FACILITY CONDITION ASSESSMENT

Prepared for

Ann Arbor Public Schools
2555 South State Street
Ann Arbor, Michigan 48104

FACILITY CONDITION ASSESSMENT

OF

LAKEWOOD ELEMENTARY
344 GRALAKE AVENUE
ANN ARBOR, MICHIGAN 48103

PREPARED BY:
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EMG PROJECT #:
129010.18R000-015.354

DATE OF REPORT:
June 29, 2018

ONSITE DATE:
March 2, 2018

Immediate Repairs Report
Lakewood Elementary
6/29/2018

Location Name	EMG Renamed Item Number	ID	Cost Description	Quantity	Unit	Unit Cost *	Subtotal	Deficiency Repair Estimate *
Lakewood Elementary	D30	885572	Air Conditioning, Central, Install	42549	SF	$11.50	$489,314	**$489,314**
Lakewood Elementary	D20	875613	Water Heater, Electric, Commercial, 30 to 80 GAL, Replace	1	EA	$8,007.73	$8,008	**$8,008**
Lakewood Elementary	D70	871526	Fire Alarm Control Panel, Addressable, Replace	1	EA	$23,342.23	$23,342	**$23,342**
Lakewood Elementary		958674	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	45729.87	LS	$1.15	$52,589	**$52,589**
Lakewood Elementary	G20	871564	Play Surfaces & Sports Courts, Asphalt, Replace	3500	SF	$6.79	$23,748	**$23,748**
Immediate Repairs Total								**$597,000**

* Location Factor included in totals.

Replacement Reserves Report

Lakewood Elementary

6/29/2018

Location	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total Escalated Estimate
Lakewood Elementary	$597,000	$325,457	$678,324	$215,015	$2,254,294	$368,694	$158,406	$2,470,168	$66,619	$160,716	$81,437	$556,535	$1,035,189	$91,826	$250,030	$295,347	$262,342	$273,211	$94,454	$531,980	**$10,767,042**
GrandTotal	**$597,000**	**$325,457**	**$678,324**	**$215,015**	**$2,254,294**	**$368,694**	**$158,406**	**$2,470,168**	**$66,619**	**$160,716**	**$81,437**	**$556,535**	**$1,035,189**	**$91,826**	**$250,030**	**$295,347**	**$262,342**	**$273,211**	**$94,454**	**$531,980**	**$10,767,042**

EMG Renamed Item Number	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost	w/ Markup *	Subtotal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	RRR_RowGrandTotalLabel
5	875616	Unit Ventilator, 1,501 to 2,000 CFM (approx. 5 Ton), Replace	15	8	7	15	EA	$12,727.00	$14,636.05	$219,541								$219,541														**$219,541**
D30	885572	Air Conditioning, Central, Install	50	50	0	42549	SF	$10.00	$11.50	$489,314	$489,314																					**$489,314**
B20	871568	Exterior Wall, Painted Surface, 1-2 Stories, Prep & Paint	10	3	7	10000	SF	$2.87	$3.30	$33,013								$33,013									$33,013					**$66,026**
B20	871505	Exterior Wall, Brick or Brick Veneer, 1-2 Stories, Repoint	25	18	7	30000	SF	$41.28	$47.47	$1,424,250								$1,424,250														**$1,424,250**
B20	871491	Window, Aluminum Double-Glazed 12 SF, 1-2 Stories, Replace	30	28	2	160	EA	$584.21	$671.84	$107,494			$107,494																			**$107,494**
B20	874776	Exterior Door, Steel, Replace	25	20	5	5	EA	$950.12	$1,092.64	$5,463						$5,463																**$5,463**
B20	871517	Roof, Single-Ply EPDM Membrane, Replace	20	16	4	45000	SF	$10.52	$12.10	$544,410					$544,410																	**$544,410**
C10	871494	Interior Door, Steel, Replace	25	10	15	90	EA	$950.12	$1,092.64	$98,337																$98,337						**$98,337**
D70	946248	Exterior Door Hardware, Electronic Door Locks ANSI F39 Lockset, Replace	30	29	1	10	EA	$1,345.00	$1,546.75	$15,468		$15,468																				**$15,468**
C10	871544	Toilet Partitions, Metal Overhead-Braced, Replace	20	13	7	10	EA	$850.00	$977.50	$9,775								$9,775														**$9,775**
C10	871553	Interior Wall Finish, Concrete/Masonry, Prep & Paint	8	5	3	78715	SF	$1.45	$1.67	$131,348				$131,348								$131,348								$131,348		**$394,043**
C10	871527	Interior Floor Finish, Vinyl Tile (VCT), Replace	15	11	4	21000	SF	$4.80	$5.52	$115,934					$115,934															$115,934		**$231,869**
C10	871520	Interior Floor Finish, Ceramic Tile, Replace	50	38	12	11000	SF	$15.76	$18.12	$199,301													$199,301									**$199,301**
C10	871518	Interior Floor Finish, Wood Strip, Replace	30	13	17	2000	SF	$13.52	$15.55	$31,106																	$31,106					**$31,106**
C10	871567	Interior Floor Finish, Carpet Tile Commercial-Grade, Replace	10	4	6	10000	SF	$6.96	$8.01	$80,073							$80,073										$80,073					**$160,147**
C10	871508	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass, Replace	20	16	4	39000	SF	$5.05	$5.80	$226,394					$226,394																	**$226,394**
D20	871499	Toilet, Tankless (Water Closet), Replace	20	11	9	35	EA	$842.97	$969.41	$33,929										$33,929												**$33,929**
D20	871531	Urinal, Vitreous China, Replace	20	11	9	4	EA	$1,193.44	$1,372.46	$5,490										$5,490												**$5,490**
D20	871542	Sink, Stainless Steel, Replace	20	18	2	25	EA	$1,054.05	$1,212.16	$30,304			$30,304																			**$30,304**
D20	871487	Sink, Vitreous China, Replace	20	11	9	25	EA	$861.51	$990.74	$24,768										$24,768												**$24,768**
D20	871521	Drinking Fountain, Refrigerated, Replace	10	8	2	7	EA	$1,257.51	$1,446.13	$10,123			$10,123										$10,123									**$20,246**
D20	875613	Water Heater, Electric, Commercial, 30 to 80 GAL, Replace	15	15	0	1	EA	$6,963.24	$8,007.73	$8,008	$8,008															$8,008						**$16,015**
D20	875612	Water Heater, Electric, Commercial, 30 to 80 GAL, Replace	15	5	10	1	EA	$6,963.24	$8,007.73	$8,008											$8,008											**$8,008**
D20	875544	Water Heater, Gas, Commercial, 60 to 120 GAL, Replace	15	3	12	1	EA	$10,698.82	$12,303.64	$12,304													$12,304									**$12,304**
D20	875545	Sump Pump, 3 HP, Replace	15	8	7	2	EA	$2,062.81	$2,372.23	$4,744								$4,744														**$4,744**
D30	875548	Air Compressor, 0.75 HP, Replace	20	9	11	1	EA	$4,696.77	$5,401.28	$5,401												$5,401										**$5,401**
	960791	Solar Instillation Project, Roof Mounted Solar Instillation, Install	20	15	5	156000	SF	$1.00	$1.15	$179,400						$179,400																**$179,400**
D30	875519	Boiler, Gas, 1,001 to 2,000 MBH, Replace	25	11	14	1	EA	$46,465.41	$53,435.22	$53,435															$53,435							**$53,435**
D30	871556	Boiler, Gas, 1,001 to 2,000 MBH, Replace	25	11	14	1	EA	$46,465.41	$53,435.22	$53,435															$53,435							**$53,435**
D30	871547	Ductless Split System, Single Zone, 2.5 to 3 Ton, Replace	15	8	7	1	EA	$6,577.13	$7,563.70	$7,564								$7,564														**$7,564**
D30	871563	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	10	5	25	EA	$2,021.87	$2,325.15	$58,129						$58,129																**$58,129**
D30	871536	Distribution Pump, Heating Water, 7.5 HP, Replace	20	13	7	2	EA	$6,037.49	$6,943.12	$13,886								$13,886														**$13,886**
D30	871555	Unit Heater, Hydronic, 13 to 36 MBH, Replace	20	11	9	2	EA	$1,516.80	$1,744.32	$3,489										$3,489												**$3,489**
D20	871522	Radiator, Hydronic Baseboard (per LF), Replace	50	38	12	450	LF	$132.77	$152.69	$68,708													$68,708									**$68,708**
D30	875690	Heat Pump, Packaged (RTU), 1.5 to 2 Ton, Replace	15	13	2	1	EA	$5,030.68	$5,785.28	$5,785			$5,785																$5,785			**$11,571**
D30	871501	Heat Pump, Packaged (RTU), 3.5 to 5 Ton, Replace	15	10	5	1	EA	$8,928.22	$10,267.46	$10,267						$10,267																**$10,267**
D30	945802	Building Automation System (HVAC Controls), Upgrade	20	18	2	42549	SF	$5.36	$6.17	$262,394			$262,394																			**$262,394**
D40	937488	Sprinkler System, Full Retrofit, School (per SF), Renovate	50	46	4	42549	SF	$6.25	$7.19	$305,992					$305,992																	**$305,992**
D50	871569	Building/Main Switchgear, 208 Y, 120 V, 800 Amp, Replace	30	23	7	1	EA	$179,033.12	$205,888.09	$205,888								$205,888														**$205,888**
G20	871578	LED Lighting Fixture, Basic, 20 W, Replace	20	3	17	20	EA	$180.19	$207.21	$4,144																			$4,144			**$4,144**
D50	871554	Lighting System, Interior, School, Upgrade	25	21	4	42549	SF	$15.36	$17.67	$751,752					$751,752																	**$751,752**
D60	946249	Intercom Master Station, Replace	20	19	1	1	EA	$3,814.50	$4,386.67	$4,387		$4,387																				**$4,387**
D50	945803	Clock and Bell System, Wireless or Ethernet Enabled, Up To 100 Total Clocks / Bells, Replace	15	14	1	52549	SF	$0.51	$0.59	$30,820		$30,820																$30,820				**$61,640**
D70	871526	Fire Alarm Control Panel, Addressable, Replace	15	15	0	1	EA	$20,297.59	$23,342.23	$23,342	$23,342															$23,342						**$46,684**
D70	871562	Fire Alarm System, School, Install	20	18	2	42549	SF	$3.13	$3.60	$153,238			$153,238																			**$153,238**
D70	946247	Security/Surveillance System, Cameras and CCTV, Install	10	9	1	42549	SF	$4.35	$5.00	$212,714		$212,714										$212,714										**$425,429**

EMG Renamed Item Number	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost	w/ Markup *	Subtotal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	RRR_RowGrandTotalLabel
E10	875687	Commercial Kitchen, Refrigerator, 1-Door Reach-In, Replace	15	12	3	1	EA	$2,515.00	$2,892.25	$2,892				$2,892															$2,892		**$5,785**
E10	871503	Commercial Kitchen, Convection Oven, Double, Replace	10	7	3	1	EA	$8,643.00	$9,939.45	$9,939				$9,939										$9,939							**$19,879**
E10	875689	Commercial Kitchen, Convection Oven, Single, Replace	10	6	4	1	EA	$5,077.62	$5,839.26	$5,839					$5,839										$5,839						**$11,679**
E10	871528	Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace	15	10	5	1	EA	$4,256.00	$4,894.40	$4,894						$4,894															**$4,894**
E10	875688	Commercial Kitchen, Steamer, Tabletop, Replace	10	5	5	1	EA	$6,344.00	$7,295.60	$7,296						$7,296										$7,296					**$14,591**
	958674	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	1	1	0	45729.87	LS	$1.00	$1.15	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	$52,589	**$1,051,787**
G20	871550	Parking Lots, Asphalt Pavement, Seal & Stripe	5	3	2	40000	SF	$0.38	$0.44	$17,457			$17,457					$17,457					$17,457					$17,457			**$69,828**
G20	871510	Parking Lots, Asphalt Pavement, Mill & Overlay	25	13	12	40000	SF	$3.28	$3.77	$150,898													$150,898								**$150,898**
G20	871502	Pedestrian Pavement, Sidewalk, Concrete Large Areas, Replace	30	18	12	9000	SF	$9.00	$10.35	$93,150													$93,150								**$93,150**
G20	871545	Exterior Stairs & Ramps, Concrete (per LF of Nosing), Replace	25	8	17	50	LF	$38.43	$44.20	$2,210																		$2,210			**$2,210**
G20	875619	Fences & Gates, Chain Link, 4' High, Replace	30	18	12	500	LF	$30.51	$35.09	$17,544													$17,544								**$17,544**
G20	871492	Fences & Gates, Chain Link, 4' High, Replace	30	11	19	100	LF	$30.51	$35.09	$3,509																				$3,509	**$3,509**
G20	871574	Signage, Property, Monument/Pylon, Replace	20	13	7	1	EA	$8,602.00	$9,892.30	$9,892								$9,892													**$9,892**
G20	871566	Site Furnishings, Park Bench, Metal/Wood/Plastic, Replace	20	13	7	3	EA	$487.03	$560.08	$1,680								$1,680													**$1,680**
G20	871540	Site Furnishings, Picnic Table, Plastic-Coated Metal, Replace	20	13	7	3	EA	$1,391.50	$1,600.23	$4,801								$4,801													**$4,801**
G20	871564	Play Surfaces & Sports Courts, Asphalt, Replace	25	25	0	3500	SF	$5.90	$6.79	$23,748	$23,748																				**$23,748**
G20	875682	Play Surfaces & Sports Courts, Concrete, Replace	25	18	7	500	SF	$5.90	$6.79	$3,393								$3,393													**$3,393**
G20	875686	Play Surfaces & Sports Courts, Wood Chips, 3" Depth, Replace	20	8	12	18000	SF	$0.81	$0.93	$16,701													$16,701								**$16,701**
G20	874657	Play Structure, Small, Replace	20	8	12	4	EA	$18,975.00	$21,821.25	$87,285													$87,285								**$87,285**
G20	871488	Flagpole, Metal, Replace	20	11	9	1	EA	$2,530.00	$2,909.50	$2,910										$2,910											**$2,910**
G20	871575	Pole Light, Exterior, 105 to 200 W LED (Fixture & Bracket Arm Only), Replace	20	3	17	5	EA	$3,303.00	$3,798.45	$18,992																		$18,992			**$18,992**
Totals, Unescalated											**$597,000**	**$315,978**	**$639,385**	**$196,769**	**$2,002,911**	**$318,039**	**$132,663**	**$2,008,473**	**$52,589**	**$123,175**	**$60,597**	**$402,053**	**$726,061**	**$62,529**	**$165,299**	**$189,572**	**$163,483**	**$165,297**	**$55,482**	**$303,380**	**$8,680,734**
Totals, Escalated (3.0% inflation, compounded annually)											**$597,000**	**$325,457**	**$678,324**	**$215,015**	**$2,254,294**	**$368,694**	**$158,406**	**$2,470,168**	**$66,619**	**$160,716**	**$81,437**	**$556,535**	**$1,035,189**	**$91,826**	**$250,030**	**$295,347**	**$262,342**	**$273,211**	**$94,454**	**$531,980**	**$10,767,042**

* Markup/LocationFactor (1) has been included in unit costs. Markup includes a and 15% Ann Arbor Premium factors applied to the location adjusted unit cost.

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1. Executive Summary

1.1. Property Information and General Physical Condition

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:	344 Gralake Avenue Ann Arbor, Michigan 48103
Year Constructed/Renovated:	1961
Current Occupants:	Lakewood Elementary
Percent Utilization:	100%
Management Point of Contact:	Ann Arbor Public Schools/Facilities, Jim Vibbart, Maintenance Supervisor
Property Type:	Elementary School
Site Area:	18.00 acres
Building Area:	42,549 SF
Number of Buildings:	One
Number of Stories:	One
Parking Type and Number of Spaces:	56 spaces in open lots
Building Construction:	Masonry bearing walls and concrete-topped metal decks.
Roof Construction:	Flat roofs with single-ply membrane.
Exterior Finishes:	Brick Veneer
Heating, Ventilation & Air Conditioning:	Central system with boilers, air handlers, and rooftop units feeding hydronic terminal units. Supplemental components: ductless split-systems, suspended unit heaters.
Fire and Life/Safety:	Partial fire sprinklers, hydrants, smoke detectors, alarms, strobes, extinguishers, pull stations, alarm panel, and exit signs.
ADA :	This building does not have any major ADA issues.
All 42,549 square feet of the building are occupied by a single occupant, Lakewood Elementary School. The spaces are a combination of offices, classrooms, extracurricular spaces, and supporting restrooms, mechanical and other utility spaces.	
Most of the interior spaces were observed in order to gain a clear understanding of the property's overall condition. Other areas accessed included the site within the property boundaries, exterior of the property and the roof. All areas of the property were available for observation during the site visit.	

Key Spaces Not Observed		
Room Number	Area	Access Issues
NA	Exterior Storage Shed	Locked room and no key
A "down unit" or area is a term used to describe a unit or space that cannot be occupied due to poor conditions such as fire damage, water damage, missing equipment, damaged floor, wall or ceiling surfaces, or other significant deficiencies. There are no down units or areas.		

Assessment Information	
Dates of Visit:	March 2, 2018
On-Site Point of Contact (POC):	Linda Zummer
Assessment and Report Prepared by:	Sean Luxem
Reviewed by:	Al Diefert Technical Report Reviewer For Andrew Hupp Program Manager ahupp@emgcorp.com 800.733.0660 x6632

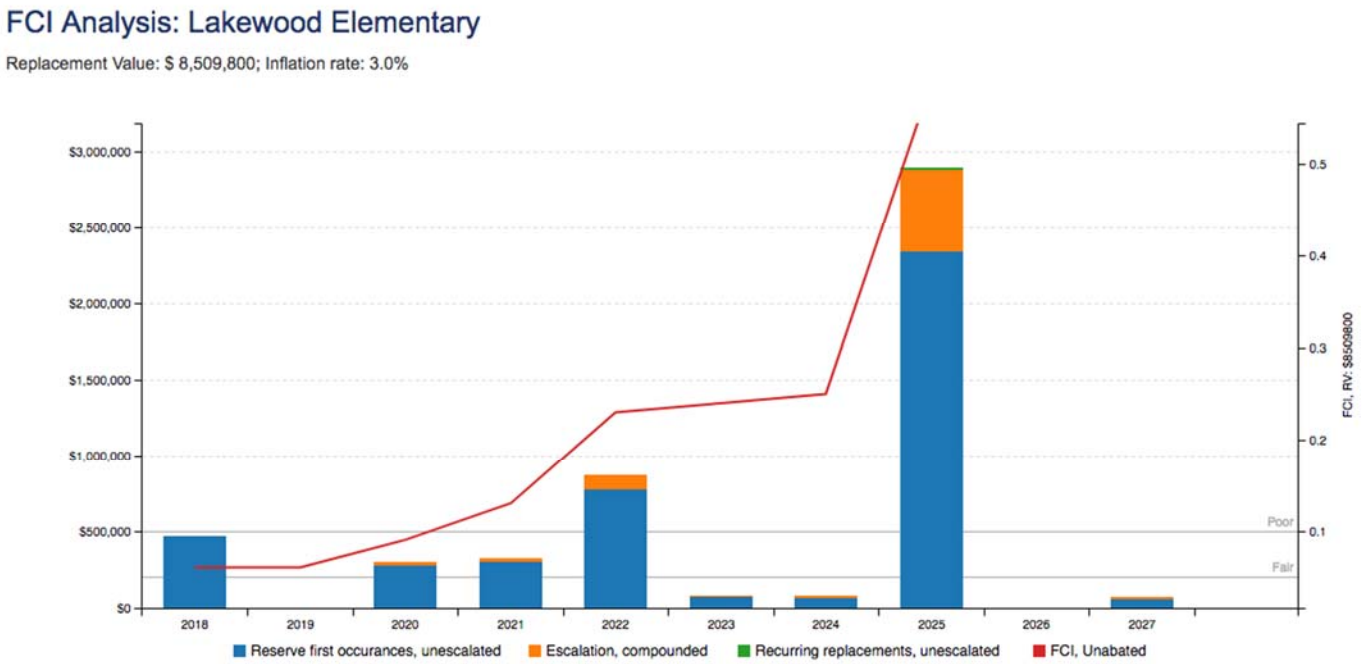
1.2. Key Findings

Site : None.

Architectural : None.

MEPF : Majority of the systems are antiquated, and would benefit from replacement.

1.3. Facility Condition Index (FCI)



One of the major goals of the FCA is to calculate the FCI, which gives an indication of a building's overall condition. Two FCI ratios are calculated and presented, the Current Year and Ten-Year. The Current Year FCI is the ratio of Immediate Repair Costs to the building's Current Replacement Value. Similarly, the Ten-Year FCI is the ratio of anticipated Capital Reserve Needs over the next ten years to the Current Replacement Value.

FCI Rating	Definition	Percentage Value
Good	In new or well-maintained condition, with no visual evidence of wear, soiling or other deficiencies.	0 to .05
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.	> than .05 to .10

FCI Rating	Definition	Percentage Value
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	> than .10 to .60
Very Poor	Has reached the end of its useful or serviceable life. Renewal is now necessary.	> than .60

The graphs above and tables below represent summary-level findings for the FCA. The deficiencies identified in this assessment can be combined with potential new construction requirements to develop an overall strategy that can serve as the basis for a portfolio-wide capital improvement funding strategy. Key findings from the assessment include:

KEY FINDING	METRIC
Current Year Facility Condition Index (FCI) FCI = (IR)/(CRV):	5.56%
Current Year FCI Rating:	2018
10-Year Facility Condition Index (FCI) FCI = (RR)/(CRV):	60.18%
10-Year FCI Rating	0.6
Current Replacement Value (CRV):	$8,509,800
Year 0 (Current Year) - Immediate Repairs (IR):	$473,401
Years 1-10 - Replacement Reserves (RR):	$4,647,803
Total Capital Needs:	$5,121,204

Further detail on the specific costs that make up the Immediate Repair Costs can be found in the cost tables at the beginning of this report.

2. Building Structure

A10 Foundations

Building Foundation		
Item	Description	Condition
Foundation	Slab on grade with integral footings	Good
Basement and Crawl Space	None	--

Anticipated Lifecycle Replacements

- No components of significance

Actions/Comments:

- Isolated areas of the foundation systems are exposed, which allows for limited observation. There are no significant signs of settlement, deflection, or movement.

B10 Superstructure

B1010 Floor Construction & B1020 Roof Construction		
Item	Description	Condition
Framing / Load-Bearing Walls	Masonry walls	Good
Ground Floor	Concrete slab	Good
Roof Framing	Steel beams or girders	Good
Roof Decking	Metal decking with concrete topping	Good

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
None	NA	☐	None	NA	☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

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

B1080 Stairs					
Type	Description	Riser	Handrail	Balusters	Condition
Building Exterior Stairs	Concrete stairs	Closed	None	None	Fair
Building Interior Stairs	None				

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

3. Building Envelope

B20 Exterior Vertical Enclosures

B2010 Exterior Walls		
Type	Location	Condition
Primary Finish	Brick veneer	Good
Secondary Finish	Painted concrete	Fair
Accented with	NA	--
Soffits	Concealed	Fair
Building sealants	Between dissimilar materials, at joints, around windows and doors	Fair

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Graffiti		☐	Efflorescence		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Exterior paint
- Brick repointing

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance, including patching repairs, and re-caulking, is highly recommended. Future lifecycle replacements of the components listed above will be required.

B2020 Exterior Windows				
Window Framing	Glazing	Location	Window Screen	Condition
Aluminum framed, fixed	Double glaze	Throughout	☐	Fair
Aluminum framed, operable	Double glaze	Classrooms	☒	Fair

B2050 Exterior Doors		
Main Entrance Doors	Door Type	Condition
	Vinyl coated, insulated	Good
Secondary Entrance Doors	Vinyl coated, insulated	Good
Service Doors	Metal, insulated	Fair

B2050 Exterior Doors		
Main Entrance Doors	Door Type	Condition
	Vinyl coated, insulated	Good
Overhead Doors	None	--

Anticipated Lifecycle Replacements:

- Windows
- Exterior doors

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

B3010 Primary Roof			
Location	Main Building	Finish	Single-ply membrane
Type / Geometry	Flat	Roof Age	10+ Yrs
Flashing	Sheet metal	Warranties	Unkown
Parapet Copings	None	Roof Drains	Internal drains
Fascia	Metal Panel	Insulation	Rigid Board
Soffits	Concealed Soffits	Skylights	No
Attics	Concrete-topped steel decks	Ventilation Source-1	None
Roof Condition	Fair	Ventilation Source-2	--

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Drainage components broken/missing		☐	Vegetation/fungal growth		☐
Blocked Drains		☐	Debris		☐
Other		☐	Other		☐

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Evidence of roof leaks	☐	Significant ponding	☒
Excessive patching or repairs	☐	Blistering or ridging	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- EPDM roof membrane

Actions/Comments:

- The roof finishes were installed over ten years ago. Information regarding roof warranties or bonds was not available. The roofs are maintained by an outside contractor.
- 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.
- Current roof leaks should be repaired as a part of routine maintenance.
- Roof drainage appears to be adequate. Clearing and minor repair of drain system components should be performed regularly as part of the property management's routine maintenance and operations program
- The attics are not accessible and it could not be determined if there is moisture, water intrusion, or excessive daylight in the attics.

4. Interiors

C10 Interior Construction

C1030 Interior Doors		
Item	Type	Condition
Interior Doors	Metal	Fair
Door Framing	Metal	Fair
Fire Doors	No	--
Closet Doors	Solid core wood	Fair

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Improperly adjusted door closures		☐	Damaged/loose door hardware		☐
Other		☐	Other		☐

The following table generally describes the locations and typical conditions of the interior finishes within the facility:

Interior Finishes - Lakewood Elementary

Location	Finishes		Quantity (SF)	Condition	Action	RUL	Est. Cost
Throughout	Walls	Concrete/Masonry	200000	Fair	Prep & Paint	3	290,200
Interior	Floor	Ceramic Tile	11000	Fair	Replace	12	173,305
Throughout	Floor	Vinyl Tile (VCT)	21000	Fair	Replace	4	100,813
Gymnasium	Floor	Wood Strip	2000	Good	Replace	17	27,049
Throughout	Floor	Carpet Tile Commercial-Grade	10000	Fair	Replace	6	69,629
Throughout	Ceilings	Acoustical Tile (ACT) Dropped Fiberglass	39000	Fair	Replace	4	196,864

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Loose carpeting/flooring		☐	Minor areas of stained ceiling tiles		☐
Minor paint touch-up		☐	Areas of damaged/missing baseboard		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Carpet
- Cermaic tile

- Vinyl tile
- Wood flooring
- Interior paint
- Suspended acoustic ceiling tile
- Interior doors

Actions/Comments:

- It appears that the interior finishes have not been renovated within the last 10 years.
- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended. Future lifecycle replacements of the components listed above will be required.

5. Services (MEPF)

See the Mechanical Equipment List in the Appendices for the quantity, manufacturer's name, model number, capacity and year of manufacturer of the major mechanical equipment, if available.

D10 Conveying Systems

Not applicable. There are no elevators or conveying systems.

D20 Plumbing

D2010 Domestic Water Distribution		
Type	Description	Condition
Water Supply Piping	Copper	Good
Water Meter Location	Mechanical Room	

Domestic Water Heaters or Boilers	
Components	Water heaters
Fuel	Natural gas
Boiler or Water Heater Condition	Fair
Supplementary Storage Tanks?	Yes
Adequacy of Hot Water	Adequate
Adequacy of Water Pressure	Adequate

D2020 Sanitary Drainage		
Type	Description	Condition
Waste/Sewer Piping	Cast iron	Good
Vent Piping	Cast iron	Good

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Hot water temperature too hot or cold		☐	Minor or isolated leaks		☐
Other		☐	Other		☐

Plumbing Systems - Lakewood Elementary

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
Mechanical closet	Water Heater	Electric, Commercial, 30 to 80 GAL	1	EA	Poor	Replace	0	6,963
Mechanical room	Water Heater	Electric, Commercial, 30 to 80 GAL	1	EA	Good	Replace	10	6,963
Mechanical room	Water Heater	Gas, Commercial, 60 to 120 GAL	1	EA	Good	Replace	12	10,699
Throughout	Toilet	Tankless (Water Closet)	35	EA	Fair	Replace	9	29,504
Throughout	Urinal	Vitreous China	4	EA	Fair	Replace	9	4,774
Throughout	Sink	Vitreous China	25	EA	Fair	Replace	9	21,538
Throughout	Sink	Stainless Steel	25	EA	Fair	Replace	2	26,351
Throughout	Drinking Fountain	Refrigerated	7	EA	Fair	Replace	2	8,803

Anticipated Lifecycle Replacements:

- Water heaters
- Toilets
- Urinals
- Sinks
- Drinking fountains

Actions/Comments:

- The plumbing systems appear to be well maintained and functioning adequately. The water pressure appears to be sufficient. No significant repair actions or short term replacement costs are required. Routine and periodic maintenance is recommended. Future lifecycle replacements of the components or systems listed above will be required.

D30 Building Heating, Ventilating, and Air Conditioning (HVAC)

Building Central Heating System	
Primary Heating System Type	Hot water boilers
Heating Fuel	Natural gas
Location of Major Equipment	Mechanical rooms
Space Served by System	Entire building

Building Central Cooling System	
Primary Cooling System Type	Rooftop units
Refrigerant	R-22
Cooling Towers	None
Location of Major Equipment	Rooftop
Space Served by System	Entire building

Distribution System	
HVAC Water Distribution System	Two-pipe
Air Distribution System	Constant
Location of Air Handlers	Rooftop

Distribution System	
Terminal Units	Hydronic wall units
Quantity and Capacity of Terminal Units	Approximately 450 LF of hydronic wall units
Location of Terminal Units	Within interior spaces

Packaged, Split & Individual Units	
Primary Components	Rooftop units
Cooling (if separate from above)	performed via components above
Heating Fuel	None
Location of Equipment	Rooftop
Space Served by System	Offices

Supplemental/Secondary Components	
Supplemental Component #1	Suspended unit heaters
Location / Space Served by units	BOH Areas
Unit Condition	Fair
Supplemental Component #3	Ductless split system
Location / Space Served by unit	Offices
Unit Condition	Fair
Supplemental Component #3	Unit ventilators
Location / Space Served by units	Interior
Unit Condition	Fair

Controls and Ventilation	
HVAC Control System	BAS, hybrid pneumatic/electronic system
HVAC Control System Condition	Fair
Building Ventilation	Roof top exhaust fans
Ventilation System Condition	Fair

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Ductwork/grills need cleaned		☐	Minor control adjustments needed		☐

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Leaking condensate lines		☐	Poor mechanical area access		☐
Other		☐	Other		☐

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Heating, Cooling or Ventilation is not adequate	☐	Major system inefficiencies	☐
HVAC controls pneumatic or antiquated	☐	Obsolete refrigerants : R11, R12, R22, R123, R502	☒
Other	☐	Other	☐

Mechanical Systems - Lakewood Elementary

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
Boiler Room	Boiler	Gas, 1,001 to 2,000 MBH	1	EA	Good	Replace	14	46,465
Boiler Room	Boiler	Gas, 1,001 to 2,000 MBH	1	EA	Good	Replace	14	46,465
Boiler room	Unit Heater	Hydronic, 13 to 36 MBH	2	EA	Fair	Replace	9	3,034
Interior	Unit Ventilator	1,501 to 2,000 CFM	15	EA	Fair	Replace	7	190,905
Mechanical room	Distribution Pump	Heating Water, 7.5 HP	2	EA	Fair	Replace	7	12,075
Roof	Ductless Split System	Single Zone, 2.5 to 3 Ton	1	EA	Fair	Replace	7	6,577
Roof	Exhaust Fan	Centrifugal, 251 to 800 CFM	25	EA	Fair	Replace	5	50,547
Roof	Heat Pump	Packaged (RTU), 3.5 to 5 Ton	1	EA	Fair	Replace	5	8,928
Roof	Heat Pump	Packaged (RTU), 1.5 to 2 Ton	1	EA	Fair	Replace	2	5,031
Throughout	Radiator	Hydronic Baseboard	450	LF	Fair	Replace	12	59,747

Anticipated Lifecycle Replacements:

- Boilers
- Rooftop units
- Distribution pumps and motors
- Ductless split system
- Suspended hydronic unit heaters
- Hydronic baseboard heaters
- Rooftop exhaust fans
- Unit ventilators

Actions/Comments:

- The HVAC systems are maintained by an outside contractor.
- The HVAC equipment varies in age. HVAC equipment is replaced on an "as needed" basis.
- The HVAC equipment appears to be functioning adequately overall. However, due to the inevitable failure of parts and components over time, some of the equipment will require replacement

D40 Fire Protection

Item	Description					
Type	Partial wet pipe system, with supplementary components					
Sprinkler System	None	☐	Standpipes	☒	Backflow Preventer	☒
	Hose Cabinets	☐	Fire Pumps	☐	Siamese Connections	☐
Sprinkler System Condition	Good					
Fire Extinguishers	Last Service Date		Servicing Current?			
	August 2017		Yes			
Hydrant Location	Exterior					
Siamese Location	None					
Special Systems	Kitchen Suppression System	☐	Computer Room Suppression System	☐		

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Extinguisher tag expired		☐	Riser tag expired (5 year)		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

D50 Electrical

Distribution & Lighting			
Electrical Lines	Underground	Transformer	Pad-mounted
Main Service Size	800 Amps	Volts	120/208 Volt, three-phase
Meter & Panel Location	Electrical room	Branch Wiring	Copper
Conduit	Metallic	Step-Down Transformers?	No
Security / Surveillance System?	Yes	Building Intercom System?	Yes
Lighting Fixtures	T-8, CFL, LED		

Distribution & Lighting	
Main Distribution Condition	Fair
Secondary Panel and Transformer Condition	Fair
Lighting Condition	Good

Building Emergency Systems			
Size	None	Fuel	--
Generator / UPS Serves	--	Tank Location	--
Testing Frequency	--	Tank Type	--
Generator / UPS Condition	--		

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Improperly stored material		☐	Unsecured high voltage area		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Main distribution panel

Actions/Comments:

- The onsite electrical systems up to the meters are owned and maintained by the respective utility company.
- The electrical service and capacity appear to be adequate for the property's demands.
- The panels and switchboards are mostly 1990-2000 components. The electrical service appears to be adequate for the facility's needs. However, due to the age of the panels and switchboards and increasing difficulty of obtaining replacement parts over time, lifecycle replacements are recommended per above.

D60 Communications

D6060 Public Address Systems						
Item	Description					
Communication Equipment	Public Address System	☒	Nurse Call System	☐	Clock	☒

D70 Electronic Safety and Security

D7010 Access Control and Intrusion Detection / D7050 Detection and Alarm						
Item	Description					
Access Control and Intrusion Detection	Exterior Camera	☒	Interior Camera	☒	Front Door Camera Only	☐
	Cameras Monitored	☒	Security Personnel On-Site	☐	Intercom/Door Buzzer	☒
Fire Alarm System	Central Alarm Panel	☒	Battery-Operated Smoke Detectors	☐	Alarm Horns	☒
	Annunciator Panels	☐	Hard-Wired Smoke Detectors	☒	Strobe Light Alarms	☒
	Pull Stations	☒	Emergency Battery-Pack Lighting	☐	Illuminated EXIT Signs	☒
Fire Alarm System Condition	Fair					
Central Alarm Panel System	Location of Alarm Panel		Installation Date of Alarm Panel			
	Main Office		2000			

Anticipated Lifecycle Replacements:

- Central alarm panel
- Alarm devices and system

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

6. Equipment & Furnishings

E10 Equipment

The cafeteria area has a variety of commercial kitchen appliances, fixtures, and equipment. The equipment is owned and maintained in-house.

The cafeteria kitchen includes the following major appliances, fixtures, and equipment:

E1030 Commercial Kitchen Equipment		
Appliance	Comment	Condition
Refrigerators	Reach-in	Fair
Freezers	☐	--
Ranges	☐	--
Ovens	Gas	Fair
Griddles / Grills	☐	--
Fryers	☐	--
Hood	☐	--
Dishwasher	☐	--
Microwave	☒	Good
Ice Machines	☐	--
Steam Tables	☒	Fair

E1030 Commercial Laundry		
Equipment	Comment	Condition
Commercial Washing Machines	☐	--
Commercial Dryers	☐	--
Residential Washers	☐	--
Residential Dryers	☐	--

E1050 Pool Equipment		
Equipment	Comment	Condition
Pump	None	--
Filters	None	--

Anticipated Lifecycle Replacements:

- Oven

- Reach-in cooler
- Steam tables

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

7. Sitework

G20 Site Improvements

G2020 Parking Lots & G2030 Pedestrian Walkways		
Item	Material	Condition
Entrance Driveway Apron	Asphalt	Fair
Parking Lot	Asphalt	Fair
Drive Aisles	Asphalt	Fair
Service Aisles	None	--
Sidewalks	Concrete	Fair
Curbs	Concrete	Fair
Pedestrian Ramps	None	--
Ground Floor Patio or Terrace	Concrete	Fair

Parking Count				
Open Lot	Carport	Private Garage	Subterranean Garage	Freestanding Parking Structure
56	--	--	--	--
Total Number of ADA Compliant Spaces			3	
Number of ADA Compliant Spaces for Vans			2	
Total Parking Spaces			56	

Site Stairs			
Location	Material	Handrails	Condition
Parking area	Concrete stairs	None	Fair

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Pavement oil stains		☐	Vegetation growth in joints		☐
Stair/ramp rails loose		☐	Stair/ramp rail needs scraped and painted		☐
Other		☐	Other		☐

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Potholes/depressions	☐	Alligator cracking	☒
Concrete spalling	☐	Trip hazards (settlement/heaving)	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- Asphalt seal coating
- Asphalt pavement
- Sidewalks
- Site stairs

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended. Future lifecycle replacements of the components listed above will be required.

G2060 Site Development	
Property Signage	
Property Signage	Monument
Street Address Displayed?	Yes

Site Fencing		
Type	Location	Condition
Chain link with metal posts	Rear perrimeter	Fair
Chain link with metal posts	Parking area	Good

Refuse Disposal				
Refuse Disposal	Common area dumpsters			
Dumpster Locations	Mounting	Enclosure	Contracted?	Condition
Rear exterior	Asphalt paving	None	Yes	Good

Other Site Amenities			
	Description	Location	Condition
Playground Equipment	Plastic and metal	Rear exterior	Good
Tennis Courts	None	--	--
Basketball Court	Asphalt	Parking area	Fair

Other Site Amenities			
	Description	Location	Condition
Swimming Pool	None	--	--

Anticipated Lifecycle Replacements:

- Signage
- Court surfaces
- Play structures
- Playground surfaces
- Flagpole
- Fencing

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

G2080 Landscaping		
Drainage System and Erosion Control		
System	Exists At Site	Condition
Surface Flow	☒	Good
Inlets	☒	Good
Swales	☐	--
Detention pond	☐	--
Lagoons	☐	--
Ponds	☐	--
Underground Piping	☒	Good
Pits	☐	--
Municipal System	☒	Good
Dry Well	☐	--

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

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

Item	Description						
Site Topography	Slopes gently down from the south side of the property to the north property line.						
Landscaping	Trees	Grass	Flower Beds	Planters	Drought Tolerant Plants	Decorative Stone	None
	☒	☒	☒	☐	☐	☐	☐

Item	Description			
Landscaping Condition	Good			
Irrigation	Automatic Underground	Drip	Hand Watering	None
	☐	☐	☐	☒
Irrigation Condition	--			

Retaining Walls		
Type	Location	Condition
None	--	--

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- The topography and adjacent uses do not appear to present conditions detrimental to the property. There are no significant areas of erosion.

G30 Liquid & Gas Site Utilities

G3060 Site Fuel Distribution	
Item	Description
Natural Gas	Gas service is supplied from the gas main on the adjacent public street. The gas meter and regulator are located in the mechanical room. The gas distribution piping within the building is malleable steel (black iron).

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- The pressure and quantity of gas appear to be adequate.
- The gas meter and regulator appear to be functioning adequately and will require routine maintenance.
- Only limited observation of the gas distribution piping can be made due to hidden conditions.

G40 Electrical Site Improvements

G4050 Site Lighting					
Site Lighting	None	Pole Mounted	Bollard Lights	Ground Mounted	Parking Lot Pole Type
	☒	☐	☐	☐	☒
	Good				

G4050 Site Lighting			
Building Lighting	None	Wall Mounted	Recessed Soffit
	☐	☒	☒
	Good		

Maintenance Issues					
Observation	Location	Exists At Site	Observation	Location	Exists At Site
Isolated bulb/lamp replacement		☐	Discolored/dirty lens cover		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Exterior lighting

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

8. Ancillary Structures

Other Ancillary Structures			
Type	Storage Shed	Location	Rear Exterior
Item	Material	Item	Material
Exterior Siding	Wood siding	Roof Finishes	Aspahlt shingle
Interior Finishes	Floor : Unknown, no access Ceiling : Unknown, no access Walls : Unknown, no access	MEPF	See Tables in Section 5
Overall Building Condition			Good
Type	Maintenance Shed	Location	Parking Lot
Item	Material	Item	Material
Exterior Siding	Concrete	Roof Finishes	Concrete
Interior Finishes	Floor : Unknown, no access Ceiling : Unknown, no access Walls : Unknown, no access	MEPF	See Tables in Section 5
Overall Building Condition			Good

Anticipated Lifecycle Replacements:

- No components of significance.

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

9. Opinions of Probable Costs

Cost estimates are attached at the front of this report (following the cover page).

These estimates are based on Invoice or Bid Document/s provided either by the Owner/facility and 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.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing of the work (if applicable), quality of contractor, quality of project management exercised, market conditions, and whether competitive pricing is solicited, etc. ASTM E2018-08 recognizes that certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study should be included in the FCA.

9.1. Methodology

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, EMG opines as to when a system or component will most probably necessitate replacement. Accurate historical replacement records, if provided, are typically the best source of information. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc., 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 chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age. Projections of Remaining Useful Life (RUL) are based on continued use of the Property similar to the reported past use. Significant changes in occupants and/or usage may affect the service life of some systems or components.

Where quantities could not be derived from an actual take-off, lump sum costs or allowances are used. Estimated costs are based on professional judgment and the probable or actual extent of the observed defect, inclusive of the cost to design, procure, construct and manage the corrections.

9.2. Immediate Repairs

Immediate repairs are opinions of probable costs that require immediate action as a result of: (1) material existing or potential unsafe conditions, (2) material building or fire code violations, or (3) conditions that, if not addressed, have the potential to result in, or contribute to, critical element or system failure within one year or will most probably result in a significant escalation of its remedial cost.

9.3. Replacement Reserves

Replacement Reserves are for recurring probable expenditures, which are not classified as operation or maintenance expenses. The replacement reserves should be budgeted for in advance on an annual basis. Replacement Reserves are reasonably predictable both in terms of frequency and cost. However, Replacement Reserves may also include components or systems that have an indeterminable life but, nonetheless, have a potential for failure within an estimated time period.

Replacement Reserves exclude systems or components that are estimated to expire after the reserve term and are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that are not deemed to have a material effect on the use of the Property are also excluded. Costs that are caused by acts of God, accidents, or other occurrences that are typically covered by insurance, rather than reserved for, are also excluded.

Replacement costs are solicited from ownership/property management, EMG's discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by the ownership's or property management's maintenance staff are also considered.

EMG's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the assessment period. The assessment period is defined as the effective age plus the reserve term. Additional information concerning system's or component's respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Replacement Reserves Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined in the Immediate Repair Cost Estimate

10. Purpose and Scope

10.1. Purpose

EMG was retained by the client to render an opinion as to the Property's current general physical condition on the day of the site visit.

Based on the observations, interviews and document review outlined below, this report identifies significant deferred maintenance issues, existing deficiencies, and material code violations of record at municipal offices, which affect the Property's use. Opinions are rendered as to its structural integrity, building system condition and the Property's overall condition. The report also notes building systems or components that have realized or exceeded their typical expected useful lives.

CONDITIONS:

The physical condition of building systems and related components are typically defined as being in one of five conditions: Excellent, Good, Fair, Poor, Failed or a combination thereof. For the purposes of this report, the following definitions are used:

Excellent	=	New or very close to new; component or system typically has been installed within the past year, sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Good	=	Satisfactory as-is. Component or system is sound and performing its function, typically within the first third of its lifecycle. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Fair	=	Showing signs of wear and use but still satisfactory as-is, typically near the median of its estimated useful life. Component or system is performing adequately at this time but may exhibit some signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
Poor	=	Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
Failed	=	Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
Not Applicable	=	Assigning a condition does not apply or make logical sense, most commonly due to the item in question not being present.

Throughout sections 5 through 9 of this report, each report section will typically contain three subsections organized in the following sequence:

- A descriptive table (and/or narrative), which identifies the components assessed, their condition, and other key data points.
- A simple bulleted list of Anticipated Lifecycle Replacements, which lists components and assets typically in Excellent, Good, or Fair condition at the time of the assessment but that will require replacement or some other attention once aged past their estimated useful life. These listed components are typically included in the associated inventory database with costs identified and budgeted beyond the first several years.
- A bulleted cluster of Actions/Comments, which include more detailed narratives describing deficiencies, recommended repairs, and short term replacements. The assets and components associated with these bullets are/were typically problematic and in Poor or Failed condition at the time of the assessment, with corresponding costs included within the first few years.

PLAN TYPES:

Each line item in the cost database is assigned a Plan Type, which is the primary reason or rationale for the recommended replacement, repair, or other corrective action. This is the "why" part of the equation. A cost or line item may commonly have more than one applicable Plan Type; however, only one Plan Type will be assigned based on the "best" fit, typically the one with the greatest significance. The following Plan Types are listed in general weighted order of importance:

Safety	=	An observed or reported unsafe condition that if left unaddressed could result in an injury; a system or component that presents a potential liability risk.
Performance/Integrity	=	Component or system has failed, is almost failing, performs unreliably, does not perform as intended, and/or poses a risk to overall system stability.
Accessibility	=	Does not meet ADA, UFAS, and/or other handicap accessibility requirements.
Environmental	=	Improvements to air or water quality, including removal of hazardous materials from the building or site.
Modernization/Adaptation	=	Conditions, systems, or spaces that need to be upgraded in appearance or function to meet current standards, facility usage, or client/occupant needs.
Lifecycle/Renewal	=	Any component or system in which future repair or replacement is anticipated beyond the next several years and/or is of minimal substantial early-term consequence.

10.2. Scope

The standard scope of the Facility Condition Assessment includes the following:

- Visit the Property to evaluate the general condition of the building and site improvements, review available construction documents in order to familiarize ourselves with, and be able to comment on, the in-place construction systems, life safety, mechanical, electrical, and plumbing systems, and the general built environment.
- Identify those components that are exhibiting deferred maintenance issues and provide cost estimates for Immediate Costs and Replacement Reserves based on observed conditions, maintenance history and industry standard useful life estimates. This will include the review of documented capital improvements completed within the last five-year period and work currently contracted for, if applicable.
- Provide a full description of the Property with descriptions of in-place systems and commentary on observed conditions.
- Provide a general statement of the subject Property's compliance to Title III of the Americans with Disabilities Act. This will not constitute a full ADA survey, but will help identify exposure to issues and the need for further review.
- Perform a limited assessment of accessible areas of the building(s) for the presence of fungal growth, conditions conducive to fungal growth, and/or evidence of moisture. EMG will also interview Project personnel regarding the presence of any known or suspected fungal growth, elevated relative humidity, water intrusion, or mildew-like odors. Potentially affected areas will be photographed. Sampling will not be considered in routine assessments.
- List the current utility service providers.
- Review maintenance records and procedures with the in-place maintenance personnel.
- Observe a representative sample of the interior spaces/units, including vacant spaces/units, in order to gain a clear understanding of the property's overall condition. Other areas to be observed include the exterior of the property, the roofs, interior common areas, and the significant mechanical, electrical and elevator equipment rooms.
- Provide recommendations for additional studies, if required, with related budgetary information.
- Provide an Executive Summary at the beginning of this report.
- Prepare a mechanical inventory list.

11. Accessibility and Property Research

11.1. 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 FCA, 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 Table* below. 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 actual measurements were not taken to verify compliance.

The facility generally appears to be accessible as stated within the defined priorities of Title III of the Americans with Disabilities Act.

Accessibility Issues			
Component	Major Issue (ADA Study Recommended)	Moderate Issue (ADA Study Recommended)	Minor Issue
Parking	☐	☐	☐
Exterior Accessible Route	☐	☐	☐
Interior Accessible Route	☐	☐	☐
Restrooms	☐	☐	☐
Elevators	☐	☐	☐

A full ADA Compliance Survey may reveal 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 Accessibility Guidelines concern civil rights issues as they pertain to the disabled and are not a construction code, although many local jurisdictions have adopted the Guidelines as such.

12. Certification

Ann Arbor Public Schools retained EMG to perform this Facility Condition Assessment in connection with its continued operation of Lakewood Elementary, 344 Gralake Avenue, Arbor, Michigan, the "Property". It is our understanding that the primary interest of Ann Arbor Public Schools is to locate and evaluate materials and building system defects that might significantly affect the value of the property and to determine if the present Property has conditions that will have a significant impact on its continued operations.

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 property management personnel and maintenance contractors 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 assessment 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 management 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 the client for the purpose stated within Section 10 of this report. The report, or any excerpt thereof, shall not be used by any party other than the client or for any other purpose than that specifically stated in our agreement or within Section 10 of this report without the express written consent of EMG.

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

Prepared by: Sean Luxem,
Project Manager

Reviewed by:

Al Diefert
Technical Report Reviewer For
Andrew Hupp
Program Manager

13. Appendices

Appendix A: Photographic Record
Appendix B: Site Plan
Appendix C: Supporting Documentation
Appendix D: Pre-Survey Questionnaire

Appendix A:
Photographic Record

PHOTO #1:	FRONT ELEVATION

PHOTO #2:	SIDE ELEVATION

PHOTO #3:	SIDE ELEVATION

PHOTO #4:	REAR ELEVATION

PHOTO #5:	STORAGE SHED

PHOTO #6:	PROPERTY SIGNAGE

PHOTO #7:	CONCRETE SIDEWALKS AND ASPHALT PAVEMENT

PHOTO #8:	ADA PARKING AREA

PHOTO #9:	PLAYGROUND

PHOTO #10:	BASKETBALL COURT

PHOTO #11:	EXTERIOR TABLES AND BENCHES

PHOTO #12:	CHAIN LINK FENCING

PHOTO #13:	SINGLE-PLY ROOFING

PHOTO #14:	EXHAUST FAN

PHOTO #15:	ROOFTOP UNIT

PHOTO #16:	DUCTLESS SPLIT SYSTEM

PHOTO #17:	HVAC BOILER

PHOTO #18:	CIRCULATION PUMPS

PHOTO #19:	SUSPENDED UNIT HEATERS

PHOTO #20:	UNIT VENTILATORS

PHOTO #21:	DOMESTIC WATER HEATER

PHOTO #22:	MAIN DISTRIBUTION PANEL

PHOTO #23:	FIRE PANEL

PHOTO #24:	KITCHEN EQUIPMENT

PHOTO #25:	LOBBY

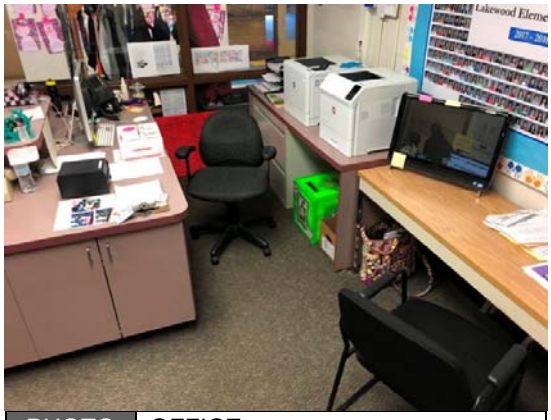


PHOTO #26:	OFFICE

PHOTO #27:	CONFERENCE ROOM

PHOTO #28:	CLASSROOM

PHOTO #29:	LIBRARY

PHOTO #30:	MEDIA CENTER

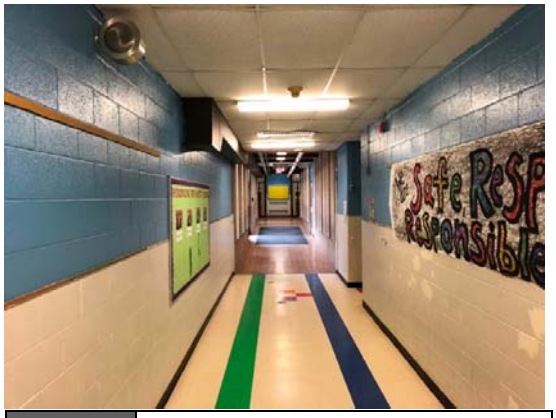


PHOTO #31:	HALLWAY

PHOTO #32:	TEACHERS LOUNGE

PHOTO #33:	GYMNASIUM

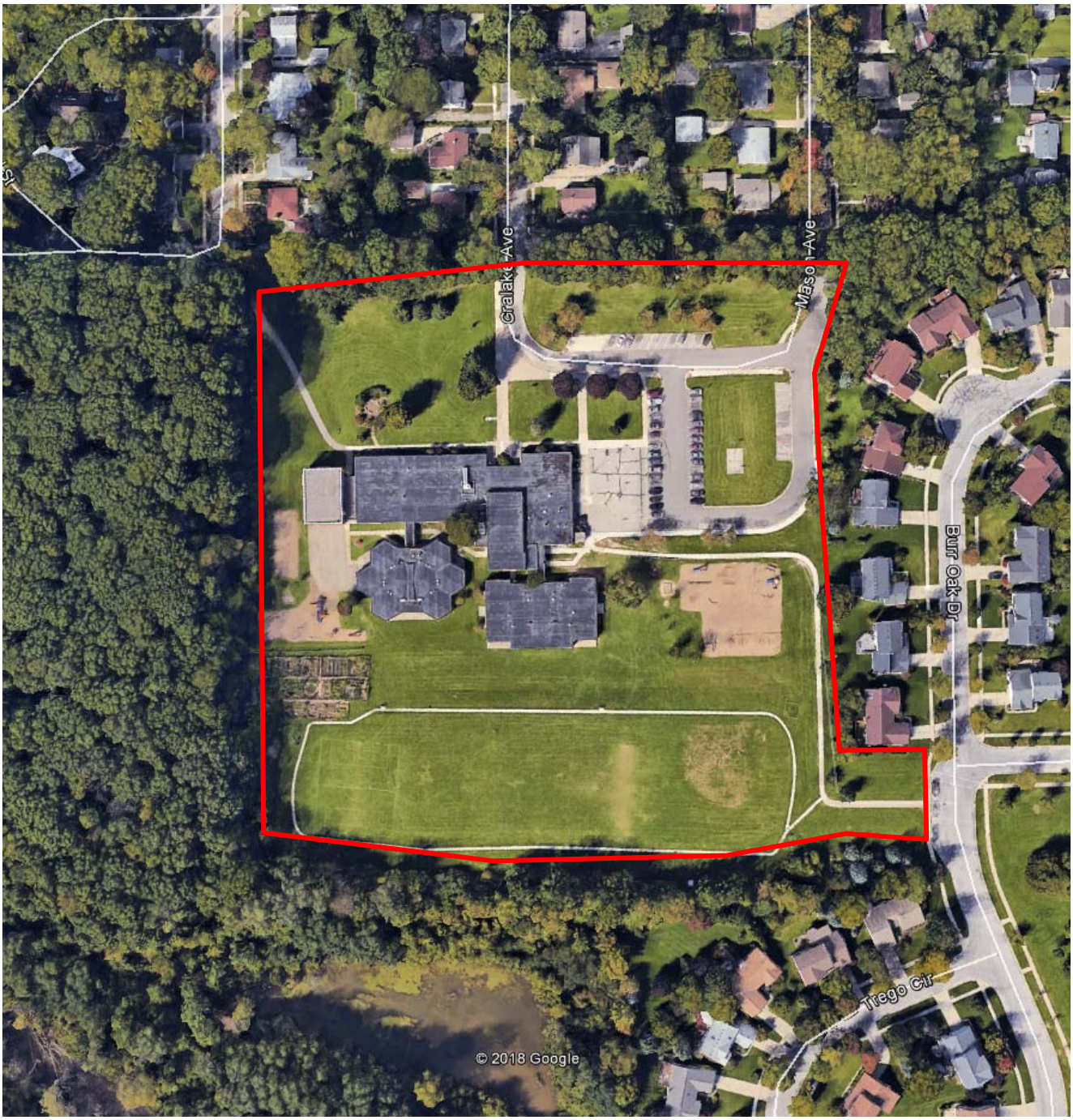
PHOTO #34:	MULTI-PURPOSE ROOM

PHOTO #35:	CLASSROOM TOILET

PHOTO #36:	CLASSROOM SINKS

Appendix B:
Site Plan

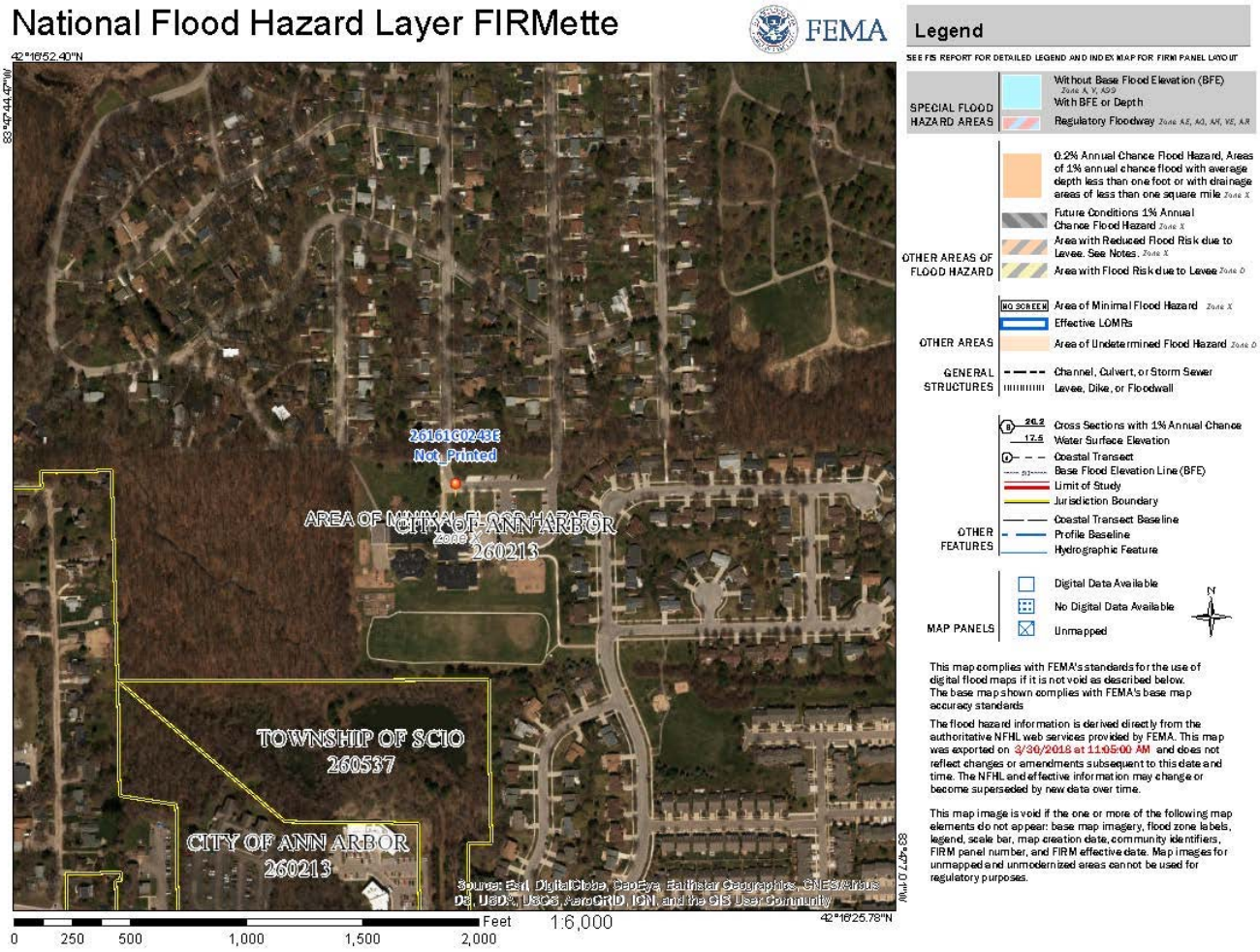
Site Plan



emg	**Project Name:** Lakewood Elementary	**Project Number:** 129010.18R000-015.354
	Source: Google Earth	**On-Site Date:** March 2, 2018

Appendix C:
Supporting Documentation

Flood Map



emg	**Project Name:** **Lakewood Elementary**	**Project Number:** **129010.18R000-015.354**
	Source: **FEMA**	**On-Site Date:** **March 2, 2018**

Appendix D:
Pre-Survey Questionnaire

EMG FACILITY CONDITION ASSESSMENT: PRE-SURVEY QUESTIONNAIRE

Building / Facility Name: Lakewood Elementary

Name of person completing form: Linda Zimmer

Title / Association with property: OP/office Manager

Length of time associated w/ property: 10yr

Date Completed: 3/27/18

Phone Number: 734. 994. 1953

Directions: Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any ***Yes*** responses.

	DATA OVERVIEW	RESPONSE			
1	Year/s constructed	1961			
2	Building size in SF	42,549 SF			
3	Major Renovation Dates	Façade	exterior (3yrs.)	HVAC	NA
		Roof	2017 all but D Centrum	Electrical	HDMI conduit 15 years ago)
		Interiors	tiling 2013	Site Pavement	2017
		Accessibility	2015-2017 (security)	other	
	QUESTION	**RESPONSE**			
4	Provide additional detail about the scope of the MAJOR additions, renovations, or systemic rehabilitations since construction (referenced above in Question 3).	Roof (not D) Security systems			
5	List other significant but somewhat lesser capital improvements, focusing on recent years (provide approximate year completed).	Small parking areas were filled/paved (inadequate parking)			
6	List any major capital expenditures planned/requested for the next few years. Have they been budgeted?	painting interior (no) BADLY Sidewalk widened (no) Shed (no)			
7	Describe any on-going extremely problematic, historically chronic, or immediate facility needs.	Shed doors Sidewalk widened			

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any **Yes** responses. (**NA** indicates "*Not Applicable*", **Unk** indicates "*Unknown*")						
	QUESTION	RESPONSE				COMMENTS
		Yes	No	Unk	NA	
8	Are there any problems with foundations or structures, like excessive settlement?	✓				A centrum hallways has water come in thru doors
9	Has any part of the facility ever contained visible suspect mold growth, or have there been any indoor air quality or mold related complaints from occupants?	✓				music room
10	Are there any wall, window, basement or roof leaks?	✓				gym office a centrum hallway main hallway
11	Are there any plumbing leaks, water pressure, or clogging/back-up problems?	✓				D-1 Sink √D-5 4 Sewer scent (check D centrum sinks
12	Have there been any leaks or pressure problems with natural gas, HVAC supply/return lines, or steam service?		✓			
13	Are any areas of the facility inadequately heated, cooled or ventilated? Any poorly insulated areas?	✓				no air except office D centrum + 109 are heat zones
14	Is the electrical service outdated, undersized, or otherwise problematic?	✓				
15	Are there any problems or inadequacies with exterior building-mounted lighting?	✓				• LED lights in front don't turn off • access to power in pole • could use more exterior lighting 4 safety
16	Is site/parking drainage inadequate, with excessive ponding or other problems?		✓			
17	Are there any other unresolved construction defects or significant issues/hazards at the property that have not yet been identified above?	✓				hole in cement outside door # 4 new drinking fountains Window problems (139, M.center, A4)
18	ADA: Has an accessibility study been performed at the site? If so, indicate when.			✓		
19	ADA: If a study has occurred, have the associated recommendations been addressed? In full or in part?			✓		
20	ADA: Have there been regular complaints about accessibility issues, or associated previous or pending litigation?			✓		

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.