

FACILITIES NEEDS

ASSESSMENT

STAMFORD PUBLIC SCHOOLS

888 Washington Boulevard
Stamford, Connecticut 06901
Domenick Tramontozzi



FACILITIES NEEDS ASSESSMENT

OF

WESTOVER ELEMENTARY MAGNET SCHOOL

412 Stillwater Avenue
Stamford, Connecticut 06902

PREPARED BY:

EMG
222 Schilling Circle, Suite 275
Hunt Valley, Maryland 21031
800.733.0660
410.785.6220 (fax)
www.emgcorp.com

EMG CONTACT:

Bill Champion
Director - Asset Management
Consulting
800.733.0660, x6234
bchampion@emgcorp.com

EMG Project #: 88166.09R-017.017
Date of Report: August 29, 2009
On site Date: March 26, 2009

**Replacement Reserves Report
Elementary Schools / Westover Elementary Magnet School
8/29/2009**



| | | | | | | | | | | |
|-----------|------|------|------|------|------|------|------|------|------|------|
| Year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Inflation | 3.0% | 4.0% | 4.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% |

| Report Section | ID | Cost Description | Lifespan (EUL) | Observed Age (EAge) | Remaining Life (RUL) | Quantity | Unit | Unit Cost * Subtotal | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Deficiency Repair Estimate |
|----------------|-------|---|----------------|---------------------|----------------------|----------|----------|----------------------|-----------|-----------|----------|----------|-----------|----------|----------|---------|------|-----------|----------------------------|
| 1.2 | 2885 | Mold Study at Buildings | 0 | 0 | 0 | 1 | EA | \$3,339.00 | \$3,339 | | | | | | | | | | \$3,339 |
| 1.2 | 3202 | HVAC system study | 0 | 0 | 0 | 1 | EA | \$9,135.00 | \$9,135 | | | | | | | | | | \$9,135 |
| 1.2 | 2878 | Follow-up Review by a Structural Engineer | 0 | 0 | 0 | 1 | EA | \$8,190.00 | \$8,190 | | | | | | | | | | \$8,190 |
| 3.1 | 2886 | ADA - Install signage indicating Accessible Parking, pole mounted | 20 | 19 | 1 | 1 | EA | \$134.01 | | \$134 | | | | | | | | | \$134 |
| 3.1 | 2887 | ADA, paint van-accessible space with signage | 5 | 4 | 1 | 1 | EA | \$277.20 | | \$277 | | | | | | | | | \$277 |
| 3.1 | 2890 | ADA, Wrap drain pipes below accessible lavatory | 0 | 0 | 0 | 1 | EA | \$81.90 | \$82 | | | | | | | | | | \$82 |
| 5.2 | 3219 | Repair and Seal Coat asphalt | 5 | 4 | 1 | 4 | 10000 SF | \$5,848.92 | \$23,396 | \$23,396 | | | | | | | | | \$46,791 |
| 5.2 | 3218 | In place cold reused asphalt paving | 15 | 9 | 6 | 5000 | SY | \$4.80 | \$24,003 | | | | | | \$24,003 | | | | \$24,003 |
| 5.5 | 3223 | Replace chain link fence, 6-foot high | 20 | 20 | 0 | 250 | LF | \$37.31 | \$9,327 | | | | | | | | | | \$9,327 |
| 5.5 | 3222 | Replace chain link fence, 6-foot high | 20 | 18 | 2 | 1750 | LF | \$37.31 | \$65,290 | | \$65,290 | | | | | | | | \$65,290 |
| 5.5 | 3224 | Replace Play Structure, Large | 20 | 11 | 9 | 2 | EA | \$52,920.00 | \$105,840 | | | | | | | | | \$105,840 | \$105,840 |
| 5.5 | 6749 | Install underground irrigation system | 0 | 0 | 0 | 25000 | SF | \$1.26 | \$31,500 | \$31,500 | | | | | | | | | \$31,500 |
| 5.5 | 6744 | New Aluminum pole-mounted double light 400 W HPS fixture and pole | 0 | 0 | 0 | 9 | EA | \$8,651.16 | \$77,860 | \$77,860 | | | | | | | | | \$77,860 |
| 5.5 | 3204 | Replace pole-mounted light 400 W HPS fixture only | 20 | 20 | 0 | 2 | EA | \$1,762.24 | \$3,524 | \$3,524 | | | | | | | | | \$3,524 |
| 5.5 | 3203 | Replace Aluminum light pole, pole and base only | 20 | 20 | 0 | 20 | EA | \$315.00 | \$6,300 | \$6,300 | | | | | | | | | \$6,300 |
| 6.2 | 3705 | Slab Stabilization and Minor Foundation Repair | 0 | 0 | 0 | 8 | 1000 SF | \$30,240.00 | \$241,920 | \$241,920 | | | | | | | | | \$241,920 |
| 6.2 | 2883 | Remove and replace concrete floor with ceramic tile finish | 0 | 2 | 0 | 150 | CSF | \$2,810.68 | \$421,602 | \$421,602 | | | | | | | | | \$421,602 |
| 6.3 | 3486 | Snow Guards on Standing Seam metal roof | 15 | 15 | 0 | 900 | EA | \$37.72 | \$33,952 | \$33,952 | | | | | | | | | \$33,952 |
| 6.3 | 12264 | Stamford Roof Assessment - BUR Roof Replacement | 20 | 20 | 0 | 25 | SQ | \$1,702.13 | \$42,553 | \$42,553 | | | | | | | | | \$42,553 |
| 6.3 | 12260 | Stamford Roof Assessment Roof Repair Recommendations | 0 | 0 | 0 | 1 | EA | \$1,773.22 | \$1,773 | \$1,773 | | | | | | | | | \$1,773 |
| 6.3 | 2894 | Replace copper gutters | 25 | 16 | 9 | 520 | LF | \$18.36 | \$9,546 | | | | | | | | | \$9,546 | \$9,546 |
| 6.4 | 2924 | Caulking, expansion joints, 1"x1/2", remove and replace | 15 | 11 | 4 | 3500 | LF | \$7.95 | \$27,827 | | | | \$27,827 | | | | | | \$27,827 |
| 6.4 | 2900 | Recaulk expansion and control joints up to 1/2" wide | 10 | 8 | 2 | 552 | LF | \$16.58 | \$9,153 | | \$9,153 | | | | | | | | \$9,153 |
| 6.4 | 6725 | Scrape and paint exterior metal | 7 | 7 | 0 | 3500 | SF | \$1.97 | \$6,880 | \$6,880 | | | | | | \$6,880 | | | \$13,759 |
| 6.4 | 6724 | Scrape and paint exterior metal | 7 | 7 | 0 | 2500 | SF | \$1.97 | \$4,914 | \$4,914 | | | | | | \$4,914 | | | \$9,828 |
| 6.6 | 2926 | Replace 3'-0" x 4'-0" metal wire mesh window cover - 3rd floor | 30 | 29 | 1 | 8 | EA | \$630.00 | \$5,040 | \$5,040 | | | | | | | | | \$5,040 |
| 6.6 | 2925 | Replace Glass Blocks | 40 | 39 | 1 | 2 | CSF | \$7,541.10 | \$15,082 | \$15,082 | | | | | | | | | \$15,082 |
| 6.8 | 2929 | Replace 2x2 ceramic tile | 30 | 27 | 3 | 8 | CSF | \$2,142.00 | \$17,136 | | \$17,136 | | | | | | | | \$17,136 |
| 6.8 | 3670 | Sand and refinish hardwood floor | 10 | 5 | 5 | 6000 | SF | \$6.93 | \$41,580 | | | | | \$41,580 | | | | | \$41,580 |
| 6.8 | 2927 | Replace Vinyl tile | 18 | 14 | 4 | 3000 | SY | \$81.90 | \$245,700 | | | | \$245,700 | | | | | | \$245,700 |
| 6.8 | 2930 | Replace carpet - standard commercial | 8 | 5 | 3 | 675 | SY | \$63.23 | \$42,678 | | | \$42,678 | | | | | | | \$42,678 |
| 7.1 | 6729 | Install Air-Conditioning at entire building | 30 | 29 | 1 | 5000 | SF | \$16.22 | \$81,081 | \$81,081 | | | | | | | | | \$81,081 |
| 7.1 | 6727 | Replace Unit Ventilator 750 CFM | 15 | 11 | 4 | 50 | EA | \$7,629.30 | \$381,465 | | | | \$381,465 | | | | | | \$381,465 |

Replacement Reserves Report Elementary Schools / Westover Elementary Magnet School 8/29/2009



| Report Section | ID | Cost Description | Lifespan (EUL) | Observed Age (EAge) | Remaining Life (RUL) | Quantity | Unit | Unit Cost * Subtotal | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Deficiency Repair Estimate |
|---|-------|---|----------------|---------------------|----------------------|----------|------|-----------------------|--------------------|------------------|------------------|------------------|--------------------|------------------|-----------------|-----------------|------------------|------------------|----------------------------|
| 7.1 | 6730 | Exhaust Fan 800 CFM | 10 | 9 | 1 | 10 | EA | \$1,362.06 \$13,621 | | \$13,621 | | | | | | | | | \$13,621 |
| 7.1 | 3700 | Circulation Pump 20 to 25 HP | 20 | 11 | 9 | 1 | EA | \$11,710.44 \$11,710 | | | | | | | | | | \$11,710 | \$11,710 |
| 7.1 | 3698 | Circulation Pump 15 HP | 20 | 11 | 9 | 1 | EA | \$9,215.64 \$9,216 | | | | | | | | | | \$9,216 | \$9,216 |
| 7.1 | 3206 | Replace Circulation pump 1 hp | 15 | 11 | 4 | 1 | EA | \$5,443.20 \$5,443 | | | | | \$5,443 | | | | | | \$5,443 |
| 7.1 | 3210 | Replace rooftop unit 20-50 tons (heating and cooling) | 20 | 11 | 9 | 2 @ 40 | Ton | \$1,512.00 \$120,960 | | | | | | | | | | \$120,960 | \$120,960 |
| 7.1 | 3208 | Package units, gas heat, 18-ton cooling | 15 | 11 | 4 | 1 | EA | \$34,776.00 \$34,776 | | | | | \$34,776 | | | | | \$120,960 | \$34,776 |
| 7.1 | 3209 | Replace rooftop unit 20-50 tons (heating and cooling) | 20 | 11 | 9 | 4 @ 20 | Ton | \$1,512.00 \$120,960 | | | | | | | | | | \$120,960 | \$120,960 |
| 7.1 | 3207 | Single Zone Package Unit 15-ton cooling only | 15 | 11 | 4 | 2 | EA | \$29,787.66 \$59,575 | | | | | \$59,575 | | | | | | \$59,575 |
| 7.1 | 6737 | Retrofit of HVAC and Controls | 0 | 0 | 0 | 10 | EA | \$10,080.00 \$100,800 | \$100,800 | | | | | | | | | | \$100,800 |
| 7.2 | 6751 | Capital Plan - Install outdoor drinking fountain, pedestal type | 0 | 0 | 0 | 3 | EA | \$2,451.56 \$7,355 | \$7,355 | | | | | | | | | | \$7,355 |
| 7.2 | 6752 | Capital Plan - Install one inch copper pipe for drinking fountain | 0 | 0 | 0 | 400 | LF | \$31.63 \$12,650 | \$12,650 | | | | | | | | | | \$12,650 |
| 7.2 | 6728 | Install 5 hp booster pump to domestic water supply | 0 | 0 | 0 | 1 | EA | \$8,820.00 \$8,820 | \$8,820 | | | | | | | | | | \$8,820 |
| 7.4 | 6753 | Upgrade lighting for energy conservation | 0 | 0 | 0 | 133563 | SF | \$5.92 \$790,960 | \$790,960 | | | | | | | | | | \$790,960 |
| 7.4 | 3672 | Room intercom units | 10 | 5 | 5 | 96 | EA | \$205.54 \$19,732 | | | | | | \$19,732 | | | | | \$19,732 |
| 7.4 | 3671 | Replace stage lighting equipment | 15 | 11 | 4 | 1 | EA | \$19,026.00 \$19,026 | | | | | \$19,026 | | | | | | \$19,026 |
| 7.4 | 3215 | School Stage Audio Equipment | 15 | 11 | 4 | 1 | EA | \$5,386.50 \$5,387 | | | | | \$5,387 | | | | | | \$5,387 |
| 7.4 | 3216 | Sound system including amplifier | 15 | 11 | 4 | 1 | EA | \$5,677.56 \$5,678 | | | | | \$5,678 | | | | | | \$5,678 |
| 7.5 | 3673 | Replace passenger cab finishes | 20 | 11 | 9 | 1 | EA | \$18,345.60 \$18,346 | | | | | | | | | | \$18,346 | \$18,346 |
| 7.6 | 3213 | Install Ansul System at kitchen hood | 20 | 11 | 9 | 1 | EA | \$6,142.50 \$6,143 | | | | | | | | | | \$6,143 | \$6,143 |
| 7.6 | 6734 | Strobe and horn | 15 | 15 | 0 | 20 | EA | \$273.89 \$5,478 | \$5,478 | | | | | | | | | | \$5,478 |
| 7.6 | 3214 | Fire alarm panel addressable, with voice | 15 | 11 | 4 | 1 | EA | \$15,264.77 \$15,265 | | | | | \$15,265 | | | | | | \$15,265 |
| 8.1 | 2933 | Paint interior walls, CMU, including surface prep | 7 | 4 | 3 | 40000 | SF | \$1.12 \$44,856 | | | | \$44,856 | | | | | | | \$44,856 |
| 8.1 | 2934 | Paint interior walls, drywall | 5 | 2 | 3 | 68320 | SF | \$1.06 \$72,310 | | | | \$72,310 | | | | | \$72,310 | | \$72,310 |
| 8.1 | 2932 | Paint ceilings | 20 | 19 | 1 | 65 | CSF | \$223.65 \$14,537 | | \$14,537 | | | | | | | | | \$14,537 |
| 8.1 | 2931 | Replace acoustical ceiling tiles - partial | 9 | 6 | 3 | 300 | CSF | \$693.00 \$207,900 | | | | \$207,900 | | | | | | | \$207,900 |
| 8.2 | 12258 | Stamford Kitchen Equipment Replacement Allowance | 10 | 5 | 5 | 1 | EA | \$63,000.00 \$63,000 | | | | | | \$63,000 | | | | | \$63,000 |
| Totals, Unescalated | | | | | | | | | \$1,828,915 | \$153,168 | \$74,443 | \$384,880 | \$500,141 | \$124,312 | \$47,399 | \$11,794 | \$72,310 | \$402,720 | \$3,900,082 |
| Soft Costs: | | | | | | | | | | | | | | | | | | | |
| Architectural/Consultant Fees (10.0%) | | | | | | | | | \$182,892 | \$15,317 | \$7,444 | \$38,488 | \$80,014 | \$12,431 | \$4,740 | \$1,179 | \$7,231 | \$40,272 | \$390,008 |
| General Requirements (Bonds, Insurance, GC/CM Mark-up) (10.0%) | | | | | | | | | \$182,892 | \$15,317 | \$7,444 | \$38,488 | \$80,014 | \$12,431 | \$4,740 | \$1,179 | \$7,231 | \$40,272 | \$390,008 |
| Prevailing Wage/Labor Compliance (5.0%) | | | | | | | | | \$91,446 | \$7,658 | \$3,722 | \$19,244 | \$40,007 | \$6,216 | \$2,370 | \$590 | \$3,615 | \$20,136 | \$195,004 |
| Contingency (5.0%) | | | | | | | | | \$91,446 | \$7,658 | \$3,722 | \$19,244 | \$40,007 | \$6,216 | \$2,370 | \$590 | \$3,615 | \$20,136 | \$195,004 |
| Location Factor (1.11) | | | | | | | | | \$195,694 | \$16,389 | \$7,965 | \$41,182 | \$85,615 | \$13,301 | \$5,072 | \$1,262 | \$7,737 | \$43,091 | \$417,309 |
| Totals, Escalated (see inflation table above) | | | | | | | | | \$2,573,284 | \$221,973 | \$112,199 | \$603,286 | \$1,316,904 | \$214,828 | \$86,007 | \$22,470 | \$144,658 | \$845,936 | \$6,141,543 |
| <i>* Markup has been included in unit costs.</i> | | | | | | | | | | | | | | | | | | | |

| Cost Comparison Between JMOA Capital Plan and EMG Replacement Reserves | | | | | | |
|--|-------------|-------------|--------------|---------------|--------------------|--|
| Westover Magnet Elementary | | | | | | |
| Client - Project Name | Client Cost | EMG Cost | EMG Shortage | Out of Scope? | Is work completed? | EMG Cost Comments |
| Replace old damaged fencing around property | \$20,600 | \$74,617 | -\$54,017 | No | No | |
| Clean up brickwork where leaching at North walls | \$4,429 | \$0 | \$4,429 | No | No | Routine maintenance, no significant deficiency observed |
| Scrape, paint, and refinish lintels, columns and doors | \$10,397 | \$6,880 | \$3,517 | No | No | Added |
| Add door stops in toilet compartments | \$1,061 | \$0 | \$1,061 | No | No | Routine maintenance |
| Repair cracks in masonry walls | \$4,586 | \$0 | \$4,586 | No | No | Repairs included in repair allowance below |
| Scrape and paint areas of peeling paint | \$9,717 | \$44,856 | -\$35,139 | No | No | |
| Misc. painting throughout entire school | \$77,466 | \$72,310 | \$5,156 | No | No | |
| Purchase 40 foot man lift for lobby | \$5,896 | \$0 | \$5,896 | Yes | No | Out of scope |
| Repair damaged flooring | \$75,396 | \$504,756 | -\$429,360 | No | No | EMG cost includes slab repair, masonry crack repairs, and VCT and ceramic replacements |
| Review options for maintenance of toilet room floors | \$10,104 | \$0 | \$10,104 | No | No | JMOA scope not defined |
| Install booster pump to increase water pressure | \$43,921 | \$8,820 | \$35,101 | No | No | Cost seems high |
| Add a new shower on first floor | \$5,052 | \$0 | \$5,052 | No | No | JMOA scope/need not defined |
| Repair incorrectly installed unit ventilators | \$41,587 | \$381,465 | -\$339,878 | No | No | EMG cost for EUL based replacements |
| Add AC to gym | \$122,861 | \$81,081 | \$41,780 | No | No | |
| Improve toilet exhaust fans | \$5,896 | \$13,621 | -\$7,725 | No | No | Added |
| Install more fire alarm horns | \$6,153 | \$5,478 | \$675 | No | No | Added |
| JMOA Cost | | | | | | |
| | \$445,122 | \$3,900,082 | -\$3,454,960 | | | |
| | \$445,122 | | | | | |
| less completed items | | | | | | |
| Soft Costs (30%) | | \$1,170,025 | | | | |
| Location factor(11%) | | \$429,009 | | | | |
| Totals(Unescalated) | | \$5,499,116 | -\$5,053,994 | | | |
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TABLE OF CONTENTS

Certification 1

1. Executive Summary 2

 1.1. Summary of Findings 2

 1.2. Follow-up Recommendations 4

 1.3. Opinions of Probable Cost..... 4

 1.3.1. Methodology 5

2. Purpose and Scope 7

 2.1. Purpose 7

 2.2. Scope 7

 2.3. Personnel Interviewed 8

 2.4. Documentation Reviewed 8

 2.5. Pre-survey Questionnaire..... 9

3. Accessibility, Code & Mold 10

 3.1. ADA Accessibility..... 10

 3.2. Code Information and Flood Zone 10

 3.3. Mold..... 11

4. Existing Building Evaluation 12

 4.1. Room Types..... 12

 4.2. Rooms Observed 13

5. Site Improvements 14

 5.1. Utilities..... 14

 5.2. Parking, Paving, and Sidewalks..... 14

 5.3. Drainage Systems and Erosion Control..... 15

 5.4. Topography and Landscaping 15

 5.5. General Site Improvements..... 16

6. Building Architectural and Structural Systems 18

 6.1. Foundations..... 18

 6.2. Superstructure..... 18

 6.3. Roofing..... 19

 6.4. Exterior Walls 20

 6.5. Exterior and Interior Stairs..... 21

 6.6. Windows and Doors..... 21

 6.7. Patio, Terrace, and Balcony 22

 6.8. Common Areas, Entrances, and Corridors 22

7. Building (Central) Mechanical and Electrical Systems 25

 7.1. Building Heating, Ventilating, and Air-conditioning (HVAC)..... 25

 7.2. Building Plumbing..... 27

 7.3. Building Gas Distribution 27

 7.4. Building Electrical..... 28

 7.5. Elevators and Conveying Systems 29

 7.6. Fire Protection Systems 29

8. Interior Spaces 31

 8.1. Interior Finishes 31

 8.2. Commercial Kitchen Equipment..... 32

 8.3. HVAC..... 32

 8.4. Plumbing..... 32



9. Other Structures 33
10. Energy Benchmarking..... 34
 10.1. Introduction / Approach..... 34
11. Appendices..... 35



CERTIFICATION

EMG has completed a Comprehensive Facilities Needs Assessment of the subject property, Westover Elementary Magnet School, located at 412 Stillwater Avenue, in Stamford, Connecticut.

The conclusions and recommendations presented in this report are based on the brief review of the plans and records made available to our Project Manager during the site visit, interviews of available Physical Plant personnel familiar with the Property, appropriate inquiry of municipal authorities, our Project Manager's walk-through observations during the site visit, and our experience with similar properties.

No testing, exploratory probing, dismantling or operating of equipment or in depth studies were performed unless specifically required under Section 2 of this report. This evaluation did not include engineering calculations to determine the adequacy of the Property's original design or existing systems. Although walk-through observations were performed, not all areas were observed (See Section 4.2 for areas observed). There may be defects in the Property, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by the Physical Plant personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

This report has been prepared on behalf of and exclusively for the use of City of Stamford, Connecticut Public Schools for the purpose stated within Section 2.0 of this report. The report, or any excerpt thereof, shall not be used by any party other than City of Stamford, Connecticut Public Schools or for any other purpose than that specifically stated in our agreement or within Section 2.0 of this report without the express written consent of EMG.

Any reuse or distribution of this report without such consent shall be at City of Stamford Public Schools and the recipient's sole risk, without liability to EMG.

Any questions regarding this report should be directed to Bill Champion at bchampion@emgcorp.com or at (800) 733-0660, Extension 6234.

Prepared by: Jill Orlov and Peter Millar, Field
Observers

Reviewed by:



Michael A. Young
mayoung@emgcorp.com for
Bill Champion
Director - Asset Management Consulting
800.733.0660, x6234
bchampion@emgcorp.com

1. EXECUTIVE SUMMARY

1.1. SUMMARY OF FINDINGS

The property information is summarized in the table below. More detailed descriptions may be found in the various sections of the report and in the Appendices.

| |
|-----------------------------|
| Property Information |
|-----------------------------|

| Property Information | |
|------------------------------------|--|
| Address: | 412 Stillwater Avenue, Stamford, Fairfield County, Connecticut, 06902 |
| Year constructed: | 1998 |
| Current owner of property: | City of Stamford |
| School occupying building: | Westover Elementary Magnet School |
| Current usage of property: | Elementary School |
| Management Point of Contact: | City of Stamford Engineering, Domenic Tramontozzi and Robert Gerbert, Jr. 203.977.5534 phone 203.977.4137 fax |
| Site acreage: | 15.59 acres |
| Gross floor area: | 133,563 Square Feet |
| Number of buildings: | One |
| Number of stories: | One to two |
| Parking type and number of spaces: | 128 spaces in open lots |
| Building construction: | Steel frame with concrete-topped metal decks. |
| Bay Column Spacing: | Approximately 26'-0" to 32'-8" |
| Interior vertical clearance: | Approximately 9'-0" |
| Roof construction: | Gabled roofs with standing seam metal panels. Flat roofs with built up membrane and stone ballast. |
| Exterior Finishes: | Brick veneer and curtain wall system at Media Center. |
| Heating and/or Air-conditioning: | Heating is provided in the classrooms by fan coil units via a two-pipe system. The fan coil units are provided with hot water from the central boilers and chilled water from ACC-1. Heating is provided to isolated portions of the common corridors via wall-mounted, finned-tube, radiant heat units. The radiant units are supplied with hot water by the central system. Heating and cooling are provided in media lab, auditorium, music/art rooms, main offices, common corridors, cafeteria, computer labs, and lobby by individual, direct-expansion, constant-volume, gas-fired, packaged, rooftop-mounted, HVAC units. |
| Fire and Life/Safety: | Fire sprinklers, hydrants, smoke detectors, alarms, extinguishers, and alarm horns. |
| Dates of visit: | March 26, 2009 |
| Point of Contact (POC): | Kathleen Wunder and Matt Vivona |



Generally, the property appears to have been constructed within industry standards in force at the time of construction. The property appears to have been well maintained since it was first occupied and is in good to fair overall condition.

According to City of Stamford Public Schools personnel, the property has had no capital improvement expenditure program over the past three years.

1.2. FOLLOW-UP RECOMMENDATIONS

The following issues require additional study:

- The concrete block walls, concrete slab on grade and raised concrete floor are in fair to poor condition. Several settlement cracks along a vertical axis through the blocks and in the concrete slabs were observed throughout the school. Possible causes include the fact that the school was built over a re-directed stream. The steel may not be designed to handle the load of the floors and walls. A professional structural engineer must be retained to analyze the existing condition, provide recommendations and, if necessary, estimate the scope and cost of any required repairs. See Section 6.1, 6.2 and 6.8 for further information. The estimated cost to retain an engineer is included in the Replacement Reserves Report. A cost allowance to institute a programmed replacement to repair the more significant areas the settled concrete, concrete block or structural members is included in the Replacement Reserves Report.
- Based on the numerous locations of isolated suspect mold and moisture, a mold assessment should be conducted by a health and safety professional with experience performing microbial investigations. In addition, the source of this moisture should be addressed in order to prevent future mold problems. Several areas of vinyl tile were observed to be separating and worn at the seams; which may be indicative of moisture under the tiles at the concrete slab. Suspect mold was observed on piping insulation in mechanical room. Several areas of cupped acoustic ceiling tiles were also observed throughout the school. The estimated costs of corrective action shall be determined as part of the mold assessment recommended. See Section 3.3 for further information. The estimated cost of the study is included in the Replacement Reserves Report.
- The HVAC system is reportedly highly inconsistent. Maintenance and administrative staff reported that temperature control is inadequate in the building and that heating and cooling are at times required simultaneously maintaining a comfortable environment. It is recommended that an HVAC contractor evaluate the building for the potential reconfiguration of the existing control system or to add increased zoning for better temperature control in the classrooms. The cost of the follow-up evaluation is included in the Replacement Reserves Report. A budgetary cost allowance to replace or upgrade the controls is included in Section 7.1 of the Replacement Reserves Report.

The following issues should be considered.

- Verify that any alterations, installations, or other improvements since the project was first constructed and occupied have been properly permitted and approved by municipal agencies.
- Verify that no defective materials or equipment are used at the property.

1.3. OPINIONS OF PROBABLE COST

The estimates for the repair and capital reserves items noted within this PCR are attached to the front of this report, following the cover page.

These estimates are based on invoices and/or bid documents provided by the Owner and/or facility, construction costs developed by construction resources such as *R.S. Means* and *Marshall & Swift*, EMG's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions.

1.3.1. Methodology

Based upon our observations, research and judgment, along with consulting commonly accepted empirical Expected Useful Life (EUL) tables; EMG will render our opinion as to when a system or component will most probably necessitate replacement. Accurate historical replacement records provided by the facility manager are typically the best source for this data. Exposure to the weather elements, initial system quality and installation, extent of use, the quality and amount of preventive maintenance exercised are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age.

In addition to determining the EUL and the RUL for each major prime system and building component, EMG will categorize each cited deficiency within one of the following four Priorities:

Priority 1: Currently Critical (Immediate)

Items in this category require immediate action and include corrective measures to:

- Return a building component to normal operation
- Stop accelerated deterioration
- Replace items that have reached or exceeded their useful service life
- Correct a cited safety hazard

Priority 2: Potentially Critical (Years 1-2)

Items in this category require action in the next 1-2 years and include corrective measures to:

- Return a building component to normal operation
- Stop rapid deterioration
- Correct potential life safety issues and/or code hazards
- Correct building components that are experiencing Intermittent operations

Priority 3: Necessary – Not Yet Critical (Years 3-5)

Items in this category require appropriate attention to preclude predictable deterioration, potential downtime, additional damage and higher costs to remediation if deferred further.

Priority 4: Recommended (Years 6-10)

Items in this category represent a sensible improvement to the existing conditions. These are not required for the most basic function of the facility; however, Priority 4 projects will improve overall usability and/or reduce long-term maintenance costs.

Priority 5: Recommended (Years 11+)

Items in this category represent anticipated required capital expenditures due to Estimated Useful Life (EUL) only. These systems are generally in good operational condition, but will require replacement due to the system(s) finite life expectancy.

In addition to identifying and prioritizing all of the observed deficiencies, EMG will also provide the physical conditions of building components. The physical condition is typically defined as being in one of four categories: Good, Fair, Poor and Not Applicable. For the purposes of our assessments, the following definitions are used:

Good (G) = Component or system is sound and performing its function. However, it may show signs of normal wear and tear, commensurate with its age, some minor remedial work may be required.

- Fair (F) = Component or system is performing adequately at this time but exhibits deferred maintenance, evidence of previous repairs, workmanship not in compliance with commonly accepted standards, is obsolete, or is approaching the end of its typical Expected Useful Life. Repair or replacement is required to prevent further deterioration, restore it to good condition, prevent premature failure, or to prolong its Expected Useful Life. Component or system exhibits an inherent deficiency of which the cost to remedy is not commensurate with the deficiency but is best remedied by a program of increased preventative maintenance or periodic repairs.
- Poor (P) = Component or system has either failed or cannot be relied upon to continue performing its original function as a result of: having realized or exceeded its typical expected useful life, excessive deferred maintenance, state of disrepair, an inherent design deficiency or workmanship. Present condition could contribute or cause the deterioration of contiguous elements or systems. Repair or replacement is required.
- N/A = Not Applicable

2. PURPOSE AND SCOPE

2.1. PURPOSE

The purpose of this report is to assist the Client in evaluating the physical aspects of this property and how its condition may affect the Client's financial decisions over time. For this Comprehensive Facilities Needs Assessment, the major independent building components were observed and their physical conditions were evaluated in accordance with ASTM E2018-01. These components include the site and building exteriors and representative interior areas. The estimated costs for repairs and/or capital reserve items are included in the enclosed cost tables. All findings relating to these opinions of probable costs are included in the relevant narrative sections of this Report.

The Physical Plant staff and code enforcement agencies were interviewed for specific information relating to the physical property, code compliance, available maintenance procedures, available drawings, and other documentation.

2.2. SCOPE

ASTM E2018-01 requires that any deviations from the Guide be so stated within the report. EMG's probable cost threshold limitation is reduced from the Guide's \$3,000 to \$1,000, thus allowing for a more comprehensive assessment on smaller scale properties. Therefore, EMG's opinions of probable costs that are individually less than a threshold amount of \$1,000 are typically omitted from this PCR. However, comments and estimated costs regarding identified deficiencies relating to life, safety or accessibility items are included regardless of this cost threshold.

In lieu of providing written record of communication forms, personnel interviewed from the facility and government agencies are identified in Section 2.3. Relevant information based on these interviews is included in Sections 2.3, 3.1, and other applicable report sections.

The assessment team will visit each identified property to evaluate the general condition of the building(s) and site improvements, review available construction documents in order to familiarize themselves with and be able to comment on the in-place construction systems, life safety, mechanical, electrical and plumbing systems, and the general built environment. The assessment team will conduct a walk-through survey of the building(s) in order to observe building systems and components, identify physical deficiencies and formulate recommendations to remedy the physical deficiencies.

- As a part of the walk-through survey, the assessment team will survey 100% of the facility's interior. In addition, EMG will survey the exterior of the properties including the building exterior, roofs, and sidewalk/pavement.
- The assessment team will interview the building maintenance staff so as to inquire about the subject property's historical repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements.
- The assessment team will develop opinions based on their site assessment, interviews with City of Stamford, Connecticut Public Schools building maintenance staff and experience gained on similar properties previously evaluated. The assessment team may also question others who are knowledgeable of the subject property's physical condition and operation or knowledgeable of similar systems to gain comparative information to use in evaluation of the subject property.

- The assessment team may review documents and information provided by City of Stamford, Connecticut Public Schools building maintenance staff that could also aid the knowledge of the subject property’s physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and observed conditions.
- EMG will provide City of Stamford, Connecticut Public Schools with Sustainable Alternative Recommendations that will concentrate on Utility Savings Potential, Health and Environmental Benefits.
- EMG will provide an Energy Benchmarking Analysis to establish energy performance with relation to similar types of buildings.

2.3. PERSONNEL INTERVIEWED

The following personnel from the facility and government agencies were interviewed in the process of conducting the Comprehensive Facilities Needs Assessment:

| Name and Title | Organization | Phone Number |
|--|---|---------------------|
| Kathleen Wunder Principal | Westover Elementary Magnet School | 203.977.4572 |
| Matt Vivona Head Custodian | Westover Elementary Magnet School | 203.977.4572 |
| Janet Schneider Assistant Principal | Westover Elementary Magnet School | 203.977.4572 |
| Mr. Gus Burreisci Project Manager | City of Stamford Public Schools | 203.223.8118 |
| Jim Thaxter Detailer | Northeast Panel Company Roof Contractor – metal panel only | 860.676.1282 |

The Comprehensive Facilities Needs Assessment was performed with the assistance of Kathleen Wunder, Principal and Matt Vivona, Head Custodian, Westover Elementary Magnet School, the on site Points of Contact (POC), who were cooperative and provided information that appeared to be accurate based upon subsequent site observations. The on site contacts are knowledgeable about the subject property and answered most questions posed during the interview process. The POC’s management involvement at the property has been for the past two and one year, respectively.

2.4. DOCUMENTATION REVIEWED

Prior to the Comprehensive Facilities Needs Assessment, relevant documentation was requested that could aid in the knowledge of the subject property’s physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and observed conditions. The review of submitted documents does not include comment on the accuracy of such documents or their preparation, methodology, or protocol. The following documents were provided for review while performing the Comprehensive Facilities Needs Assessment:

- As-Built Construction documents by Fletcher Thompson dated March 15, 1996.
- Roof Warranty information – Northeast Panel Company April 22, 1999.



A prior Elementary School Capacity Study was reviewed while performing the FNA and Space Utilization Analysis. The report, dated October 12, 2001, was prepared by JMOA Engineering, P.C. Property condition and/or factual information discrepancies between the prior report and actual conditions are not readily apparent other than changes in classroom usage and population.

No other documents were reviewed. The Documentation Request Form is provided in Appendix E.

2.5. PRE-SURVEY QUESTIONNAIRE

A Pre-survey Questionnaire was sent to the POC prior to the site visit. The questionnaire is included in Appendix E. Information obtained from the questionnaire has been used in preparation of this Facilities Needs Assessment.

3. ACCESSIBILITY, CODE & MOLD

3.1. ADA ACCESSIBILITY

Generally, Title III of the Americans with Disabilities Act (ADA) prohibits discrimination by entities to access and use of “areas of public accommodations” and “commercial facilities” on the basis of disability. Regardless of its age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Buildings completed and occupied after January 26, 1992 are required to comply fully with the ADAAG. Existing facilities constructed prior to this date are held to the lesser standard of compliance to the extent allowed by structural feasibility and the financial resources available. As an alternative, a reasonable accommodation pertaining to the deficiency must be made.

During the Comprehensive Building Condition Assessment, a limited visual observation for ADA accessibility compliance was conducted. The scope of the visual observation was limited to those areas set forth in EMG’s *Abbreviated Accessibility Checklist* provided in Appendix D of this report. It is understood by the Client that the limited observations described herein does not comprise a full ADA Compliance Survey, and that such a survey is beyond the scope of EMG’s undertaking. Only a representative sample of areas was observed and, other than as shown on the Abbreviated Accessibility Checklist, actual measurements were not taken to verify compliance. ADA compliance issues inside spaces are not within the scope of the survey.

The facility does not appear to be accessible with Title III of the Americans with Disabilities Act. Elements as defined by the ADAAG that are not accessible as stated within the priorities of Title III, are as follows:

Parking

- Adequate number of designated parking stalls and signage for vans are not provided.
- Signage indicating accessible parking spaces for cars is not provided.

Restrooms

- Wrap drain pipes below lavatory with insulation; protect against contact with hot, sharp, or abrasive surfaces.

A full ADA Compliance Survey may reveal additional aspects of the property that are not in compliance.

Corrections of these conditions should be addressed from a liability standpoint, but are not necessarily code violations. The Americans with Disabilities Act concerns civil rights issues as they pertain to the disabled and its Accessibility Guidelines are not a construction code, although many local jurisdictions have adopted them as such. The estimated costs to address the achievable items noted above are included in the Replacement Reserves Report.

3.2. CODE INFORMATION AND FLOOD ZONE

According to Deputy Fire Marshal, W. Seely of the Stamford Fire & Rescue, there are no outstanding fire code violations on file. The most recent inspection was conducted by the fire department on February 19, 2009. The fire department inspects the property on an annual basis.

According to the Flood Insurance Rate Map, published by the Federal Emergency Management Agency (FEMA) and dated November 17, 1993, the property is located in Zone X, defined as areas outside the one percent annual chance floodplain, areas of one percent annual chance sheet flow flooding where average depths are less than one foot, areas of one percent annual chance stream flooding where the contributing drainage area is less than one square mile, or areas protected from the one percent annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones. In communities that participate in the NFIP, flood insurance is available to all property owners and renters in this zone.

3.3. MOLD

EMG performed a limited visual assessment for the presence of mold, conditions conducive to mold, and evidence of moisture in readily accessible interior areas of the property.

No suspect mold was observed, but moisture was observed in the following areas:

- Side lobby off of main lobby. The area affected by the moisture was approximately one square foot in size.
- Communication room in Media Center. The area affected by the moisture was approximately one square foot in size.
- Table storage room off cafeteria. The area affected by the moisture was approximately five square feet in size.
- It was reported and observed that leaks occur at the high window of the Speech classroom (FRC3) adjacent to FRC2 during high winds. The area affected by the moisture was approximately four square feet in size.

Additional discussion and description of the correction efforts required with regard to the moisture infiltration issues are discussed in Sections 6.3 and 6.8 of this report, and associated costs are included within those sections.

EMG performed a limited visual assessment for the presence of mold, conditions conducive to mold, and evidence of moisture in readily accessible interior areas of the property.

Suspect mold growth was observed in the following area:

- Mechanical room pipe insulation. The area affected by the moisture and suspect mold was approximately 20 linear feet in size.

Prior to remediation by personnel specifically trained in the handling of hazardous materials, a mold assessment should be conducted by a health and safety professional with experience performing microbial investigations. In addition, the source of this moisture should be addressed in order to prevent future mold problems. The estimated costs of corrective action shall be determined as part of the mold assessment recommended. The estimated costs are not included in the tables. See Section 1.2 for further follow up study information.

4. EXISTING BUILDING EVALUATION

4.1. ROOM TYPES

The following table identifies the reported room types and mix at the subject property.

| Room Types and Mix | | | |
|-----------------------|---|--|------------|
| Quantity | Type | Vacant Rooms | Down Rooms |
| 31 | Classroom (K-5) | 2 in addition to the 31 – used for storage | 0 |
| 6 | Team Leader classroom (not a home base group of students) | 0 | 0 |
| 1 | Classroom rooms used for part-time uses | 0 | 0 |
| 2 | Reading Room | 0 | 0 |
| 1 | ILNC – Individual Learning Needs Coach | 0 | 0 |
| 1 | ESL, ELL, bi-lingual | 0 | 0 |
| 4 | Resource, SPED, Problem Solving (PS) | 0 | 0 |
| 4 | Austistic (ASD) - District | 0 | 0 |
| 1 | FRC Pre-School - District | 0 | 0 |
| 1 | FRC – Kindergarten - District | 0 | 0 |
| 2 | Art | 0 | 0 |
| 3 | Music | 0 | 0 |
| 2 Drama, 1 Dance | Dance, Drama | 0 | 0 |
| 2 | Speech | 0 | 0 |
| 1 | OT/PT | 0 | 0 |
| 11 | Office | 0 | 0 |
| 3 | Mechanical | 0 | 0 |
| 16 | Storage | 0 | 0 |
| 1 – split in 2 halves | Gymnasium | 0 | 0 |
| 1 | Cafeteria | 0 | 0 |
| 1 | Auditorium | 0 | 0 |
| 1 | Media Center | 0 | 0 |
| 3 | TOTAL | 0 | 0 |

4.2. ROOMS OBSERVED

EMG observed 100 percent of the building in order to gain a clear understanding of the property's overall condition. Other areas accessed included the exterior of the property, a representative sample of the roofs, and the interior common areas.

All areas of the property were available for observation during the site visit.

A "down room" or area is a term used to describe a non-usable room or area due to poor conditions such as fire damage, water damage, missing equipment, damaged floor, wall or ceiling surfaces, or other significant deficiencies. According to the POC, there are no down rooms or areas. No down rooms or areas were observed during the site visit.

5. SITE IMPROVEMENTS

5.1. UTILITIES

The following table identifies the utility suppliers and the condition and adequacy of the services.

| Site Utilities | | |
|---------------------|------------------|----------------------|
| Utility | Supplier | Condition & Adequacy |
| Sanitary sewer | City of Stamford | Good |
| Storm sewer | City of Stamford | Good |
| Domestic water | Aquarian | Good |
| Electric service | CLMP | Good |
| Natural gas service | Yankee Gas | Good |

Observations/Comments:

- The utilities provided appear to be adequate for the property. There are no unique, on site utility systems such as emergency generators, septic systems, water or waste water treatment plants, or propane gas tanks.
- See Section 7.1 for descriptions and comments regarding the underground fuel storage tank.

5.2. PARKING, PAVING, AND SIDEWALKS

The main entrance drive is located along Stillwater Road on the north side of the property. The parking areas, drive aisles, service drives, and entrance driveway aprons are paved with asphalt.

According to the site plan, parking is provided for approximately 121 cars. The parking ratio is approximately 0.89 spaces per thousand square feet of floor area. All of the parking stalls are located in open lots. There are a total of six (6) handicapped-accessible parking stalls, all of which are van-accessible and are located adjacent to the main entrance.

The sidewalks throughout the property are constructed of a combination of asphalt and cast-in-place concrete. Cast-in-place concrete steps with metal handrails are located at grade changes.

The curbs and gutters are constructed of a combination of extruded asphalt and cast-in-place concrete.

An asphalt paved basketball play area is located to the south of the building.

Observations/Comments:

- The asphalt pavement and play areas are in good to fair condition. There are isolated areas of significant cracks and/or surface deterioration. In order to maximize the pavement life, isolated saw cutting and replacing, crack sealing, seal coating, and restriping of the asphalt paving are required. Based on the observed condition and remaining useful life, milling reuse of the asphalt paving is recommended during the evaluation period. The estimated costs of these items are included in the Replacement Reserves Report.

- The asphalt pedestrian walkways are in good to fair condition. Isolated areas of cracks and/or surface deterioration were observed. Repair or replacement of the asphalt paving at the walking paths will be required during the evaluation period. The estimated costs of these items are lumped together with the work above.
- The concrete curbs, gutters, and sidewalks throughout the property are in overall good condition. Routine cleaning and maintenance will be required during the evaluation period.
- The asphalt curbs throughout the property are in overall good condition. Routine cleaning and maintenance will be required during the evaluation period.

Sustainable Recommendations:

- A sustainable recommendation for asphalt is to use recycled asphalt pavement (RAP) from a local source. This will reduce carbon emissions from production and transportation of new asphalt material.
- A sustainable recommendation for concrete is to use recycled concrete aggregate (RCA) from a local source. This will reduce carbon emissions from production and transportation of new concrete material.

5.3. DRAINAGE SYSTEMS AND EROSION CONTROL

Storm water from the roofs, landscaped areas, and paved areas flows into on site inlets and catch basins with underground piping connected to the municipal storm water management system. However, portions of the storm water from the paved areas flows across the surface into the adjacent public streets.

Observations/Comments:

- There is no evidence of storm water runoff from adjacent properties. The storm water system appears to provide adequate runoff capacity. There is no evidence of major ponding or erosion.

Sustainable Recommendations:

- There are no sustainable recommendations for the drainage systems.

5.4. TOPOGRAPHY AND LANDSCAPING

The property is essentially flat. However, the neighboring properties to the south and east are significantly elevated. The eastern property line slopes gently downward from the east towards the west.

The landscaping consists of trees, shrubs, and grasses.

The landscaped courtyard area is irrigated by an in-ground sprinkler system consisting of underground piping, shut-off valves, pop-up sprinkler heads, and automatic timers.

Surrounding properties include single and multiple family residential developments to the east and west. Surrounding properties include commercial developments to the south. E. Gaynor Brennan Golf Course is located on the opposite side of Stillwater Road to the north.

Observations/Comments:

- The topography and adjacent uses do not appear to present conditions detrimental to the property.
- The landscape materials are in good condition and will require routine maintenance during the evaluation period.

- The underground irrigation system appears to be in good working order. Replacement of sprinkler heads and minor repairs will be required during the evaluation period. This work is considered to be routine maintenance.

Sustainable Recommendations:

- None.

5.5. GENERAL SITE IMPROVEMENTS

Property identification is provided by wooden monument signage that faces Stillwater Road.

Site lighting is provided by surface-mounted light fixtures on the exterior walls and pole-mounted fixtures. Recessed light fixtures are located in the exterior soffits.

A perimeter fence is located along the entire perimeter of the property. The fence is constructed of chain link with metal posts.

Dumpsters are located adjacent to the receiving dock area and are placed on the asphalt paving. The dumpsters are not enclosed.

One (1) playground area is located to the south of the building and one is located near the northwest corner of the site. Each playground contains various pieces of play equipment, which includes slides, climbing apparatus, and swings. The playground surface consists of wood chips play surface. The paved sections of the playgrounds and athletic areas are described in Section 5.2.

Basketball goals are located to the south of the building.

A soccer field and two (2) baseball diamonds are located to the south of the building.

Observations/Comments:

- The property identification signs are in good condition. Routine maintenance will be required during the evaluation period.
- The exterior site and building light fixtures are in good to poor condition. Some of the pole-mounted lighting is damaged and requires repair or replacement. Additionally, the lighting at the playfields is poor and does not adequately light the fields. New lighting is required. The estimated cost of this work is included in the Replacement Reserves Report.
- The site fencing is in good to fair condition. Damage to the metal fencing was observed near the asphalt paved basketball courts. The damaged sections of fencing will require replacement. The estimated cost of this work is included in the Replacement Reserves Report.
- The remaining sections of chain link fencing will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The dumpsters are owned and maintained by the refuse contractor.
- The playground equipment is in good condition and will require routine maintenance during the evaluation period. Based on its estimated Remaining Useful Life (RUL), some of the playground equipment will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The fields are in good condition. The fields are not currently irrigated. Installation of an underground irrigation system is recommended. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for site lighting is to install photo sensors on exterior lighting. This will reduce energy consumption by reducing the time the exterior lights are used.
- A sustainable recommendation for fencing is to install recycled PVC fence sections during fencing replacement.

6. BUILDING ARCHITECTURAL AND STRUCTURAL SYSTEMS

6.1. FOUNDATIONS

According to the structural drawings, the foundations consist of reinforced, concrete slabs-on-grade with integral, perimeter footings, interior footings, and column pad footings, all bearing directly on the soil.

Observations/Comments:

- The foundations and footings could not be directly observed during the site visit. There is evidence of movement that indicates excessive settlement. It was reported that the school building was built over a re-directed stream bed. In addition, the current school was built over the original site of the completely demolished original school. Several settlement cracks through the finishes of the slab on grade were observed throughout the school. See Section 1.2 for follow up study information and Section 6.2 for program replacement cost information. According to the structural drawings, the concrete slab rests directly on a layer of sand which is over a vapor barrier. Moisture appears to be wicking through the slab. Cracking was observed in numerous locations.

Sustainable Recommendations:

- There are no sustainable recommendations for foundations.

6.2. SUPERSTRUCTURE

The building has structural steel columns supporting the upper floor and roofs. The upper floor has concrete-topped metal decks and is supported by steel beams and open-web, steel joists. The roofs are constructed of metal decks supported by steel beams and open-web, steel joists. Non-bearing concrete masonry unit walls are located at the interior and exterior walls, supported by the steel beam structure.

Observations/Comments:

- The superstructure is exposed in some locations, allowing for limited observation. Walls and floors do not appear to be plumb, level, or stable. There are significant signs of deflection and movement. See Section 1.2 for follow up study information. The non-bearing concrete walls are displaying vertical as well as stair step cracking in numerous locations throughout the school. Several of the locations are where there is no upper floor load only roof load with no concrete slab overhead. Based on the numerous locations of settled concrete slabs on grade and raised flooring at the second floor, as evidenced in cracks and bulges through the vinyl tile and buckled ceramic tile finishes, a programmed repair of the slab and repairs to the concrete block walls is recommended in addition to the follow up study. This may include structural replacement below grade, installation of helical piers, pressure grouting to stabilize the slabs, CMU repairs, and floor finish replacements. A budgetary cost allowance for the initial repair work is included in the Replacement Reserves Report. The structural study will determine the specific scope of corrective action required.

- The exposed steel structure and steel soffits at the covered walkway and covered front entrance are exhibiting minor rusting. Scraping as needed and routine painting is required to maintain the integrity of the structure. The cost of this work is relatively insignificant and can be performed through routine maintenance.

Sustainable Recommendations:

- There are no sustainable recommendations for superstructure.

6.3. ROOFING

The primary roofs are classified as gabled roofs. The roofs are finished with standing seam metal panels over asphalt-saturated paper. The roofs have sheet metal flashing elements. The roofs are insulated with fiberglass batts.

The roofs drain over the eaves to sheet metal gutters and downspouts connected by underground piping to the storm drainage system. Horizontal metal snow dams are installed on roofs overhanging pedestrian and courtyard areas.

There are no attics. The roof structures are exposed.

The secondary roofs are classified as flat roofs. The roofs are finished with a stone ballast topped mineral-surfaced cap sheet over a multi-ply, bituminous, built-up membrane. The roofs are insulated with rigid insulation boards.

The exterior perimeter walls end at the surface of the roofs. The roof membrane terminates along a flashed cant strip with a metal drip edge. The roofs have sheet metal flashing elements and built-up base and edge flashing.

Storm water is drained from the flat roofs by internal drains.

A curb-mounted skylight provides natural illumination in one of the common areas.

Observations/Comments:

- The roof finishes are original. The roofs are covered by a 20 year warranty. A copy of the warranty for the sloped roof is attached in Appendix C. No warranty information was provided for the flat roof. The roofs are maintained by the in-house maintenance staff.
- The fields of the flat roofs are in fair to poor condition. Isolated cracking of the built up compound and moss was observed in various areas. The moss is evidence of ponding. Full replacement and proper sloping will be required during the evaluation period. The estimated cost of the resloping work is included in the Replacement Reserves Report.
- EMG also conducted a separate roof assessment for this project. No wet areas of insulation were found during infrared scans of the roof. Recommendations for anticipated roof replacement work are also provided in this report. Estimated costs from this report recommended during the evaluation period are included in the Replacement Reserves Report. See EMG project number 88166.09R-002.244 for more detailed discussion and findings.
- According to the POC, there are some active roof leaks. There is some evidence of active roof leaks.
- There is no evidence of roof deck or insulation deterioration. The roof substrate and insulation should be inspected during any future roof repair or replacement work.
- There is no evidence of fire retardant treated plywood (FRT) and, according to the POC, FRT plywood is not used.
- The roof flashings are in good condition and will require routine maintenance during the evaluation period.

- The drip edges are in good condition and will require routine maintenance during the evaluation period.
- Roof drainage does not appear to be adequate at the flat roofing. Resloping of the areas that are prone to ponding is required using additional tapered insulation directed to existing roof drains. One of the roof drains along the covered walkway at the front of the building was non-functional and full of water. The cost of this work is included in the roof replacement work discussed above. Clearing and minor repair of drain system components should be performed regularly as part of the school's routine maintenance program.
- The skylight is in good condition and will require routine maintenance during the evaluation period.
- The fields of the sloped roofs are in good condition and will require routine maintenance during the evaluation period.
- The roof vents are in good condition and will require routine maintenance during the evaluation period.
- The downspouts are in good to fair condition. The joints and junction of downspout to cast iron inlet at the ground are exhibiting rust and early signs of deterioration. Routine painting is required to maintain the integrity of the downspouts. The cost of this work is relatively insignificant and can be performed through routine maintenance. Due to the material used and inevitable rusting over time, the Estimated Useful Life of the downspouts is shortened and will require replacement during the evaluation period. EMG suggests using a non-rusting metal for the replacement, such as copper or aluminum. The estimated cost of this work is included in the Replacement Reserves Report.
- The snow dams at the sloped roofing are horizontal strips at the top of the ribs and are located over walkways and at the courtyard. Significant complaints of sheeting ice and snow have been reported. It appears that the positioning of the snow dams is not performing the task of stopping, slowing or preventing the snow or ice from falling off in sheets. Due to the life safety risks, installation of snow cleats/guards or warming pads is recommended immediately. The estimated cost of the installation of snow cleats is included in the Replacement Reserves Report.
- During severe wind storms, roofing aggregate (ballast) may become wind-borne and may harm nearby persons or may damage surrounding properties or building or site elements of the subject property. National, regional, and local building codes vary widely in the treatment of this issue and should be consulted during any future roofing repairs or replacements.

Sustainable Recommendations:

- A sustainable recommendation for roofing is to replace the black built up roofing with a light colored single ply membrane.

6.4. EXTERIOR WALLS

The exterior walls are finished with over-sized brick masonry veneer. Portions of the exterior walls are accented with factory finished metal panels.

The exterior walls of the Media Center are clad with a metal-framed, curtain wall system. The curtain wall system is anchored to the superstructure. The curtain wall has horizontal bands of tinted, glazed, vision panels. The spandrels are finished with opaque, factory-finished panels.

Horizontal and vertical bands of sealant are installed at glazing joints, spandrel panel joints, and at joints between finish transitions.

Building sealants (caulking) are located between dissimilar materials, at joints, and around window and door openings.

Observations/Comments:

- The exterior finishes are in good to fair condition. A few isolated cracks through the bricks were observed. Refer to Sections 1.2 and 6.2 for further information. Painting, patching and sealing of cracks will be required during the evaluation period. A cost allowance for this work is included in the Replacement Reserves Report.
- The window lintels, door frames and painted columns will require scraping and painting during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The curtain wall system is in good condition and will require routine maintenance during the evaluation period.
- The sealant is flexible, smooth, and in good to fair condition. Some joint separation was observed around windows. Based on its estimated Remaining Useful Life (RUL), the sealant will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The building control joints are in good to fair condition. Some joint separation was observed. Based on its estimated Remaining Useful Life (RUL), the control joint sealant will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Evidence of birds nesting in various exposed gaps was observed in isolated areas over entrances at the rear and at the front. Additional sections of a deterrent such as Nixalite and sealing of the gaps such as those found at the rear entrances at the stair tower window units is recommended. The cost of this work is relatively insignificant and can be performed through routine maintenance.

Sustainable Recommendations:

- Sustainable recommendations for the use of low VOC Sealant/Caulking around windows, doors, control joints and change of finish and low VOC paint.

6.5. EXTERIOR AND INTERIOR STAIRS

There are no exterior stairs.

The interior stairs are constructed of steel and have closed risers and concrete-filled, steel pan treads. The handrails and balusters are constructed of metal.

Observations/Comments:

- The interior stairs, balusters, and handrails are in good condition and will require routine maintenance during the evaluation period.

Sustainable Recommendations:

- A sustainable recommendation for interior stairs is to use low VOC paints when repainting.

6.6. WINDOWS AND DOORS

Some of the windows are part of an aluminum-framed, storefront system incorporating the entry doors. The windows are glazed with insulated panes set in metal frames. The doors are fully-glazed, aluminum-framed doors set in the metal framing system. Some of the units within the storefront system are operable. These are hopper units with screens.

The punched windows are aluminum-framed units with fixed and operable panes of tinted glazing. The operable units are similar to the hopper units in the storefront system.

The windows at the Media Center are a part of the metal-framed, curtain wall system described in Section 6.4.

The windows at the Gymnasium are filled with glass block units.

The service doors are painted, metal doors set in metal frames. The doors have cylindrical locksets with lever or push/pull handle hardware.

A total of two overhead doors are located at the trash bin and tractor garages. The overhead doors are flush metal doors and are equipped with mechanical openers.

Observations/Comments:

- The storefront window system is in good condition and will require routine maintenance during the evaluation period.
- According to the POC, the property does not experience a significant number of complaints regarding window leaks or window condensation. There is no evidence of window leaks or condensation. The windows are in good condition and will require routine maintenance during the evaluation period.
- The glass block units at the gymnasium are in good to poor condition. Almost all of the units at the rear side of the gymnasium have been damaged by vandalism. Replacements required and wire covers are recommended to help prevent future damage. The estimated cost of this work is included in the Replacement Reserves Report.
- The exterior doors and door hardware are in good condition and will require routine maintenance during the evaluation period.
- The overhead doors are in good to fair condition. Minor damage at the trim was observed and will require repair through routine maintenance during the evaluation period.

Sustainable Recommendations:

- No sustainable recommendations for windows and doors.

6.7. PATIO, TERRACE, AND BALCONY

A concrete-paved terrace is located in the courtyard. The terrace serves as an outdoor seating area.

Observations/Comments:

- The terrace slabs are in good condition. There are no significant signs of movement, settlement, or cracking.

Sustainable Recommendations:

- No sustainable recommendations for the terrace.

6.8. COMMON AREAS, ENTRANCES, AND CORRIDORS

The lobby contains sculptures, bulletin boards, directories, and display cases. Corridors are accessed directly from the lobby. The elevator and stairways are located down corridors off of the lobby.

Classrooms and offices are accessed from corridors beyond the lobby and from corridors on each floor.

Common area restrooms located within the main office area and along corridors throughout the school. There are a total of ten adult restrooms and 14 student restrooms.

The following table identifies the interior common areas and generally describes the finishes in each common area.

| Common Area | Floors | Walls | Ceilings |
|-------------------------|-----------------------------|---|--|
| Lobby | Quarry tile | Painted concrete masonry units | Painted and texture coated drywall and exposed structure |
| Corridor | Vinyl tile | Painted concrete masonry units | Suspended acoustic tiles |
| Adult Restroom | Ceramic tile | Painted concrete masonry units and ceramic tile | Suspended acoustic tiles |
| Office | Carpet | Painted drywall | Suspended acoustic tiles |
| Media Center | Carpet | Painted drywall and curtain wall | Painted drywall and suspended acoustic tiles |
| Computer Labs | Carpet | Painted drywall | Suspended acoustic tiles |
| Auditorium | Painted concrete and carpet | Painted acoustic or glazed concrete masonry units | Painted drywall |
| Auditorium Lobby | Carpet | Painted concrete masonry units | Suspended acoustic tiles |
| Cafeteria | Vinyl tile | Painted concrete masonry units | Painted and texture coated drywall and exposed structure |
| Gymnasium | Wood | Painted concrete masonry units | Exposed structure and metal decking |
| Dance and Music Studios | Wood or vinyl tile | Painted concrete masonry units | Painted and texture coated drywall and exposed structure |

Observations/Comments:

- It appears that the interior finishes in the common areas are original.
- The interior finishes in the common areas are in good to poor condition. Based on its estimated Remaining Useful Life (RUL) and conditions, the common area carpet, vinyl tile and some ceramic tile will require replacement during the evaluation period. Due to the cracking of the slab, the vinyl tile is cracked and has worn or deteriorating edges in isolated areas throughout the school. The ceramic tile is bulging in isolated areas in some of the restrooms. See Section 1.2 for further information and recommendations. The replacements should occur after the slab is repaired. The estimated cost of this work is included in the Replacement Reserves Report.
- The wood flooring in the gymnasium, auditorium stage and dance studios are in good condition. Refinishing will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

- Interior painting will also be required during the evaluation period. The estimated cost of this work is included in Section 8.1 of the Replacement Reserves Report.
- Suspended ceiling tile replacement will also be required during the evaluation period. Several locations were exhibiting bulging or cupping tiles due to the excessive humidity. The estimated cost of this work is included in Section 8.1 of the Replacement Reserves Report.

Sustainable Recommendations:

- Sustainable recommendations for the interior finishes are to use low VOC paints, linoleum or cork flooring, and recycled material carpeting when making replacements.

7. BUILDING (CENTRAL) MECHANICAL AND ELECTRICAL SYSTEMS

7.1. BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Heating is provided in the classrooms by fan coil units/unit ventilators via a two-pipe system. The units are provided with hot water from the central boilers and chilled water from ACC-1. Heating is provided to isolated portions of the common corridors via wall-mounted, finned-tube, radiant heat units. The radiant units are supplied with hot water by the central system.

Heating and cooling are provided in media lab, auditorium, music/art rooms, main offices, common corridors, cafeteria, computer labs, and lobby by individual, direct-expansion, constant-volume, gas-fired, packaged, rooftop-mounted, HVAC units. The following table describes the rooftop units:

| Packaged Rooftop Units | | | | |
|------------------------|----------------|------------------|--------------|------------------|
| Designation | Manufacturer | Cooling Capacity | Heating Type | Manufacture Year |
| ACC-1 | MacQuay | Not determined | None | 1998 |
| RTU-1 | Lennox | 20 tons | Gas | 1998 |
| RTU-2 | MacQuay | Not determined | Gas | 1998 |
| RTU-3 | Lennox | 17.5 tons | Gas | 1998 |
| RTU-4 | Lennox | 15 tons | Gas | 1998 |
| RTU-5 | Lennox | 20 tons | Gas | 1998 |
| RTU-6 | MacQuay | Not determined | Gas | 1998 |
| RTU-7 | Lennox | 20 tons | Gas | 1998 |
| RTU-8 | Lennox | 20 tons | Gas | 1998 |
| HV-1 | Not determined | Not determined | Electric | 1998 |

Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located in each space. The heating and cooling system are controlled by local thermostats.

Hot water for the central heating system is supplied by two (2) cast iron boilers, which are located within the boiler room at the northeast corner of the building adjacent to the garage. The boilers have dual-fuel capability, utilizing natural gas or fuel oil. Boiler No. 1 and No. 2 are Model No. 28A-18, which are rated at 5,862 MBH and are manufactured by HB Smith. The boilers are original to the 1998 renovation.

Fuel oil is supplied to the boilers by a fuel oil pump set and a 5,000-gallon underground storage tank (UST). The UST is located beneath the service drive near the northeast corner of the building adjacent to the garage.

Chilled water for the central cooling system is supplied by ACC-1, which is an air-cooled chiller. The chiller uses R-22 as a refrigerant.

Circulating pumps provide heated and chilled water to each temperature-controlled space via a two-pipe distribution system. The heated and chilled water supplies the fan coil units.

Electric heating coils at each variable air volume (VAV) unit provide auxiliary heat.

Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located adjacent to the VAV units. The heating and cooling system are controlled by local thermostats.

The heating and cooling system is controlled by a building energy management system (EMS), located in the custodial office. The EMS provides individual control and performance data for the boilers, circulating pumps, rooftop units, air handling units, ventilation units, and domestic water heating system. The system is actuated by pneumatic controls. The air compressor is located in the boiler room.

Observations/Comments:

- The HVAC systems are maintained by the in-house maintenance staff.
- The HVAC system is reportedly highly inconsistent. Maintenance and administrative staff reported that temperature control is inadequate in the building and that heating and cooling are at times required simultaneously maintaining a comfortable environment. It is recommended that an HVAC contractor evaluate the building for the potential reconfiguration of the existing control system or to add increased zoning for better temperature control in the classrooms. The cost of the follow-up evaluation is included in the Replacement Reserves Report. A budgetary cost allowance to replace or upgrade the controls is included in Section 7.1 of the Replacement Reserves Report.
- Approximately 100 percent of the HVAC equipment is original. The property is relatively new and has not required any major HVAC equipment replacements.
- The boilers appear to be in good condition and will require routine maintenance during the evaluation period.
- The underground storage tank could not be directly observed.
- The fuel oil pump set appears to be in good condition and will require routine maintenance during the evaluation period.
- The circulating pumps appear to be in good condition. Based on their estimated Remaining Useful Life (RUL), the pumps will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The finned-tube radiant heat units appear to be in good condition and will require routine maintenance.
- The fan coil units/unit ventilators appear to be in good condition. Based on their estimated Remaining Useful Life (RUL), some of these units will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The rooftop units appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), several rooftop units will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the client provided JMOA five year capital plan, installing a cooling system at the gymnasium is planned. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- Based on their estimated Remaining Useful Life (RUL), some exhaust fan units will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report. According to the client provided JMOA five year capital plan, toilet exhaust fan improvements are planned. A budgetary cost allowance for this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for HVAC is to replace all unitary air-conditioning equipment with high-efficiency, energy-star rated cooling equipment.
- An additional sustainable recommendation for HVAC is to replace remaining original handling units with modern air handlers, which include economizer modes and a centralized exhaust air system with an enthalpy wheel. This would reduce energy consumption by managing the amount of energy used in ventilating the areas supplied by the air handling units.

7.2. BUILDING PLUMBING

The plumbing systems include the incoming water service, the cold water piping system, and the sanitary sewer and vent system. The risers and the horizontal distribution piping are reported to be copper. The sanitary sewer and vent systems are reported cast iron.

The water meter is located in the boiler room and is reportedly fed from a main water line running beneath Stillwater Road.

Domestic hot water is supplied by a gas-fired commercial domestic water heater. The water heater has a capacity of 100 gallons and is manufactured by A.O. Smith. The water heater is located in the boiler room.

The student and staff restrooms have commercial-grade fixtures and accessories, including water closets and lavatories.

Observations/Comments:

- The plumbing system appears to be well maintained and in good condition. The water pressure appears to be adequate. The plumbing system will require routine maintenance during the evaluation period.
- There is no evidence that the property uses polybutylene piping for the domestic water distribution system. According to the POC, polybutylene piping is not used at the property.
- The pressure and quantity of hot water appear to be adequate; however, according to the client provided JMOA five year capital plan, the installation of a booster pump is planned to increase water pressure in the building. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- The water heater was replaced in January of 2009 and appears to be in good condition. The water heater will require routine maintenance during the evaluation period.
- The accessories and fixtures in the common area restrooms are in good to fair condition. Based on the estimated Remaining Useful Life (RUL), the accessories and fixtures will require routine maintenance during the evaluation period.
- The drinking fountains are in good to fair condition. Based on the estimated Remaining Useful Life (RUL), the drinking fountains will require routine maintenance during the evaluation period.
- Drinking fountains are currently not provided at the playing fields. The installation of outdoor drinking fountains is recommended. A cost allowance for this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for plumbing is to replace the restroom fixtures with water-saving devices, such as low-flow faucet aerators and low-flush volume toilets and urinals.
- An additional sustainable recommendation for plumbing is to replace the domestic water heaters with high-efficiency, energy star rated commercial water heaters.

7.3. BUILDING GAS DISTRIBUTION

Gas service is supplied from the gas main on the adjacent public street. The gas meter and regulator are located on an exterior wall adjacent to the garage. The gas distribution piping within the buildings is malleable steel (black iron).

Observations/Comments:

- The pressure and quantity of gas appear to be adequate.

- The gas meter and regulator appear to be in good condition and will require routine maintenance during the evaluation period.
- Only limited observation of the gas distribution piping can be made due to hidden conditions. The gas piping is in good condition and, according to the POC; there have been no gas leaks.

Sustainable Recommendations:

- There are no sustainable recommendations for gas distribution.

7.4. BUILDING ELECTRICAL

The electrical supply lines run underground to a pad-mounted transformer that feeds the interior-mounted electrical meter.

The main electrical service size is 3,000-Amps, 277/480-Volt, three-phase, four-wire alternating current (AC). The electrical wiring is reportedly copper, installed in metallic conduit and non-metallic, sheathed cable. Circuit breaker panels are located throughout the building.

The building is equipped with a public address and intercom system, which allows commutation between the main office and each classroom. The public address control unit is located in the main office. The auditorium is equipped with a stage lighting system and a portable sound system.

Observations/Comments:

- The on site electrical systems are owned and maintained by the utility company. This includes transformers, meters, and all elements of the on site systems.
- The electrical power appears to be adequate for the property's demands.
- The switchgear, circuit breaker panels, and electrical meters appear to be in good condition and will require routine maintenance during the evaluation period.
- The interior lighting is in fair condition. Upgrades and replacements to the interior lighting have not been performed in recent years. Based on energy conservation and current condition, EMG recommends replacing all lighting fixtures with high-efficiency fluorescent light fixtures or LED fixtures. The estimated cost of this work is included in the Replacement Reserves Report.
- The public address system appears to be in good condition. Based on its estimated Remaining Useful Life (RUL), the public address system will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Based on its estimated Remaining Useful Life (RUL), the auditorium sound system will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Based on its estimated Remaining Useful Life (RUL), the stage lighting system will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for building electrical is to install occupancy sensors in place of light switches.

7.5. ELEVATORS AND CONVEYING SYSTEMS

There is one (1) hydraulic, 2-stop, passenger elevator, which is located in corridor E (1st Floor) and L (2nd Floor) northwest corner of the building. The elevator was manufactured by Dover. The elevator has a rated capacity of 2,000 pounds and a speed of 125 feet per minute. The elevator machinery is located in a mechanical equipment room adjacent to the base of the shaft.

The elevator cab has vinyl-tiled floors, stainless steel wall panels, and recessed, ceiling light fixtures. The doors are fitted with electronic safety stops. Emergency communication equipment is provided in the cab.

Observations/Comments:

- The elevator, and its responsiveness, appears to be adequate. The elevator is serviced by Northeast Elevator on a routine basis. The elevator machinery and controls are the originally installed system, which was installed in 1998. Based on its estimated Remaining Useful Life (RUL), the elevator equipment will require routine maintenance during the evaluation period.
- The elevator is inspected on an annual basis by the State of Connecticut, and a current certificate of inspection is displayed in the elevator cab.
- The emergency communication equipment in the elevators appears to be functional. Equipment testing is not within the scope of a Facilities Needs Assessment.
- The finishes in the elevator cab appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), some of the cab finishes will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for the elevator is to equip the hydraulic pumps with high efficiency motors to reduce energy consumption.

7.6. FIRE PROTECTION SYSTEMS

The fire protection systems consist of a wet-pipe sprinkler system, a wet standpipe with fire department hose valves and connections in each stair tower, portable fire extinguishers, smoke detectors, pull stations, and alarm horns. Siamese connections are located on the exterior of the building outside the boiler room. Hardwired smoke detectors are located throughout the common areas. The nearest fire hydrants are located along the public streets bordering the property and are approximately 100 feet from the building.

Common areas and corridors are equipped with battery back-up exit lights, illuminated exit signs, pull stations, alarm horns, and strobe light alarms.

Fire sprinkler risers are located in a fire protection equipment room. The system is equipped with a backflow preventer.

A central fire alarm panel is located in the electrical room and monitors the pull stations, smoke detectors, and flow switches. An annunciator panel is located near the main entrance. The alarm panel also sounds the alarm and automatically notifies the monitoring service and the fire department in the event of trouble.

The commercial kitchen is equipped with a dry-chemical, fire suppression system. Fire suppression heads are located in the exhaust hoods above the cooking areas, and the chemical tanks are mounted adjacent to the hood.

The walls of the fire stairwells are finished with painted concrete masonry units. The stairs discharge at the ground floor, directly to the exterior of the building.

Observations/Comments:

- Information regarding fire department inspection information is included in Section 3.2.
- The fire sprinklers appear to be in good condition and are inspected by a qualified contractor on a routine basis. The fire sprinklers will require routine maintenance during the evaluation period.
- The fire extinguishers are tested annually and appear to be in good condition. The fire extinguishers were tested and inspected within the last year.
- The pull stations and alarm horns appear to be in good condition and will require routine maintenance during the evaluation period. According to the client provided JMOA five year capital plan, additional fire alarm horns are required. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- Smoke detector replacement is considered to be routine maintenance.
- Exit sign and emergency light replacement is considered to be routine maintenance.
- The central alarm panel appears to be in good condition and is tested regularly by a qualified fire equipment contractor. Equipment testing is not within the scope of a Facilities Needs Assessment. Parts may become obsolete or difficult to find. Based on the Remaining Useful Life (RUL), the panel will require replacement during the evaluation period. The cost of this work is included in the Replacement Reserves Report.
- The security panel appears to be in good condition. Equipment testing is not within the scope of a Facilities Needs Assessment.
- The dry-chemical, fire suppression system appears to be in good condition. Based on the Remaining Useful Life (RUL), the system will require replacement during the evaluation period. The cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- There are no sustainable recommendations for fire protection.

8. INTERIOR SPACES

8.1. INTERIOR FINISHES

The following table generally describes the interior finishes in units:

| Typical Space Finishes | | | |
|----------------------------|--------------|--|-------------------------------------|
| Room | Floor | Walls | Ceiling |
| Classrooms | Vinyl tile | Painted drywall with a multi-paint system and painted concrete masonry units | Suspended acoustic tiles |
| Maintenance Shop & Storage | Concrete | Painted and unpainted concrete masonry units | Exposed structure |
| Restrooms | Ceramic tile | Painted concrete masonry units and ceramic tile | Suspended acoustic tiles |
| Kitchen | Quarry tile | Ceramic tile | Suspended and coated acoustic tiles |

The interior doors are stained, solid-core, wood doors set in metal frames. The interior doors have cylindrical locksets with lever handle hardware.

Observations/Comments:

- The interior finishes are in good to fair condition. Based on the Estimated Useful Life and the observed conditions, replacement of some of the vinyl tile is recommended during the term. Some of the rooftop units require filter replacements as evidenced through black dirt on the ceilings of the dance and drama studios at the diffusers. Cleaning and painting will be required once the filters are changed. Partial replacement of ceiling tiles will also be required. Routine painting will also be required. These costs are included in the Replacement Reserves Report.
- The interior doors and door hardware are in good condition and will require routine maintenance during the evaluation period.

Sustainable Recommendations:

- Sustainable recommendations for the interior finishes are to use low VOC paints, linoleum or cork flooring, and recycled material carpeting when making replacements.

8.2. COMMERCIAL KITCHEN EQUIPMENT

The kitchen area has a variety of commercial kitchen appliances, fixtures, and equipment. The kitchen includes the following major appliances, fixtures, and equipment:

| Appliance | Comment |
|-------------------|----------------------------|
| Refrigerators | Walk-in, Reach-in |
| Freezers | Walk-in |
| Ranges | Gas |
| Ovens | Gas |
| Griddles / Grills | Gas |
| Fryers | Yes |
| Hood | Exhaust ducted to exterior |
| Dishwasher | Leased |
| Microwave | Yes |
| Ice Machines | Yes |
| Steam tables | Yes |
| Work tables | Stainless steel |
| Shelving | Stainless steel |

Observations/Comments:

- The kitchen appliances appear to be in good condition. Based on their estimated Remaining Useful Life (RUL), some of the kitchen appliances will require replacement during the evaluation period. A cost allowance for this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for the cooking equipment is to replace the appliances and refrigeration units with Energy Star rated or equivalent equipment.

8.3. HVAC

See Section 7.1 for building mechanical systems.

8.4. PLUMBING

Domestic water is supplied by the central system described in Section 7.2.

9. OTHER STRUCTURES

Not applicable. There are no major accessory structures.

10. ENERGY BENCHMARKING

10.1. INTRODUCTION / APPROACH

This section is pending additional information from the client.

11. APPENDICES

APPENDIX A: Photographic Record

APPENDIX B: Site Plan

APPENDIX C: Supporting Documentation

APPENDIX D: EMG Abbreviated Accessibility Checklist

APPENDIX E: Pre-Survey Questionnaire and Documentation Request Checklist

APPENDIX F: Acronyms and Out of Scope Items

APPENDIX G: Resumes for Report Reviewer and Field Observer

**APPENDIX A:
PHOTOGRAPHIC RECORD**



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #1: View of property identification signage.



Photo #2: View of asphalt paved entry drive.



Photo #3: View of pole mounted lighting fixtures.



Photo #4: View of damaged base of pole mounted lighting fixture.



Photo #5: View of damaged pole mounted lighting fixture.



Photo #6: View of asphalt paved sidewalks.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #7: View of asphalt paved sidewalks.



Photo #8: View of concrete paved sidewalks.



Photo #9: View of cast in place concrete steps.



Photo #10: View of cast in place concrete steps.



Photo #11: View of excessive trash.



Photo #12: View of excessive trash.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #13: View of damaged chain link fencing system.



Photo #14: View of abandoned electrical service metering equipment.



Photo #15: View of asphalt paved entry drive.



Photo #16: View of accessible parking space.



Photo #17: View of deteriorated asphalt parking lot.



Photo #18: View of asphalt paved basketball court.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #19: View of baseball playing field.



Photo #20: View of children's playground equipment.



Photo #21: View of children's playground equipment.



Photo #22: View of trash receptacles.



Photo #23: View of Boiler No. 1.



Photo #24: View of Boiler No. 2.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #25: View of damaged portion of Boiler No. 1.



Photo #26: View of fuel oil circulation pumps.



Photo #27: View of water circulation pumps.



Photo #28: View of water circulation pumps.



Photo #29: View of auxiliary heater.



Photo #30: View of fan coil unit.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #31: View of fan coil unit.



Photo #32: View of fin tube radiators.



Photo #33: View of ACC-1.



Photo #34: View of RTU-1.



Photo #35: View of RTU-2.



Photo #36: View of RTU-3.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #37: View of RTU-4.



Photo #38: View of RTU-5.



Photo #39: View of RTU-6.



Photo #40: View of RTU-7.



Photo #41: View of RTU-8.

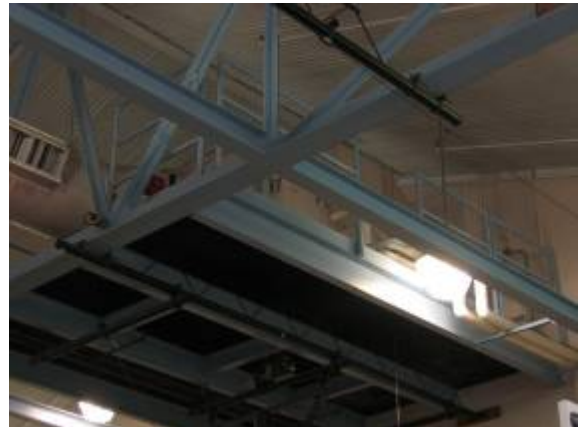


Photo #42: View of make-up air unit, which is located within the gymnasium.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #43: View of pad mounted electrical transformer.



Photo #44: View of main electrical switchgear.



Photo #45: View of domestic hot water heater.



Photo #46: View of water metering equipment.



Photo #47: View of natural gas metering equipment.



Photo #48: View of passenger elevator doors.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #49: View of passenger elevator cab interior finishes.



Photo #50: View of passenger elevator cab control panel.



Photo #51: View of passenger elevator cab equipment.



Photo #52: View of dishwashing station.



Photo #53: View of commercial kitchen equipment.



Photo #54: View of commercial kitchen equipment.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #55: View of commercial kitchen equipment.



Photo #56: View of sprinkler valves.



Photo #57: View of sprinkler valves.



Photo #58: View of fire extinguisher.



Photo #59: View of fire stairwell.



Photo #60: View of annunciator panel.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #61: View of fire control panel.



Photo #62: View of auditorium sound system.



Photo #63: View of auditorium lighting system.



Photo #64: Damaged electrical receptacles in courtyard



Photo #65: Irrigation outlet in courtyard



Photo #66: Moderate to severely damaged light pole



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #67: Front elevation



Photo #68: Covered walkway at front



Photo #69: Front entrance canopy



Photo #70: Front elevation of gymnasium



Photo #71: Rear elevation of gymnasium with vandalized glass block units



Photo #72: Kindergarten wing – south elevation



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #73: Partial south and west elevations



Photo #74: Separation of window sealant



Photo #75: Area of birds infiltrating open joints at rear

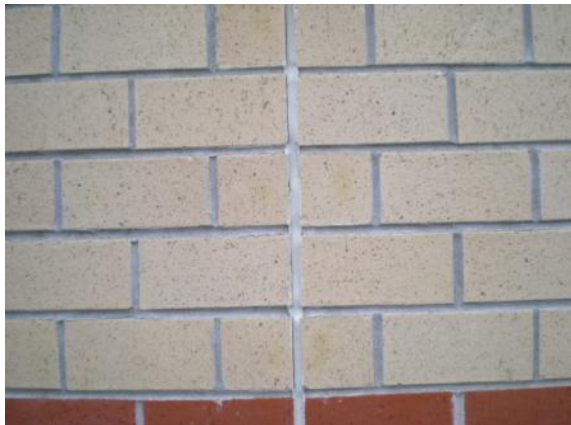


Photo #76: Separation of control joint



Photo #77: Condition of downspout



Photo #78: North elevation



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #79: North side entrance



Photo #80: Trash bin garage entrance



Photo #81: North elevation of auditorium



Photo #82: Exposed metal structure/soffit at main entrance



Photo #83: Kindergarten north elevation within courtyard



Photo #84: Media center elevation within courtyard



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #85: Roof overview



Photo #86: Roof over covered walkway with evident of ponding



Photo #87: Ice dam does not seem to prevent snow and ice from sheeting



Photo #88: Moss build up against gymnasium at roof



Photo #89: Main lobby



Photo #90: Side area off main lobby



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #91: Active leak in side area off main lobby



Photo #92: Main office area

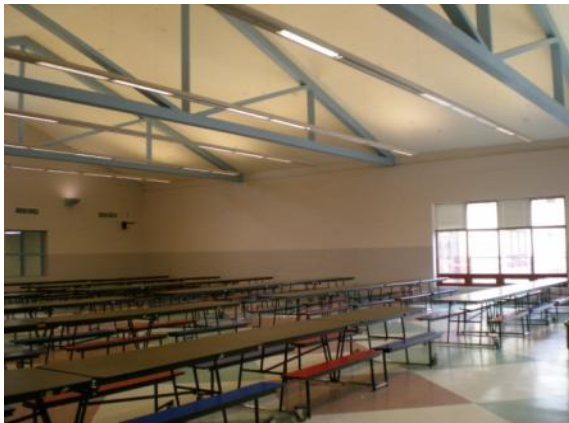


Photo #93: Cafeteria



Photo #94: Kitchen



Photo #95: Adult restroom



Photo #96: Classroom area used for costume and janitorial storage



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #97: Dance studio



Photo #98: Dirt from diffuser at ceiling



Photo #99: Student restroom



Photo #100: Corridor



Photo #101: Auditorium



Photo #102: Auditorium lobby



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #103: Media Center



Photo #104: Leak in Media Center server room



Photo #105: Computer lab

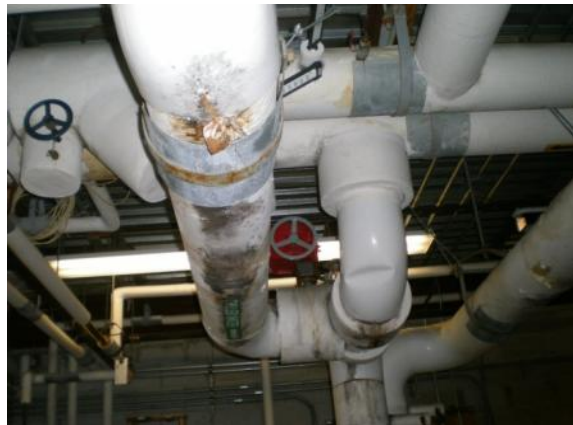


Photo #106: Suspect mold on piping in mechanical room



Photo #107: Active leak at high window in FRC3



Photo #108: Gymnasium



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #109: Classroom



Photo #110: Stairwell



Photo #111: Bulging ceramic tile



Photo #112: Nurse's office with dental chair



Photo #113: Classroom



Photo #114: Classroom entrance



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #115: Deteriorated edges of vinyl tile from moisture



Photo #116: Bulging and cupping acoustic tile



Photo #117: Art room



Photo #118: Close up of multi-paint system in classroom



Photo #119: Missing drain pipe insulation



Photo #120: Classroom space used for storage



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #121: Teachers' workroom



Photo #122: Stair step cracking



Photo #123: Bulging ceramic tile



Photo #124: Description of slab detail from structural documents



Photo #125: Cracking in concrete masonry units



Photo #126: Missing post sign for ADA stall



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-017.017

Project Name: Westover Elementary Magnet School



Photo #127: Cracking through block and exposed structure



Photo #128: Cracking at brick veneer



Photo #129: Cracking slab under flooring finish



Photo #130: Cracking slab under vinyl tile flooring finish

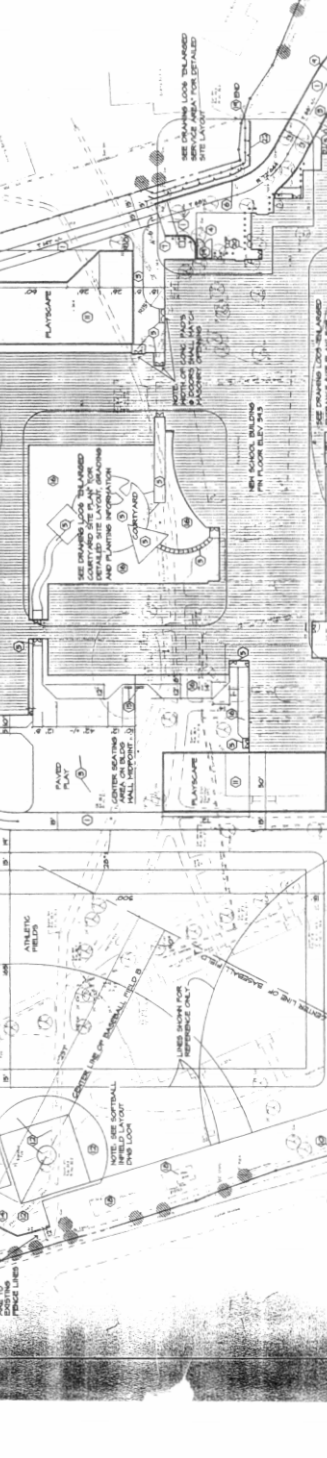
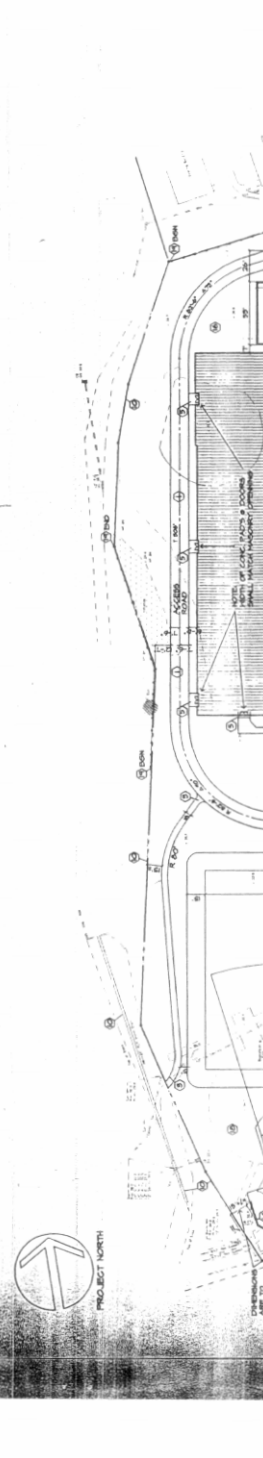
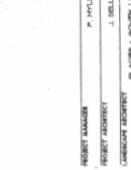


Photo #131: Separated vinyl tile and dip in slab at 2nd floor classroom



Photo #132: Cracking slab under vinyl tile flooring finish

**APPENDIX B:
SITE PLAN**



**APPENDIX C:
SUPPORTING DOCUMENTATION**

**THIS APPENDIX IS INTENTIONALLY LEFT
BLANK.**



**APPENDIX D:
EMG ABBREVIATED ACCESSIBILITY CHECKLIST**

Property Name: Westover Elementary Magnet School

Date: March 26, 2009

Project Number: 88166.09R-017.017

| EMG Abbreviated Accessibility Checklist | | | | | |
|---|--|-----|----|-----|---|
| | Building History | Yes | No | N/A | Comments |
| 1. | Has the management previously completed an ADA review? | ✓ | | | |
| 2. | Have any ADA improvements been made to the property? | | ✓ | | Originally designed as an accessible building |
| 3. | Does a Barrier Removal Plan exist for the property? | | | ✓ | No barriers observed |
| 4. | Has the Barrier Removal Plan been reviewed/approved by an arms-length third party such as an engineering firm, architectural firm, building department, other agencies, etc.? | | | ✓ | |
| 5. | Has building ownership or management received any ADA related complaints that have not been resolved? | | ✓ | | |
| 6. | Is any litigation pending related to ADA issues? | | ✓ | | |
| | Parking | Yes | No | N/A | Comments |
| 1. | Are there sufficient parking spaces with respect to the total number of reported spaces? | ✓ | | | |
| 2. | Are there sufficient van-accessible parking spaces available (96" wide/ 96" aisle for van)? | | ✓ | | |
| 3. | Are accessible spaces marked with the International Symbol of Accessibility? Are there signs reading "Van Accessible" at van spaces? | | | ✓ | |
| 4. | Is there at least one accessible route provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets and sidewalks? | ✓ | | | |
| 5. | Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs? | ✓ | | | |
| 6. | Does signage exist directing you to accessible parking and an accessible building entrance? | | ✓ | | Front entrance is highly visible and accessible |

| EMG Abbreviated Accessibility Checklist | | | | | |
|--|---|------------|-----------|------------|-----------------|
| | Ramps | Yes | No | N/A | Comments |
| 1. | If there is a ramp from parking to an accessible building entrance, does it meet slope requirements? (1:12) | | ✓ | | |
| 2. | Are ramps longer than 6 ft complete with railings on both sides? | | | ✓ | |
| 3. | Is the width between railings at least 36 inches? | | | ✓ | |
| 4. | Is there a level landing for every 30 ft horizontal length of ramp, at the top and at the bottom of ramps and switchbacks? | | | ✓ | |
| | Entrances/Exits | Yes | No | N/A | Comments |
| 1. | Is the main accessible entrance doorway at least 32 inches wide? | ✓ | | | |
| 2. | If the main entrance is inaccessible, are there alternate accessible entrances? | | | ✓ | |
| 3. | Can the alternate accessible entrance be used independently? | | | ✓ | |
| 4. | Is the door hardware easy to operate (lever/push type hardware, no twisting required, and not higher than 48 inches above the floor)? | ✓ | | | |
| 5. | Are main entry doors other than revolving door available? | ✓ | | | |
| 6. | If there are two main doors in series, is the minimum space between the doors 48 inches plus the width of any door swinging into the space? | ✓ | | | |
| | Paths of Travel | Yes | No | N/A | Comments |
| 1. | Is the main path of travel free of obstruction and wide enough for a wheelchair (at least 36 inches wide)? | ✓ | | | |
| 2. | Does a visual scan of the main path reveal any obstacles (phones, fountains, etc.) that protrude more than 4 inches into walkways or corridors? | | ✓ | | |
| 3. | Are floor surfaces firm, stable, and slip resistant (carpets wheelchair friendly)? | ✓ | | | |
| 4. | Is at least one wheelchair-accessible public telephone available? | ✓ | | | |
| 5. | Are wheelchair-accessible facilities (toilet rooms, exits, etc.) identified with signage? | ✓ | | | |

| EMG Abbreviated Accessibility Checklist | | | | | |
|---|--|------------|-----------|------------|-----------------|
| 6. | Is there a path of travel that does not require the use of stairs? | ✓ | | | |
| 7. | If audible fire alarms are present, are visual alarms (strobe light alarms) also installed in all common areas? | ✓ | | | |
| | Elevators | Yes | No | N/A | Comments |
| 1. | Do the call buttons have visual signals to indicate when a call is registered and answered? | ✓ | | | |
| 2. | Is the "UP" button above the "DOWN" button? | ✓ | | | |
| 3. | Are there visual and audible signals inside cars indicating floor change? | ✓ | | | |
| 4. | Are there standard raised and Braille marking on both jambs of each host way entrance? | ✓ | | | |
| 5. | Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door? | ✓ | | | |
| 6. | Do elevator lobbies have visual and audible indicators of car arrival? | ✓ | | | |
| 7. | Does the elevator interior provide sufficient wheelchair turning area (51" x 68")? | ✓ | | | |
| 8. | Are elevator controls low enough to be reached from a wheelchair (48 inches front approach/54 inches side approach)? | ✓ | | | |
| 9. | Are elevator control buttons designated by Braille and by raised standard alphabet characters (mounted to the left of the button)? | ✓ | | | |
| 10. | If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication? | ✓ | | | |
| | Restrooms | Yes | No | N/A | Comments |
| 1. | Are common area public restrooms located on an accessible route? | ✓ | | | |
| 2. | Are pull handles push/pull or lever type? | ✓ | | | |
| 3. | Are there audible and visual fire alarm devices in the toilet rooms? | ✓ | | | |
| 4. | Are corridor access doors wheelchair-accessible (at least 32 inches wide)? | ✓ | | | |

| EMG Abbreviated Accessibility Checklist | | | | | |
|---|--|---|---|--|---------------------------------|
| 5. | Are public restrooms large enough to accommodate a wheelchair turnaround (60" turning diameter)? | ✓ | | | |
| 6. | In unisex toilet rooms, are there safety alarms with pull cords? | ✓ | | | |
| 7. | Are stall doors wheelchair accessible (at least 32" wide)? | ✓ | | | |
| 8. | Are grab bars provided in toilet stalls? | ✓ | | | |
| 9. | Are sinks provided with clearance for a wheelchair to roll under (29" clearance)? | ✓ | | | |
| 10. | Are sink handles operable with one hand without grasping, pinching or twisting? | ✓ | | | |
| 11. | Are exposed pipes under sink sufficiently insulated against contact? | ✓ | ✓ | | One restroom missing insulation |
| 12. | Are soap dispensers, towel, etc. reachable (48" from floor for frontal approach, 54" for side approach)? | ✓ | | | |
| 13. | Is the base of the mirror no more than 40" from the floor? | ✓ | | | |

**APPENDIX E:
PRE-SURVEY QUESTIONNAIRE AND
DOCUMENTATION REQUEST CHECKLIST**

PRE-SURVEY QUESTIONNAIRE

This questionnaire was completed by the property owner, the owner's designated representative, or someone knowledgeable about the subject property. ***This completed form was presented to EMG's Field Observer on the day of the site visit.***

Project Name: Westover Elementary Magnet School **Project Number:** 88166.09R-017.017
Person completing form: Kathleen Wunder and Matt Vivona **Date:** March 26, 2009
Association with Project: Principal and Head Custodian **Phone Number:** 203.977.4572
Years associated w/Proj.: 2 and 1 - respectively **Fax Number:** _____
Current Owner: _____ **Estimated Value:** _____

Unk = Unknown, NA = Not Applicable

| | Yes | No | Unk | NA | Comments |
|---|-----|----|-----|----|---|
| 1. Does the property have full-time maintenance personnel on-site? | ✓ | | | | |
| 2. Have there been any capital improvements in the last five years? | | ✓ | | | |
| If so, are details available? | | | | | |
| 3. Are there any unresolved building, fire, or zoning code issues? | | ✓ | | | |
| If so, what additional info is available? | | | | | |
| 4. Are there any "down", unusable units? | | ✓ | | | |
| 5. Are there any problems or hazards at the property? | ✓ | | | | Vandalism, water infiltration from slab affecting VCT and ceramic tile |
| 6. Has the property ever had an ADA accessibility review? | | ✓ | | | |
| If so, is a copy available? | | | | | |
| 7. Does a Barrier removal plan exist for the property? | | ✓ | | | |
| 8. Are there any unresolved accessibility issues at the property? | | ✓ | | | |
| 9. Is there any pending litigation concerning the property? | | ✓ | | | |
| 10. Is site drainage adequate? | | ✓ | | | South side of property along asphalt walkway and fields – water takes over a week to drain after rain |
| 11. Has a termite inspection occurred within the last year? | | ✓ | | | |
| Is a copy of an inspection report available? | | | | | |
| 12. Are there any problems with foundations or structures? | ✓ | | | | |
| If so, are there plans to address? | | | | | |
| 13. Is there any water infiltration in basements or crawl spaces? | | | | ✓ | |
| 14. Are there any wall or window leaks? | ✓ | | | | Window or wall at FRC3 |
| 15. Are there any poorly insulated areas? | | ✓ | | | |
| 16. Are there any current roof leaks at the property? | | ✓ | | | One observed |
| 17. Are any roof finishes more than ten years old? | ✓ | | | | |
| 18. Is the roofing covered by a warranty or bond? | ✓ | | | | |



PRE - SURVEY

QUESTIONNAIRE

| | Yes | No | Unk | NA | Comments |
|---|-----|----|-----|----|------------------------------|
| 19. Is Fire Retardant Treated (FRT) plywood used at the property? | | ✓ | | | |
| 20. Does the property have an exterior insulation and finish system (EIFS) with a synthetic stucco finish | | ✓ | | | |
| 21. Do the utilities (electric, gas, sewer, water) provide adequate service? | ✓ | | | | |
| 22. Is the property served by an on-site water system? | | ✓ | | | |
| 23. Is the property served by an on-site septic system? | | ✓ | | | |
| 24. If present, do irrigation systems function properly? | | ✓ | | | Courtyard system not working |
| 25. Are HVAC systems at the property inspected and maintained, at a minimum, annually? | ✓ | | | | |
| 26. Is the HVAC equipment more than ten years old? | ✓ | | | | |
| 27. Do any of the HVAC systems use R-11, 12, or 22 refrigerants? | | | ✓ | | |
| 28. Do tenants contract for their own HVAC work? | | ✓ | | | |
| 29. Has any HVAC system, or any other part of the property, ever contained visible suspect mold growth? | | ✓ | | | |
| If so, where and when? | | | | | |
| 30. Has the property ever been tested for indoor air quality or suspect mold? | | ✓ | | | |
| If so, where and when? Results? | | | | | |
| 31. Is there a response action in place to prevent mold growth or respond to its presence? | ✓ | | | | |
| If so, describe. Is a copy available? | | | | | |
| 32. Are the water heaters/boilers more than ten years old? | ✓ | | | | |
| 33. Is polybutylene piping used at the property? | | ✓ | | | |
| 34. Are there any plumbing leaks or water pressure problems? | | ✓ | | | |
| 35. Are there any leaks or pressure problems with natural gas service? | | ✓ | | | |
| 36. Does any part of the electrical system use aluminum wiring? | | ✓ | | | |
| 37. Do Residential units have a min. of 60-Amp service or Commercial units have a min. 200-Amp service? | | | | ✓ | |
| 38. Has elevator equipment been replaced in the last ten years? | | ✓ | | | |
| 39. Are the elevators maintained by a contractor on a regular basis? | ✓ | | | | |
| 40. Is the elevator emergency communication equipment functional? | ✓ | | | | |
| 41. Is the elevator emergency communication equipment ADA compliant? | ✓ | | | | |
| 42. Have the fire/life safety systems been inspected within the last year? | ✓ | | | | |
| 43. Are there any smoke evacuation or pressurization systems? | ✓ | | | | Auditorium backstage |
| 44. Are there any recalled Omega or Central brand fire sprinkler heads that have not yet been replaced? | | ✓ | | | |
| 45. Are there any emergency electrical generators? | | ✓ | | | |
| 46. Are the generators maintained on a regular basis? | | | | ✓ | |
| 47. Do tenants contract for their own improvement work? | | | | ✓ | |



PRE-SURVEY

QUESTIONNAIRE

| | Yes | No | Unk | NA | Comments |
|---|-----|----|-----|----|----------|
| 48. Are tenants responsible for any roof, HVAC, or exterior wall maintenance, repair, or replacement? | | | | ✓ | |
| If so, what, where and how? | | | | | |
| 49. Have there been previous due diligence, engineering, environmental, or geological studies done? | | ✓ | | | |
| If so, are copies available? | | | | | |
| 50. Is there anything else that EMG should know about when assessing this property? If so, what? | | ✓ | | | |



On the day of the site visit, provide EMG's Field Observer access to all of the available documents listed below. Provide copies if possible.

| INFORMATION REQUIRED | |
|--|---|
| 1. All available construction documents (blueprints) for the original construction of the building or for any tenant improvement work or other recent construction work. | 8. The company name, phone number, and contact person of all outside vendors who serve the property, such as mechanical contractors, roof contractors, fire sprinkler or fire extinguisher testing contractors, and elevator contractors. |
| 2. A site plan, preferably 8 1/2" X 11", which depicts the arrangement of buildings, roads, parking stalls, and other site features. | 9. A summary of recent (over the last 5 years) capital improvement work which describes the scope of the work and the estimated cost of the improvements. Executed contracts or proposals for improvements. Historical costs for repairs, improvements, and replacements. |
| 3. For commercial properties, provide a tenant list which identifies the names of each tenant, vacant tenant units, the floor area of each tenant space, and the gross and net leasable area of the building(s). | 10. Records of system & material ages (roof, MEP, paving, finishes, furnishings). |
| 4. For apartment properties, provide a summary of the apartment unit types and apartment unit type quantities, including the floor area of each apartment unit as measured in square feet. | 11. Any brochures or marketing information. |
| 5. For hotel or nursing home properties, provide a summary of the room types and room type quantities. | 12. Appraisal, either current or previously prepared. |
| 6. Copies of Certificates of Occupancy, building permits, fire or health department inspection reports, elevator inspection certificates, roof or HVAC warranties, or any other similar, relevant documents. | 13. Current occupancy percentage and typical turnover rate records (for commercial and apartment properties). |
| 7. The names of the local utility companies which serve the property, including the water, sewer, electric, gas, and phone companies. | 14. Previous reports pertaining to the physical condition of property. |
| | 15. ADA survey and status of improvements implemented. |
| | 16. Current / pending litigation related to property condition. |

Your timely compliance with this request is greatly appreciated.



**APPENDIX F:
ACRONYMS AND OUT OF SCOPE ITEMS**

ASTM E2018-01 ACRONYMS

ADA - The Americans with Disabilities Act
ASTM - American Society for Testing and Materials
BOMA - Building Owners & Managers Association
BUR - Built-up Roofing
DWV – Drainage, Waste, Ventilation
EIFS - Exterior Insulation and Finish System
EMF – Electro Magnetic Fields
EMS - Energy Management System
EUL - Expected Useful Life
FEMA - Federal Emergency Management Agency
FFHA - Federal Fair Housing Act
FIRMS - Flood Insurance Rate Maps
FNA – Facilities Needs Assessment
FRT- Fire Retardant Treated
FOIA - U.S. Freedom of Information Act (5 USC 552 et seq.) and similar state statutes.
FOIL - Freedom of Information Letter
FM - Factory Mutual
HVAC - Heating, Ventilating and Air Conditioning
IAQ - Indoor Air Quality
MEP – Mechanical, Electrical & Plumbing
NFPA - National Fire Protection Association
PCR - Property Condition Report
PML - Probable Maximum Loss
RTU - Rooftop Unit
RUL - Remaining Useful Life
STC – Sound Transmission Class
UBC – Uniform Building Code

| Ref # | Section 8: ASTM E 2018-01 Out of Scope Items |
|----------|---|
| 8.4.1.8 | Utilities: Operating conditions of any systems or accessing manholes or utility pits. |
| 8.4.2.2 | Structural Frame and Building Envelope: Entering of crawl or confined space areas (however, field observer should observe conditions to the extent easily visible from the point of access to the crawl or confined space areas), determination of previous substructure flooding or water penetration unless easily visible or if such information is provided. |
| 8.4.3.2 | Roofs: Walking on pitched roofs, or any roof areas that appear to be unsafe, or roofs with no built-in access, or determining any roofing design criteria. |
| 8.4.4.2 | Plumbing: Determining adequate pressure and flow rate, fixture-unit values and counts, or verifying pipe sizes and verifying the point of discharge for underground systems. |
| 8.4.5.2 | Heating: Observation of flue connections, interiors of chimneys, flues or boiler stacks, or -owned or maintained equipment. |
| 8.4.6.2 | Air Conditioning and Ventilation: Evaluation of process related equipment or condition of owned/maintained equipment. |
| 8.4.7.2 | Electrical: Removing of electrical panel covers, except if removed by building staff, EMF issues, electrical testing, or operating of any electrical devices. Process related equipment or owned equipment. |
| 8.4.8.2 | Vertical Transportation: Examining of cables, sheaves, controllers, motors, inspection tags, or entering elevator/escalator pits or shafts |
| 8.4.9.1 | Life Safety / Fire Protection: Determining NFPA hazard classifications, classifying, or testing fire rating of assemblies. |
| 8.4.10.2 | Interior Elements: Operating appliances or fixtures, determining or reporting STC (Sound Transmission Class) ratings, and flammability issues/regulations. |

| Ref # | Section 11: ASTM E 2018-01 Out of Scope Items |
|--------|--|
| 11.1 | <i>Activity Exclusions</i> - The activities listed below are generally excluded from or otherwise represent limitations to the scope of a Comprehensive Building Condition Assessment prepared in accordance with this <i>guide</i> . These should not be construed as all-inclusive or implying that any exclusion not specifically identified is a Comprehensive Building Condition Assessment requirement under this <i>guide</i> . |
| 11.1.1 | Removing or relocating materials, furniture, storage containers, personal effects, debris material or finishes; conducting exploratory probing or testing; <i>dismantling</i> or operating of equipment or appliances; or disturbing personal items or <i>property</i> which obstructs access or visibility. |
| 11.1.2 | Preparing <i>engineering</i> calculations (civil, structural, mechanical, electrical, etc.) to determine any <i>system's</i> , <i>component's</i> , or equipment's adequacy or compliance with any specific or commonly accepted design requirements or <i>building codes</i> , or preparing designs or specifications to remedy any <i>physical deficiency</i> . |
| 11.1.3 | Taking measurements or quantities to establish or confirm any information or representations provided by the <i>owner</i> or <i>user</i> such as: size and dimensions of the <i>subject property</i> or <i>subject building</i> , any legal encumbrances such as easements, dwelling unit count and mix, building <i>property</i> line setbacks or elevations, number and size of parking spaces, etc. |
| 11.1.4 | Reporting on the presence or absence of pests such as wood damaging organisms, rodents, or insects unless evidence of such presence is readily apparent during the course of the <i>field observer's walk-through survey</i> or such information is provided to the <i>consultant</i> by the <i>owner</i> , <i>user</i> , property manager, etc. The <i>consultant</i> is not required to provide a <i>suggested remedy</i> for treatment or remediation, determine the extent of infestation, nor provide <i>opinions of probable costs</i> for treatment or remediation of any deterioration that may have resulted. |
| 11.1.5 | Reporting on the condition of subterranean conditions such as underground utilities, separate sewage disposal <i>systems</i> , wells; <i>systems</i> that are either considered process-related or peculiar to a specific tenancy or use; waste water treatment plants; or items or <i>systems</i> that are not permanently installed. |

| Ref # | Section 11: ASTM E 2018-01 Out of Scope Items |
|---------|--|
| 11.1.6 | Entering or accessing any area of the premises deemed to pose a threat of <i>dangerous or adverse conditions</i> with respect to the <i>field observer</i> or to perform any procedure, which may damage or impair the physical integrity of the <i>property, any system, or component</i> . |
| 11.1.7 | Providing an opinion on the condition of any <i>system or component</i> , which is <i>shutdown</i> , or whose operation by the <i>field observer</i> may significantly increase the registered electrical demand-load. However, <i>consultant</i> is to provide an opinion of its physical condition to the extent reasonably possible considering its age, obvious condition, manufacturer, etc. |
| 11.1.8 | Evaluating acoustical or insulating characteristics of <i>systems or components</i> . |
| 11.1.9 | Providing an opinion on matters regarding security of the <i>subject property</i> and protection of its occupants or <i>users</i> from unauthorized access. |
| 11.1.10 | Operating or witnessing the operation of lighting or other <i>systems</i> typically controlled by time clocks or that are normally operated by the building's operation staff or service companies. |
| 11.1.11 | Providing an environmental assessment or opinion on the presence of any environmental issues such as asbestos, hazardous wastes, toxic materials, the location and presence of designated wetlands, IAQ, etc. |
| 11.2 | Warranty, Guarantee and Code Compliance Exclusions - By conducting a Comprehensive Building Condition Assessment and preparing a PCR, the <i>consultant</i> is merely providing an opinion and does not warrant or guarantee the present or future condition of the <i>subject property</i> , nor may the Comprehensive Building Condition Assessment be construed as either a warranty or guarantee of any of the following: |
| 11.2.1 | any <i>system's or component's</i> physical condition or use, nor is a Comprehensive Building Condition Assessment to be construed as substituting for any <i>system's or equipment's</i> warranty transfer inspection; |
| 11.2.2 | compliance with any federal, state, or local statute, ordinance, rule or regulation including, but not limited to, <i>building codes, safety codes, environmental regulations, health codes or zoning ordinances</i> or compliance with trade/design standards or the standards developed by the insurance industry. However, should there be any conspicuous <i>material present violations observed</i> or reported based upon <i>actual knowledge of the field observer or the PCR reviewer</i> , they should be identified in the PCR; |
| 11.2.3 | compliance of any material, equipment, or <i>system</i> with any certification or actuation rate program, vendor's or manufacturer's warranty provisions, or provisions established by any standards that are related to insurance industry acceptance/approval such as FM, State Board of Fire Underwriters, etc. |
| 11.3 | Additional/General Considerations: |
| 11.3.1 | Further Inquiry - There may be physical condition issues or certain physical improvements at the <i>subject property</i> that the parties may wish to assess in connection with a <i>commercial real estate transaction</i> that are outside the scope of this <i>guide</i> . Such issues are referred to as non-scope considerations and if included in the PCR, should be identified under Section 10.9. |
| 11.3.2 | Non-Scope Considerations - Whether or not a <i>user</i> elects to inquire into non-scope considerations in connection with this <i>guide</i> is a decision to be made by the <i>user</i> . No assessment of such non-scope considerations is required for a Comprehensive Building Condition Assessment to be conducted in compliance with this <i>guide</i> . |

**APPENDIX G:
RESUMES FOR REPORT REVIEWER AND FIELD
OBSERVER**

BILL CHAMPION, PMP*Program Manager**Cost Segregation Manager***Education**

- MBA from the University of Rochester (Simon)
- MS in Mechanical Engineering from the State University of New York at Buffalo
- BS in Mechanical Engineering from the State University of New York at Buffalo

Project Experience

- **Housing Authority of the City of Pittsburgh, Pittsburgh, PA** – Mr. Champion was a member of the Quality Assurance Review Team for this Physical Needs Assessment portfolio that encompassed over 6,114 housing units within 20 separate communities in City of Pittsburgh, Pennsylvania. The objective of the PNA was to provide a general description of all physical improvements that the Client would need to undertake to bring its properties, including dwellings and non-dwellings structures, to a level that will provide safe, decent and sanitary living conditions for the residents. Mr. Champion utilized his engineering expertise to ensure that the methodology and protocol were not compromised during the execution of the assessment.
- **George Mason University, Fairfax, VA**- As Program Manager, Mr. Champion was responsible for meeting with the Client and developing a specific program that exceeded the Client's expectations. The program was designed to provide facility condition assessments and prepare a database for tracking, systems, building components, deficiencies and replacements. This database was customized further to include a detailed equipment inventory. This database was designed based on Client input and the end user in mind. Mr. Champion's ability to troubleshoot issues allowed EMG to conduct this program effectively and maintain the schedule and budget.
- **University of Virginia, Charlottesville, VA** – Mr. Champion performed Facilities Condition Audits on academic buildings on the campus of The University of Virginia. He evaluated building condition and systems, outlined physical deficiencies and gave recommendations for prioritizing them to maximize safety and minimize long-term costs.

Industry Tenure

- A/E: 1994
- EMG: 2002

Related Experience

- Multifamily Housing Portfolios
- Government Agency Portfolios
- K-12 Education Portfolios
- Higher Education Portfolios
- Retail Portfolios
- Industrial Portfolios

Industry Experience

- Multi-family Housing
- Cost Segregation
- Government
- Retail
- Industrial
- K-12 Education
- Higher Education

Active Licenses / Registrations

- Certified Project Management Professional (PMP) by the Project Management Institute, # 50241
- Engineer in Training in the State of New York, # 046094
- Member- American Society of Mechanical Engineers

Regional Location

- Baltimore, Maryland

MICHAEL A. YOUNG

Senior Engineering Consultant

Education

- BS, Agricultural Engineering, The University of Georgia, Athens, Georgia

Project Experience

- **Hospitality, Nationwide** – Mr. Young served as the technical lead on a Property Condition Evaluation portfolio. A number of additional studies were required during the completion of this portfolio that were critical to the client in determining property needs.
- **Healthcare - Skilled Nursing and Assisted Living, Nationwide** - Mr. Young was the technical lead for a 183 site portfolio of SNF/ALF properties. He reviewed reports, participated in kick-off and progress meetings and provided summaries and follow-on studies/issues matrices to the client. All projects were completed on schedule and delivered on time to the client.
- **Retail/Office – Bank, Nationwide** – Mr. Young served as the technical lead for a 75 property portfolio of bank properties. The objective of the portfolio was to provide Property Condition Assessment reports addressing any property needs required and anticipated during the evaluation period.
- **Multi-Family, Nationwide** - Mr. Young was the technical lead for a Property Condition Assessment portfolio of approximately 43 Multi-Family Residential properties. Many of the properties in this portfolio required or were currently experiencing major renovation work. Other properties were under construction. Accurate state of renovation/construction and costs for any remaining work were significant to the client to make an effective business decision.
- **Industrial - Packaging, Southern U.S.** – Mr. Young was the technical lead for a Property Condition Assessment portfolio of approximately 34 industrial properties. The objective of the portfolio was to provide initial preliminary field reports and cost tables for each property and ultimately a full Property Condition Assessment report, including immediate repairs and reserve replacements.
- Michael has completed in excess of 150 Property Condition Assessments (debt reports) and Property Condition Evaluations (equity reports) while at EMG.
- Michael has reviewed or been technically involved in excess of 1,000 Property Condition Assessments (debt reports), Property Condition Evaluations (equity reports), and other due diligence related reports while at EMG.

Industry Tenure

- A/E: 1996
- EMG: 2004

Related Experience

- Healthcare/Senior Housing Portfolios
- Industrial/Warehouse Portfolios
- National Hotel Chain Portfolios
- Multifamily Housing Portfolios
- Manufactured Home Community Portfolios
- Retail Portfolios

Industry Experience

- Healthcare/Senior Living Housing
- Hospitality
- Retail
- Multifamily Housing
- Affordable Housing/HUD
- Office
- Industrial/Warehouse Facilities
- Manufactured Home Communities

Regional Location

- Atlanta, GA

JILL E. ORLOV

Technical Report Reviewer

Education

- Masters of Architecture, University of Pennsylvania, Philadelphia, PA
- BS, Architecture, University of Virginia, Charlottesville, VA

Project Experience

- **Hotel Property, Pittsburgh, PA** – As Project Manager, Ms. Orlov performed a property condition assessment of this 132 unit, six-story hotel property. She reviewed the condition of the building structure and systems and developed a thorough report. Her work helped EMG complete this project on time and on budget.
- **Nursing Home, Charleston, SC** – Ms. Orlov completed a property condition assessment of this 89,900 square feet building consisting of 148 units. During her evaluation of the facility, she conducted interviews with the property manager and maintenance staff. Her findings included information on existing building conditions, site improvements, mechanical and electrical systems and code accessibility information.
- **Office Building, Richmond, VA** – Ms. Orlov completed a property condition assessment on this 31,000 square feet, two and three story office building located in Richmond. She conducted interviews with the property manager and maintenance staff. Findings included information on existing building conditions, site improvements, mechanical and electrical systems and code and accessibility information.
- **Higher Education Stadium, Fairfax, VA** – Ms. Orlov completed a property condition assessment on this 162,221 square feet, three story sports arena building located in Fairfax. She conducted interviews with the property manager and maintenance staff. Findings included information on existing building conditions, site improvements, mechanical and electrical systems and code and accessibility information. The client found her structural and roof observations critical to their final business decision. This project was a part of a large portfolio of projects EMG completed for our client.

Industry Tenure

- A/E: 1991 - 2004
- EMG: July, 2004 to present

Industry Experience

- Government Facilities
- Office
- Industrial
- Housing/Multi-family
- K-12
- Higher Education
- Hospitality
- Healthcare
- Retail

Active Licenses/Registration

- Architectural, MD

Special Skills & Training

- AUTOCAD, 2000

Regional Location

- Baltimore, MD