# FACILITY CONDITION ASSESSMENT

*Prepared for*

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

FACILITY CONDITION ASSESSMENT

OF

PATTENGILL ELEMENTARY
2100 CRESTLAND DRIVE
ANN ARBOR, MICHIGAN 48104


PREPARED BY:
*EMG*
*10461 Mill Run Circle, Suite 1100*
*Owings Mills, Maryland 21117*
*800.733.0660*
*www.EMGcorp.com*

EMG CONTACT:
*Andrew Hupp*
*Program Manager*
*800.733.0660 x6632*
*ahupp@emgcorp.com*


EMG PROJECT #:
*129010.18R000-020.354*

DATE OF REPORT:
*July 2, 2018*

ONSITE DATE:
*January 31, 2018*

**Immediate Repairs Report**
**Pattengill Elementary**
## 7/2/2018

| Location Name | EMG Renamed Item Number | ID | Cost Description | Quantity | Unit | Unit Cost * | Subtotal | Deficiency Repair Estimate * |
|---|---|---|---|---|---|---|---|---|
| Pattengill Elementary | D30 | 885577 | Air Conditioning, Central, Install | 52000 | SF | $11.50 | $598,000 | **$598,000** |
| Pattengill Elementary | B2020 | 834696 | Window, Aluminum Double-Glazed 12 SF, 1-2 Stories, Replace | 1 | EA | $584.21 | $584 | **$584** |
| Pattengill Elementary | B2050 | 834706 | Exterior Door, Steel, Replace | 16 | EA | $1,092.64 | $17,482 | **$17,482** |
| Pattengill Elementary | B30 | 845756 | Roof, Modified Bituminous, Replace | 37500 | SF | $10.35 | $387,978 | **$387,978** |
| Pattengill Elementary | C2010 | 834698 | Interior Wall Finish, Gypsum Board/Plaster, Repair | 200 | SF | $3.18 | $636 | **$636** |
| Pattengill Elementary | A10 | 834681 | Interior Wall Finish, Concrete, Repair | 77000 | SF | $34.78 | $2,678,443 | **$2,678,443** |
| Pattengill Elementary | C2050 | 834695 | Interior Ceiling Finish, Gypsum Board/Plaster, Repair | 1000 | SF | $8.42 | $8,417 | **$8,417** |
| Pattengill Elementary | C2050 | 834738 | Interior Ceiling Finish, Suspended Acoustical Tile (ACT), Replace | 2500 | SF | $3.58 | $8,944 | **$8,944** |
| Pattengill Elementary | D20 | 834679 | Backflow Preventer, 2 Inch, Replace | 1 | EA | $2,993.64 | $2,994 | **$2,994** |
| Pattengill Elementary | D30 | 834677 | Building Automation System (HVAC Controls), , Upgrade | 52000 | SF | $6.17 | $320,678 | **$320,678** |
| Pattengill Elementary | D70 | 834739 | Fire Alarm Control Panel, Addressable, Replace | 1 | EA | $23,342.23 | $23,342 | **$23,342** |
| Pattengill Elementary | D70 | 834702 | Security/Surveillance System, Cameras and CCTV, Upgrade | 52000 | SF | $5.00 | $259,963 | **$259,963** |
| Pattengill Elementary | D70 | 834742 | Defibrillator, Cabinet Mounted, Replace | 1 | EA | $1,620.93 | $1,621 | **$1,621** |
| Pattengill Elementary | | 958697 | Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages | 55445.46 | LS | $1.15 | $63,762 | **$63,762** |
| Pattengill Elementary | G2080 | 845760 | Landscaping, Mature Tree, Remove/Trim | 15 | EA | $1,425.66 | $21,385 | **$21,385** |
| Pattengill Elementary | A10 | 834719 | Engineer, Structural, Superstructure, , Evaluate/Report | 1 | EA | $11,500.00 | $11,500 | **$11,500** |
| **Immediate Repairs Total** | | | | | | | | **$4,405,729** |

* Location Factor included in totals.

**Replacement Reserves Report**

**Pattengill Elementary**

## 7/2/2018

| Location | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total Escalated Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pattengill Elementary | $4,405,729 | $175,792 | $1,008,663 | $714,211 | $1,878,866 | $75,797 | $267,686 | $78,420 | $551,784 | $1,053,034 | $679,232 | $215,181 | $103,946 | $321,236 | $119,971 | $190,412 | $151,445 | $365,975 | $290,284 | $613,630 | **$13,261,296** |
| **GrandTotal** | **$4,405,729** | **$175,792** | **$1,008,663** | **$714,211** | **$1,878,866** | **$75,797** | **$267,686** | **$78,420** | **$551,784** | **$1,053,034** | **$679,232** | **$215,181** | **$103,946** | **$321,236** | **$119,971** | **$190,412** | **$151,445** | **$365,975** | **$290,284** | **$613,630** | **$13,261,296** |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D30 | 885577 | Air Conditioning, Central, Install | 50 | 50 | 0 | 52000 | SF | $10.00 | $11.50 | $598,000 | $598,000 | | | | | | | | | | | | | | | | | | | | **$598,000** |
| B20 | 865812 | Exterior Wall, Brick or Brick Veneer, 1-2 Stories, Repoint | 25 | 16 | 9 | 15000 | SF | $41.28 | $47.47 | $712,125 | | | | | | | | | | $712,125 | | | | | | | | | | | | **$712,125** |
| B2020 | 834696 | Window, Aluminum Double-Glazed 12 SF, 1-2 Stories, Replace | 30 | 30 | 0 | 1 | EA | $584.21 | $584.21 | $584 | $584 | | | | | | | | | | | | | | | | | | | | | **$584** |
| B2020 | 866739 | Window, Aluminum Double-Glazed 12 SF, 1-2 Stories, Replace | 30 | 20 | 10 | 185 | EA | $584.21 | $671.84 | $124,290 | | | | | | | | | | | $124,290 | | | | | | | | | | | | **$124,290** |
| B2050 | 834706 | Exterior Door, Steel, Replace | 25 | 27 | 0 | 16 | EA | $950.12 | $1,092.64 | $17,482 | $17,482 | | | | | | | | | | | | | | | | | | | | | | **$17,482** |
| B30 | 845756 | Roof, Modified Bituminous, Replace | 20 | 27 | 0 | 37500 | SF | $9.00 | $10.35 | $387,978 | $387,978 | | | | | | | | | | | | | | | | | | | | | | **$387,978** |
| B30 | 845757 | Roof, Single-Ply EPDM Membrane, Replace | 20 | 18 | 2 | 14500 | SF | $10.52 | $12.10 | $175,421 | | | $175,421 | | | | | | | | | | | | | | | | | | | | **$175,421** |
| C10 | 834693 | Interior Door, Wood Solid-Core w/ Safety Glass, Replace | 20 | 18 | 2 | 30 | EA | $1,928.03 | $2,217.23 | $66,517 | | | $66,517 | | | | | | | | | | | | | | | | | | | | **$66,517** |
| C10 | 834734 | Interior Door, Wood Solid-Core, Replace | 20 | 18 | 2 | 25 | EA | $1,423.11 | $1,636.58 | $40,915 | | | $40,915 | | | | | | | | | | | | | | | | | | | | **$40,915** |
| | 947080 | Exterior Door Hardware, Electronic Door Locks ANSI F39 Lockset, Replace | 30 | 29 | 1 | 8 | EA | $1,345.00 | $1,546.75 | $12,374 | | $12,374 | | | | | | | | | | | | | | | | | | | | **$12,374** |
| C10 | 834686 | Toilet Partitions, Metal Overhead-Braced, Replace | 20 | 17 | 3 | 10 | EA | $850.00 | $977.50 | $9,775 | | | | $9,775 | | | | | | | | | | | | | | | | | | | **$9,775** |
| B1080 | 834722 | Interior Stair/Ramp Rails, Metal, Refinish | 5 | 4 | 1 | 80 | LF | $1.44 | $1.44 | $115 | | $115 | | | | | $115 | | | | | $115 | | | | | $115 | | | | | **$461** |
| C2010 | 834698 | Interior Wall Finish, Gypsum Board/Plaster, Repair | 0 | 27 | 0 | 200 | SF | $3.18 | $3.18 | $636 | $636 | | | | | | | | | | | | | | | | | | | | | | **$636** |
| A10 | 834681 | Interior Wall Finish, Concrete, Repair | 0 | 27 | 0 | 77000 | SF | $30.25 | $34.78 | $2,678,443 | $2,678,443 | | | | | | | | | | | | | | | | | | | | | | **$2,678,443** |
| C2010 | 834673 | Interior Wall Finish, Concrete/Masonry, Prep & Paint | 8 | 5 | 3 | 9600 | SF | $1.45 | $1.67 | $16,019 | | | | $16,019 | | | | | | | | $16,019 | | | | | | | | | $16,019 | | **$48,057** |
| C2010 | 834715 | Interior Wall Finish, Concrete/Masonry, Prep & Paint | 8 | 5 | 3 | 9600 | SF | $1.45 | $1.67 | $16,019 | | | | $16,019 | | | | | | | | $16,019 | | | | | | | | | $16,019 | | **$48,057** |
| C2010 | 834705 | Interior Wall Finish, Ceramic Tile, Replace | 25 | 22 | 3 | 8000 | SF | $16.55 | $19.04 | $152,297 | | | | $152,297 | | | | | | | | | | | | | | | | | | | **$152,297** |
| C2030 | 834732 | Interior Floor Finish, Vinyl Tile (VCT), Replace | 15 | 13 | 2 | 24000 | SF | $4.80 | $5.52 | $132,497 | | | $132,497 | | | | | | | | | | | | | | | | | | $132,497 | | **$264,993** |
| C2030 | 834692 | Interior Floor Finish, Wood Strip, Sand & Refinish | 10 | 7 | 3 | 1000 | SF | $3.68 | $4.23 | $4,229 | | | | $4,229 | | | | | | | | | | | $4,229 | | | | | | | | **$8,458** |
| C2030 | 834728 | Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic, Replace | 10 | 7 | 3 | 12000 | SF | $7.26 | $8.34 | $100,137 | | | | $100,137 | | | | | | | | | | | $100,137 | | | | | | | | **$200,274** |
| C2050 | 834695 | Interior Ceiling Finish, Gypsum Board/Plaster, Repair | 0 | 27 | 0 | 1000 | SF | $7.32 | $8.42 | $8,417 | $8,417 | | | | | | | | | | | | | | | | | | | | | | **$8,417** |
| C2050 | 834738 | Interior Ceiling Finish, Suspended Acoustical Tile (ACT), Replace | 20 | 27 | 0 | 2500 | SF | $3.11 | $3.58 | $8,944 | $8,944 | | | | | | | | | | | | | | | | | | | | | | **$8,944** |
| C2050 | 834687 | Interior Ceiling Finish, Suspended Acoustical Tile (ACT), Replace | 20 | 18 | 2 | 36500 | SF | $3.11 | $3.58 | $130,584 | | | $130,584 | | | | | | | | | | | | | | | | | | | | **$130,584** |
| D20 | 834699 | Toilet, Tankless (Water Closet), Replace | 20 | 18 | 2 | 32 | EA | $842.97 | $969.41 | $31,021 | | | $31,021 | | | | | | | | | | | | | | | | | | | | **$31,021** |
| D20 | 834689 | Urinal, Vitreous China, Replace | 20 | 18 | 2 | 2 | EA | $1,193.44 | $1,372.46 | $2,745 | | | $2,745 | | | | | | | | | | | | | | | | | | | | **$2,745** |
| D20 | 834680 | Lavatory, Vitreous China, Replace | 20 | 18 | 2 | 35 | EA | $572.66 | $658.56 | $23,049 | | | $23,049 | | | | | | | | | | | | | | | | | | | | **$23,049** |
| D20 | 834725 | Sink, Stainless Steel, Replace | 20 | 17 | 3 | 25 | EA | $1,054.05 | $1,212.16 | $30,304 | | | | $30,304 | | | | | | | | | | | | | | | | | | | **$30,304** |
| D20 | 834744 | Sink, Porcelain Enamel, Cast Iron, Replace | 20 | 17 | 3 | 1 | EA | $1,167.28 | $1,342.38 | $1,342 | | | | $1,342 | | | | | | | | | | | | | | | | | | | **$1,342** |
| D20 | 834701 | Sink, Pot, Multi-compartment, Replace | 30 | 27 | 3 | 22 | LF | $1,262.50 | $1,451.88 | $31,941 | | | | $31,941 | | | | | | | | | | | | | | | | | | | **$31,941** |
| D20 | 834697 | Service Sink, Floor, Replace | 35 | 18 | 17 | 4 | EA | $1,599.51 | $1,839.44 | $7,358 | | | | | | | | | | | | | | | | | | | | $7,358 | | | **$7,358** |
| D20 | 834735 | Drinking Fountain, Refrigerated, Replace | 10 | 7 | 3 | 3 | EA | $1,257.51 | $1,446.13 | $4,338 | | | | $4,338 | | | | | | | | | | | $4,338 | | | | | | | | **$8,677** |
| D20 | 834679 | Backflow Preventer, 2 Inch, Replace | 15 | 15 | 0 | 1 | EA | $2,603.17 | $2,993.64 | $2,994 | $2,994 | | | | | | | | | | | | | | | $2,994 | | | | | | **$5,987** |
| D20 | 834684 | Water Heater, Gas, Commercial, 74 GAL, Replace | 15 | 5 | 10 | 1 | EA | $10,698.82 | $12,303.64 | $12,304 | | | | | | | | | | | $12,304 | | | | | | | | | | | **$12,304** |
| D20 | 834723 | Sump Pump, 3 HP, Replace | 15 | 12 | 3 | 1 | EA | $2,062.81 | $2,372.23 | $2,372 | | | | $2,372 | | | | | | | | | | | | | | | $2,372 | | | | **$4,744** |
| D30 | 834731 | Air Compressor, 2 HP, Replace | 20 | 5 | 15 | 1 | EA | $6,611.73 | $7,603.48 | $7,603 | | | | | | | | | | | | | | | | $7,603 | | | | | | | **$7,603** |
| | 960798 | Solar Instillation Project, Roof Mounted Solar Instillation, Install | 20 | 12 | 8 | 315000 | SF | $1.00 | $1.15 | $362,250 | | | | | | | | $362,250 | | | | | | | | | | | | | | | **$362,250** |
| D30 | 834694 | Boiler, Gas, 1,001 to 2,000 MBH, Replace | 25 | 19 | 6 | 1 | EA | $46,465.41 | $53,435.22 | $53,435 | | | | | | | $53,435 | | | | | | | | | | | | | | | | **$53,435** |
| D30 | 834729 | Boiler, Gas, 1,001 to 2,000 MBH, Replace | 25 | 19 | 6 | 1 | EA | $46,465.41 | $53,435.22 | $53,435 | | | | | | | $53,435 | | | | | | | | | | | | | | | | **$53,435** |
| D30 | 834716 | Boiler, Gas, 1,001 to 2,000 MBH, Replace | 25 | 19 | 6 | 1 | EA | $46,465.41 | $53,435.22 | $53,435 | | | | | | | $53,435 | | | | | | | | | | | | | | | | **$53,435** |
| D30 | 834736 | Ductless Split System, 1.5 Ton, Replace | 15 | 13 | 2 | 1 | EA | $4,473.11 | $5,144.08 | $5,144 | | | $5,144 | | | | | | | | | | | | | | | | | $5,144 | | | **$10,288** |
| D30 | 834712 | Unit Ventilator, 300 to 750 CFM (approx. 2 Ton), Replace | 15 | 11 | 4 | 30 | EA | $6,749.60 | $7,762.04 | $232,861 | | | | | $232,861 | | | | | | | | | | | | | | | | $232,861 | | **$465,722** |
| D30 | 867075 | Air Handler, Exterior, 6,001 to 8,000 CFM, Replace | 15 | 5 | 10 | 1 | EA | $37,802.95 | $43,473.39 | $43,473 | | | | | | | | | | | $43,473 | | | | | | | | | | | | **$43,473** |
| D30 | 845966 | Exhaust Fan, Centrifugal, 801 to 2,000 CFM, Replace | 15 | 12 | 3 | 30 | EA | $2,664.18 | $3,063.80 | $91,914 | | | | $91,914 | | | | | | | | | | | | | | | | $91,914 | | | **$183,828** |
| D30 | 834685 | Distribution Pump, Heating Water, 5 HP, Replace | 20 | 17 | 3 | 1 | EA | $5,518.88 | $6,346.72 | $6,347 | | | | $6,347 | | | | | | | | | | | | | | | | | | | **$6,347** |
| D30 | 834708 | Distribution Pump, Heating Water, 5 HP, Replace | 20 | 17 | 3 | 1 | EA | $5,518.88 | $6,346.72 | $6,347 | | | | $6,347 | | | | | | | | | | | | | | | | | | | **$6,347** |
| D30 | 845965 | Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace | 10 | 9 | 1 | 20 | EA | $2,588.52 | $2,976.80 | $59,536 | | $59,536 | | | | | | | | | | $59,536 | | | | | | | | | | | **$119,072** |
| D30 | 834743 | Cabinet Heater, , Replace | 20 | 18 | 2 | 13 | EA | $3,179.94 | $3,656.93 | $47,540 | | | $47,540 | | | | | | | | | | | | | | | | | | | | **$47,540** |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D30 | 834700 | Cabinet Heater, , Replace | 20 | 17 | 3 | 2 | EA | $3,179.94 | $3,656.93 | $7,314 | | | | $7,314 | | | | | | | | | | | | | | | | | | | **$7,314** |
| D30 | 834677 | Building Automation System (HVAC Controls), , Upgrade | 20 | 27 | 0 | 52000 | SF | $5.36 | $6.17 | $320,678 | $320,678 | | | | | | | | | | | | | | | | | | | | | | **$320,678** |
| D40 | 834674 | Sprinkler System, Full Retrofit, School (per SF), Renovate | 50 | 46 | 4 | 52000 | SF | $6.25 | $7.19 | $373,959 | | | | | $373,959 | | | | | | | | | | | | | | | | | | **$373,959** |
| D40 | 834690 | Fire Extinguisher, , Replace | 15 | 1 | 14 | 6 | EA | $356.54 | $410.02 | $2,460 | | | | | | | | | | | | | | | $2,460 | | | | | | | **$2,460** |
| D50 | 834717 | Distribution Panel, 208 Y, 120 V, 225 Amp, Replace | 30 | 27 | 3 | 1 | EA | $7,951.00 | $9,143.65 | $9,144 | | | | $9,144 | | | | | | | | | | | | | | | | | | | **$9,144** |
| D50 | 834718 | Switchboard, 1,200 AMP, Replace | 30 | 27 | 3 | 1 | EA | $26,391.67 | $30,350.42 | $30,350 | | | | $30,350 | | | | | | | | | | | | | | | | | | | **$30,350** |
| D50 | 834676 | Distribution Panel, 208 Y, 120 V, 600 Amp, Replace | 30 | 27 | 3 | 1 | EA | $9,487.85 | $10,911.03 | $10,911 | | | | $10,911 | | | | | | | | | | | | | | | | | | | **$10,911** |
| D50 | 834703 | Distribution Panel, 208 Y, 120 V, 100 Amp, Replace | 30 | 26 | 4 | 1 | EA | $5,079.93 | $5,841.92 | $5,842 | | | | | $5,842 | | | | | | | | | | | | | | | | | | **$5,842** |
| D50 | 834740 | Distribution Panel, 208 Y, 120 V, 250 Amp, Replace | 30 | 18 | 12 | 1 | EA | $7,951.00 | $9,143.65 | $9,144 | | | | | | | | | | | | | $9,144 | | | | | | | | | **$9,144** |
| G40 | 861063 | Flood Light, Exterior lighting, Replace | 20 | 5 | 15 | 20 | EA | $995.47 | $1,144.79 | $22,896 | | | | | | | | | | | | | | | | $22,896 | | | | | | **$22,896** |
| D50 | 834721 | Lighting & Branch Wiring System, , Upgrade | 25 | 21 | 4 | 52000 | SF | $15.36 | $17.67 | $918,731 | | | | | $918,731 | | | | | | | | | | | | | | | | | | **$918,731** |
| | 947081 | Intercom Master Station, Replace | 20 | 19 | 1 | 1 | EA | $3,814.50 | $4,386.67 | $4,387 | | $4,387 | | | | | | | | | | | | | | | | | | | | | **$4,387** |
| D60 | 834741 | Building Communication System, , Replace | 20 | 18 | 2 | 35 | EA | $575.09 | $661.35 | $23,147 | | | $23,147 | | | | | | | | | | | | | | | | | | | | **$23,147** |
| D50 | 945811 | Clock and Bell System, Wireless or Ethernet Enabled, Up To 100 Total Clocks / Bells, Replace | 15 | 14 | 1 | 52000 | SF | $0.51 | $0.59 | $30,498 | | $30,498 | | | | | | | | | | | | | | | $30,498 | | | | | **$60,996** |
| C10 | 834688 | Clock, , Replace | 15 | 12 | 3 | 30 | EA | $320.18 | $368.20 | $11,046 | | | | $11,046 | | | | | | | | | | | | | | | $11,046 | | | **$22,092** |
| D70 | 834739 | Fire Alarm Control Panel, Addressable, Replace | 15 | 18 | 0 | 1 | EA | $20,297.59 | $23,342.23 | $23,342 | $23,342 | | | | | | | | | | | | | | | $23,342 | | | | | | **$46,684** |
| D70 | 834691 | Fire Alarm System, School, Upgrade | 20 | 18 | 2 | 52000 | SF | $3.13 | $3.60 | $187,276 | | | $187,276 | | | | | | | | | | | | | | | | | | | **$187,276** |
| D70 | 834702 | Security/Surveillance System, Cameras and CCTV, Upgrade | 10 | 18 | 0 | 52000 | SF | $4.35 | $5.00 | $259,963 | $259,963 | | | | | | | | | | $259,963 | | | | | | | | | | | **$519,925** |
| D70 | 834707 | Emergency Exit System, , Replace | 10 | 1 | 9 | 17 | EA | $418.95 | $481.79 | $8,190 | | | | | | | | | | $8,190 | | | | | | | | | | $8,190 | **$16,381** |
| D70 | 834742 | Defibrillator, Cabinet Mounted, Replace | 5 | 18 | 0 | 1 | EA | $1,409.50 | $1,620.93 | $1,621 | $1,621 | | | | | $1,621 | | | | | $1,621 | | | | | $1,621 | | | | | | **$6,484** |
| E10 | 834683 | Commercial Kitchen, Refrigerator, Chest, Replace | 15 | 13 | 2 | 1 | EA | $2,515.00 | $2,892.25 | $2,892 | | | $2,892 | | | | | | | | | | | | | | | $2,892 | | | | **$5,785** |
| E10 | 834720 | Commercial Kitchen, Refrigerator, Chest, Replace | 15 | 13 | 2 | 1 | EA | $2,515.00 | $2,892.25 | $2,892 | | | $2,892 | | | | | | | | | | | | | | | $2,892 | | | | **$5,785** |
| E10 | 834709 | Commercial Kitchen, Refrigerator, Chest, Replace | 15 | 13 | 2 | 1 | EA | $2,515.00 | $2,892.25 | $2,892 | | | $2,892 | | | | | | | | | | | | | | | $2,892 | | | | **$5,785** |
| E10 | 834726 | Kiln, , Replace | 20 | 18 | 2 | 1 | EA | $2,700.00 | $3,105.00 | $3,105 | | | $3,105 | | | | | | | | | | | | | | | | | | | **$3,105** |
| E10 | 834710 | Commercial Kitchen, Food Warmer, Replace | 15 | 13 | 2 | 1 | EA | $1,551.91 | $1,784.69 | $1,785 | | | $1,785 | | | | | | | | | | | | | | | $1,785 | | | | **$3,569** |
| E10 | 834737 | Commercial Kitchen, Food Warmer, Replace | 15 | 7 | 8 | 1 | EA | $1,551.91 | $1,784.69 | $1,785 | | | | | | | | | $1,785 | | | | | | | | | | | | | **$1,785** |
| E10 | 834675 | Commercial Kitchen, Refrigerator, Chest, Replace | 15 | 7 | 8 | 1 | EA | $2,515.00 | $2,892.25 | $2,892 | | | | | | | | | $2,892 | | | | | | | | | | | | | **$2,892** |
| E10 | 834678 | Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace | 15 | 7 | 8 | 1 | EA | $4,256.00 | $4,894.40 | $4,894 | | | | | | | | | $4,894 | | | | | | | | | | | | | **$4,894** |
| E10 | 834682 | Residential Appliances, Refrigerator, 14-18 CF, Replace | 15 | 13 | 2 | 2 | EA | $956.04 | $1,099.44 | $2,199 | | | $2,199 | | | | | | | | | | | | | | | $2,199 | | | | **$4,398** |
| D30 | 834704 | Ceiling Fan, , Replace | 15 | 12 | 3 | 2 | EA | $354.11 | $708.22 | $1,416 | | | | $1,416 | | | | | | | | | | | | | | | $1,416 | | | **$2,833** |
| C10 | 834714 | Kitchen Cabinet, Base and Wall Section, Wood, Replace | 20 | 18 | 2 | 10 | LF | $467.63 | $537.78 | $5,378 | | | $5,378 | | | | | | | | | | | | | | | | | | | **$5,378** |
| | 958697 | Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages | 1 | 1 | 0 | 55445.46 | LS | $1.00 | $1.15 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | $63,762 | **$1,275,246** |
| G2020 | 861035 | Parking Lots, Asphalt Pavement, Seal & Stripe | 5 | 1 | 4 | 30000 | SF | $0.38 | $0.44 | $13,093 | | | | | $13,093 | | | | | $13,093 | | | | | $13,093 | | | | | $13,093 | | **$52,371** |
| G2060 | 845967 | Signage, Property, Monument/Pylon, Replace | 20 | 11 | 9 | 1 | EA | $8,602.00 | $9,892.30 | $9,892 | | | | | | | | | | $9,892 | | | | | | | | | | | | **$9,892** |
| C10 | 834713 | Sports Apparatus, Basketball Backsto, Replace | 10 | 7 | 3 | 5 | EA | $500.00 | $575.00 | $2,875 | | | | $2,875 | | | | | | | | | | $2,875 | | | | | | | | **$5,750** |
| G2060 | 861040 | Sports Apparatus, Basketball Backstop, Replace | 10 | 7 | 3 | 4 | EA | $9,435.64 | $10,850.98 | $43,404 | | | | $43,404 | | | | | | | | | | $43,404 | | | | | | | | **$86,808** |
| G2060 | 865818 | Play Structure, Large, Replace | 20 | 16 | 4 | 1 | EA | $53,130.00 | $61,099.50 | $61,100 | | | | | $61,100 | | | | | | | | | | | | | | | | | **$61,100** |
| G2080 | 845760 | Landscaping, Mature Tree, Remove/Trim | 20 | 20 | 0 | 15 | EA | $1,239.70 | $1,425.66 | $21,385 | $21,385 | | | | | | | | | | | | | | | | | | | | | **$21,385** |
| A10 | 834719 | Engineer, Structural, Superstructure, , Evaluate/Report | 0 | 0 | 0 | 1 | EA | $10,000.00 | $11,500.00 | $11,500 | $11,500 | | | | | | | | | | | | | | | | | | | | | **$11,500** |
| **Totals, Unescalated** | | | | | | | | | | | **$4,405,729** | **$170,672** | **$950,761** | **$653,605** | **$1,669,348** | **$65,383** | **$224,183** | **$63,762** | **$435,584** | **$807,063** | **$505,413** | **$155,451** | **$72,906** | **$218,746** | **$79,315** | **$122,218** | **$94,375** | **$221,421** | **$170,511** | **$349,945** | **$11,436,392** |
| **Totals, Escalated (3.0% inflation, compounded annually)** | | | | | | | | | | | **$4,405,729** | **$175,792** | **$1,008,663** | **$714,211** | **$1,878,866** | **$75,797** | **$267,686** | **$78,420** | **$551,784** | **$1,053,034** | **$679,232** | **$215,181** | **$103,946** | **$321,236** | **$119,971** | **$190,412** | **$151,445** | **$365,975** | **$290,284** | **$613,630** | **$13,261,296** |

* Markup/LocationFactor (1.0) has been included in unit costs. Markup includes a and 15% Ann Arbor Premium factors applied to the location adjusted unit cost.

# TABLE OF CONTENTS

# 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: | 2100 Crestland Drive, Ann Arbor, Washtenaw, Michigan 48104 |
| Year Constructed/Renovated: | 1957 |
| Current Occupants: | Ann Arbor Public Schools |
| Percent Utilization: | 100 |
| Management Point of Contact: | Ann Arbor Public Schools, Jim Vibbart, Title<br>734.320.3613 phone<br>vibbart.j@aaps.k12.mi.us email |
| Property Type: | Elementary School |
| Site Area: | 11.33 acres |
| Building Area: | 52,000 SF |
| Number of Buildings: | 1 |
| Number of Stories: | 1 |
| Parking Type and Number of Spaces: | 38 spaces in open lots |
| Building Construction: | Masonry bearing walls and concrete columns, beams, and decking |
| Roof Construction: | Flat roofs with modified bituminous membrane<br>Flat roof with EPDM membrane |
| Exterior Finishes: | Concrete Masonry |
| Heating, Ventilation & Air Conditioning: | Central system with boilers, air handlers, unit ventilators, and hydronic baseboard radiators and cabinets.<br>Supplemental components: Ductless split-systems |
| Fire and Life/Safety: | Hydrants, smoke detectors, alarms, strobes, extinguishers, pull stations, alarm panel, exit signs, and annunciator panel. |
| ADA : | This building does not have any major ADA issues |
| All 52,000 square feet of the building are occupied by a single occupant, Pattengill Elementary/Ann Arbor Public Schools. The spaces are a combination of classrooms, offices, typical school spaces, supporting restrooms, mechanical room, and other utility/storage spaces.<br>The following table identifies the unit types and mix at the subject property: | |
| 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. Areas of note that were either inaccessible or not observed for other reasons are listed in the table below: | |

| Key Spaces Not Observed | | |
|---|---|---|
| Room Number | Area | Access Issues |
| -- | Roof | Roof was not accessible due to snow and lack of roof access. |

| |
|---|
| 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: | 1/31/2018 |
| On-Site Point of Contact (POC): | Jim Vibbart |

| Property Information | |
|---|---|
| Assessment and Report Prepared by: | James Cuellar |
| Reviewed by: | Andrew Hupp<br>Program Manager<br>ahupp@emgcorp.com<br>800.733.0660 x6632 |

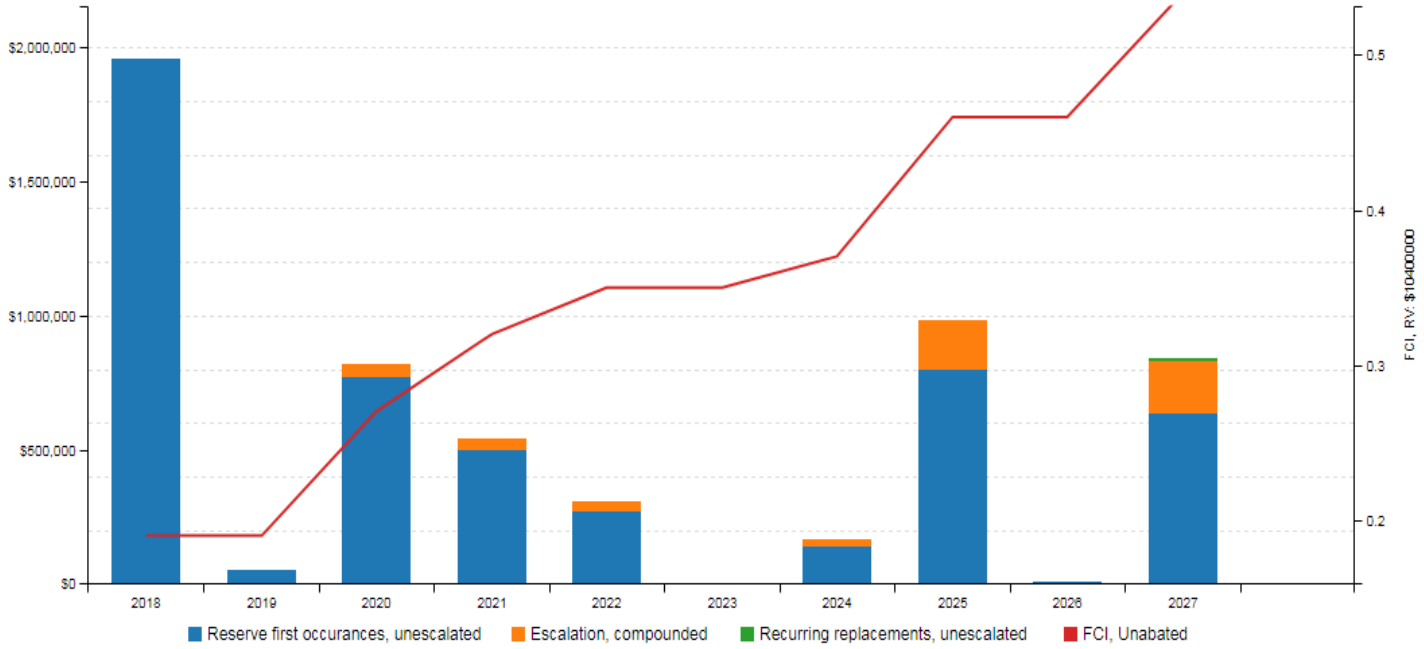
## 1.2 Key Findings

**Site :** The site is in fair condition overall. Future lifecycle replacements are recommended.

**Architectural :** The CMU is in poor condition. The concrete block in Orchestra room, girls bathroom, computer lab, and vocal lab observed cracks throughout these rooms. Surveillence system is antiqued. Some ceiling repairs are required.

**MEPF :** Most of the mechanical and electrical components in the building are in fair condition. The building automation system utilizes an old pneumatic control system. It is recommended it be upgraded to a full DDC system.

## 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 Condition 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 |
| Poor | Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life. | > than .10 to .60 |

| FCI Condition Rating | Definition | Percentage Value |
|---|---|---|
| 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) | 0.19 | Poor |
| 10-Year Facility Condition Index (FCI) FCI = (RR)/(CRV) | 0.55 | Poor |
| **Current Replacement Value (CRV)** | 52,000 SF * 200 $ / SF = $10,400,000 | |
| Year **0** (Current Year) - Immediate Repairs (IR) | | $1,955,127 |
| Years **1-10** – Replacement Reserves (RR) | | $3,724,233 |
| **Total Capital Needs** | | **$5,679,360** |

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 | Concrete spread footings | Poor |
| Basement and Crawl Space | None | -- |

***Anticipated Lifecycle Replacements***

- Structural study
- Structural repairs

***Actions/Comments:***

- The foundations and footings cannot be directly observed. However, there are isolated areas of cracking, movement, and vertically displaced slabs throughout the orchestra room, girls bathroom, computer lab, and vocal lab. This condition typically indicates excessive settlement or other potential problems with the foundation system. A Professional Engineer with specific expertise in structural design and construction in this geographical area must be retained to evaluate the structure and to provide remedial recommendations consistent with local regulatory and code requirements. Although the estimated cost of repair cannot be accurately determined without the recommended study, a budgetary cost allowance to repair the affected elements is also included.

## B10 Superstructure

| B1010 Floor Construction & B1020 Roof Construction | | |
|---|---|---|
| Item | Description | Condition |
| Framing / Load-Bearing Walls | Masonry walls | Fair |
| Ground Floor | Concrete slab | Fair |
| Upper Floor Framing | None | -- |
| Upper Floor Decking | None | -- |
| Balcony Framing | None | -- |
| Balcony Decking | None | -- |
| Balcony Deck Toppings | None | -- |
| Balcony Guardrails | None | -- |
| Roof Framing | Steel beams or girders | Good |
| Roof Decking | Metal decking | Good |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| Caulk minor cracking | ☐ | Monitor cracking for growth | ☐ |
| 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 | None | None | None | None | -- |
| Building Interior Stairs/Ramp | Concrete ramp | None | Metal | None | Fair |

***Anticipated Lifecycle Replacements:***

- Rail refinishing

***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.

# 3 Building Envelope

## B20 Exterior Vertical Enclosures

| B2010 Exterior Walls | | |
|---|---|---|
| Type | Location | Condition |
| Primary Finish | Brick veneer | Fair |
| Secondary Finish | None | -- |
| Accented with | None | -- |
| Soffits | Not Applicable | -- |
| Building sealants | Between dissimilar materials, at joints, around windows and doors | Fair |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| Graffiti | ☐ | Efflorescence | ☐ |
| Other | ☐ | Other | ☐ |

***Anticipated Lifecycle Replacements:***

- Masonry re-pointing

***Actions/Comments:***

- No significant actions are identified at the present time. On-going periodic maintenance, including patching repairs, graffiti removal, 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, operable | Double glaze | Surounding building | ☐ | Fair |

| B2050 Exterior Doors | | |
|---|---|---|
| Main Entrance Doors | Door Type | Condition |
| | Solid core with glazing | Fair |
| Secondary Entrance Doors | Solid core with glazing | Fair |
| Service Doors | Metal, insulated | Fair |
| Overhead Doors | None | -- |

***Anticipated Lifecycle Replacements:***

- Windows
- Exterior enterance doors
- Exterior service doors

***Actions/Comments:***

- The windows display significant evidence of leaks, condensation throughout the entire building. The damaged windows must be replaced.
- There are a significant number of damaged, delaminated, deteriorated, rusted doors and door frames. The damaged doors and frames must be replaced.

## B30 Roofs

| B3010 Primary Roof | | | |
|---|---|---|---|
| Location | East Roof | Finish | Modified bitumen |
| Type / Geometry | Flat | Roof Age | 27 Yrs |
| Flashing | Sheet metal | Warranties | None reported |
| Parapet Copings | None | Roof Drains | Internal drains |
| Fascia | None | Insulation | Rigid Board |
| Soffits | None | Skylights | No |
| Attics | Steel beams | Ventilation Source-1 | Power Vents |
| Roof Condition | Poor | Ventilation Source-2 | None |

| B3010 Secondary Roof | | | |
|---|---|---|---|
| Type / Geometry | Flat | Finish | EPDM |
| | | Roof Age | 17 Yrs |
| Flashing | Sheet metal | Warranties | None reported |
| Parapet Copings | None | Roof Drains | Internal drains |
| Fascia | None | Insulation | Rigid Board |
| Soffits | None | Skylights | No |
| Attics | Steel beams | Ventilation Source-1 | Power Vents |
| Roof Condition | Fair | Roof Location | West Roof |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| Drainage components broken/missing | ☐ | Vegetation/fungal growth | ☐ |
| Blocked Drains | ☒ | Debris | ☐ |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| 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
- Modified bituminous roof
- Hanging tree limbs near roof

***Actions/Comments:***

- The roof finishes appear to be more than 17 years old. Information regarding roof warranties or bonds was not available. The roofs are maintained by an outside contractor.
- The modified bituminous roofs have significant areas of heavy membrane wear on the east roof. Replacement is recommended. A cost allowance for this work is included.
- Roof leaks have occurred within the past year, and some of these leaks remain active. The leaks occur throughout the building. All active leaks must be repaired.
- There are ponding stains and build-up of debris at some of the drain locations throughout the entire roof. The affected drains must be cleaned and cleared and debris must be removed from the roof surfaces. Overhanging tree branches must cleared from the perimeter of the roof.

# 4 Interiors

## C10 Interior Construction

| C1030 Interior Doors | | |
|---|---|---|
| Item | Type | Condition |
| Interior Doors | Solid core wood | Fair |
| Door Framing | Metal | Fair |
| Fire Doors | Yes | Fair |
| Closet Doors | Solid core wood | Fair |

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

C2010 Wall Finishes; C2030 Floor Finishes; C2050 Ceiling Finishes: The following table generally describes the locations and typical conditions of the interior finishes within the facility:

**Interior Finishes - PATTENGILL ELEMENTARY**

| Location / Space | Finish | | Quantity (SF) | Condition | Action | RUL t | Est. Cost |
|---|---|---|---|---|---|---|---|
| Throughout building | Wall | Concrete/Masonry | 3,600 | Fair | Prep & Paint | 3 | $5,224 |
| Middle Wing | Wall | Concrete | 34,000 | Poor | Repair | 0 | $1,028,425 |
| Throughout building | Ceiling | Suspended Acoustical Tile (ACT) | 36,500 | Fair | Replace | 2 | $113,552 |
| Gym | Floor | Wood Strip | 1,000 | Fair | Sand & Refinish | 3 | $3,678 |
| Media room | Ceiling | Gypsum Board/Plaster | 1,000 | Poor | Repair | 0 | $7,319 |
| Hallway in middle wing | Wall | Gypsum Board/Plaster | 200 | Poor | Repair | 0 | $636 |
| Restrooms | Wall | Ceramic Tile | 8,000 | Fair | Replace | 3 | $132,432 |
| Middle wing | Wall | Concrete/Masonry | 3,600 | Fair | Prep & Paint | 3 | $5,224 |
| Middle wing | Floor | Carpet Standard-Commercial Medium-Traffic | 12,000 | Fair | Replace | 3 | $87,076 |
| Throughout building | Floor | Vinyl Tile (VCT) | 24,000 | Fair | Replace | 2 | $115,214 |
| Throughout building | Floor | Ceramic Tile | 4,000 | Good | Replace | 32 | $63,020 |
| Throughout building | Ceiling | Suspended Acoustical Tile (ACT) | 2,500 | Poor | Replace | 0 | $7,778 |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | 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:***

- Vinyl tile
- Ceramic tile
- Carpet
- Interior painting
- Suspended acoustic ceiling tile
- Gym floor refinishing
- Interior doors
- Basketball backboards
- Kitchen cabinets
- Time clocks
- Toilet partitions

***Actions/Comments:***

- It appears that the interior finishes are original.
- The ceiling tiles have isolated areas of water-damaged ceilings throughout the property. The damaged ceiling tiles need to be replaced. A cost allowance for this work is included.
- There are isolated areas of faded wall finishes throughout the property. The damaged wall areas need to be repainted. A cost allowance for this work is included.

# 5 Services (MEPF)

## 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 | Fair |
| Water Meter Location | Mechanical Room | |

| Domestic Water Heaters or Boilers | |
|---|---|
| Components | Water Heaters |
| Fuel | Natural gas |
| Boiler or Water Heater Condition | Good |
| Supplementary Storage Tanks? | No |
| Adequacy of Hot Water | Adequate |
| Adequacy of Water Pressure | Adequate |

| D2020 Sanitary Drainage | | |
|---|---|---|
| Type | Description | Condition |
| Waste/Sewer Piping | Cast iron | Fair |
| Vent Piping | Cast iron | Fair |

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

**Plumbing System - PATTENGILL ELEMENTARY**

| Location / Space | Component | Component Description | Quantity | Unit | Condition | Action | RUL | Est. Cost |
|---|---|---|---|---|---|---|---|---|
| Boiler room | Backflow Preventer | 2" | 1 | EA | NA | Replace | 0 | $2,603 |
| Classroom restroom | Lavatory | Vitreous China | 35 | EA | Fair | Replace | 2 | $20,043 |
| Boiler room | Water Heater | Gas, Commercial, 60 to 120 GAL | 1 | EA | Good | Replace | 10 | $10,699 |
| Restroom | Urinal | Vitreous China | 2 | EA | Fair | Replace | 2 | $2,387 |
| Custodian | Service Sink | Floor | 4 | EA | Fair | Replace | 17 | $6,398 |
| Restrooms | Toilet | Tankless (Water Closet) | 32 | EA | Fair | Replace | 2 | $26,975 |
| Art room | Sink | Pot, Multi-compartment | 22 | LF | Fair | Replace | 3 | $27,775 |
| Boiler room | Sump Pump | 3 HP | 1 | EA | Fair | Replace | 3 | $2,063 |
| Classrooms | Sink | Stainless Steel | 25 | EA | Fair | Replace | 3 | $26,351 |
| Hallway | Drinking Fountain | Refrigerated | 3 | EA | Fair | Replace | 3 | $3,773 |
| Mechanical closet | Sink | Porcelain Enamel, Cast Iron | 1 | EA | Fair | Replace | 3 | $1,167 |

***Anticipated Lifecycle Replacements:***

- Water heaters
- Toilets
- Urinals
- Sinks
- Sump pumps
- Drinking fountain

***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.
- A backflow preventer was not observed on the domestic water pune. A backflow preventer is typically installed on new construction. It reduces the risk of contaminating the municipal water supply.

## 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 |

| Distribution System | |
|---|---|
| HVAC Water Distribution System | Two-pipe |
| Air Distribution System | Constant Volume |
| Location of Air Handlers | Rooftop, exterior |
| Terminal Units | Unit Ventilators |

| Distribution System | |
|---|---|
| Quantity and Capacity of Terminal Units | Quantity and capacity difficult to determine without construction drawings |
| Location of Terminal Units | Classrooms |

| Packaged, Split & Individual Units | |
|---|---|
| Primary Components | Package units |
| Cooling (if separate from above) | performed via components above |
| Heating Fuel | Natural gas |
| Location of Equipment | Rooftop |
| Space Served by System | East Wing |

| Supplemental/Secondary Components | |
|---|---|
| Supplemental Component #1 | Ductless mini-split systems |
| Location / Space Served by ductless mini-split | Data rooms |
| ductless mini-split Condition | Fair |
| Supplemental Component #2 | Wall heaters |
| Location / Space Served by wall heaters | Hallways |
| Wall heaters Condition | Fair |
| Supplemental Component #3 | Hydronic Cabinet Unit Heaters |
| Location / Space Served by Hydronic Cabinet Unit | Class rooms |
| Hydronic Cabinet Unit Heaters Condition | Fair |

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

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| Ductwork/grills need cleaned | ☐ | Minor control adjustments needed | ☐ |
| Leaking condensate lines | ☐ | Poor mechanical area access | ☐ |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| 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 - PATTENGILL ELEMENTARY**

| Location / Space | Component | Component Description | Quantity | Unit | Condition | Action | RUL | Subtotal |
|---|---|---|---|---|---|---|---|---|
| Mechanical room | Building Automation System | HVAC Controls | 52,000 | SF | Poor | Upgrade | 0 | $278,850 |
| Boiler room | Distribution Pump | Heating Water, 5 HP | 1 | EA | Fair | Replace | 3 | $5,519 |
| Boiler room | Boiler | Gas, 1,001 to 2,000 MBH | 1 | EA | Fair | Replace | 6 | $46,465 |
| Hallway | Cabinet Heater | Hydronic | 2 | EA | Fair | Replace | 3 | $6,360 |
| Cafeteria | Ceiling Fan | Ceiling Fan | 2 | EA | Fair | Replace | 3 | $1,416 |
| Boiler room | Distribution Pump | Heating Water, 5 HP | 1 | EA | Fair | Replace | 3 | $5,519 |
| Mechanical room | Hydronic Wall Unit | Hydronic Baseboard | 150 | LF | Fair | Replace | 23 | $19,916 |
| Classrooms | Unit Ventilator | 300 to 750 CFM (approx. 2 Ton) | 30 | EA | Fair | Replace | 4 | $202,488 |
| Boiler room | Boiler | Gas, 1,001 to 2,000 MBH | 1 | EA | Fair | Replace | 6 | $46,465 |
| Boiler room | Boiler | Gas, 1,001 to 2,000 MBH | 1 | EA | Fair | Replace | 6 | $46,465 |
| Boiler room | Air Compressor | 2 HP | 1 | EA | Good | Replace | 15 | $6,612 |
| Mechanical room | Ductless Split System | Single Zone, 1.5 to 2 Ton | 1 | EA | Fair | Replace | 2 | $4,473 |
| Throughout building | Cabinet Heater | Hydronic | 13 | EA | Fair | Replace | 2 | $41,339 |
| Throughout | Air Conditioner | Window/Thru-Wall, 1.5 to 2 Ton | 20 | EA | Fair | Replace | 1 | $51,770 |
| Roof | Exhaust Fan | Centrifugal, 801 to 2,000 CFM | 30 | EA | Fair | Replace | 3 | $79,925 |
| Roof | Air Handler | Exterior, 6,001 to 8,000 CFM | 1 | EA | Good | Replace | 10 | $37,803 |

***Anticipated Lifecycle Replacements:***

- Boilers
- Distribution pumps and motors
- Hydronic cabinet unit heaters
- Unit ventilators
- Electric wall heaters
- Mini-split system
- Hydronic baseboard heaters
- Through-wall air conditioners
- Rooftop exhaust fans
- Building automation system
- Ceiling fans

***Actions/Comments:***

- The HVAC systems are maintained by an outside contractor. Records of the installation, maintenance, upgrades, and replacement of the HVAC equipment at the property have been maintained since the property was first occupied.
- HVAC equipment varies in age. HVAC equipment is replaced on an "as needed" basis.
- The HVAC equipment appears to be functioning adequately overall. The property management staff was interviewed about the historical and recent performance of the equipment and systems. No chronic problems were reported and an overall sense of satisfaction with the systems was conveyed. However, due to the inevitable failure of parts and components over time, some of the equipment will require replacement.
- The facility HVAC is controlled using an outdated pneumatic system supplied by an air compressor. For modernization, reliability, and increased control, full conversion to a web-based direct digital control (DDC) platform is highly recommended.

## D40 Fire Protection

| Item | Description | | | | | |
|---|---|---|---|---|---|---|
| Type | None | | | | | |
| Sprinkler System | None | ☒ | Standpipes | ☐ | Backflow Preventer | ☐ |
| | Hose Cabinets | ☐ | Fire Pumps | ☐ | Siamese Connections | ☐ |
| Sprinkler System Condition | -- | | | | | |
| Fire Extinguishers | Last Service Date | | Servicing Current? | | | |
| | July, 2017 | | | | | |
| Hydrant Location | None listed | | | | | |
| Siamese Location | None listed | | | | | |
| Special Systems | Kitchen Suppression System | ☐ | Computer Room Suppression System | ☐ | | |

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

***Anticipated Lifecycle Replacements:***

- Fire extinguishers

***Actions/Comments:***

- The vast majority of the building is not protected by fire suppression. Due to its construction date, the facility is most likely “grandfathered” by code and the installation of fire sprinklers not required until major renovations are performed. Regardless of when or if installation of facility-wide fire suppression is required by the governing municipality, EMG recommends a retrofit be performed. A budgetary cost is included.

## D50 Electrical

| Distribution & Lighting | | | |
|---|---|---|---|
| Electrical Lines | Underground | Transformer | Pole-mounted |
| Main Service Size | 1,200 Amps | Volts | 120/208 Volt, three-phase |
| Meter Location | Electrical room | Branch Wiring | Copper |
| Conduit | Metallic | Step-Down Transformers? | No |
| Lighting Fixtures | T-8 | | |
| Main Distribution Condition | Fair | | |
| Secondary Panel and Transformer Condition | Fair | | |
| Lighting Condition | Fair | | |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | Exists At Site |
| Improperly stored material | ☐ | Unsecured high voltage area | ☐ |
| Loose cables or impoper use of conduit | ☐ | Poor electrical room ventilation | ☐ |
| Other | ☐ | Other | ☐ |

***Anticipated Lifecycle Replacements:***

- Circuit breaker panels
- Main switchboard
- Interior light fixtures

***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, switchboards and lighting vary in age. The electrical service appears to be adequate for the facility's needs. However, due to the age of the panels, switchboards and lighting 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 | | | |
| | Office | | Unknown | | | |

***Anticipated Lifecycle Replacements:***

- Central alarm panel
- Alarm devices and system
- Public address speakers
- Exit signs
- Defibrillators
- Security system

***Actions/Comments:***

- The fire alarm systems appear somewhat antiquated and not up to current standards. Due to the age of the components and apparent shortcomings, a full modernization project is recommended. A budgetary cost is included.

# 6 Equipment & Furnishings

## E10 Equipment

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

| E1030 Commercial Kitchen Equipment | | |
|---|---|---|
| Appliance | Comment | Condition |
| Refrigerators | Up-right | Fair |
| Freezers | Up-right | Fair |
| Ranges | -- | -- |
| Ovens | Food warmers | Fair |
| Griddles / Grills | -- | -- |
| Fryers | -- | -- |
| Hood | -- | -- |
| Dishwasher | -- | -- |
| Microwave | ☐ | -- |
| Ice Machines | ☐ | -- |
| Steam Tables | ☐ | -- |
| Work Tables | ☐ | -- |
| Shelving | ☐ | -- |

***Anticipated Lifecycle Replacements:***

- Food Warmer
- Reach-in freezer
- Reach-in cooler
- Kiln

***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.

# 7 Sitework

## G20 Site Improvements

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

| Parking Count | | | | |
|---|---|---|---|---|
| Open Lot | Carport | Private Garage | Subterranean Garage | Freestanding Parking Structure |
| 37 | - | - | - | - |
| Total Number of ADA Compliant Spaces | | | 1 | |
| Number of ADA Compliant Spaces for Vans | | | 1 | |
| Total Parking Spaces | | | 37 | |

| Site Stairs | | | |
|---|---|---|---|
| Location | Material | Handrails | Condition |
| None | None | None | -- |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | 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
- Concrete pavement
- Sidewalks
- Curbs

***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 |

| Refuse Disposal | | | | |
|---|---|---|---|---|
| Refuse Disposal | Common area dumpsters | | | |
| Dumpster Locations | Mounting | Enclosure | Contracted? | Condition |
| North West | Asphalt paving | None | Yes | Fair |

| Other Site Amenities | | | |
|---|---|---|---|
| | Description | Location | Condition |
| Playground Equipment | Plastic and metal | South West | Fair |
| Tennis Courts | None | -- | -- |
| Basketball Court | Asphalt | South West | Fair |
| Swimming Pool | None | -- | -- |

***Anticipated Lifecycle Replacements:***

- Signage
- Playground equipment
- Basketball backstops

***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.

| G2080 Landscaping | | |
|---|---|---|
| **Drainage System and Erosion Control** | | |
| System | Exists At Site | Condition |
| Surface Flow | ☒ | Fair |
| Inlets | ☒ | Fair |
| Swales | ☐ | -- |
| Detention pond | ☐ | -- |
| Lagoons | ☐ | -- |
| Ponds | ☐ | -- |
| Underground Piping | ☐ | -- |
| Pits | ☐ | -- |
| Municipal System | ☐ | -- |
| 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 down away from the building down to the property lines. | | | | | | |
| Landscaping | Trees | Grass | Flower Beds | Planters | Drought Tolerant Plants | Decorative Stone | None |
| | ☒ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Landscaping Condition | Fair | | | | | | |
| Irrigation | Automatic Underground | Drip | Hand Watering | None | | | |
| | ☐ | ☐ | ☐ | ☒ | | | |
| Irrigation Condition | -- | | | | | | |

| Retaining Walls | | |
|---|---|---|
| Type | Location | Condition |
| None | -- | -- |

***Anticipated Lifecycle Replacements:***

- Tree trimming

***Actions/Comments:***

- Observed hanging limbs that protrude onto the roof. These must be cleared..

## 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 meters and regulators are located along the exterior walls of the buildings. 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 meters and regulators 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 |
| | ☒ | ☐ | ☐ | ☐ | ☐ |
| | -- | | | | |
| Building Lighting | None | | Wall Mounted | | Recessed Soffit |
| | ☐ | | ☒ | | ☐ |
| | Good | | | | |

| Maintenance Issues | | | |
|---|---|---|---|
| Observation | Exists At Site | Observation | 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. Future lifecycle replacements of the components listed above will be required.

# 8 Ancillary Structures

Not applicable. There are no major accessory structures.

# 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 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.

At a school property, the areas considered as a public accommodation besides the site itself and parking, are the exterior accessible route, the interior accessible route up to the tenant lease lines and the interior common areas, including the common area restrooms.

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

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.

## 11.2 Flood Zone

According to the Flood Insurance Rate Map, published by the Federal Emergency Management Agency (FEMA) and dated April 3, 2012, the property is located in Zone X, defined as an area outside the 500-year flood plain with less than 0.2% annual probability of flooding. Annual Probability of Flooding of Less than one percent.

# 12 Certification

Ann Arbor Schools retained EMG to perform this Facility Condition Assessment in connection with its continued operation of Pattengill Elementary, 2100 Crestland Drive, Ann Arbor, Michigan, the "Property". It is our understanding that the primary interest of Ann Arbor 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 10 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 Ann Arbor Schools 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 Ann Arbor Schools 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 Schools and the recipient's sole risk, without liability to EMG.

**Prepared by:** James Cuellar,
Project Manager

**Reviewed by:**

Paul Prusa P.E., LEED AP,
Technical Report Reviewer for
Andrew Hupp
Program Manager
arhupp@emgcorp.com
800.733.0660 x6632

# 13 Appendices

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

# Appendix A:
# Photographic Record

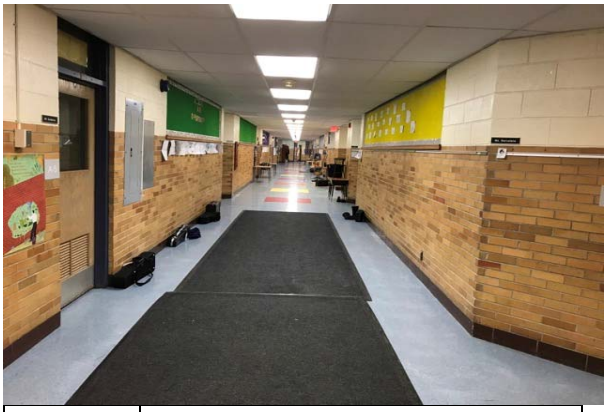
| #1: | FRONT ELEVATION |
|---|---|

| #2: | SIDE ELEVATION |
|---|---|

| #3: | SIGNAGE |
|---|---|

| #4: | CRACKED WALL |
|---|---|

| #5: | CLASSROOM |
|---|---|



| #6: | HALLWAYS |
|---|---|

| | |
|---|---|
| #7: | CLASSROOM |

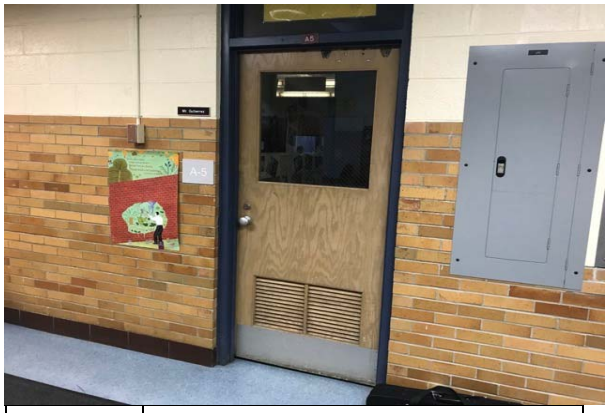
| | |
|---|---|
| #8: | MECHANICAL ROOM |

| | |
|---|---|
| #9: | WINDOWS |

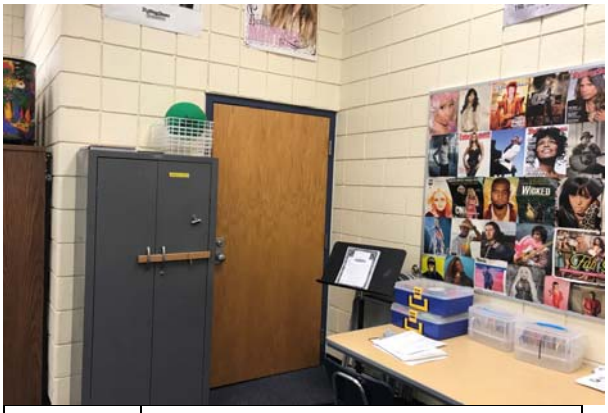
| | |
|---|---|
| #10: | CLAY BRICK |

| | |
|---|---|
| #11: | ROOF |

| | |
|---|---|
| #12: | ROOF |



| | |
|---|---|
| #13: | DOORS |



| | |
|---|---|
| #14: | DOORS |

| | |
|---|---|
| #15: | WOOD FLOORING |

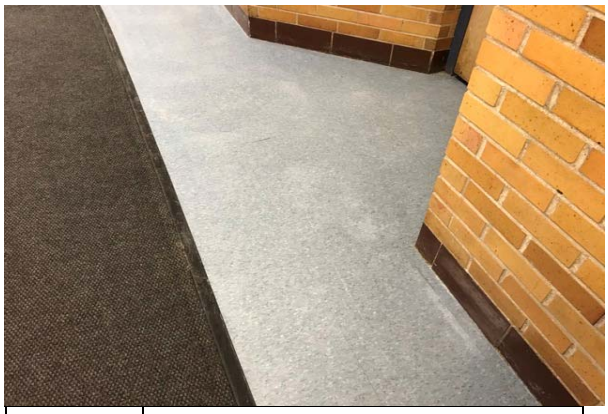
| | |
|---|---|
| #16: | CMU WALLS |

| | |
|---|---|
| #17: | TOILET PARTITIONS |

| | |
|---|---|
| #18: | CARPET |

| | |
|---|---|
| #19: | CERAMIC TILE |

| | |
|---|---|
| #20: | SUSPENDED ACOUSTICAL TILE (ACT) |



| | |
|---|---|
| #21: | VINYL TILE (VCT) |


| | |
|---|---|
| #22: | WATER HEATER |

| | |
|---|---|
| #23: | SINKS |

| | |
|---|---|
| #24: | TOILETS |

| | |
|---|---|
| #25: | DISTRIBUTION PUMP |

| | |
|---|---|
| #26: | DUCTLESS SPLIT SYSTEM |

| | |
|---|---|
| #27: | BOILERS |


| | |
|---|---|
| #28: | AIR COMPRESSOR |


| | |
|---|---|
| #29: | DUCTLESS SPLIT SYSTEM |

| | |
|---|---|
| #30: | BUILDING AUTOMATION SYSTEM (HVAC CONTROLS) |

| #31: | BASEBOARD HEATER |
|---|---|

| #32: | BUILDING AUTOMATION SYSTEM (HVAC CONTROLS) |
|---|---|

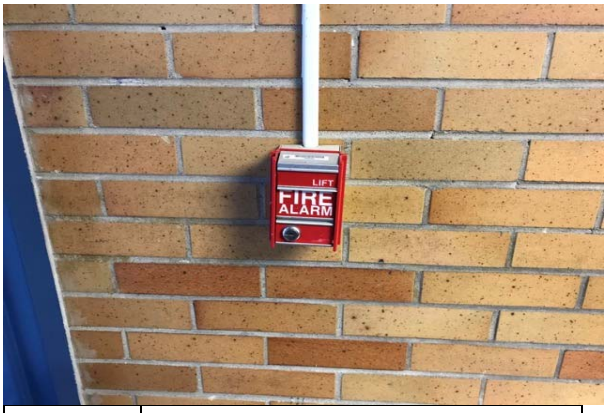
| #33: | BOILERS |
|---|---|

| #34: | FANS |
|---|---|

| #35: | CABINET UNITS |
|---|---|

| #36: | WALL HEATERS |
|---|---|

| #37: | FIRE ALARM CONTROL PANEL |
|---|---|




| #38: | FIRE ALARM SYSTEM, SCHOOL |
|---|---|

| #39: | SWITCHBOARD |
|---|---|

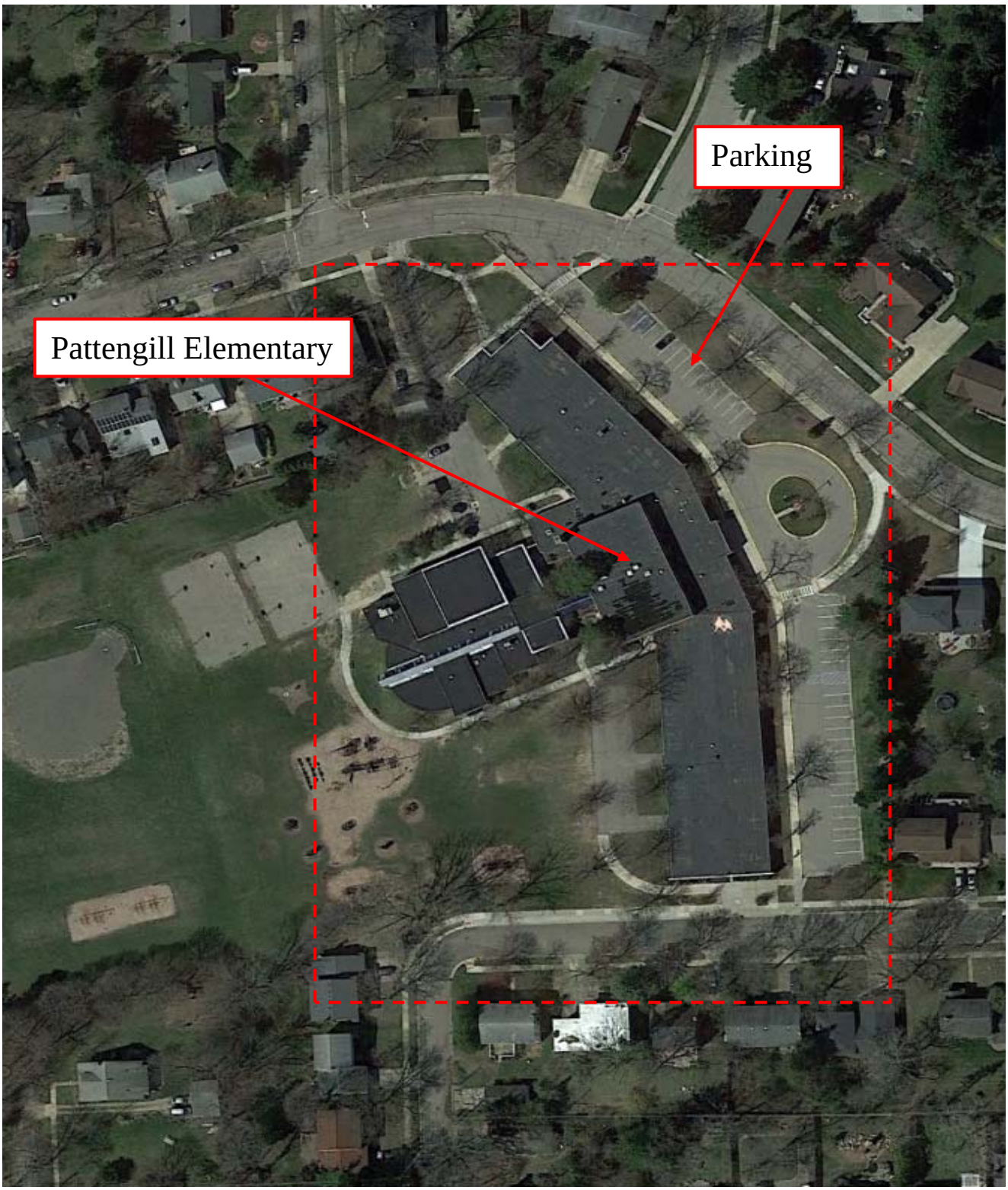
| #40: | SWITCHBOARD |
|---|---|

| #41: | DISTRIBUTION PANEL |
|---|---|

| #42: | LIGHTING SYSTEM |
|---|---|

# Appendix B:
# Site Plan

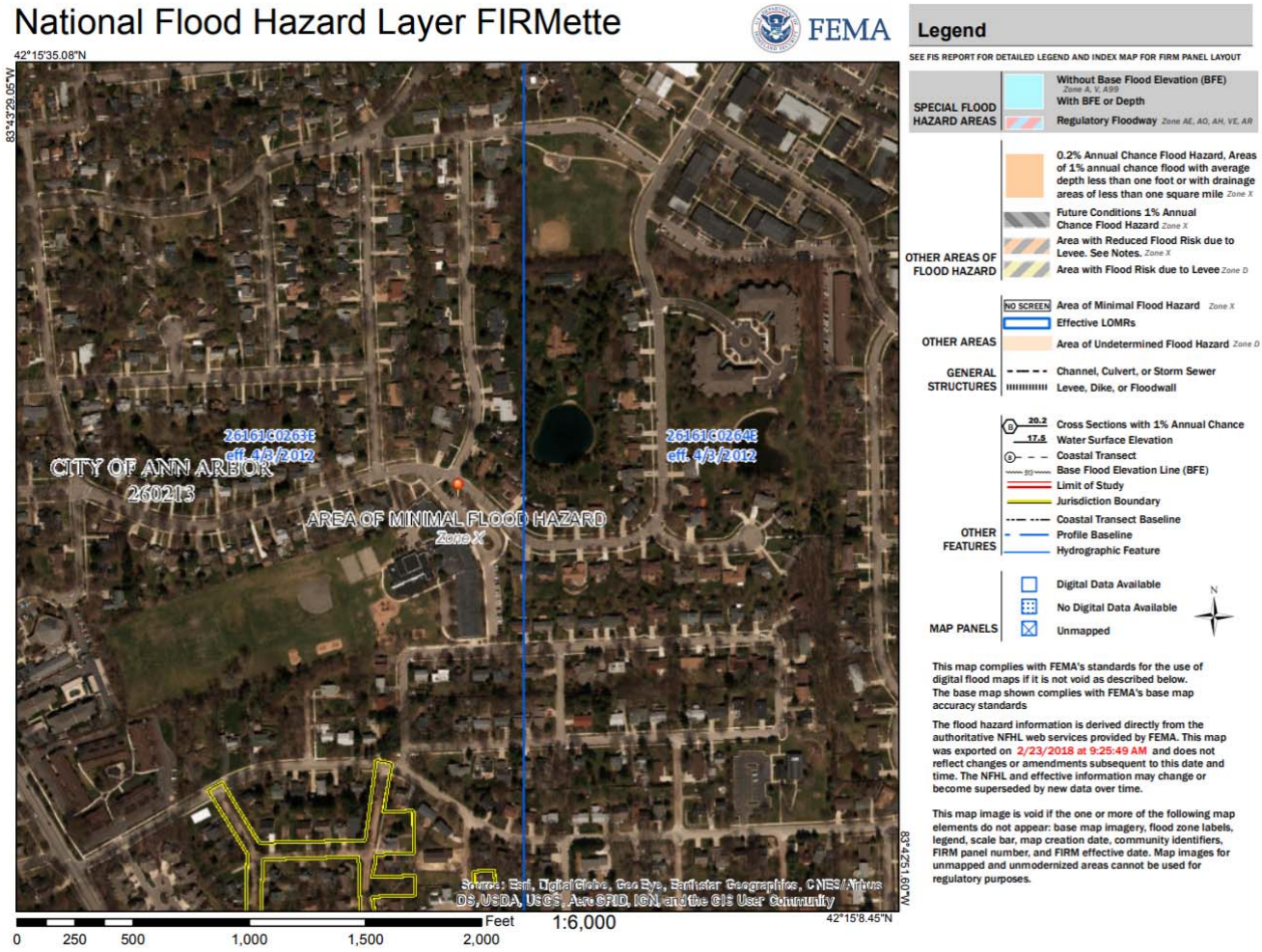
## Site Plan




| | | |
|---|---|---|
| emg | **Project Name:**<br>Pattengill Elementary | **Project Number:**<br>129010.18R000-020.354 |
| | **Source:**<br>Google Earth | **On-Site Date:**<br>January 31, 2018 |

# Appendix C:
# Supporting Documentation

# Flood Map




| | | |
|---|---|---|
| emg | **Project Name:**<br>**Pattengill Elementary** | **Project Number:**<br>**129010.18R000-020.354** |
| | **Source:**<br>**FEMA Map Number: 26161C0263E**<br>**Dated: April 3, 2012** | **On-Site Date:**<br>**January 31, 2018** |

# Appendix D:
# Pre-Survey Questionnaire

# THIS APPENDIX IS INTENTIONALLY LEFT BLANK.

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.<br><br>2. A site plan, preferably 8 1/2" X 11", which depicts the arrangement of buildings, roads, parking stalls, and other site features.<br><br>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).<br><br>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.<br><br>5. For hotel or nursing home properties, provide a summary of the room types and room type quantities.<br><br>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.<br><br>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.<br><br>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.<br><br>10. Records of system & material ages (roof, MEP, paving, finishes, furnishings).<br><br>11. Any brochures or marketing information.<br><br>12. Appraisal, either current or previously prepared.<br><br>13. Current occupancy percentage and typical turnover rate records (for commercial and apartment properties).<br><br>14. Previous reports pertaining to the physical condition of property.<br><br>15. ADA survey and status of improvements implemented.<br><br>16. Current / pending litigation related to property condition. |

Your timely compliance with this request is greatly appreciated.