

# ANDERSON MIDDLE SCHOOL



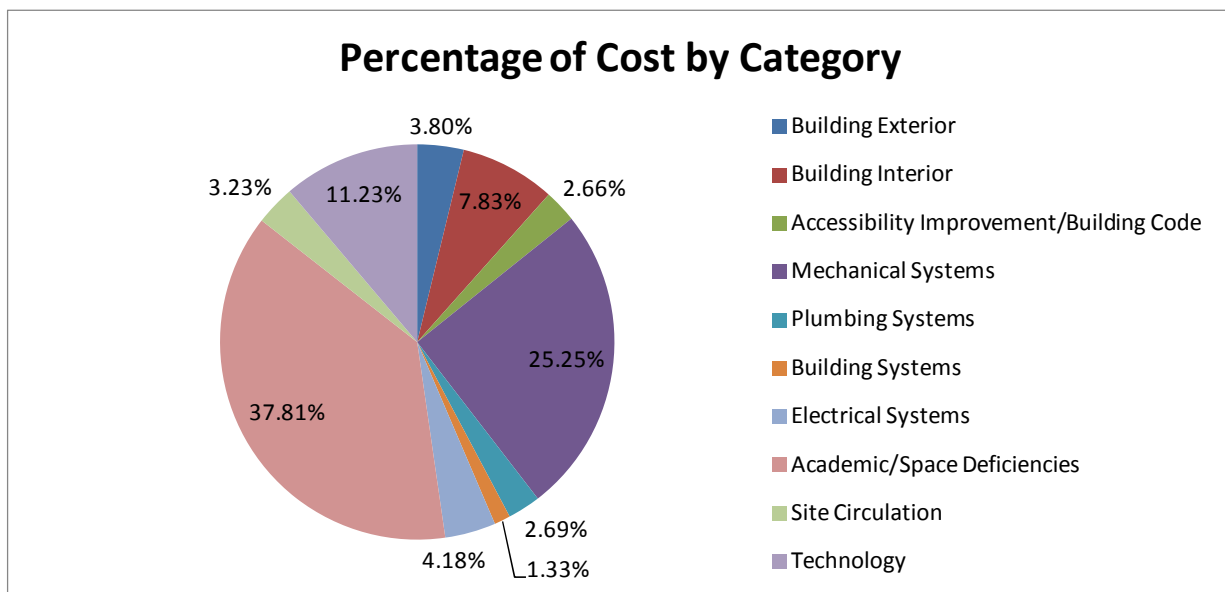
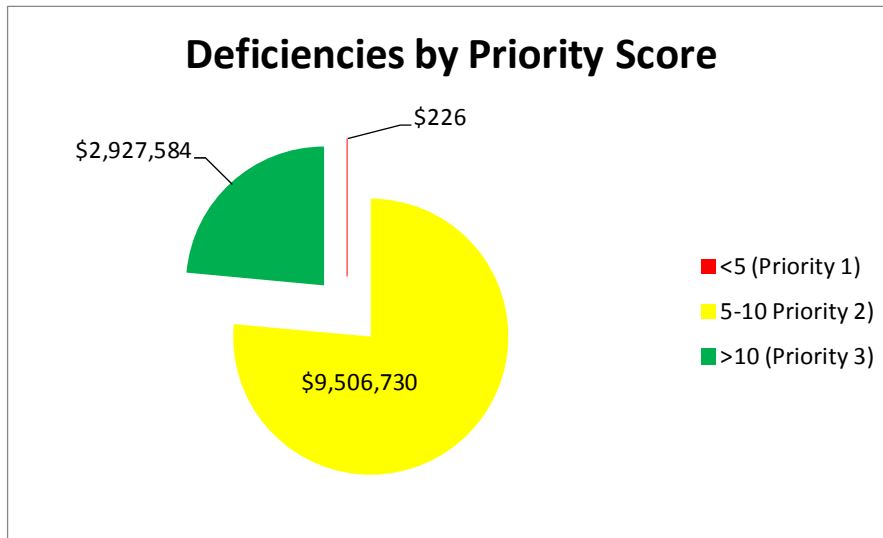
# ANDERSON MIDDLE SCHOOL

## GENERAL OVERVIEW

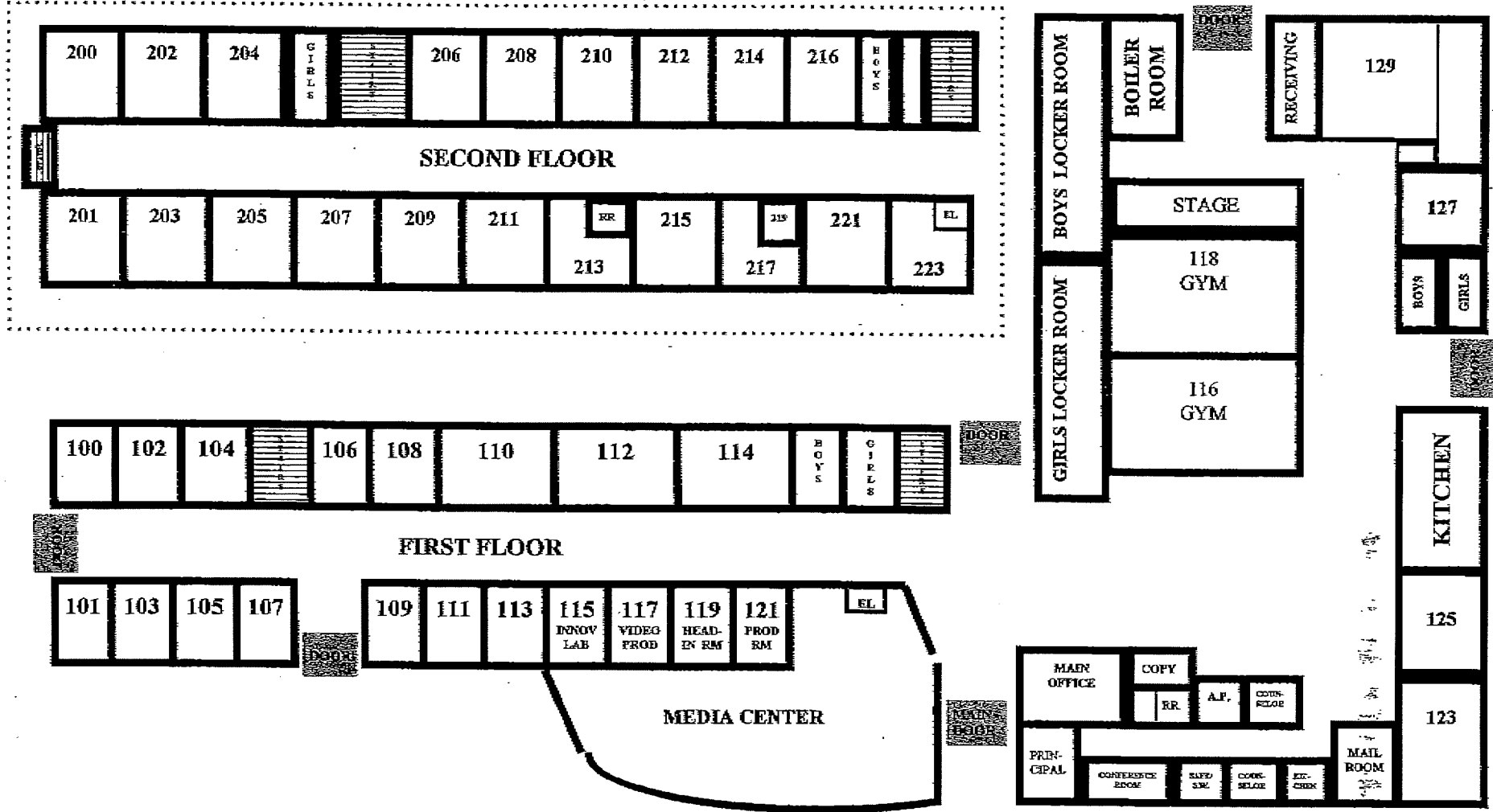
Use: Educational  
 Year Built: 1956  
 Total Area: 95,908 GSF  
 Floors: 2

## MAJOR FINDINGS

Refer to the following charts for a summary of deficiencies by category and priority score. Note: Lower priority score equals highest urgency.



**ANDERSON MIDDLE SCHOOL**  
 3205 CALTALPA  
 BERKLEY, MICHIGAN 48072  
 (248) 837-8200





**BERKLEY SCHOOLS**  
**Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment**



**Anderson Middle School**

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| Address: 3205 Catalpa, Berkley, Michigan<br>Bldg. Area: 95,908 GSF<br>No. of Floors: 2<br>Year Built: 1956<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |  | <b>Building Deficiencies Priorities by Category</b><br><div style="display: flex; justify-content: space-around;"> <div style="background-color: yellow; padding: 5px;"> <b>Consequences of the Problem</b><br/>           1. Hazards<br/>           2. Interruption<br/>           3. Deterioration<br/>           4. Utility<br/>           5. Energy         </div> <div style="background-color: lightgreen; padding: 5px;"> <b>Need</b><br/>           1. Critical<br/>           2. Urgent<br/>           3. Necessary<br/>           4. ADA<br/>           5. Desirable         </div> <div style="background-color: orange; padding: 5px;"> <b>Frequency of Use</b><br/>           1. Constant<br/>           2. Frequent<br/>           3. Occasional<br/>           4. Infrequent<br/>           5. Meager         </div> </div> |  |  | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |
|---|--|--|--|--|--|--|

| No.                                 | Item/Description                             | Location   | Photo No.      | Cons. | Need | Freq. | Score | Energy | Notes   | Action  | Qty.   | Unit | Architectural |            | Mechanical |           | Electrical |          | 2014 Project Cost   |
|-------------------------------------|--|--|----------------|-------|------|-------|-------|--------|---|---|--------|------|---------------|------------|------------|-----------|------------|----------|---------------------|
|                                     |  |  |                |       |      |       |       |        |   |   |        |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal  | Unit Cost  | Subtotal |                     |
| <b>BUILDING EXTERIOR</b>            |  |  |                |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          |                     |
| BE-1                                | Overhangs/Soffits                            | Entire Building  | BE-1           | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                   | Provide aluminum soffit panels.   | 1,700  | SF   | \$ 6.00       | \$ 10,200  |            |           |            |          | \$ 15,382           |
| BE-2                                | Brick Veneer at Base of Walls                | Where roofs drains to pavement adjacent to walls and at main entrances | BE-2           | 3     | 3    | 2     | 8     |        | Brick and mortar joints deteriorated from roof water drainage.          | Control roof drainage where possible and clean/tuck point brick.  | 600    | SF   | \$ 10.50      | \$ 6,300   |            |           |            |          | \$ 9,500            |
| BE-3                                | Sealant at Door and Window Openings          | Entire Building  | BE-3           | 3     | 3    | 2     | 8     |        | Sealant deteriorated and cracked.                                       | Replace sealant.  | 3,500  | LF   | \$ 4.75       | \$ 16,625  |            |           |            |          | \$ 25,071           |
| BE-4                                | Entrance Canopy Columns                      | Main Entrance  | BE-4           | 3     | 3    | 2     | 8     |        | Steel is rusted.  | Paint columns.  | 4      | EA   | \$ 125.00     | \$ 500     |            |           |            |          | \$ 754              |
| BE-5                                | Steel Stair/Ramp Railings                    | Building Entrances   | BE-5           | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                   | Paint railings.   | 150    | LF   | \$ 5.00       | \$ 750     |            |           |            |          | \$ 1,131            |
| BE-6                                | Steel Doors and Frames                       | Locker Room Exit Doors   | --             | 3     | 3    | 1     | 7     |        | Deteriorated and rusted.  | Replace with aluminum frames and fiberglass reinforced panel doors.   | 3      | EA   | \$ 2,800.00   | \$ 8,400   |            |           |            |          | \$ 12,667           |
| BE-7                                | Entrance Canopy Soffits                      | East Entrance  | BE-7           | 3     | 3    | 2     | 8     |        | Wood is deteriorated and paint is peeling.                              | Provide aluminum soffit panels.   | 130    | SF   | \$ 7.50       | \$ 975     |            |           |            |          | \$ 1,470            |
| BE-8                                | Roof Membrane                                | Selected Areas   | --             | 3     | 3    | 2     | 8     | X      | Roof membrane reaching its life expectancy.                             | Remove and replace with new insulation and single-ply membrane.   | 29,900 | SF   | \$ 10.00      | \$ 299,000 |            |           |            |          | \$ 450,892          |
| BE-9                                | Fiberglass Reinforced Panel Door Seals       | Main Entrances   | BE-9           | 4     | 3    | 2     | 9     |        | Doors not sealed at perimeter.  | Add/replace door seals.   | 4      | EA   | \$ 100.00     | \$ 400     |            |           |            |          | \$ 603              |
| BE-10                               | Wood Fascia                                  | Gymnasium Roof   | BE-10          | 3     | 3    | 2     | 8     |        | Deteriorated, peeling paint.  | Replace with aluminum fascia.   | 220    | LF   | \$ 12.00      | \$ 2,640   |            |           |            |          | \$ 3,981            |
| BE-11                               | Stone Window Sills                           | Entire Building  | BE-11          | 4     | 3    | 2     | 9     |        | Sealant missing at joints.  | Provide sealant.  | 750    | LF   | \$ 4.75       | \$ 3,563   |            |           |            |          | \$ 5,372            |
| BE-12                               | Concrete Slab                                | West Entrance  | BE-12          | 1     | 2    | 2     | 5     |        | Irregular and rough, possible tripping hazard.                          | Repair/replace concrete.  | 20     | SF   | \$ 115.00     | \$ 2,300   |            |           |            |          | \$ 3,468            |
| BE-13                               | Concrete Stairs                              | Locker Room Entrances  | BE-13          | 3     | 3    | 2     | 8     |        | Concrete is deteriorated.   | Repair concrete.  | 1      | LS   | \$ 500.00     | \$ 500     |            |           |            |          | \$ 754              |
| BE-14                               | Roof Downspout                               | East Elevation   | BE-14          | 3     | 3    | 2     | 8     |        | Downspout leaks are deteriorating brick.                                | Replace downspout and clean brick.  | 1      | LS   | \$ 500.00     | \$ 500     |            |           |            |          | \$ 754              |
| <b>Subtotal - Building Exterior</b> |  |  |                |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          | <b>\$ 531,800</b>   |
| <b>BUILDING INTERIOR</b>            |  |  |                |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          |                     |
| BI-1                                | Original Hollow Metal, Wood Doors and Frames | Entire Building  | BI-1           | 4     | 3    | 1     | 8     |        | Deteriorated, nonfunctional and do not meet current code requirements.  | Replace with wood doors and hollow metal frames.  | 132    | EA   | \$ 2,350.00   | \$ 310,200 |            |           |            |          | \$ 467,782          |
| BI-2                                | Plastic Laminate Counter Tops                | Home Economics   | BI-2           | 4     | 3    | 2     | 9     |        | Delaminating.   | Replace with solid surface material and new sinks with point of use TMV.  | 100    | LF   | \$ 150.00     | \$ 15,000  | \$ 90.00   | \$ 9,000  |            |          | \$ 36,192           |
| BI-3                                | Carpet                                       | Corridors  | BI-3           | 3     | 3    | 1     | 7     |        | Carpet reaching life expectancy.  | Replace carpet and resilient base.  | 14,000 | SF   | \$ 7.00       | \$ 98,000  |            |           |            |          | \$ 147,784          |
| BI-4                                | Casework Cabinets                            | Band Classroom   | BI-4           | 3     | 3    | 2     | 8     |        | Poor condition.   | Replace cabinets.   | 15     | LF   | \$ 300.00     | \$ 4,500   |            |           |            |          | \$ 6,786            |
| BI-5                                | Wood Cabinets and Counter Tops               | Science Classrooms   | BI-5           | 4     | 5    | 2     | 11    |        | Poor condition.   | Replace cabinets and provide epoxy counter tops.  | 96     | LF   | \$ 350.00     | \$ 33,600  |            |           |            |          | \$ 50,669           |
| BI-6                                | Shower Rooms                                 | Boy's and Girl's Locker Rooms  | BI-6           | 4     | 5    | 2     | 11    |        | Rooms are abandoned and in need of updating and repair.                 | Reduce/replace number of shower heads, add barrier free shower stall and repair floor, wall and ceiling finishes. | 380    | SF   | \$ 40.00      | \$ 15,200  | \$ 34.00   | \$ 12,920 | \$ 5.00    | \$ 1,900 | \$ 45,270           |
| BI-7                                | Wood Floor                                   | Music and Gym Stage  | BI-7A<br>BI-7B | 4     | 5    | 3     | 12    |        | Poor condition.   | Refinish wood floors.   | 1,875  | SF   | \$ 3.50       | \$ 6,563   |            |           |            |          | \$ 9,896            |
| BI-8                                | Lockers                                      | Boy's, Girl's and Team Locker Rooms                                    | BI-8           | 4     | 5    | 2     | 11    |        | Poor condition.   | Replace lockers and benches.  | 400    | LF   | \$ 550.00     | \$ 220,000 |            |           |            |          | \$ 331,760          |
| BI-9                                | Room Security                                | Head End Room  | --             | 1     | 1    | 1     | 3     |        | Key type is not unique to authorized staff (typical for all buildings). | Recore door lock.   | 2      | EA   | \$ 75.00      | \$ 150     |            |           |            |          | \$ 226              |
| <b>Subtotal - Building Interior</b> |  |  |                |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          | <b>\$ 1,096,365</b> |

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|---|--|--|---|--|--|--|

| No.  | Item/Description                        | Location   | Photo No.               | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.   | Unit | Architectural |            | Mechanical    |            | Electrical  |           | 2014 Project Cost |
|--|---|--|-------------------------|-------|------|-------|-------|--------|---|--|--------|------|---------------|------------|---------------|------------|-------------|-----------|-------------------|
|  |   |  |                         |       |      |       |       |        |   |  |        |      | Unit Cost     | Subtotal   | Unit Cost     | Subtotal   | Unit Cost   | Subtotal  |                   |
| <b>ACCESSIBILITY IMPROVEMENT/BUILDING CODE</b>             |   |  |                         |       |      |       |       |        |   |  |        |      |               |            |               |            |             |           |                   |
| AB-1   | Furniture and Equipment                 | Corridors  | AB-1                    | 1     | 4    | 1     | 6     |        | Loose furniture and equipment not permitted in corridors.   | Remove furniture and equipment.  | --     | --   |               |            |               |            |             |           |                   |
| AB-2   | Stair Guardrail                         | Stairs to 2nd Floor  | AB-2                    | 1     | 4    | 1     | 6     |        | Guardrails do not meet current code requirements for height.  | Add guardrail.   | 100    | LF   | \$ 150.00     | \$ 15,000  |               |            |             |           | \$ 22,620         |
| AB-3   | Chair and Table Storage Under Stage     | Gymnasium  | AB-3                    | 1     | 4    | 4     | 9     |        | Code violation considering current construction of stage.   | Limit storage to non-combustible items.  | --     | --   |               |            |               |            |             |           |                   |
| AB-4   | Handrails at Stairs                     | Girl's Locker Room, Gym Balcony, Exercise Room, Northeast Building Entrance, Locker Room Exits to Exterior | AB-4A<br>AB-4B<br>AB-4C | 1     | 4    | 2     | 7     |        | Handrails missing (required on both sides of stairs).   | Add handrails.   | 75     | LF   | \$ 50.00      | \$ 3,750   |               |            |             |           | \$ 5,655          |
| AB-5   | Open Stairs                             | To 2nd Floor   | AB-5                    | 1     | 4    | 1     | 6     |        | Fire rated separation required on at least one floor.   | Add fire rated separation including doors and frames. Relocate ceiling lights.                             | 2      | EA   | \$10,000.00   | \$ 20,000  |               |            | \$ 500.00   | \$ 1,000  | \$ 31,668         |
| AB-6   | Room Exits                              | Team Locker Room   | --                      | 1     | 4    | 1     | 6     |        | Two (2) exits are required only one (1) provided at exterior. (Locked wire mesh gate to Boy's Locker Room.) | Provide emergency exit through Boy's Locker Room.  | 1      | LS   | \$ 2,000.00   | \$ 2,000   |               |            |             |           | \$ 3,016          |
| AB-7   | Boy's and Girl's Toilet Rooms           | Various Locations  | AB-7                    | 2     | 4    | 2     | 8     |        | Toilet rooms do not meet current accessibility requirements.  | Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes, stalls and automatic door operators. | 2,050  | SF   | \$ 55.00      | \$ 112,750 | \$ 27.00      | \$ 55,350  | \$ 4.20     | \$ 8,610  | \$ 266,479        |
| AB-8   | Boy's and Girl's Locker Room Toilets    | Locker Rooms   | AB-8                    | 1     | 4    | 2     | 7     |        | Toilet rooms do not meet current accessibility requirements.  | Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes and stalls.                           | 210    | SF   | \$ 55.00      | \$ 11,550  | \$ 27.00      | \$ 5,670   | \$ 4.20     | \$ 882    | \$ 27,298         |
| AB-9   | Bleacher Guardrails                     | Gymnasium  | --                      | 1     | 3    | 2     | 6     |        | Open ends of wood bleachers do not have guardrails.   | Add removable guardrails to open ends of retractable bleachers.  | 136    | LF   | \$ 80.00      | \$ 10,880  |               |            |             |           | \$ 16,407         |
| <b>Subtotal - Accessibility Improvements/Building Code</b> |   |  |                         |       |      |       |       |        |   |  |        |      |               |            |               |            |             |           | <b>\$ 373,143</b> |
| <b>MECHANICAL SYSTEMS</b>                                  |   |  |                         |       |      |       |       |        |   |  |        |      |               |            |               |            |             |           |                   |
| MS-1   | Building Controls                       | Entire Building  | MS-1                    | 2     | 2    | 1     | 5     | X      | Existing controls are outdated.   | Provide new DDC controls throughout.   | 96,000 | SF   |               |            | \$ 3.32       | \$ 318,720 |             |           | \$ 480,630        |
| MS-2   | Domestic Water Heater (HTR-1)           | Boiler Room  | MS-2                    | 2     | 2    | 1     | 5     | X      | Existing Ruud water heater is beyond its useful life.   | Replace with 199 MBH, 80 gallon standalone unit and stack.   | 1      | LS   |               |            | \$ 5,000.00   | \$ 5,000   |             |           | \$ 7,540          |
| MS-3   | Domestic Water Heater (HTR-2)           | Boiler Room  | MS-3                    | 3     | 3    | 1     | 7     | X      | Existing Lochinvar water heater is beyond its useful life.  | Replace with like and kind; 399 MBH unit.  | 1      | LS   |               |            | \$ 7,300.00   | \$ 7,300   |             |           | \$ 11,008         |
| MS-4   | Condensate Return System                | Boiler Room  | MS-4                    | 4     | 3    | 1     | 8     | X      | Receiver tank and pumps are in fair condition.  | Replace with packaged receiver system.   | 1      | LS   |               |            | \$ 9,800.00   | \$ 9,800   |             |           | \$ 14,778         |
| MS-5   | Sump Pump                               | Boiler Room  | MS-5                    | 3     | 3    | 1     | 7     |        | Existing duplex sump system is in disrepair.  | Rebuild entire duplex sump system.   | 1      | LS   |               |            | \$ 5,000.00   | \$ 5,000   |             |           | \$ 7,540          |
| MS-6   | Boilers                                 | Boiler Room  | MS-6                    | 3     | 3    | 1     | 7     | X      | Existing boilers are beyond their useful life; circa 1956.  | Two (2) new boilers at 6,000 MBH each and all associated trim, new stacks and combustion damper control.   | 1      | LS   |               |            | \$ 351,000.00 | \$ 351,000 | \$ 500.00   | \$ 500    | \$ 530,062        |
| MS-7   | Convectors                              | Vestibules/Entrances   | MS-7                    | 4     | 4    | 1     | 9     | X      | Existing convectors are in fair condition.  | Replace with like and kind.  | 6      | EA   |               |            | \$ 2,250.00   | \$ 13,500  | \$ 185.00   | \$ 1,110  | \$ 22,032         |
| MS-8   | Classroom Unit Ventilators - Horizontal | Entire Building  | MS-8                    | 3     | 2    | 1     | 6     | X      | Existing heating and ventilating only horizontal unit ventilators are beyond their useful life.             | Replace with new heating and ventilating vertical ducted units.  | 37     | EA   | \$ 7,500.00   | \$ 277,500 | \$ 23,000.00  | \$ 851,000 | \$ 235.00   | \$ 8,695  | \$ 1,714,890      |
| MS-8A  | Unit Ventilators - HVAC                 | Entire Building  | --                      | 5     | 5    | 1     | 11    | X      | Existing unit ventilators are heating and ventilating only.   | Install new vertical ducted DX HVAC unit ventilators.  | 37     | EA   | \$ 7,500.00   | \$ 277,500 | \$ 27,000.00  | \$ 999,000 | \$ 2,373.00 | \$ 87,801 | \$ 2,057,366      |
| MS-9   | Kitchen Hood                            | Kitchen  | MS-9                    | 4     | 4    | 1     | 9     |        | Main kitchen hood is beyond its useful life.  | Replace with new stainless steel hood and chemical fire suppression system.                                | 1      | LS   |               |            | \$ 14,500.00  | \$ 14,500  |             |           | \$ 21,866         |
| MS-10  | Refrigeration Compressors               | Kitchen  | MS-10                   | 2     | 2    | 1     | 5     | X      | Existing compressors use domestic water and are not code compliant.   | Replace with new air-cooled units.   | 2      | EA   |               |            | \$ 6,500.00   | \$ 13,000  | \$ 350.00   | \$ 700    | \$ 20,660         |

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| No.                                  | Item/Description                           | Location                      | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes  | Action  | Qty. | Unit | Architectural |           | Mechanical   |            | Electrical  |           | 2014 Project Cost   |
|--------------------------------------|--|-------------------------------|-----------|-------|------|-------|-------|--------|--|---|------|------|---------------|-----------|--------------|------------|-------------|-----------|---------------------|
|                                      |  |                               |           |       |      |       |       |        |  |   |      |      | Unit Cost     | Subtotal  | Unit Cost    | Subtotal   | Unit Cost   | Subtotal  |                     |
| MS-11                                | Gym HVAC                                   | Roof                          | --        | 5     | 5    | 1     | 11    | X      | Existing gym units are heating and ventilating only. | Add two (2) new DX rooftop units with new insulated supply and return ductwork; approximately 6,000 CFM each. | 2    | EA   | \$ 18,000.00  | \$ 36,000 | \$ 51,000.00 | \$ 102,000 | \$ 8,010.00 | \$ 16,020 | \$ 232,262          |
| MS-12                                | Locker Rooms Heating and Ventilating Units | Boy's and Girl's Locker Rooms | MS-12     | 4     | 4    | 4     | 12    |        | Existing ceiling hung units are in fair condition.   | Replace with like and kind; new distribution ductwork.  | 3    | EA   |               |           | \$ 9,500.00  | \$ 28,500  | \$ 185.00   | \$ 555    | \$ 43,815           |
| MS-13                                | Rooftop Unit (RTU-1)                       | Roof                          | MS-13     | 4     | 4    | 1     | 9     | X      | Existing unit is beyond its useful life.             | Replace with like and kind; 6,400 CFM HVAC unit.  | 1    | EA   |               |           | \$ 28,800.00 | \$ 28,800  | \$ 4,160.00 | \$ 4,160  | \$ 49,704           |
| MS-14                                | Rooftop Units (RTU-2 thru RTU-5)           | Roof                          | MS-14     | 4     | 4    | 2     | 10    | X      | Existing unit is beyond its useful life.             | Replace with like and kind; average size of 2,000 CFM.  | 1    | EA   |               |           | \$ 13,000.00 | \$ 13,000  | \$ 3,230.00 | \$ 3,230  | \$ 24,475           |
| MS-15                                | Head End Air Conditioning                  | Head End Room                 | --        | 4     | 5    | 1     | 10    |        | Some issues with existing unit.                      | Install new split air conditioning unit; approximately 1.5-tons.  | 1    | EA   |               |           | \$ 8,500.00  | \$ 8,500   | \$ 500.00   | \$ 500    | \$ 13,572           |
| <b>Subtotal - Mechanical Systems</b> |  |                               |           |       |      |       |       |        |  |   |      |      |               |           |              |            |             |           | <b>\$ 3,537,310</b> |

| <b>PLUMBING SYSTEMS</b>            |                                       |                  |      |   |   |   |    |  |  |   |        |    |             |           |              |            |             |          |                   |
|------------------------------------|---------------------------------------|------------------|------|---|---|---|----|--|--|---|--------|----|-------------|-----------|--------------|------------|-------------|----------|-------------------|
| PS-1                               | Domestic Water Pipe                   | Entire Building  | PS-1 | 2 | 3 | 1 | 6  |  | 80% of domestic water pipe is galvanized steel.      | Replace with copper pipe.                     | 48,000 | SF | \$ 0.50     | \$ 24,000 | \$ 3.25      | \$ 156,000 |             |          | \$ 271,440        |
| PS-2                               | Water Meter Isolation Valves          | Boiler Room      | PS-2 | 2 | 3 | 5 | 10 |  | Existing gate valves are in fair to poor conditions. | Replace three (3) 3" gate valves.             | 3      | EA |             |           | \$ 1,830.00  | \$ 5,490   |             |          | \$ 8,279          |
| PS-3                               | Investigate Possible Water Pipe Break | Under Lobby Slab | --   | 3 | 3 | 1 | 7  |  | Possible pipe break under the lobby concrete slab.   | Investigate as necessary and repair.          | 1      | LS | \$ 5,000.00 | \$ 5,000  | \$ 10,000.00 | \$ 10,000  |             |          | \$ 22,620         |
| PS-4                               | Electric Water Cooler                 | Entire Building  | PS-4 | 3 | 3 | 1 | 7  |  | Existing ceramic bubblers are in fair condition.     | Replace/upgrade to new electric water cooler. | 6      | EA |             |           | \$ 3,000.00  | \$ 18,000  | \$ 1,200.00 | \$ 7,200 | \$ 38,002         |
| PS-5                               | Sanitary Pipe                         | Entire Building  | PS-5 | 5 | 5 | 1 | 11 |  | Existing sanitary pipe is in fair condition.         | Replace accessible portions; confined space.  | 5,000  | SF | \$ 0.50     | \$ 2,500  | \$ 4.35      | \$ 21,750  |             |          | \$ 36,569         |
| <b>Subtotal - Plumbing Systems</b> |                                       |                  |      |   |   |   |    |  |  |   |        |    |             |           |              |            |             |          | <b>\$ 376,910</b> |

| <b>BUILDING SYSTEMS</b>            |                                 |  |    |   |   |   |   |  |   |   |    |    |  |  |             |          |              |           |                   |
|------------------------------------|---------------------------------|--|----|---|---|---|---|--|---|---|----|----|--|--|-------------|----------|--------------|-----------|-------------------|
| BS-1                               | Fire Alarm System               | Entire Building                            | -- | 2 | 3 | 3 | 8 |  | Existing system is outdated and difficult to maintain.                  | Install new addressable system.                 | 1  | LS |  |  |             |          | \$ 95,908.00 | \$ 95,908 | \$ 144,629        |
| BS-2                               | Emergency Lighting              | Corridors, Gym, Locker Rooms, Media Center | -- | 1 | 3 | 4 | 8 |  | Spacing of existing battery units exceeds requirements.                 | Install new units in existing fixtures.         | 82 | EA |  |  |             |          | \$ 300.00    | \$ 24,600 | \$ 37,097         |
| BS-3                               | Boiler Room Emergency Power Off | Boiler Room                                | -- | 3 | 3 | 3 | 9 |  | Boiler does not have an emergency power off system as required by code. | Install boiler room emergency power off system. | 1  | LS |  |  | \$ 2,720.00 | \$ 2,720 |              |           | \$ 4,102          |
| <b>Subtotal - Building Systems</b> |                                 |  |    |   |   |   |   |  |   |   |    |    |  |  |             |          |              |           | <b>\$ 185,828</b> |

| <b>ELECTRICAL SYSTEMS</b> |                                |                                  |                |   |   |   |    |   |   |   |    |    |             |           |             |          |              |            |            |
|---------------------------|--------------------------------|----------------------------------|----------------|---|---|---|----|---|---|---|----|----|-------------|-----------|-------------|----------|--------------|------------|------------|
| ES-1                      | Electrical Distribution System | Boiler Room                      | ES-1           | 2 | 3 | 1 | 6  |   | Original electrical distribution equipment is obsolete and a safety concern.    | Replace the original distribution equipment with new.                 | 1  | EA |             |           |             |          | \$ 32,350.00 | \$ 32,350  | \$ 48,784  |
| ES-2                      | Electrical Panels              | Corridors to serve Classrooms    | ES-2A<br>ES-2B | 2 | 5 | 1 | 8  |   | Original electrical panels are obsolete and are sometimes located behind doors. | Replace the original panels with new, larger panels in new locations. | 15 | EA |             |           |             |          | \$ 4,875.00  | \$ 73,125  | \$ 110,273 |
| ES-3                      | Original Lighting Fixtures     | Classrooms                       | ES-3           | 3 | 3 | 1 | 7  | X | Original lighting fixtures with obsolete T12 fluorescent lamps.                 | Replace with more efficient T8 fluorescent fixtures.                  | 17 | EA |             |           |             |          | \$ 6,000.00  | \$ 102,000 | \$ 153,816 |
| ES-4                      | Original Lighting Fixtures     | Locker Rooms                     | --             | 3 | 3 | 4 | 10 | X | Original lighting fixtures with inefficient incandescent lamps.                 | Replace with more efficient T8 fluorescent fixtures.                  | 2  | EA |             |           |             |          | \$ 9,000.00  | \$ 18,000  | \$ 27,144  |
| ES-5                      | Exit Lighting Fixtures         | Classrooms                       | --             | 4 | 3 | 4 | 11 | X | Rooms over 1,000 SF require two (2) exits with exit signs.                      | Add exit signs.   | 6  | EA |             |           |             |          | \$ 300.00    | \$ 1,800   | \$ 2,714   |
| ES-6                      | Exterior Lighting              | Exterior Doors                   | ES-6A<br>ES-6B | 1 | 2 | 2 | 5  | X | Lighting fixtures are in disrepair.   | Replace with more efficient LED fixtures.                             | 15 | EA |             |           |             |          | \$ 520.00    | \$ 7,800   | \$ 11,762  |
| ES-7                      | Site Lighting                  | Parking Lot                      | --             | 3 | 5 | 3 | 11 | X | Inadequate site lighting.   | Install new poles with efficient LED fixtures.                        | 6  | EA | \$ 6,000.00 | \$ 36,000 |             |          | \$ 6,960.00  | \$ 41,760  | \$ 117,262 |
| ES-8                      | Back-up Generator              | Outdoors on grade by boiler room | --             | 1 | 3 | 4 | 8  |   | No back-up power for District-wide data operations.                             | Provide generator back-up system to serve racks.                      | 1  | LS | \$ 500.00   | \$ 500    | \$ 2,200.00 | \$ 2,200 | \$ 25,250.00 | \$ 25,250  | \$ 42,149  |

**Anderson Middle School**

|   |  |  |   |  |  |  |
|---|--|--|---|--|--|--|
| Address: 3205 Catalpa, Berkley, Michigan<br>Bldg. Area: 95,908 GSF<br>No. of Floors: 2<br>Year Built: 1956<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |  | <b>Building Deficiencies Priorities by Category</b><br><div style="display: flex; justify-content: space-between;"> <div style="background-color: yellow; padding: 5px;"> <b>Consequences of the Problem</b><br/>                     1. Hazards<br/>                     2. Interruption<br/>                     3. Deterioration<br/>                     4. Utility<br/>                     5. Energy                 </div> <div style="background-color: lightgreen; padding: 5px;"> <b>Need</b><br/>                     1. Critical<br/>                     2. Urgent<br/>                     3. Necessary<br/>                     4. ADA<br/>                     5. Desirable                 </div> <div style="background-color: orange; padding: 5px;"> <b>Frequency of Use</b><br/>                     1. Constant<br/>                     2. Frequent<br/>                     3. Occasional<br/>                     4. Infrequent<br/>                     5. Meager                 </div> </div> |  |  | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |
|---|--|--|---|--|--|--|

| No.                                  | Item/Description             | Location      | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes   | Action  | Qty. | Unit | Architectural |          | Mechanical |          | Electrical |              | 2014 Project Cost |           |
|--------------------------------------|------------------------------|---------------|-----------|-------|------|-------|-------|--------|---|---|------|------|---------------|----------|------------|----------|------------|--------------|-------------------|-----------|
|                                      |                              |               |           |       |      |       |       |        |   |   |      |      | Unit Cost     | Subtotal | Unit Cost  | Subtotal | Unit Cost  | Subtotal     |                   |           |
| ES-9                                 | Cord Across Floor            | Kitchen       | ES-9      | 3     | 3    | 1     | 7     |        | Shock hazard.   | Install over floor raceway.                                     | 1    | EA   |               |          |            |          |            | \$ 75.00     | \$ 75             | \$ 113    |
| ES-10                                | Uninterruptible Power Supply | Head End Room | --        | 1     | 3    | 4     | 8     |        | No protection against short power interruptions.      | Provide 20 kVA UPS to serve racks until generator starts.       | 1    | EA   |               |          |            |          |            | \$ 30,815.00 | \$ 30,815         | \$ 46,469 |
| ES-11                                | Electrical Panel             | Head End Room | --        | 1     | 3    | 1     | 5     |        | Technology circuits are serving non technology loads. | Add panel and move non-technology loads from technology panels. | 1    | EA   |               |          |            |          |            | \$ 4,875.00  | \$ 4,875          | \$ 7,352  |
| ES-12                                | Uninterruptible Power Supply | Main Office   | --        | 1     | 3    | 4     | 8     |        | Maintain operation during power interruptions.        | Provide 5 kVA UPS to serve key fob entry, PA and phones.        | 1    | EA   |               |          |            |          |            | \$ 11,300.00 | \$ 11,300         | \$ 17,040 |
| <b>Subtotal - Electrical Systems</b> |                              |               |           |       |      |       |       |        |   |   |      |      |               |          |            |          |            |              | <b>\$ 584,878</b> |           |

| ACADEMIC/SPACE DEFICIENCIES                   |                                    |                      |    |   |   |   |   |  |  |  |       |    |           |             |  |  |  |  |                     |              |
|---|------------------------------------|----------------------|----|---|---|---|---|--|--|--|-------|----|-----------|-------------|--|--|--|--|---------------------|--------------|
| AD-1  | New Fine Arts Wing                 | Building Addition    | -- | 4 | 3 | 1 | 8 |  | Existing space is inadequate.                                    | Build new fine arts wing. This will free up the current art spaces for new uses such as sensory rooms, kindergarten rooms, work rooms, storage, etc. | 6,075 | SF | \$ 225.00 | \$1,366,875 |  |  |  |  |                     | \$ 2,061,248 |
| AD-2  | Dedicated Cafeteria                | Building Addition    | -- | 4 | 3 | 1 | 8 |  | Existing building lacks dedicated cafeteria.                     | Build new cafeteria.   | 6,250 | SF | \$ 250.00 | \$1,562,500 |  |  |  |  |                     | \$ 2,356,250 |
| AD-3  | Large Group Instruction Renovation | Existing Office Area | -- | 4 | 3 | 1 | 8 |  | Existing building lacks dedicated large instructional space.     | Renovate existing office area to accommodate this space.   | 2,500 | SF | \$ 125.00 | \$ 312,500  |  |  |  |  |                     | \$ 471,250   |
| AD-4  | Office                             |                      | -- | 4 | 3 | 1 | 8 |  | Existing office is not located at main student/visitor entrance. | Move to location of band/orchestra rooms.  | 2,160 | SF | \$ 125.00 | \$ 270,000  |  |  |  |  |                     | \$ 407,160   |
| <b>Subtotal - Academic/Space Deficiencies</b> |                                    |                      |    |   |   |   |   |  |  |  |       |    |           |             |  |  |  |  | <b>\$ 5,295,908</b> |              |

| SITE CIRCULATION                   |                  |      |    |   |   |   |   |  |                                    |   |   |    |  |            |  |  |  |  |                   |            |
|------------------------------------|------------------|------|----|---|---|---|---|--|------------------------------------|---|---|----|--|------------|--|--|--|--|-------------------|------------|
| SC-1                               | Parking          | Site | -- | 4 | 4 | 1 | 9 |  | Quantity of parking is inadequate. | Add additional parking to the site. Figure shown to the right is an allowance.      | 1 | LS |  | \$ 175,000 |  |  |  |  |                   | \$ 263,900 |
| SC-2                               | Student Drop-off | Site | -- | 4 | 4 | 1 | 9 |  | Student drop-off is inadequate.    | Add/modify student drop-off to the site. Figure shown to the right is an allowance. | 1 | LS |  | \$ 125,000 |  |  |  |  |                   | \$ 188,500 |
| <b>Subtotal - Site Circulation</b> |                  |      |    |   |   |   |   |  |                                    |   |   |    |  |            |  |  |  |  | <b>\$ 452,400</b> |            |

| TECHNOLOGY              |                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                     |  |
|-------------------------|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---------------------|--|
| IT-1                    | Refer to Tab 12 for breakdown |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                     |  |
| <b>Technology Total</b> |                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>\$ 1,573,457</b> |  |

Note: Shaded items are shown for reference only and not included in the deficiency total.

**Total Project Cost \$14,007,996**

# ANDERSON MIDDLE SCHOOL



BE-1



# ANDERSON MIDDLE SCHOOL



BE-2

# ANDERSON MIDDLE SCHOOL



BE-3

# ANDERSON MIDDLE SCHOOL



BE-4

# ANDERSON MIDDLE SCHOOL



BE-5

# ANDERSON MIDDLE SCHOOL



BE-7

# ANDERSON MIDDLE SCHOOL



BE-9

# ANDERSON MIDDLE SCHOOL



BE-10

# ANDERSON MIDDLE SCHOOL



BE-11



# ANDERSON MIDDLE SCHOOL



BE-12

# ANDERSON MIDDLE SCHOOL



BE-13

# ANDERSON MIDDLE SCHOOL



BE-14

# ANDERSON MIDDLE SCHOOL



BI-1

# ANDERSON MIDDLE SCHOOL



BI-2

# ANDERSON MIDDLE SCHOOL



BI-4

# ANDERSON MIDDLE SCHOOL



BI-5

# ANDERSON MIDDLE SCHOOL



BI-6



# ANDERSON MIDDLE SCHOOL



BI-7A

# ANDERSON MIDDLE SCHOOL



BI-7B

# ANDERSON MIDDLE SCHOOL



BI-8

# ANDERSON MIDDLE SCHOOL



AB-1

# ANDERSON MIDDLE SCHOOL



AB-2

# ANDERSON MIDDLE SCHOOL



AB-3

# ANDERSON MIDDLE SCHOOL



AB-4A

# ANDERSON MIDDLE SCHOOL



AB-4B



# ANDERSON MIDDLE SCHOOL



AB-4C

# ANDERSON MIDDLE SCHOOL



AB-5

# ANDERSON MIDDLE SCHOOL



AB-7

# ANDERSON MIDDLE SCHOOL



AB-8

# ANDERSON MIDDLE SCHOOL



MS-1

# ANDERSON MIDDLE SCHOOL



MS-2

# ANDERSON MIDDLE SCHOOL



MS-3

# ANDERSON MIDDLE SCHOOL



MS-4



# ANDERSON MIDDLE SCHOOL



MS-5

# ANDERSON MIDDLE SCHOOL



MS-6

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MS-7

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MS-10

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MS-12

# ANDERSON MIDDLE SCHOOL



MS-13



# ANDERSON MIDDLE SCHOOL



MS-14

# ANDERSON MIDDLE SCHOOL



PS-1

# ANDERSON MIDDLE SCHOOL



PS-2

# ANDERSON MIDDLE SCHOOL



PS-4

# ANDERSON MIDDLE SCHOOL



PS-5

# ANDERSON MIDDLE SCHOOL



ES-1

# ANDERSON MIDDLE SCHOOL



ES-2A

# ANDERSON MIDDLE SCHOOL



ES-2B



# ANDERSON MIDDLE SCHOOL



ES-3

# ANDERSON MIDDLE SCHOOL



ES-6A

# ANDERSON MIDDLE SCHOOL



ES-6B

# ANDERSON MIDDLE SCHOOL



ES-9

# ANGELL ELEMENTARY SCHOOL



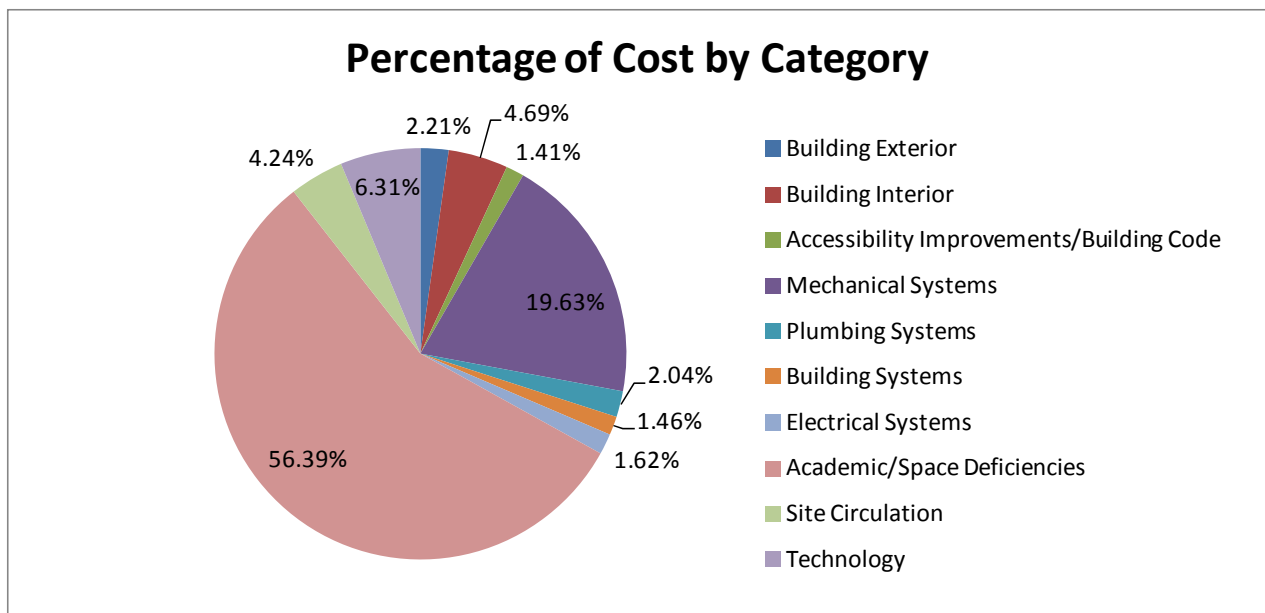
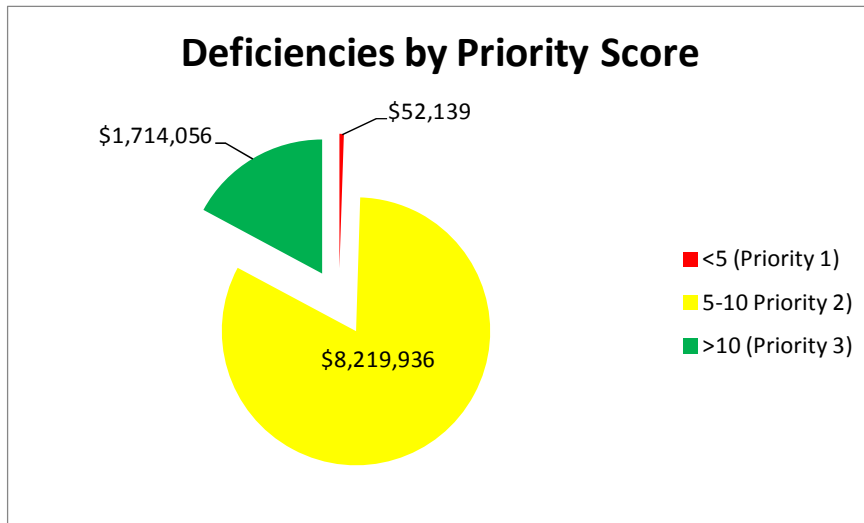
# ANGELL ELEMENTARY SCHOOL

## GENERAL OVERVIEW

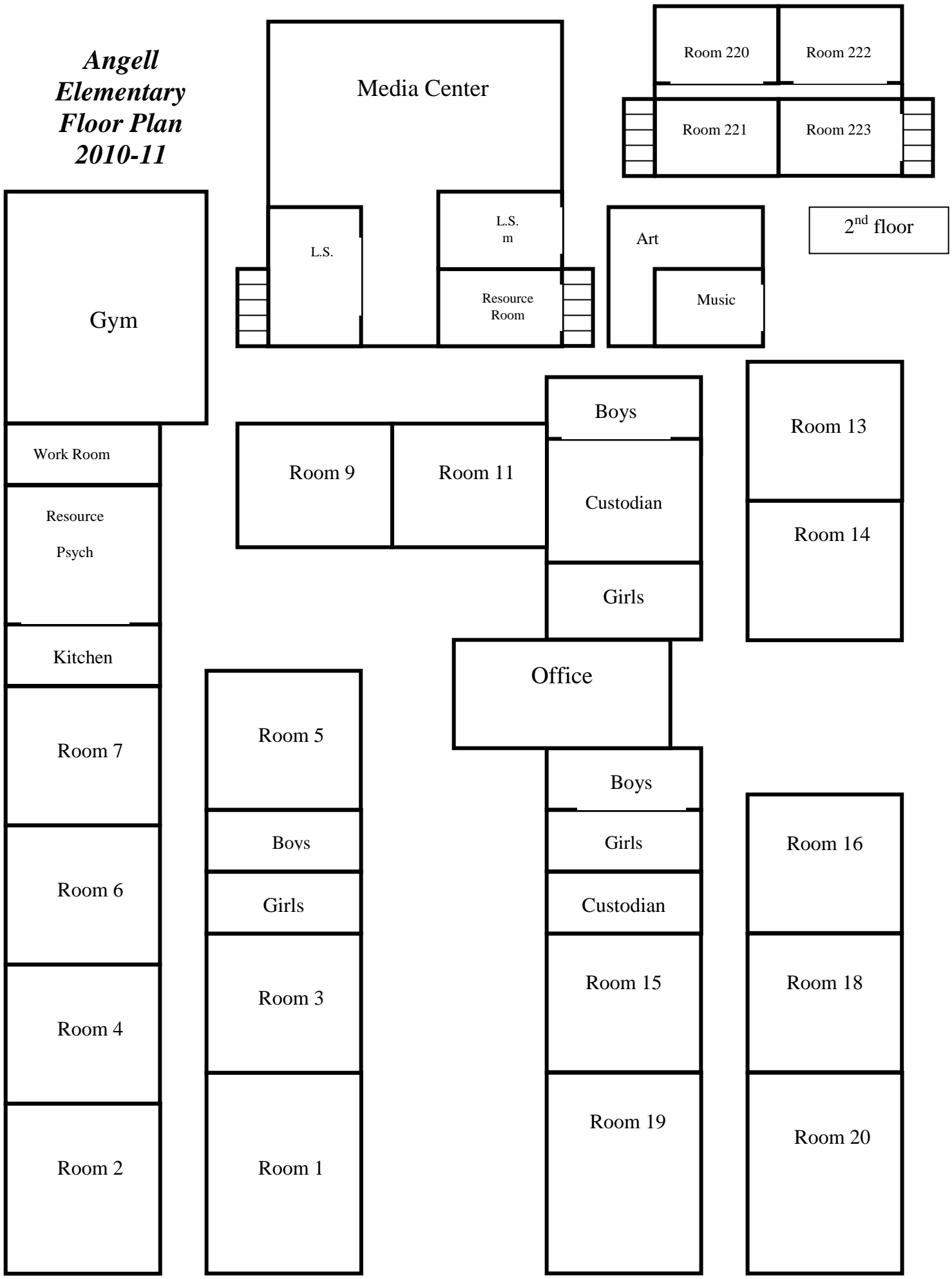
Use: Elementary School  
 Year Built: 1921  
 Total Area: 40,981 square feet  
 Floors: 2

## MAJOR FINDINGS

Refer to the following charts for a summary of deficiencies by category and priority score. Note: Lower priority score equals highest urgency.



*Angell  
Elementary  
Floor Plan  
2010-11*





**BERKLEY SCHOOLS**  
**Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment**



**Angell Elementary School**

|   |   |  |   |  |  |              |
|---|---|--|---|--|--|--------------|
| Address: 3849 Beverly, Berkley, Michigan<br>Bldg. Area: 40,981<br>No. of Floors: 2<br>Year Built: 1921<br>Evaluation Date: January 2014 | <b>Item No. Codes</b>   |  | <b>Building Deficiencies Priorities by Category</b>                               |  |  | <b>Notes</b> |
|   | AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |              |

| No.                                 | Item/Description                              | Location  | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes  | Action   | Qty.  | Unit | Architectural |            | Mechanical |           | Electrical |           | 2014 Project Cost |
|-------------------------------------|---|---|-----------|-------|------|-------|-------|--------|--|--|-------|------|---------------|------------|------------|-----------|------------|-----------|-------------------|
|                                     |   |   |           |       |      |       |       |        |  |  |       |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal  | Unit Cost  | Subtotal  |                   |
| <b>BUILDING EXTERIOR</b>            |   |   |           |       |      |       |       |        |  |  |       |      |               |            |            |           |            |           |                   |
| BE-1                                | Overhangs/Soffits                             | Entire Building                                 | BE-1      | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                    | Provide aluminum soffit panels.  | 1,320 | LF   | \$ 6.00       | \$ 7,920   |            |           |            |           | \$ 11,943         |
| BE-2                                | Brick Veneer at Base of Walls                 | Where Roofs Drain to Pavement Adjacent to Walls | BE-2      | 3     | 3    | 2     | 8     |        | Brick and mortar joints deteriorated from roof water drainage.           | Control roof drainage where possible and clean/tuck point brick.   | 1,300 | SF   | \$ 10.50      | \$ 13,650  |            |           |            |           | \$ 20,584         |
| BE-3                                | Sealant at Door and Window Openings           | Entire Building                                 | BE-3      | 3     | 3    | 2     | 8     |        | Sealant deteriorated and cracked.  | Replace sealant.   | 2,500 | LF   | \$ 4.75       | \$ 11,875  |            |           |            |           | \$ 17,908         |
| BE-4                                | Sealant at Stone                              | Media Center                                    | BE-4      | 3     | 3    | 2     | 8     |        | Sealant at joints is missing.  | Replace sealant.   | 600   | LF   | \$ 4.75       | \$ 2,850   |            |           |            |           | \$ 4,298          |
| BE-5                                | Steel Stair/Ramp Railings                     | Building Entrances                              | BE-5      | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                    | Paint railings.  | 115   | LF   | \$ 5.00       | \$ 575     |            |           |            |           | \$ 867            |
| BE-6                                | Metal Stair Treads                            | Southwest Building Entrance                     | BE-6      | 1     | 2    | 2     | 5     |        | Treads are missing and rusted.   | Replace with aluminum treads.  | 50    | LF   | \$ 60.00      | \$ 3,000   |            |           |            |           | \$ 4,524          |
| BE-7                                | Steel Doors and Frames                        | Entire Building                                 | BE-7      | 3     | 3    | 1     | 7     |        | Deteriorated and rusted.   | Replace with aluminum frames and fiberglass reinforced panel doors.                                      | 3     | EA   | \$ 2,800.00   | \$ 8,400   |            |           |            |           | \$ 12,667         |
| BE-8                                | Stone Window Sills                            | Various Locations                               | BE-8      | 4     | 3    | 2     | 9     |        | Deteriorated, sealant missing.   | Replace sills and sealant.   | 75    |      | \$ 30.00      | \$ 2,250   |            |           |            |           | \$ 3,393          |
| BE-9                                | Entrance Canopy Soffits                       | Building Entrances                              | --        | 3     | 3    | 2     | 8     |        | Wood is deteriorated and paint is peeling.                               | Provide aluminum soffit panels.  | 510   | SF   | \$ 7.50       | \$ 3,825   |            |           |            |           | \$ 5,768          |
| BE-10                               | Roof Membrane                                 | Selected Areas                                  | --        | 2     | 1    | 1     | 4     | X      | Roof membrane reaching its life expectancy.                              | Remove and replace with new insulation and single-ply membrane.  | 3,450 | SF   | \$ 10.00      | \$ 34,500  |            |           |            |           | \$ 52,026         |
| BE-11                               | Site Drainage                                 | East Elevation                                  | BE-11     | 2     | 3    | 1     | 6     |        | Roof drainage ponds along face of building.                              | Add landscape drain tile system.   | 4,140 | SF   | \$ 15.00      | \$ 62,100  |            |           |            |           | \$ 93,647         |
| BE-12                               | Clerestory Windows                            | West Wing                                       | --        | 4     | 5    | 2     | 11    |        | Single glazed glass.   | Replace with aluminum frames and insulating glass.   | 65    | SF   | \$ 80.00      | \$ 5,200   |            |           |            |           | \$ 7,842          |
| <b>Subtotal - Building Exterior</b> |   |   |           |       |      |       |       |        |  |  |       |      |               |            |            |           |            |           | <b>\$ 235,467</b> |
| <b>BUILDING INTERIOR</b>            |   |   |           |       |      |       |       |        |  |  |       |      |               |            |            |           |            |           |                   |
| BI-1                                | Original Wood Doors and Frames                | Entire Building                                 | BI-1      | 4     | 3    | 1     | 8     |        | Deteriorated, nonfunctional and do not meet current code requirements.   | Replace with wood doors and hollow metal frames.   | 53    | EA   | \$ 2,350.00   | \$ 124,550 |            |           |            |           | \$ 187,821        |
| BI-2                                | Plastic Laminate Counter Tops                 | Classrooms                                      | BI-2      | 4     | 3    | 2     | 9     |        | Delaminating.  | Replace with solid surface material. And install new sink with point of use TMV.                         | 318   | LF   | \$ 150.00     | \$ 47,700  | \$ 65.00   | \$ 20,670 |            |           | \$ 103,102        |
| BI-3                                | Carpet  | Corridors                                       | BI-3      | 3     | 3    | 1     | 7     |        | Carpet reaching life expectancy.   | Replace carpet and resilient base.   | 6,170 | SF   | \$ 7.00       | \$ 43,190  |            |           |            |           | \$ 65,131         |
| BI-4                                | Gypsum Board Soffits                          | 2nd Floor Classrooms                            | BI-4      | 4     | 5    | 1     | 10    |        | Deteriorated and paint is peeling.                                       | Repair and repaint.  | 100   | SF   | \$ 5.00       | \$ 500     |            |           |            |           | \$ 754            |
| BI-5                                | Stair Wall                                    | 2nd Floor East Stair                            | BI-5      | 3     | 3    | 1     | 7     |        | Plaster is deteriorated and paint is peeling.                            | Repair wall and paint.   | 250   | SF   | \$ 5.00       | \$ 1,250   |            |           |            |           | \$ 1,885          |
| BI-6                                | Resilient flooring and concrete floor topping | Art Room  | BI-6      | 3     | 3    | 2     | 8     |        | Concrete floor topping has failed causing damage the resilient flooring. | Replace concrete topping and resilient flooring.   | 650   | SF   | \$ 10.50      | \$ 6,825   |            |           |            |           | \$ 10,292         |
| BI-7                                | Original Acoustical Tile Ceilings             | West Wing, Music Room                           | BI-7      | 4     | 5    | 1     | 10    |        | Poor condition.  | Replace with acoustical panels with concealed grid and new lighting. (Existing acoustic tile to remain.) | 6,180 | SF   | \$ 5.00       | \$ 30,900  |            |           | \$ 9.00    | \$ 55,620 | \$ 130,472        |
| BI-8                                | Room Security                                 | Head End Room                                   | --        | 1     | 1    | 1     | 3     |        | Key type is not unique to authorized staff (typical for all buildings).  | Recore door lock.  | 1     | EA   | \$ 75.00      | \$ 75      |            |           |            |           | \$ 113            |
| <b>Subtotal - Building Interior</b> |   |   |           |       |      |       |       |        |  |  |       |      |               |            |            |           |            |           | <b>\$ 499,570</b> |



**Angell Elementary School**

| Address: 3849 Beverly, Berkley, Michigan<br>Bldg. Area: 40,981<br>No. of Floors: 2<br>Year Built: 1921<br>Evaluation Date: January 2014 | Item No. Codes  |  | Building Deficiencies Priorities by Category                                      |  |  | Notes |
|---|---|--|---|--|--|-------|
|   | AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |       |

| No.   | Item/Description                          | Location                 | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes  | Action   | Qty.   | Unit | Architectural |            | Mechanical   |            | Electrical  |           | 2014 Project Cost   |              |
|---|---|--------------------------|-----------|-------|------|-------|-------|--------|--|--|--------|------|---------------|------------|--------------|------------|-------------|-----------|---------------------|--------------|
|   |   |                          |           |       |      |       |       |        |  |  |        |      | Unit Cost     | Subtotal   | Unit Cost    | Subtotal   | Unit Cost   | Subtotal  |                     |              |
| <b>ACCESSIBILITY IMPROVEMENT/BUILDING CODE</b>            |   |                          |           |       |      |       |       |        |  |  |        |      |               |            |              |            |             |           |                     |              |
| AB-1  | Coats Hung Outside of Lockers             | Corridors                | AB-1      | 1     | 4    | 1     | 6     |        | Code violation.  | Remove coats.  | --     | --   |               |            |              |            |             |           |                     |              |
| AB-2  | Furniture and Equipment                   | Corridors                | AB-2      | 1     | 4    | 1     | 6     |        | Loose furniture and equipment not permitted in corridors.              | Remove furniture and equipment.  | --     | --   |               |            |              |            |             |           |                     |              |
| AB-3  | Built-in Storage Cabinets                 | Corridors                | AB-3      | 1     | 4    | 1     | 6     |        | Cabinets do not have required fire rated doors.                        | Provide fire rated doors and frames.   | 9      | EA   | \$ 2,350.00   | \$ 21,150  |              |            |             |           |                     | \$ 31,894    |
| AB-4  | Storage Cabinets in Stairway              | West Stair to 2nd Floor  | AB-4      | 1     | 4    | 1     | 6     |        | Code violation.  | Remove storage cabinets.   | --     | --   |               |            |              |            |             |           |                     |              |
| AB-5  | Blocked Exit Door                         | Classrooms 19 and 20     | AB-5      | 1     | 4    | 1     | 6     |        | Required second exit from room to corridor blocked by furniture.       | Remove furniture.  | --     | --   |               |            |              |            |             |           |                     |              |
| AB-6  | Stair Handrail                            | Stair to Staff Lounge    | AB-6      | 1     | 4    | 1     | 6     |        | Handrail missing from one side of stair.                               | Add handrail.  | 14     | FT   | \$ 50.00      | \$ 700     |              |            |             |           |                     | \$ 1,056     |
| AB-7  | Stair Guardrail                           | Stairs to 2nd Floor      | AB-7      | 1     | 4    | 1     | 6     |        | Guardrails do not meet current code requirements for height.           | Add guardrail.   | 50     | LF   | \$ 150.00     | \$ 7,500   |              |            |             |           |                     | \$ 11,310    |
| AB-8  | Barrier Free Toilet Room Doors            | 1st Floor                | AB-8      | 1     | 4    | 2     | 7     |        | Doors do not have required wheelchair maneuvering space.               | Add automatic door operators.  | 2      | EA   | \$ 1,500.00   | \$ 3,000   |              |            | \$ 1,200.00 | \$ 2,400  |                     | \$ 8,143     |
| AB-9  | Fire Extinguisher Cabinets                | Entire Building          | AB-9      | 1     | 4    | 2     | 7     |        | Mounted too high above the floor.                                      | Mount extinguishers lower.   | 1      | LS   | \$ 500.00     | \$ 500     |              |            |             |           |                     | \$ 754       |
| AB-10   | Stair Handrail                            | Stair to Staff Copy Room | AB-10     | 1     | 4    | 2     | 7     |        | Handrails missing.   | Add handrails both sides of stair.   | 12     | LF   | \$ 50.00      | \$ 600     |              |            |             |           |                     | \$ 905       |
| AB-11   | Boy's and Girl's Toilet Rooms             | East and West Wings      | --        | 1     | 4    | 2     | 7     |        | Toilet rooms do not meet current accessibility requirements.           | Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes, stalls and automatic door operators. | 900    | SF   | \$ 40.00      | \$ 36,000  | \$ 27.00     | \$ 24,300  | \$ 4.20     | \$ 3,780  |                     | \$ 96,633    |
| AB-12   | Stair Handrail                            | NE entrance              | AB-12     | 1     | 4    | 1     | 6     |        | Handrails missing.   | Add handrails both sides of stair.   | 6      | LF   | \$ 50.00      | \$ 300     |              |            |             |           |                     |              |
| AB-13   | Barrier Free Toilet Paper Towel Dispenser | Girl's Toilet 1st Floor  | --        | 1     | 4    | 2     | 7     |        | Paper towel dispenser mounted too high.                                | Lower dispenser.   | 1      | EA   | \$ 50.00      | \$ 50      |              |            |             |           |                     | \$ 75        |
| <b>Subtotal - Accessibility Improvement/Building Code</b> |   |                          |           |       |      |       |       |        |  |  |        |      |               |            |              |            |             |           | <b>\$ 150,770</b>   |              |
| <b>MECHANICAL SYSTEMS</b>                                 |   |                          |           |       |      |       |       |        |  |  |        |      |               |            |              |            |             |           |                     |              |
| MS-1  | Building Controls                         | Entire Building          | MS-1      | 2     | 2    | 1     | 5     | X      | Existing pneumatic controls are outdated.                              | Provide new DDC controls throughout.   | 41,000 | SF   |               |            | \$ 3.30      | \$ 135,300 |             |           |                     | \$ 204,032   |
| MS-2  | Steam Pipe                                | Entire Building          | MS-2      | 2     | 2    | 1     | 5     | X      | Existing steam pipe is in poor condition.                              | Replace steam mains in tunnels.  | 520    | LF   |               |            | \$ 75.00     | \$ 39,000  |             |           |                     | \$ 58,812    |
| MS-3  | Condensate Pipe                           | Entire Building          | --        | 2     | 2    | 1     | 5     | X      | Existing condensate pipe is in poor condition.                         | Replace condensate pipe mains in tunnels.  | 520    | LF   |               |            | \$ 50.00     | \$ 26,000  |             |           |                     | \$ 39,208    |
| MS-4  | Steam Trap Maintenance                    | Entire Building          | MS-4      | 3     | 4    | 1     | 8     | X      | Existing traps vary in age and condition.                              | Replace older traps in poor condition.   | 1      | LS   |               |            | \$ 18,500.00 | \$ 18,500  |             |           |                     | \$ 27,898    |
| MS-5  | Pipe Insulation                           | Entire Building          | MS-5      | 4     | 4    | 1     | 9     | X      | Large sections of missing insulation on steam and condensate pipe.     | Install new insulation and labels.   | 200    | LF   |               |            | \$ 9.00      | \$ 1,800   |             |           |                     | \$ 2,714     |
| MS-6  | Classroom Unit Ventilators - Horizontal   | Entire Building          | MS-6      | 3     | 3    | 1     | 7     | X      | Horizontal unit ventilators are in poor condition.                     | Provide new ducted vertical unit ventilators, exposed in high ceiling areas.                               | 17     | EA   | \$ 7,500.00   | \$ 127,500 | \$ 23,000.00 | \$ 391,000 | \$ 235.00   | \$ 3,995  |                     | \$ 787,922   |
| MS-6A   | Vertical UV - HVAC                        | Entire Building          | --        | 5     | 5    | 1     | 11    | X      | Existing horizontal unit ventilators are heating and ventilation only. | Provide new self-contained DX HVAC unit ventilators, exposed ductwork in high ceiling areas.               | 24     | EA   | \$ 7,500.00   | \$ 180,000 | \$ 27,000.00 | \$ 648,000 | \$ 2,373.00 | \$ 56,952 |                     | \$ 1,334,508 |
| MS-7A   | Gym HVAC                                  | Gym                      | --        | 5     | 5    | 1     | 11    | X      | Existing gym unit is heating and ventilation only.                     | Install new DX rooftop unit, approximate 10-ton unit.  | 1      | EA   |               |            | \$ 51,000.00 | \$ 51,000  | \$ 8,010.00 | \$ 8,010  |                     | \$ 88,987    |
| MS-8  | Office HVAC                               | Office                   | --        | 3     | 3    | 2     | 8     | X      | Office area lacks proper ventilation.                                  | Provide new DX cassette unit, approximate 2.5-ton unit thru wall ducted fresh air.                         | 1      | EA   |               |            | \$ 17,500.00 | \$ 17,500  | \$ 2,787.00 | \$ 2,787  |                     | \$ 30,593    |
| MS-9  | Corridor Heating and Ventilation Units    | Roof                     | MS-9      | 4     | 4    | 2     | 10    | X      | Three rooftop units are beyond their useful life.                      | Replace with like and kind.  | 3      | EA   |               |            | \$ 27,000.00 | \$ 81,000  | \$ 3,230.00 | \$ 9,690  |                     | \$ 136,761   |
| MS-9A   | Corridor HVAC                             | Roof                     | --        | 5     | 5    | 1     | 11    | X      | Existing rooftop units are heating and ventilation only.               | Replace with HVAC; approximate 5-tons each.  | 3      | EA   | \$ 3,000.00   | \$ 9,000   | \$ 35,100.00 | \$ 105,300 | \$ 4,500.00 | \$ 13,500 |                     | \$ 192,722   |
| MS-10   | Media Center HVAC                         | Roof                     | MS-10     | 4     | 4    | 1     | 9     | X      | Two existing rooftop units are beyond their useful life.               | Replace with like and kind, approximate 5-tons each.   | 2      | EA   |               |            | \$ 18,000.00 | \$ 36,000  | \$ 4,500.00 | \$ 9,000  |                     | \$ 67,860    |
| MS-11   | Roof Exhaust Fans                         | Roof                     | MS-11     | 4     | 4    | 1     | 9     |        | Existing roof exhaust fans are beyond their useful life.               | Provide 6 new roof exhaust fans, average size is 600 CFM.  | 6      | EA   |               |            | \$ 3,250.00  | \$ 19,500  | \$ 175.00   | \$ 1,050  |                     | \$ 30,989    |
| MS-12   | Head End A/C                              | Headend Room             | --        | 4     | 5    | 1     | 10    |        | Some issues with existing unit.  | Install new split A/C unit approx 1.5 Tons   | 1      | EA   |               |            | \$ 8,500.00  | \$ 8,500   | \$ 500.00   | \$ 500    |                     | \$ 13,572    |
| <b>Subtotal - Mechanical Systems</b>                      |   |                          |           |       |      |       |       |        |  |  |        |      |               |            |              |            |             |           | <b>\$ 2,091,896</b> |              |

**Angell Elementary School**

|   |  |   |  |  |  |  |   |  |  |  |  |  |  |
|---|--|---|--|--|--|--|---|--|--|--|--|--|--|
| Address: 3849 Beverly, Berkley, Michigan<br>Bldg. Area: 40,981<br>No. of Floors: 2<br>Year Built: 1921<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Building Deficiencies Priorities by Category</b><br><table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b><br/>                     1. Hazards<br/>                     2. Interruption<br/>                     3. Deterioration<br/>                     4. Utility<br/>                     5. Energy                 </td> <td style="background-color: lightgreen;"> <b>Need</b><br/>                     1. Critical<br/>                     2. Urgent<br/>                     3. Necessary<br/>                     4. ADA<br/>                     5. Desirable                 </td> <td style="background-color: orange;"> <b>Frequency of Use</b><br/>                     1. Constant<br/>                     2. Frequent<br/>                     3. Occasional<br/>                     4. Infrequent<br/>                     5. Meager                 </td> </tr> </table> |  |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |  |  |  |  |
|   | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy   | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager   |  |  |  |   |  |  |  |  |  |  |

| No.   | Item/Description               | Location                     | Photo No.      | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.   | Unit | Architectural |              | Mechanical   |           | Electrical   |           | 2014 Project Cost   |
|---|--------------------------------|------------------------------|----------------|-------|------|-------|-------|--------|---|--|--------|------|---------------|--------------|--------------|-----------|--------------|-----------|---------------------|
|   |                                |                              |                |       |      |       |       |        |   |  |        |      | Unit Cost     | Subtotal     | Unit Cost    | Subtotal  | Unit Cost    | Subtotal  |                     |
| <b>PLUMBING SYSTEMS</b>                       |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           |                     |
| PS-1  | Sump Pump - West               | West Tunnel                  | PS-1           | 3     | 3    | 5     | 11    |        | West tunnel is generally wet.   | Add drain tile and sump pump to serve west tunnel.   | 1      | LS   |               |              | \$ 12,800.00 | \$ 12,800 | \$ 1,200.00  | \$ 1,200  | \$ 21,112           |
| PS-2  | Sump Pump                      | Boiler Room                  | PS-2           | 3     | 3    | 5     | 11    |        | Existing sump system is single pump, light commercial.                                    | Replace with heavy duty commercial duplex system.  | 1      | LS   |               |              | \$ 4,400.00  | \$ 4,400  | \$ 1,200.00  | \$ 1,200  | \$ 8,445            |
| PS-3  | Domestic Water Pipe            | Entire Building              | PS-3           | 2     | 3    | 1     | 6     | X      | 80% of existing domestic water pipe is galvanized steel.                                  | Replace with copper pipe.  | 20,000 | SF   |               |              | \$ 3.25      | \$ 65,000 |              |           | \$ 98,020           |
| PS-4  | Water Meter Isolation Valves   | Boiler Room                  | PS-4           | 2     | 3    | 5     | 10    |        | Existing gate valves at water meter are in poor condition.                                | Replace three (3), 3" gate valves.   | 3      | EA   |               |              | \$ 2,750.00  | \$ 8,250  |              |           | \$ 12,441           |
| PS-5  | Sanitary Pipe                  | Entire Building              | PS-5           | 3     | 3    | 1     | 7     |        | Sanitary pipe is in poor condition.   | Replace accessible portions.   | 10,000 | SF   |               |              | \$ 4.25      | \$ 42,500 |              |           | \$ 64,090           |
| PS-6  | Water Cooler                   | Main Corridor                | --             | 4     | 4    | 1     | 9     |        | Limited number of drinking fountains in main corridors.                                   | Add two (2) new water coolers.   | 2      | EA   | \$ 250.00     | \$ 500       | \$ 3,000.00  | \$ 6,000  | \$ 1,200.00  | \$ 2,400  | \$ 13,421           |
| <b>Subtotal - Plumbing Systems</b>            |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           | <b>\$ 217,529</b>   |
| <b>BUILDING SYSTEMS</b>                       |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           |                     |
| BS-1  | Fire Alarm System              | Entire Building              | --             | 2     | 3    | 3     | 8     |        | Existing system is outdated and difficult to maintain.                                    | Install new addressable system.  | 1      | LS   |               |              |              |           | \$ 88,109.00 | \$ 88,109 | \$ 132,868          |
| BS-2  | Emergency Lighting             | Corridors, Gym, Media Center | --             | 1     | 3    | 4     | 8     |        | Spacing of existing battery units exceeds requirements.                                   | Install new units in existing fixtures.  | 41     | EA   |               |              |              |           | \$ 300.00    | \$ 12,300 | \$ 18,548           |
| BS-3  | Boiler Room EPO                | Boiler Room                  | --             | 3     | 3    | 3     | 9     |        | Boiler room does not have an emergency power off system as required by code.              | Install Boiler Room EPO system.  | 1      | LS   |               |              | \$ 2,720.00  | \$ 2,720  |              |           | \$ 4,102            |
| <b>Subtotal - Building Systems</b>            |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           | <b>\$ 155,519</b>   |
| <b>ELECTRICAL SYSTEMS</b>                     |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           |                     |
| ES-1  | Electrical Distribution System | Boiler Room                  | --             | 2     | 3    | 1     | 6     |        | Original electrical distribution equipment is obsolete and a safety concern.              | Replace the original distribution equipment with new.  | 1      | EA   |               |              |              |           | \$ 24,500.00 | \$ 24,500 | \$ 36,946           |
| ES-2  | Electrical Panels              | Boiler Room                  | ES-2A<br>ES-2B | 2     | 5    | 1     | 8     |        | Original electrical panels are obsolete and are sometimes located behind doors.           | Replace the original panels with new, larger panels in new locations.  | 7      | EA   |               |              |              |           | \$ 4,875.00  | \$ 34,125 | \$ 51,461           |
| ES-3  | Electrical Receptacles         | Child Use Areas              | --             | 1     | 3    | 2     | 6     |        | Electrical receptacles in child care centers are required to be inaccessible to children. | Replace all receptacles with tamper resistant type receptacles.  | 20     | EA   |               |              |              |           | \$ 55.00     | \$ 1,100  | \$ 1,659            |
| ES-5  | Exit Lighting Fixtures         | Classrooms                   | --             | 4     | 3    | 4     | 11    | X      | Rooms over 1,000 SF require 2 exits with Exit signs.                                      | Add exit signs.  | 4      | EA   |               |              |              |           | \$ 300.00    | \$ 1,200  | \$ 1,810            |
| ES-6  | Exterior Lighting              | Exterior Doors               | --             | 1     | 2    | 2     | 5     | X      | Lighting fixtures are in disrepair.   | Replace with more efficient LED fixtures.  | 7      | EA   |               |              |              |           | \$ 520.00    | \$ 3,640  | \$ 5,489            |
| ES-7  | Site Lighting                  | Parking Lot                  | --             | 3     | 5    | 3     | 11    | X      | Inadequate lighting.  | Replace with more efficient LED fixtures.  | 3      | EA   | \$ 6,000.00   | \$ 18,000    |              |           | \$ 6,960.00  | \$ 20,880 | \$ 58,631           |
| ES-8  | Uninterruptible Power Supply   | Main Office                  | --             | 1     | 3    | 4     | 8     |        | Maintain operation during power interruptions   | Provide 5 kVA UPS to serve Key Fob entry, PA and Phones  | 1      | EA   |               |              |              |           | \$ 11,300.00 | \$ 11,300 | \$ 17,040           |
| <b>Subtotal - Electrical Systems</b>          |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           | <b>\$ 173,035</b>   |
| <b>ACADEMIC/SPACE DEFICIENCIES</b>            |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           |                     |
| AD-1  | New Fine Arts Wing             | Building Addition            | --             | 4     | 3    | 1     | 8     |        | Existing space is inadequate.   | Build new fine arts wing. This will free up the current art spaces for new uses such as sensory rooms, kindergarten rooms, work rooms, storage, etc. | 6,075  | SF   | \$ 225.00     | \$ 1,366,875 |              |           |              |           | \$ 2,061,248        |
| AD-2  | Dedicated Cafeteria            | Building Addition            | --             | 4     | 3    | 1     | 8     |        | Existing building lacks dedicated cafeteria.  | Build new cafeteria.   | 6,250  | SF   | \$ 250.00     | \$ 1,562,500 |              |           |              |           | \$ 2,356,250        |
| AD-3  | New Large Group Instruction    | Building Addition            | --             | 4     | 3    | 1     | 8     |        | Existing building lacks dedicated large instructional space.                              | Build new large group instruction suite.   | 2,500  | SF   | \$ 200.00     | \$ 500,000   |              |           |              |           | \$ 754,000          |
| AD-4  | Sensory Room                   | Old Music Room               | --             | 4     | 3    | 1     | 8     |        | Existing building lacks a dedicated sensory room.   | Renovate music room to be sensory room.  | 700    | SF   | \$ 100.00     | \$ 70,000    |              |           |              |           | \$ 105,560          |
| AD-5  | New Science Lab                | Building Addition            | --             | 4     | 3    | 1     | 8     |        | Existing building lacks dedicated science lab.  | Build new science lab.   | 1,620  | SF   | \$ 300.00     | \$ 486,000   |              |           |              |           | \$ 732,888          |
| <b>Subtotal - Academic/Space Deficiencies</b> |                                |                              |                |       |      |       |       |        |   |  |        |      |               |              |              |           |              |           | <b>\$ 6,009,946</b> |

**Angell Elementary School**

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| No.                                | Item/Description              | Location | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes                              | Action  | Qty. | Unit | Architectural |            | Mechanical |          | Electrical |          | 2014 Project Cost |
|------------------------------------|-------------------------------|----------|-----------|-------|------|-------|-------|--------|------------------------------------|---|------|------|---------------|------------|------------|----------|------------|----------|-------------------|
|                                    |                               |          |           |       |      |       |       |        |                                    |   |      |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal | Unit Cost  | Subtotal |                   |
| <b>SITE CIRCULATION</b>            |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                   |
| SC-1                               | Parking                       | Site     | --        | 4     | 4    | 1     | 9     |        | Quantity of parking is inadequate. | Add additional parking to the site. Figure shown to the right is an allowance.      | 1    | LS   |               | \$ 175,000 |            |          |            |          | \$ 263,900        |
| SC-2                               | Student Drop-off              | Site     | --        | 4     | 4    | 1     | 9     |        | Student drop-off is inadequate.    | Add/modify student drop-off to the site. Figure shown to the right is an allowance. | 1    | LS   |               | \$ 125,000 |            |          |            |          | \$ 188,500        |
| <b>Subtotal - Site Circulation</b> |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          | <b>\$ 452,400</b> |
| <b>TECHNOLOGY</b>                  |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                   |
| IT-1                               | Refer to Tab 12 for breakdown |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                   |
| <b>Technology Total</b>            |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          | <b>\$ 672,330</b> |

Note: Shaded items are shown for reference only and not included in the deficiency total.

**Total Project Cost \$10,658,461**

# ANGELL ELEMENTARY SCHOOL



BE-1

# ANGELL ELEMENTARY SCHOOL



BE-2

# ANGELL ELEMENTARY SCHOOL



BE-2

# ANGELL ELEMENTARY SCHOOL



BE-3

# ANGELL ELEMENTARY SCHOOL



BE-4



# ANGELL ELEMENTARY SCHOOL



BE-5

# ANGELL ELEMENTARY SCHOOL



BE-6

# ANGELL ELEMENTARY SCHOOL



BE-7

# ANGELL ELEMENTARY SCHOOL



BE-8

# ANGELL ELEMENTARY SCHOOL



BI-1

# ANGELL ELEMENTARY SCHOOL



BI-2

# ANGELL ELEMENTARY SCHOOL



BI-4

# ANGELL ELEMENTARY SCHOOL



BI-5



# ANGELL ELEMENTARY SCHOOL



BI-6

# ANGELL ELEMENTARY SCHOOL



BI-7

# ANGELL ELEMENTARY SCHOOL



AB-1

# ANGELL ELEMENTARY SCHOOL



AB-2

# ANGELL ELEMENTARY SCHOOL



AB-13

# ANGELL ELEMENTARY SCHOOL



AB-4

# ANGELL ELEMENTARY SCHOOL



AB-5

# ANGELL ELEMENTARY SCHOOL



AB-6



# ANGELL ELEMENTARY SCHOOL



AB-7

# ANGELL ELEMENTARY SCHOOL



AB-8

# ANGELL ELEMENTARY SCHOOL



AB-9

# ANGELL ELEMENTARY SCHOOL



AB-10

# ANGELL ELEMENTARY SCHOOL



AB-12

# ANGELL ELEMENTARY SCHOOL



MS-1

# ANGELL ELEMENTARY SCHOOL



MS-2

# ANGELL ELEMENTARY SCHOOL



MS-4



# ANGELL ELEMENTARY SCHOOL



MS-5

# ANGELL ELEMENTARY SCHOOL



MS-6

# ANGELL ELEMENTARY SCHOOL



MS-9

# ANGELL ELEMENTARY SCHOOL



MS-10

# ANGELL ELEMENTARY SCHOOL



MS-11

# ANGELL ELEMENTARY SCHOOL



PS-1

# ANGELL ELEMENTARY SCHOOL



PS-2

# ANGELL ELEMENTARY SCHOOL



PS-3



# ANGELL ELEMENTARY SCHOOL



PS-4

# ANGELL ELEMENTARY SCHOOL



PS-5

# ANGELL ELEMENTARY SCHOOL



ES-2A

# ANGELL ELEMENTARY SCHOOL



ES-2B

# AVERY CENTER



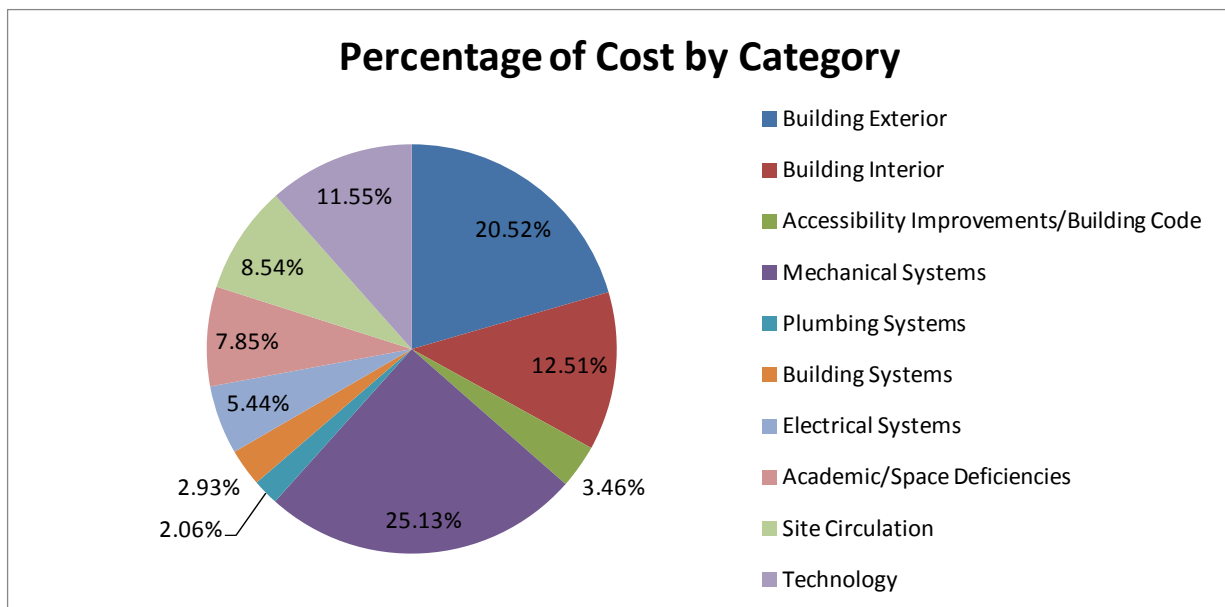
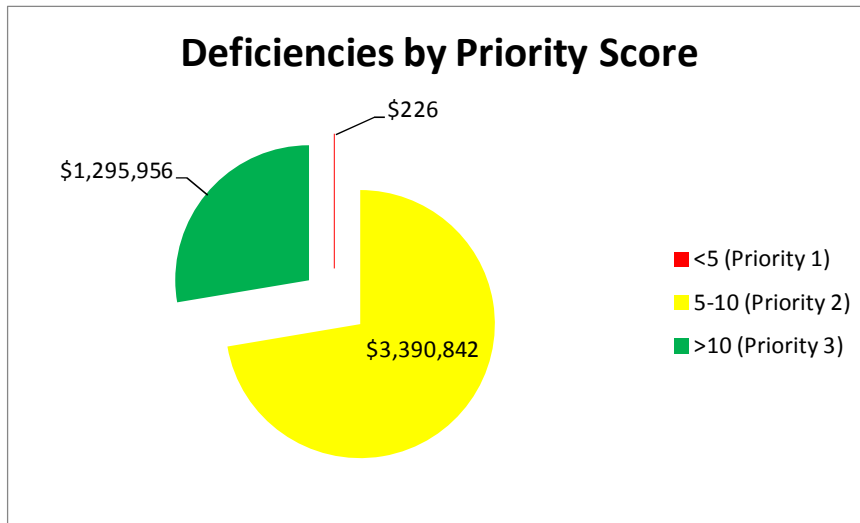
# AVERY CENTER

## GENERAL OVERVIEW

Use: Administrative  
Year Built: 1953  
Total Area: 37,307 GSF  
Floors: 1

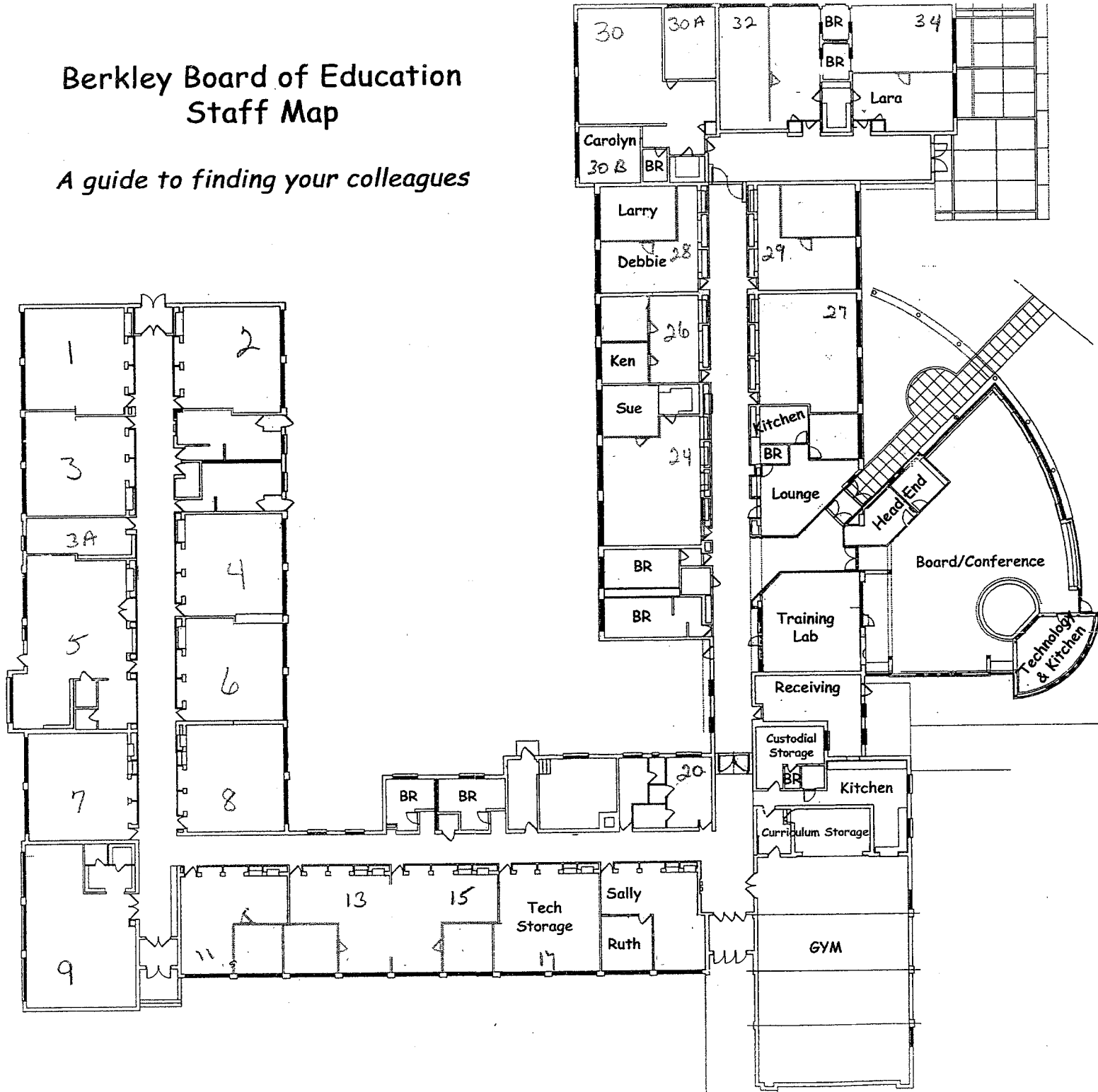
## MAJOR FINDINGS

Refer to the following charts for a summary of deficiencies by category and priority score. Note: Lower priority score equals highest urgency.



# Berkley Board of Education Staff Map

*A guide to finding your colleagues*





**BERKLEY SCHOOLS**  
**Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment**



**Avery Center**

|   |   |  |   |  |  |              |
|---|---|--|---|--|--|--------------|
| Address: 14700 Lincoln, Oak Park, Michigan<br>Bldg. Area: 37,307 GSF<br>No. of Floors: 1<br>Year Built: 1953<br>Evaluation Date: January 2014 | <b>Item No. Codes</b>   |  | <b>Building Deficiencies Priorities by Category</b>                               |  |  | <b>Notes</b> |
|   | AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |              |

| No.                                 | Item/Description                    | Location                                     | Photo No.        | Cons. | Need | Freq. | Score | Energy | Notes   | Action  | Qty.   | Unit | Architectural |            | Mechanical |           | Electrical |          | 2014 Project Cost   |
|-------------------------------------|-------------------------------------|--|------------------|-------|------|-------|-------|--------|---|---|--------|------|---------------|------------|------------|-----------|------------|----------|---------------------|
|                                     |                                     |  |                  |       |      |       |       |        |   |   |        |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal  | Unit Cost  | Subtotal |                     |
| <b>BUILDING EXTERIOR</b>            |                                     |  |                  |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          |                     |
| BE-1                                | Overhangs/Soffits                   | Entire Building                              | BE-1             | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                   | Provide aluminum soffit panels.   | 2,200  | SF   | \$ 6.00       | \$ 13,200  |            |           |            |          | \$ 19,906           |
| BE-2                                | Brick Veneer at Base of Walls       | Where roofs drain to grade adjacent to walls | BE-2             | 3     | 3    | 2     | 8     |        | Brick and mortar joints deteriorated from roof water drainage.          | Control roof drainage where possible and clean/tuck point brick.  | 2,750  | SF   | \$ 10.50      | \$ 28,875  |            |           |            |          | \$ 43,544           |
| BE-3                                | Sealant at Door and Window Openings | Entire Building                              | --               | 3     | 3    | 2     | 8     |        | Sealant deteriorated and cracked.                                       | Replace sealant.  | 1,400  | LF   | \$ 4.75       | \$ 6,650   |            |           |            |          | \$ 10,028           |
| BE-4                                | Aluminum Windows                    | Media Center                                 | BE-4             | 4     | 5    | 2     | 11    |        | Paint finish peeling.   | Paint window frames.  | 650    | LF   | \$ 5.50       | \$ 3,575   |            |           |            |          | \$ 5,391            |
| BE-5                                | Glass Block Windows                 | North Elevation                              | BE-5             | 4     | 3    | 2     | 9     |        | Broken glass block.   | Replace glass block.  | 20     | SF   | \$ 50.00      | \$ 1,000   |            |           |            |          | \$ 1,508            |
| BE-6                                | Steel Lintels at Wall Openings      | Media Center                                 | BE-6             | 2     | 2    | 2     | 6     |        | Steel is rusted.  | Paint lintels.  | 60     | SF   | \$ 18.00      | \$ 1,080   |            |           |            |          | \$ 1,629            |
| BE-7                                | Steel Doors and Frames              | Entire Building                              | BE-7             | 3     | 3    | 1     | 7     |        | Deteriorated and rusted.  | Replace with aluminum frames and fiberglass reinforced panel doors.                                     | 5      | EA   | \$ 2,800.00   | \$ 14,000  |            |           |            |          | \$ 21,112           |
| BE-8                                | Clerestory Windows                  | Classrooms                                   | BE-8             | 4     | 5    | 2     | 11    | X      | Single glazed glass.  | Replace with aluminum frames and insulating glass.  | 400    | SF   | \$ 80.00      | \$ 32,000  |            |           |            |          | \$ 48,256           |
| BE-9                                | Entrance Canopy Soffits             | Building Entrances                           | BE-9A<br>BE-9B   | 3     | 3    | 2     | 8     |        | Deteriorated and paint is peeling.                                      | Provide aluminum soffit panels.   | 1,600  | SF   | \$ 7.50       | \$ 12,000  |            |           |            |          | \$ 18,096           |
| BE-10                               | Roof Membrane                       | Selected Areas                               | --               | 3     | 3    | 2     | 8     | X      | Roof membrane reaching its life expectancy.                             | Remove and replace with new insulation and single ply membrane.   | 14,060 | SF   | \$ 10.00      | \$ 140,600 |            |           |            |          | \$ 212,025          |
| BE-11                               | Entrance Canopy Columns             | Media Center, South and Southeast Entrances  | BE-11            | 3     | 3    | 2     | 8     |        | Steel is rusted.  | Paint columns.  | 19     | EA   | \$ 75.00      | \$ 1,425   |            |           |            |          | \$ 2,149            |
| BE-12                               | Roof Drainage                       | Various Locations                            | BE-12A<br>BE-12B | 3     | 3    | 2     | 8     |        | Roof drainage spills onto brick causing deterioration.                  | Correct roof drainage, clean/repair brick.  | 2,400  | SF   | \$ 10.50      | \$ 25,200  |            |           |            |          | \$ 38,002           |
| BE-13                               | Roof Downspout                      | East Elevation of Gymnasium                  | BE-13A<br>BE-13B | 3     | 3    | 2     | 8     |        | Leaking roof downspout causing damage to brick and interior masonry.    | Repair downspout.   | 50     | LF   | \$ 12.00      | \$ 600     |            |           |            |          | \$ 905              |
| BE-14                               | Site Drainage                       | South Elevation                              | BE-14            | 2     | 3    | 1     | 6     |        | Roof drainage ponds along building face.                                | Add landscape drain tile to storm system.   | 2,900  | SF   | \$ 15.00      | \$ 43,500  |            |           |            |          | \$ 65,598           |
| BE-15                               | Brick Veneer                        | Various Locations                            | BE-15            | 3     | 3    | 2     | 8     |        | Brick cracked and mortar is missing.                                    | Replace brick and tuckpoint joints.   | 100    | SF   | \$ 25.00      | \$ 2,500   |            |           |            |          | \$ 3,770            |
| BE-16                               | Exposed Steel Frames                | Media Center Roof                            | BE-16            | 3     | 2    | 2     | 7     |        | Steel is rusting.   | Paint steel.  | 40     | LF   | \$ 10.00      | \$ 400     |            |           |            |          | \$ 603              |
| BE-17                               | Aluminum Windows                    | Entire Building Excluding Media Center       | --               | 4     | 5    | 2     | 11    |        | Windows have operational issues and hardware is difficult to obtain.    | Remove and replace aluminum windows.  | 5,170  | SF   | \$ 70.00      | \$ 361,900 |            |           |            |          | \$ 545,745          |
| BE-18                               | Add Daylighting                     | Gymnasium                                    | --               | 4     | 5    | 3     | 12    |        | Owner requested.  | Remove metal panels and provide aluminum windows.   | 408    | SF   | \$ 80.00      | \$ 32,640  |            |           |            |          | \$ 49,221           |
| <b>Subtotal - Building Exterior</b> |                                     |  |                  |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          | <b>\$ 1,087,487</b> |
| <b>BUILDING INTERIOR</b>            |                                     |  |                  |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          |                     |
| BI-1                                | Original Wood Doors and Frames      | Entire Building                              | BI-1             | 4     | 3    | 1     | 8     |        | Deteriorated, nonfunctional and do not meet current code requirements.  | Replace with wood doors and hollow metal frames.  | 60     | EA   | \$ 2,350.00   | \$ 141,000 |            |           |            |          | \$ 212,628          |
| BI-2                                | Plastic Laminate Counter Tops       | Classrooms                                   | BI-2             | 4     | 3    | 2     | 9     |        | Delaminating.   | Replace with solid surface material. New sinks with point of use TMV.                                   | 332    | LF   | \$ 150.00     | \$ 49,800  | \$ 65.00   | \$ 21,580 |            |          | \$ 107,641          |
| BI-3                                | Carpet                              | Corridors                                    | BI-3             | 3     | 3    | 1     | 7     |        | Carpet reaching life expectancy.  | Replace carpet and resilient base.  | 6,080  | SF   | \$ 7.00       | \$ 42,560  |            |           |            |          | \$ 64,180           |
| BI-4                                | Lay-in Acoustical Ceilings          | Corridors                                    | BI-4             | 4     | 5    | 1     | 10    |        | Poor condition.   | Replace acoustical ceilings and grid.   | 6,080  | SF   | \$ 5.75       | \$ 34,960  |            |           |            |          | \$ 52,720           |
| BI-5                                | Water Damage                        | East Wall of Gymnasium                       | BI-5             | 3     | 3    | 2     | 8     |        | Damage as result of leaking downspout at exterior.                      | Repair wall and paint.  | 1      | LS   | \$ 500.00     | \$ 500     |            |           |            |          | \$ 754              |
| BI-6                                | Original Acoustical Tile Ceilings   | Classrooms and Offices                       | BI-6             | 4     | 5    | 1     | 10    |        | Poor condition.   | Replace with acoustical panels with concealed grid and new lighting (existing acoustic tile to remain). | 10,640 | SF   | \$ 5.00       | \$ 53,200  | \$ 9.00    | \$ 95,760 |            |          | \$ 224,632          |
| BI-7                                | Room Access                         | Head End Room                                | --               | 4     | 3    | 1     | 8     |        | Access is limited.  | Add door and frame into corridor.   | 1      | EA   | \$ 3,800.00   | \$ 3,800   |            |           |            |          |                     |
| BI-8                                | Room Security                       | Head End Room                                | --               | 1     | 1    | 1     | 3     |        | Key type is not unique to authorized staff (typical for all buildings). | Recore door lock.   | 2      | EA   | \$ 75.00      | \$ 150     |            |           |            |          | \$ 226              |
| <b>Subtotal - Building Interior</b> |                                     |  |                  |       |      |       |       |        |   |   |        |      |               |            |            |           |            |          | <b>\$ 662,781</b>   |



**Avery Center**

|   |  |   |  |  |  |  |   |  |  |  |  |  |
|---|--|---|--|--|--|--|---|--|--|--|--|--|
| Address: 14700 Lincoln, Oak Park, Michigan<br>Bldg. Area: 37,307 GSF<br>No. of Floors: 1<br>Year Built: 1953<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Building Deficiencies Priorities by Category</b><br><table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b><br/>                     1. Hazards<br/>                     2. Interruption<br/>                     3. Deterioration<br/>                     4. Utility<br/>                     5. Energy                 </td> <td style="background-color: lightgreen;"> <b>Need</b><br/>                     1. Critical<br/>                     2. Urgent<br/>                     3. Necessary<br/>                     4. ADA<br/>                     5. Desirable                 </td> <td style="background-color: orange;"> <b>Frequency of Use</b><br/>                     1. Constant<br/>                     2. Frequent<br/>                     3. Occasional<br/>                     4. Infrequent<br/>                     5. Meager                 </td> </tr> </table> |  |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |  |  |  |
|   | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy   | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager   |  |  |  |   |  |  |  |  |  |

| No.  | Item/Description                           | Location                            | Photo No.      | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.   | Unit | Architectural |           | Mechanical    |            | Electrical   |           | 2014 Project Cost   |        |
|--|--|-------------------------------------|----------------|-------|------|-------|-------|--------|---|--|--------|------|---------------|-----------|---------------|------------|--------------|-----------|---------------------|--------|
|  |  |                                     |                |       |      |       |       |        |   |  |        |      | Unit Cost     | Subtotal  | Unit Cost     | Subtotal   | Unit Cost    | Subtotal  |                     |        |
| <b>ACCESSIBILITY IMPROVEMENT/BUILDING CODE</b>             |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           |                     |        |
| AB-1   | Furniture and Equipment                    | Corridors                           | AB-1A<br>AB-1B | 1     | 4    | 1     | 6     |        | Loose furniture and equipment not permitted in corridors.                     | Remove furniture and equipment.  | --     | --   |               |           |               |            |              |           |                     |        |
| AB-2   | Display Case                               | Corridors                           | AB-2           | 1     | 4    | 1     | 6     |        | Height and depth creates a protruding object under barrier free code.         | Add side wings to floor.   | 1      | LS   | \$ 200.00     | \$ 200    |               |            |              |           |                     | \$ 302 |
| AB-3   | Chair and Table Storage Under Stage        | Gymnasium                           | --             | 1     | 4    | 2     | 7     |        | Code violation considering current construction of stage.                     | Limit storage to non-combustible items.  | --     | --   |               |           |               |            |              |           |                     |        |
| AB-4   | Boy's and Girl's Toilet Rooms              | Various Locations                   | AB-3           | 1     | 4    | 2     | 7     |        | Toilet rooms do not meet current accessibility requirements.                  | Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes, stalls and automatic door operators. | 1,410  | SF   | \$ 55.00      | \$ 77,550 | \$ 27.00      | \$ 38,070  | \$ 4.20      | \$ 5,922  | \$ 183,285          |        |
| <b>Subtotal - Accessibility Improvements/Building Code</b> |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           | <b>\$ 183,587</b>   |        |
| <b>MECHANICAL SYSTEMS</b>                                  |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           |                     |        |
| MS-1   | Building Controls                          | Entire Building                     | --             | 2     | 2    | 1     | 5     | X      | Existing controls are outdated.   | Provide new DDC controls throughout.   | 37,000 | SF   |               |           | \$ 3.32       | \$ 122,840 |              |           | \$ 185,243          |        |
| MS-2   | Boilers                                    | Boiler Room                         | MS-2           | 2     | 2    | 1     | 5     | X      | Existing boilers are 59 years old; beyond their useful life.                  | Two (2) new boilers at 2,500 MBH each. New HWH pumps. New HWH mains and combustion air intake and stacks.  | 1      | LS   |               |           | \$ 251,000.00 | \$ 251,000 | \$ 2,700.00  | \$ 2,700  | \$ 382,580          |        |
| MS-3   | Hot Water Heating Pumps                    | Boiler Room                         | MS-3           | 2     | 2    | 1     | 5     |        | Three (3) of four (4) inline split case pumps are in poor condition.          | Replace with like and kind with all associated trim.   | 3      | EA   |               |           | \$ 15,600.00  | \$ 46,800  | \$ 1,350.00  | \$ 4,050  | \$ 76,682           |        |
| MS-4   | Pipe Insulation                            | Entire Building                     | MS-4           | 4     | 4    | 4     | 12    | X      | Several areas of missing piping insulation.                                   | Install new pipe insulation.   | 200    | LF   |               |           | \$ 3.25       | \$ 650     |              |           | \$ 980              |        |
| MS-5   | Gym Air Handling Unit                      | Fan Room Both Sides of Stage        | --             | 2     | 2    | 1     | 5     | X      | Existing indoor heating and ventilating only units are in poor condition.     | Replace with like and kind; approximate 2,000 CFM each.  | 2      | EA   |               |           | \$ 39,000.00  | \$ 78,000  | \$ 3,360.00  | \$ 6,720  | \$ 127,758          |        |
| MS-5A  | Gym HVAC                                   | Roof                                | --             | 5     | 5    | 1     | 11    | X      | Existing gym unit is heating and ventilating only.                            | Add DX rooftop unit with new distribution ductwork.  | 1      | LS   | \$18,000.00   | \$ 18,000 | \$ 51,067.00  | \$ 51,067  | \$ 8,010.00  | \$ 8,010  | \$ 116,232          |        |
| MS-6   | Roof Mounted Heating and Ventilating Units | Roof                                | MS-6           | 4     | 4    | 1     | 9     | X      | Seven (7) heating and ventilating rooftop units are beyond their useful life. | Replace with like and kind; 3,000 CFM.   | 7      | EA   |               |           | \$ 22,000.00  | \$ 154,000 | \$ 2,325.00  | \$ 16,275 | \$ 256,775          |        |
| MS-6A  | Roof Mounted HVAC                          | Roof                                | --             | 5     | 5    | 1     | 11    | X      | Existing seven (7) units are heating and ventilating only.                    | Replace existing units with HVAC and insulated ductwork.   | 7      | EA   | \$ 3,000.00   | \$ 21,000 | \$ 35,000.00  | \$ 245,000 | \$ 4,500.00  | \$ 31,500 | \$ 448,630          |        |
| MS-7   | Roof Hoods and Exhaust Fans                | Roof                                | --             | 4     | 4    | 2     | 10    |        | Five (5) existing hoods or relief exhaust fans are in poor condition.         | Replace with like and kind.  | 5      | EA   |               |           | \$ 3,300.00   | \$ 16,500  | \$ 175.00    | \$ 875    | \$ 26,202           |        |
| MS-8   | Board Room HVAC                            | Roof                                | --             | 5     | 5    | 2     | 12    |        | Office rooftop unit is beyond its useful life.                                | Replace with like and kind; 10-ton unit.   | 1      | EA   |               |           | \$ 27,000.00  | \$ 27,000  | \$ 4,500.00  | \$ 5,510  | \$ 49,025           |        |
| MS-9   | Ceiling Hung Unit Ventilator               | Lounge                              | MS-9           | 4     | 4    | 3     | 11    |        | Lounge ceiling hung HVAC unit ventilator is in fair to poor condition.        | Replace with like and kind; 2.5-ton unit.  | 1      | EA   |               |           | \$ 15,000.00  | \$ 15,000  | \$ 5,275.00  | \$ 6,535  | \$ 32,475           |        |
| MS-10  | Head End Air Conditioning                  | Head End Room                       | --             | 4     | 5    | 1     | 10    |        | Some issues with existing unit.   | Install new split air conditioning unit; approximately 1.5-tons.   | 1      | EA   |               |           | \$ 8,500.00   | \$ 8,500   | \$ 500.00    | \$ 500    | \$ 13,572           |        |
| <b>Subtotal - Mechanical Systems</b>                       |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           | <b>\$ 1,331,620</b> |        |
| <b>PLUMBING SYSTEMS</b>                                    |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           |                     |        |
| PS-1   | Domestic Water Pipe                        | Miscellaneous                       | --             | 2     | 3    | 1     | 6     |        | 40% existing galvanized pipe.   | Replace with copper pipe.  | 15,000 | SF   | \$ 0.50       | \$ 7,500  | \$ 3.25       | \$ 48,750  |              |           | \$ 84,825           |        |
| PS-2   | Water Meter Isolation Valves               | Boiler Room                         | PS-2           | 2     | 3    | 5     | 10    |        | Existing gate valves are in poor condition.                                   | Replace three (3) 3" gate valves.  | 3      | EA   |               |           | \$ 1,830.00   | \$ 5,490   |              |           | \$ 8,279            |        |
| PS-3   | Water Coolers                              | Main Corridor                       | PS-3           | 4     | 4    | 1     | 9     |        | Single bubbler is in fair to poor condition.                                  | Install new bi-level electric water cooler.  | 2      | EA   | \$ 250.00     | \$ 500    | \$ 3,900.00   | \$ 7,800   | \$ 1,200.00  | \$ 2,400  | \$ 16,136           |        |
| <b>Subtotal - Plumbing Systems</b>                         |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           | <b>\$ 109,240</b>   |        |
| <b>BUILDING SYSTEMS</b>                                    |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           |                     |        |
| BS-1   | Fire Alarm System                          | Entire Building                     | --             | 2     | 3    | 3     | 8     |        | Existing system is outdated and difficult to maintain.                        | Install new addressable system with smoke and CO detectors for Day Care.                                   | 1      | LS   |               |           |               |            | \$ 91,402.00 | \$ 91,402 | \$ 137,834          |        |
| BS-2   | Emergency Lighting                         | Corridors, Gym and Board/Conference | --             | 1     | 3    | 4     | 8     |        | Spacing of existing battery units exceeds requirements.                       | Install new units in existing fixtures.  | 30     | EA   |               |           |               |            | \$ 300.00    | \$ 9,000  | \$ 13,572           |        |
| BS-3   | Boiler Room Emergency Power Off            | Boiler Room                         | --             | 3     | 3    | 3     | 9     |        | Missing emergency power off system as required by Code.                       | Install new EPO system.  | 1      | LS   |               |           | \$ 2,720.00   | \$ 2,720   |              |           | \$ 4,102            |        |
| <b>Subtotal - Building Systems</b>                         |  |                                     |                |       |      |       |       |        |   |  |        |      |               |           |               |            |              |           | <b>\$ 155,508</b>   |        |

**Avery Center**

|   |  |   |  |  |  |  |   |  |  |  |  |  |
|---|--|---|--|--|--|--|---|--|--|--|--|--|
| Address: 14700 Lincoln, Oak Park, Michigan<br>Bldg. Area: 37,307 GSF<br>No. of Floors: 1<br>Year Built: 1953<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Building Deficiencies Priorities by Category</b><br><table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b><br/>                     1. Hazards<br/>                     2. Interruption<br/>                     3. Deterioration<br/>                     4. Utility<br/>                     5. Energy                 </td> <td style="background-color: lightgreen;"> <b>Need</b><br/>                     1. Critical<br/>                     2. Urgent<br/>                     3. Necessary<br/>                     4. ADA<br/>                     5. Desirable                 </td> <td style="background-color: orange;"> <b>Frequency of Use</b><br/>                     1. Constant<br/>                     2. Frequent<br/>                     3. Occasional<br/>                     4. Infrequent<br/>                     5. Meager                 </td> </tr> </table> |  |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |  |  |  |
|   | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy   | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager   |  |  |  |   |  |  |  |  |  |

| No.   | Item/Description               | Location                         | Photo No.      | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.  | Unit | Architectural |            | Mechanical  |          | Electrical |              | 2014 Project Cost |            |
|---|--------------------------------|----------------------------------|----------------|-------|------|-------|-------|--------|---|--|-------|------|---------------|------------|-------------|----------|------------|--------------|-------------------|------------|
|   |                                |                                  |                |       |      |       |       |        |   |  |       |      | Unit Cost     | Subtotal   | Unit Cost   | Subtotal | Unit Cost  | Subtotal     |                   |            |
| <b>ELECTRICAL SYSTEMS</b>                     |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              |                   |            |
| ES-1  | Electrical Distribution System | Boiler Room                      | ES-1           | 2     | 3    | 1     | 6     |        | Original electrical distribution equipment is obsolete and a safety concern.              | Replace the original distribution equipment with new.                                | 1     | EA   |               |            |             |          |            | \$ 24,500.00 | \$ 24,500         | \$ 36,946  |
| ES-2  | Electrical Panels              | Corridors to Serve Classrooms    | ES-2A<br>ES-2B | 2     | 5    | 1     | 8     |        | Original electrical panels are obsolete and are located behind doors.                     | Replace the original panels with new, larger panels in new locations.                | 6     | EA   |               |            |             |          |            | \$ 4,875.00  | \$ 29,250         | \$ 44,109  |
| ES-3  | Electrical Receptacles         | Child Use Areas                  | --             | 1     | 3    | 2     | 6     |        | Electrical receptacles in child care centers are required to be inaccessible to children. | Replace all receptacles with tamper resistant type receptacles.                      | 60    | EA   |               |            |             |          |            | \$ 55.00     | \$ 3,300          | \$ 4,976   |
| ES-4  | Exterior Lighting              | Exterior Doors                   | --             | 1     | 2    | 2     | 5     | X      | Lighting fixtures are in disrepair.   | Replace with more efficient LED fixtures.  | 14    | EA   |               |            |             |          |            | \$ 520.00    | \$ 7,280          | \$ 10,978  |
| ES-5  | Site Lighting                  | Parking Lot                      | --             | 3     | 5    | 2     | 10    | X      | Inadequate lighting.  | Replace with more efficient LED fixtures.  | 4     | EA   | \$ 6,000.00   | \$ 24,000  |             |          |            | \$ 6,960.00  | \$ 27,840         | \$ 78,175  |
| ES-6  | Back-up Generator              | Outdoors on Grade by Boiler Room | --             | 1     | 3    | 4     | 8     |        | No back-up power for District wide data operations.                                       | Provide generator back-up system to serve racks. 15 kVA, 3 Phase                     | 1     | LS   | \$ 500.00     | \$ 500     | \$ 2,200.00 | \$ 2,200 |            | \$ 25,250.00 | \$ 25,250         | \$ 42,149  |
| ES-7  | Storage in Electrical Rooms    | Main Electrical Room             | ES-7A<br>ES-7B | 4     | 5    | 5     | 14    |        | Code violation.   | Store items elsewhere.   | --    | --   |               |            |             |          |            |              |                   |            |
| ES-8  | Uninterruptible Power Supply   | Head End Room                    | --             | 1     | 3    | 4     | 8     |        | No protection against short power interruptions   | Provide UPS to serve racks until generator starts                                    | 1     | EA   |               |            |             |          |            | \$ 30,815.00 | \$ 30,815         | \$ 46,469  |
| ES-9  | Electrical Panel               | Head End Room                    | --             | 1     | 3    | 1     | 5     |        | Technology circuits are serving non technology loads.                                     | Add panel and move non-technology loads from technology panels.                      | 1     | EA   |               |            |             |          |            | \$ 4,875.00  | \$ 4,875          | \$ 7,352   |
| ES-10   | Uninterruptible Power Supply   | Main Office                      | --             | 1     | 3    | 4     | 8     |        | Maintain operation during power interruptions   | Provide 5 kVA UPS to serve Key Fob entry, PA and Phones                              | 1     | EA   |               |            |             |          |            | \$ 11,300.00 | \$ 11,300         | \$ 17,040  |
| <b>Subtotal - Electrical Systems</b>          |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              | <b>\$ 288,194</b> |            |
| <b>ACADEMIC/SPACE DEFICIENCIES</b>            |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              |                   |            |
| AD-1  | Child Care Room Toilets        | Child Care Room                  | --             | 4     | 3    | 1     | 8     |        | There are currently no toilet rooms in the day care rooms.                                | Add toilets to each child care room.   | 720   | SF   | \$ 175.00     | \$ 126,000 |             |          |            |              |                   | \$ 190,008 |
| AD-2  | Toilet Room Renovation         | Administration Side              | --             | 4     | 3    | 1     | 8     |        | Toilet rooms currently have child sized fixtures.   | Renovate toilet rooms.   | 1,000 | SF   | \$ 150.00     | \$ 150,000 |             |          |            |              |                   | \$ 226,200 |
| <b>Subtotal - Academic/Space Deficiencies</b> |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              | <b>\$ 416,208</b> |            |
| <b>SITE CIRCULATION</b>                       |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              |                   |            |
| SC-1  | Parking                        | Site                             | --             | 4     | 4    | 1     | 9     |        | Quantity of parking is inadequate.  | Add additional parking to the site. Figure shown to the right is an allowance.       | 1     | LS   |               | \$ 175,000 |             |          |            |              |                   | \$ 263,900 |
| SC-2  | Student Drop-off               | Site                             | --             | 4     | 4    | 1     | 9     |        | Student drop-off is inadequate.   | Add/modify day care drop-off to the site. Figure shown to the right is an allowance. | 1     | LS   |               | \$ 125,000 |             |          |            |              |                   | \$ 188,500 |
| <b>Subtotal - Site Circulation</b>            |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              | <b>\$ 452,400</b> |            |
| <b>TECHNOLOGY</b>                             |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              |                   |            |
| IT-1  | Refer to Tab 12 for breakdown  |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              |                   |            |
| <b>Technology Total</b>                       |                                |                                  |                |       |      |       |       |        |   |  |       |      |               |            |             |          |            |              | <b>\$ 612,055</b> |            |

Note: Shaded items are shown for reference only and not included in the deficiency total.

**Total Project Cost \$ 5,299,079**

# AVERY CENTER



BE-1

# AVERY CENTER



BE-2

# AVERY CENTER



BE-4

# AVERY CENTER



BE-5

# AVERY CENTER



BE-6

# AVERY CENTER



BE-7



# AVERY CENTER



BE-8

# AVERY CENTER



BE-9A

# AVERY CENTER



BE-9B

# AVERY CENTER



BE-11

# AVERY CENTER



BE-12A

# AVERY CENTER



BE-12B

# AVERY CENTER



BE-13A

# AVERY CENTER



BE-13B



# AVERY CENTER



BE-15

# AVERY CENTER



BE-16

# AVERY CENTER



BI-1

# AVERY CENTER



BI-2

# AVERY CENTER



BI-3

# AVERY CENTER



BI-4

# AVERY CENTER



BI-5

# AVERY CENTER



BI-6



# AVERY CENTER



AB-1A

# AVERY CENTER



AB-1B

# AVERY CENTER



AB-2

# AVERY CENTER



AB-4

# AVERY CENTER



MS-2

# AVERY CENTER



MS-3

# AVERY CENTER



MS-4

# AVERY CENTER



MS-6

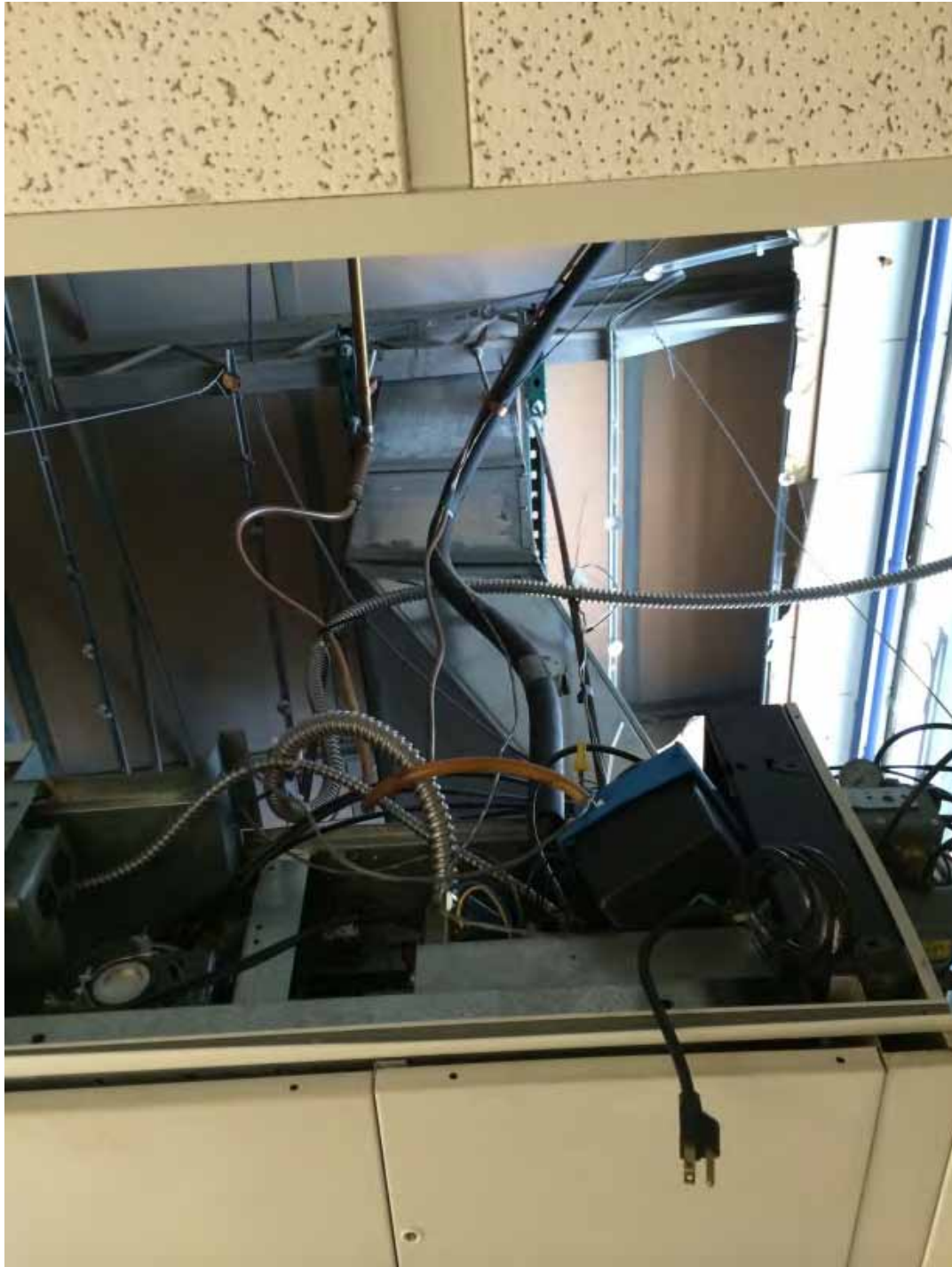


# AVERY CENTER



MS-7

# AVERY CENTER



MS-10

# AVERY CENTER



PS-2

# AVERY CENTER



PS-3

# AVERY CENTER



ES-1

# AVERY CENTER



ES-2A

# AVERY CENTER



ES-2B

# AVERY CENTER



ES-7A



# AVERY CENTER



ES-7B

# BERKLEY HIGH SCHOOL



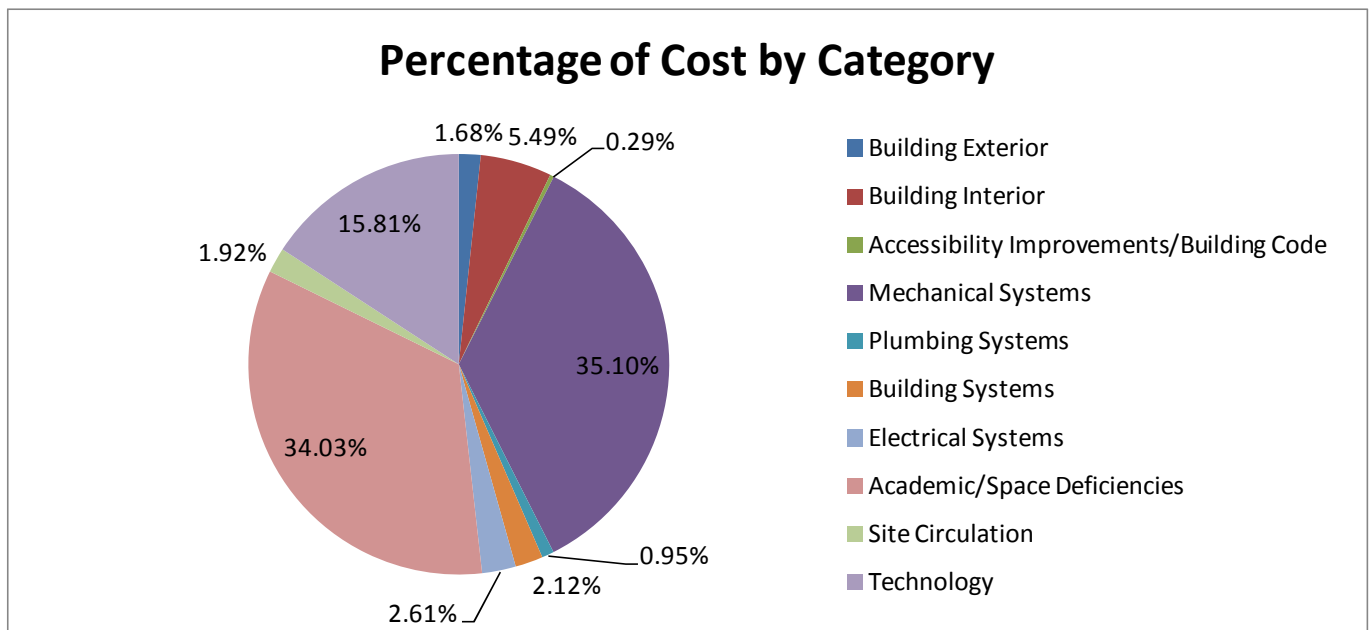
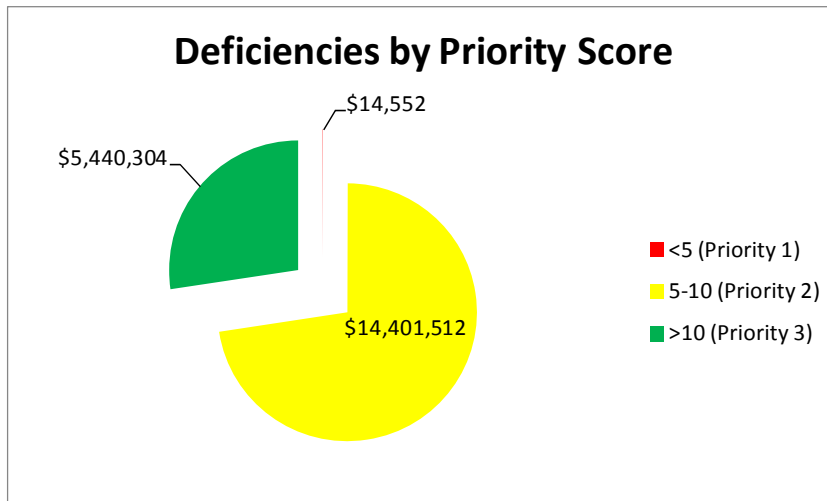
# BERKLEY HIGH SCHOOL

## GENERAL OVERVIEW

Use: Educational  
 Year Built: 1948, 1955, 1961, 1974, 1987, 2001  
 Total Area: 227,326 GSF  
 Floors: 2 plus basement

## MAJOR FINDINGS

Refer to the following charts for a summary of deficiencies by category and priority score. Note: Lower priority score equals highest urgency.

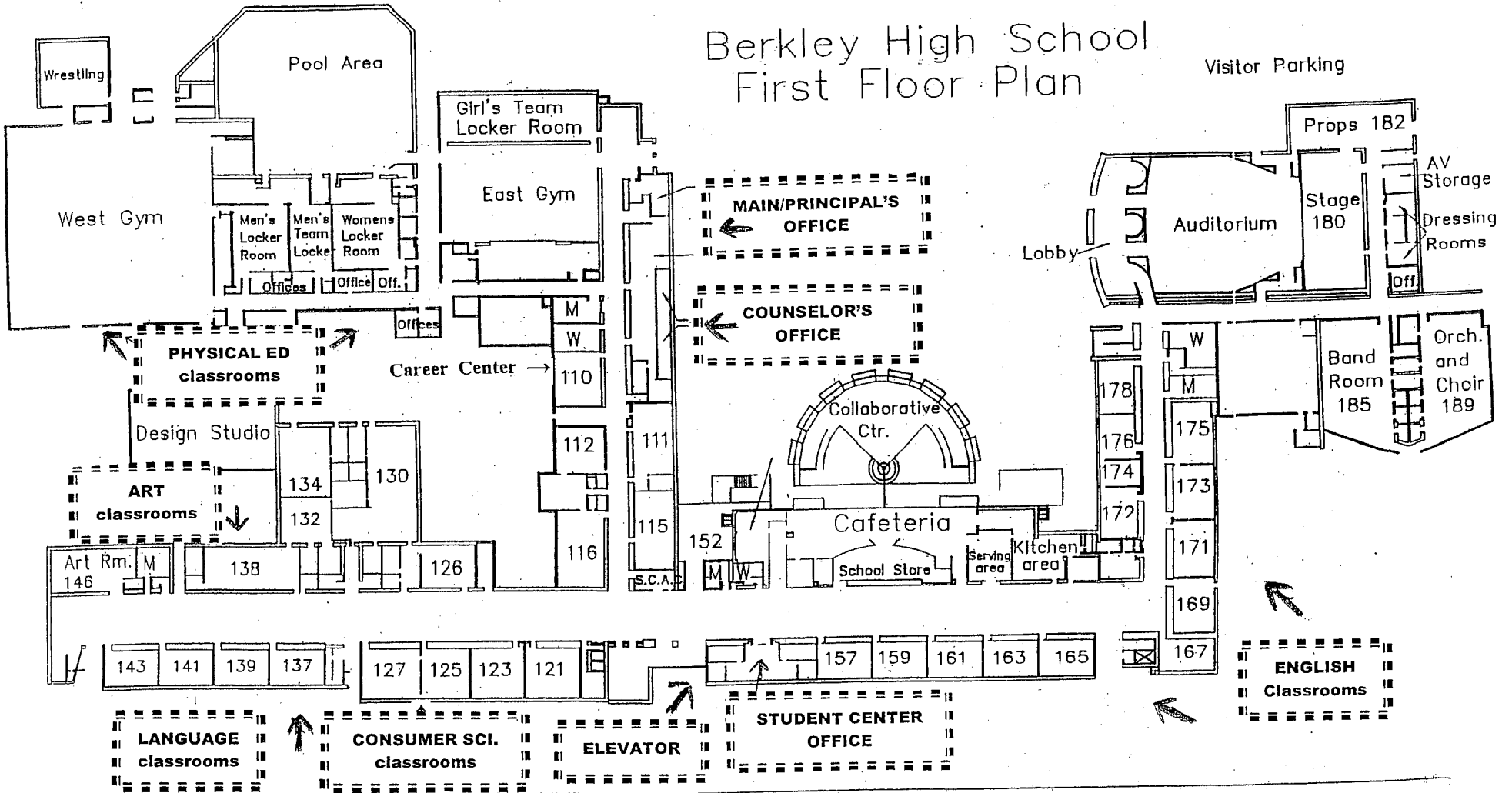


To Coolidge

Catalpa

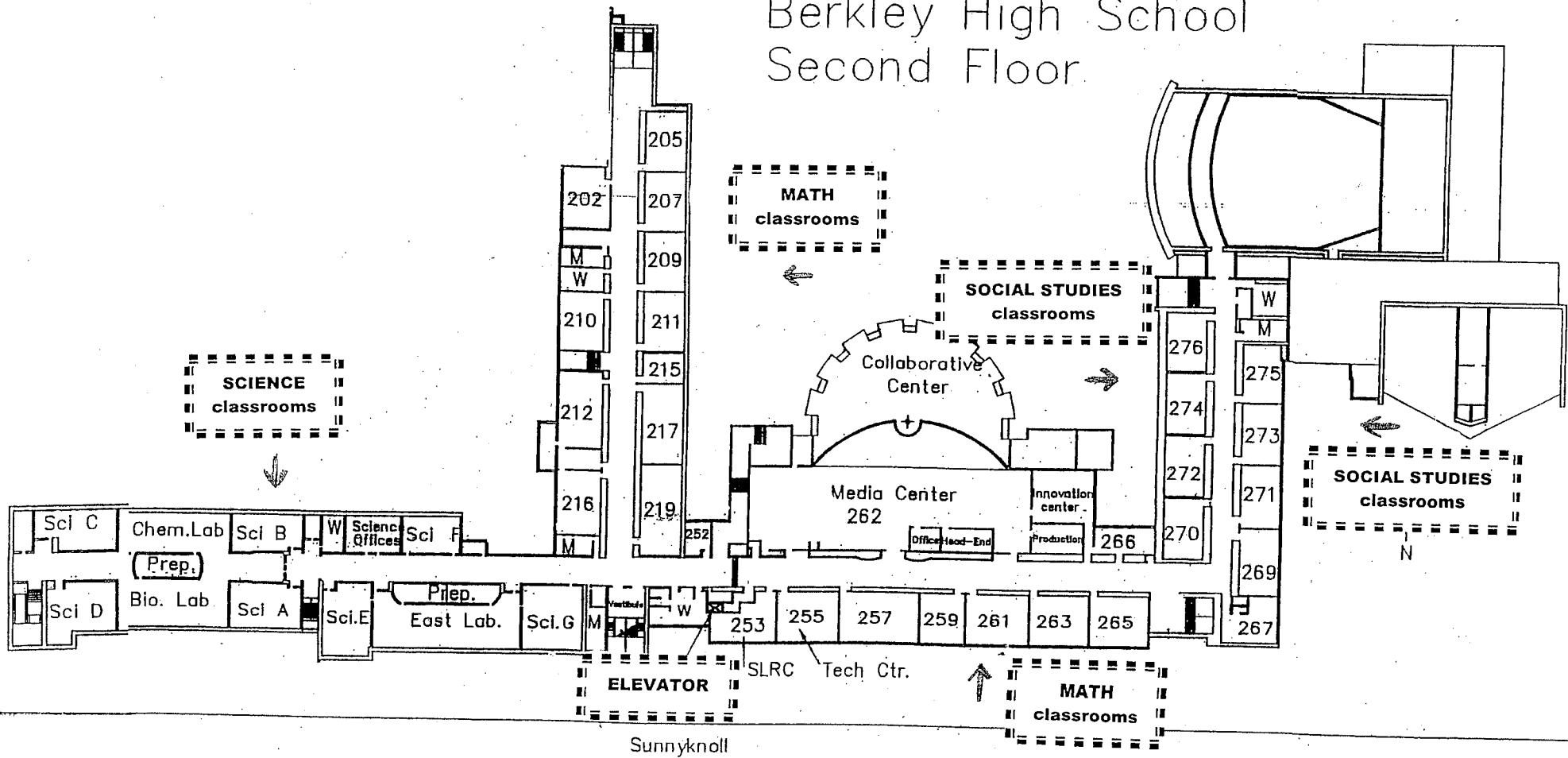
# Berkley High School First Floor Plan

Visitor Parking



Sunnyknoll

# Berkley High School Second Floor





**BERKLEY SCHOOLS**  
**Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment**



**Berkley High School**

|   |  |   |  |  |  |  |   |  |  |  |  |  |
|---|--|---|--|--|--|--|---|--|--|--|--|--|
| Address: 2325 Catalpa, Berkley, Michigan<br>Bldg. Area: 227,326 GSF<br>No. of Floors: 2 plus Basement<br>Year Built: 1948, 1955, 1961, Pool/Gym 1974,<br>Theater 1987, Collaborative Center 2001<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Building Deficiencies Priorities by Category</b><br><table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b><br/>           1. Hazards<br/>           2. Interruption<br/>           3. Deterioration<br/>           4. Utility<br/>           5. Energy         </td> <td style="background-color: lightgreen;"> <b>Need</b><br/>           1. Critical<br/>           2. Urgent<br/>           3. Necessary<br/>           4. ADA<br/>           5. Desirable         </td> <td style="background-color: orange;"> <b>Frequency of Use</b><br/>           1. Constant<br/>           2. Frequent<br/>           3. Occasional<br/>           4. Infrequent<br/>           5. Meager         </td> </tr> </table> |  |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |  |  |  |
|   | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy   | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager   |  |  |  |   |  |  |  |  |  |

| No.                      | Item/Description                             | Location   | Photo No.        | Cons. | Need | Freq. | Score | Energy | Notes   | Action  | Qty.   | Unit | Architectural                       |            | Mechanical |          | Electrical        |          | 2014 Project Cost |
|--------------------------|--|--|------------------|-------|------|-------|-------|--------|---|---|--------|------|-------------------------------------|------------|------------|----------|-------------------|----------|-------------------|
|                          |  |  |                  |       |      |       |       |        |   |   |        |      | Unit Cost                           | Subtotal   | Unit Cost  | Subtotal | Unit Cost         | Subtotal |                   |
| <b>BUILDING EXTERIOR</b> |  |  |                  |       |      |       |       |        |   |   |        |      |                                     |            |            |          |                   |          |                   |
| BE-1                     | Overhangs/Soffits                            | Band Room, Orchestra/Choir   | BE-1             | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                     | Provide aluminum soffit panels.                                     | 450    | SF   | \$ 6.00                             | \$ 2,700   |            |          |                   |          | \$ 4,072          |
| BE-2                     | Brick Veneer at Base of Walls                | Where roofs drains to pavement adjacent to walls and at main entrances | BE-2             | 3     | 3    | 2     | 8     |        | Brick and mortar joints deteriorated from roof water drainage.            | Control roof drainage where possible and clean/tuck point brick.    | 1,000  | SF   | \$ 20.50                            | \$ 20,500  |            |          |                   |          | \$ 30,914         |
| BE-3                     | Sealant at Door and Window Openings          | Entire Building  | --               | 3     | 3    | 2     | 8     |        | Sealant deteriorated and cracked.   | Replace sealant.  | 10,000 | LF   | \$ 4.75                             | \$ 47,500  |            |          |                   |          | \$ 71,630         |
| BE-4                     | Entrance Canopy Column                       | Southwest Entrance   | BE-4             | 3     | 3    | 2     | 8     |        | Metal column enclosure is missing.  | Replace metal enclosure.  | 1      | EA   | \$ 250.00                           | \$ 250     |            |          |                   |          | \$ 377            |
| BE-5                     | Steel Stair Railings                         | Stair to Basement Mechanical Room                                      | BE-5             | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                     | Paint railings.   | 35     | LF   | \$ 8.00                             | \$ 280     |            |          |                   |          | \$ 422            |
| BE-6                     | Steel Window Lintels                         | West Elevation 2 story Wing  | BE-6             | 3     | 3    | 2     | 8     |        | Lintels are rusting.  | Repaint lintels.  | 250    | LF   | \$ 18.00                            | \$ 4,500   |            |          |                   |          | \$ 6,786          |
| BE-7                     | Steel Doors and Frames                       | Basement Mechanical Room and Storage Exits                             | BE-7A<br>BE-7B   | 3     | 3    | 1     | 7     |        | Deteriorated and rusted.  | Replace with aluminum frames and fiberglass reinforced panel doors. | 2      | EA   | \$ 2,800.00                         | \$ 5,600   |            |          |                   |          | \$ 8,445          |
| BE-8                     | Entrance Canopy Soffits                      | Southwest Entrance and Entrance at East Gym                            | BE-8             | 3     | 3    | 2     | 8     |        | Paint is peeling.   | Provide aluminum soffit panels.                                     | 200    | SF   | \$ 7.50                             | \$ 1,500   |            |          |                   |          | \$ 2,262          |
| BE-9                     | Roof Membrane                                | Selected Areas   | --               | 3     | 3    | 2     | 8     | X      | Roof membrane reaching its life expectancy.                               | Remove and replace with new insulation and single-ply membrane.     | 4,990  | SF   | \$ 10.00                            | \$ 49,900  |            |          |                   |          | \$ 75,249         |
| BE-10                    | Door Seals                                   | Auditorium Lobby Entrance  | BE-10            | 4     | 3    | 2     | 9     |        | Doors not sealed at sills.  | Add/replace door sweeps.  | 4      | EA   | \$ 100.00                           | \$ 400     |            |          |                   |          | \$ 603            |
| BE-11                    | Concrete Fascia and Soffit                   | South Entrance   | BE-11A<br>BE-11B | 3     | 3    | 2     | 8     |        | Concrete is deteriorated and cracked.                                     | Replace with aluminum fascia and soffit.                            | 200    | SF   | \$ 15.00                            | \$ 3,000   |            |          |                   |          | \$ 4,524          |
| BE-12                    | Stone Window Sills                           | Various Locations  | BE-12            | 4     | 3    | 2     | 9     |        | Sealant missing at joints, some sills are cracked and deteriorated.       | Provide sealant and/or replace stone sill.                          | 250    | LF   | \$ 30.00                            | \$ 7,500   |            |          |                   |          | \$ 11,310         |
| BE-13                    | Metal Fascia Panels                          | East Entrance, West Entrance at Auditorium Corridor                    | BE-13A<br>BE-13B | 4     | 3    | 2     | 9     |        | Paint is peeling.   | Repaint fascia.   | 100    | SF   | \$ 15.00                            | \$ 1,500   |            |          |                   |          | \$ 2,262          |
| BE-14                    | Glazed Masonry Window Sills                  | Auditorium Lobby Entrance  | BE-14A<br>BE-14B | 3     | 3    | 2     | 8     |        | Masonry is cracked and sealant joints are missing.                        | Replace masonry sills.  | 40     | LF   | \$ 75.00                            | \$ 3,000   |            |          |                   |          | \$ 4,524          |
| BE-15                    | Basement Areaway                             | Adjacent to Receiving Entrance   | BE-15A<br>BE-15B | 4     | 5    | 5     | 14    |        | Leaks water into basement, fence and railing at grade level deteriorated. | Add knee walls and sloped roof over areaway.                        | 280    | SF   | \$ 35.00                            | \$ 9,800   |            |          |                   |          | \$ 14,778         |
| BE-16                    | Door Metal Threshold                         | East Entrance  | BE-16            | 3     | 3    | 2     | 8     |        | Metal threshold deteriorated.   | Replace metal threshold.  | 6      | LF   | \$ 160.00                           | \$ 960     |            |          |                   |          | \$ 1,448          |
| BE-17                    | Greenhouse                                   | East Elevation 2nd Story   | BE-17            | 4     | 5    | 2     | 11    |        | Wood framing and glazing in poor condition.                               | Replace greenhouse with aluminum structure with acrylic glazing.    | 200    | SF   | \$ 75.00                            | \$ 15,000  | \$ 10.00   | \$ 2,000 | \$ 5.00           | \$ 1,000 | \$ 27,144         |
| BE-18                    | Former Overhead Door Jambs                   | Design Studio North Elevation  | BE-18            | 3     | 3    | 2     | 8     |        | Steel added below original steel channel door frames in rusting.          | Refinish steel and paint.   | 6      | EA   | \$ 100.00                           | \$ 600     |            |          |                   |          | \$ 905            |
| BE-19                    | Add Daylighting                              | Pool   | --               | 4     | 5    | 3     | 12    |        | Owner requested.  | Add windows at north and east elevations.                           | 320    | SF   | \$ 150.00                           | \$ 48,000  |            |          |                   |          | \$ 72,384         |
| BE-20                    | Add Daylighting                              | Gymnasium  | --               | 4     | 5    | 3     | 12    |        | Owner requested.  | Add windows at south and west elevations                            | 250    | SF   | \$ 150.00                           | \$ 37,500  |            |          |                   |          | \$ 56,550         |
|                          |  |  |                  |       |      |       |       |        |   |   |        |      | <b>Subtotal - Building Exterior</b> |            |            |          | <b>\$ 396,589</b> |          |                   |
| <b>BUILDING INTERIOR</b> |  |  |                  |       |      |       |       |        |   |   |        |      |                                     |            |            |          |                   |          |                   |
| BI-1                     | Original Hollow Metal, Wood Doors and Frames | Entire Building  | BI-1             | 4     | 3    | 1     | 8     |        | Deteriorated, nonfunctional and do not meet current code requirements.    | Replace with wood doors and hollow metal frames.                    | 190    | EA   | \$ 2,350.00                         | \$ 446,500 |            |          |                   |          | \$ 673,322        |
| BI-2                     | Wood Bleachers                               | East Gym   | BI-2             | 4     | 5    | 2     | 11    |        | Poor condition.   | Replace bleachers add center aisle and aisle handrails.             | 1      | LS   | \$ 18,000.00                        | \$ 18,000  |            |          |                   |          | \$ 27,144         |
| BI-3                     | Carpet                                       | Building Entrances   | BI-3             | 3     | 3    | 1     | 7     |        | Carpet reaching life expectancy.  | Replace carpet and resilient base.                                  | 2,500  | SF   | \$ 7.00                             | \$ 17,500  |            |          |                   |          | \$ 26,390         |
| BI-4                     | Casework Cabinets                            | Room 174   | BI-4             | 3     | 3    | 2     | 8     |        | Poor condition.   | Replace cabinets and counter top.                                   | 8      | LF   | \$ 300.00                           | \$ 2,400   | \$ 113.00  | \$ 904   |                   |          | \$ 4,982          |
| BI-5                     | Ceiling Paint Finish                         | East Gym   | BI-5             | 4     | 3    | 2     | 9     |        | Peeling paint finish.   | Repaint ceiling.  | 7,200  | SF   | \$ 4.50                             | \$ 32,400  |            |          |                   |          | \$ 48,859         |
| BI-6                     | Ceramic Tile Floor                           | Boy's Locker Room  | BI-6             | 3     | 3    | 2     | 8     |        | Tile delaminating.  | Replace ceramic tile floor.   | 1,200  | SF   | \$ 10.50                            | \$ 12,600  |            |          |                   |          | \$ 19,001         |

**Berkley High School**

Address: 2325 Catalpa, Berkley, Michigan  
 Bldg. Area: 227,326 GSF  
 No. of Floors: 2 plus Basement  
 Year Built: 1948, 1955, 1961, Pool/Gym 1974,  
 Theater 1987, Collaborative Center 2001  
 Evaluation Date: January 2014

| Item No. Codes |   |
|----------------|---|
| AB:            | Accessibility Improvement/Building Code |
| AD:            | Academic/Space Deficiencies             |
| BE:            | Building Exterior                       |
| BI:            | Building Interior                       |
| BS:            | Building System                         |
| ES:            | Electrical System                       |
| MS:            | Mechanical System                       |
| PS:            | Plumbing System                         |
| SC:            | Site Circulation                        |
| SE:            | Specialty Equipment/Other               |
| IT:            | Technology                              |

| Building Deficiencies Priorities by Category                                 |  |   |
|--|--|---|
| <b>Consequences of the Problem</b>   | <b>Need</b>  | <b>Frequency of Use</b>   |
| 1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | 1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | 1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager |

| Notes  |
|--|
| 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |

| No.   | Item/Description         | Location   | Photo No.      | Cons. | Need | Freq. | Score | Energy | Notes  | Action  | Qty.  | Unit | Architectural |            | Mechanical |          | Electrical |           | 2014 Project Cost |
|-------|--------------------------|--|----------------|-------|------|-------|-------|--------|--|---|-------|------|---------------|------------|------------|----------|------------|-----------|-------------------|
|       |                          |  |                |       |      |       |       |        |  |   |       |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal | Unit Cost  | Subtotal  |                   |
| BI-7  | Lockers                  | Boy's and Girl's Locker Rooms                    | BI-7A<br>BI-7B | 4     | 5    | 2     | 11    |        | Poor condition, rusted.  | Replace lockers and benches.                    | 420   | LF   | \$ 550.00     | \$ 231,000 |            |          |            |           | \$ 348,348        |
| BI-8  | Ceramic Tile Floor       | Boy's Shower and Toilet Room                     | BI-8           | 4     | 5    | 2     | 11    |        | Poor condition.  | Replace ceramic tile floor.                     | 670   | SF   | \$ 10.50      | \$ 7,035   |            |          |            |           | \$ 10,609         |
| BI-9  | Wall Pads                | Wrestling  | BI-9           | 4     | 5    | 2     | 11    |        | Damaged.   | Replace selected wall pads.                     | 150   | SF   | \$ 12.00      | \$ 1,800   |            |          |            |           | \$ 2,714          |
| BI-10 | Acoustical Ceiling       | Kitchen, Dry Storage, Office                     | BI-10          | 3     | 3    | 2     | 8     |        | Poor condition.  | Replace with lay-in acoustical panels and grid. | 1,760 | SF   | \$ 5.75       | \$ 10,120  | \$ 1.50    | \$ 2,640 | \$ 10.00   | \$ 17,600 | \$ 45,783         |
| BI-11 | Ceramic Tile Floor       | Kitchen Dry Storage Room                         | BI-11          | 3     | 5    | 3     | 11    |        | Ceramic tile damaged, poor condition.  | Replace ceramic tile floor.                     | 480   | SF   | \$ 10.50      | \$ 5,040   |            |          |            |           | \$ 7,600          |
| BI-12 | Water Leaks              | Basement Near Elevator                           | BI-12          | 3     | 3    | 2     | 8     |        | Gypsum board wall damage.  | Investigation cause, repair walls.              | 50    | LF   | \$ 45.00      | \$ 2,250   |            |          |            |           | \$ 3,393          |
| BI-13 | Wood Stage               | Basement Little Theater                          | BI-13          | 4     | 5    | 2     | 11    |        | Wood stage in poor condition.  | Refinish wood stage.                            | 675   | SF   | \$ 3.50       | \$ 2,363   |            |          |            |           | \$ 3,563          |
| BI-14 | Seating Steps and Risers | Basement Little Theater                          | BI-14          | 4     | 5    | 2     | 11    |        | Poor condition.  | Repair and refinish.                            | 1     | LS   | \$ 2,000.00   | \$ 2,000   |            |          |            |           | \$ 3,016          |
| BI-15 | Ceiling Drop             | Basement Storage Room<br>Basement Little Theater | BI-15          |       | 5    | 2     | 7     |        | Acoustical tile ceiling drop above seating is damaged and in poor condition. | Replace ceiling drop.                           | 1,000 | SF   | \$ 5.75       | \$ 5,750   |            |          |            |           | \$ 8,671          |
| BI-16 | Fixed Seating            | Basement Little Theater                          | BI-16          | 4     | 5    | 2     | 11    |        | Seating fabric is torn and soiled.   | Replace seating.                                | 110   | EA   | \$ 150.00     | \$ 16,500  |            |          |            |           | \$ 24,882         |
| BI-17 | Acoustical Ceiling       | Basement Little Theater Office                   | BI-17          | 4     | 5    | 2     | 11    |        | Original acoustical ceiling damaged and in poor condition.                   | Replace with lay-in acoustical panels and grid. | 140   | SF   | \$ 5.75       | \$ 805     |            |          |            |           | \$ 1,214          |
| BI-18 | Wall Damage              | Pool Basement                                    | BI-18          | 3     | 3    | 4     | 10    |        | Chemical corrosion at base of masonry walls.                                 | Repair base of walls.                           | 50    | LF   | \$ 10.50      | \$ 525     |            |          |            |           | \$ 792            |
| BI-19 | Ceiling Paint Finish     | Boiler Room                                      | BI-19          | 4     | 5    | 4     | 13    |        | Ceiling paint is peeling.  | Repaint ceiling.                                | 1,720 | SF   | \$ 4.50       | \$ 7,740   |            |          |            |           | \$ 11,672         |
| BI-20 | Water Leaks              | Auditorium North Exit                            | BI-20          | 3     | 3    | 2     | 8     |        | Water leak adjacent to building column.                                      | Investigate cause and repair.                   | 1     | LS   | \$ 750.00     | \$ 750     |            |          |            |           | \$ 1,131          |
| BI-21 | Door Thresholds          | West Gym North Doors                             | BI-21          | 3     | 3    | 2     | 8     |        | Metal threshold at wood floor transition is missing.                         | Provide metal thresholds.                       | 12    | LF   | \$ 160.00     | \$ 1,920   |            |          |            |           | \$ 2,895          |
| BI-22 | Floor Crack              | 2nd Floor North Wing                             | BI-22          | 4     | 5    | 1     | 10    |        | Floor cracked.   | Investigate cause and repair.                   | 1     | LS   | \$ 1,200.00   | \$ 1,200   |            |          |            |           | \$ 1,810          |
| BI-23 | Resilient Flooring       | Room 130   | BI-23          | 4     | 5    | 1     | 10    |        | Poor condition.  | Replace resilient floor and base.               | 2,215 | SF   | \$ 4.75       | \$ 10,521  |            |          |            |           | \$ 15,866         |
| BI-24 | Room Security            | Head End Room                                    | --             | 1     | 1    | 1     | 3     |        | Key type is not unique to authorized staff (typical for all buildings).      | Recore door lock.                               | 2     | EA   | \$ 75.00      | \$ 150     |            |          |            |           | \$ 226            |

**Subtotal - Building Interior \$ 1,293,883**

**ACCESSIBILITY IMPROVEMENT/BUILDING CODE**

|       |                               |  |       |   |   |   |   |  |   |  |     |    |              |           |          |          |             |          |           |
|-------|-------------------------------|--|-------|---|---|---|---|--|---|--|-----|----|--------------|-----------|----------|----------|-------------|----------|-----------|
| AB-1  | Furniture and Equipment       | Corridor behind Stage                                  | AB-1  | 1 | 4 | 2 | 7 |  | Loose furniture and equipment not permitted in corridors.                                   | Remove loose furniture and equipment.  | --  | -- |              |           |          |          |             |          |           |
| AB-2  | Stair Guardrail               | Stair from basement to 1st floor adjacent to Receiving | AB-2  | 1 | 4 | 1 | 6 |  | Guardrails do not meet current code requirements for height and openings between balusters. | Replace guardrail.   | 15  | LF | \$ 150.00    | \$ 2,250  |          |          |             |          | \$ 3,393  |
| AB-3  | Handicap Wheelchair Lift      | Orchestra Pit  | AB-3  | 1 | 4 | 3 | 8 |  | Lift blocked by storage.  | Remove stored items.   | --  | -- |              |           |          |          |             |          |           |
| AB-4  | Staff Toilets                 | Near Wood Shop entrance                                | AB-4  | 1 | 4 | 2 | 7 |  | Barrier Free signed rooms lack grab bars at toilet.   | Add grab bars.   | 2   | EA | \$ 600.00    | \$ 1,200  |          |          |             |          | \$ 1,810  |
| AB-5  | Handrails at Stairs           | Exterior stair at entrance near East Gym               | AB-5  | 1 | 4 | 1 | 6 |  | Handrails missing (required on both sides of stairs).                                       | Add handrails.   | 9   | LF | \$ 50.00     | \$ 450    |          |          |             |          | \$ 679    |
| AB-6  | Handrails at Stairs           | Exercise Room north stair                              | AB-6  | 1 | 4 | 1 | 6 |  | Portion of handrail is missing.   | Replace handrail.  | 4   | LF | \$ 50.00     | \$ 200    |          |          |             |          | \$ 302    |
| AB-7  | Handrails at Stairs           | Girl's Team Locker Room                                | AB-7  | 1 | 4 | 1 | 6 |  | Handrails missing.  | Add handrails.   | 6   | LF | \$ 50.00     | \$ 300    |          |          |             |          | \$ 452    |
| AB-8  | Boy's and Girl's Toilet Rooms | First floor south wing                                 | --    | 1 | 4 | 2 | 7 |  | Toilet rooms do not meet current accessibility requirements.                                | Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes, stalls and automatic door operators. | 190 | SF | \$ 40.00     | \$ 7,600  | \$ 27.00 | \$ 5,130 | \$ 4.20     | \$ 798   | \$ 20,400 |
| AB-9  | Boy's and Girl's Toilet Rooms | Various locations                                      | --    | 1 | 4 | 2 | 7 |  | Doors do not have required wheelchair maneuvering space.                                    | Add automatic door operators.  | 6   | EA | \$ 1,500.00  | \$ 9,000  |          |          | \$ 1,200.00 | \$ 7,200 | \$ 24,430 |
| AB-10 | Open Stairs                   | Near East Gym  | --    | 1 | 4 | 1 | 6 |  | Fire rated separation required on at least one floor.                                       | Add fire rated separation including doors and frames. Relocate ceiling lights.                             | 1   | EA | \$ 10,000.00 | \$ 10,000 |          |          | \$ 500.00   | \$ 500   | \$ 15,834 |
| AB-11 | Automatic Door Operator       | West Cafeteria Entrance                                | AB-11 | 1 | 4 | 1 | 6 |  | Door operator is non-functional and not properly interlocked with door locking mechanism.   | Correct door operation.  | 1   | LS | \$ 1,000.00  | \$ 1,000  |          |          | \$ 500.00   | \$ 500   | \$ 2,262  |

**Subtotal - Accessibility Improvements/Building Code \$ 69,561**

**Berkley High School**

| Address: 2325 Catalpa, Berkley, Michigan<br>Bldg. Area: 227,326 GSF<br>No. of Floors: 2 plus Basement<br>Year Built: 1948, 1955, 1961, Pool/Gym 1974,<br>Theater 1987, Collaborative Center 2001<br>Evaluation Date: January 2014 | Item No. Codes  |  | Building Deficiencies Priorities by Category |  |   | Notes  |
|---|---|--|--|--|---|--|
|   | AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy |  |  | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager |

| No.                       | Item/Description                           | Location                      | Photo No.      | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.    | Unit | Architectural |            | Mechanical      |              | Electrical    |            | 2014 Project Cost |
|---------------------------|--|-------------------------------|----------------|-------|------|-------|-------|--------|---|--|---------|------|---------------|------------|-----------------|--------------|---------------|------------|-------------------|
|                           |  |                               |                |       |      |       |       |        |   |  |         |      | Unit Cost     | Subtotal   | Unit Cost       | Subtotal     | Unit Cost     | Subtotal   |                   |
| <b>MECHANICAL SYSTEMS</b> |  |                               |                |       |      |       |       |        |   |  |         |      |               |            |                 |              |               |            |                   |
| MS-1                      | Building Controls                          | Entire Building               | MS-1           | 2     | 2    | 1     | 5     | X      | Existing controls are outdated.   | Provide new DDC controls throughout.   | 200,000 | SF   |               |            | \$ 4.50         | \$ 900,000   |               |            | \$ 1,357,200      |
| MS-2                      | Domestic Water Heaters                     | Boiler Room                   | MS-2           | 3     | 3    | 1     | 7     | X      | Existing Lochinvar water heaters are beyond their useful life.                                  | Replace with like and kind; 1,260 MBH unit.  | 2       | EA   |               |            | \$ 21,300.00    | \$ 42,600    |               |            | \$ 64,241         |
| MS-3                      | Condensate Return System                   | Boiler Room                   | MS-3A<br>MS-3B | 4     | 3    | 1     | 8     | X      | Receiver tank and pumps are in fair to poor condition.  | Replace with packaged receiver system.   | 4       | EA   |               |            | \$ 9,800.00     | \$ 39,200    |               |            | \$ 59,114         |
| MS-4                      | Boilers                                    | East Boiler Room              | MS-4           | 4     | 4    | 1     | 9     | X      | Existing boilers are beyond their useful life.  | Two (2) new boilers at 9,000 MBH each and all associated trim, new stacks and combustion damper control.   | 1       | LS   |               |            | \$ 371,000.00   | \$ 371,000   | \$ 500.00     | \$ 500     | \$ 560,222        |
| MS-5                      | Convectors                                 | Vestibules/Entrances          | MS-5           | 4     | 4    | 1     | 9     | X      | Existing convectors are in fair condition.  | Replace with like and kind.  | 14      | EA   |               |            | \$ 2,250.00     | \$ 31,500    | \$ 185.00     | \$ 2,590   | \$ 51,408         |
| MS-6                      | Classroom Unit Ventilators - Horizontal    | East Wing 1st and 2nd Floors  | MS-6           | 3     | 2    | 1     | 6     | X      | Existing heating and ventilating only horizontal unit ventilators are beyond their useful life. | Replace with new vertical ducted units.  | 34      | EA   | \$ 11,700.00  | \$ 397,800 | \$ 23,000.00    | \$ 782,000   | \$ 235.00     | \$ 7,990   | \$ 1,791,187      |
| MS-6A                     | Classroom Unit Ventilators - HVAC          | Entire Building               | --             | 5     | 5    | 1     | 11    | X      | Existing unit ventilators are heating and ventilating only.                                     | Install new vertical ducted DX HVAC unit ventilators, ceiling and lights.  | 37      | EA   | \$ 11,700.00  | \$ 432,900 | \$ 27,000.00    | \$ 999,000   | \$ 2,373.00   | \$ 87,801  | \$ 2,291,709      |
| MS-7                      | Kitchen Hood                               | Kitchen                       | MS-7           | 4     | 4    | 1     | 9     |        | Main kitchen hood is beyond its useful life.  | Replace with new stainless steel hood and chemical fire suppression system.  | 1       | LS   |               |            | \$ 14,500.00    | \$ 14,500    |               |            | \$ 21,866         |
| MS-8                      | Refrigeration Compressors                  | Kitchen                       | --             | 2     | 2    | 1     | 5     | X      | Existing compressors are in fair condition.   | Replace with like and kind.  | 3       | EA   |               |            | \$ 6,500.00     | \$ 19,500    | \$ 350.00     | \$ 1,050   | \$ 30,989         |
| MS-9                      | West Gym HVAC                              | Roof                          | --             | 5     | 5    | 1     | 11    | X      | Existing gym units are heating and ventilating only.  | Two (2) new DX rooftop units with new insulated supply and return ductwork; approximately 6,000 CFM each.  | 2       | EA   | \$ 18,000.00  | \$ 36,000  | \$ 51,000.00    | \$ 102,000   | \$ 8,010.00   | \$ 16,020  | \$ 232,262        |
| MS-10                     | East Gym Air Handling Unit                 | East Gym Fan Room             | MS-10          | 3     | 3    | 1     | 7     |        | Unit is original to building and in poor condition.   | Replace with like and kind; whole room plenum, approximately 3,000 CFM.  | 1       | LS   |               |            | \$ 18,000.00    | \$ 18,000    | \$ 3,360.00   |            | \$ 27,144         |
| MS-10A                    | East Gym HVAC                              | Roof                          | --             | 5     | 5    | 1     | 11    |        | Existing gym units are heating and ventilating only.  | One (1) new air handling unit with hot water heating and chilled water cooling with insulated supply and return ductwork; approximately 4,000 CFM.                   | 1       | EA   | \$ 18,000.00  | \$ 18,000  | \$ 42,500.00    | \$ 42,500    | \$ 3,360.00   | \$ 3,360   | \$ 96,301         |
| MS-11                     | Chiller Plant                              | Outdoors on Grade             | --             | 5     | 5    | 1     | 11    | X      | All air conditioning in the building is presently direct expansion local to the unit.           | Install new chiller plant consisting of approximately two (2) 120-ton air-cooled chillers located on slab outdoors. Associated pumps and trim to be located indoors. | 1       | LS   |               |            | \$ 1,032,000.00 | \$ 1,032,000 | \$ 200,000.00 | \$ 200,000 | \$ 1,857,856      |
| MS-12                     | Locker Rooms Heating and Ventilating Units | Boy's and Girl's Locker Rooms | --             | 4     | 4    | 4     | 12    |        | Existing ceiling hung units are in fair condition.  | Replace with like and kind; new distribution ductwork.   | 3       | EA   |               |            | \$ 9,500.00     | \$ 28,500    | \$ 185.00     | \$ 555     | \$ 43,815         |
| MS-13                     | Rooftop Unit RTU-1                         | Roof                          | --             | 4     | 4    | 1     | 9     | X      | Existing unit is beyond its useful life.  | Replace with like and kind; 6,400 CFM HVAC unit.   | 1       | EA   |               |            | \$ 28,800.00    | \$ 28,800    | \$ 4,160.00   | \$ 4,160   | \$ 49,704         |
| MS-14                     | Theater Rooftop Units                      | Roof                          | --             | 4     | 4    | 2     | 10    | X      | Existing unit is beyond its useful life. They are 27 years old.                                 | Replace with like and kind; average size of 6,000 CFM, 15-tons, DX unit.   | 3       | EA   |               |            | \$ 36,000.00    | \$ 108,000   | \$ 3,230.00   | \$ 9,690   | \$ 177,477        |
| MS-15                     | Classroom Convectors                       | Classrooms                    | MS-15          | 4     | 4    | 1     | 9     | X      | Existing convectors are in poor condition.  | Replace with like and kind.  | 54      | EA   |               |            | \$ 2,250.00     | \$ 121,500   |               |            | \$ 183,222        |
| MS-16                     | Steam Pipe                                 | Entire Building               | --             | 3     | 3    | 1     | 7     | X      | Existing steam pipe is in poor condition.   | Replace steam mains in tunnels.  | 520     | LF   |               |            | \$ 75.00        | \$ 39,000    |               |            | \$ 58,812         |
| MS-17                     | Condensate Pipe                            | Entire Building               | --             | 3     | 3    | 1     | 7     | X      | Existing condensate pipe is in poor condition.  | Replace condensate pipe mains in tunnels.  | 520     | LF   |               |            | \$ 50.00        | \$ 26,000    |               |            | \$ 39,208         |
| MS-18                     | Steam Trap Maintenance                     | Entire Building               | --             | 3     | 4    | 1     | 8     | X      | Existing traps vary in age and condition.   | Replace older traps in poor condition.   | 1       | LS   |               |            | \$ 18,500.00    | \$ 18,500    |               |            | \$ 27,898         |
| MS-19                     | Pipe Insulation                            | Entire Building               | MS-19          | 4     | 4    | 1     | 9     | X      | Large sections of missing/damaged insulation on steam and condensate pipe.                      | Install new insulation and labels, including reheat coils in Science Wing.   | 500     | LF   |               |            | \$ 9.00         | \$ 4,500     |               |            | \$ 6,786          |
| MS-20                     | Office Rooftop Units                       | Office                        | MS-20          | 3     | 3    | 2     | 8     | X      | Office rooftop units are in poor condition.   | Replace with like and kind.  | 2       | EA   |               |            | \$ 17,500.00    | \$ 35,000    | \$ 2,787.00   | \$ 5,574   | \$ 61,186         |
| MS-21                     | Roof Exhaust Fans                          | Roof                          | MS-21          | 4     | 4    | 1     | 9     |        | Existing roof exhaust fans/hoods are beyond their useful life.                                  | Provide new roof exhaust fans/hoods; average size is 600 CFM.  | 12      | EA   |               |            | \$ 3,250.00     | \$ 39,000    | \$ 175.00     | \$ 2,100   | \$ 61,979         |
| MS-22                     | Head End Air Conditioning                  | Head End Room                 | --             | 4     | 5    | 1     | 10    |        | Some issues with existing unit.   | Install new split air conditioning unit; approximately 1.5-tons.   | 1       | EA   |               |            | \$ 8,500.00     | \$ 8,500     | \$ 500.00     | \$ 500     | \$ 13,572         |



**Berkley High School**

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|---|---|--|--|--|---|--|--|
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| No.                                  | Item/Description                 | Location                           | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes  | Action   | Qty.    | Unit | Architectural |          | Mechanical   |            | Electrical  |          | 2014 Project Cost   |
|--------------------------------------|----------------------------------|------------------------------------|-----------|-------|------|-------|-------|--------|--|--|---------|------|---------------|----------|--------------|------------|-------------|----------|---------------------|
|                                      |                                  |                                    |           |       |      |       |       |        |  |  |         |      | Unit Cost     | Subtotal | Unit Cost    | Subtotal   | Unit Cost   | Subtotal |                     |
| MS-23                                | Main Kitchen Hood                | Kitchen                            | --        | 4     | 4    | 3     | 11    |        | Main kitchen hood has limited fire protection heads.                           | Increase size of under hood fire suppression system.                                 | 1       | LS   |               |          | \$ 7,810.00  | \$ 7,810   |             |          | \$ 11,777           |
| MS-24                                | Science Room C Make-Up Air Unit  | Roof                               | --        | 4     | 3    | 1     | 8     |        | Existing make-up air unit serving Science Room C is in fair to poor condition. | Replace with like and kind.  | 1       | LS   |               |          | \$ 22,000.00 | \$ 22,000  | \$ 500.00   | \$ 500   | \$ 33,930           |
| MS-25                                | Science Wing Rooftop Units       | Roof                               | MS-25     | 3     | 3    | 1     | 7     |        | Existing McQuay and Trane rooftop units are in fair to poor condition.         | Replace with like and kind.  | 2       | EA   |               |          | \$ 32,000.00 | \$ 64,000  | \$ 500.00   | \$ 1,000 | \$ 98,020           |
| MS-26                                | North Academic Air Handling Unit | Basement Fan Room                  | MS-26     | 4     | 4    | 1     | 9     |        | Existing unit is more than 60 years old.                                       | Air handling unit with steam coil; approximately 7,500 CFM.                          | 1       | LS   |               |          | \$ 25,000.00 | \$ 25,000  | \$ 4,160.00 | \$ 4,160 | \$ 43,973           |
| MS-26A                               | North Academic Air Handling Unit | Basement Fan Room                  | --        | 4     | 4    | 1     | 9     | X      | Existing unit is more than 60 years old.                                       | Provide new air handling unit with chilled water coil and steam heating coil.        | 1       | LS   |               |          | \$ 32,500.00 | \$ 32,500  | \$ 5,408.00 | \$ 5,408 | \$ 57,165           |
| MS-27                                | Gym/Café Air Handling Unit       | Basement Fan Room Near Boiler Room | MS-27     | 3     | 3    | 1     | 7     |        | Existing unit is more than 60 years old.                                       | Replace with like and kind; heating and ventilating only.                            | 1       | LS   |               |          | \$ 25,000.00 | \$ 25,000  | \$ 4,160.00 | \$ 4,160 | \$ 43,973           |
| MS-27A                               | Gym/Café Air Handling Unit       | Basement Fan Room Near Boiler Room | --        | 3     | 3    | 1     | 7     |        | Existing unit is more than 60 years old.                                       | Provide new air handling unit with chilled water coil and steam heating coil.        | 1       | LS   |               |          | \$ 32,500.00 | \$ 32,500  | \$ 5,408.00 | \$ 5,408 | \$ 57,165           |
| MS-28                                | Little Theater Air Handling Unit | Basement Fan Room                  | MS-28     | 3     | 3    | 1     | 7     |        | Existing unit is more than 60 years old.                                       | Ceiling-hung air handling unit with steam coil; approximately 3,000 CFM.             | 1       | LS   |               |          | \$ 15,000.00 | \$ 15,000  | \$ 3,360.00 | \$ 3,360 | \$ 27,687           |
| MS-28A                               | Little Theater Air Handling Unit | Basement Fan Room                  | --        | 3     | 3    | 1     | 7     |        | Existing unit is more than 60 years old.                                       | Install new HVAC unit in same location with chilled water cooling and steam heating. | 1       | LS   |               |          | \$ 19,500.00 | \$ 19,500  | \$ 4,368.00 | \$ 4,368 | \$ 35,993           |
| MS-29                                | Fin Tube Radiation               | Basement and 1st Floor             | MS-29     | 2     | 2    | 1     | 5     |        | Existing fin tube is in fair to poor condition.                                | Replace with like and kind.  | 500     | LF   |               |          | \$ 71.00     | \$ 35,500  |             |          | \$ 53,534           |
| MS-30                                | Domestic Water Tanks             | Basement                           | MS-30     | 4     | 4    | 1     | 9     |        | Existing Lochinvar tanks are in fair to poor condition.                        | Provide new tanks; approximately 250 gallons each.                                   | 4       | EA   |               |          | \$ 6,000.00  | \$ 24,000  |             |          | \$ 36,192           |
| MS-31                                | Hot Water Heating Pumps          | Basement Heat Exchanger Room       | MS-31     | 3     | 3    | 1     | 7     |        | Existing base-mounted end suction pumps are in poor condition.                 | Replace with like and kind; approximately 162 GPM, 50 TDH.                           | 2       | EA   |               |          | \$ 16,000.00 | \$ 32,000  | \$ 175.00   | \$ 350   | \$ 48,784           |
| MS-32                                | Hot Water Heating Pipe           | Multiple Locations                 | MS-32     | 3     | 3    | 1     | 7     |        | Existing pipe is in fair to poor condition.                                    | Replace with like and kind; insulate and label.                                      | 750     | LF   |               |          | \$ 75.00     | \$ 56,250  |             |          | \$ 84,825           |
| MS-33                                | Ductwork                         | Entire Building                    |           | 4     | 4    | 1     | 9     |        | Existing supply and return ductwork is dirty.                                  | Clean and sanitize entire duct system.   | 200,000 | SF   |               |          | \$ 1.15      | \$ 230,000 |             |          | \$ 346,840          |
| MS-34                                | Music Wing Unit Ventilators      | Band and Orchestra Rooms           | MS-34     | 5     | 5    | 1     | 11    |        | Existing units are in fair condition.  | Replace with like and kind.  | 2       | EA   |               |          | \$ 17,500.00 | \$ 35,000  |             |          | \$ 52,780           |
| MS-35                                | Steam Isolation Valves           | Boiler Room                        | --        | 1     | 1    | 1     | 3     |        | Steam isolation valves do not hold.  | Replace with like and kind; approximately 8".  | 2       | EA   |               |          | \$ 4,750.00  | \$ 9,500   |             |          | \$ 14,326           |
| <b>Subtotal - Mechanical Systems</b> |                                  |                                    |           |       |      |       |       |        |  |  |         |      |               |          |              |            |             |          | <b>\$ 8,278,157</b> |

| PLUMBING SYSTEMS |                              |                              |           |       |      |       |       |        |   |   |        |      |                         |                        |                      |                     |                      |                     |                   |
|------------------|------------------------------|------------------------------|-----------|-------|------|-------|-------|--------|---|---|--------|------|-------------------------|------------------------|----------------------|---------------------|----------------------|---------------------|-------------------|
| No.              | Item/Description             | Location                     | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes   | Action  | Qty.   | Unit | Architectural Unit Cost | Architectural Subtotal | Mechanical Unit Cost | Mechanical Subtotal | Electrical Unit Cost | Electrical Subtotal | 2014 Project Cost |
| PS-1             | Sump Pump                    | North End of Basement        | PS-1      | 3     | 3    | 5     | 11    |        | Sump system is in disrepair.  | Rebuild pumping portion of sump system.           | 1      | LS   |                         |                        | \$ 5,500.00          | \$ 5,500            | \$ 1,200.00          | \$ 1,200            | \$ 10,104         |
| PS-2             | Sump Pump                    | Basement                     | PS-2      | 3     | 3    | 5     | 11    |        | Existing sump system is light commercial in fair to poor condition. | Replace with heavy duty commercial duplex system. | 1      | LS   |                         |                        | \$ 4,400.00          | \$ 4,400            | \$ 1,200.00          | \$ 1,200            | \$ 8,445          |
| PS-3             | Sump Pump                    | Basement Heat Exchanger Room | PS-3      | 3     | 3    | 5     | 11    |        | Existing sump system is single pump, light commercial.              | Rebuild with heavy duty commercial duplex system. | 1      | LS   |                         |                        | \$ 8,800.00          | \$ 8,800            |                      |                     | \$ 13,270         |
| PS-4             | Domestic Water Pipe          | Entire Building              | PS-4      | 2     | 3    | 1     | 6     | X      | 30% of existing domestic water pipe is galvanized steel.            | Replace with copper pipe.                         | 6,800  | SF   | \$ 0.50                 | \$ 3,400               | \$ 3.25              | \$ 22,100           |                      |                     | \$ 38,454         |
| PS-5             | Water Meter Isolation Valves | Basement                     | PS-5      | 2     | 3    | 5     | 10    |        | Existing gate valves at water meter do not hold.                    | Replace three (3), 3" gate valves.                | 3      | EA   |                         |                        | \$ 2,750.00          | \$ 8,250            |                      |                     | \$ 12,441         |
| PS-6             | Sanitary Pipe                | Entire Building              | PS-6      | 3     | 3    | 1     | 7     |        | Sanitary pipe is in poor condition.                                 | Replace accessible portions.                      | 10,000 | SF   | \$ 0.50                 | \$ 5,000               | \$ 4.25              | \$ 42,500           |                      |                     | \$ 71,630         |
| PS-7             | Water Coolers                | Entire Building              | PS-7      | 4     | 4    | 1     | 9     |        | Drinking fountains are in fair to poor condition.                   | Add bi-level water coolers.                       | 10     | EA   |                         |                        | \$ 3,000.00          | \$ 30,000           | \$ 1,200.00          | \$ 12,000           | \$ 63,336         |

**Berkley High School**

| Address: 2325 Catalpa, Berkley, Michigan<br>Bldg. Area: 227,326 GSF<br>No. of Floors: 2 plus Basement<br>Year Built: 1948, 1955, 1961, Pool/Gym 1974,<br>Theater 1987, Collaborative Center 2001<br>Evaluation Date: January 2014   |   | Item No. Codes   |                         | Building Deficiencies Priorities by Category |      |       |   |        | Notes  |  |        |      |               |  |              |           |               |            |                     |  |  |  |  |
|---|---|--|-------------------------|--|------|-------|---|--------|--|--|--------|------|---------------|--|--------------|-----------|---------------|------------|---------------------|--|--|--|--|
| AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy |                         |  |      |       | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable |        | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager |  |        |      |               | 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |              |           |               |            |                     |  |  |  |  |
| No.   | Item/Description                            | Location   | Photo No.               | Cons.  | Need | Freq. | Score   | Energy | Notes  | Action   | Qty.   | Unit | Architectural |  | Mechanical   |           | Electrical    |            | 2014 Project Cost   |  |  |  |  |
|   |   |  |                         |  |      |       |   |        |  |  |        |      | Unit Cost     | Subtotal   | Unit Cost    | Subtotal  | Unit Cost     | Subtotal   |                     |  |  |  |  |
| PS-8  | Kitchen Prep Sink                           | Kitchen  | PS-8                    | 4  | 4    | 3     | 11  |        | Kitchen prep sink has hard corners.  | Replace with rounded corner style to meet Code.  | 1      | LS   |               |  | \$ 4,500.00  | \$ 4,500  |               |            | \$ 6,786            |  |  |  |  |
| PS-9  | 3-Compartment Sink                          | Kitchen  | PS-9                    | 5  | 5    | 1     | 11  |        | Wash, rinse, sanitize labels are on wrong sinks.   | Reverse labels.  | -      | -    |               |  |              |           |               |            |                     |  |  |  |  |
| <b>Subtotal - Plumbing Systems</b>  |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            | <b>\$ 224,466</b>   |  |  |  |  |
| <b>BUILDING SYSTEMS</b>   |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            |                     |  |  |  |  |
| BS-1  | Fire Alarm System                           | Entire Building  | --                      | 2  | 3    | 3     | 8   |        | Existing system is outdated and difficult to maintain.   | Install new addressable system.  | 1      | LS   |               |  |              |           | \$ 256,878.00 | \$ 256,878 | \$ 387,372          |  |  |  |  |
| BS-2  | Emergency Lighting                          | Corridors, Gyms, Locker Rooms, Pool, Fitness Center, Science Labs, Collaboration Center, Media Center              | --                      | 1  | 3    | 4     | 8   |        | Spacing of existing battery units exceeds requirements.  | Install new units in existing fixtures.  | 230    | EA   |               |  | \$ 300.00    | \$ 69,000 |               |            | \$ 104,052          |  |  |  |  |
| BS-3  | Boiler Room Emergency Power Off             | Boiler Room  | --                      | 3  | 3    | 3     | 9   |        | Boiler room does not have an emergency power off system as required by Code.                         | Install Boiler Room EPO system.  | 2      | EA   |               |  | \$ 2,720.00  | \$ 5,440  |               |            | \$ 8,204            |  |  |  |  |
| <b>Subtotal - Building Systems</b>  |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            | <b>\$ 499,628</b>   |  |  |  |  |
| <b>ELECTRICAL SYSTEMS</b>   |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            |                     |  |  |  |  |
| ES-1  | Electrical Distribution System              | East Boiler Room (Auditorium) and West Boiler Room (Career Center)   | ES-1A<br>ES-1B<br>ES-1C | 2  | 3    | 1     | 6   |        | Original electrical distribution equipment is obsolete and a safety concern.                         | Replace the original distribution equipment with new.  | 2      | EA   |               |  | \$ 32,350.00 | \$ 64,700 |               |            | \$ 97,568           |  |  |  |  |
| ES-2  | Electrical Panels                           | Corridors to serve Classrooms  | ES-2A<br>ES-2B<br>ES-2C | 2  | 5    | 1     | 8   |        | Original electrical panels are obsolete and are sometimes located behind doors.                      | Replace the original panels with new, larger panels in new locations.  | 20     | EA   |               |  | \$ 4,875.00  | \$ 97,500 |               |            | \$ 147,030          |  |  |  |  |
| ES-3  | Original Lighting Fixtures                  | Science Labs   | ES-3                    | 3  | 3    | 1     | 7   | X      | Original lighting fixtures with obsolete T12 fluorescent lamps.                                      | Replace with more efficient T8 fluorescent fixtures.   | 12     | EA   |               |  | \$ 6,000.00  | \$ 72,000 |               |            | \$ 108,576          |  |  |  |  |
| ES-4  | Exit Lighting Fixtures                      | Design Center, Science Labs  | --                      | 4  | 3    | 4     | 11  | X      | Rooms over 1000 SF require 2 exits with Exit signs   | Add Exit signs   | 18     | EA   |               |  | \$ 300.00    | \$ 5,400  |               |            | \$ 8,143            |  |  |  |  |
| ES-5  | Exterior Lighting                           | Exterior Doors   | ES-5                    | 1  | 2    | 2     | 5   | X      | Lighting fixtures are in disrepair.  | Replace with efficient LED fixtures in east and west lots.   | 33     | EA   |               |  | \$ 520.00    | \$ 17,160 |               |            | \$ 25,877           |  |  |  |  |
| ES-6  | Site Lighting                               | Parking Lots   | --                      | 3  | 5    | 3     | 11  | X      | Inadequate site lighting.  | Install new poles with efficient LED fixtures  | 10     | EA   | \$ 6,000.00   | \$ 60,000  |              |           | \$ 6,960.00   | \$ 69,600  | \$ 195,437          |  |  |  |  |
| ES-7  | Pool Lighting                               | Pool   | ES-7A<br>ES-7B          | 1  | 2    | 2     | 5   | X      | Lighting levels are below IES illuminance recommendations.   | Install efficient LED fixtures around pool perimeter.  | 20     | EA   |               |  | \$ 520.00    | \$ 10,400 |               |            | \$ 15,683           |  |  |  |  |
| ES-8  | Uninterruptible Power Supply                | Main Office  | --                      | 1  | 3    | 4     | 8   |        | Maintain operation during power interruptions  | Provide 5 kVA UPS to serve Key Fob entry, PA and Phones  | 1      | EA   |               |  | \$ 11,300.00 | \$ 11,300 |               |            | \$ 17,040           |  |  |  |  |
| <b>Subtotal - Electrical Systems</b>  |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            | <b>\$ 615,354</b>   |  |  |  |  |
| <b>ACADEMIC/SPACE DEFICIENCIES</b>  |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            |                     |  |  |  |  |
| AD-1  | New Fine Arts Wing                          | Building Addition  | --                      | 4  | 3    | 1     | 8   |        | Existing space is inadequate.  | Build new fine arts wing. This will free up the current art spaces for new uses such as sensory rooms, kindergarten rooms, work rooms, storage, etc. | 8,100  | SF   | \$ 225.00     | \$1,822,500  |              |           |               |            | \$ 2,748,330        |  |  |  |  |
| AD-2  | New Large Group Instruction                 | Building Addition  | --                      | 4  | 3    | 1     | 8   |        | Existing building lacks dedicated large instructional space.   | Build new large group instruction suite.   | 12,500 | SF   | \$ 200.00     | \$2,500,000  |              |           |               |            | \$ 3,770,000        |  |  |  |  |
| AD-3  | Main Office Consolidation                   | Existing Office Areas  | --                      | 4  | 3    | 1     | 8   |        | Offices are split into different locations of the building.  | Renovate existing office areas.  | 5,000  | SF   | \$ 125.00     | \$ 625,000   |              |           |               |            | \$ 942,500          |  |  |  |  |
| AD-4  | Separate Counseling Office from Main Office | Counseling Office  | --                      | 4  | 3    | 1     | 8   |        | Counseling office is open and adjacent to Main office.   | Separate and/or relocate Counseling Office away from the Main Office.  | 3,000  | SF   | \$ 125.00     | \$ 375,000   |              |           |               |            | \$ 565,500          |  |  |  |  |
| <b>Subtotal - Academic/Space Deficiencies</b>   |   |  |                         |  |      |       |   |        |  |  |        |      |               |  |              |           |               |            | <b>\$ 8,026,330</b> |  |  |  |  |

**Berkley High School**

| Address: 2325 Catalpa, Berkley, Michigan<br>Bldg. Area: 227,326 GSF<br>No. of Floors: 2 plus Basement<br>Year Built: 1948, 1955, 1961, Pool/Gym 1974,<br>Theater 1987, Collaborative Center 2001<br>Evaluation Date: January 2014 | Item No. Codes  |  | Building Deficiencies Priorities by Category   |   |  | Notes  |
|---|---|--|--|---|--|--|
|   | AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |

| No.                                | Item/Description              | Location | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes                              | Action  | Qty. | Unit | Architectural |            | Mechanical |          | Electrical |          | 2014 Project Cost   |
|------------------------------------|-------------------------------|----------|-----------|-------|------|-------|-------|--------|------------------------------------|---|------|------|---------------|------------|------------|----------|------------|----------|---------------------|
|                                    |                               |          |           |       |      |       |       |        |                                    |   |      |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal | Unit Cost  | Subtotal |                     |
| <b>SITE CIRCULATION</b>            |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                     |
| SC-1                               | Parking                       | Site     | --        | 4     | 4    | 1     | 9     |        | Quantity of parking is inadequate. | Add additional parking to the site. Figure shown to the right is an allowance.      | 1    | LS   |               | \$ 175,000 |            |          |            |          | \$ 263,900          |
| SC-2                               | Student Drop-off              | Site     | --        | 4     | 4    | 1     | 9     |        | Student drop-off is inadequate.    | Add/modify student drop-off to the site. Figure shown to the right is an allowance. | 1    | LS   |               | \$ 125,000 |            |          |            |          | \$ 188,500          |
| <b>Subtotal - Site Circulation</b> |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          | <b>\$ 452,400</b>   |
| <b>TECHNOLOGY</b>                  |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                     |
| IT-1                               | Refer to Tab 12 for breakdown |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                     |
| <b>Technology Total</b>            |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          | <b>\$ 3,729,487</b> |

Note: Shaded items are shown for reference only and not included in the deficiency total.

**Total Project Cost \$23,585,855**

# BERKLEY HIGH SCHOOL



BE-1

# BERKLEY HIGH SCHOOL



BE-2

# BERKLEY HIGH SCHOOL



BE-4

# BERKLEY HIGH SCHOOL



BE-5

# BERKLEY HIGH SCHOOL



BE-6

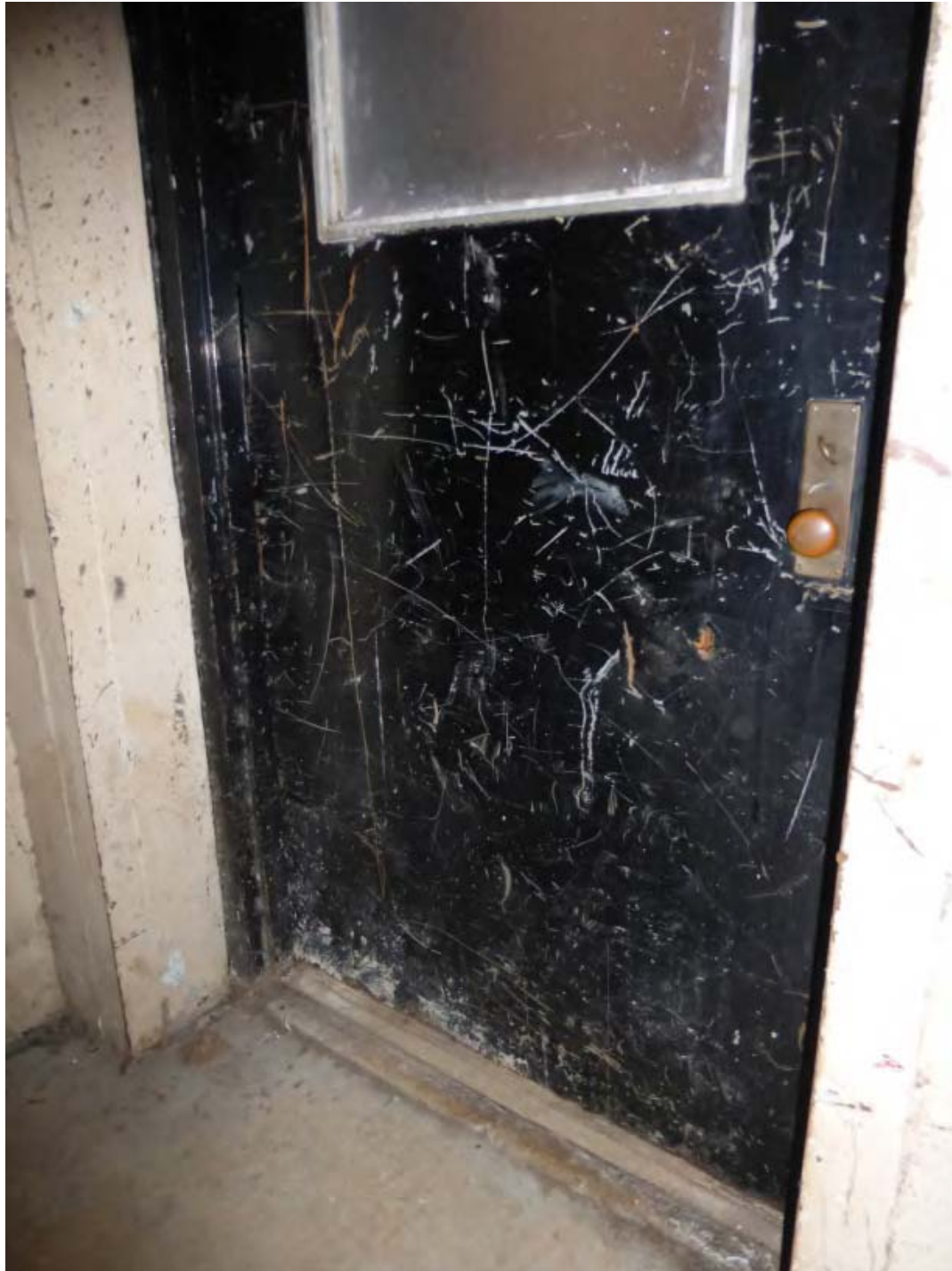


# BERKLEY HIGH SCHOOL



BE-7A

# BERKLEY HIGH SCHOOL



BE-7B

# BERKLEY HIGH SCHOOL



BE-8

# BERKLEY HIGH SCHOOL



BE-10

# BERKLEY HIGH SCHOOL



BE-11A

# BERKLEY HIGH SCHOOL



BE-11B



BE-12

# BERKLEY HIGH SCHOOL



BE-13A



# BERKLEY HIGH SCHOOL



BE-13B

# BERKLEY HIGH SCHOOL



BE-14A

# BERKLEY HIGH SCHOOL



BE-14B

# BERKLEY HIGH SCHOOL



BE-15A

# BERKLEY HIGH SCHOOL



BE-15B

# BERKLEY HIGH SCHOOL



BE-16

# BERKLEY HIGH SCHOOL



BE-17

# BERKLEY HIGH SCHOOL



BE-18



# BERKLEY HIGH SCHOOL



BI-1

# BERKLEY HIGH SCHOOL



BI-2

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BI-3

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BI-4

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BI-5

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BI-6

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BI-7A

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BI-7B



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BI-8

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AB-1

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AB-2

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AB-3

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AB-4

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AB-5

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AB-6

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AB-7

# BERKLEY HIGH SCHOOL



AB-11



# BERKLEY HIGH SCHOOL



MS-1

# BERKLEY HIGH SCHOOL



MS-2

# BERKLEY HIGH SCHOOL



MS-3A

# BERKLEY HIGH SCHOOL



MS-3B

# BERKLEY HIGH SCHOOL



MS-4

# BERKLEY HIGH SCHOOL



MS-5

# BERKLEY HIGH SCHOOL



MS-6

# BERKLEY HIGH SCHOOL



MS-7



# BERKLEY HIGH SCHOOL



MS-10

# BERKLEY HIGH SCHOOL



MS-15

# BERKLEY HIGH SCHOOL



MS-19

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MS-20

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MS-21

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MS-25

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MS-26

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MS-27



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MS-28

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MS-29

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MS-30

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MS-31

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MS-32

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MS-34

# BERKLEY HIGH SCHOOL



PS-1

# BERKLEY HIGH SCHOOL



PS-2



# BERKLEY HIGH SCHOOL



PS-3

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PS-4

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PS-5

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PS-6

# BERKLEY HIGH SCHOOL



PS-7

# BERKLEY HIGH SCHOOL



PS-8

# BERKLEY HIGH SCHOOL



PS-9

# BERKLEY HIGH SCHOOL



ES-1A



# BERKLEY HIGH SCHOOL



ES-1B

# BERKLEY HIGH SCHOOL



ES-1C

# BERKLEY HIGH SCHOOL



ES-2A

# BERKLEY HIGH SCHOOL



ES-2B

# BERKLEY HIGH SCHOOL



ES-2C

# BERKLEY HIGH SCHOOL



ES-3

# BERKLEY HIGH SCHOOL



ES-5

# BERKLEY HIGH SCHOOL



ES-7A



# BERKLEY HIGH SCHOOL



ES-7B

# BURTON ELEMENTARY SCHOOL



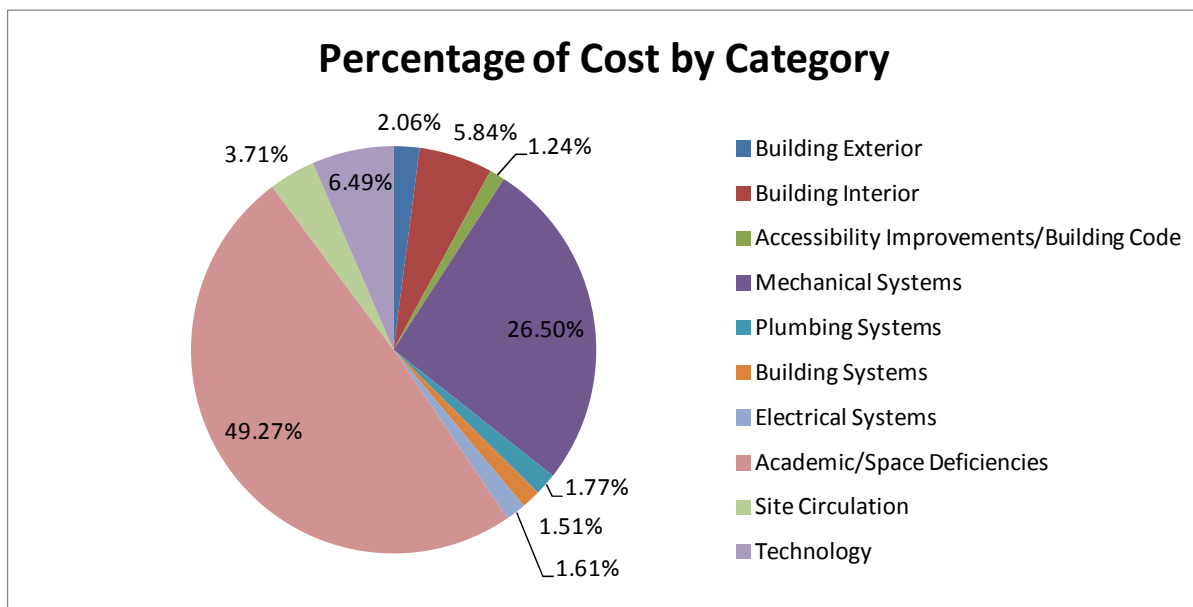
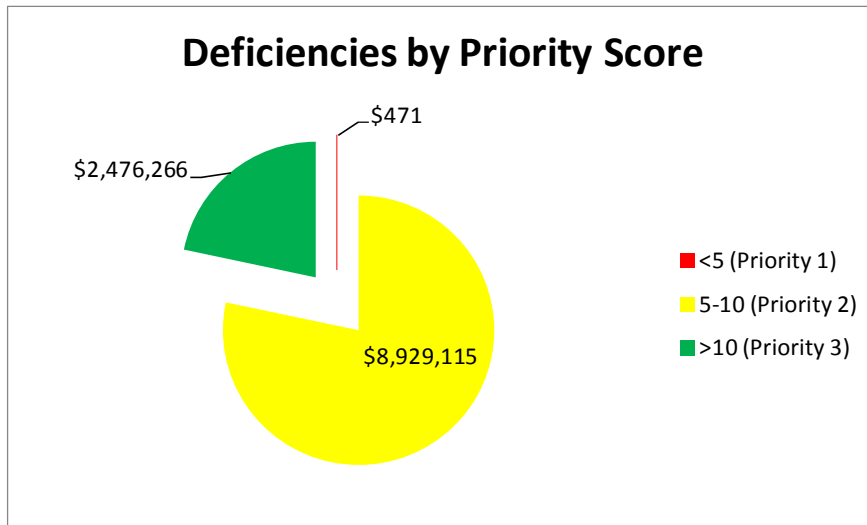
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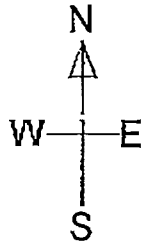
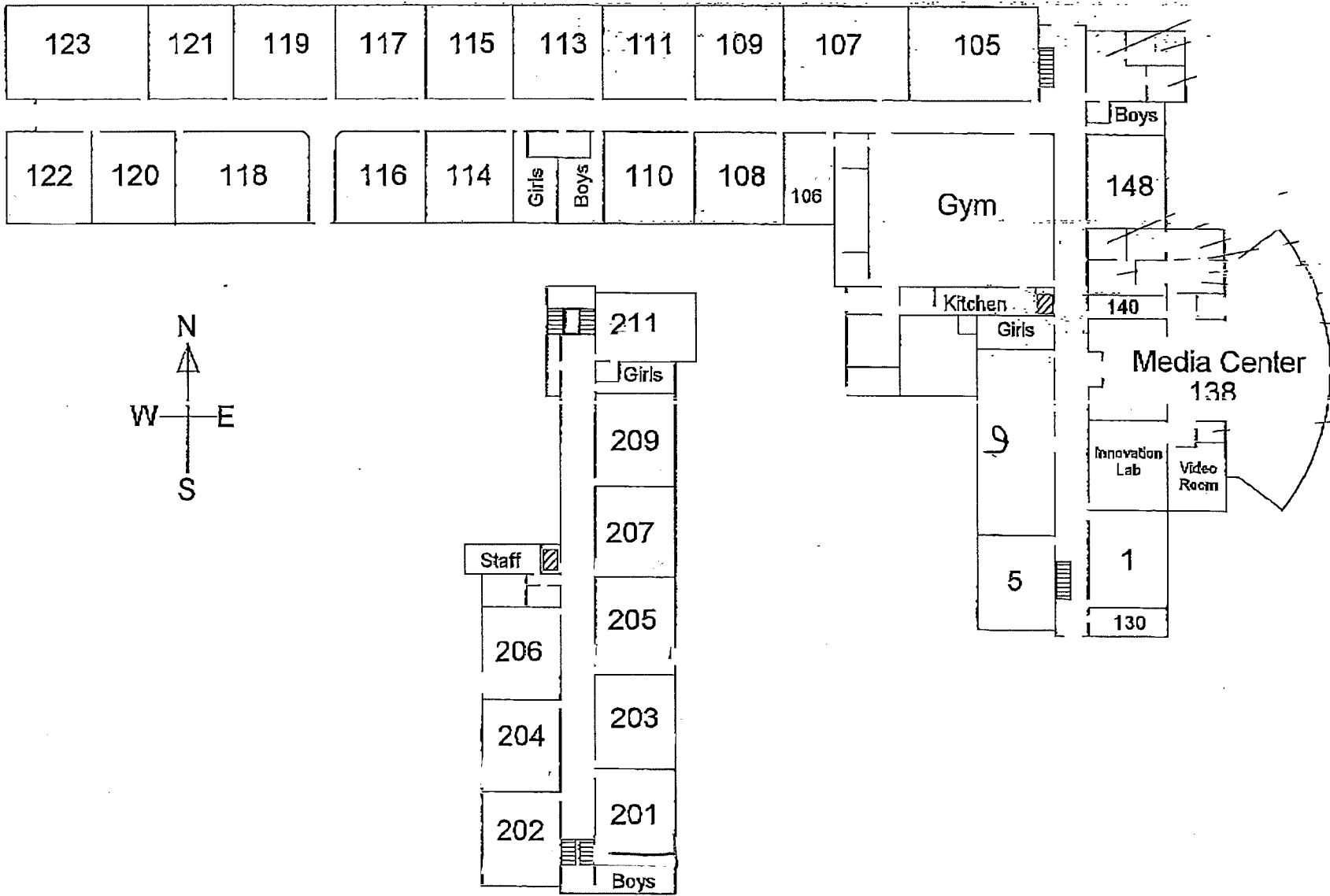
## GENERAL OVERVIEW

Use: Elementary School  
 Year Built: 1926  
 Total Area: 48,272 GSF  
 Floors: 2

## MAJOR FINDINGS

Refer to the following charts for a summary of deficiencies by category and priority score. Note: Lower priority score equals highest urgency.





# Burton Elementary School



**BERKLEY SCHOOLS**  
**Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment**



**Burton Elementary School**

|  |  |   |  |  |  |  |   |  |  |  |  |  |
|--|--|---|--|--|--|--|---|--|--|--|--|--|
| Address: 26315 Scotia, Huntington Woods, Michigan<br>Bldg. Area: 48,272 GSF<br>No. of Floors: 2<br>Year Built: 1926<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Building Deficiencies Priorities by Category</b><br><table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b><br/>           1. Hazards<br/>           2. Interruption<br/>           3. Deterioration<br/>           4. Utility<br/>           5. Energy         </td> <td style="background-color: lightgreen;"> <b>Need</b><br/>           1. Critical<br/>           2. Urgent<br/>           3. Necessary<br/>           4. ADA<br/>           5. Desirable         </td> <td style="background-color: orange;"> <b>Frequency of Use</b><br/>           1. Constant<br/>           2. Frequent<br/>           3. Occasional<br/>           4. Infrequent<br/>           5. Meager         </td> </tr> </table> |  |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |  |  |  |
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| No.  | Item/Description                         | Location  | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.   | Unit | Architectural |            | Mechanical |           | Electrical |          | 2014 Project Cost |
|--|--|---|-----------|-------|------|-------|-------|--------|---|--|--------|------|---------------|------------|------------|-----------|------------|----------|-------------------|
|  |  |   |           |       |      |       |       |        |   |  |        |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal  | Unit Cost  | Subtotal |                   |
| <b>BUILDING EXTERIOR</b>                       |  |   |           |       |      |       |       |        |   |  |        |      |               |            |            |           |            |          |                   |
| BE-1   | Overhangs/Soffits                        | Entire Building                                 | BE-1      | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                   | Provide aluminum soffit panels.  | 1,270  | SF   | \$ 6.00       | \$ 7,620   |            |           |            |          | \$ 11,491         |
| BE-2   | Brick Veneer at Base of Walls            | Where roofs drain to pavement adjacent to walls | BE-2      | 3     | 3    | 2     | 8     |        | Brick and mortar joints deteriorated from roof water drainage.          | Control roof drainage where possible and clean/tuck point brick.   | 1,200  | SF   | \$ 10.50      | \$ 12,600  |            |           |            |          | \$ 19,001         |
| BE-3   | Sealant at Door and Window Openings      | Entire Building                                 | BE-3      | 3     | 3    | 2     | 8     |        | Sealant deteriorated and cracked.                                       | Replace sealant.   | 4,200  | LF   | \$ 4.75       | \$ 19,950  |            |           |            |          | \$ 30,085         |
| BE-4   | Concrete Steps                           | South Entrance                                  | BE-4      | 3     | 3    | 2     | 8     |        | Concrete cracked and deteriorated.                                      | Repair concrete.   | 1      | LS   | \$ 750.00     | \$ 750     |            |           |            |          | \$ 1,131          |
| BE-5   | Steel Stair/Ramp Railings                | Building Entrances                              | BE-5      | 3     | 3    | 2     | 8     |        | Paint is peeling and steel is rusted.                                   | Paint railings.  | 100    | LF   | \$ 5.00       | \$ 500     |            |           |            |          | \$ 754            |
| BE-6   | Door Sills                               | South and North Entrances                       | BE-6      | 3     | 3    | 2     | 8     |        | Concrete is deteriorated, threshold missing.                            | Repair concrete and replace threshold.   | 14     | LF   | \$ 65.00      | \$ 910     |            |           |            |          | \$ 1,372          |
| BE-7   | Steel Doors and Frames                   | North and South Entrances of East Wing          | BE-7      | 3     | 3    | 1     | 7     |        | Deteriorated. Excessive door widths causing hardware failures.          | Replace with aluminum frames and fiberglass reinforced panel doors with side lights to reduce door widths. | 4      | EA   | \$ 2,800.00   | \$ 11,200  |            |           |            |          | \$ 16,890         |
| BE-8   | Gutters                                  | West Elevation, 2nd Story                       | BE-8      | 3     | 3    | 2     | 8     |        | Gutter leaks are deteriorating brick.                                   | Repair leaks and clean/tuck point brick.   | 1      | LS   | \$ 3,000.00   | \$ 3,000   |            |           |            |          | \$ 4,524          |
| BE-9   | Entrance Canopy Soffits                  | Building Entrances                              | BE-9      | 3     | 3    | 2     | 8     |        | Deteriorated and paint is peeling.                                      | Provide aluminum soffit panels.  | 150    | SF   | \$ 7.50       | \$ 1,125   |            |           |            |          | \$ 1,697          |
| BE-10  | Brick and Mortar                         | Southeast Entrance Wall                         | BE-10     | 3     | 3    | 2     | 8     |        | Brick cracked and deteriorated.   | Investigate cause and repair/tuck point brick.   | 250    | SF   | \$ 50.00      | \$ 12,500  |            |           |            |          | \$ 18,850         |
| BE-11  | Glass Block Window                       | North Entrance                                  | BE-11     | 1     | 1    | 2     | 4     |        | Sealant at perimeter deteriorated.                                      | Replace sealant.   | 50     | LF   | \$ 4.75       | \$ 238     |            |           |            |          | \$ 358            |
| BE-12  | Clerestory Windows                       | West Wing                                       | BE-12     | 4     | 5    | 2     | 11    | X      | Single glazed glass.  | Replace with aluminum frames and insulating glass.   | 1,200  | LF   | \$ 80.00      | \$ 96,000  |            |           |            |          | \$ 144,768        |
| <b>Subtotal - Building Exterior</b>            |  |   |           |       |      |       |       |        |   |  |        |      |               |            |            |           |            |          | <b>\$ 250,920</b> |
| <b>BUILDING INTERIOR</b>                       |  |   |           |       |      |       |       |        |   |  |        |      |               |            |            |           |            |          |                   |
| BI-1   | Original Wood Doors and Frames           | Entire building                                 | BI-1      | 4     | 3    | 1     | 8     |        | Deteriorated, nonfunctional and do not meet current code requirements.  | Replace with wood doors and hollow metal frames.   | 78     | EA   | \$ 2,350.00   | \$ 183,300 |            |           |            |          | \$ 276,416        |
| BI-2   | Plastic Laminate Counter Tops            | Classrooms                                      | --        | 4     | 3    | 2     | 9     |        | Delaminating.   | Replace with solid surface material.   | 372    | LF   | \$ 150.00     | \$ 55,800  | \$ 75.00   | \$ 27,900 |            |          | \$ 126,220        |
| BI-3   | Carpet                                   | Corridors                                       | --        | 3     | 3    | 1     | 7     |        | Carpet reaching life expectancy.  | Replace carpet and resilient base.   | 6,780  | SF   | \$ 7.00       | \$ 47,460  |            |           |            |          | \$ 71,570         |
| BI-4   | Water Leaks                              | Various areas in basement                       | BI-4      | 3     | 3    | 2     | 8     |        | Water leaking through exterior walls.                                   | Investigate cause and repair leaks.  | 1      | LS   | \$25,000.00   | \$ 25,000  |            |           |            |          | \$ 37,700         |
| BI-5   | Stair Door                               | 2nd floor south                                 | BI-5      | 3     | 2    | 2     | 7     |        | Broken hinge, door will not latch.                                      | Repair door.   | 1      | EA   | \$ 500.00     | \$ 500     |            |           |            |          | \$ 754            |
| BI-6   | Former Classroom                         | Basement  | BI-6      | 4     | 5    | 2     | 11    |        | Currently used for storage.   | Reactivation to include floor, wall and ceiling finishes, HVAC, fire protection, lighting and fire alarm.  | 700    | SF   | \$ 22.00      | \$ 15,400  | \$ 39.00   | \$ 27,300 | \$ 9.00    | \$ 6,300 | \$ 73,892         |
| BI-7   | Original Sloped Acoustical Tile Ceilings | West Wing and 2nd Floor Classrooms              | BI-7      | 4     | 5    | 1     | 10    |        | Poor condition.   | Replace with acoustical panels with concealed grid and new lighting (existing AC tile to remain).          | 16,675 | SF   | \$ 5.00       | \$ 83,375  |            |           |            |          | \$ 125,730        |
| BI-8   | Room Security                            | Head End Room                                   | --        | 1     | 1    | 1     | 3     |        | Key type is not unique to authorized staff (typical for all buildings). | Recore door lock.  | 1      | EA   | \$ 75.00      | \$ 75      |            |           |            |          | \$ 113            |
| <b>Subtotal - Building Interior</b>            |  |   |           |       |      |       |       |        |   |  |        |      |               |            |            |           |            |          | <b>\$ 712,394</b> |
| <b>ACCESSIBILITY IMPROVEMENT/BUILDING CODE</b> |  |   |           |       |      |       |       |        |   |  |        |      |               |            |            |           |            |          |                   |
| AB-1   | Coats Hung Outside of Lockers            | Corridors                                       | AB-1      | 1     | 4    | 1     | 6     |        | Code violation.   | Remove coats.  | --     | --   |               |            |            |           |            |          |                   |
| AB-2   | Furniture and Equipment                  | Corridors                                       | AB-2      | 1     | 4    | 1     | 6     |        | Loose furniture and equipment not permitted in corridors.               | Remove furniture and equipment.  | --     | --   |               |            |            |           |            |          |                   |
| AB-3   | Stair Handrail                           | North and South Stairs to Basement              | AB-3      | 1     | 4    | 1     | 6     |        | Handrail missing from one side of stair.                                | Add handrail.  | 32     | LF   | \$ 50.00      | \$ 1,600   |            |           |            |          | \$ 2,413          |
| AB-4   | Stair Guardrail                          | Stairs to 2nd floor                             | AB-4      | 1     | 4    | 1     | 6     |        | Guardrails do not meet current code requirements for height.            | Add guardrails.  | 64     | LF   | \$ 150.00     | \$ 9,600   |            |           |            |          | \$ 14,477         |

**Burton Elementary School**

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| No.  | Item/Description                    | Location   | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes   | Action   | Qty.  | Unit | Architectural |           | Mechanical |           | Electrical  |          | 2014 Project Cost |
|--|-------------------------------------|--|-----------|-------|------|-------|-------|--------|---|--|-------|------|---------------|-----------|------------|-----------|-------------|----------|-------------------|
|  |                                     |  |           |       |      |       |       |        |   |  |       |      | Unit Cost     | Subtotal  | Unit Cost  | Subtotal  | Unit Cost   | Subtotal |                   |
| AB-5   | Barrier Free Toilet Room Doors      | 1st floor, Boy's adjacent to Offices, Girl's adjacent to Kitchen | AB-5      | 1     | 4    | 2     | 7     |        | Doors do not have required wheelchair maneuvering space.      | Add automatic door operators.  | 2     | EA   | \$ 1,500.00   | \$ 3,000  |            |           | \$ 1,200.00 | \$ 2,400 | \$ 8,143          |
| AB-6   | Fire Extinguisher Cabinets          | Entire building  | AB-6      | 1     | 4    | 2     | 7     |        | Mounted too high above the floor.                             | Mount extinguishers lower.   | 1     | LS   | \$ 500.00     | \$ 500    |            |           |             |          | \$ 754            |
| AB-7   | Chair and Table Storage Under Stage | Gymnasium  | AB-7      | 1     | 4    | 2     | 7     |        | Code violation considering current construction of stage.     | Limit storage to non-combustible items.  | --    | --   |               |           |            |           |             |          |                   |
| AB-8   | Boy's and Girl's Toilet Rooms       | Various locations  | AB-8      | 1     | 4    | 2     | 7     |        | Toilet rooms do not meet current accessibility requirements.  | Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes, stalls and automatic door operators. | 1,135 | SF   | \$ 40.00      | \$ 45,400 | \$ 27.00   | \$ 30,645 | \$ 4.20     | \$ 4,767 | \$ 121,864        |
| AB-9   | Storage in Stairway                 | South Stair  | AB-9      | 1     | 4    | 1     | 6     |        | Code violation.   | Remove stored items.   | --    | --   |               |           |            |           |             |          |                   |
| AB-10  | Emergency Egress                    | Former Video Production Room<br>Now Used As Classroom            | --        | 1     | 3    | 2     | 6     |        | Student occupied room without code required emergency egress. | Add emergency egress window (requires modifications to masonry wall).                                      | 1     | LS   | \$ 2,600.00   | \$ 2,600  |            |           |             |          | \$ 3,921          |
| <b>Subtotal - Accessibility Improvements/Building Code</b> |                                     |  |           |       |      |       |       |        |   |  |       |      |               |           |            |           |             |          | <b>\$ 151,572</b> |

| <b>MECHANICAL SYSTEMS</b>            |  |                        |           |       |      |       |       |        |  |  |        |      |                         |                        |                      |                     |                      |                     |                     |
|--------------------------------------|--|------------------------|-----------|-------|------|-------|-------|--------|--|--|--------|------|-------------------------|------------------------|----------------------|---------------------|----------------------|---------------------|---------------------|
| No.                                  | Item/Description                           | Location               | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes  | Action   | Qty.   | Unit | Architectural Unit Cost | Architectural Subtotal | Mechanical Unit Cost | Mechanical Subtotal | Electrical Unit Cost | Electrical Subtotal | 2014 Project Cost   |
| MS-1                                 | Building Controls                          | Entire Building        | MS-1      | 2     | 2    | 1     | 5     | X      | Existing pneumatic controls are outdated.                              | Provide new DDC controls throughout.   | 49,000 | SF   |                         |                        | \$ 3.30              | \$ 161,700          |                      |                     | \$ 243,844          |
| MS-2                                 | Steam Pipe                                 | Entire Building        | MS-2      | 3     | 3    | 1     | 7     | X      | Existing steam pipe is in poor condition.                              | Replace steam mains in tunnels.  | 570    | LF   | \$ 5.00                 | \$ 2,850               | \$ 75.00             | \$ 42,750           |                      |                     | \$ 68,765           |
| MS-3                                 | Condensate Pipe                            | Entire Building        | --        | 3     | 3    | 1     | 7     | X      | Existing condensate pipe is in poor condition.                         | Replace condensate pipe mains in tunnels.  | 570    | LF   | \$ 5.00                 | \$ 2,850               | \$ 50.00             | \$ 28,500           |                      |                     | \$ 47,276           |
| MS-4                                 | Steam Trap Maintenance                     | Entire Building        | --        | 3     | 4    | 1     | 8     | X      | Existing traps vary in age and condition.                              | Replace older traps in poor condition.   | 1      | LS   |                         |                        | \$ 417,000.00        | \$ 417,000          |                      |                     | \$ 628,836          |
| MS-5                                 | Pipe Insulation                            | Entire Building        | --        | 4     | 4    | 1     | 9     | X      | Large sections of missing insulation on steam and condensate pipe.     | Install new insulation and labels.   | 200    | LF   |                         |                        | \$ 11.00             | \$ 2,200            |                      |                     | \$ 3,318            |
| MS-6                                 | Classroom Unit Ventilators                 | Entire Building        | MS-6      | 3     | 3    | 1     | 7     | X      | Horizontal unit ventilators are in poor condition.                     | Provide new ducted vertical unit ventilators.  | 19     | EA   | \$ 7,500.00             | \$ 142,500             | \$ 23,000.00         | \$ 437,000          | \$ 235.00            | \$ 4,465            | \$ 880,619          |
| MS-6A                                | Classroom Vertical Unit Ventilators - HVAC | Entire Building        | --        | 5     | 5    | 1     | 11    | X      | Existing horizontal unit ventilators are heating and ventilation only. | Provide new self-contained DX HVAC unit ventilators.                                   | 32     | EA   | \$ 7,500.00             | \$ 240,000             | \$ 27,000.00         | \$ 864,000          | \$ 2,373.00          | \$ 75,936           | \$ 1,779,343        |
| MS-7                                 | Gym HVAC                                   | Gym                    | --        | 5     | 5    | 1     | 11    | X      | Existing gym unit is heating and ventilation only.                     | Install new DX rooftop unit, 10-ton 4,000 CFM and new insulated distribution ductwork. | 1      | LS   | \$18,000.00             | \$ 18,000              | \$ 51,000.00         | \$ 51,000           | \$ 8,010.00          | \$ 8,010            | \$ 116,131          |
| MS-8                                 | Office HVAC                                | Office                 | --        | 3     | 3    | 2     | 8     | X      | Office area lacks proper ventilation.                                  | Provide new DX cassette unit, approximate 2.5-ton unit, thru wall fresh air.           | 1      | LS   | \$ 1,200.00             | \$ 1,200               | \$ 12,000.00         | \$ 12,000           | \$ 2,787.00          | \$ 2,787            | \$ 24,108           |
| MS-9                                 | Corridor Heating and Ventilation Units     | Roof                   | MS-9      | 4     | 4    | 2     | 10    | X      | Three rooftop units are beyond their useful life.                      | Replace with like and kind.  | 3      | EA   |                         |                        | \$ 27,000.00         | \$ 81,000           | \$ 3,230.00          | \$ 9,690            | \$ 136,761          |
| MS-9A                                | Corridor HVAC                              | Roof                   | --        | 5     | 5    | 1     | 11    | X      | Existing rooftop units are heating and ventilation only.               | Replace with HVAC; approximate 5-tons each, and insulated ductwork.                    | 3      | EA   | \$ 3,000.00             | \$ 9,000               | \$ 35,000.00         | \$ 105,000          | \$ 4,500.00          | \$ 13,500           | \$ 192,270          |
| MS-10                                | Media Center HVAC                          | Basement               | --        | 5     | 5    | 1     | 11    | X      | Existing unit is in fair condition.                                    | Replace with like and kind, 15-ton unit, 5,500 CFM.                                    | 1      | EA   |                         |                        | \$ 35,800.00         | \$ 35,800           | \$ 4,500.00          | \$ 4,500            | \$ 60,772           |
| MS-11                                | Roof Exhaust Fans                          | Roof                   | MS-11     | 4     | 4    | 1     | 9     |        | Existing roof exhaust fans are beyond their useful life.               | Provide new roof exhaust fans/relief hoods, average size is 600 CFM.                   | 6      | EA   |                         |                        | \$ 3,250.00          | \$ 19,500           | \$ 175.00            | \$ 1,050            | \$ 30,989           |
| MS-12                                | Ventilate Tunnel                           | Tunnel                 | MS-12     | 4     | 3    | 5     | 12    | X      | Tunnels are wet. Difficult working conditions.                         | Furnish permanent ventilation system.  | 1      | LS   |                         |                        | \$ 5,500.00          | \$ 5,500            |                      |                     | \$ 8,294            |
| MS-13                                | Condensate Receiver                        | Basement Main Corridor | MS-13     | 3     | 3    | 1     | 7     |        | Existing receiver is undersized.                                       | Provide larger unit and ancillary equipment.   | 1      | LS   |                         |                        | \$ 9,800.00          | \$ 9,800            |                      |                     | \$ 14,778           |
| MS-14                                | Head End Air Conditioning                  | Head End Room          | --        | 4     | 5    | 1     | 10    |        | Some issues with existing unit.  | Install new split air conditioning unit; approximately 1.5-tons.                       | 1      | EA   |                         |                        | \$ 8,500.00          | \$ 8,500            | \$ 500.00            | \$ 500              | \$ 13,572           |
| <b>Subtotal - Mechanical Systems</b> |  |                        |           |       |      |       |       |        |  |  |        |      |                         |                        |                      |                     |                      |                     | <b>\$ 3,232,297</b> |

**Burton Elementary School**

|  |  |   |  |  |  |  |   |  |  |  |  |  |
|--|--|---|--|--|--|--|---|--|--|--|--|--|
| Address: 26315 Scotia, Huntington Woods, Michigan<br>Bldg. Area: 48,272 GSF<br>No. of Floors: 2<br>Year Built: 1926<br>Evaluation Date: January 2014 | <b>Item No. Codes</b><br>AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |   | <b>Building Deficiencies Priorities by Category</b><br><table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b><br/>                     1. Hazards<br/>                     2. Interruption<br/>                     3. Deterioration<br/>                     4. Utility<br/>                     5. Energy                 </td> <td style="background-color: lightgreen;"> <b>Need</b><br/>                     1. Critical<br/>                     2. Urgent<br/>                     3. Necessary<br/>                     4. ADA<br/>                     5. Desirable                 </td> <td style="background-color: orange;"> <b>Frequency of Use</b><br/>                     1. Constant<br/>                     2. Frequent<br/>                     3. Occasional<br/>                     4. Infrequent<br/>                     5. Meager                 </td> </tr> </table> |  |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | <b>Notes</b><br>1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |  |  |  |
|  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy   | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager   |  |  |  |   |  |  |  |  |  |

| No. | Item/Description | Location | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes | Action | Qty. | Unit | Architectural |          | Mechanical |          | Electrical |          | 2014 Project Cost |
|-----|------------------|----------|-----------|-------|------|-------|-------|--------|-------|--------|------|------|---------------|----------|------------|----------|------------|----------|-------------------|
|     |                  |          |           |       |      |       |       |        |       |        |      |      | Unit Cost     | Subtotal | Unit Cost  | Subtotal | Unit Cost  | Subtotal |                   |

|                                    |                              |                 |      |   |   |   |    |  |  |  |        |    |           |           |             |           |             |          |                   |
|------------------------------------|------------------------------|-----------------|------|---|---|---|----|--|--|--|--------|----|-----------|-----------|-------------|-----------|-------------|----------|-------------------|
| <b>PLUMBING SYSTEMS</b>            |                              |                 |      |   |   |   |    |  |  |  |        |    |           |           |             |           |             |          |                   |
| PS-1                               | Sump Pump                    | Basement        | --   | 3 | 3 | 5 | 11 |  | Existing sump system is in disrepair                       | Rebuild existing unit.                       | 1      | LS |           |           | \$ 5,500.00 | \$ 5,500  | \$ 1,200.00 | \$ 1,200 | \$ 10,104         |
| PS-2                               | Domestic Water Pipe          | Entire Building | PS-2 | 2 | 3 | 1 | 6  |  | 50% of existing domestic water pipe is galvanized steel.   | Replace with copper pipe.                    | 20,000 | SF | \$ 0.50   | \$ 10,000 | \$ 3.25     | \$ 65,000 |             |          | \$ 113,100        |
| PS-3                               | Water Meter Isolation Valves | Boiler Room     | PS-3 | 2 | 3 | 5 | 10 |  | Existing gate valves at water meter are in poor condition. | Replace three (3), 3" gate valves.           | 3      | EA |           |           | \$ 2,750.00 | \$ 8,250  |             |          | \$ 12,441         |
| PS-4                               | Sanitary Pipe                | Entire Building | PS-4 | 3 | 3 | 1 | 7  |  | Sanitary pipe is in poor condition.                        | Replace accessible portions.                 | 10,000 | SF | \$ 0.50   | \$ 5,000  | \$ 3.50     | \$ 35,000 |             |          | \$ 60,320         |
| PS-5                               | Water Cooler                 | Main Corridor   | PS-5 | 4 | 4 | 1 | 9  |  | Existing drinking fountains are in fair to poor condition. | Provide new bi-level electric water coolers. | 3      | EA | \$ 250.00 | \$ 750    | \$ 3,000.00 | \$ 9,000  | \$ 1,200.00 | \$ 3,600 | \$ 20,132         |
| <b>Subtotal - Plumbing Systems</b> |                              |                 |      |   |   |   |    |  |  |  |        |    |           |           |             |           |             |          | <b>\$ 216,096</b> |

|                                    |                    |                              |    |   |   |   |   |  |  |  |    |     |  |  |             |          |               |            |                   |
|------------------------------------|--------------------|------------------------------|----|---|---|---|---|--|--|--|----|-----|--|--|-------------|----------|---------------|------------|-------------------|
| <b>BUILDING SYSTEMS</b>            |                    |                              |    |   |   |   |   |  |  |  |    |     |  |  |             |          |               |            |                   |
| BS-1                               | Fire Alarm System  | Entire Building              | -- | 2 | 3 | 3 | 8 |  | Existing system is outdated and difficult to maintain                        | Install new addressable system         | 1  | Lot |  |  |             |          | \$ 103,785.00 | \$ 103,785 | \$ 156,508        |
| BS-2                               | Emergency Lighting | Corridors, Gym, Media Center | -- | 1 | 3 | 4 | 8 |  | Spacing of existing battery units exceeds requirements                       | Install new units in existing fixtures | 52 | EA  |  |  |             |          | \$ 300.00     | \$ 15,600  | \$ 23,525         |
| BS-3                               | Boiler Room EPO    | Boiler Room                  | -- | 3 | 3 | 3 | 9 |  | Boiler room does not have an emergency power off system as required by code. | Install Boiler Room EPO system.        | 1  | LS  |  |  | \$ 2,720.00 | \$ 2,720 |               |            | \$ 4,102          |
| <b>Subtotal - Building Systems</b> |                    |                              |    |   |   |   |   |  |  |  |    |     |  |  |             |          |               |            | <b>\$ 184,134</b> |

|                                      |                                |                               |      |   |   |   |    |   |   |  |   |    |             |           |  |  |              |           |                   |
|--------------------------------------|--------------------------------|-------------------------------|------|---|---|---|----|---|---|--|---|----|-------------|-----------|--|--|--------------|-----------|-------------------|
| <b>ELECTRICAL SYSTEMS</b>            |                                |                               |      |   |   |   |    |   |   |  |   |    |             |           |  |  |              |           |                   |
| ES-1                                 | Electrical Distribution System | Boiler Room                   | ES-1 | 2 | 3 | 1 | 6  |   | Original electrical distribution equipment is obsolete and a safety concern.              | Replace the original distribution equipment with new.                        | 1 | EA |             |           |  |  | \$ 15,900.00 | \$ 15,900 | \$ 23,977         |
| ES-2                                 | Electrical Panels              | Corridors to Serve Classrooms | ES-2 | 2 | 5 | 1 | 8  |   | Original electrical panels are obsolete and are sometimes located behind doors.           | Replace the original panels with new, larger panels in new locations.        | 8 | EA |             |           |  |  | \$ 4,875.00  | \$ 39,000 | \$ 58,812         |
| ES-3                                 | Electrical Receptacles         | Child Use Areas               | --   | 1 | 3 | 2 | 6  |   | Electrical receptacles in child care centers are required to be inaccessible to children. | Replace all receptacles with tamper resistant type receptacles.              | 1 | EA |             |           |  |  | \$ 55.00     | \$ 55     | \$ 83             |
| ES-4                                 | Exit Lighting Fixtures         | Classrooms                    | --   | 4 | 3 | 4 | 11 | X | Rooms over 1,000 SF require 2 exits with exit signs.                                      | Add exit signs.  | 1 | LS |             |           |  |  | \$ 300.00    | \$ 300    | \$ 452            |
| ES-5                                 | Exterior Lighting              | Exterior Doors                | ES-5 | 1 | 2 | 2 | 5  | X | Lighting fixtures are in disrepair.   | Replace with more efficient LED fixtures.                                    | 7 | EA |             |           |  |  | \$ 520.00    | \$ 3,640  | \$ 5,489          |
| ES-6                                 | Site Lighting                  | Parking Lot                   | --   | 3 | 5 | 3 | 11 | X | Inadequate lighting.  | Replace with more efficient LED fixtures to match Huntington Woods standard. | 4 | EA | \$ 6,000.00 | \$ 24,000 |  |  | \$ 8,960.00  | \$ 35,840 | \$ 90,239         |
| ES-7                                 | Uninterruptible Power Supply   | Main Office                   | --   | 1 | 3 | 4 | 8  |   | Maintain operation during power interruptions   | Provide 5 kVA UPS to serve Key Fob entry, PA and Phones                      | 1 | EA |             |           |  |  | \$ 11,300.00 | \$ 11,300 | \$ 17,040         |
| <b>Subtotal - Electrical Systems</b> |                                |                               |      |   |   |   |    |   |   |  |   |    |             |           |  |  |              |           | <b>\$ 196,093</b> |

|   |                             |                   |    |   |   |   |   |  |   |   |       |    |           |              |  |  |  |  |                     |
|---|-----------------------------|-------------------|----|---|---|---|---|--|---|---|-------|----|-----------|--------------|--|--|--|--|---------------------|
| <b>ACADEMIC/SPACE DEFICIENCIES</b>            |                             |                   |    |   |   |   |   |  |   |   |       |    |           |              |  |  |  |  |                     |
| AD-1  | New Fine Arts Wing          | Building Addition | -- | 4 | 3 | 1 | 8 |  | Existing space is inadequate. This will free up the current art spaces for new uses such as sensory rooms, kindergarten work rooms, storage, etc. | Build new fine arts wing. This will free up the current art spaces for new uses such as sensory rooms, kindergarten work rooms, storage, etc. | 6,075 | SF | \$ 225.00 | \$ 1,366,875 |  |  |  |  | \$ 2,061,248        |
| AD-2  | Dedicated Cafeteria         | Building Addition | -- | 4 | 3 | 1 | 8 |  | Existing building lacks dedicated cafeteria.  | Build new cafeteria.  | 6,250 | SF | \$ 250.00 | \$ 1,562,500 |  |  |  |  | \$ 2,356,250        |
| AD-3  | New Large Group Instruction | Building Addition | -- | 4 | 3 | 1 | 8 |  | Existing building lacks dedicated large instructional space.  | Build new large group instruction suite.  | 2,500 | SF | \$ 200.00 | \$ 500,000   |  |  |  |  | \$ 754,000          |
| AD-4  | Teacher Work Room           | Old Music Room    | -- | 4 | 3 | 1 | 8 |  | Existing building lacks an adequate teacher work room.  | Renovate music room to be teacher work room.  | 700   | SF | \$ 100.00 | \$ 70,000    |  |  |  |  | \$ 105,560          |
| AD-5  | New Science Lab             | Building Addition | -- | 4 | 3 | 1 | 8 |  | Existing building lacks dedicated science lab.  | Build new science lab.  | 1,620 | SF | \$ 300.00 | \$ 486,000   |  |  |  |  | \$ 732,888          |
| <b>Subtotal - Academic/Space Deficiencies</b> |                             |                   |    |   |   |   |   |  |   |   |       |    |           |              |  |  |  |  | <b>\$ 6,009,946</b> |

**Burton Elementary School**

| Address: 26315 Scotia, Huntington Woods, Michigan<br>Bldg. Area: 48,272 GSF<br>No. of Floors: 2<br>Year Built: 1926<br>Evaluation Date: January 2014 | Item No. Codes  |  | Building Deficiencies Priorities by Category   |   |  | Notes  |
|--|---|--|--|---|--|--|
|  | AB: Accessibility Improvement/Building Code<br>AD: Academic/Space Deficiencies<br>BE: Building Exterior<br>BI: Building Interior<br>BS: Building System<br>ES: Electrical System<br>MS: Mechanical System<br>PS: Plumbing System<br>SC: Site Circulation<br>SE: Specialty Equipment/Other<br>IT: Technology |  | <b>Consequences of the Problem</b><br>1. Hazards<br>2. Interruption<br>3. Deterioration<br>4. Utility<br>5. Energy | <b>Need</b><br>1. Critical<br>2. Urgent<br>3. Necessary<br>4. ADA<br>5. Desirable | <b>Frequency of Use</b><br>1. Constant<br>2. Frequent<br>3. Occasional<br>4. Infrequent<br>5. Meager | 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease.<br>2. Lower score equals higher priority.<br>3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis.<br>4. Project Cost includes 20.5% mark-ups and fees for technology. |

| No.                                | Item/Description              | Location | Photo No. | Cons. | Need | Freq. | Score | Energy | Notes                              | Action  | Qty. | Unit | Architectural |            | Mechanical |          | Electrical |          | 2014 Project Cost |
|------------------------------------|-------------------------------|----------|-----------|-------|------|-------|-------|--------|------------------------------------|---|------|------|---------------|------------|------------|----------|------------|----------|-------------------|
|                                    |                               |          |           |       |      |       |       |        |                                    |   |      |      | Unit Cost     | Subtotal   | Unit Cost  | Subtotal | Unit Cost  | Subtotal |                   |
| <b>SITE CIRCULATION</b>            |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                   |
| SC-1                               | Parking                       | Site     | --        | 4     | 4    | 1     | 9     |        | Quantity of parking is inadequate. | Add additional parking to the site. Figure shown to the right is an allowance.      | 1    | LS   |               | \$ 175,000 |            |          |            |          | \$ 263,900        |
| SC-2                               | Student Drop-off              | Site     | --        | 4     | 4    | 1     | 9     |        | Student drop-off is inadequate.    | Add/modify student drop-off to the site. Figure shown to the right is an allowance. | 1    | LS   |               | \$ 125,000 |            |          |            |          | \$ 188,500        |
| <b>Subtotal - Site Circulation</b> |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          | <b>\$ 452,400</b> |
| <b>TECHNOLOGY</b>                  |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                   |
| IT-1                               | Refer to Tab 12 for breakdown |          | --        |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          |                   |
| <b>Technology Total</b>            |                               |          |           |       |      |       |       |        |                                    |   |      |      |               |            |            |          |            |          | <b>\$ 791,945</b> |

Note: Shaded items are shown for reference only and not included in the deficiency total.

**Total Project Cost \$ 12,197,798**



# BURTON ELEMENTARY SCHOOL



BE-1

# BURTON ELEMENTARY SCHOOL



BE-2

# BURTON ELEMENTARY SCHOOL



BE-3

# BURTON ELEMENTARY SCHOOL



BE-4

# BURTON ELEMENTARY SCHOOL



BE-5

# BURTON ELEMENTARY SCHOOL



BE-6

# BURTON ELEMENTARY SCHOOL



BE-7

# BURTON ELEMENTARY SCHOOL



BE-8



# BURTON ELEMENTARY SCHOOL



BE-9

# BURTON ELEMENTARY SCHOOL



BE-10

# BURTON ELEMENTARY SCHOOL



BE-11

# BURTON ELEMENTARY SCHOOL



BE-12

# BURTON ELEMENTARY SCHOOL



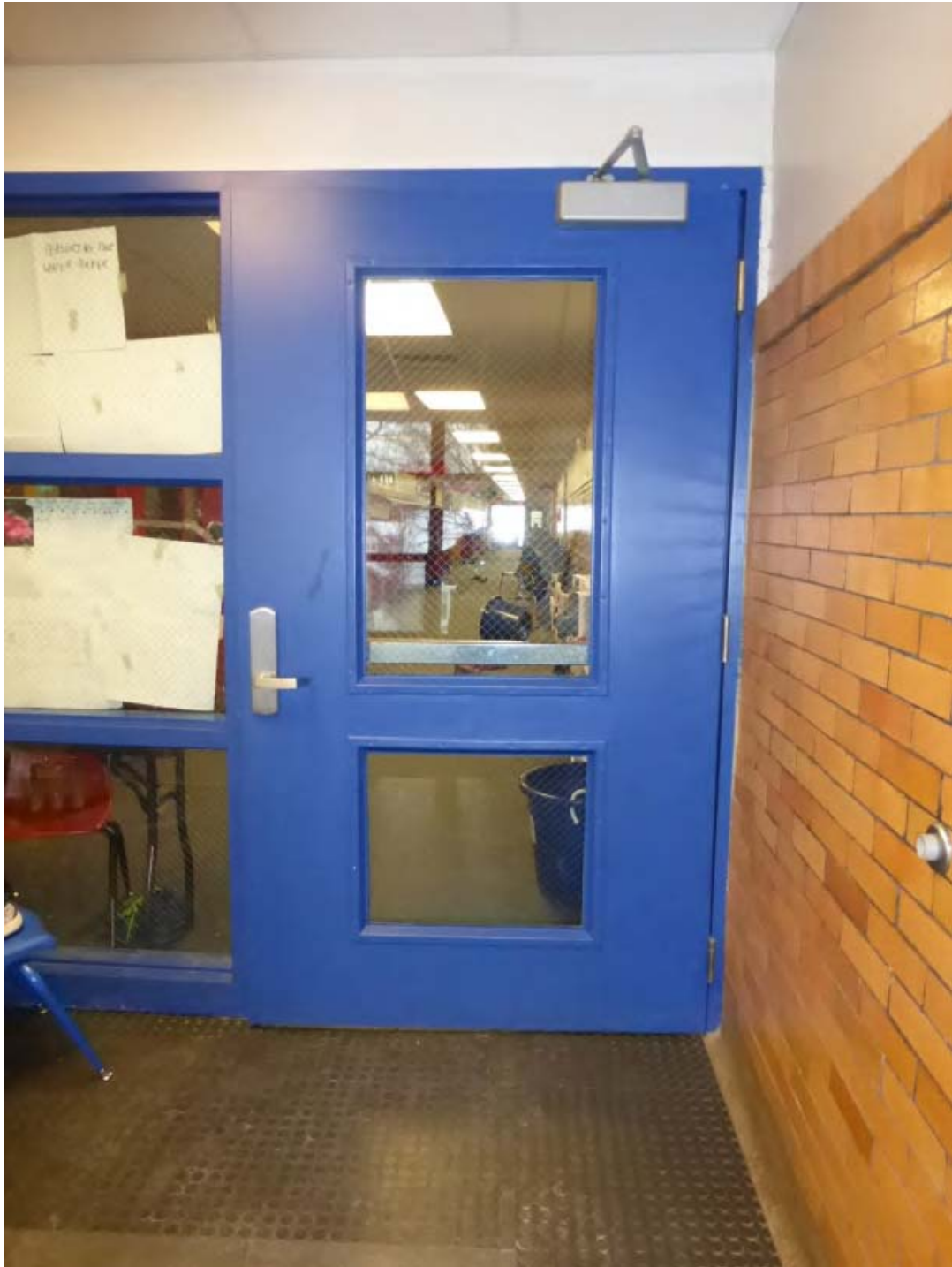
BI-1

# BURTON ELEMENTARY SCHOOL



BI-4

# BURTON ELEMENTARY SCHOOL



BI-5

# BURTON ELEMENTARY SCHOOL



BI-6



# BURTON ELEMENTARY SCHOOL



BI-7

# BURTON ELEMENTARY SCHOOL



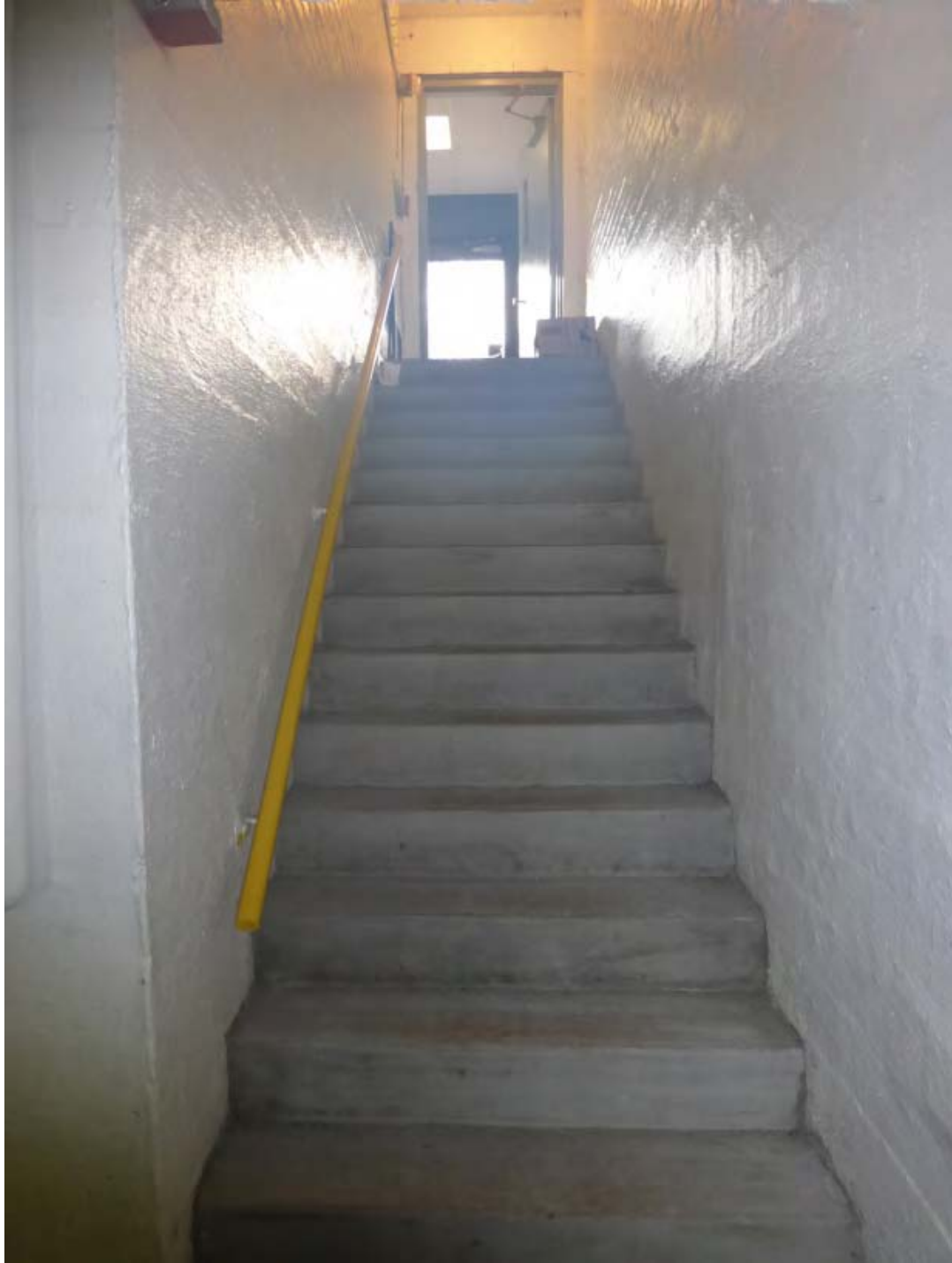
AB-1

# BURTON ELEMENTARY SCHOOL



AB-2

# BURTON ELEMENTARY SCHOOL



AB-3

# BURTON ELEMENTARY SCHOOL



AB-4

# BURTON ELEMENTARY SCHOOL



AB-5

# BURTON ELEMENTARY SCHOOL



AB-6

# BURTON ELEMENTARY SCHOOL



AB-7



# BURTON ELEMENTARY SCHOOL



AB-8

# BURTON ELEMENTARY SCHOOL



AB-9

# BURTON ELEMENTARY SCHOOL



MS-1

# BURTON ELEMENTARY SCHOOL



MS-2

# BURTON ELEMENTARY SCHOOL



MS-6

# BURTON ELEMENTARY SCHOOL



MS-9

# BURTON ELEMENTARY SCHOOL



MS-11

# BURTON ELEMENTARY SCHOOL



MS-12



# BURTON ELEMENTARY SCHOOL



MS-13



# BURTON ELEMENTARY SCHOOL



PS-3

# BURTON ELEMENTARY SCHOOL



PS-4

# BURTON ELEMENTARY SCHOOL



# BURTON ELEMENTARY SCHOOL



PS-5

# BURTON ELEMENTARY SCHOOL



ES-1

# BURTON ELEMENTARY SCHOOL



ES-2



# BURTON ELEMENTARY SCHOOL



ES-5