

FACILITIES NEEDS ASSESSMENT

STAMFORD PUBLIC SCHOOLS

888 Washington Boulevard
Stamford, Connecticut 06901
Domenick Tramontozzi



Facilities Needs Assessment of JULIA A. STARK ELEMENTARY SCHOOL 398 Glenbrook Road Stamford, Connecticut 06906

PREPARED BY:

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EMG Project #: 88166.09R-013.017
Date of Report: August 29, 2009
On site Date: March 9, 2009 and March 10, 2009

Replacement Reserves Report

Elementary Schools / Julia A Stark Elementary, Elementary Schools / Julia A Stark Elementary / Main

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%



Elementary Schools / Julia A Stark Elementary

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											
Totals, Unescalated											
Soft Costs:											
Architectural/Consultant Fees (10.0%)											
General Requirements (Bonds, Insurance, GC/CM Mark-up) (10.0%)											
Prevailing Wage/Labor Compliance (5.0%)											
Contingency (5.0%)											
Location Factor (1.11)											
Totals, Escalated (see inflation table above)											

* Markup has been included in unit costs.

Elementary Schools / Julia A Stark Elementary / Main

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	3026	Mold Study at Buildings		0	0	0	1	EA	\$3,339.00	\$3,339										\$3,339
1.2	3022	Measured ADA Study of Property		0	0	0	1	EA	\$6,930.00	\$6,930										\$6,930
1.2	1864	Structural Follow-up Study		0	0	0	1	EA	\$8,190.00	\$8,190										\$8,190
1.2	2061	HVAC system study		0	0	0	1	EA	\$9,135.00	\$9,135										\$9,135
3.1	2085	ADA, Renovate restroom for full compliance		20	20	0	12	EA	\$15,120.00	\$181,440										\$181,440
3.1	2094	Install ADA electronic eye door closers		15	15	0	1	EA	\$8,114.40	\$8,114										\$8,114
3.1	1861	Regrade and level ADA parking stall		0	0	0	2	EA	\$6,887.16	\$13,774										\$13,774
3.1	2088	ADA, Parking lot access aisle striping		0	0	0	40	LF	\$8.19	\$328										\$328
3.1	1863	ADA, paint accessible parking space		5	5	0	2	EA	\$207.90	\$416					\$416					\$832
3.1	1862	ADA - Install signage indicating Van Accessible Parking, pole mounted		0	0	0	6	Sign	\$134.01	\$804										\$804
3.1	2086	ADA, install 2 - rail, 1-1/2" handrail on exterior ramp, wall mounted, one side		20	20	0	60	LF	\$106.39	\$6,384										\$6,384
3.1	2087	ADA, install 2 - rail, 1-1/2" handrail on exterior ramp, wall mounted, one side		20	20	0	30	LF	\$106.39	\$3,192										\$3,192
5.2	1792	Repair and Seal Coat asphalt		5	5	0	4	10000 SF	\$5,848.92	\$23,396					\$23,396					\$46,791
5.2	1794	Cut & Patch asphalt		10	10	0	2500	SF	\$3.01	\$7,529										\$7,529
5.2	1877	In place hot reused asphalt paving		20	13	7	4000	SY	\$11.59	\$46,368						\$46,368				\$46,368
5.2	1872	Remove & replace 4' wide concrete sidewalk		25	24	1	60	LF	\$40.65	\$2,439	\$2,439									\$2,439
5.2	1878	Remove and replace asphalt path 4' wide		15	10	5	3500	LF	\$17.27	\$60,461					\$60,461					\$60,461
5.4	3511	Stone masonry wall to 8' - joint repair/pointing		20	20	0	1500	SF	\$6.54	\$9,809										\$9,809
5.4	2060	Sump Pump		20	20	0	1	EA	\$648.27	\$648										\$648
5.4	1871	Remove and replace retaining wall, cast in place concrete, reinforced, up to 6' high, no shoring or protection		50	49	1	80	LF	\$708.02	\$56,642	\$56,642									\$56,642
5.4	1879	Replace irrigation system, residential 1" supply		20	20	0	3000	SF	\$1.26	\$3,780										\$3,780
5.5	1874	Exterior concrete stair repairs - Major		0	0	0	20	SF	\$157.50	\$3,150										\$3,150
5.5	1881	Replace chain link fence, 6-foot high		20	15	5	1600	LF	\$37.31	\$59,694					\$59,694					\$59,694
5.5	1880	Repair damaged chain link fence		10	10	0	2	10 FT	\$232.91	\$466										\$466
5.5	6420	New Aluminum pole-mounted double light 400 W HPS fixture and pole		0	0	0	5	EA	\$8,651.16	\$43,256										\$43,256
6.1	2149	Structural work in the basement		0	0	0	1	EA	\$126,000.00	\$126,000										\$126,000
6.2	2079	Wood Framed Structural Floor Repair		0	0	0	1	EA	\$12,600.00	\$12,600										\$12,600
6.3	2090	Replace metal soffit material		25	25	0	1200	SF	\$13.73	\$16,481										\$16,481

Replacement Reserves Report
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8/29/2009



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6.3	12205	20	20	0	112	SQ	\$1,631.21	\$182,696	\$182,696										\$182,696
6.3	12208	20	11	9	68	SQ	\$1,702.13	\$115,745										\$115,745	\$115,745
6.3	12204	20	20	0	205	SQ	\$1,595.75	\$327,128	\$327,128										\$327,128
6.3	12203	20	11	9	201	SQ	\$1,666.66	\$334,999										\$334,999	\$334,999
6.3	12202	0	0	0	1	EA	\$3,901.60	\$3,902	\$3,902										\$3,902
6.3	1942	0	1	0	250	SF	\$3.81	\$951	\$951										\$951
6.3	1946	40	40	0	60	LF	\$101.91	\$6,115	\$6,115										\$6,115
6.3	2089	20	18	2	400	LF	\$15.35	\$6,139		\$6,139									\$6,139
6.3	2136	30	30	0	3	EA	\$10,080.00	\$30,240	\$30,240										\$30,240
6.3	1941	0	0	0	100	LF	\$19.72	\$1,972	\$1,972										\$1,972
6.3	2075	30	30	0	1	EA	\$3,717.00	\$3,717	\$3,717										\$3,717
6.3	2077	30	30	0	3	EA	\$10,080.00	\$30,240	\$30,240										\$30,240
6.4	2065	10	4	6	104	CSF	\$1,301.58	\$135,364							\$135,364				\$135,364
6.4	1948	10	10	0	25	CSF	\$1,301.58	\$32,540	\$32,540										\$32,540
6.4	2066	10	4	6	104	CSF	\$1,194.48	\$124,226							\$124,226				\$124,226
6.4	6429	0	0	0	1	EA	\$12,600.00	\$12,600	\$12,600										\$12,600
6.5	1949	0	0	0	6	Riser	\$809.17	\$4,855	\$4,855										\$4,855
6.5	1875	0	0	0	200	SF	\$28.40	\$5,680	\$5,680										\$5,680
6.6	2081	15	15	0	200	SF	\$50.84	\$10,168	\$10,168										\$10,168
6.6	2128	15	10	5	34300	LF	\$7.95	\$272,706						\$272,706					\$272,706
6.6	2069	25	25	0	32	EA	\$2,232.72	\$71,447	\$71,447										\$71,447
6.6	2099	35	30	5	1	EA	\$4,888.80	\$4,889						\$4,889					\$4,889
6.6	1951	25	25	0	6	EA	\$1,512.00	\$9,072	\$9,072										\$9,072
6.6	1865	25	25	0	6	EA	\$637.56	\$3,825	\$3,825										\$3,825
6.6	2100	25	20	5	33	EA	\$1,510.11	\$49,834						\$49,834					\$49,834
6.6	1953	10	10	0	3	EA	\$242.30	\$727	\$727										\$727
6.8	2126	10	2	8	138240	SF	\$1.56	\$215,986									\$215,986		\$215,986
6.8	2127	15	10	5	163	CSF	\$477.54	\$77,839						\$77,839					\$77,839
6.8	3513	30	25	5	7.8	CSF	\$2,142.00	\$16,708						\$16,708					\$16,708
6.8	2080	18	18	0	100	SY	\$81.90	\$8,190	\$8,190										\$8,190
6.8	3512	10	8	2	5500	SF	\$6.93	\$38,115		\$38,115									\$38,115
6.8	2082	18	10	8	6000	SY	\$81.90	\$491,400									\$491,400		\$491,400
6.8	1952	30	30	0	2.5	CSF	\$1,862.28	\$4,656	\$4,656										\$4,656
6.8	2084	8	4	4	1600	SY	\$63.23	\$101,163					\$101,163						\$101,163
6.8	2011	20	20	0	4	CSF	\$522.90	\$2,092	\$2,092										\$2,092
6.8	2012	20	17	3	750	CSF	\$522.90	\$392,175				\$392,175							\$392,175
6.8	6412	15	15	0	125	Seat	\$526.68	\$65,835	\$65,835										\$65,835
6.8	6435	0	0	0	3500	SF	\$4.10	\$14,333	\$14,333										\$14,333
7.1	6425	30	30	0	22000	SF	\$16.22	\$356,756	\$356,756										\$356,756
7.1	1886	20	13	7	10525	CFM	\$1.68	\$17,638						\$17,638					\$17,638
7.1	1905	15	13	2	2	EA	\$3,965.22	\$7,930		\$7,930									\$7,930
7.1	1885	15	13	2	1	EA	\$5,079.06	\$5,079		\$5,079									\$5,079
7.1	6431	0	0	0	1	EA	\$50,400.00	\$50,400	\$50,400										\$50,400

Replacement Reserves Report

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7.1	1906	Replace baseboard radiator finned tube 1.25" copper	35	34	1	80	LF	\$154.98	\$12,398		\$12,398									\$12,398
7.1	1903	Replace Circulation pump 1/2 to 3/4 hp	15	13	2	1	EA	\$3,584.70	\$3,585			\$3,585								\$3,585
7.1	1902	Replace Circulation pump 1 hp	15	13	2	4	EA	\$5,443.20	\$21,773			\$21,773								\$21,773
7.1	1901	Pad-Mounted Condenser 10-ton	15	13	2	1	EA	\$10,432.80	\$10,433			\$10,433								\$10,433
7.1	1897	Replace rooftop unit 20-50 tons (heating and cooling)	20	13	7	1 @ 18	Ton	\$1,512.00	\$27,216								\$27,216			\$27,216
7.1	1898	Replace rooftop unit 20-50 tons (heating and cooling)	20	13	7	2 @ 20	Ton	\$1,512.00	\$60,480								\$60,480			\$60,480
7.1	1899	Replace rooftop unit 20-50 tons (heating and cooling)	20	13	7	3 @ 30	Ton	\$1,512.00	\$136,080								\$136,080			\$136,080
7.1	1900	Replace rooftop unit 20-50 tons (heating and cooling)	20	13	7	1 @ 50	Ton	\$1,512.00	\$75,600								\$75,600			\$75,600
7.1	6411	Stamford Allowance - Upgrade EMS, control points and zoning to correct inconsistencies	20	20	0	95062	SF	\$1.26	\$119,778	\$119,778										\$119,778
7.1	2726	Replace UST, Steel, Fuel oil storage, 5,000 gallon	30	30	0	1	EA	\$87,483.06	\$87,483	\$87,483										\$87,483
7.2	1950	Replace drinking fountain	10	10	0	1	EA	\$1,505.70	\$1,506	\$1,506										\$1,506
7.2	1904	Sump Pump	20	13	7	1	EA	\$648.27	\$648								\$648			\$648
7.4	6419	Upgrade lighting for energy conservation	0	0	0	95062	SF	\$5.92	\$562,957	\$562,957										\$562,957
7.4	6416	Capital Plan - Communications & Security including alarms,internet wiring, communication systems and emergency lighting	15	15	0	95062	SF	\$3.15	\$299,445	\$299,445										\$299,445
7.4	6423	Install Diesel Generator 150KW	25	25	0	1	EA	\$129,874.50	\$129,875	\$129,875										\$129,875
7.4	1908	Replace stage lighting equipment	15	10	5	1	EA	\$19,026.00	\$19,026						\$19,026					\$19,026
7.4	1907	Sound system including amplifier	15	15	0	1	EA	\$5,677.56	\$5,678	\$5,678										\$5,678
7.4	6434	Asbestos electrical insulation, removal 300 LF	0	0	0	1	EA	\$5,733.00	\$5,733	\$5,733										\$5,733
7.5	1891	Elevator cab doors, replace	20	13	7	2	EA	\$14,269.50	\$28,539								\$28,539			\$28,539
7.5	1889	Replace passenger cab finishes	20	13	7	1	EA	\$18,345.60	\$18,346								\$18,346			\$18,346
7.5	1890	Replace wheelchair lift 3 'to 8'	20	13	7	1	EA	\$20,209.42	\$20,209								\$20,209			\$20,209
7.6	6432	Stark Allowance - Insulate pick-up canopy sprinkler pipe	0	0	0	1	EA	\$37,800.00	\$37,800	\$37,800										\$37,800
7.6	1892	Fire pump electric 500 GPM 27 HP	25	20	5	1	EA	\$30,247.88	\$30,248						\$30,248					\$30,248
7.6	3031	Install Ansul System at kitchen hood	20	20	0	1	EA	\$6,142.50	\$6,143	\$6,143										\$6,143
7.6	1893	Fire alarm panel addressable, with voice	15	13	2	1	EA	\$15,264.77	\$15,265			\$15,265								\$15,265
8.2	12211	Stamford Kitchen Equipment Replacement Allowance	10	5	5	1	EA	\$63,000.00	\$63,000						\$63,000					\$63,000
Totals, Unescalated										\$2,985,692	\$71,479	\$108,318	\$392,175	\$101,163	\$678,215	\$259,590	\$431,124	\$707,386	\$450,744	\$6,185,885
Soft Costs:																				
Architectural/Consultant Fees (10.0%)																				
General Requirements (Bonds, Insurance, GC/CM Mark-up) (10.0%)																				
Prevailing Wage/Labor Compliance (5.0%)																				
Contingency (5.0%)																				
Location Factor (1.11)																				
Totals, Escalated (see inflation table above)										\$319,469	\$7,648	\$11,590	\$41,963	\$10,824	\$72,569	\$27,776	\$46,130	\$75,690	\$48,230	\$661,890
Totals, Escalated (see inflation table above)										\$4,200,868	\$103,588	\$163,255	\$614,721	\$166,498	\$1,172,044	\$471,036	\$821,405	\$1,415,145	\$946,811	\$10,075,371
* Markup has been included in unit costs.																				

REPLACEMENT RESERVES REPORT

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CERTIFICATION

EMG has completed a Comprehensive Facilities Needs Assessment of the subject property, Julia A. Stark Elementary School, located at 398 Glenbrook Road, 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: Scott A. Cameron, R.A. and Peter F. Millar, P.E., Field Observers

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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	
Address:	398 Glenbrook Road, Stamford, Fairfield County, Connecticut, 06906
Year constructed:	1927, Phase I / 1951 Phase II / 1969 Phase III Addition and renovated 1994-97
Current owner of property:	City of Stamford
School occupying building:	Julia A. Stark Elementary School
Current usage of property:	Elementary School, Adult Education
Management Point of Contact:	Domenic Tramontozzi and Robert Gerbert, Jr.
Site acreage:	6.28 acres
Gross floor area:	95,062 Square Feet
Number of buildings:	One
Number of stories:	1 and 2
Parking type and number of spaces:	105 spaces in open lots
Building construction:	Conventional wood frame structure on concrete and brick masonry crawl space foundation at original 1927 schoolhouse. Masonry bearing walls, steel-framing and concrete-topped metal decks at all later additions.
Bay Column Spacing:	Approximately 15 to 30 Feet
Interior vertical clearance:	Approximately 10 to 12 Feet
Roof construction:	Pitched hip roofs with slate shingles. Flat roofs with white EPDM single-ply membrane, torch down granule surfaced modified bitumen and inverted roof membrane assembly (IRMA) with stone ballast
Exterior Finishes:	Unpainted brick veneer, decorative glazed terra cotta inlay panels and painted wood trim. Limited stone veneer at main entrance.
Heating and/or Air-conditioning:	Central heating system with three dual fuel boilers. Low pressure steam supplies air handling units, perimeter and baseboard radiant heat units. Packaged rooftop units supply classrooms, auditorium, cafeteria, and all other rooms. Two make-up air units are provided on the gymnasium.

Property Information	
Fire and Life/Safety:	Fire alarm system, Security system, Fire sprinklers, Ansul system, off site hydrants, smoke detectors, alarms, extinguishers.
Dates of visit:	March 9 and 10, 2009
Point of Contact (POC):	Dr. Mary Savage, Principal Tom Perretta, Head Custodian

Generally, the property appears to have been constructed within industry standards in force at the time of construction. The property appears to have been maintained in recent years and is in good to fair overall condition.

According to City of Stamford Public Schools personnel, the property has had a limited capital improvement expenditure program over the past three years, primarily consisting of isolated roof patching and leak repairs. Supporting documentation was not provided in support of these claims but some of the work is evident.

1.2. FOLLOW-UP RECOMMENDATIONS

The following studies are recommended:

- Several of the public restrooms are not fully handicapped accessible. The main pairs may be able to be modified by demolishing one stall and turning it into an accessible stall, but due to local codes, it may not be permissible to lose a stall. An accessibility specialist must be retained to analyze the existing condition, provide recommendations and, if necessary, estimate the scope and cost of any required repairs. The estimated cost to retain a specialist is included in the Replacement Reserves Report. Separate itemized costs for various interim accessibility items are included in the Replacement Reserves Report.
- Several isolated structural slab and wall cracks were observed at the CMU stairwells and within the partial basement level. In addition, the head custodian described frequent structural and/or water infiltration issues below the gymnasium wood floor which has caused buckling or cupping of the planks. A more detailed structural engineering survey of these affected areas is recommended to determine the source of the cracking and/or water infiltration. The structural survey should include the crawlspace foundation, basement foundation, spiral barrel coffer slab at ceiling of basement and all associated load bearing masonry walls. See Section 6.2 for further information. The estimated costs are included in the Replacement Reserves Report.
- The HVAC system is reportedly highly inconsistent. Maintenance and administrative staff reported that temperature control is inadequate. It is recommended that an HVAC contractor evaluate the building for the potential reconfigure the existing control system or to add increased zoning for better temperature control in the classrooms. It is also recommended that ventilation in the corridors be included in the HVAC evaluation. The cost of the follow-up evaluation is included in section 1.2. The costs of any recommended upgrades are discussed in Section 7.1.
- Based on the numerous locations of isolated moisture damage, 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. See Section 3.3 for further information. The estimated cost of the study is included in the Replacement Reserves Report.
- There are no reported unresolved Fire Code violations. See Section 3.2 of the Facilities Needs Assessment for further information.

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
Dr. Mary Savage Principal	Julia A. Stark Elementary School	203.977.4583
Tom Perretta Head Custodian	Julia A. Stark Elementary School	203.667.0201
Mr. Gus Burreisci Project Manager	City of Stamford Public Schools	203.223.8118
John Antonelli	Roofing Contractor	203.943.4877
Receptionist Elevator Contractor	Northeast Elevator	203.353.0099
Terrance Shay Deputy Fire Marshal	Stamford Fire & Rescue	203.977.4651

The Comprehensive Facilities Needs Assessment was performed with the assistance of Dr. Mary Savage, Principal, and Tom Perretta, Head Custodian, the on site Point of Contact (POC), who were cooperative and provided information that appeared to be accurate based upon subsequent site observations. The on site contacts are very 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 16 and 3 years, 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:

- Site plan
- Floor plans
- 1951 addition drawings – Francis L.S. Meyers dated June 25, 1951
- 1994-7 addition and renovation documents – Fuller and D'Angelo P.C. dated May 2, 1994

A prior property condition report was not reviewed while performing the Comprehensive Building Condition Assessment.

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

2.5. PRE-SURVEY QUESTIONNAIRE

A Pre-survey Questionnaire was completed Dr. Mary Savage. The completed 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 cars are not provided. Existing two stalls at the main lobby entrance are non-compliant due to slope of stalls and slope of route to door. Provide level stalls, access aisle and route that are compliant in slope at main entrance/bus circle.
- Adequate location of two of the designated handicapped parking stalls for cars are not ideally located due to their parallel orientation and need for a more clearly laid out parent vehicle drop-off area within the rear parking lot. The two ADA stalls should be relocated to the nearest corner of the main parking field. The two parallel stalls should be reconfigured and re-striped to act as a student drop-off area allowing access directly to the building sidewalk.
- Once the two parallel ADA parking stalls are relocated to the main field of the rear parking lot, a striped access aisle and route will be required directing a user to the sidewalk.
- Signage indicating accessible parking spaces for cars and vans are not provided at any of the six ADA stalls.

Ramps

- Existing interior ramp on the second floor leading to the 5th grade wing is only equipped with a single handrail and requires two handrails.
- Existing exterior ramp near the auditorium entrance is only equipped with a single handrail and requires two handrails.

Elevators

- Pana-40 type door re-opener not fully operational in the single passenger elevator cab doors. Opener was working intermittently.

Restrooms

- Existing restroom doors are not wide enough to accommodate wheelchair access, and clear floor space beside the door swing is lacking. Renovate the existing adult and student toilet rooms for ADA accessibility. Best locations are near the main entrance and near the auditorium. In some cases two small single user toilet rooms should be combined to form a single unisex fully accessible toilet room or combining two stalls into one ADA stall in larger, multi-user toilet rooms to become single user such as at the auditorium. Kindergarten class restrooms will require some modifications as well. Items in the renovation work include but are not limited to installing grab bars, drain pipe insulation, widening doors and lowering accessories.

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

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.

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 the receptionist for Deputy Fire Marshal Terrance Shay 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 September 25, 2008. 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:

- Classroom 221. The area affected by the moisture was approximately 20 square feet in size.
- Classroom 251. The area affected by the moisture was approximately 20 square feet in size.
- Second floor corridor outside classroom 256. The area affected by the moisture was approximately 20 square feet in size.
- Science storage room 232 is reported to have roof leaks periodically. The area affected by the moisture was approximately 40 square 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. See Section 1.2 for follow up recommendations and costs.

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.

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
33	Classroom	0	0
5	Office	0	0
2	Mechanical	0	0
4	Storage	0	0
1	Gymnasium	0	0
2	Cafeteria	0	0
1	Auditorium	0	0
1	Media Center	0	0
49	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 Principal, there are no down rooms or areas. No down rooms or areas were observed during the site visit.

The following areas were not available for observation during the site visit:

- None

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	CL&P	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 Glenbrook Road on the east side of the property. An additional entrance drive is located along Oscar Street at the northwest corner of the site. 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 105 cars. The parking ratio is approximately 1.11 spaces per thousand square feet of floor area. All of the parking stalls are located in open lots. There are a total of four handicapped-accessible parking stalls, two 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 cast-in-place concrete. Portions of the pavement edges, primarily along the front entry drive along Glenbrook Road, do not have curbing. Surface runoff is directed to landscaped areas bordering the paved areas.

Observations/Comments:

- The asphalt pavement and sidewalks 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 will be required 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. This work should include resloping to cause positive drainage away from the building on the right side. The estimated costs of these items are included in the Replacement Reserves Report.
- With the exception of heaved concrete sidewalks along the front property line, which require replacement at this time, the concrete curbs, gutters, and sidewalks throughout the property are in good condition. Routine cleaning and maintenance will be required during the evaluation period.
- Heaved areas of concrete sidewalk along the front property line create a vertical displacement in the walking surface, which pose tripping hazards. It is recommended that heaved areas of concrete sidewalk be replaced. The estimated cost of this work is included in the Replacement Reserves Report.

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. However, the trench drain which is located at the auxiliary entrance off of Oscar Street was observed to be filled with sand and leaves. To promote proper drainage of this area, cleaning of the drain is recommended at this time. This work can be completed as part of routine maintenance at the property.

Sustainable Recommendations:

- There are no sustainable recommendations for the drainage systems.

5.4. TOPOGRAPHY AND LANDSCAPING

The property predominantly slopes gently downward from the southwest side of the property towards the northwest corner of the property line. The front landscaped areas slope gently away from the building towards the eastern property line, which parallels Glenbrook Road.

The landscaping consists of trees, shrubs, and grasses.

The planter beds, which are located within the rear courtyards, reportedly equipped with an in-ground sprinkler system consisting of underground piping, shut-off valves, pop-up sprinkler heads, and automatic timers.

Surrounding properties include single-family residential developments to the north and west. A baseball field and children's playground, which is maintained by the City of Stamford is located to the north. Multi-family residential developments are located on the opposite side of Glenbrook Road to East. A church is located to the south.

Stone masonry retaining walls are located at the grade change along the front property line, which parallels Glenbrook road.

Reinforced concrete retaining walls are provided throughout the courtyard areas to create plating beds. These retaining walls were installed at the time of the most recent renovations in 1999.

A reinforced concrete retaining wall, which provides for below grade access to the boiler room, is provided along the front elevation.

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 is reportedly non-operational at this time. EMG recommends repairs at this time. The estimated cost of this work is included in the Replacement Reserves Report. Furthermore, replacement of sprinkler heads and minor repairs will be required during the evaluation period. This work is considered to be routine maintenance.
- The stone site wall at the right side entrance across from the city playground and the stone retaining wall at the front property line require isolated repointing at this time. The estimated cost of this work is included in the Replacement Reserves Report.
- The concrete retaining wall along the front property line requires repair and replacement at this time. The wall that provides below grade access to the boiler room was observed to be out of plumb. In addition, we observed standing water at the base of this ramp. EMG recommends the replacement of the entire wall system and the installation of a sump pit that discharges directly into the storm water system. The estimated cost of this work is included in the Replacement Reserves Report.
- The remaining retaining walls are in good condition. Routine maintenance will be required during the evaluation period.

Sustainable Recommendations:

- A sustainable recommendation for irrigation is to install a rain water harvesting system to supply the irrigation system. This will reduce domestic water consumption by providing an alternate supply source for irrigation water.

5.5. GENERAL SITE IMPROVEMENTS

Property identification is provided by lettering that is displayed on the exterior elevation, which parallels Glenbrook Road. The building is identified by street address numbers displayed on the exterior elevation, which parallels Glenbrook Road.

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

A perimeter fence is located along the entire north and south property lines. A perimeter fence is located along a portion of the west property line. The fence is constructed of chain link with metal posts.

Dumpsters are located in the staff parking area near the service entrance and are placed on either concrete paving or directly on the ground. The dumpsters are not enclosed.

Observations/Comments:

- The property identification sign is in good condition. Routine maintenance will be required during the evaluation period.
- The exterior site and building light fixtures are in good to fair condition. According to the client provided JMOA five year capital plan, additional security lighting is required at the site. A budgetary cost allowance for 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 parking lot entrance from the adjoining church property to the south. The damaged sections of fencing will require repair or 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 concrete steps which connect the paved areas to public streets along the western perimeter of the site were observed to have significant cracking where the handrails connect to the steps. EMG recommends repairs at this time. The estimated cost of this work is included in the Replacement Reserves Report.
- Of note, two of the courtyard benches near the media center were noted to be rusting on the seat edge below the vertical support (rear). These rusted areas are small and should be sanded and touched up with a rust inhibitive paint as routine maintenance.

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

Based on the structural drawings and observations on site, the foundations consist of cast-in-place concrete perimeter wall footings with concrete, concrete masonry unit (CMU) and brick masonry foundation walls. The foundation systems include reinforced, concrete, column pads.

Observations/Comments:

- The foundations and footings were directly observed during the site visit by accessing portions of the crawlspace and the entire partial basement level. There is no widespread evidence of movement that would indicate excessive settlement.
- Several isolated structural slab and wall cracks were observed at the CMU stairwells and within the partial basement level. In addition, the head custodian described frequent structural and/or water infiltration issues below the gymnasium wood floor which has caused buckling or cupping of the planks. A more detailed structural engineering survey of these affected areas is recommended to determine the source of the cracking and/or water infiltration. The structural survey should include the crawlspace foundation, basement foundation and all associated load bearing masonry walls. An initial cost allowance for the structural repairs is also included in the Replacement Reserves Report. See Section 1.2 for further information and associated costs.

Sustainable Recommendations:

- There are no sustainable recommendations for foundations.

6.2. SUPERSTRUCTURE

The original (1929) two-story schoolhouse has a conventional, wood-framed floor structure and has load-bearing, masonry exterior walls and a pitched wood framed hip roof structure. The roof is constructed of wood rafters and is sheathed with wood planking and slate tiles. All newer building sections are constructed with conventional steel framing with interior steel columns and beams supporting the upper floors and roof. The upper floors are constructed with wood open web steel joists and corrugated metal decking.

The remainder of the building (gymnasium, auditorium, cafeteria) is a mix of masonry bearing walls or concrete columns supporting the floors and roofs. The floors and roofs are constructed of concrete panels or metal decks supported by reinforced concrete beams or steel beams and open-web, steel joists.

Observations/Comments:

- The superstructure is exposed in some locations, allowing for limited observation. Walls and floors appear to be plumb, level, and stable.
- Approximately 300 SF of cracked VCT tiles was observed along the 2nd floor corridor leading to the 2nd grade wing. It appears that the wood sub-floor and decking have settled/moved and allowed the VCT to crack. Structural repairs will need to be completed prior to the VCT replacement tiles are installed. The estimated cost of this work is included in the Replacement Reserves Report.
- Minor settlement was observed in the CMU walls of a couple of the interior stairwells. The staff can monitor for further settlement and take corrective action is additional movement is observed. See Sections 1.2 and 6.1 for discussion of other evidence of movement.

Sustainable Recommendations:

- There are no sustainable recommendations for superstructure.

6.3. ROOFING

The original (1929) schoolhouse portion is roofed over with a steeply pitched, hip roof system finished with the original slate tiles. This roof has a flat central section.

The primary roofs are classified as flat roofs. The roofs are finished with a combination of white PVC, stone ballasted inverted roof membrane assemblies (IRMA) and multi-ply, bituminous, built-up membrane with either a mineralized or granule surfaced, modified bitumen cap sheet. The roofs are insulated with rigid insulation boards.

The majority of the exterior perimeter walls do not have parapet walls. The membrane terminates at sheet metal drip edges. Limited sections of the building at the kindergarten wing and at the ends of the pitched hip system have low brick parapet walls. The roof membrane terminates along a flashed cant strip at the base of the parapet walls. Most of the parapets are topped with sheet metal copings or pre-cast stone sections. Some of the roof finishes wrap up and over the parapets and terminate at metal drip edges on the outside perimeter of the walls. The roofs have sheet metal flashing elements and built-up base and edge flashing.

Storm water is drained from the roofs by internal drains and sheet metal scuppers. The scuppers discharge onto paved and landscaped areas or directed below ground to the municipal storm water system via hidden leaders.

Curb-mounted skylights provide natural illumination in the gymnasium and cafeteria.

There is a limited attic space beneath the hip roof system. Access to the wood framed attic is via a stairwell ladder. Some HVAC air handler units are located within the attic space. Most flat roof areas have no attic and are concealed by ceiling finishes.

Observations/Comments:

- The roof finishes vary in age between seven and 82 years old. Copies of the warranties were requested, but were not available. The roofs are maintained by the in-house maintenance staff and contractors are retained when required. It was reported that the seven year old roof sections (partial building) are covered by a Honeywell 20-year warranty that began January 2, 2002.

- According to the head custodian and based on observations, there are active roof leaks. There is evidence of active roof leaks, see Section 3.3 for more information on locations.
- The ballasted roofs are in fair to poor condition. The roofs over the kindergarten and parts of the 4th grade wing were observed with excessive moss and evidence of ponding. Based on the Remaining Useful Life (RUL) and conditions, this roof will require replacement early in the term. The cost of this work is included in the Replacement Reserves Report.
- Additional sections of the ballasted roof are reported under warranty but are exhibiting similar conditions of moss and plant growth in isolated areas. Based on these conditions, the Remaining Useful Life will be reduced and replacement is anticipated earlier than expected. Replacement and resloping of tapered insulation towards existing roof drains will be required and covered under the warranty. No costs are included in the tables at this time.
- The flat built up roofs are in fair to poor condition. The flat built up roof over the kitchen and custodian area has seam failure and water soaked insulation. Water bubbled up as pressure was applied. Based on the Remaining Useful Life (RUL) and conditions, this roof will require immediate replacement. The cost of this work is included in the Replacement Reserves Report.
- 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 fair to poor condition and will require replacement in conjunction with the membrane replacement above.
- Various locations around the flat roof perimeters and above each exterior entrance the painted wood fascias exhibit peeling paint and rotted wood. All affected areas should be replaced with new pressure treated wood and then wrap with anodized aluminum to eliminate the need for re-painting. The estimated cost of this work is included in the Replacement Reserves Report.
- The parapet walls and copings are in good to poor condition. The single-story kindergarten wing was observed to have several open coping joints, cracked and spalled pre-cast copings and deteriorated inboard parapet mastic surfaces. The head custodian also reported that these areas have had previous roof leaks. Several sections of the parapet along the ends of the pitched slate tile roof have loose/displaced pre-cast copings, poorly tooled or deteriorated mastic sealant and missing sections of aluminum coping flashing. All affected areas should be properly repaired with new metal coping flashings and re-applied mastic sealant. This work can be done in conjunction with the roof replacement. The estimated cost of this work is included in the Replacement Reserves Report.
- Roof drainage appears to be adequate except for some isolated areas such as at the small column supported, flat canopy over the main rear entrance and at the flat roof over rooms 234-238. The canopy currently has no roof drain and it is recommended that this small roof area receive a single drain with exposed leader. The flat white PVC roof area over classrooms 234-238 currently is equipped with one roof surface drain. On the date of our survey, this roof area had approximately three inches of ponding storm water. At least six additional roof drains with hidden leaders and associated tapered insulation should be installed at the areas over the Psychologist office and teacher lounge and over rooms 241 to 246. The estimated cost of this work is included in the Replacement Reserves Report. Clearing and minor repair of drain system components should be performed regularly as part of the Physical Plant's routine maintenance program.
- The skylights are in good condition and will require routine maintenance during the evaluation period.

- Two of the exposed cast iron drain leaders within the courtyard leading from the pitched slate tile roof were noted to be cracked. Teachers interviewed in classrooms 221-223 reported that the drains appear to be clogged below ground and then back up with storm water flowing out of the cracked leaders. The head custodian states that he normally has to snake out these leaders annually. Repairs to clear these drain assemblies can be accomplished as part of routine maintenance. It is recommended that the two cracked leaders be replaced with new cast iron or copper pipe sections. The estimated cost of this work is included in the Replacement Reserves Report.
- The pitched slate roof has numerous inherent and chronic problems including: loose, cracked or missing slate tiles, hazards due to falling snow/ice in winter, and several previous sheetmetal repairs. Water stained structure was also observed. The slate roof system should be repaired. Management stated plans to replace the slate roof with another finish type; however with proper repair, the life of the existing system can be extended approximately 20 years.
- The science storage room 232 is reported to have roof leaks periodically. While no evidence was observed while on site, roof repairs in the area are recommended. All other areas of leaks should be repaired as well. The estimated cost of this work is included in the Replacement Reserves Report.
- EMG conducted a separate roof assessment for this project. Wet areas of insulation requiring repair were found during infrared scans of the roof. Additionally 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.

Sustainable Recommendations:

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

6.4. EXTERIOR WALLS

The building exterior is finished predominantly with unpainted brick veneer with decorative glazed terra cotta panels located between the first and second floor windows. Limited areas are finished with natural stone veneer at front main entrance and isolated use of glazed brick at north side entrance.

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

Observations/Comments:

- The exterior finishes are in good to fair condition. Isolated areas throughout the building have vertical or step type cracking, efflorescence and or deteriorated mortar joints. Damaged sections were noted especially along the roof edges, parapets and building corners. One section of note was along the 2nd floor roof parapet line at the 4th grade wing (rear façade). This section appeared to be out of plumb vertically and should be repaired. The estimated cost of this work is included in the Replacement Reserves Report.
- In addition to the work above, brick re-pointing and patching will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The sealants throughout the school are in good to fair condition. Based on their estimated Remaining Useful Life (RUL) and current conditions, the sealant will require replacement midway in the evaluation period. The sealant costs are covered within the window replacement work. See Section 6.6.

- The brick/stone clad boiler chimney was noted to have inward deflection in the shaft as viewed downward from roof level. It appears that the bricks have been affected by heat over many years. Brick faces are missing and mortar joints are dry/brittle and deteriorated. The east side of the chimney interior is bulging inward. An experienced masonry contractor should be retained to make an required repairs or replacements. A cost allowance for this work is included in the Replacement Reserves Report.
- The underside aluminum slat material of the 5th grade wing has isolated vehicle contact damage and a large area was previously removed to perform an emergency fire sprinkler repair. The hole is now covered with sheets of rigid insulation. The repair should include a 30 inch square access scuttle to allow future access to the sprinkler piping. This work is considered routine maintenance.

Sustainable Recommendations:

- A sustainable recommendation for exterior finishes is to use low VOC sealant or caulking around exterior doors and windows and the paint finishes on the stucco.

6.5. EXTERIOR AND INTERIOR STAIRS

An exterior cast in place concrete ramp provides handicapped access to the front entrance of the school. The raised sections are supported by reinforced cast in place concrete columns.

There are several exterior stairs leading to each of the common or service entrances. Most are grade stairs and soil supported and constructed of concrete with bluestone or slate treads and brick risers. Other stairs within the rear loading dock area are either of concrete or painted steel construction. Generally good conditions were noted at these exterior stairs.

The interior stairs have closed risers and are finished with textured rubber landings and treads, painted metal stringers and risers with painted metal pipe railings and metal balusters.

Observations/Comments:

- The exterior concrete ramp is in fair condition with isolated areas in poor condition. The landing has a spalled corner and one column has a spalled section exposing steel reinforcing bar. Epoxy patching is required immediately to prevent further damage. The cost of this work is relatively insignificant; therefore the work can be performed through routine maintenance.
- The interior stairs, balusters, and handrails are in good to fair condition and will require routine maintenance during the evaluation period. Fairly widespread wear and peeling conditions were observed at the interior stairwell handrails. Scraping, painting and minor repairs are required. These repairs can be accomplished by the In-House staff as part of routine maintenance.
- One stairwell and flat area leading down from the loading dock area down to the basement boiler room and storage rooms has a badly rusted pan and treads/stringers. Replacement or significant repair is required. The estimated cost of this work is included in the Replacement Reserves Report.
- The front entry steps which front on Glenbrook Road and the left side entrance require minor repointing and some bluestone replacement at this time due to missing mortar and cracked bluestone pavers. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for interior stairs is to use low VOC coatings for the stairs and guardrails when repainting.

6.6. WINDOWS AND DOORS

Some of the windows are part of aluminum or painted steel-framed, storefront system incorporating the entry doors. The windows are glazed with single panes set in metal frames. The doors are fully-glazed, aluminum-framed doors set in the metal framing system.

The windows are predominantly aluminum-framed, double-pane glazed, fixed or operable awning type units. Some fixed single paned units exist in corridors, stairwells and other non-classroom areas.

The service doors are textured aluminum or plastic clad, foam insulating core with fixed glass lites of different sizes – approximately 9"x 16" vision lite or half door glass.

A single overhead door is located in the loading dock area. The door type is a coiling steel door equipped with mechanical openers.

The loading dock is equipped with bumpers.

Observations/Comments:

- The storefront window systems at the lobby and auditorium entrances are in good to fair condition.
- The head custodian described chronic problems with 32 windows on the 2nd floor 4th grade wing during wind driven rain events. All windows should be removed, re-flashed and replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- One window sash at the media center was noted to have a failed internal gasket resulting in trapped fogging between the panes. Three windows within classroom 221 were noted to have sagging gasket material between the panes. All affected sashes should be replaced or re-gasketed. Due to the low cost nature of these repairs, they can be completed as part of routine maintenance.
- Six (three double doors) of the fire doors along common corridors at the base of stairwells were noted to not close properly and will require repairs or replacement. The doors appear to have sagged in the hinges and the throw bolts are no longer aligned. The door slabs actually contact with one another in the center in the fully closed position. These doors should be properly repaired or replaced to restore full operation. The estimated cost of this work is included in the Replacement Reserves Report.
- Six (three double doors) of the exterior entrance doors were noted to have the base of each door frame badly rusted or rusted through. Each door set and painted metal frame should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- Similar to the door replacement work described above, all exterior doors appear original. Phased replacement of all remaining doors should be anticipated. The estimated cost of this work is included in the Replacement Reserves Report.
- The single overhead loading dock door is in fair condition. Based on the Remaining Useful Life and condition, the overhead door will require replacement. The estimated cost of this work is included in the Replacement Reserves Report.

- The loading dock is in fair to poor condition. Spalling and cracking were observed including at the associated stairs. Degradation of the rubber bumpers was also noted. Based on the Remaining Useful Life and condition, the loading dock will require repairs, sectional replacement and replacement of the bumpers. The estimated cost of this work is included in the Replacement Reserves Report.
- Window and door sealant and expansion joint sealant replacement is also recommended for replacement over the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for windows is to replace all single paned windows with insulated paned units with thermal breaks.
- A sustainable recommendation for doors is to replace with insulated, energy efficient doors.

6.7. PATIO, TERRACE, AND BALCONY

Not applicable. There are no patios, terraces, courtyards or balconies.

6.8. COMMON AREAS, ENTRANCES, AND CORRIDORS

The front vestibule enters a stair landing in which the main lobby is half a level up from the entrance. On the same level as the entrance is access to the elevator lobby. The main office lobby contains display cases, bulletin boards and the entrance to the main administrative office. Corridors and the Media Center are accessed directly from the lobby.

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

Common area restrooms are located off the lobby, auditorium vestibule and near the 3rd grade wing. There are a total of five sets of common area restrooms; three on the ground floor and two on the 2nd floor level. The only handicapped accessible restrooms are located in near the office. They are two faculty single user unisex type toilet rooms, although some accessories and other ADA modifications are required. See Section 3.1 for further information and costs.

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

Common Area	Floors	Walls	Ceilings
Lobby	Vinyl tile	Painted plaster, stone or ceramic tile	Suspended acoustic tiles
Corridor	Vinyl tile	Glazed and painted concrete block, ceramic tile, painted plaster	Adhered acoustic tiles or suspended acoustic tiles
Common Area Restroom	Ceramic tile	Ceramic tile or painted drywall or painted concrete masonry units (CMU) or brick	Painted plaster

Common Area	Floors	Walls	Ceilings
Office	Vinyl tile or carpet	Painted drywall	Suspended acoustic tiles and adhered acoustic tiles
Media Center	Carpet	Painted drywall and stained wood panels	Painted drywall and suspended acoustic tiles
Auditorium	Carpet aisles, painted concrete with wood stage	Glazed brick, vertical wood panels and plaster	Textured plaster
Cafeteria	Vinyl tile	Painted concrete masonry units and plaster	Suspended acoustic tiles
Gymnasium	Wood plank	Painted concrete block	Exposed structure

Observations/Comments:

- It appears that the interior finishes in the common areas have not been renovated within the last five to ten years.
- The interior finishes in the common areas are in good to fair condition. Based on its estimated Remaining Useful Life (RUL), the common area carpet will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Approximately 300 SF of cracked VCT tiles should be replaced along the 2nd floor corridor leading to the 2nd grade wing. It appears that the wood sub-floor and decking have settled/moved and allowed the VCT to crack. Structural repairs will need to be completed prior to the VCT replacement tiles are installed. See Section 6.2 for recommendations and costs for this work.
- Interior painting and wall finish replacement will also be required during the evaluation period. Some bubbling and peeling of wall paint was observed due to a previous flooding from an internal piping leak. The leak has been fixed, but some of the finishes will require replacement. The initial damage can be repaired with in-house maintenance. The estimated cost of this work is included in the Replacement Reserves Report.
- Approximately 20 SF of roof leak damaged vinyl wallcovering was observed within classroom 221. Due to the low cost of these repairs, they can be completed by the In-House maintenance staff as part of routine maintenance.
- The suspended ceiling tiles are mismatched and some are stained from active roof leaks. Suspended and adhered ceiling tile replacement will also be required during the evaluation period based on Remaining Useful Life (RUL) and condition. The estimated cost of this work is included in the Replacement Reserves Report.
- In addition to this work and based on its estimated Remaining Useful Life (RUL), the vinyl tile flooring finishes 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, the auditorium has a significant number of damaged or broken seats requiring repairs or replacements. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- The wood flooring in the gymnasium and the auditorium stage are in good to fair condition. Refinishing will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

- Several of the common and children's toilet rooms were noted to have cracked, damaged or missing ceramic floor and wall tiles. One area of concern was the boy's toilet room near the gymnasium that had a small 3 inch step up leading to the corner stall. This step riser was missing several of the face ceramic tiles. All damaged tiles should be replaced. In addition, a phased ceramic tile replacement program should be anticipated over term. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the client provided AHERA document flooring with asbestos containing material is located in the auditorium entrance and cafeteria. A cost allowance for proper removal and disposal of the asbestos containing vinyl tile is included in the Replacement Reserves Report as part of the recommended vinyl tile replacement work. This allowance is based solely on the information presented in the client provided AHERA document. An excerpt of this AHERA document is included in the appendices. Identifying asbestos containing material is not within the scope of this facility condition assessment.

Sustainable Recommendations:

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

7. BUILDING (CENTRAL) MECHANICAL AND ELECTRICAL SYSTEMS

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

Heating is provided in the classrooms by perimeter, cabinet-mounted, finned-tube, radiant heat units. The radiant units are supplied with low pressure steam by the central system. Heating is provided in the restrooms by wall-mounted finned-tube radiant heat units. Heating is provided in the corridor by wall-mounted finned-tube radiant heat units. Heating is provided in the cafeteria by wall-mounted finned-tube radiant heat units. Heating is provided in the auditorium by wall-mounted finned-tube radiant heat units. Heating and air-conditioning is provided in the gymnasium via two (2) make-up air units, which are manufactured by Sterling. The make-up air units are supplied with low pressure steam by the central system.

Low pressure steam for the central heating system is supplied by three cast iron boilers, which are located within the boiler room at the northeast corner of the building on the lower level. The boilers have dual-fuel capability, utilizing natural gas or fuel oil. Boiler No. 1 is a Model No. 28A-16, which is rated at 5,189 MBH and is manufactured by HB Smith. Boiler No.1 was installed in 1999. Boiler No. 2 is a Model No. 28A-16, which is rated at 5,189 MBH and is manufactured by HB Smith. Boiler No. 2 was installed in 2004. Boiler No. 3 is a Model 88, which is rated at 1,892 MBH and is manufactured by Weil-McLain. Boiler No. 3 is a smaller capacity boiler with no labeled information.

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 main entry drive near the northeast corner of the site.

Circulating pumps provide distribute the low pressure steam to each temperature-controlled space via a two-pipe distribution system. The low pressure steam supplies the make-up air units' radiators and baseboard heaters.

Heating and cooling are provided in the classrooms, offices, cafeteria and auditorium areas by individual, direct-expansion, constant-volume, gas-fired, packaged, rooftop-mounted, HVAC units. There are a total of 7 units ranging in size from 17.5 to 50 tons. The cooling equipment uses R-22 as a refrigerant. A grade mounted 10 ton split direct expansion (DX) condenser is located to the north of the building.

The following table describes the rooftop units:

Packaged Rooftop Units				
Designation	Manufacturer	Cooling Capacity	Heating Type	Manufacture Year
2	Trane	17.5 tons	Gas	1996
4	Trane	50 tons	Gas	1996
5	Trane	30 tons	Gas	1996
6	Trane	20 tons	Gas	1996
7	Trane	20 tons	Gas	1996

Packaged Rooftop Units				
Designation	Manufacturer	Cooling Capacity	Heating Type	Manufacture Year
8	Trane	30 tons	Gas	1996
9	Trane	30 tons	Gas	1996

The interior corridors are not ventilated or air-conditioned.

Add description of air handling units and associated condensing unit. Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located in each space. The following table describes the air handling units:

Air Handling Units					
Designation	Location	Area Served	Air Flow	Cooling	Heating
AHU-1	Central Mechanical Room	Ground Floor Offices	3,840 CFM	Direct Expansion	None
AHU-2	Attic	Classrooms in original portion of building	10,525 CFM	Direct Expansion	None

The bathrooms are ventilated by mechanical exhaust fans. High-capacity ventilation fans are mounted on the roofs and are connected by concealed ducts to each ventilated space.

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 mechanical room.

Observations/Comments:

- The HVAC systems are maintained by the in-house maintenance staff.
- The HVAC equipment varies in age. Boiler No. 1 was replaced in 1999. Boiler No. 2 was replaced in 2004. The RTUs were replaced in 1996.
- The HVAC system is reportedly highly inconsistent. Maintenance and administrative staff reported that temperature control is inadequate. It is recommended that an HVAC contractor evaluate the building for the potential reconfigure the existing control system or to add increased zoning for better temperature control in the classrooms. It is also recommended that ventilation in the corridors be included in the HVAC evaluation. The cost of the follow-up evaluation is included in section 1.2. A budgetary cost allowance to upgrade the controls and address ventilation in the corridors is included in the Replacement Reserves Report.
- 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 and was reportedly scheduled to be replaced. The estimated cost of this work is included in the Replacement Reserves Report.

- 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 air handling units appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), air handling units AC-1 and AC-2 will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The condensing units appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the condensing unit for AC-1 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. Routine maintenance is anticipated during the evaluation period.
- The split system air-conditioning units appear to be in good condition and will require routine maintenance during the evaluation period.
- The rooftop units appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the rooftop units will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The make-up air units in the gymnasium are in fair condition. The dampers on the units are reportedly not functioning. These units require replacement. The estimated cost of this work is included in the Replacement Reserves Report.
- The exhaust ventilation system and equipment appear to be in fair condition. According to the client provided JMOA five year capital plan, additional ventilation or larger exhaust fans are required to improve bath ventilation. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- The finned-tube heating radiators in the cafeteria are reportedly scheduled to be replaced this year. The estimated cost of this work is included in the Replacement Reserves Report.
- The UST, which is located beneath the main entry drive along Glenbrook Road, is reportedly scheduled to be replaced this year. The estimated cost of 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 Glenbrook Road.

Domestic hot water is supplied by two, gas-fired commercial domestic water boilers. Each boiler has a rated input capacity of 120,000 MBH. The system is equipped with a 119-gallon storage tank. The water heaters are 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.
- The boilers were replaced in 2005 and appear to be in good condition. The boilers 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.
- One student drinking fountain was noted to be removed and boarded up in the corridor outside room 157. This drinking fountain should be restored. The estimated cost of this work is included in the Replacement Reserves Report.
- The drinking fountains are in good to fair condition. Based on the estimated Remaining Useful Life (RUL), the remaining drinking fountains will require replacement. The estimated cost of 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 within a room, which is adjacent to the boiler room. 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 2,500-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. According to the client provided JMOA five year capital plan, the PA system in the cafeteria and auditorium are planned for replacement or coverage. EMG also recommends upgrading communication for the phones, internet, alarm and emergency lighting improvements. A budgetary cost allowance for 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. According to the client provided AHERA document wiring with asbestos containing material is located in the stage lighting system. A cost allowance for proper removal and disposal of the asbestos containing material is included in the Replacement Reserves Report as part of the recommended lighting replacement work. This allowance is based solely on the information presented in the client provided AHERA document. An excerpt of this AHERA document is included in the appendices. Identifying asbestos containing material is not within the scope of this facility condition assessment.
- According to the client provided JMOA five year capital plan, a new generator system is planned to provide adequate emergency power to the life and safety equipment. A budgetary cost allowance for 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 the northwest corner of the building. The elevator was manufactured by Northeast Elevator. 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, plastic-laminated wall panels, and recessed, ceiling light fixtures. The doors are fitted with electronic safety stops. Emergency communication equipment is provided in the cab.

A wheelchair lift is provided at interior side of the main entrance.

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 1996. Routine maintenance is anticipated 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), the cab finishes will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The wheelchair lift, although not tested, was reported to be in good operable, condition. Based on its estimated Remaining Useful Life (RUL), the wheelchair lift 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 consists 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.

The carport area, which is located along the rear elevation, is equipped with dry sprinkler heads. The ceiling plenum in which the sprinkler piping is located is heated via the central system. The only dry portion of the system is the head and approximately 4 inches of piping per sprinkler head.

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 fire pump rated at 500 gallons per minute. The system is equipped with a backflow preventor.

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 Glenbrook Road 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 drywall. 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.
- 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 fire pump is in good condition. Based on the Remaining Useful Life (RUL), the fire pump 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 and is tested regularly by a qualified fire equipment contractor. However, the inspection tag, which was placed by Interstate Fire & Safety, states that the system does not meet UL 300 standards. The cost of this work is included in the Replacement Reserves Report.

- According to the client provided JMOA five year capital plan, insulation of the fire sprinkler piping under the pick-up canopy is required. Based on the evidence of past sprinkler repair at the canopy, this work is assumed still outstanding. A budgetary cost allowance for 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 or plaster	Suspended acoustic tiles
Maintenance Shop and Storage	Painted concrete slab	Painted drywall or plaster	Suspended acoustic tiles
Kitchens	Ceramic tile	Painted drywall or plaster	Suspended acoustic tiles
Restrooms	Ceramic tile	Painted drywall or plaster	Suspended acoustic tiles

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

Observations/Comments:

- The interior finishes are in good condition. Based on the Estimated Useful Life and the observed conditions, replacement of the carpeting and painting is recommended during the term. Interior finish replacement costs are included in Section 6.8.
- 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.

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
Freezers	Walk-in
Ranges	Gas
Ovens	Gas

Appliance	Comment
Griddles / Grills	Gas
Fryers	Yes
Hood	Exhaust ducted to exterior
Dishwasher	Owned
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.

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

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-013.017

Project Name: Julia A. Stark Elementary School



Photo #1: View of the front façade and curved bus drop-off driveway



Photo #2: Detail view of the bluestone stair treads, open joints and cracked mortar exist



Photo #3: View of the main entrance near the auditorium



Photo #4: View of a concrete ramp near the auditorium entrance - a 2nd handrail is required



Photo #5: View of typical exterior entrance doors



Photo #6: Several of the exterior common and service doors are badly rusted frames



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #7: View of the concrete loading dock - concrete and bumper repairs are needed



Photo #8: A single overhead loading dock door exists



Photo #9: Detail view of the north end of the front façade



Photo #10: Several of the entrance canopies have peeling paint on the perimeter wood trim



Photo #11: View of the stone and brick main boiler chimney



Photo #12: Open joints were noted at the top of the chimney



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #13: Portions of the interior brick of the chimney appeared bulging in



Photo #14: View of the east sidewall



Photo #15: View of the brick veneer north façade and entrance along Oscar Street



Photo #16: Second view of the south end of the front façade



Photo #17: View of the south façade of the kindergarten wing



Photo #18: Isolated sections of brick; efflorescence observed



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #19: Isolated vertical and step cracking exists at several of the brick facades



Photo #20: View of the column supported 5th grade - 2nd floor wing



Photo #21: Minor vehicle contact damage was observed at the canopy edges



Photo #22: A section of the aluminum slat canopy ceiling is missing due to an emergency fire sprinkler repair



Photo #23: Overview of the central courtyard area showing brick facades



Photo #24: View of the west façade of the original 1929 building



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #25:	Most of the ice/snow stops are damaged or missing
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Photo #26:	Previous slate tile damage has been repaired with sheet metal pieces
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Photo #27:	View of the slate hip end and lower gravel surfaced BUR at kindergarten
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Photo #28:	View of the wood framed attic under the pitched slate roof
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Photo #29:	The cafeteria and custodian office are roofed over with a flat, mineralized cap sheet
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Photo #30:	Widespread blistering and trapped water pockets were noted
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EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #31: Flat roof section over rooms 234-238 has approximately 3" of ponding water



Photo #32: A few isolated open coping joints and failed mastic were observed



Photo #33: The pitched parapet at the slate end walls is missing metal copings



Photo #34: Sections of the building are roofed over with a flat white EPDM system



Photo #35: Several isolated tears were noted at the white EPDM roof sections



Photo #36: Several roof surface drains are missing domed strainers



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #37: Portions of the building are roofed over with flat IRMA systems



Photo #38: Overview of the building showing the different roof types



Photo #39: The media center is equipped with a flat, stone ballasted EPDM roof



Photo #40: The rear main entrance is equipped with a small column supported roof canopy



Photo #41: View of the rear entrance canopy roof with no roof drain



Photo #42: 2nd floor windows at the 4th grade wing experience chronic leaks



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #43: One failed window sash was noted with fogging at the media center



Photo #44: View of the school main office



Photo #45: View of a typical common interior hallway



Photo #46: One of the corridor student drinking fountains is missing and boarded up



Photo #47: Three sets of stair fire doors do not close properly



Photo #48: View of the lobby main entrance steps and wheelchair lift



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #49: View of the gymnasium interior



Photo #50: View of the cafeteria interior



Photo #51: View of the auditorium seating and stage.



Photo #52: Many common toilet rooms do not provide handicapped access



Photo #53: Some toilet rooms require ceramic tile repairs



Photo #54: View of a typical classroom interior



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #55:	Passenger elevator has chipped cab walls and inoperable door re-opener system
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Photo #56:	Several internal fire stairwells provide access from the 1 st to 2 nd floors
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Photo #57:	Fairly widespread stair and railing repainting is needed
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Photo #58:	Limited sections of the acoustic ceiling tiles were damaged/ missing
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Photo #59:	Several isolated acoustic ceiling tiles were noted to be stained
------------	--



Photo #60:	Limited sections of the VCT floor tiles were noted to be cracked
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EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #61: View of the computer lab



Photo #62: View of the media center



Photo #63: A few isolated internal window gaskets sagging



Photo #64: View of the teachers' lounge



Photo #65: View of the nurse's office



Photo #66: Several of the faculty toilet rooms are handicapped accessible



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #67: The majority of the building is set on a crawlspace type foundation



Photo #68: A limited basement area exists for mechanical equipment and boilers



Photo #69: One basement stair was noted to be badly rusted



Photo #70: The majority of the building is framed with steel beams and open web joints



Photo #71: View of main asphalt paved entry drive



Photo #72: View of main brick and bluestone steps



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #73: Column condition under ramp



Photo #74: View of concrete entry ramp, which is located adjacent to main entrance.



Photo #75: View of cast in place concrete steps, which are located near the SE corner of the building.



Photo #76: View of cast in place concrete steps, which connect the rear paved lot to adjoining public streets.



Photo #77: Detail of damaged connection between handrail and concrete steps.



Photo #78: View of asphalt paved sidewalks, which parallel Glenbrook Road.



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #79: Asphalt paved sidewalks, located along the southern perimeter



Photo #80: View of stone retaining wall and concrete sidewalks along Glenbrook Road



Photo #81: Detail of deteriorated mortar on retaining wall



Photo #82: View of concrete retaining walls



Photo #83: View of rear service drive



Photo #84: View of rear asphalt paved parking areas



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #85: View of deteriorated asphalt pavement



Photo #86: View of deteriorated asphalt pavement



Photo #87: View of trench drain, which is located within rear entry driveway



Photo #88: View of deteriorated chain link fencing



Photo #89: View of Boiler No. 1



Photo #90: View of Boiler No. 2



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #91: View of Boiler No. 3



Photo #92: View of steam distribution system



Photo #93: View of fuel oil pumps



Photo #94: View of AC-1



Photo #95: View of RTU-2



Photo #96: View of RTU-4



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #97: View of RTU-6



Photo #98: View of RTU-8



Photo #99: View of RTU-9



Photo #100: View of AHU-2



Photo #101: View of make-up air unit, which is located within the gymnasium



Photo #102: View of steam fed radiator, which provides warm air to attic space



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #103: View of steam circulation pump, which circulates steam throughout ceiling plenum of carport area



Photo #104: View of main electrical switchgear



Photo #105: View of electrical metering equipment



Photo #106: View of pad mounted electrical transformer



Photo #107: View of gas-fired domestic hot water boilers and storage tank



Photo #108: View of mechanical equipment room sump pump



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #109: View of water metering equipment



Photo #110: View of natural gas metering equipment



Photo #111: View of underground fuel oil storage tank



Photo #112: View of passenger elevator cab interior finishes



Photo #113: View of passenger elevator cab stainless steel control panel



Photo #114: View of passenger elevator cab door



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #115: View of passenger elevator equipment



Photo #116: View of wheelchair lift, which is located immediately adjacent to the main entrance



Photo #117: View of dishwashing station



Photo #118: View of commercial kitchen equipment



Photo #119: View of kitchen exhaust hood fire suppression system



Photo #120: View of fire sprinkler equipment



EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-013.017

Project Name: Julia A. Stark Elementary School



Photo #121: View of fire pump



Photo #122: View of spare fire sprinkler heads



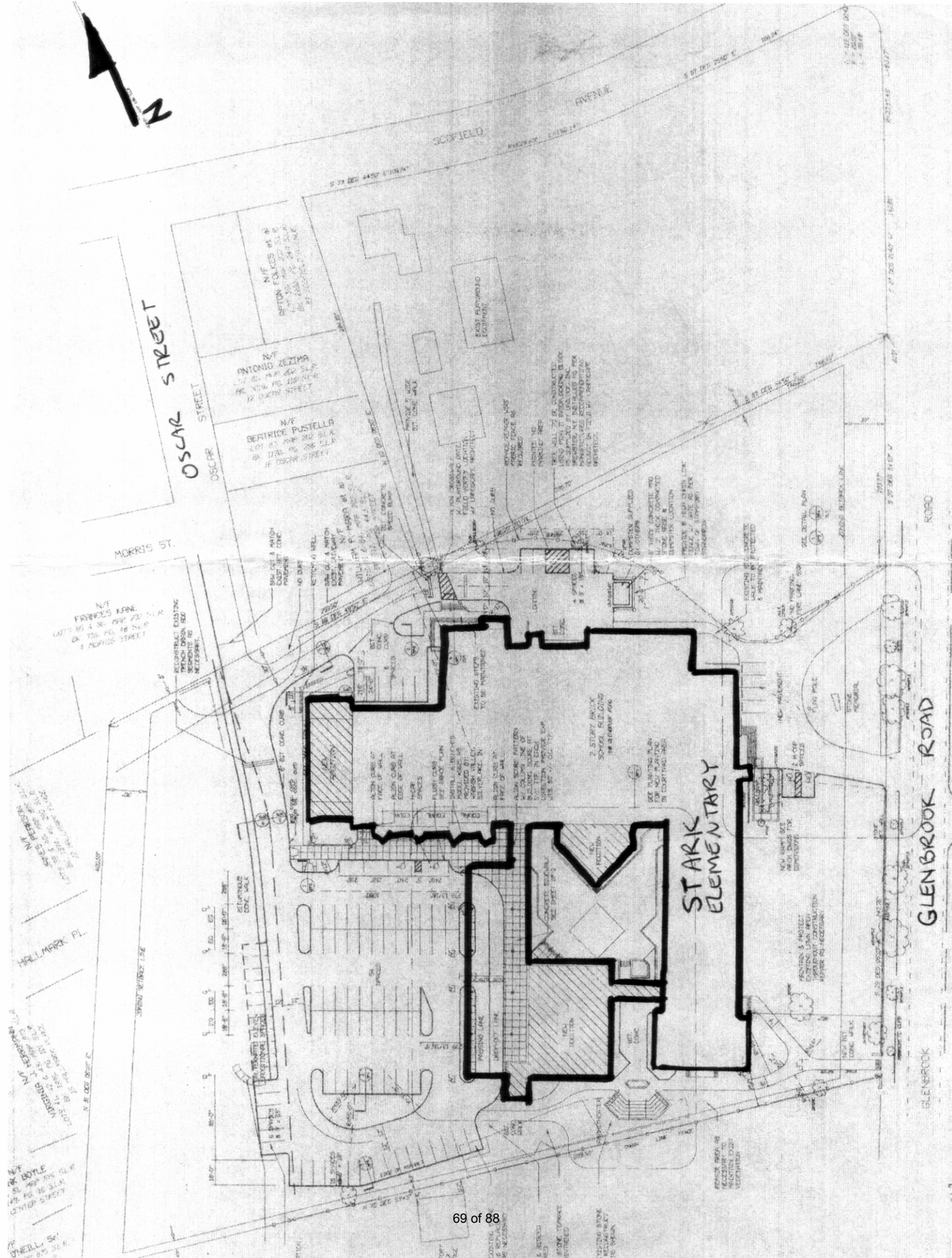
Photo #123: View of transfer switch



Photo #124: View of fire department Siamese connection

APPENDIX B:

SITE PLAN



**APPENDIX C:
SUPPORTING DOCUMENTATION**

**THIS APPENDIX IS INTENTIONALLY LEFT
BLANK.**

APPENDIX D:
EMG ABBREVIATED ACCESSIBILITY CHECKLIST

Property Name: Julia A. Stark Elementary School

Date: March 9, 2009 and March 10, 2009

Project Number: 88166.09R-013.017

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?	✓			
3.	Does a Barrier Removal Plan exist for the property?		✓		
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?		✓		None Reported
	Parking	Yes	No	N/A	Comments
1.	Are there sufficient parking spaces with respect to the total number of reported spaces?		✓		Stalls are non-compliant due to slope or lack of access aisles
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?	✓			

EMG Abbreviated Accessibility Checklist					
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?	✓			
	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?	✓	✓		Auditorium ramp is currently equipped with only one railing
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?		✓		

EMG Abbreviated Accessibility Checklist					
3.	Are floor surfaces firm, stable, and slip resistant (carpets wheelchair friendly)?	✓			
4.	Is at least one wheelchair-accessible public telephone available?	✓			Offices
5.	Are wheelchair-accessible facilities (toilet rooms, exits, etc.) identified with signage?	✓			
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?		✓		2-Beam type only, recommend Pana-40 type infinite height detection
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?	✓			

EMG Abbreviated Accessibility Checklist					
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)?	✓	✓		
5.	Are public restrooms large enough to accommodate a wheelchair turnaround (60" turning diameter)?	✓	✓		Modifications required at some toilet rooms
6.	In unisex toilet rooms, are there safety alarms with pull cords?	✓			
7.	Are stall doors wheelchair accessible (at least 32" wide)?	✓	✓		Modifications required at some toilet rooms
8.	Are grab bars provided in toilet stalls?	✓			
9.	Are sinks provided with clearance for a wheelchair to roll under (29" clearance)?	✓	✓		Modifications required at some toilet rooms
10.	Are sink handles operable with one hand without grasping, pinching or twisting?	✓			
11.	Are exposed pipes under sink sufficiently insulated against contact?	✓	✓		Modifications required at some toilet rooms
12.	Are soap dispensers, towel, etc. reachable (48" from floor for frontal approach, 54" for side approach)?	✓	✓		Modifications required at some toilet rooms
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: Julia A. Stark Elementary School **Project Number:** 88166.09R-013.017
Person completing form: Dr. Mary Savage **Date:** March 9, 2009 and March 10, 2009
Association with Project: Principal **Phone Number:** 203.977.4583
Years associated w/Proj.: 16 **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?	1994 to 1997 gut renovation, 10 classrooms added and Media Center. Partial roof over cafeteria added 7 years ago. All windows replaced.				
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?	✓				
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?	✓				
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?	✓				Minor settlement by K 105 entrance
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?	✓				
15. Are there any poorly insulated areas?		✓			
16. Are there any current roof leaks at the property?	✓				
17. Are any roof finishes more than ten years old?	✓				
18. Is the roofing covered by a warranty or bond?	✓				
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		✓			

PRE-SURVEY

QUESTIONNAIRE

	Yes	No	Unk	NA	Comments
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?				✓	Small one added for planting area but not hooked up yet
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?	✓				Not in kitchen
43. Are there any smoke evacuation or pressurization systems?		✓			Auditorium stage was observed to have smoke evacuation system
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?				✓	

DUE DILIGENCE FOR THE LIFE CYCLE OF REAL ESTATE.

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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.

<p>INFORMATION REQUIRED</p> <ol style="list-style-type: none"> 1. All available construction documents (blueprints) for the original construction of the building or for any tenant improvement work or other recent construction work. 2. A site plan, preferably 8 1/2" X 11", which depicts the arrangement of buildings, roads, parking stalls, and other site features. 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). 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. 5. For hotel or nursing home properties, provide a summary of the room types and room type quantities. 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. 7. The names of the local utility companies which serve the property, including the water, sewer, electric, gas, and phone companies. 	<ol style="list-style-type: none"> 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. 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. 10. Records of system & material ages (roof, MEP, paving, finishes, furnishings). 11. Any brochures or marketing information. 12. Appraisal, either current or previously prepared. 13. Current occupancy percentage and typical turnover rate records (for commercial and apartment properties). 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.
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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</i> , any <i>system</i> , or <i>component</i> .
11.1.7	Providing an opinion on the condition of any <i>system</i> or <i>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</i> or <i>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</i> or <i>component's</i> physical condition or use, nor is a Comprehensive Building Condition Assessment to be construed as substituting for any <i>system's</i> or equipment's 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</i> , safety codes, environmental regulations, health codes or zoning ordinances or compliance with trade/design standards or the standards developed by the insurance industry. However, should there be any conspicuous <i>material</i> present violations <i>observed</i> or reported based upon <i>actual knowledge</i> of the <i>field observer</i> or the <i>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**

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

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