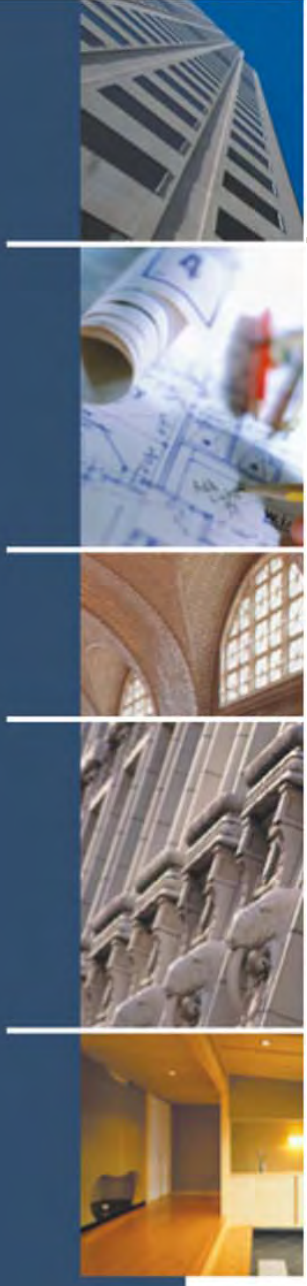


FACILITIES NEEDS ASSESSMENT

STAMFORD PUBLIC SCHOOLS

888 Washington Boulevard
Stamford, Connecticut 06901
Domenick Tramontozzi

FACILITIES NEEDS ASSESSMENT
of
SPRINGDALE ELEMENTARY SCHOOL

1127 Hope Street
Stamford, Connecticut 06907

PREPARED BY:

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

EMG CONTACT:

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

EMG Project #: 88166.09R-008.017
Date of Report: August 27, 2009
On-Site Date: April 15, 2009

Replacement Reserves Report
Elementary Schools / Springdale Elementary
8/27/2009

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

Report Section	ID	Cost Description	Lifespan (EUL)	Observed Age (EAge)	Remaining Life (RUL)	Quantity	Unit	Unit Cost *	Subtotal	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Deficiency Repair Estimate
1.2	3859	HVAC system study	0	0	0	1	EA	$9,135.00	$9,135	$9,135										**$9,135**
1.2	3893	Directed Study of Electrical Equipment	0	0	0	1	EA	$5,216.40	$5,216	$5,216										**$5,216**
1.2	3985	Measured ADA Study of Property	0	0	0	1	EA	$6,930.00	$6,930	$6,930										**$6,930**
1.2	3852	Civil Engineer Drainage study	0	0	0	1	EA	$6,930.00	$6,930	$6,930										**$6,930**
3.1	3986	ADA cane detection barrier rails	30	30	0	4	PR	$144.90	$580	$580										**$580**
3.1	3990	Replace school door knobs with ADA lever	20	20	0	170	EA	$682.92	$116,096	$116,096										**$116,096**
3.1	4003	ADA, lower existing toilet room accessories and mirrors	0	0	0	40	EA	$115.11	$4,605	$4,605										**$4,605**
3.1	4001	Add ADA Grab Bar and blocking	20	20	0	24	EA	$1,575.00	$37,800	$37,800										**$37,800**
3.1	4000	ADA, Renovate restroom for full compliance	20	20	0	4	EA	$15,120.00	$60,480	$60,480										**$60,480**
3.1	3999	ADA Compliant Wheelchair Lift Installation	0	0	0	3	EA	$22,680.00	$68,040	$68,040										**$68,040**
3.1	4013	Replace existing ADA two-way communication system	0	0	0	1	EA	$8,253.00	$8,253	$8,253										**$8,253**
3.1	4007	Add ADA raised markings at elevator control panel, jambs and hall buttons	0	0	0	3	Floor	$693.00	$2,079	$2,079										**$2,079**
3.1	4010	Provide ADA compliant call buttons	0	0	0	3	EA	$5,670.00	$17,010	$17,010										**$17,010**
3.1	4011	Provide ADA compliant hall lanterns at the elevator	0	0	0	3	EA	$6,300.00	$18,900	$18,900										**$18,900**
3.1	4012	Replace Cab controls with ADA compliant devices	0	0	0	1	EA	$31,115.70	$31,116	$31,116										**$31,116**
3.1	4008	ADA Audible Signals at Floor Change	20	20	0	3	Floor	$504.00	$1,512	$1,512										**$1,512**
3.1	4005	Replace lavatory with ADA lever handles	20	20	0	24	EA	$699.30	$16,783	$16,783										**$16,783**
3.1	3989	ADA Drinking Fountain Cup Dispenser	15	15	0	4	EA	$69.30	$277	$277										**$277**
3.1	3991	ADA, Install curb cut, concrete, 6" rise	25	25	0	1	EA	$1,164.34	$1,164	$1,164										**$1,164**
3.1	3992	ADA, paint accessible parking space	5	5	0	3	EA	$207.90	$624	$624					$624					**$1,247**
3.1	3997	ADA, Install buzzer for assistance at exterior entrance	10	10	0	2	EA	$630.00	$1,260	$1,260										**$1,260**
3.1	3995	ADA, install/replace signage giving direction to accessible entrance	0	0	0	4	Sign	$134.01	$536	$536										**$536**
3.1	3994	ADA - Install signage indicating Accessible Parking, pole mounted	20	20	0	4	EA	$134.01	$536	$536										**$536**
3.1	4073	ADA, paint van-accessible space with signage	5	5	0	1	EA	$277.20	$277	$277					$277					**$554**
3.1	4004	ADA, Wrap drain pipes below accessible lavatory	0	0	0	24	EA	$81.90	$1,966	$1,966										**$1,966**
5.2	3849	Exterior concrete stair repairs - Major	0	0	0	80	SF	$157.50	$12,600	$12,600										**$12,600**
5.2	3842	Repair and Seal Coat asphalt	5	2	3	1.82	10000 SF	$5,848.92	$10,645				$10,645					$10,645		**$21,290**
5.2	3840	Cut & Patch asphalt	10	8	2	1800	SF	$3.01	$5,421			$5,421								**$5,421**
5.2	3841	Repair and Seal Coat asphalt	5	3	2	5.95	10000 SF	$5,848.92	$34,801			$34,801					$34,801			**$69,602**
5.2	3843	Overlay asphalt	10	3	7	59.5	1000 SF	$963.02	$57,300								$57,300			**$57,300**
5.2	3848	Replace stone curbs	25	24	1	180	LF	$34.64	$6,235		$6,235									**$6,235**
5.2	3847	Replace concrete curbs	25	24	1	400	LF	$38.12	$15,246		$15,246									**$15,246**
5.2	3850	Install handrail at exterior steps	20	20	0	220	LF	$65.65	$14,442	$14,442										**$14,442**
5.3	3853	Storm drainage improvement allowance to mitigate ponding	0	0	0	1	EA	$85,226.40	$85,226	$85,226										**$85,226**
5.3	3854	Replace Catch basin 24" square in paving,inc demo and repair	50	48	2	1	EA	$2,459.18	$2,459			$2,459								**$2,459**
5.4	3855	Remove and replace retaining wall, cast in place concrete, reinforced, up to 6' high, no shoring or protection	50	45	5	10	LF	$708.02	$7,080						$7,080					**$7,080**
5.4	4942	Mature Tree Removal or major trimming	0	0	0	3	EA	$1,108.80	$3,326	$3,326										**$3,326**
5.4	6112	New shrubs, medium	20	20	0	275	EA	$133.43	$36,694	$36,694										**$36,694**
5.5	3858	Replace wood fence dumpster enclosure	10	9	1	40	LF	$79.38	$3,175		$3,175									**$3,175**
5.5	4940	Signage for General Parking	15	14	1	12	Sign	$134.01	$1,608		$1,608									**$1,608**

Replacement Reserves Report
Elementary Schools / Springdale Elementary
8/27/2009

Report Section	ID	Cost Description	Lifespan (EUL)	Observed Age (EAge)	Remaining Life (RUL)	Quantity	Unit	Unit Cost *	Subtotal	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Deficiency Repair Estimate
5.5	4120	Install concrete dumpster pad	25	24	1	200	SF	$12.41	$2,482		$2,482									**$2,482**
5.5	3857	Replace chain link fence, 6-foot high	20	19	1	50	LF	$37.31	$1,865		$1,865									**$1,865**
5.5	4941	Entry sign replacement allowance	25	24	1	2	EA	$6,300.00	$12,600		$12,600									**$12,600**
5.5	3856	New Aluminum pole-mounted double light 400 W HPS fixture and pole	0	0	0	2	EA	$8,651.16	$17,302	$17,302										**$17,302**
6.3	4034	Replace fire escape ladder	0	0	0	34	VLF	$131.67	$4,477	$4,477										**$4,477**
6.3	12134	Stamford Roof Assessment - EPDM Replacement	20	14	6	90	SQ	$1,595.75	$143,617							$143,617				**$143,617**
6.3	12133	Stamford Roof Assessment - EPDM Replacement	20	20	0	122	SQ	$1,595.75	$194,681	$194,681										**$194,681**
6.3	12131	Stamford Roof Assessment - BUR Roof Replacement	20	20	0	52	SQ	$1,666.66	$86,666	$86,666										**$86,666**
6.3	12130	Stamford Roof Assessment Roof Repair Recommendations	0	0	0	1	EA	$3,455.44	$3,455	$3,455										**$3,455**
6.3	4033	Replace skylights, 12' x 2.5'	20	12	8	12	EA	$3,192.84	$38,314									$38,314		**$38,314**
6.3	4943	Drain Coverings	0	0	0	14	-	$116.55	$1,632	$1,632										**$1,632**
6.3	4037	Replace chain link fence, 6-foot high	20	20	0	40	LF	$37.31	$1,492	$1,492										**$1,492**
6.3	4035	Replace 4" VCP with Sch 40 storm drain piping	50	50	0	400	LF	$181.13	$72,450	$72,450										**$72,450**
6.4	4019	Point brick wall upper floor	10	10	0	5	CSF	$1,301.58	$6,508	$6,508										**$6,508**
6.4	4022	Point brick wall upper floor	10	2	8	212	CSF	$1,301.58	$275,935									$275,935		**$275,935**
6.4	4042	Caulking, expansion joints,1"x1/2", remove and replace	15	7	8	2200	LF	$7.95	$17,491									$17,491		**$17,491**
6.4	4947	Refinish painted gypsum board soffit	0	0	0	46	CSF	$411.39	$18,924	$18,924										**$18,924**
6.6	4043	Caulking, polyurethane,1/4"x1/4", remove and replace	15	15	0	18150	LF	$4.84	$87,817	$87,817										**$87,817**
6.6	4038	Replace 6' x 3' aluminum window upper floor	25	20	5	363	EA	$2,232.72	$810,477						$810,477					**$810,477**
6.6	4039	Replace 3'-0" x 7'-0" aluminum storefront doors	50	50	0	25	EA	$2,588.67	$64,717	$64,717										**$64,717**
6.6	4944	Refinish door	10	10	0	80	EA	$73.71	$5,897	$5,897										**$5,897**
6.6	4044	Rekey exsiting locks and new Master Key system	30	30	0	250	Door	$79.83	$19,958	$19,958										**$19,958**
6.6	4946	Replace school door knobs with ADA lever	20	20	0	80	EA	$682.92	$54,634	$54,634										**$54,634**
6.6	4040	Horizontal Blinds aluminum 1" slats	7	7	0	3360	SF	$6.49	$21,803	$21,803							$21,803			**$43,606**
6.8	4052	Paint interior walls, CMU,including surface prep	7	3	4	120600	SF	$1.12	$135,241					$135,241						**$135,241**
6.8	6113	Capital Plan - Install Sound Attenuation at walls/ceilings	0	0	0	100	CSF	$882.00	$88,200	$88,200										**$88,200**
6.8	4054	Sand and refinish hardwood floor	10	4	6	6120	SF	$6.93	$42,412							$42,412				**$42,412**
6.8	4048	Replace Vinyl tile	18	10	8	7942	SY	$81.90	$650,450									$650,450		**$650,450**
6.8	4051	Replace 4x4 ceramic tile	30	30	0	10	CSF	$1,862.28	$18,623	$18,623										**$18,623**
6.8	4046	Replace Vinyl tile	18	18	0	277	SY	$81.90	$22,686	$22,686										**$22,686**
6.8	4053	Replace carpet - standard commercial	8	4	4	1955	SY	$63.23	$123,608					$123,608						**$123,608**
6.8	4049	Replace acoustical ceiling tile system, complete including demo	20	20	0	25	CSF	$522.90	$13,073	$13,073										**$13,073**
6.8	4050	Replace acoustical ceiling tile system, complete including demo	20	11	9	800	CSF	$522.90	$418,320										$418,320	**$418,320**
6.8	4041	Curtains velour medium weight	0	0	0	1500	SF	$15.95	$23,927	$23,927										**$23,927**
6.8	6114	Stamford - Lead Abatement Allowance	0	0	0	88000	SF	$3.15	$277,200	$277,200										**$277,200**
6.8	4950	Asbestos containing transite board removal	0	0	0	1600	SF	$3.78	$6,048	$6,048										**$6,048**
6.8	4949	Asbestos floor tile and mastic removal	0	0	0	71478	SF	$3.15	$225,156	$225,156										**$225,156**
7.1	3860	Install Air-Conditioning at entire building	30	29	1	62000	SF	$16.22	$1,005,404		$1,005,404									**$1,005,404**
7.1	3864	Replace Air cooled reciprocating chiller 50 ton	20	17	3	1	EA	$97,177.50	$97,178				$97,178							**$97,178**
7.1	3865	Replace air handler 4,000 to 8,000 CFM	20	17	3	7875	CFM	$3.78	$29,768				$29,768							**$29,768**
7.1	3869	Replace Unit Ventilator 1250 CFM	15	9	6	12	EA	$9,683.10	$116,197							$116,197				**$116,197**
7.1	3862	Replace Circulation pump 1/2 to 3/4 hp	15	11	4	4	EA	$3,584.70	$14,339					$14,339						**$14,339**
7.1	3871	Replace radiator cast iron 25-inch high	35	33	2	22	EA	$801.55	$17,634			$17,634								**$17,634**
7.1	3863	Replace Circulation pump 1/2 to 3/4 hp	15	10	5	2	EA	$3,584.70	$7,169						$7,169					**$7,169**

Replacement Reserves Report
Elementary Schools / Springdale Elementary
8/27/2009

Report Section	ID	Cost Description	Lifespan (EUL)	Observed Age (EAge)	Remaining Life (RUL)	Quantity	Unit	Unit Cost *	Subtotal	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Deficiency Repair Estimate
7.1	3868	Single zone rooftop unit 10-ton	15	10	5	4	EA	$19,309.50	$77,238						$77,238					**$77,238**
7.1	3873	Retrofit of HVAC and Controls	0	0	0	1	EA	$10,080.00	$10,080	$10,080										**$10,080**
7.2	3891	Replace drinking fountain	10	8	2	8	EA	$1,505.70	$12,046			$12,046								**$12,046**
7.2	3884	Replace 2-inch copper pipe	25	17	8	800	LF	$62.31	$49,846									$49,846		**$49,846**
7.2	4121	Replace water storage tank 120 gallon	40	39	1	1	EA	$4,384.80	$4,385		$4,385									**$4,385**
7.2	3889	Replace Domestic water boiler, 199 MBH	20	19	1	1	EA	$6,984.18	$6,984		$6,984									**$6,984**
7.2	3886	Replace cast iron pipe 6"	40	32	8	400	LF	$71.09	$28,436									$28,436		**$28,436**
7.2	3887	Sump Pump	20	14	6	2	EA	$648.27	$1,297							$1,297				**$1,297**
7.4	6115	Capital Plan -Add Electrical Distribution for Classroom and Office Technology	20	20	0	88000	SF	$3.26	$287,179	$287,179										**$287,179**
7.4	3896	Replace Switchgear, mainframe, 1200 amps	30	29	1	1	EA	$5,903.10	$5,903		$5,903									**$5,903**
7.4	6117	Upgrade lighting for energy conservation	0	0	0	88000	SF	$5.92	$521,136	$521,136										**$521,136**
7.4	6116	Capital Plan - Communications & Security including alarms,internet wiring, communication systems and emergency lighting	15	15	0	88000	SF	$3.15	$277,200	$277,200										**$277,200**
7.4	4951	Install Diesel Generator 150KW	25	24	1	1	EA	$129,874.50	$129,875		$129,875									**$129,875**
7.4	3898	Replace stage lighting equipment	15	14	1	1	EA	$44,226.00	$44,226		$44,226									**$44,226**
7.4	3899	School Stage Audio Equipment	15	14	1	1	EA	$5,386.50	$5,387		$5,387									**$5,387**
7.5	3901	Replace elevator hydraulic system, 2000 lb capacity	25	20	5	1	EA	$22,680.00	$22,680						$22,680					**$22,680**
7.5	3902	Replace passenger cab finishes	20	15	5	1	EA	$18,345.60	$18,346						$18,346					**$18,346**
7.6	3906	Install Fire Sprinklers	30	29	1	24000	SF	$4.98	$119,448		$119,448									**$119,448**
7.6	3910	Install Ansul System at kitchen hood	20	20	0	1	EA	$6,142.50	$6,143	$6,143										**$6,143**
7.6	3909	Fire alarm panel addressable, with voice	15	6	9	1	EA	$15,264.77	$15,265										$15,265	**$15,265**
7.6	4948	Intrusion Detection System – Indicating panel, 10 channel	7	7	0	1	EA	$13,686.12	$13,686	$13,686										**$13,686**
8.2	12128	Stamford Kitchen Equipment Replacement Allowance	10	5	5	1	EA	$63,000.00	$63,000						$63,000					**$63,000**
Totals, Unescalated										**$3,023,144**	**$1,364,823**	**$72,360**	**$137,590**	**$273,188**	**$1,006,891**	**$303,522**	**$113,904**	**$1,071,116**	**$433,585**	**$7,800,125**
Soft Costs:																				
		Architectural/Consultant Fees (10.0%)								**$302,314**	**$136,482**	**$7,236**	**$13,759**	**$27,319**	**$100,689**	**$30,352**	**$11,390**	**$107,112**	**$43,358**	**$780,012**
		General Requirements (Bonds, Insurance, GC/CM Mark-up) (10.0%)								**$302,314**	**$136,482**	**$7,236**	**$13,759**	**$27,319**	**$100,689**	**$30,352**	**$11,390**	**$107,112**	**$43,358**	**$780,012**
		Prevailing Wage/Labor Compliance (5.0%)								**$151,157**	**$68,241**	**$3,618**	**$6,880**	**$13,659**	**$50,345**	**$15,176**	**$5,695**	**$53,556**	**$21,679**	**$390,006**
		Contingency (5.0%)								**$151,157**	**$68,241**	**$3,618**	**$6,880**	**$13,659**	**$50,345**	**$15,176**	**$5,695**	**$53,556**	**$21,679**	**$390,006**
Location Factor (1.12)										**$362,777**	**$163,779**	**$8,683**	**$16,511**	**$32,783**	**$120,827**	**$36,423**	**$13,668**	**$128,534**	**$52,030**	**$936,015**
Totals, Escalated (see inflation table above)										**$4,292,865**	**$1,996,190**	**$110,068**	**$217,660**	**$453,778**	**$1,756,117**	**$555,841**	**$219,022**	**$2,162,596**	**$919,183**	**$12,683,321**

* Markup has been included in unit costs.

TABLE OF CONTENTS

CERTIFICATION

EMG has completed a Comprehensive Facilities Needs Assessment of the subject property, Springdale Elementary School, located at 1127 Hope Street, 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 Kevin Lantry, Field Observers

Reviewed by:

Daniel White
dfwhite@emgcorp.com for
Bill Champion
Director - Asset Management Consulting
800.733.0660, x6234
bchampion@emgcorp.com

1. EXECUTIVE SUMMARY

1.1. SUMMARY OF FINDINGS

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

Property Information	
Address:	1127 Hope Street, Stamford, Fairfield County, Connecticut, 06907
Year constructed:	1929 Renovated 1955 and 1976
Current owner of property:	City of Stamford
School occupying building:	Springdale Elementary School
Current usage of property:	Elementary
Management Point of Contact:	City of Stamford Engineering, Domenic Tramontozzi and Robert Gerbert, Jr. 203.977.5534 phone 203.977.4137 fax
Site acreage:	2.77 acres
Gross floor area:	88,000 Square Feet
Number of buildings:	One
Number of stories:	Three
Parking type and number of spaces:	108 spaces in two open lots
Building construction:	Primarily reinforced concrete slab-on-grade. Portions have crawl space. Masonry non-bearing walls and open web steel joist roofs. Wood frame at original portion. Steel frame with concrete-topped metal decks at newer additions.
Bay Column Spacing:	Approximately 21′-11″ x 26′-0″
Interior vertical clearance:	9′-4″ at 1st floor, 11-9″ at 2nd floor, 13′-9″ at 3rd floor
Roof construction:	Predominantly flat, fully adhered EPDM systems. Flat gravel surfaced built-up roof at gymnasium/cafeteria
Exterior Finishes:	Unpainted brick veneer, cast stone ornamentation and metal trim
Heating and/or Air-conditioning:	Central system with steam boilers and heat exchangers for hot water loop. Hot water serves finned tube radiant heat units. Central air-conditioning in media center, offices, and limited classrooms.
Fire and Life/Safety:	Fire sprinklers, central alarm system with pull stations, alarm horns, strobe lights, exit signs, extinguishers, hydrants
Date of visit:	April 15, 2009

Property Information	
Point of Contact (POC):	Ms. Rochelley Woodson, Principal 203.977.4575 Mr. Tim Smith, Head Custodian 203.977.4914

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

According to City of Stamford Public Schools personnel, the property has had a limited capital improvement expenditure program over the past several years, primarily consisting of one new central heating boiler in 2000, and EPDM roof replacement in 2005. Supporting documentation was not provided in support of these claims but some of the work is evident.

1.2. FOLLOW-UP RECOMMENDATIONS

The following issues require additional study:

- The Property has received very little mobility impaired/handicapped accessibility related improvements with regards to entrances, stairs, elevator, and toilet rooms. No accessible exterior entrance exists. Restrooms are not accessible. 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 improvements are included in the Replacement Reserves Report and described in detail is included in section 3.1.
- Based on evidence of erosion and reports of ponding in the north parking lot during periods of heavy rain, it appears that the property experiences storm water runoff from properties to the north of the school. A site drainage study is recommended to identify the source of the issues and recommend the required repairs. The cost of the study is included in the Replacement Reserves Report. The cost to restore the drainage is to be determined by the study. An estimated budgetary cost allowance to repair the apparent issues is included in section 5.3.
- Many areas of the school, including most of the classrooms, the gymnasium, the auditorium, are not air conditioned or mechanically ventilated. As such, a follow-up study is recommended to examine the feasibility and determine design constraints and costs estimates for installing a central air-conditioning and ventilation system. The cost of the study is included in the Replacement Reserves Report. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the installation of an air-conditioning and ventilation system is included in section 7.1.
- The electrical power on the main circuit is reportedly inadequate for the property's demands. Maintenance staff reported recurring issues with breakers tripping and limited outlets in corridors for cleaning activities. It is recommended that the electrical system be upgraded to ensure adequate capacity. A follow-up study will be required to determine the appropriate electrical capacity. The cost of the study is included in the Replacement Reserves Report. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the electrical upgrades is included in section 7.4.
- There are unresolved Fire Code violations. See Section 3.2 of the Facilities Needs Assessment for descriptions and comments.

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 five 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
Ms. Rochelley Woodson Principal	Springdale Elementary School	203.977.4575
Mr. Tim Smith Head Custodian	Springdale Elementary School	203.977.4914
Mr. Gus Burreisci Project Manager	City of Stamford Public Schools	203.223.8118

The Comprehensive Facilities Needs Assessment was performed with the assistance of Ms. Rochelley Woodson, Principal and Mr. Tim Smith, head custodian, the on-site Points of Contact (POC), who were cooperative and provided information that appeared to be accurate based upon subsequent site observations. The on-site contacts are 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 11 years and 7 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

- Addition drawings by Edward F. O'Dwyer - Architect dated August 10, 1954
- Addition and alteration drawings by Fletcher-Thompson Architects Engineers dated December 31, 1973
- New roofing plans by Sheldon Lazan, P.C. dated September 20, 1996
- Sound system renovation drawings by Peter Marchetti, Jr., P.E. dated March 21, 1999
- Boiler room renovations and Heating plant replacement by Hofbauer Associates, Inc. dated June 16, 2000
- Capital improvement summary
- Roof warranty information
- Certificates of occupancy

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

2.5. PRE-SURVEY QUESTIONNAIRE

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

3. ACCESSIBILITY, CODE & MOLD

3.1. ADA ACCESSIBILITY

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

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

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

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

Parking

- The curb at the single handicapped accessible parking stall within the front visitor lot currently does not have a lowered section to allow wheelchair access up to the sidewalk level. Install one concrete curb cut.
- Currently, the property provides only one handicapped accessible parking stall. According to ADAAG, with a total of 108 parking spaces, five ADA spaces must be provided. Install four additional ADA parking stalls and signage with one being designated as van-accessible.
- The rear driveway entrance is more handicapped accessible than the main front entrance. Additional signage should be installed on the front facade and side fence directing visitors to the nearest handicapped accessible entrance. A total of four are required.

Entrances/Exits

- Two buzzers wired to the main office should be installed at the main front and rear entrances so that a handicapped visitor could alert faculty of their need for assistance.
- Lever action hardware is not provided at all accessible locations including classrooms, toilet rooms and offices. Replace all knobs with level type hardware. A total of 170 are required.

Paths of Travel

- Install cup dispenser at four existing non-conforming water fountains along the corridors.
- Four of the corridor water fountains project more than 4" into the path of travel and require cane detection bars to aid handicapped users.
- Due to grade changes, interior common corridors have steps and large sections of the school are not wheelchair accessible. Wheelchair lifts should be installed at the front and rear main entrances and primary wing. A total of three are required.

Elevators

- The elevator lobbies are currently not equipped with Braille at the jambs. A total of three are required.
- The elevator is currently not equipped with audible signals indicating floor change or arrival at each lobby. A total of three are required.
- The elevator is currently not equipped with ADA compliant call buttons at each landing. A total of three are required.
- The elevator is currently not equipped with ADA compliant hall lanterns at each landing. A total of three are required.
- The elevator is currently not equipped with ADA compliant cab control buttons or devices.
- The elevator is currently not equipped with ADA compliant cab handsfree communication device.

Restrooms

- The four main multi-user boy's and girl's common toilet rooms require major modifications to the doorway, privacy wall, fixtures and accessories to be fully handicapped accessible and comply with ADAAG.
- Install grab bars in accessible stalls at 36" above the floor. All common toilet room toilets, both single and multi-user, currently have no grab bars. One non-compliant grab bar was noted at the nurse's office. All toilets should be equipped with proper ADA grab bars. A total of 24 are required.
- Modify existing toilet room accessories and mirrors. All common toilet room toilets, both single and multi-user, currently have improperly mounted accessories (soap, toilet paper and towels) set too high. In addition, mirrors are typically mounted too high as well. All accessories and mirrors should be replaced and set at the correct ADA heights. A total of 40 are required.
- Modify existing lavatory faucets to paddle type faucets. Several of the common toilet room toilets, both single and multi-user, currently have knob type or non-ADA type sink hardware. All affected sinks should be equipped with lever type sink hardware. A total of 24 are required.
- Wrap drain pipes below lavatory with insulation; protect against contact with hot, sharp, or abrasive surfaces. All common toilet room toilets, both single and multi-user, currently have no drain pipe insulation padding. All affected sinks should have padding installed. A total of 24 are required.

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

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

3.2. CODE INFORMATION AND FLOOD ZONE

According to Deputy Fire Marshal, Terrance Shay of the Stamford Fire & Rescue Department, there are open outstanding fire code violations on file regarding the addition of strobes needed and emergency lights not working in auditorium. Correction of the minor violations noted can be performed under normal maintenance operations. The most recent inspection was conducted by the fire department on 8/20/2008 and again in December 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. EMG did not note obvious visual indications of the presence of mold, conditions conducive to mold, or evidence of moisture in readily accessible interior areas of the property. No further action or investigation is recommended regarding mold at the property.

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**
32	Classroom	0	0
6	Office	0	0
2	Mechanical	0	0
6	Storage	0	0
1	Gymnasium/ 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 head custodian, 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 storage tank (UST).

5.2. PARKING, PAVING, AND SIDEWALKS

The main entrance drive is located along Hope Street on the west side of the property. An additional entrance drive is located at the northwest corner of the property, near the city-owned playground accessed from Hope Street. The parking areas and drive aisles are paved with asphalt. The entrance driveway aprons are paved with concrete.

Based on a physical count, parking is provided for approximately 108 cars. The parking ratio is 1.23 spaces per thousand square feet of floor area. All of the parking stalls are located in open lots. There are 43 spaces located in the main parking lot, at west side of the school. There are 44 spaces in the back lot, near the southeast corner of the property and 21 spaces in the maintenance lot, at the north side of the school. There are a total of two handicapped–accessible parking stalls, none of which are van-accessible.

The student play area at the south side of the building is paved with asphalt. The play area contains two basketball courts and open space for recess.

The sidewalks throughout the property are constructed of cast-in-place concrete. Cast-in-place concrete steps are located at grade changes near the paved play area. Stone masonry walls with concrete copings are placed along the edges of the steps. An asphalt pedestrian path is located along the front elevation of the building, near the parking lot. The curbs and gutters are constructed of a combination of cast-in-place concrete curbing, and stone pavers placed at the edge of the pavement. The areas along the east side of the property do not have curbing. Surface runoff is directed to the landscaped areas bordering the pavement.

Observations/Comments:

- The asphalt pavement in the parking lots is in good to fair condition. Minor damage, including alligator cracking and surface deterioration, was observed in each of the parking lots. The damaged areas of asphalt pavement will require full depth repair. The estimated cost of this work is included in the Replacement Reserves Report.
- The asphalt pavement in the parking lots will require an overlay with new asphalt paving during the evaluation period in order to maintain the integrity of the overall pavement system. The estimated cost of this work is included in the Replacement Reserves Report.
- In order to maximize the pavement life, pothole patching, crack sealing, seal coating, and restriping of the asphalt paving will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The asphalt pavement in the paved play area is in good condition. The paved play area will require crack sealing, seal coating, and restriping of the asphalt pavement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The asphalt pedestrian path is in good condition. Routine cleaning and maintenance will be required during the evaluation period.
- The concrete curbs throughout the property are in fair to poor condition. Damaged curbs were observed in the back parking lot, near the turn-around area and in the main parking lot. Sectional curb replacement will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The stone curbs throughout the property are in fair condition. Sectional replacement of stone curbs will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The concrete sidewalks are in good condition. Routine cleaning and maintenance will be required during the evaluation period.
- The concrete steps near the play area are in fair condition. Damage was observed on the surface of the steps and at the concrete copings of the stone walls along the perimeter of the steps. Concrete repairs will be required at the steps. The estimated cost of this work is included in the Replacement Reserves Report.
- The site steps did not appear to be equipped with the required handrails. It is recommended that handrails be installed as a safety measure. 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.

Observations/Comments:

- Based on evidence of erosion and reports of ponding in the north parking lot during periods of heavy rain, it appears that the property experiences storm water runoff from properties to the north of the school. A site drainage study is recommended to identify the source of the issues and recommend the required repairs. The cost of the study is included section 1.2. The cost to restore the drainage is to be determined by the study. An estimated budgetary cost allowance to repair the apparent issues is included in the Replacement Reserves Report.
- The catch basin in the main parking lot, near the front of the building appears to be sinking, causing damage to the surrounding asphalt pavement. The catch basin will require rebuilding, including any associated asphalt repairs. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- There are no sustainable recommendations for the drainage systems.

5.4. TOPOGRAPHY AND LANDSCAPING

The property slopes moderately downward from the west side of the property toward the east property line.

The landscaping consists of trees, shrubs, and grasses.

Surrounding properties include residential developments and a post office.

Stone masonry retaining walls are located at grade changes adjacent to the west side of the paved play area. A reinforced concrete retaining wall is located at the grade change along north parking lot.

Observations/Comments:

- The topography and adjacent uses do not appear to present conditions detrimental to the property.
- The landscape materials are in fair condition. There are isolated areas missing foundation plants. Based on the client provided JMOA five year capital plan, landscaping improvements are planned. A cost allowance to restore landscape plantings is included in the Replacement Reserves Report.
- Trees were observed growing close to the building along the north elevation of the building. The trees near the building will require trimming during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The retaining walls are in good to fair condition. Cracking was observed in the concrete retaining wall at the north parking lot. The wall will require concrete repairs during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- There are no sustainable recommendations for landscaping.

5.5. GENERAL SITE IMPROVEMENTS

Property identification is provided by a post mounted sign adjacent to the main entrance drive. The building is identified by street address numbers displayed on the sign.

Site lighting is provided by property-owned, wood, streetlight standards. The light standards are spaced along the drive aisles in the back parking lot. There are no pole-lights in the main parking lot. Additional site lighting and exterior building illumination is provided by surface-mounted light fixtures on the exterior walls. Recessed light fixtures are located in canopy structure near the main entrance to the building.

A perimeter fence is located along the southeast property line. The fence is constructed of painted wood boards and wood posts. The fence is owned by the adjacent property. A stone masonry wall is located along the south property line near the main parking lot and south side of the building. Additional stone walls are located around the paved play area. Chain link fencing is located between the paved play area and the back parking lot. Additional sections of chain link fencing are located at north steps near the play area and at the southeast corner of the building. Metal gates are located at the south drive aisle from the main parking lot and at the east entrance to the property from the city-owned playground.

Two playgrounds are located adjacent to the northeast side of the property. The playgrounds are used by the school, but are owned and maintained by the City of Stamford. The surface of the asphalt paved play area is described in Section 5.2. Two basketball goals and pavement markings for kickball and hopscotch are located in the paved play area.

Dumpsters are located near the loading dock and are placed on the asphalt paving. The dumpsters are not enclosed.

Observations/Comments:

- The property identification signs are in good to fair condition. The entrance signs will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Additional signage is recommended in the parking lots to aid traffic flow throughout the property. The estimated cost of this work is included in the Replacement Reserves Report.
- The exterior site and building light fixtures are in good condition. Site lighting is reportedly inadequate in the main parking lot. It is recommended that additional lighting be installed in the main parking lot. The estimated cost of this work is included in the Replacement Reserves Report.
- The site fencing is in good to fair condition. Corrosion was observed on the chain link fencing near the loading dock and at the southeast corner of the building. The damaged sections of fencing will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The wood fencing along the southeast property line is in fair condition. The fence is owned by the adjacent post office, but is painted by the school. Painting is considered routine maintenance.
- The metal access gates are in good condition. Routine maintenance will be required during the evaluation period.
- The basketball goals are in good condition and will require routine maintenance during the evaluation period.
- The dumpsters are owned and maintained by the City of Stamford. It is recommended that the dumpsters be placed on a concrete pad and in enclosures. The estimated costs for these items are included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for site lighting is to install energy efficient light fixtures controlled by photo cells.
- A sustainable recommendation for fencing is to use fencing constructed of recycled PVC material during future replacements.

6. BUILDING ARCHITECTURAL AND STRUCTURAL SYSTEMS

6.1. FOUNDATIONS

Based on the structural drawings and structures of similar size, configuration, and geographic location, the foundations consist of cast-in-place concrete, perimeter spread footings supporting wall and column loads and primarily slab-on-grade. Several sub-grade crawlspace levels also exist.

Observations/Comments:

- The foundations and footings could not be directly observed during the site visit. There is no evidence of movement that would indicate excessive settlement.

Sustainable Recommendations:

There are no sustainable recommendations for foundations.

6.2. SUPERSTRUCTURE

The building is constructed of conventional steel framing, non-load bearing concrete masonry unit (CMU) walls, and interior steel columns and beams, supporting the open web steel roof joists and corrugated metal decking.

Observations/Comments:

- The superstructure is exposed in some locations, allowing for limited observation. Walls and floors appear to be plumb, level, and stable. There are no significant signs of deflection or movement.

Sustainable Recommendations:

- There are no sustainable recommendations for superstructure.

6.3. ROOFING

All roofs are classified as flat roofs. The main roofs are finished with a black single-ply, fully adhered EPDM membrane. A limited portion of the building over the gymnasium/cafeteria is finished with a gravel surfaced built-up roof (GSBUR) system. Another small section of roof appears to be TPO or another type of white single-ply membrane. The EPDM roofs are insulated with tapered rigid insulation boards that direct storm water towards the roof surface drains.

In most cases, no parapet walls exist. The roofs have sheet metal flashing elements and single-ply base and edge flashing. A few low brick parapets are provided at the gymnasium/cafeteria roof.

Storm water is drained from the roofs by internal surface drains at the flat roof sections and lead- lined, integral gutters and hidden leaders. The drains discharge onto paved and landscaped areas and/or into the underground storm drainage system.

Observations/Comments:

- The roof finishes vary in age. The majority of the EPDM sections are approximately four years old and installed in 2005. A copy of the EPDM 20-year warranty beginning September 14, 2005 is attached in Appendix C. Other roof membranes appear older. The roofs are maintained by the in-house maintenance staff.
- The fields of the roofs are in good condition and will require routine maintenance during the evaluation period. Based on their estimated Remaining Useful Life (RUL), the newer EPDM roof membranes will not likely require replacement during the evaluation period. The older EPDM membranes and the GSBUR system over the gymnasium/cafeteria will require replacement over the evaluation period.
- EMG also conducted a separate roof assessment for this project. Wet areas of insulation requiring repair or complete replacement 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.
- In addition, at the time of the GSBUR replacement, the 12 barrel shaped, plexiglass skylights at the gymnasium roof should also be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- Several isolated section of the flat roofs have debris, thrown objects, loose or missing drain strainers and fallen organic matter. All materials should be periodically removed and cleaned by the In-House maintenance staff to prevent accidental membrane punctures and prevent roof surface drain strainer clogs. This work can be performed regularly as part of the Physical Plant's routine maintenance program. A cost allowance for the installation of drain covers is included in the Replacement Reserves Report.
- According to the head custodian, there are no active roof leaks.
- There is no evidence of roof deck or insulation deterioration. The roof substrate and insulation should be inspected during any future roof repair or replacement work.
- There is no evidence of fire retardant treated plywood (FRT) and, according to the head custodian, FRT plywood is not used.
- The EPDM roof flashings are in good condition and will require routine maintenance during the evaluation period.
- The flat roofs are at different heights. Access to two upper roofs at the gymnasium/ cafeteria and auditorium currently can only be accessed via portable ladders. To ensure roof safety, two fixed steel roof ladders should be installed. The estimated cost of this work is included in the Replacement Reserves Report.
- Roof drainage appears to be adequate. Clearing and minor repair of drain system components should be performed regularly as part of the Physical Plant's routine maintenance program. Of note, several of the roof surface drain strainers are currently missing and should be replaced and secured.

- Of note, the roof drainage has significant deficiencies and chronic leaks below the roof level - within the 12″ drain mains located beneath the building within the crawlspaces. EMG accessed the crawlspace and observed large cracks and missing sections of pipe – especially at Y intersections and horizontal runs. Management investigated this repair a few years ago and it was estimated at that time at $50,000. EMG has increased this verbal estimate by 15% to account for inflation and recommend that this repair be completed immediately. The estimated cost of this work is included in the Replacement Reserves Report.
- The carport canopy along the front of the building currently is a concrete structure with no roof membrane. The structure has several existing chronic leaks. It is recommended that a fully adhered TPO system be installed over all exposed concrete roof areas. The estimated cost of this work is included in the Replacement Reserves Report.
- Management reported incidents of children accessing the auditorium roof from grade. It is recommended to install a chain link type security fence along the roof edge to prevent roof access and ensure safety.

Sustainable Recommendations:

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

6.4. EXTERIOR WALLS

The exterior walls are finished primarily with unpainted brick veneer with cast stone ornamentation and metal trim.

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

Observations/Comments:

- The window/door frame and vertical expansion joint sealant is flexible, smooth, and in good condition and will require periodic re-application over the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Several isolated sections of the brick facades were noted to have step cracking and/or open mortar joints. The worst section is at the rear façade (facing playground) of the media center. All affected areas should be repaired. The estimated cost of this work is included in the Replacement Reserves Report. In addition, phased brick repointing and brick patching will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Painting will be required at the exterior wood soffit and fascia areas. The estimated cost of this work is included in the Replacement Reserves Report.

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 wood trim and metals.

6.5. EXTERIOR AND INTERIOR STAIRS

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

The exterior stairs are constructed of reinforced concrete. The handrails and balusters are constructed of painted metal.

Observations/Comments:

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

Sustainable Recommendations:

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

6.6. WINDOWS AND DOORS

Some of the fixed windows are part of a painted metal framed, storefront system incorporating the exterior entry doors. The windows are glazed with insulated panes set in aluminum frames. The doors are fully-glazed, painted metal-framed doors set in the metal framing system. Most of the classroom windows are anodized aluminum framed, single paned, fixed, hopper and slider type units.

The interior office and classroom entrance doors are stained, solid-core, wood doors set in painted metal frames. The entrance doors have cylindrical locksets with knob handle hardware.

Exterior service doors are of painted metal with various sized glass vision panels set in painted metal frames. The doors have cylindrical locksets with knob handle hardware.

No overhead loading dock door exists.

Observations/Comments:

- The storefront window system is in good condition and will require routine maintenance during the evaluation period.
- All of the window and door frame caulking was reported and observed to be in fair to poor overall condition. Caulking has failed and in some cases daylight can be seen around the perimeter of the window frame from the interior. All windows and doors should be re-caulked. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the head custodian, the property does not experience a significant number of complaints regarding window leaks or window condensation. However, due to EUL, all windows should be replaced over term. The estimated cost of this work is included in the Replacement Reserves Report. In addition, all window and door frames should be re-caulked at the time of replacement.
- All of the exterior common entrance and service doors were noted and reported to operate poorly, have settled in their frames, rub on the saddles, rusted bases and frames and poor weather stripping with visible daylight. Daylight can be seen around all closed gymnasium doors. All exterior doors should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.

- Repair and painting will also be required at the door frames. The estimated cost of this work is included in the Replacement Reserves Report.
- Management complained of not having keys for all classroom, exterior and storage rooms/closets. It is recommended that all doors be re-keyed to a new master key system. The estimated cost of this work is included in the Replacement Reserves Report.
- The classroom window blinds are in fair to poor overall condition. Many have damaged slats and do not operate. All window blinds should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the client provided AHERA document asbestos containing material is located in the majority of the classrooms and corridors in the form of vinyl asbestos tile and in the auditorium in the form of transite board. A cost allowance for proper removal and disposal of the asbestos containing vinyl tile and transite board is included in the Replacement Reserves Report as part of the recommended vinyl tile repair/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:

- 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 main school 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.

Common area restrooms are located off the lobby, near the auditorium/gymnasium, near the media center and along the corridors for the classrooms on the 1st, 2nd and 3rd floors. There are a total of four sets of common area restrooms. No handicapped accessible restrooms are provided on-site. Major modifications and renovations are required at each toilet room to make ADA accessible. The estimated cost of this work is included in the Replacement Reserves Report.

Common Area	Floors	Walls	Ceilings
Lobby	Vinyl tile	Painted plaster, wood panels, painted concrete block	Suspended and adhered acoustic tiles
Corridor	Vinyl tile	Painted concrete block, painted plaster	Adhered acoustic tiles or suspended acoustic tiles

Common Area	Floors	Walls	Ceilings
Common Area Restrooms	Ceramic tile	Ceramic tile or painted drywall or painted concrete masonry units (CMU) or brick	Painted plaster
Office	Vinyl tile or carpet	Painted drywall	Suspended acoustic tiles and adhered acoustic tiles
Media Center	Carpet or Vinyl Tile	Painted drywall and painted concrete block	Painted drywall and suspended acoustic tiles
Cafeteria/Gymnasium	Wood plank	Painted concrete masonry units	Exposed roof framing
Auditorium	Vinyl tile or Carpet	Painted concrete block and plaster	Suspended acoustic tiles

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 carpeting will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Interior painting will also be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The wood flooring in the gymnasium is in good condition. Refinishing of the gymnasium flooring during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Based on the client provided JMOA five year capital plan, sound control at the gymnasium/cafeteria is planned. A cost allowance to install sound attenuation is included in the Replacement Reserves Report.
- The cafeteria kitchen vinyl floor tiles are in fair to poor condition. All kitchen floor tiles should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- The central kitchen ceiling system (tiles and grid) were observed to be in poor overall condition with dark staining, previous patches of different colors and surfacing and damaged tiles. The entire ceiling system should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- The auditorium stage curtains are in fair to poor overall condition and should be replaced to improve operation and appearance. The estimated cost of this work is included in the Replacement Reserves Report.
- The auditorium wood stage is in good overall condition. Sanding and refinishing should be anticipated over term. The estimated cost of this work is included in the Replacement Reserves Report.
- A few isolated sections of the ceramic wall tiles within the common multi-user toilet rooms were loose, cracked or missing. All damaged ceramic tiles should be repaired or replaced. The estimated cost of this work is included in the Replacement Reserves Report.

- Partial isolated suspended ceiling tile replacement will also be required during the evaluation period due to stains, damage or missing tiles at the gymnasium, classrooms and corridors. This work is considered to be part of routine maintenance operations and no costs are included in the tables. In addition, phased replacement of all suspended and adhered acoustic ceiling tiles should also be anticipated at the end of the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- A cost allowance for the abatement of lead containing materials is included in the client provided JMOA five year capital plan. Lead containing materials were not reported; however, based on the cost budgeted in the capital plan, an allowance for lead abatement is included in Replacement Reserves Report.

Sustainable Recommendations:

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

7. BUILDING (CENTRAL) MECHANICAL AND ELECTRICAL SYSTEMS

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

Heating is provided in the classrooms by unit ventilators mounted along the exterior walls. The unit ventilators are supplied with hot water by the central system and supply fresh air to each conditioned space through an exterior wall louver. The unit ventilators in the "open space" classrooms are equipped with individual direct expansion (DX) cooling loops. The unit ventilators in the main building and primary wing classrooms do not have cooling. The units have an airflow capacity of 1,250 CFM each. The unit ventilators have limited control provided by local thermostats.

Heating is provided in the corridors and restrooms in the main building by perimeter, wall-mounted steam radiators. The radiators are supplied with steam by the central system boilers.

Heating is provided in the corridors, kitchen, and gymnasium in the primary wing addition by cabinet-mounted and baseboard-mounted finned-tube radiant heat units. Additional heating is provided in the stairwells and restrooms by recessed wall-mounted finned-tube, radiant heat units. The radiant units are supplied with heated water by the central system heat exchangers.

Steam for the central heating system is supplied by two, dual fuel boilers. Each boiler has a rated input capacity of 5,189 MBH and is located in the boiler room. Fuel oil is supplied to the boilers by a fuel oil pump set and a 5,000-gallon fiberglass underground storage tank (UST). The UST is located beneath the parking lot near the north elevation of the building.

The steam and primary hot water loop are separated by two heat exchangers. Heat Exchanger C-1 has a capacity of 525 MBH and a flow rate of 35 GPM. Heat Exchanger C-2 has a capacity of 900 MBH and a flow rate of 70 GPM. Both heat exchangers are located in the chiller room. Circulating pumps provide hot water to each temperature-controlled space via a two-pipe distribution system. The hot water supplies the air handling units, finned-tube radiant heat units, and unit ventilators. Steam is supplied to steam radiators located in the classrooms and corridors in the main building. The condensate is returned to the boilers through a condensate return system.

Heating and cooling are provided in the administrative offices and the media center by high-capacity, air handling units equipped with heating and cooling coils. The air handling units are supplied with heated and chilled water by the central system.

Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located in each space. AC-1 is a multi-zone unit and provides variable air volume to each conditioned space by pneumatically controlled dampers. The heating and cooling system are controlled by the building energy management system (EMS). The following table describes the air handling units:

Air Handling Units					
Designation	**Location**	**Area Served**	**Air Flow**	**Cooling**	**Heating**
AC-1	Primary Wing Roof	Administrative Offices	7,875 CFM	Chilled water coil	Hot water coil
AC-2	Chiller Room	Media Center	7,100 CFM	Chilled water coil	Hot water coil

Chilled water for the central cooling system is supplied by one water-cooled chiller and an air-cooled condensing unit. The chiller has a nominal rating of 45 tons and uses R-22 as a refrigerant. The air-cooled condensing unit is located on the roof and has a capacity of 60 tons.

Circulating pumps provide chilled water to each temperature-controlled space via a two-pipe distribution system. The chilled water supplies the air handling units serving the offices and the media center.

Heating and cooling are provided in the classrooms on the upper level of the main building by individual, direct-expansion, constant-volume, gas-fired, packaged, rooftop-mounted, HVAC units. There are a total of four units, each with a capacity of ten tons. Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located in each space. The heating and cooling system are controlled by local thermostats. The following table describes the rooftop units:

Packaged Rooftop Units				
Quantity	**Manufacturer**	**Cooling Capacity**	**Heating Type**	**Manufacture Year**
4	Trane	10 tons	Gas-fired	1998

The bathrooms are ventilated by mechanical exhaust fans. High-capacity ventilation fans are mounted on the roof and are connected by concealed ducts to each ventilated space. A small exhaust hood is located on the roof of the gymnasium.

The heating and cooling system is controlled by a building energy management system (EMS), located in the janitorial office. The EMS provides individual control and performance data for the boilers, chiller, rooftop units, air handling units, and the open space unit ventilators. The system is actuated by pneumatic controls. The air compressor is located in the mechanical room.

Observations/Comments:

- The HVAC systems are maintained by an outside contractor.
- The HVAC equipment varies in age. The boilers were replaced in 2001. The chiller and air handling units were installed in 1974. The air-cooled condensing unit was replaced in 2002. The rooftop package units were installed in 1998.

- Many areas of the school, including most of the classrooms, restrooms, the gymnasium, and the auditorium are not air conditioned or mechanically ventilated. As such, a follow-up study is recommended to examine the feasibility and determine design constraints and costs estimates for installing a central air-conditioning and ventilation system. The cost of the study is included in section 1.2. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the installation of an air-conditioning and ventilation system 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 hot water circulating system appears to be in good condition. Based on their estimated Remaining Useful Life (RUL), the hot water circulating pumps and the heat exchangers will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The chiller appears to be in good condition. Based on its estimated Remaining Useful Life (RUL), the chiller will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The air-cooled condensing unit appears to be in good condition and will require routine maintenance during the evaluation period.
- The chilled water circulating pumps appear to be in good condition. Based on their estimated Remaining Useful Life (RUL), the chilled water 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), the air handling units will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The rooftop package units appear to be in good 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 unit ventilators vary in age and appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the older unit ventilators will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The steam radiators in the main building appear to be in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the steam radiators will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report. Conversion to hot water finned tube radiation should be considered at the time of replacement.
- The finned tube radiant heat units appear to be in good condition and will require routine maintenance during the evaluation period.
- The mechanical ventilation system and equipment appear to be in good condition and will require routine maintenance during the evaluation period. Equipment or component replacements can be performed as part of the Physical Plant's routine maintenance program.
- The building EMS appeared to be in good condition, but reportedly has limited control over the heating system. Inconsistent heating was reported in the classrooms and corridors. It is recommended that the EMS be upgraded to include control of all conditioned spaces in the building and consistent heating throughout the building. The estimated cost of this work is included in the Replacement Reserves Report. This work should be performed concurrently with the proposed air-conditioning installation.

Sustainable Recommendations:

- A sustainable recommendation for HVAC is to replace existing air-conditioning equipment with high-efficiency components.
- A sustainable recommendation for HVAC is to pursue energy efficient methods for cooling and ventilating the building if a central system is installed.

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 and galvanized steel. The sanitary sewer and vent systems are reported to be cast iron. The water meter is located in the riser room.

Domestic hot water is supplied by a gas-fired boiler. The boiler has a rated input capacity of 264 MBH and is located in the boiler room. Hot water storage is provided by a 119-gallon storage tank located adjacent to the boiler.

The common area restrooms have commercial-grade fixtures and accessories, including water closets, urinals and lavatories. Drinking fountains are located in the corridors.

Observations/Comments:

- The plumbing system appears to be well maintained and in good condition. The water pressure appears to be adequate. Based on its estimated Remaining Useful Life (RUL), sectional replacement of the remaining galvanized steel plumbing lines with copper piping will be required during the evaluation period. An estimated cost allowance for this work is included in the Replacement Reserves Report.
- 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.
- Corrosion was observed on some of the exposed drain lines in the crawl space area. Based on the observed condition, the drain lines will require sectional replacement during the evaluation period. A cost allowance for this work is included in the Replacement Reserves Report.
- The sump pump appears to be in good condition. Based on its estimated Remaining Useful Life (RUL), the sump pump will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The pressure and quantity of hot water appear to be adequate.
- The hot water system appears to be in fair condition. Based on their estimated Remaining Useful Life (RUL), the boiler and hot water storage tank will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The accessories and fixtures in the common area restrooms are in good condition and will require routine maintenance during the evaluation period.
- The drinking fountains are in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the drinking fountains 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 plumbing is to install high-efficiency boilers for the domestic hot water system.
- A sustainable recommendation for plumbing is to install low flush volume toilets and faucet aerators to reduce domestic water consumption.

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 along the north exterior wall of the building. 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 800-Amps, 120/208-Volt, three-phase, four-wire, alternating current (AC). An additional technology circuit was added to the building in 2006. The technology electrical service size is 400-Amps, 120/208-Volt, three-phase, four-wire, alternating current (AC). The electrical wiring is reportedly copper, installed in metallic conduit. 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 basic stage lighting system and 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 on the main circuit is reportedly inadequate for the property's demands. Maintenance staff reported recurring issues with breakers tripping and limited outlets in corridors for cleaning activities. It is recommended that the electrical system be upgraded to ensure adequate capacity. A follow-up study will be required to determine the appropriate electrical capacity. The cost of the study is included in section 1.2. The costs of the follow-up recommendations are to be determined by the study. According to the client provided JMOA five year capital plan, electric service upgrades are planned. A budgetary cost allowance for this work is included in the Replacement Reserves Report. This allowance also includes upgrades for classroom, office, and teacher technology upgrades.
- The 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 and will require routine maintenance during the evaluation period. According to the client provided JMOA five year capital plan, technology upgrades are planned. A budgetary cost allowance for this work is included in the Replacement Reserves Report. This allowance also includes upgrades for the PA system, phone, internet, alarm and emergency lighting improvements.
- The auditorium lighting system appears to be dated and is in fair condition. Based on its condition and estimated Remaining Useful Life (RUL), the auditorium lighting system will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The auditorium sound system appears to be dated and is in fair condition. Based on its condition and 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.
- The emergency power system appears to be obsolete and replacement with a generator is recommended to provide adequate emergency power in the building. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for building electrical is to install occupancy sensors in all classrooms, restrooms, and offices to ensure that lights are turned off when the space is not occupied.

7.5. ELEVATORS AND CONVEYING SYSTEMS

There is one hydraulic passenger elevator. The elevator was manufactured by Esco Elevator. The elevator has a rated capacity of 2,000 pounds and a speed of 100 feet per minute. The elevator machinery is located in a room adjacent to the base of the shaft.

The elevator cab has vinyl-tiled floors, plastic-laminated wood wall panels, and recessed, ceiling light fixtures. The doors are fitted with electronic safety stops. Emergency communication equipment is not provided in the cab.

Observations/Comments:

- The elevator, and its responsiveness, appears to be adequate. The elevator is serviced by Northeast Elevator on a routine basis. The elevator machinery and controls were installed in 1974. Based on its estimated Remaining Useful Life (RUL), the elevator equipment will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The elevator is inspected on an annual basis by the municipality, and a certificate of inspection is displayed in the elevator cab.
- There is no emergency communication equipment in the elevator. It is recommended that the appropriate communication equipment be installed in the elevator cab as a safety measure. The estimated cost of this work is included in the Replacement Reserves Report and included with Section 3.1.
- The finishes in the elevator cab appear to be in good 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.

Sustainable Recommendations:

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

7.6. FIRE PROTECTION SYSTEMS

The fire protection systems consist of a partial wet-pipe sprinkler system, a dry-pipe sprinkler system covering the attic space, portable fire extinguishers, smoke detectors, pull stations, and alarm horns. Siamese connections are located on the exterior of the building. Hardwired smoke detectors are located throughout the common areas. The nearest fire hydrants are located along the property's drive aisles and are approximately 45 feet from the building.

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

Fire sprinkler risers are located in the riser room. The system is equipped with a backflow preventor. The air compressor for the dry system is also located in the riser room.

A central fire alarm panel is located in the custodial office and monitors the pull stations, smoke detectors, and flow switches. An annunciator panel is located at the main entrance to the building. The alarm panel also sounds the alarm and automatically notifies the monitoring service or the fire department in the event of trouble.

The building is equipped with a security system, included motion sensors and door alarms. The main security panel is located in an electrical closet. Interface panels for the security system are located in the main office and the custodial office.

The commercial kitchen in the building is not equipped with a dry-chemical, fire suppression system.

Observations/Comments:

- Information regarding fire department inspection information is included in Section 3.2. Correction of the minor violations noted can be performed under normal maintenance operations.

- The existing 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 building does not have full sprinkler coverage. Areas not covered by the existing sprinkler system include the primary wing addition and the auditorium. It is recommended that all areas in the building have sprinkler coverage. Design and installation of an expanded sprinkler system is recommended. An estimated cost allowance for the work is included in the Replacement Reserves Report.
- 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 to fair condition and is tested regularly by a qualified fire equipment contractor. Equipment testing is not within the scope of a Facilities Needs Assessment. The fire alarm panel reportedly does not properly identify the location of a trouble alarm. It is recommended that the panel be checked by the alarm contractor and repaired so that it functions properly. The cost of this work is not included in the Replacement Reserves Report.
- Based on the estimated Remaining Useful Life (RUL), and because replacement parts and components for this type of equipment may be obsolete, the alarm panel will require replacement over the assessment period. The estimated cost of this work is included in the Replacement Reserves Report.
- The security panel appears to be in good condition and is monitored by Sonitrol. Equipment testing is not within the scope of a Facilities Needs Assessment.
- The cooking surfaces in the kitchen are not covered by dry-chemical, fire suppression system. It is recommended that an Ansul-type system be installed in the exhaust hood, above all cooking surfaces. The estimated cost 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, area rugs, few with wall-to-wall carpet	Painted drywall/concrete block	Suspended acoustic tiles
Maintenance Shop & Storage	Painted concrete slab	Painted drywall/concrete block	Suspended acoustic tiles
Kitchens	Vinyl tile	Painted drywall/concrete block and ceramic tile	Suspended acoustic tiles
Restrooms	Ceramic tile	Painted drywall/plaster	Suspended acoustic tiles

The interior doors are stained, solid-core, wood doors set in painted metal frames. The interior doors have cylindrical locksets with knob 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 vinyl floor tiles, carpeting and repainting is recommended during the term. The costs are included in the Replacement Reserves Report and included with section 6.8.

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	Upright, Chest
Freezers	Upright, Chest
Ranges	Gas
Ovens	Convection

Appliance	Comment
Griddles/Grills	No
Fryers	No
Hood	Exhaust ducted to exterior
Dishwasher	None
Steamer	Yes
Microwave	No
Ice Machines	Yes
Steam tables	Yes
Work tables	Stainless steel
Shelving	Stainless steel

Observations/Comments:

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

Sustainable Recommendations:

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

8.3. HVAC

See Section 7.1 for building mechanical systems.

8.4. PLUMBING

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

9. OTHER STRUCTURES

A storage building is located at the south side of the building near the drive aisle from the main parking lot. The storage building is a pre-manufactured wood structure set on a concrete slab.

Observations/Comments:

- The storage building appears to be in good condition. The storage building will require routine painting and maintenance during the evaluation period.

Sustainable Recommendations:

- There are no sustainable recommendations for the storage building.

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-008.017 **Project Name: Springdale Elementary School**

Photo #1:	View of the front façade and 2-leg pylon road sign

Photo #2:	View of the column supported concrete shelter at the bus lane

Photo #3:	The carport canopy roof leaks frequently down through this light

Photo #4:	View of the main entrance tunnel

Photo #5:	View of the main entrance doors nearest to the office

Photo #6:	The property is equipped with a single handicapped accessible parking stall

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #7:	View of a secondary entrance along the rear

Photo #8:	View of the rear façade and asphalt paved driveway

Photo #9:	Second view of the rear façade and driveway

Photo #10:	View of the south façade

Photo #11:	View of the north façade

Photo #12:	Portions of the window frames have open caulk joints

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #13:	Portions of the brick facades have step cracking

Photo #14:	View of the north façade towards the front entrance

Photo #15:	A security fence is needed on top of the auditorium roof

Photo #16:	View of the upper front façade

Photo #17:	Second view of the front façade

Photo #18:	View of the south façade

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #19:	Wood framed attic space beneath the flat primary portion roof

Photo #20:	Overview of the main flat, fully adhered EPDM roof system

Photo #21:	Auditorium and K-1 wing roofs

Photo #22:	Second view of the auditorium and rear corridor roofs

Photo #23:	Overview of the gymnasium/cafeteria flat, gravel surfaced built-up roof

Photo #24:	Several of the different roof heights require fixed steel ladders

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #25:	Detail of the gymnasium/ cafeteria roof with barrel type skylights

Photo #26:	View towards the west of the different EPDM roof systems

Photo #27:	Several isolated sections of the roof debris and vegetation

Photo #28:	Several of the roof drain strainers are missing or clogged

Photo #29:	Carport canopy roof with fallen organic matter and ponding

Photo #30:	Carport repairs are required due to leaks

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #31:	Chronic leaks were reported at the main roof drain main located in the crawl space

Photo #32:	Detail view of a large crack and poorly executed repair at this multi-Y joint

Photo #33:	Main office interior

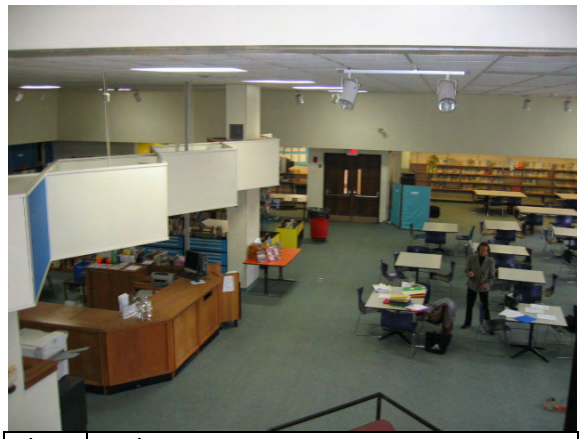


Photo #34:	Media center interior

Photo #35:	Technology lab within the media center

Photo #36:	Typical common corridor

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #37:	Central kitchen

Photo #38:	Poor conditions were observed at the adhered kitchen ceiling

Photo #39:	Poor conditions were observed at the kitchen VCT flooring

Photo #40:	Nurse's office and dental chair

Photo #41:	Second computer lab

Photo #42:	Teacher's work room

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #43:	Gymnasium is also used as the cafeteria

Photo #44:	Teacher's dining room

Photo #45:	Auditorium interior

Photo #46:	Auditorium stage

Photo #47:	Typical multi-user common toilet room. Note the lack of ADA access

Photo #48:	No grab bars are provided within the toilet stalls

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #49:	Typical single user and faculty toilet room

Photo #50:	Several sections of the toilet room wall tiles in the primary section are damaged

Photo #51:	The kindergarten and 1st grade classrooms have private toilet rooms

Photo #52:	Corridor water fountain

Photo #53:	Water fountains project out into the corridor

Photo #54:	View of the on-site kiln

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #55:	Typical classroom interior

Photo #56:	Art room interior

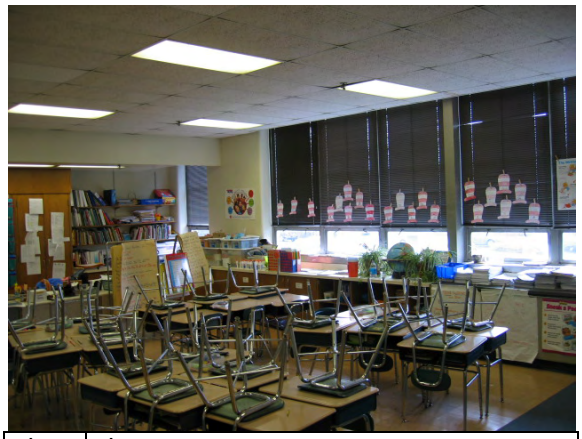


Photo #57:	Classroom interior

Photo #58:	Many of the classroom window blinds are damaged and inoperable

Photo #59:	Maintenance type storage room

Photo #60:	School supply storage room

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #61:	Steam boilers

Photo #62:	Condensate return system

Photo #63:	Heat exchangers

Photo #64:	Hot water circulating pumps

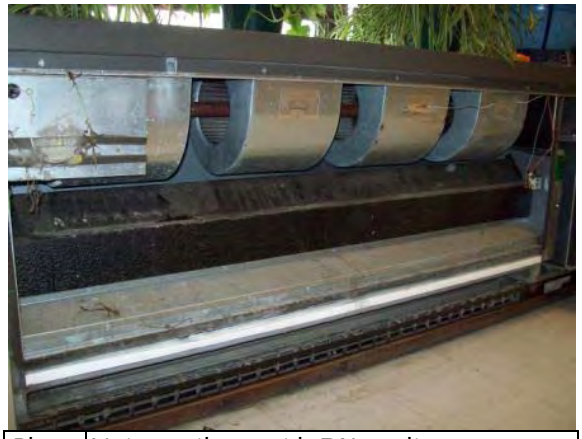


Photo #65:	Unit ventilator with DX cooling

Photo #66:	Unit ventilator with no cooling

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #67:	Recessed wall-mounted finned tube radiation heat unit

Photo #68:	Cabinet mounted finned tube radiation unit

Photo #69:	Steam radiator and pneumatic control valve

Photo #70:	Air cooled condensing unit

Photo #71:	Chiller

Photo #72:	Chilled water circulating pumps

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #73:	Air handling unit for office area (AC-1)

Photo #74:	Air handling unit for media center (AC-2)

Photo #75:	Compressor for pneumatic controls

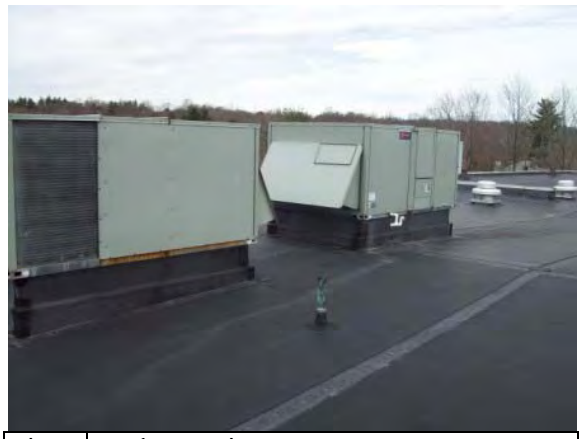


Photo #76:	Rooftop package units

Photo #77:	Gymnasium ventilation unit

Photo #78:	Typical exhaust fan

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #79:	Domestic water meter

Photo #80:	Typical sanitary waste lines

Photo #81:	Domestic water boiler and storage tank

Photo #82:	Sump pump

Photo #83:	Typical restroom fixtures

Photo #84:	Old floor mounted urinal fixtures

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #85:	Typical water closet

Photo #86:	Drinking fountain

Photo #87:	Gas meter and regulator

Photo #88:	Gas feed for boiler

Photo #89:	Electric meter and switchgear

Photo #90:	Main breaker panel

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #91:	PA system control unit

Photo #92:	Typical PA speaker in classroom

Photo #93:	Stage lighting

Photo #94:	Stage lighting control

Photo #95:	Auditorium sound system

Photo #96:	Auditorium speakers

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

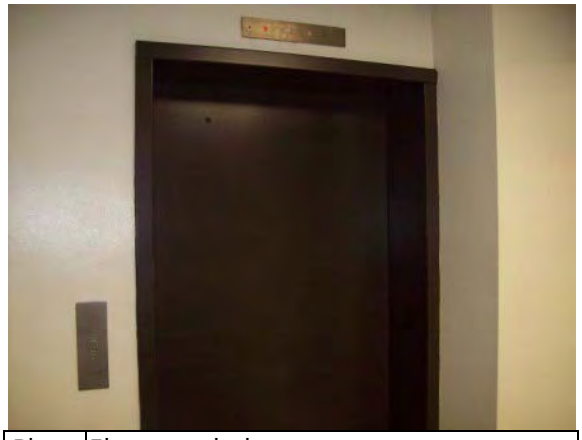


Photo #97:	Elevator cab doors

Photo #98:	Interior of elevator cab

Photo #99:	Elevator control panel

Photo #100:	Missing emergency communication equipment

Photo #101:	Hydraulic elevator equipment

Photo #102:	Elevator controller

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #103:	Fire sprinkler line and backflow preventer

Photo #104:	Compressor for dry sprinkler system

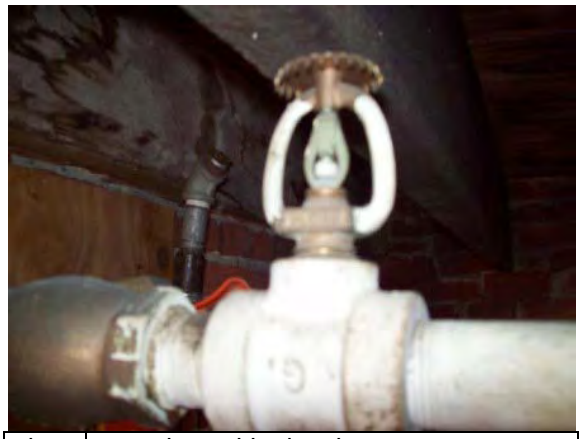


Photo #105:	Typical sprinkler head

Photo #106:	Sprinkler piping in attic

Photo #107:	Fire alarm control panel

Photo #108:	Fire alarm annunciator panel

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #109:	Security panels

Photo #110:	Security interface panel

Photo #111:	Kitchen

Photo #112:	Range and convection ovens

Photo #113:	Exhaust hood with no Ansul system

Photo #114:	Refrigerator

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #115:	Main entrance to property

Photo #116:	Front parking lot

Photo #117:	Accessible parking

Photo #118:	Drive aisle to back of property

Photo #119:	Rear parking lot

Photo #120:	Maintenance parking lot

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #121:	Asphalt damage in rear parking lot

Photo #122:	Curb damage in rear parking lot

Photo #123:	Asphalt paved play area

Photo #124:	Loading dock

Photo #125:	Concrete sidewalks at front of building

Photo #126:	Asphalt sidewalk along front elevation

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #127:	Concrete step and plaza area

Photo #128:	Concrete steps near play area without handrails

Photo #129:	Damage at concrete steps

Photo #130:	Sinking catch basin

Photo #131:	Area of drainage runoff at north parking lot

Photo #132:	Evidence of erosion along north property line

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #133:	Property signage

Photo #134:	Wood fencing at property line

Photo #135:	Typical chain link fencing

Photo #136:	Corrosion at fencing near loading dock

Photo #137:	Corrosion at fencing near southeast corner of building

Photo #138:	Stone wall at south property line

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-008.017 **Project Name: Springdale Elementary School**

Photo #139:	Stone retaining wall along play area

Photo #140:	Concrete retaining wall near boiler room

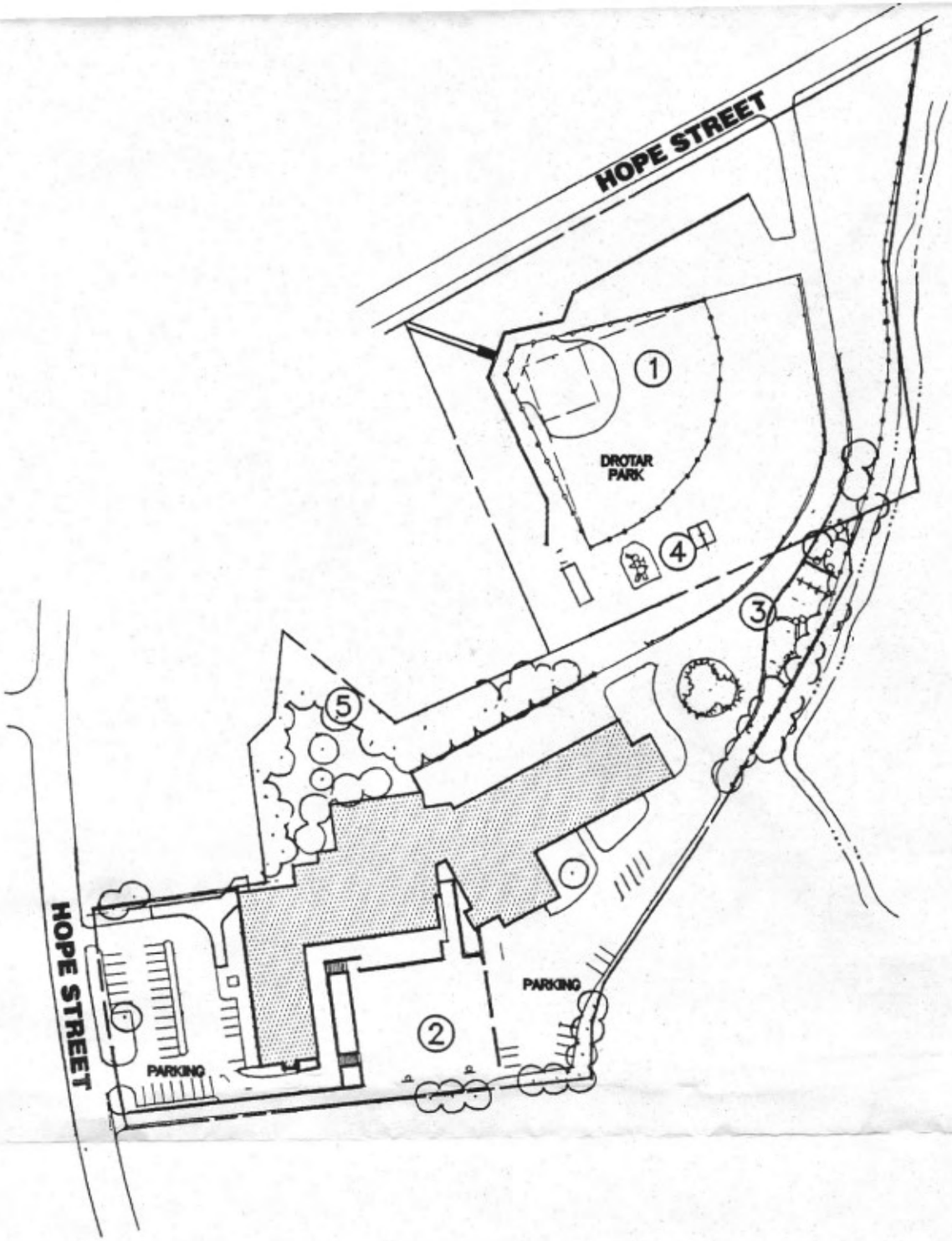
Photo #141:	Building mounted site lighting

Photo #142:	Pole mounted site lighting

Photo #143:	Dumpster location

Photo #144:	Fuel oil UST location

APPENDIX B:
SITE PLAN



SITE KEY

1. LITTLE LEAGUE BASEBALL FIELD
2. BASKETBALL/PAVED PLAY AREA
3. PLAYGROUND A
4. PLAYGROUND B
5. NATURE WALK

SPRINGDALE ELEMENTARY SCHOOL

0 50 200
25 100 300
SCALE IN FEET

APPENDIX C:
SUPPORTING DOCUMENTATION

Cost Comparison Between JMOA Capital Plan and EMG Replacement Reserves						
Springdale Elementary						
Client - Project Name	Client Cost	EMG Cost	EMG Shortage	Out of Scope?	Is work completed?	EMG Cost Comments
Landscape grounds	$33,746	$36,694	-$2,948	No	No	Added
Construct new circulation roadway	$430,132	$0	$430,132	Yes	No	JMOA Scope not defined
Install new playground equipment	$38,625	$0	$38,625	Yes	Yes	Playground reportedly not on school property
Repave, repair sidewalks, add signing	$61,697	$86,556	-$24,859	No	No	Included pavement and curb repair. Added signage item
Repair/replace sidewalks at front parking lot	$23,340	$0	$23,340	No	Yes	**Complete**
Repair paths and sidewalks	$22,042	$0	$22,042	No	Yes	**Complete**
Prune shrubs and trees	$1,751	$3,326	-$1,575	No	No	Added item
Install roof drain covers, clean clogged drains	$1,591	$1,632	-$41	No	No	Added item
Repair exterior door frames and paint, repair/replace hardware	$54,384	$60,531	-$6,147	No	No	Added items. Door refinish and hardware replacement
Replace existing windows	$521,045	$755,310	-$234,265	No	No	
Repoint stone walls	$3,593	$3,593	$0	No	No	Included in masonry pointing item
Repair granite sills, repoint area	$127,314	$275,935	-$148,621	No	No	Included in masonry pointing item
Replace selected roofs	$126,353	$41,900	$84,453	No	No	JMOA Scope not defined
Repair handrails & paint	$4,031	$14,442	-$10,411	No	No	
Replace selected roofs	$36,466	$22,494	$13,972	No	No	
Replace leaking sky lights	$38,298	$38,314	-$16	No	No	
Re-caulk exterior doors, add weather stripping	$5,562	$17,491	-$11,929	No	No	
Replace window glass, door hardware	$55,167	$55,167	$0	No	No	**Included in window replacement**
Paint wood soffits & fascia	$16,583	$18,924	-$2,341	No	No	Added item
Install exterior door in room 11	$3,811	$0	$3,811	No	No	
Re-key master locking system	$146,192	$190,688	-$44,496	No	No	Includes ADA lever conversion also
Install acoustical ceiling	$29,281	$13,073	$16,208	No	No	
Add sound proofing to cafeteria	$55,697	$88,200	-$32,503	Yes	No	Added
Replace kitchen stove	$674	$0	$674	No	No	Routine maintenance
Adjust/rehang doors	$11,021	$0	$11,021	No	No	Routine maintenance
Replace ceilings and flooring	$569,770	$1,192,378	-$622,608	No	No	
Renovate interior finishes	$1,676,680	$0	$1,676,680	No	No	JMOA Scope not defined

Add vision panel by main office for security	$13,686	$0	$13,686	No	No	JMOA Scope not defined
Add acoustical treatment to selected rooms	$52,621	$0	$52,621	Yes	No	JMOA Scope not defined
Renovate media center	$561,687	$0	$561,687	No	No	JMOA Scope not defined
Renovate health and principals office	$467,829	$0	$467,829	No	No	JMOA Scope not defined
Renovate teachers room	$47,041	$0	$47,041	No	No	JMOA Scope not defined
Abate selected asbestos & remove lead	$505,215	$508,404	-$3,189	No	No	
Add space for teachers room	$57,033	$0	$57,033	Yes	No	JMOA Scope not defined
Upgrade, modernize open space areas	$700,003	$0	$700,003	Yes	No	JMOA Scope not defined
Replace worn interior gym equipment	$58,456	$0	$58,456	No	No	Fixtures-do not include
Repair leaking damaged plumbing piping	$42,012	$100,886	-$58,874	No	No	
Add additional toilet fixtures	$258,436	$0	$258,436	Yes	No	JMOA Need/Scope not defined
Install new water service for sprinkler system	$13,802	$0	$13,802	Yes	No	No deficiency reported or observed
Replace fixtures	$267,388	$0	$267,388	No	No	No deficiency reported or observed
Replace toilet fixtures	$181,676	$0	$181,676	No	No	No deficiency reported or observed
Add ventilation to gym	$265,802	$265,802	$0	Yes	No	Included in AC item
Improve circulation throughout building	$330,258	$330,258	$0	Yes	No	Included in AC item
Upgrade toilet exhaust fans	$228,763	$116,197	$112,566	Yes	No	Cost seems high
Replace chillers	$98,262	$97,178	$1,084	No	No	
Replace univents open classes only	$60,000	$0	$60,000	No	No	**Complete**
Upgrade heating/cooling in media center	$144,773	$29,768	$115,005	No	No	Cost seems high
Install air conditioning for auditorium, classrooms & 2nd floor	$459,858	$409,344	$50,514	Yes	No	Included in AC item
Install emergency generator	$219,825	$129,874	$89,951	Yes	No	Added item. Cost seems high
Install network cabling for technology	$199,055	$277,200	-$78,145	Yes	No	Added, includes additional technology modernization
Add lighting to auditorium	$47,998	$44,226	$3,772	No	No	

Install additional lighting for playground, upgrade existing fixtures	$42,775	$0	$42,775	Yes	No	Playground reportedly not on school property
Upgrade electrical service to separate computer power	$175,512	$287,179	-$111,667	Yes	No	Added service distribution upgrade
Repair exterior lighting	$5,517	$17,302	-$11,785	No	No	
Complete selected Code Compliance projects	$1,478,668	$0	$1,478,668	No	No	JMOA Need/Scope not defined
Upgrade master clock system	$23,793	$0	$23,793	No	Yes	**Complete**
Install fire suppression system in kitchen	$8,169	$6,143	$2,026	No	No	
	JMOA Cost	**EMG Cost**	**Shortage**			
	$11,110,759	$7,800,125	$3,310,634			
less completed items	$10,981,584					
Soft Costs (30%)		$2,340,038				
Location factor(11%)		$858,014				
Totals(Unescalated)		$10,998,176	-$16,592			

SP

Single-Ply System

SERIAL NO. TS60403 DATE OF ISSUE: SEPTEMBER 14, 2005

CARLISLE GOLDEN SEAL™ TOTAL ROOFING SYSTEM WARRANTY

BUILDING OWNER: CITY OF STAMFORD-STAMFORD PUBLIC SCH
NAME OF BUILDING: SPRINGDALE ELEMENTARY SCHOOL AB#050424N
BUILDING ADDRESS: STAMFORD, CT JSI/REV.1
DATE OF COMPLETION OF THE CARLISLE TOTAL ROOFING SYSTEM: 06/30/05
DATE OF ACCEPTANCE BY CARLISLE: SEPTEMBER 14, 2005

Carlisle Roofing Systems, Inc., warrants to the Building Owner **(OWNER)** of the above described building, that; subject to the terms, conditions and limitations stated in this warranty, Carlisle will repair any leak in the Carlisle Golden Seal™ Total Roofing System **(CARLISLE TOTAL ROOFING SYSTEM)** installed by a Carlisle Authorized Roofing applicator for a period of **20** years commencing with the date of Carlisle's acceptance of the Carlisle Total Roofing System installation. However, in no event shall Carlisle's obligations extend beyond **20.5** years subsequent to the date of substantial completion of the Carlisle Total Roofing System. See below for exact date of warranty expiration.

The Carlisle Total Roofing System is defined as the following Carlisle brand materials: Membrane, Flashings, Counterflashings, Adhesives and Sealants, Insulation, Recovery Board, Fasteners, Fastener Plates, Fastening Bars, Metal Edging, Metal Termination Bars, and any other Carlisle brand products utilized in this installation.

TERMS, CONDITIONS, LIMITATIONS

1. Owner shall provide Carlisle with written notice within thirty (30) days of the discovery of any leak in the Carlisle Total Roofing System. Owner should send written notice of a leak to Carlisle's Warranty Services Department at the address set forth at the bottom of this warranty. By so notifying Carlisle, the Owner authorizes Carlisle or its designee to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of this Warranty, investigation and repair costs for this service shall be paid by the Owner.
2. If, upon inspection, Carlisle determines that the leak is caused by a defect in the Carlisle Total Roofing System's materials, or workmanship of the Carlisle Authorized Roofing Applicator in installing the same, Owner's remedies and Carlisle's liability shall be limited to Carlisle's repair of the leak.
3. This warranty shall not be applicable if, upon Carlisle's inspection, Carlisle determines that any of the following has occurred:
   (a) The Carlisle Total Roofing System is damaged by natural disasters, including, but not limited to, lightning, fire, insect infestations, earthquake, tornado, hail, hurricanes, and winds of peak gust speeds of **74** mph or higher measured at 10 meters above ground; or
   (b) The Carlisle Total Roofing System is damaged by any intentional or negligent acts, accidents, misuse, abuse, vandalism, civil disobedience, or the like.
   (c) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, non-Carlisle brand metal work, etc., occurs and causes a leak, or otherwise damages the Carlisle Total Roofing System; or
   (d) Acids, oils, harmful chemicals and the like come in contact with the Carlisle Total Roofing System and cause a leak, or otherwise damage the Carlisle Total Roofing System.
4. This Warranty shall be null and void if any of the following shall occur:
   (a) If, after installation of the Carlisle Total Roofing System by a Carlisle Authorized Roofing Applicator there are any alterations or repairs made on or through the roof or objects such as, but not limited to, structures, fixtures, or utilities are placed upon or attached to the roof without first obtaining written authorization from Carlisle; or
   (b) Failure by the Owner to use reasonable care in maintaining the roof, said maintenance to include, but not be limited to, those items listed on Carlisle's Care & Maintenance Information sheet which accompanies this Warranty.
5. Only Carlisle brand insulation products are covered by this warranty. Carlisle specifically disclaims liability, under any theory of law, for damages sustained by or caused by non-Carlisle brand insulation products.
6. During the term of this Warranty, Carlisle shall have free access to the roof during regular business hours.
7. Carlisle shall have no obligation under this Warranty while any bills for installation, supplies, service, and warranty charges have not been paid in full to the Carlisle Authorized Roofing Applicator, Carlisle, or material suppliers.
8. Carlisle's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.
9. Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle Total Roofing System caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.
10. Carlisle shall have no liability under any theory of law for any claims, repairs, restoration, or other damages including, but not limited to, consequential or incidental damages relating, directly or indirectly, to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land, or water serving the building.
11. This warranty is not assignable by operation of law or otherwise. Application may be made by a new building owner for reissuance of the warranty during the original warranty period. Certain procedures including, but not limited to, an inspection of the Roofing System by a Carlisle representative and fees will apply to any reissuance. Carlisle reserves the right, in its sole discretion, to refuse to reissue this warranty.

CARLISLE DOES NOT WARRANT PRODUCTS UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED; AND SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION AND PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY CARLISLE.

THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR FAILURE OF THE CARLISLE TOTAL ROOFING SYSTEM OR ITS COMPONENTS. THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE HEREOF. CARLISLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS UNDER ANY THEORY OF LAW.

BY: Patrick D. McGrady
AUTHORIZED SIGNATURE..... Patrick D. McGrady
TITLE: V.P., Technical & Warranty Services
THIS WARRANTY EXPIRES: SEPTEMBER 13, 2025

ROOFING AMERICA FOR OVER 40 YEARS.

CARLISLE

P. O. Box 7000, Carlisle, PA 17013 ■ (717) 245-7000; Fax (717) 245-7053 ■ www.carlisle-syntec.com

1-13-[illegible] Springdale School [illegible]

VERSICO TOTAL ROOFING SYSTEM WARRANTY

Versico Incorporated (VERSICO) warrants to the Building Owner (OWNER) of the building described below, that subject to the terms, conditions and limitations stated in this warranty, Versico will repair any leak in the Versico Total Roofing System (VERSICO TOTAL ROOFING SYSTEM) installed by a Versico Authorized Roofing Contractor for a period of 15 years commencing with the date of Versico's acceptance of the Versico Total Roofing System installation. However, in no event shall Versico's obligations extend beyond 15 1/2) years subsequent to the date of substantial completion of the Versico Total Roofing System. See below for exact date of warranty expiration.

The Versico Total Roofing System is defined as the following Versico Materials: Membrane, Flashings, Adhesives and Sealants, Fastener Assemblies, Metal Edging, any other Versico brand products utilized in this installation, and any other products specifically approved by Versico for coverage under this warranty.

TERMS, CONDITIONS, LIMITATIONS

1. Owner shall provide Versico with written notice to the address printed below within thirty (30) days of the discovery of any leaks in the Roofing System. By so notifying Versico, the Owner authorizes Versico to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of this warranty, investigation and repair costs for this service shall be paid by the Owner.

2. If, upon inspection, Versico determines that the leaks in the Roofing System are caused by defects in the Roofing System's material or workmanship of the Versico Authorized Roofing Contractor in installing the same, Owner's remedies and Versico's liability shall be limited to Versico's repair of the leak in the Roofing System.

3. This Warranty shall not be applicable if Versico determines that any of the following has occurred:

(a) The Roofing System is damaged by natural disasters, including, but not limited to, lightning, insects, winds in excess of 55 mph measured at roof level, earthquakes, fire, tornado, and hail; or

(b) The Roofing System is damaged by any acts of negligence, accidents, or misuse, including, but not limited to, excessive traffic, recreational activities, storage of materials on the roof, vandalism, or civil disobedience; or

(c) The Roofing System is damaged by infiltration of moisture in, through, or around walls, skylights, vents, copings, HVAC units, building structures, or underlying or surrounding areas; or

(d) The Roofing System is damaged by the building structure failing to have adequate strength to support all live and dead loads, including water and snow loads, or by any other structural defects or failures; or

(e) The Roofing System is damaged by settlement, distortion, cracking, movement or failure of the roof substrate, coping, walls, structural members or components adjacent to the roof or foundation of said building; or

(f) The Roofing System is damaged as a result of a lack of proper drainage or attack by roof top contaminants such as solvents, petroleum, oil products, acids, or other harmful chemicals.

4. This Warranty shall be null and void if Versico determines that any of the following has occurred:

(a) If, after installation of the Roofing System by a Versico Authorized Roofing Contractor, there are any alterations, test cuts, or repairs made on or through the roof, or objects such as, but not limited to, structures, fixtures, or utilities are placed upon or attached to the roof without first obtaining written authorization from Versico, or

(b) Failure by the Owner to use reasonable care in maintaining the roof, including, but not limited to, periodic cleaning of drains and removal of harmful debris from the roof, or

(c) Owner fails to comply with every term and/or condition stated herein.

5. During the term of this Warranty, Versico shall have free access to the roof during regular business hours.

6. Versico shall have no obligation under this Warranty while any bills for installation, supplies, services, and warranty charges have not been paid in full to the Versico Authorized Roofing Contractor, Versico, or material suppliers.

7. Versico's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.

8. This warranty is not assignable by operation of law or otherwise. Application may be made by a new building owner for reissuance of the warranty during the original warranty period. Certain procedures, including an inspection of the Roofing System by a Versico representative, and fees will apply to any reissuance. Versico reserves the right, in its sole discretion, to refuse to reissue this warranty.

VERSICO DOES NOT WARRANT PRODUCTS UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED; AND SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION AND PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY VERSICO.

THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR FAILURE OF THE ROOFING SYSTEM OR ITS COMPONENTS. THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE HEREOF. VERSICO SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS UNDER ANY THEORY OF LAW.

OWNER: CITY OF STAMFORD

BUILDING: SPRINGDALE SCHOOL
1127 HOPE ST
STAMFORD, CT

DATE INSTALLATION COMPLETED: 04/23/97

WARRANTY EXPIRATION DATE: 04/23/12

LENGTH OF WARRANTY: 15 YEARS

ROOF AREA COVERED: 20,000 SQ FT

ROOFER: ANTONELLI ROOFING AND S/M
56 MANOR ST
STAMFORD, CT 06902

PHONE: 203-359-4275

SERIAL NUMBER: 050658

VERSICO INCORPORATED
A subsidiary of Carlisle Corporation.

3485 Fortuna Drive
Akron, Ohio 44312
1-800-992-7663
(330) 644-2613 FAX

VERSICO INCORPORATED

5/96

APPENDIX D:
EMG ABBREVIATED ACCESSIBILITY CHECKLIST

Property Name: Springdale Elementary School
Date: April 15, 2009
Project Number: 88166.09R-008-017

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?	✓			Parking space
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?		✓		
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?	✓			One ADA parking space with sign at front lot
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)		✓	✓	No exterior ramps
2.	Are ramps longer than 6 ft complete with railings on both sides?			✓	
3.	Is the width between railings at least 36 inches?			✓	
4.	Is there a level landing for every 30 ft horizontal length of ramp, at the top and at a 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)?		✓		Knobs
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?		✓		Water fountains

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?		✓		
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?		✓		One elevator, key operated
2.	Is the "UP" button above the "DOWN" button?		✓		
3.	Are there visual and audible signals inside cars indicating floor change?		✓		
4.	Are there standard raised and Braille marking on both jambs of each host way entrance?		✓		
5.	Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?		✓		
6.	Do elevator lobbies have visual and audible indicators of car arrival?		✓		
7	Does the elevator interior provide sufficient wheelchair turning area (51" x 68")?		✓		
8.	Are elevator controls low enough to be reached from a wheelchair (48 inches front approach/54 inches side approach)?		✓		
9.	Are elevator control buttons designated by Braille and by raised standard alphabet characters (mounted to the left of the button)?		✓		
10.	If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?		✓		
	Restrooms				
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)?	✓			
6.	In unisex toilet rooms, are there safety alarms with pull cords?			✓	None provided
7.	Are stall doors wheelchair accessible (at least 32″ wide)?		✓		
8.	Are grab bars provided in toilet stalls?		✓		
9.	Are sinks provided with clearance for a wheelchair to roll under (29″ clearance)?		✓		
10.	Are sink handles operable with one hand without grasping, pinching or twisting?		✓		
11.	Are exposed pipes under sink sufficiently insulated against contact?		✓		
12.	Are soap dispensers, towel, etc. reachable (48″ from floor for frontal approach, 54″ for side approach)?		✓		
13.	Is the base of the mirror no more than 40″ from the floor?		✓		

APPENDIX E:
PRE-SURVEY QUESTIONNAIRE AND DOCUMENTATION REQUEST CHECKLIST

PRE-SURVEY QUESTIONNAIRE

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

Project Name:	**Springdale Elementary School**	**Project Number:**	**88166.09R-008.017**
Person completing form:	**Ms. Rochelley Woodson**	**Date:**	**April 15, 2009**
Association with Project:	**Principal**	**Phone Number:**	**203.977.4575**
Years associated w/Proj.:	**11 years**	**Fax Number:**	**203.977.5103**
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?	✓				EPDM roofs 2005, boiler 2000
If so, are details available?					
3. Are there any unresolved building, fire, or zoning code issues?	✓				Fire Marshal cited addition of strobes needed and emergency lights not working in auditorium
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?	✓				Many ADA barriers
9. Is there any pending litigation concerning the property?		✓			
10. Is site drainage adequate?		✓			Site flooding
11. Has a termite inspection occurred within the last year?		✓			
Is a copy of an inspection report available?					
12. Are there any problems with foundations or structures?		✓			
If so, are there plans to address?					
13. Is there any water infiltration in basements or crawl spaces?	✓				Both slab-on-grade and crawlspace
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?	✓				Modular classroom roofs
18. Is the roofing covered by a warranty or bond?	✓				EPDM covered by 20 year warranty beginning in 2005
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		✓			

	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?		✓			
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 the any leaks or pressure problems with natural gas service?		✓			
36. Does any part of the electrical system use aluminum wiring?		✓			
37. Do Residential units have a min. of 60-Amp service or Commercial units have a min. 200-Amp service?				✓	
38. Has elevator equipment been replaced in the last ten years?		✓			
39. Are the elevators maintained by a contractor on a regular basis?	✓				
40. Is the elevator emergency communication equipment functional?		✓			
41. Is the elevator emergency communication equipment ADA compliant?		✓			
42. Have the fire/life safety systems been inspected within the last year?	✓				
43. Are there any smoke evacuation or pressurization systems?		✓			
44. Are there any recalled Omega or Central brand fire sprinkler heads that have not yet been replaced?				✓	Unknown
45. Are there any emergency electrical generators?		✓		✓	None
46. Are the generators maintained on a regular basis?				✓	
47. Do tenants contract for their own improvement work?				✓	
48. Are tenants responsible for any roof, HVAC, or exterior wall maintenance, repair, or replacement?				✓	
If so, what, where and how?					

	Yes	No	Unk	NA	Comments
49. Have there been previous due diligence, engineering, environmental, or geological studies done?		✓			
If so, are copies available?					
50. Is there anything else that EMG should know about when assessing this property? If so, what?		✓			

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

INFORMATION REQUIRED

1. All available construction documents (blueprints) for the original construction of the building or for any tenant improvement work or other recent construction work.

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.

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.

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	*Activity Exclusions* - 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 *guide*. 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 *guide*.
11.1.1	Removing or relocating materials, furniture, storage containers, personal effects, debris material or finishes; conducting exploratory probing or testing; *dismantling* or operating of equipment or appliances; or disturbing personal items or *property* which obstructs access or visibility.
11.1.2	Preparing *engineering* calculations (civil, structural, mechanical, electrical, etc.) to determine any *system's*, *component's*, or equipment's adequacy or compliance with any specific or commonly accepted design requirements or *building codes*, or preparing designs or specifications to remedy any *physical deficiency*.
11.1.3	Taking measurements or quantities to establish or confirm any information or representations provided by the *owner* or *user* such as: size and dimensions of the *subject property* or *subject building*, any legal encumbrances such as easements, dwelling unit count and mix, building *property* 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 *field observer's walk-through survey* or such information is provided to the *consultant* by the *owner*, *user*, property manager, etc. The *consultant* is not required to provide a *suggested remedy* for treatment or remediation, determine the extent of infestation, nor provide *opinions of probable costs* 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 *systems*, wells; *systems* that are either considered process-related or peculiar to a specific tenancy or use; waste water treatment plants; or items or *systems* 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 *dangerous or adverse conditions* with respect to the *field observer* or to perform any procedure, which may damage or impair the physical integrity of the *property*, any *system*, or *component*.
11.1.7	Providing an opinion on the condition of any *system* or *component,* which is *shutdown,* or whose operation by the *field observer* may significantly increase the registered electrical demand-load. However, *consultant* 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 *systems* or *components*.
11.1.9	Providing an opinion on matters regarding security of the *subject property* and protection of its occupants or *users* from unauthorized access.
11.1.10	Operating or witnessing the operation of lighting or other *systems* 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 *consultant* is merely providing an opinion and does not warrant or guarantee the present or future condition of the *subject property,* nor may the Comprehensive Building Condition Assessment be construed as either a warranty or guarantee of any of the following:
11.2.1	any *system's* or *component's* physical condition or use, nor is a Comprehensive Building Condition Assessment to be construed as substituting for any *system*'s 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, *building codes*, 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 *material* present violations *observed* or reported based upon *actual knowledge* of the *field observer* or the *PCR reviewer*, they should be identified in the PCR;
11.2.3	compliance of any material, equipment, or *system* 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 *subject property* that the parties may wish to assess in connection with a *commercial real estate transaction* that are outside the scope of this *guide*. 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 *user* elects to inquire into non-scope considerations in connection with this *guide* is a decision to be made by the *user*. No assessment of such non-scope considerations is required for a Comprehensive Building Condition Assessment to be conducted in compliance with this *guide*.

APPENDIX G:
RESUMES FOR REPORT REVIEWER AND FIELD OBSERVER

BILL CHAMPION, PMP

Program Manager

Cost Segregation Manager

Education

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

Project Experience

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

Industry Tenure

- A/E: 1994
- EMG: August, 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

DANNY WHITE

Project Manager

Project Experience

- ***City of Dallas Assessments (Dallas Zoo), Dallas, TX –*** As a Project Manager, Mr. White performed facility condition assessments of approximately 100 buildings comprising over 320,000 SF, and 95 acres of infrastructure at the Dallas Zoo. Buildings included offices, auditoriums, garages, maintenance facilities, warehouses, restrooms, animal hospital, schools, and various exhibit and animal holding structures. Additional Dallas assessments included the Arlington Hall Conservatory and the Royal Preston Library. The scope of work included assessment of structural exterior and interior building systems and finishes, major mechanical equipment, electrical supply and distribution, and related site improvements. Repair and replacement costs were provided for a 20 year evaluation term. Mr. White also served as a Technical Report Reviewer (TRR) for final review of various other assessment reports.
- ***County of San Diego Assessments, San Diego, CA –*** Mr. White served as a Project Manager and provided facility condition assessments (FCA) of County of San Diego properties. The scope of work included the assessment of numerous buildings and infrastructures including the Kearney Mesa Juvenile Detention Facility, Juvenile Hall, San Diego Courthouse Plant, Law Library, Air Pollution Control District, Levant Adoption Center, and Palomar Mountain Park and Road Maintenance Station. Reports were generated giving broad details of structural, mechanical, electrical, and site elements and event recommendations for a 20-year evaluation term. Mr. White also served as a Technical Report Reviewer (TRR) during the final stages of the assessments reviews.
- ***City of San Buenaventura Assessments, Ventura, CA –*** Mr. White served as a Project Manager on the San Buenaventura Public Housing physical needs assessments (PNA) project. Structures assessed included multi-family housing apartments, senior citizen multi-level towers, rental offices, community centers, and maintenance buildings. Structural, mechanical, electrical, and site systems and finishes were assessed for current condition and cost recommendations for a 20-year term. Interviews were conducted with maintenance and administrative personnel to discuss known deficiencies. Findings were used to establish Expected Useful Life (EUL), and Remaining Useful Life (RUL) of the systems and components.

Industry Tenure

- A/E: 1988
- EMG: 2007

Related Experience

- Educational Facility Condition Assessment reports
- Assisted Living Portfolios
- Retail Portfolios
- Hospitality Portfolios

Industry Experience

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

Special Skills & Training

- Roof Inspection & Management - Diagnosis & Repair – RIEI
- Pavement Management University of Illinois

Regional Location

- Norfolk - Virginia Beach, VA

- ***GE Healthcare Financial Services, Multiple Cities –*** As a Project Manager, Mr. White performed eight property condition assessments (PCA) of this portfolio of Genesis Health Care Nursing Homes. The average property size was 48,000 square feet and an average of 140 units. He reviewed the condition of the building structural, mechanical, and electrical systems, and the site infrastructure and developed a thorough report. Repair and replacement costs were provided for a 12 year reserve term. His work helped EMG complete this project on schedule and within the budget.
- ***Barclays Capital Real Estate Inc, Multiple Cities –*** As a Project Manager, Mr. White performed three property condition assessments (PCA) of this portfolio of hospitality properties, including Potomac Mills Courtyard, Potomac Mills Residence Inn, and Springfield TownePlace Suites located in Northern Virginia. The average property size was 80,000 square feet and an average of 124 units. He reviewed the condition of the building structural, mechanical, and electrical systems, and the site infrastructure and developed a thorough report. Repair and replacement costs were provided for a 7 year reserve term. His work helped EMG complete this project on schedule and within the budget.
- ***Lord and Taylor – Fair Oaks Mall, Fairfax, VA –*** As a Project Manager, Mr. White performed a property condition assessment of this retail property. The building occupies 3.67 acres of the Fair Oaks Mall property and is 159,876 square feet in size. He reviewed the condition of the building structural, mechanical, and electrical systems, and the site infrastructure and developed a thorough report. He interviewed management personnel of Lord and Taylor and the Fair Oaks Mall to determine site maintenance responsibilities. Repair and replacement costs were provided for a 12 year reserve term. His work helped EMG complete this project on schedule and within the budget.

City Government Experience

- ***Virginia Beach Municipal Center , Virginia Beach, VA –*** As a Project Engineer/Technician, Mr. White performed structural facility condition assessment of City Hall, Voter Registration Building, Police Station, Court Support Building, Special Education Building, Heating Plant and related infrastructure within the City of Virginia Beach Municipal Complex. Buildings ranged in size from 28,000 to 90,000 square feet. His team met with the Director of Maintenance to discuss known conditions prior to commencing a thorough visual inspection of designated high profile facilities. Inspection scheduling involved strict visit guidelines in order to minimize disruption of normal business activities. Special consideration was required in conjunction with planned major mechanical and structural systems replacements and the anticipated need for removal of known hazardous materials in ceilings and attics. Deficiencies collected included preventative and recurring maintenance items. He created a prioritized backlog of maintenance and repair to affected structural systems for a 10 year plan. An inventory of roof section types and quantities was provided to the client. His work insured the timely completion of the project within the budget guidelines.

Higher Education Experience

- ***Haskell Indian University, Lawrence, KS –*** As a Project Engineer/Technician, Mr. White performed structural facility condition assessment as part of an inspection team. Facilities inspected included administrative offices, maintenance shops, classrooms, cafeteria and gymnasium. His team met with the facility managers to discuss known deficiencies, environmental concerns, and safety issues throughout the approximately 300,000 square feet of assigned buildings. Ideas were exchanged for ways to increase the budget allocation for repairs and upgrades through the identification of some not easily detected deficiencies. He created a prioritized maintenance and repair strategy for a 10 year plan. An inventory of exterior structural components was also provided to the client. His work insured the team's completion of the project within the time constraints and budget.

Department of Defense

- ***US Naval Submarine Base Kings Bay, GA*** – As a Facilities Maintenance Specialist with the federal government, Mr. White applied his expertise in the structural assessment of the nearly one million square feet Trident Training Facility. The comprehensive assessment of interior, exterior, and roof system components was challenging due to size, accessibility, and security. He met with the facility manager to obtain construction drawings, contact names for the various departments, and a history of deficiencies. He provided an overall condition analysis of the building and a brief narrative and inventory of each major structural system. A 5 year maintenance plan was formulated for recurring and deferred maintenance complete with fundable estimates generated from RS Means estimating software. Mr. White entered the deficiency cost data into the activity's maintenance action plan software which is reported to the Department of Defense for budget planning.