along the eastern edge of School Street (this is a **significant safety concern**).
Halifax ES (Grades 2-5)

- Student drop-off occurs on the back (or west) side of the building in an area that is not very well defined

- Parents line up for this pick-up area as much as 30-40 minutes in advance of dismissal, causing concerns with stacked vehicles in the hard surface play area which may still be in use by students
Halifax ES (Grades 2-5)

- Building does not have a building-wide fire suppression system
- Building does not have a secure entrance
- Door hardware into classrooms and storage areas are not ADA compliant
- The doors and door hardware into many classrooms are not sufficient for modern security standards

Building Analysis – Security + Building Code
Halifax Area School District
Halifax ES (Grades 2-5)

- Critical railings do not meet code and do not offer proper fall protection
- Classrooms sinks are not ADA compliant
- Exterior access points begin on grade but not all are handicap accessible, some transition to steps at exits
Halifax ES (Grades 2-5)

- As a whole, the HVAC systems are in fair condition and the District should expect another 5-8 years of serviceable life from its components.

- The Corridor return/relief plenum system must be revised to comply with the requirements of the International Mechanical Code. Use of a Corridor as a plenum is not permitted.

- Art Classroom does not meet ventilation rates required by the International Mechanical Code.
Halifax ES (Grades 2-5)

- Majority of the plumbing fixtures and equipment are original and nearing, or have exceeded, the end of their useful lives

- The existing domestic water heater appears to have exceeded its life expectancy and should be replaced

- Renovations to the toilet rooms should address any ADA/Accessibility issues as well as current water conservation requirements and the “Reduction of Lead in Drinking Water Act”

Building Analysis – MEP
Halifax Area School District
Halifax ES (Grades 2-5)

- Electrical systems are original and in fair to poor condition
- Building mounted lighting switches were measured at 50” above finished floor which do not meet ADA requirement
- Multiple exit signs not working properly
- Building fire alarm system does not meet current code requirements
Halifax ES (Grades 2-5)

- Classrooms in the building are slightly oversized, but overall classrooms/building lacks storage.

- Most classrooms have good natural light, except for the band, music and health rooms, which are in windowless areas of the lower level general.

- Several of the classrooms are not being used to capacity, several rooms are used only ½ of the day, and a few are used for other activities.
Halifax ES (Grades 2-5)

- A reading support SGI is currently located in a windowless storage room on the lower level, the building lacks SGI spaces
- No Large Group Instruction space
- Autistic classroom restroom is undersized, does not support student/instructor needs
- No dedicated science classroom
- The multi-purpose room acts as the school’s gym, cafeteria and auditorium
Halifax ES (Grades 2-5)

- Halifax Elementary School (1968) is 48 years old and many of its systems are at the end of their functional lifespan
- HVAC fair condition/10 years of life
- Parking + Bus safety issues
- Code + Safety issues
- $87,245.55 major repairs in 2015
- Additional $34,514 in 2016
- Additional $40,000 recently for boiler
- Probable sale - $556,250 - $834,375
- Student Capacity = 400 students
- Lacks SGI’s / LGI’s / Dedicated Science
## Halifax ES (Grades 2-5)

- $87,245.55 major repairs in 2015
- Additional $34,514 in 2016
- Additional $40,000 recently for boiler

### Building Analysis – Cost Events

#### Halifax Area School District

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/2016</td>
<td>Intercom System in classroom does not work</td>
<td>5,000.00</td>
</tr>
<tr>
<td>11/30/2016</td>
<td>Dishwasher / Cafeteria. Major Leak. Estimate</td>
<td>1,300.00</td>
</tr>
<tr>
<td>11/30/2016</td>
<td>Smart Board Projector / No longer works, old one of the originals</td>
<td>1,527.00 Our maintenance assisted</td>
</tr>
<tr>
<td>11/2/2016</td>
<td>Repipe Expansion Tank for Boiler Hot water loop</td>
<td>208.19 Our maintenance did labor</td>
</tr>
<tr>
<td>11/21/2016</td>
<td>Bathroom Repairs (Crumbling pipes)</td>
<td>270.00</td>
</tr>
<tr>
<td>11/16/2016</td>
<td>HVAC System - Computer Repairs</td>
<td></td>
</tr>
<tr>
<td>11/30/2016</td>
<td>Various Minor Repairs Month of July through November</td>
<td>2,060.40 Our maintenance did labor</td>
</tr>
<tr>
<td>11/30/2016</td>
<td>McClure water and HVAC Repairs Month of July through November</td>
<td>11,290.48</td>
</tr>
<tr>
<td>9/22/2016</td>
<td>Door seals replaced</td>
<td>373.30 Our maintenance did labor</td>
</tr>
<tr>
<td>11/30/2016</td>
<td>Major roof repair</td>
<td>8,000.00</td>
</tr>
<tr>
<td>3/20/2016</td>
<td>Walk in Cooler Down</td>
<td>427.08</td>
</tr>
<tr>
<td>6/30/2016</td>
<td>Various Minor Repairs Month of July 2015 through June 2016</td>
<td>4,057.91 Our maintenance did labor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working on it. Cost to be determined</td>
<td></td>
</tr>
<tr>
<td>Large Items to July 2015</td>
<td></td>
</tr>
<tr>
<td>2014   Pa System</td>
<td>14,673.00</td>
</tr>
<tr>
<td>2014/2015 Building repairs to Infrastructure</td>
<td>13,646.62</td>
</tr>
<tr>
<td>2013/2015 Cafeteria Window Coverings</td>
<td>3,359.00</td>
</tr>
<tr>
<td>2014/2015 Building repairs to Infrastructure</td>
<td>21,052.57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Items Prior to July 2015</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>14,673.00</td>
</tr>
<tr>
<td>2013</td>
<td>3,359.00</td>
</tr>
<tr>
<td>2014/2015 Building repairs to Infrastructure</td>
<td>21,052.57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Items Prior to July 2015</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>87,245.55</td>
</tr>
</tbody>
</table>

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Halifax Area School District

"Prepared. Engaged. Responsible Citizens"

Architects
Capacities/ Program / Budgets Review
STUDENT CAPACITY
2011 Study:
National Average Primary School Enrollment = 450

Current HASD Enrollment:
Enders-Fisherville (K-1) = 150
Halifax Elementary (2-5) = 314
TOTAL = 464 Students
Recommended ES Capacity is **85%** or **22 Students / Classroom**

**PDE Capacity:**
Maximum capacity as determined by the state. Equates every classroom to hold 25 students.

**Actual Capacity:**
True capacity of the school based on how the space is actually used. Accounts for dedicated spaces for special education and learning support.

**Target Capacity:**
Multiplies the actual capacity by 0.88 which reduces class size down from 25 to 22 students in each class.

Building Analysis – Capacity
Halifax Area School District
Program 600 Students (Grades K-5)

Building Analysis – Program
Halifax Area School District
Recommended Capacity is **85%** or **22 Students / Classroom**

<table>
<thead>
<tr>
<th></th>
<th>*Current Enrollment</th>
<th>3 Classrooms/Grade</th>
<th>4 Classrooms/Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>76 students</td>
<td>26 students</td>
<td>19 students</td>
</tr>
<tr>
<td>First</td>
<td>74 students</td>
<td>25 students</td>
<td>19 students</td>
</tr>
<tr>
<td>Second</td>
<td>75 students</td>
<td>25 students</td>
<td>19 students</td>
</tr>
<tr>
<td>Third</td>
<td>68 students</td>
<td><strong>23 students</strong></td>
<td>17 students</td>
</tr>
<tr>
<td>Fourth</td>
<td>88 students</td>
<td>30 students</td>
<td>22 students</td>
</tr>
<tr>
<td>Fifth</td>
<td>83 students</td>
<td>28 students</td>
<td>21 students</td>
</tr>
</tbody>
</table>

464 students | 26/classroom | 20/classroom

*2017 Enrollment #'s
Recommended Capacity for an Elementary School is **85%**

**Halifax ES (Grades 2-5)**
- Student Capacity = 400 students
- 2017/2018 Enrollment = 314 students
- Capacity Available = **86 students**

**Enders ES (Grades K-1)**
- Student Capacity = 200 students
- 2017/2018 Enrollment = 150 students
- Capacity Available = **50 students**

Building Analysis – Capacity
Halifax Area School District
To Renovate
or
not to Renovate?
Renovation options summary

• Halifax School District Committee agrees to consolidate elementary schools
  • Shared resources (nurse, principal, specialists, new educational opportunities)
• Enders too small to include Halifax kids
• Halifax too small to include Enders kids

Renovation options cost estimates

• Renovation of Enders = $8.3million
• Renovation of Halifax = $15.7million
• TOTAL = $24million

*Educational disruptions during construction
Expansion options summary

• Enders Fishersville Elementary School
  • Site furthest away from population
  • No utilities to existing site
  • Maintenance costs higher than Halifax

• Halifax Elementary School
  • Small site with steep slopes
  • Parking and bus circulation concerns

Renovation options cost estimates

• Expansion of Enders = $24million
• Expansion of Halifax = $21.2million

*Educational disruptions during construction
Renovate Enders ES (K-1) = $8.3 M
Renovate Halifax ES (2-5) = $15.7 M
Total Both Projects = $24 M

Expand Enders ES (K-5) = $24 M
Expand Halifax ES (K-5) = $21.2 M
**Existing Classroom Usage**

- **16 Classrooms**
- **4 used for Special Education**
Existing Classroom Usage

- 8 Classrooms
- 2 used for Special Education
- 2 used for Art and Technology
Existing Classroom Usage

- 24 Total Classrooms in School
- 6 used for Special Education
- 2 used for Art and Technology

16 General Education Classrooms
- 4 classrooms per grade (2-5)
- Class sizes average is 20 kids
- 2-1/2 classrooms per grade (K-5)
- Class sizes would range from 30 to 38 kids per classroom
Halifax Expansion Summary

- Limited area to expand
- Elongates existing school further
- Does not include all desired educational program
- No ability to expand in the future
- Doesn’t solve vehicular safety concerns
- Major renovation while kids are in the school
Halifax New Building Summary

- Limited area to expand to build new school
- Forced to create another long and straight layout
- Difficult construction phasing
Renovate Enders ES (K-1) = $8.3 M
Renovate Halifax ES (2-5) = $15.7 M
Total Both Projects = $24 M

Expand Enders ES (K-5) = $24 M
Expand Halifax ES (K-5) = $21.2 M

New Building (Halifax Site) (K-5) = $25.5 M
New Building (Alternative Site) (K-5) = $? M
Renovate Enders ES (K-1) = $8.3 M
Renovate Halifax ES (2-5) = $15.7 M
Total Both Projects = $24 M

Expand Enders ES (K-5) = $24 M
Expand Halifax ES (K-5) = $21.2 M

New Building (Halifax Site) (K-5) = $25.5 M
New Building (Alternative Site) (K-5) = $26.5 M
Expand Halifax ES (K-5) = $21.2 M

New Building (Halifax ES Site) (K-5) = $25.5 M

New Building (Alternate Site) (K-5) = $26.5 M
DISCUSSION