

# NORUP INTERNATIONAL SCHOOL



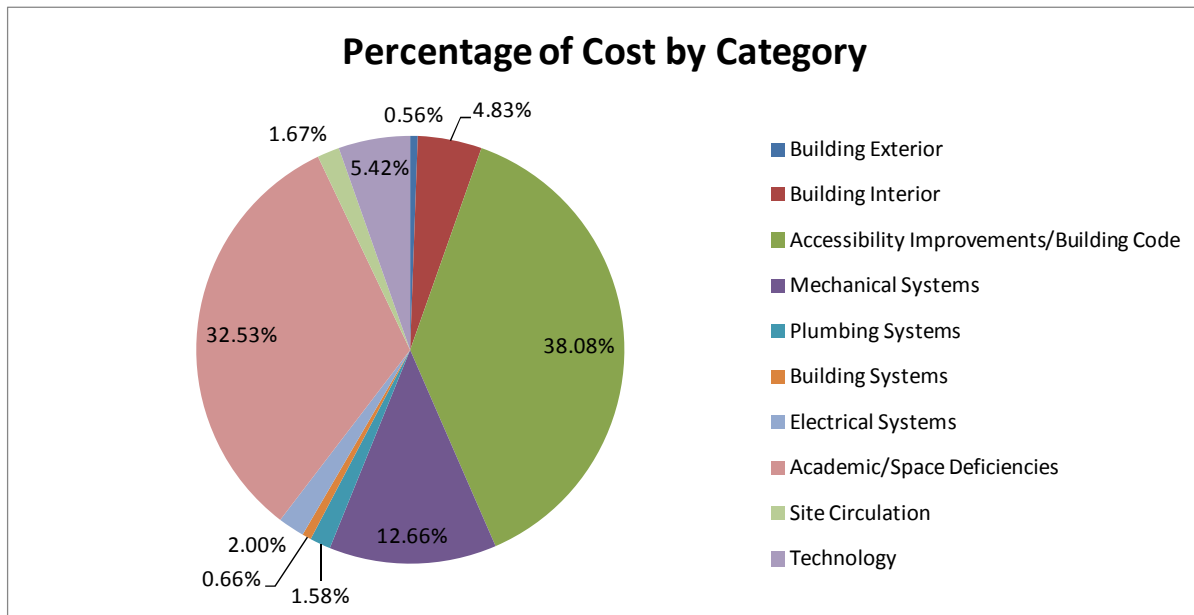
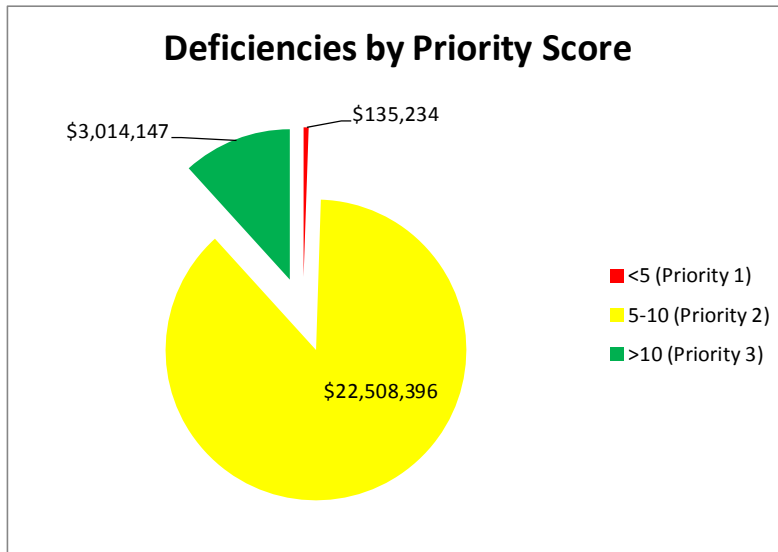
# NORUP INTERNATIONAL SCHOOL

## GENERAL OVERVIEW

Use: Educational  
 Year Built: 1956  
 Total Area: 89,603 GSF  
 Floors: 2

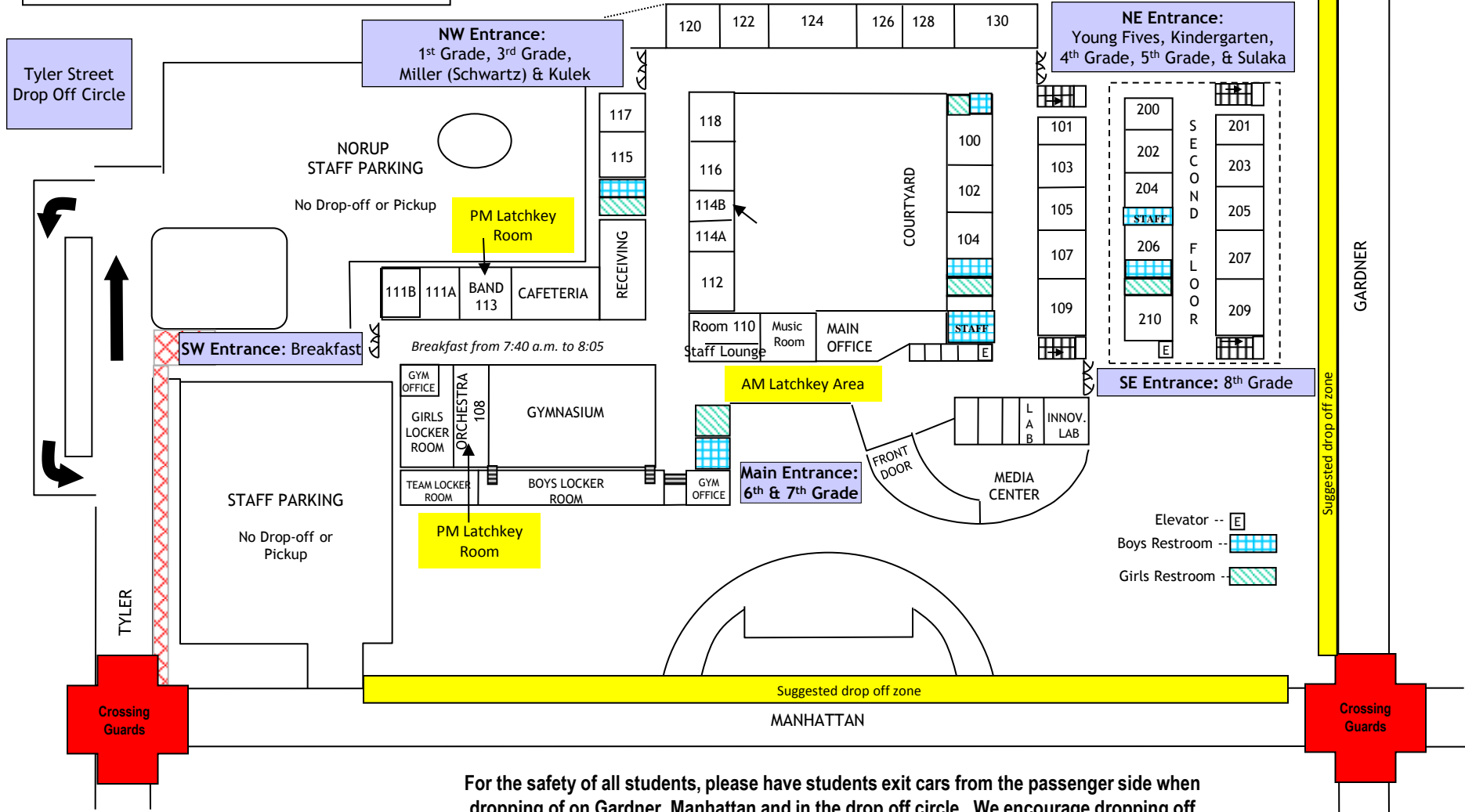
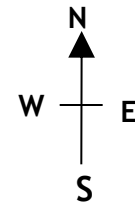
## MAJOR FINDINGS

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



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14450 Manhattan  
Oak Park, MI 48237  
(248) 837-8300



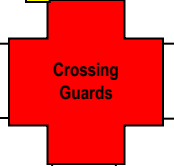
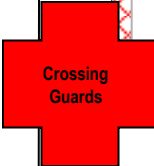
- Elevator -- [E]
- Boys Restroom -- [Blue Checkered]
- Girls Restroom -- [Green Checkered]

Suggested drop off zone

MANHATTAN

Suggested drop off zone

GARDNER



**For the safety of all students, please have students exit cars from the passenger side when dropping off on Gardner, Manhattan and in the drop off circle. We encourage dropping off students a block from school and utilizing the Crossing Guards.**



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



**Norup International School**

Address: 14450 Manhattan, Oak Park, Michigan Bldg. Area: 89,603 GSF No. of Floors: 2 Year Built: 1956 Evaluation Date: January 2014	<b>Item No. Codes</b> 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		<b>Building Deficiencies Priorities by Category</b> <div style="display: flex; justify-content: space-around;"> <div style="background-color: yellow; padding: 5px;"> <b>Consequences of the Problem</b>            1. Hazards            2. Interruption            3. Deterioration            4. Utility            5. Energy         </div> <div style="background-color: lightgreen; padding: 5px;"> <b>Need</b>            1. Critical            2. Urgent            3. Necessary            4. ADA            5. Desirable         </div> <div style="background-color: orange; padding: 5px;"> <b>Frequency of Use</b>            1. Constant            2. Frequent            3. Occasional            4. Infrequent            5. Meager         </div> </div>			<b>Notes</b> 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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.	1,630	SF	\$ 6.00	\$ 9,780					\$ 14,748	
BE-2	Brick Veneer at Base of Walls	Various Locations	BE-2	3	3	2	8		Brick cracked or missing.	Repair brick.	75	SF	\$ 25.00	\$ 1,875					\$ 2,828	
BE-3	Sealant at Door and Window Openings	Entire Building	BE-3	3	3	2	8		Sealant deteriorated and cracked.	Replace sealant.	3,400	LF	\$ 4.75	\$ 16,150					\$ 24,354	
BE-4	Steel Doors and Frames	Locker Room Exit Doors	BE-4	3	3	1	7		Deteriorated and rusted.	Replace with aluminum frames and fiberglass reinforced panel doors.	4	EA	\$ 2,800.00	\$ 11,200					\$ 16,890	
BE-5	Curtainwall Panels	North Elevation of Two-Story Wing	BE-5	3	3	2	8		Delaminating, poor condition.	Replace panels.	50	SF	\$ 25.00	\$ 1,250					\$ 1,885	
BE-6	Brick Flashing/Weeps	South Elevation at Boy's Locker Room	BE-6	3	3	2	8		Weeps at window head blocked by sealant.	Remove sealant and clear weeps.	40	LF	\$ 7.50	\$ 300					\$ 452	
BE-7	Site Drainage	North Elevation	BE-7	2	3	1	6		Roof drainage ponds along face of building.	Add landscape drain tile to storm system.	4,000	SF	\$ 15.00	\$ 60,000					\$ 90,480	
													<b>Subtotal - Building Exterior</b>							\$ 151,637
<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.	110	EA	\$ 2,350.00	\$ 258,500					\$ 389,818	
BI-2	Carpet	Corridors	BI-2	3	3	1	7		Carpet reaching life expectancy.	Replace carpet and resilient base.	17,800	SF	\$ 7.00	\$ 124,600					\$ 187,897	
BI-3	Casework Cabinets and Countertops	Classrooms	BI-3	3	3	2	8		Poor condition.	Replace cabinets, counter tops and sinks.	350	LF	\$ 300.00	\$ 105,000	\$ 21.00	\$ 7,350			\$ 169,424	
BI-4	Lockers	Boy's, Girl's and Team Locker Rooms	BI-4A BI-4B	4	5	2	11		Poor condition.	Replace lockers and benches.	600	LF	\$ 550.00	\$ 330,000					\$ 497,640	
BI-5	Masonry Wall	Boy's Locker Room	BI-5	3	3	2	8		Horizontal crack in exterior masonry wall.	Repair masonry.	1	LS	\$ 1,000.00	\$ 1,000						
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.	544	SF	\$ 40.00	\$ 21,760	\$ 34.00	\$ 18,496	\$ 5.00	\$ 2,720	\$ 64,808	
BI-7	Below Stage Storage	Gymnasium	BI-7	4	3	2	9		Doors are in poor condition.	Replace doors.	8	EA	\$ 150.00	\$ 1,200					\$ 1,810	
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>							\$ 1,311,509
<b>ACCESSIBILITY IMPROVEMENT/BUILDING CODE</b>																				
AB-1	Furniture and Equipment	Corridors	AB-1A AB-1B	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.	80	LF	\$ 150.00	\$ 12,000					\$ 18,096	
AB-3	Wench, Gears, Cable and Drum	Gymnasium	AB-3	1	4	2	7		Lack protective covers (within reach).	Add protective covers.	1	LS	\$ 250.00	\$ 250					\$ 377	
AB-4	Chair and Table Storage Under Stage	Gymnasium	AB-4	1	4	2	7		Code violation considering current construction of stage.	Limit storage to non-combustible items.	--	--								
AB-5	Display Case	2nd Floor Corridor	AB-5	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-6	Open Stairs	To 2nd Floor	AB-6	1	4	1	6		Fire rated separation required on at least one floor.	Add fire rated separation including doors and frames.	2	EA	\$10,000.00	\$ 20,000					\$ 30,160	
AB-7	Room Exits	Girls Locker Room	--	1	4	2	7		Two (2) exits are required only one (1) is provided.	Provide exit to exterior.	1	LS	\$10,000.00	\$ 10,000			\$ 300.00	\$ 300	\$ 15,532	

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AB-8	Room Exits	Gymnasium	AB-8	1	4	2	7		Marked exit has dead bolted door to corridor.	Remove exit sign.	1	EA	\$ 100.00	\$ 100					\$ 151
AB-9	Room Exits	Gymnasium	--	1	4	2	7		West portion of Gymnasium only has one (1) available exit when divider curtain is closed.	Assure egress to east portion of Gymnasium is available when divider curtain is closed.	--	--							
AB-10	Room Exits	Orchestra	AB-10A AB-10B	1	4	2	7		Two (2) exits are required only one (1) is provided.	Rework exit to Stage with two (2) opposite swinging door leafs.	1	LS	\$ 1,500.00	\$ 1,500			\$ 600.00	\$ 600	\$ 3,167
AB-11	Accessible Sink	Art Room	AB-11	1	4	1	6		Wash tub does not provide required accessibility.	Provide accessible sink.	1	EA	\$ 150.00	\$ 150					\$ 226
AB-12	Stair Handrail	Stairs to Gymnasium Balcony Boy's Locker Room	AB-12A AB-12B	1	4	2	7		Handrail missing from one side of stair (required on both sides).	Add handrail at wall.	26	LF	\$ 50.00	\$ 1,300					\$ 1,960
AB-13	Boy's and Girl's Toilet Rooms	Various Locations	AB-13	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.	1,800	SF	\$ 55.00	\$ 99,000			\$ 3,300.00	\$ 5,940,000	\$ 9,106,812
AB-14	Boy's and Girl's Toilet Rooms	Locker Rooms	AB-14	1	4	2	7		Toilet rooms do not meet current accessibility requirements.	Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes and stalls.	225	SF	\$ 55.00	\$ 12,375			\$ 3,300.00	\$ 742,500	\$ 1,138,352
AB-15	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>\$ 10,331,542</b>

**MECHANICAL SYSTEMS**

MS-1	Building Controls	Entire Building	MS-1	2	2	1	5	X	Existing controls are outdated.	Provide new DDC controls throughout.	90,000	SF			\$ 3.32	\$ 298,800			\$ 450,590
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 and new stack.	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 poor condition.	Replace with packaged receiver system.	1	LS			\$ 9,800.00	\$ 9,800	\$ 1,350.00	\$ 1,350	\$ 16,814
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	\$ 1,350.00	\$ 1,350	\$ 9,576
MS-6	Boilers	Boiler Room	MS-6	2	2	1	5	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	\$ 900.00	\$ 900	\$ 530,665
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	Unit Ventilators - Heating and Ventilating	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 vertical ducted units.	35	EA			\$ 23,000.00	\$ 805,000	\$ 235.00	\$ 8,225	\$ 1,226,343
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.	35	EA	\$ 7,500.00	\$ 262,500	\$ 27,000.00	\$ 945,000	\$ 2,373.00	\$ 83,055	\$ 1,946,157
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	\$ 400.00	\$ 400	\$ 22,469
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.	3	EA			\$ 6,500.00	\$ 19,500	\$ 350.00	\$ 1,050	\$ 30,989
MS-11	Locker Rooms Heating and Ventilating Units	Boy's and Girl's Locker Rooms	MS-11	4	4	4	12		Existing ceiling hung units are in fair condition.	Replace with like and kind; new distribution ductwork.	2	EA			\$ 9,500.00	\$ 19,000	\$ 185.00	\$ 370	\$ 29,210
MS-12	Rooftop Unit RTU-1	Roof	MS-12	4	4	1	9	X	Existing unit is beyond its useful life.	Replace with like and kind; 7,000 CFM HVAC unit.	1	EA			\$ 28,800.00	\$ 28,800	\$ 6,212.00	\$ 6,212	\$ 52,798
MS-13	Rooftop Units RTU-2 and RTU-3	Roof	MS-13	4	4	2	10	X	Existing unit is beyond its useful life.	Replace with like and kind; average size of 1,800 and 3,000 CFM.	1	EA			\$ 13,000.00	\$ 13,000	\$ 3,230.00	\$ 3,230	\$ 24,475
MS-14	Gym Heating and Ventilating Units	Gym Mechanical Rooms	MS-14	5	5	1	11		Existing gym indoor heating and ventilating air handling units are in fair to poor condition.	Replace with like and kind; approximate 5,000 CFM at enclosed space.	2	EA			\$ 40,000.00	\$ 80,000	\$ 500.00	\$ 1,000	\$ 122,148

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													Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal	
MS-14A	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	\$19,000.00	\$ 38,000	\$ 51,000.00	\$ 102,000	\$ 8,010.00	\$ 16,020	\$ 235,278
MS-15	Roof Exhaust Fans	Roof	MS-15	4	4	1	9		Existing roof exhaust fans are in fair to poor condition.	Install new roof exhaust fans; average size of 600 CFM.	6	EA			\$ 3,250.00	\$ 19,500	\$ 175.00	\$ 1,050	\$ 30,989
MS-16	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>\$ 3,434,164</b>		

<b>PLUMBING SYSTEMS</b>																			
PS-1	Domestic Water Pipe	Entire Building	--	2	3	1	6		75% of domestic water pipe is galvanized steel.	Replace with copper pipe.	55,000	SF	\$ 0.50	\$ 27,500	\$ 3.25	\$ 178,750			\$ 311,025
PS-2	Water Meter Isolation Valves	Boiler Room	PS-2	2	3	5	10		Existing gate valves are in fair to poor conditions.	Replace two (2) 3" gate valves.	2	EA			\$ 1,830.00	\$ 3,660			\$ 5,519
PS-3	Investigate Possible Waste Pipe Pitch Problem	Kitchen	--	3	3	1	7		Possible waste pipe pitch problem near kitchen.	Investigate and fix problem.	1	LS			\$ 5,000.00	\$ 5,000			\$ 7,540
PS-4	Electric Water Cooler	Entire Building	PS-4	3	3	1	7		Existing ceramic bubblers are in fair to poor condition.	Replace/upgrade to new electric water cooler.	6	EA	\$ 750.00	\$ 4,500	\$ 3,000.00	\$ 18,000	\$ 1,200.00	\$ 7,200	\$ 44,788
PS-5	Sanitary Pipe	Entire Building	PS-5	5	5	1	11		Existing sanitary pipe is in fair condition.	Replace accessible portions; some confined spaces.	5,000	SF	\$ 0.50	\$ 2,500	\$ 4.35	\$ 21,750			\$ 36,569
PS-6	Investigate Water Issue Under Gym Floor	Gym	--	3	3	1	7		Moisture problems on gym floor.	Investigate and fix problem.	1	LS	\$ 7,500.00	\$ 7,500	\$ 7,500.00	\$ 7,500			\$ 22,620
													<b>Subtotal - Plumbing Systems</b>				<b>\$ 428,061</b>		

<b>BUILDING SYSTEMS</b>																			
BS-1	Fire Alarm System	Entire Building	--	2	1	1	4		Existing system is outdated and difficult to maintain.	Install new addressable system.	1	LS					\$ 89,603.00	\$ 89,603	\$ 135,121
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.	90	EA					\$ 300.00	\$ 27,000	\$ 40,716
BS-3	Boiler Room EPO	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>\$ 179,939</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					\$ 32,350.00	\$ 32,350	\$ 48,784
ES-2	Electrical Panels	Corridors to Serve Classrooms	--	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	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-4	Original Lighting Fixtures	Classrooms	--	3	3	1	7	X	Original lighting fixtures with obsolete T12 fluorescent lamps.	Replace fixtures with more efficient T8.	14	EA					\$ 6,000.00	\$ 84,000	\$ 126,672
ES-5	Original Lighting Fixtures	Locker Rooms	--	3	3	4	10	X	Original lighting fixtures with inefficient incandescent lamps.	Replace fixtures with more efficient T8.	2	EA					\$ 9,000.00	\$ 18,000	\$ 27,144
ES-6	Exit Lighting Fixtures	Classrooms	--	4	3	4	11	X	Rooms over 1,000 SF require two (2) exits with exit signs.	Add exit signs.	20	EA					\$ 300.00	\$ 6,000	\$ 9,048
ES-7	Exterior Lighting	Exterior Doors	--	1	2	2	5	X	Lighting fixtures are in disrepair.	Replace with more efficient LED fixtures.	10	EA					\$ 520.00	\$ 5,200	\$ 7,842
ES-8	Site Lighting	Parking Lot	--	3	5	3	11	X	Inadequate lighting.	Replace with more efficient LED fixtures.	10	EA	\$ 6,000.00	\$ 60,000			\$ 6,960.00	\$ 69,600	\$ 195,437
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>\$ 543,898</b>		

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<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	Large Group Instruction Renovation	Existing Fine Arts Wing	--	4	3	1	8		Existing building lacks dedicated large instructional space.	Renovate existing fine arts wing to be large group instruction.	2,500	SF	\$ 125.00	\$ 312,500					\$ 471,250
AD-4	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
AD-5	New Language Lab	Building Addition	--	4	3	1	8		Existing building lacks dedicated language lab.	Build new language lab.	1,620	SF	\$ 200.00	\$ 324,000					\$ 488,592
AD-6	Additional General Classrooms (8)	Building Addition	--	4	3	1	8		Building is currently beyond capacity and expected to grow significantly in the near future.	Build (8) new classrooms.	9,000	SF	\$ 200.00	\$1,800,000					\$ 2,714,400
<b>Subtotal - Academic/Space Deficiencies</b>																			<b>\$ 8,824,628</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 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>\$ 1,470,018</b>

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

**Total Project Cost \$ 27,127,795**

# NORUP INTERNATIONAL SCHOOL



BE-1



# NORUP INTERNATIONAL SCHOOL



BE-2

# NORUP INTERNATIONAL SCHOOL



BE-3

# NORUP INTERNATIONAL SCHOOL



BE-4

# NORUP INTERNATIONAL SCHOOL



BE-5

# NORUP INTERNATIONAL SCHOOL



BE-6

# NORUP INTERNATIONAL SCHOOL



BI-1

# NORUP INTERNATIONAL SCHOOL



BI-3

# NORUP INTERNATIONAL SCHOOL



BI-4A



# NORUP INTERNATIONAL SCHOOL



BI-4B



BI-5

# NORUP INTERNATIONAL SCHOOL



BI-6

# NORUP INTERNATIONAL SCHOOL



BI-7

# NORUP INTERNATIONAL SCHOOL



AB-1A

# NORUP INTERNATIONAL SCHOOL



AB-1B

# NORUP INTERNATIONAL SCHOOL



AB-2

# NORUP INTERNATIONAL SCHOOL



AB-3



# NORUP INTERNATIONAL SCHOOL



AB-4

# NORUP INTERNATIONAL SCHOOL



AB-5

# NORUP INTERNATIONAL SCHOOL



AB-6

# NORUP INTERNATIONAL SCHOOL



AB-8

# NORUP INTERNATIONAL SCHOOL



AB-10A

# NORUP INTERNATIONAL SCHOOL



AB-10B

# NORUP INTERNATIONAL SCHOOL



AB-11

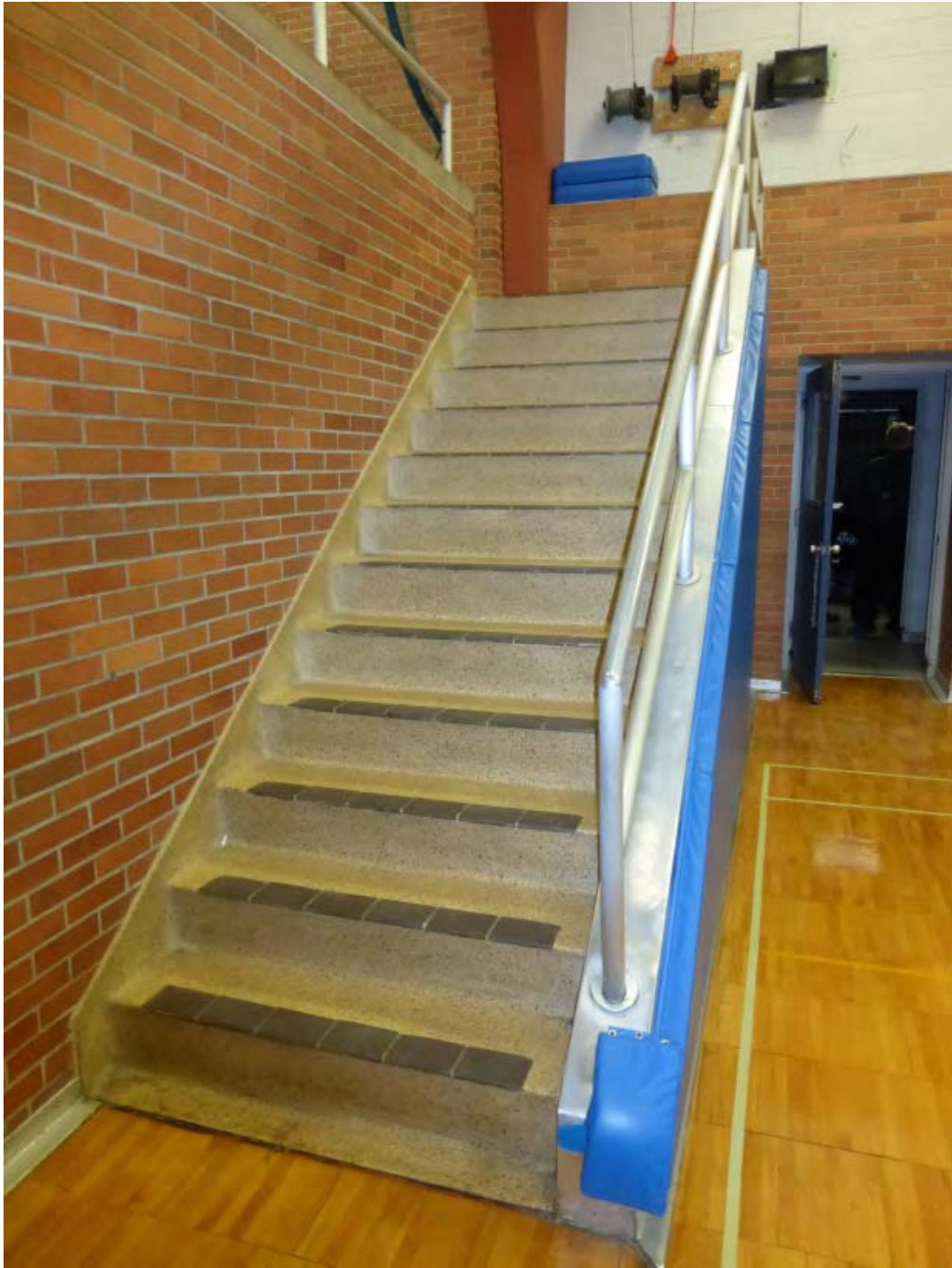
# NORUP INTERNATIONAL SCHOOL



AB-12A



# NORUP INTERNATIONAL SCHOOL



AB-12B

# NORUP INTERNATIONAL SCHOOL



AB-13

# NORUP INTERNATIONAL SCHOOL



AB-14

# NORUP INTERNATIONAL SCHOOL



MS-1

# NORUP INTERNATIONAL SCHOOL



MS-2



MS-3

# NORUP INTERNATIONAL SCHOOL



MS-4

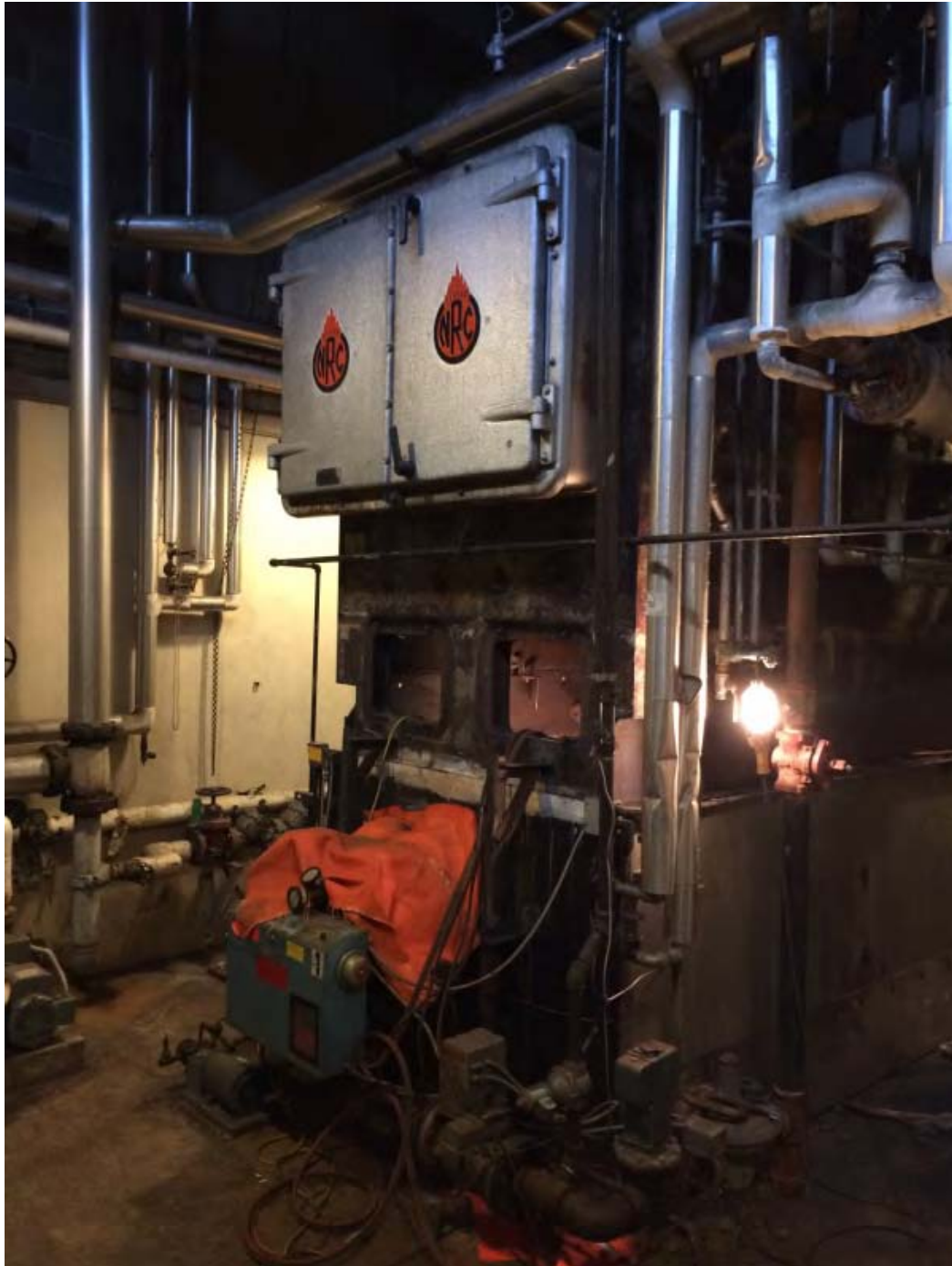
# NORUP INTERNATIONAL SCHOOL



MS-5



# NORUP INTERNATIONAL SCHOOL



MS-6

# NORUP INTERNATIONAL SCHOOL



MS-7

# NORUP INTERNATIONAL SCHOOL



MS-8

# NORUP INTERNATIONAL SCHOOL



MS-9

# NORUP INTERNATIONAL SCHOOL



MS-10

# NORUP INTERNATIONAL SCHOOL



MS-11

# NORUP INTERNATIONAL SCHOOL



MS-12

# NORUP INTERNATIONAL SCHOOL



MS-13



# NORUP INTERNATIONAL SCHOOL



MS-14

# NORUP INTERNATIONAL SCHOOL



MS-15

# NORUP INTERNATIONAL SCHOOL



PS-2

# NORUP INTERNATIONAL SCHOOL



PS-4

# NORUP INTERNATIONAL SCHOOL



PS-5

# NORUP INTERNATIONAL SCHOOL



ES-1

# NORUP INTERNATIONAL SCHOOL



ES-2A

# NORUP INTERNATIONAL SCHOOL



ES-2B



# NORUP INTERNATIONAL SCHOOL



ES-2C

# NORUP INTERNATIONAL SCHOOL



ES-4A

# NORUP INTERNATIONAL SCHOOL



ES-4B

# NORUP INTERNATIONAL SCHOOL



ES-5

# PATTENGILL ELEMENTARY SCHOOL



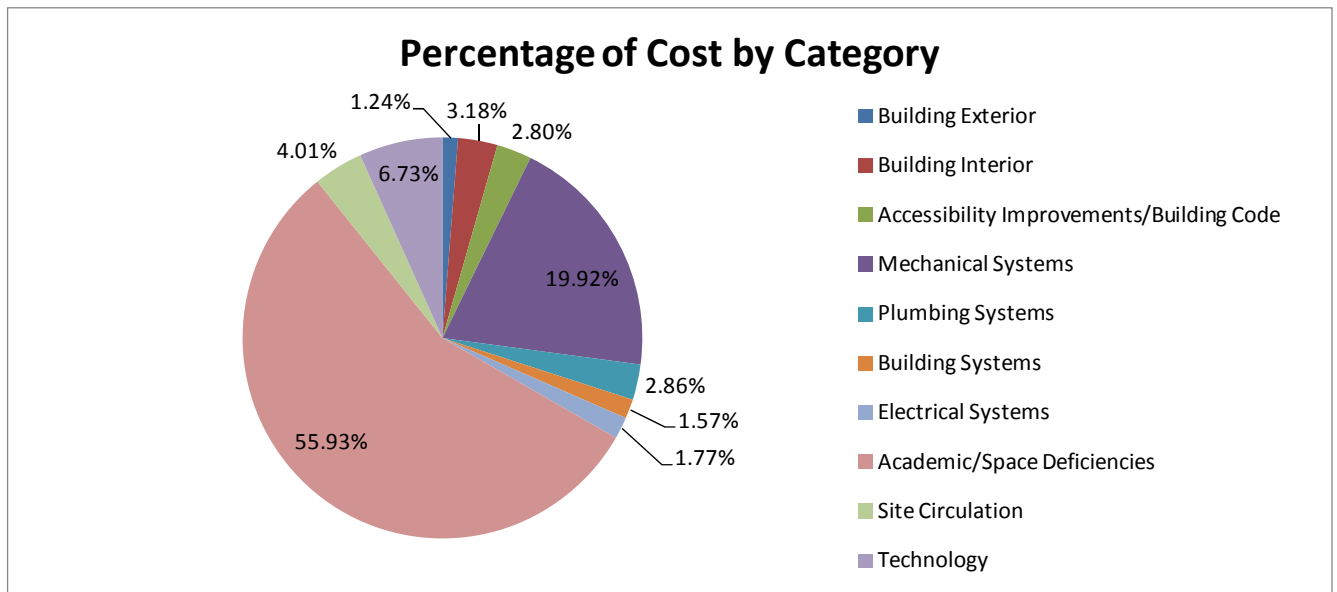
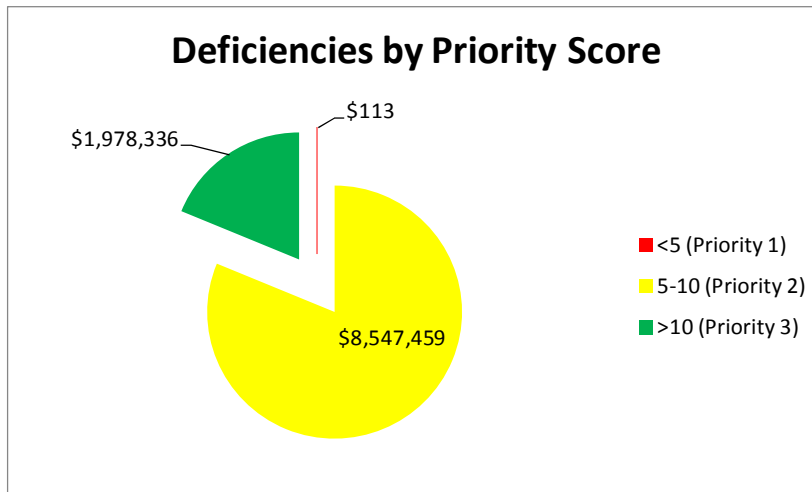
# PATTENGILL ELEMENTARY SCHOOL

## GENERAL OVERVIEW

Use: Elementary School  
 Year Built: 1925  
 Total Area: 46,314 GSF  
 Floors: 2 plus basement

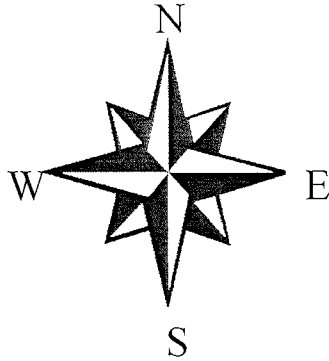
## MAJOR FINDINGS

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



# Pattengill School

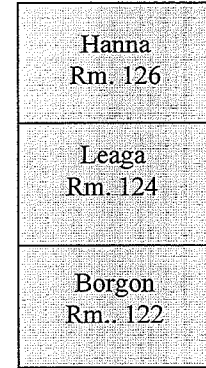
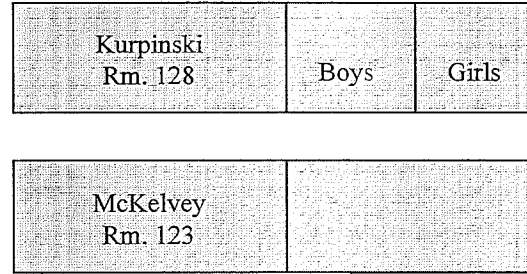
3540 Morrison  
 Berkley, MI 48072  
 (248) 837-8700



-Webster -

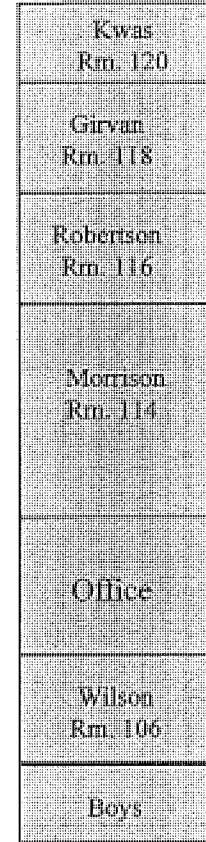
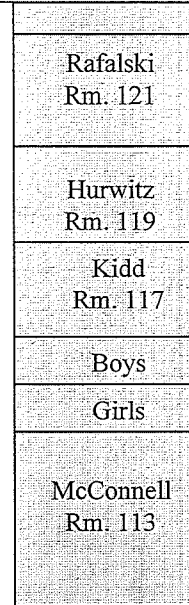
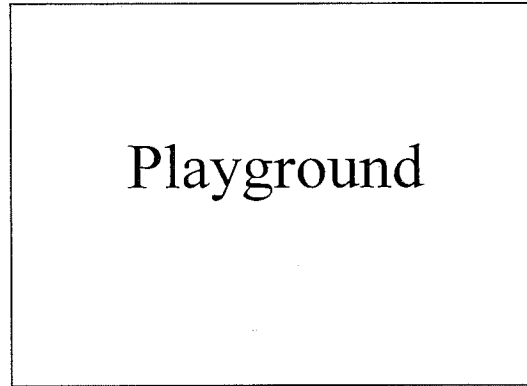
Webster Entrance

North Oakshire  
Entrance



Royal Entrance

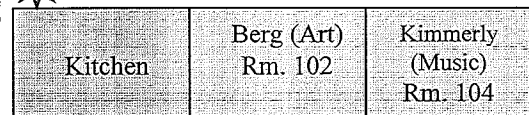
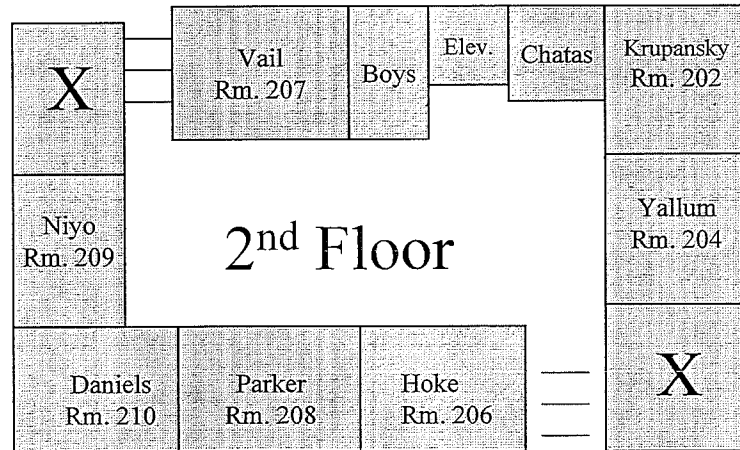
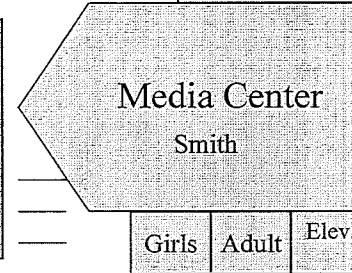
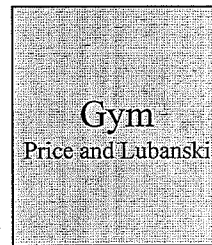
- Royal -



- Oakshire -

Kid's Zone  
After School Program

South Oakshire  
Main Entrance



Morrison  
Entrance

- Morrison -

\* all rooms numbered on exterior of building



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



**Pattengill Elementary School**

Address: 3540 Morrison, Berkley, Michigan Bldg. Area: 46,314 GSF No. of Floors: 2 plus Basement Year Built: 1925 Evaluation Date: January 2014	<b>Item No. Codes</b>		<b>Building Deficiencies Priorities by Category</b>			<b>Notes</b>
	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			<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 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	Entire Building	BE-1	3	3	2	8		Paint is peeling and steel is rusted.	Provide aluminum soffit panels.	1,450	SF	\$ 6.00	\$ 8,700					\$ 13,120
BE-2	Stone Veneer	South Building Entrance	BE-2	3	3	2	8		Deteriorated and cracked.	Replace stone.	50	SF	\$ 75.00	\$ 3,750					\$ 5,655
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	Roof Fascia	West Elevation at Boiler Room	BE-4	2	2	2	6		Poor condition, deteriorated, water draining from roof causing leak in Boiler Room.	Repair/replace fascia, correct roof drainage, repair wall in Boiler Room, clean brick.	1	LS	\$ 2,000.00	\$ 2,000					\$ 3,016
BE-5	Brick Veneer at Parapet	East Elevation	BE-5	3	3	2	8		Brick mortar joints missing and cracked.	Tuck point mortar joints.	350	SF	\$ 25.00	\$ 8,750					\$ 13,195
BE-6	Entrance Canopy Soffits	Building Entrances	BE-6	3	3	2	8		Deteriorated and paint is peeling.	Provide aluminum soffit panels.	950	SF	\$ 7.50	\$ 7,125					\$ 10,745
BE-7	Brick Veneer	Various Locations	BE-7	3	3	2	8		Brick and mortar joints deteriorated from roof water drainage onto wall.	Control roof drainage where possible and clean/tuck point brick.	100	SF	\$ 10.50	\$ 1,050					\$ 1,583
BE-8	Steel Stair/Ramp Railings	Media Center Stair and Ramp, West Gym Exit Stair	BE-8A BE-8B	3	3	2	8		Paint is peeling and steel is rusted.	Paint railings.	100	LF	\$ 8.00	\$ 800					\$ 1,206
BE-9	Metal Stair Treads	East Building Entrance	BE-9	1	2	2	5		Treads are rusted and concrete is deteriorated.	Replace with aluminum treads and repair concrete.	36	LF	\$ 60.00	\$ 2,160					\$ 3,257
BE-10	Stone Window Sills	Various Locations	BE-10	4	3	2	9		Deteriorated, sealant missing.	Replace sills and sealant.	75	LF	\$ 30.00	\$ 2,250					\$ 3,393
BE-11	Site Drainage	West and North Elevations	BE-11	2	3	1	6		Roof drainage ponds along face of building.	Add landscape drain file to storm system.	2,640	SF	\$ 15.00	\$ 39,600					\$ 59,717
<b>Subtotal - Building Exterior</b>																			<b>\$ 139,957</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.	70	EA	\$ 2,350.00	\$ 164,500					\$ 248,066
BI-2	Plastic Laminate Counter Tops	Classrooms	BI-2	4	3	2	9		Delaminating.	Replace with solid surface material.	300	LF	\$ 150.00	\$ 45,000	\$ 69.00	\$ 20,700			\$ 99,076
BI-3	Carpet	Corridors	BI-3	3	3	1	7		Carpet reaching life expectancy.	Replace carpet and resilient base.	6,340	SF	\$ 1.00	\$ 6,340					\$ 9,561
BI-4	Water Leak	Basement Stair	BI-4A BI-4B	3	3	3	9		Water leaking through wall deteriorating wall and steps.	Repair water leak.	1	LS	\$ 1,500.00	\$ 1,500					\$ 2,262
BI-5	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>\$ 359,077</b>
<b>ACCESSIBILITY IMPROVEMENTS/BUILDING CODE</b>																			
AB-1	Built-in Storage Cabinet	Corridor	AB-1	1	4	1	6		Cabinet do not have required fire rated doors.	Provide fire rated door and frame.	1	EA	\$ 2,350.00	\$ 2,350					\$ 3,544
AB-2	Classroom Exits	B113 and B115, A124 and A123, A119	AB-2	1	4	1	6		Combined rooms with folding partition open requires 2 exits. Doors are not remote enough from each other.	Provide additional exit door to corridor.	5	EA	\$ 7,500.00	\$ 37,500			\$ 300.00	\$ 1,500	\$ 58,812
AB-3	Stair Handrail	East Exterior Entrance Stair	AB-3	1	4	1	6		Handrails not provided at stair.	Add handrail.	10	LF	\$ 50.00	\$ 500					\$ 754
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
AB-5	Chair and Table Storage Under Stage	Gymnasium	--	1	4	2	7		Code violation considering current construction of stage.	Limit storage to non-combustible items.	--	--							



**Pattengill Elementary School**

Address: 3540 Morrison, Berkley, Michigan Bldg. Area: 46,314 GSF No. of Floors: 2 plus Basement Year Built: 1925 Evaluation Date: January 2014	<b>Item No. Codes</b> 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							<b>Building Deficiencies Priorities by Category</b> <table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b>                      1. Hazards                      2. Interruption                      3. Deterioration                      4. Utility                      5. Energy                 </td> <td style="background-color: lightgreen;"> <b>Need</b>                      1. Critical                      2. Urgent                      3. Necessary                      4. ADA                      5. Desirable                 </td> <td style="background-color: orange;"> <b>Frequency of Use</b>                      1. Constant                      2. Frequent                      3. Occasional                      4. Infrequent                      5. Meager                 </td> </tr> </table>			<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager	<b>Notes</b> 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 4. Project Cost includes 20.5% mark-ups and fees for technology.				
	<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 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	
AB-6	Kiln	Receiving Room B143	AB-6	1	4	2	7		Kiln area in room with instructional use. Kiln rooms are required to be 1-hour fire rated and sprinklered.	Assure kiln is not in use when room is used for instructional purposes. Add sprinklers and stainless steel exhaust hood.	1	LS	\$ 4,500.00	\$ 4,500	\$ 7,500.00	\$ 7,500	\$ 1,350.00	\$ 1,350	\$ 20,132
AB-7	Classroom Exits	Kindergarten B112	--	1	4	1	6		Room sizes dictates requirement for 2 exits. Exits are not remote enough from each other.	Provide additional exit door to corridor.	1	EA	\$ 7,500.00	\$ 7,500			\$ 300.00	\$ 300	\$ 11,762
AB-8	Room Exit	Gymnasium	AB-8	1	4	1	6		Required exit doors to corridor have non-code compliant deadbolt, door holders and no latching hardware.	New door and frame to be provided by item BI-1.	--	--							
AB-9	Boy's and Girl's Toilet Rooms	Various Locations	AB-9	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.	1,920	SF	\$ 40.00	\$ 76,800	\$ 27.00	\$ 51,840	\$ 4.20	\$ 8,064	\$ 206,150
<b>Subtotal - Accessibility Improvements/Building Code</b>																			<b>\$ 315,630</b>

**MECHANICAL SYSTEMS**

MS-1	Building Controls	Entire Building	MS-1	2	2	1	5	X	Existing pneumatic controls are outdated.	Provide new DDC controls throughout.	46,000	SF			\$ 3.30	\$ 151,800			\$ 228,914
MS-2	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-3	Pipe Insulation	Entire Building	MS-3	4	4	1	9	X	Large sections of missing insulation on steam and condensate pipe.	Install new insulation and labels.	150	LF			\$ 9.00	\$ 1,350			\$ 2,036
MS-4	Classroom UV - Heating and Ventilation Only	Entire Building	MS-4	3	3	1	7	X	Horizontal unit ventilators are in poor condition.	Provide new vertical ducted unit ventilators.	12	EA	\$ 7,500.00	\$ 90,000	\$ 23,000.00	\$ 276,000	\$ 235.00	\$ 2,820	\$ 556,181
MS-4A	Classroom 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 vertical ducted unit ventilators.	28	EA	\$ 7,500.00	\$ 210,000	\$ 27,000.00	\$ 756,000	\$ 2,373.00	\$ 66,444	\$ 1,556,926
MS-5	Gym HVAC	Gym	--	5	5	1	11	X	Existing gym units are heating and ventilation only.	Install new DX rooftop unit, approximate 5 ton unit and new insulated ductwork.	1	EA	\$18,000.00	\$ 18,000	\$ 53,000.00	\$ 53,000	\$ 8,010.00	\$ 8,010	\$ 119,147
MS-6	Office HVAC	Office	--	3	3	2	8	X	Office area lacks proper ventilation.	Provide new DX cassette unit, approximate 2.5-ton unit; fresh air ducted thru wall.	1	EA	\$ 1,200.00	\$ 1,200	\$ 17,500.00	\$ 17,500	\$ 2,787.00	\$ 2,787	\$ 32,402
MS-7	Corridor Heating and Ventilation Units	Roof	MS-7	4	4	2	10	X	Three rooftop units are beyond their useful life.	Replace with like and kind; approximate 3,000 CFM each.	3	EA			\$ 27,000.00	\$ 81,000	\$ 3,230.00	\$ 9,690	\$ 136,761
MS-7A	Corridor HVAC	Roof	--	5	5	1	11	X	Existing rooftop units are heating and ventilation only.	Replace with HVAC; approximate 7.5-tons each.	3	EA	\$ 3,000.00	\$ 9,000	\$ 35,100.00	\$ 105,300	\$ 4,500.00	\$ 13,500	\$ 192,722
MS-8	Roof Exhaust Fans	Roof	--	4	4	1	9		Existing roof exhaust fans/roof hoods are beyond their useful life.	Provide new roof exhaust fans/roof hoods, average size is 600 CFM.	3	EA			\$ 3,250.00	\$ 9,750	\$ 175.00	\$ 525	\$ 15,495
MS-9	Domestic Water Heater	Boiler Room	MS-9	3	2	1	6	X	A. O. Smith water heater is in poor condition.	Replace with like and kind; 199,100 Btuh.	1	EA			\$ 5,000.00	\$ 5,000			\$ 7,540
MS-10	Domestic Water Heater	Boiler Room	MS-10	3	2	1	6	X	Bryant water heater is in poor condition.	Replace with like and kind; 1,890 MBH floor mounted unit.	1	EA			\$ 34,000.00	\$ 34,000			\$ 51,272
MS-11	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>\$ 2,247,924</b>

**PLUMBING SYSTEMS**

PS-1	Sump Pump/Drain Tile	South Basement	PS-1	3	3	5	11		Stairs to basement show signs of water damage.	Add drain tile and sump pump to serve this area.	1	LS			\$ 12,800.00	\$ 12,800	\$ 1,200.00	\$ 1,200	\$ 21,112
PS-2	Sump Pump	Basement South Fan Room	PS-2	3	3	5	11		Existing sump system is single pump, light commercial and is in disrepair.	Replace with heavy duty commercial duplex sump 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		80% of existing domestic water pipe is galvanized steel.	Replace with copper pipe.	30,000	SF	\$ 0.50	\$ 15,000	\$ 3.25	\$ 97,500			\$ 169,650
PS-4	Water Meter Isolation Valves	Boiler Room and South Fan Room	PS-4	2	3	5	10		Existing gate valves at two (2) water meters are in poor condition.	Replace three (3), 3" gate valves.	6	EA			\$ 2,750.00	\$ 16,500			\$ 24,882

**Pattengill Elementary School**

Address: 3540 Morrison, Berkley, Michigan Bldg. Area: 46,314 GSF No. of Floors: 2 plus Basement Year Built: 1925 Evaluation Date: January 2014	<b>Item No. Codes</b> 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		<b>Building Deficiencies Priorities by Category</b> <table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b>                      1. Hazards                      2. Interruption                      3. Deterioration                      4. Utility                      5. Energy                 </td> <td style="background-color: lightgreen;"> <b>Need</b>                      1. Critical                      2. Urgent                      3. Necessary                      4. ADA                      5. Desirable                 </td> <td style="background-color: orange;"> <b>Frequency of Use</b>                      1. Constant                      2. Frequent                      3. Occasional                      4. Infrequent                      5. Meager                 </td> </tr> </table>			<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager	<b>Notes</b> 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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	
PS-5	Sanitary Pipe	Entire Building	PS-5	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-6	Water Cooler	Main Corridor	--	4	4	1	9		Existing bubblers are in fair to poor conditions.	Replace with new bi-level water coolers.	4	EA	\$ 250.00	\$ 1,000	\$ 3,000.00	\$ 12,000	\$ 1,200.00	\$ 4,800	\$ 26,842
<b>Subtotal - Plumbing Systems \$ 322,561</b>																			

**BUILDING SYSTEMS**

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					\$ 99,575.00	\$ 99,575	\$ 150,159
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	50	EA					\$ 300.00	\$ 15,000	\$ 22,620
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 \$ 176,881</b>																			

**ELECTRICAL SYSTEMS**

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-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.	20	EA					\$ 55.00	\$ 1,100	\$ 1,659
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.	4	EA					\$ 300.00	\$ 1,200	\$ 1,810
ES-5	Exterior Lighting	Exterior Doors	ES-5A ES-5B	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	Oakshire Ave Parking	--	3	5	3	11	X	Inadequate lighting.	Install efficient LED fixtures.	4	EA	\$ 6,000.00	\$ 24,000			\$ 6,960.00	\$ 27,840	\$ 78,175
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 \$ 199,931</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	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	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
AD-5	Main Office	Classroom Module	--	4	3	1	8		Office is in an existing classroom module.	Switch main office with classroom near entry.	2,160	SF	\$ 125.00	\$ 270,000					\$ 407,160
<b>Subtotal - Academic/Space Deficiencies \$ 6,311,546</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 \$ 452,400</b>																			

**Pattengill Elementary School**

Address: 3540 Morrison, Berkley, Michigan Bldg. Area: 46,314 GSF No. of Floors: 2 plus Basement Year Built: 1925 Evaluation Date: January 2014		<b>Item No. Codes</b> 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		<b>Building Deficiencies Priorities by Category</b> <div style="display: flex; justify-content: space-between;"> <div style="background-color: yellow; padding: 5px;"> <b>Consequences of the Problem</b>                      1. Hazards                      2. Interruption                      3. Deterioration                      4. Utility                      5. Energy                 </div> <div style="background-color: lightgreen; padding: 5px;"> <b>Need</b>                      1. Critical                      2. Urgent                      3. Necessary                      4. ADA                      5. Desirable                 </div> <div style="background-color: orange; padding: 5px;"> <b>Frequency of Use</b>                      1. Constant                      2. Frequent                      3. Occasional                      4. Infrequent                      5. Meager                 </div> </div>			<b>Notes</b> 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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>TECHNOLOGY</b>																				
IT-1	Refer to Tab 12 for breakdown																			<b>Technology Total \$ 759,823</b>

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

**Total Project Cost \$ 11,285,731**

# PATTENGILL ELEMENTARY SCHOOL



BE-1

# PATTENGILL ELEMENTARY SCHOOL



BE-2

# PATTENGILL ELEMENTARY SCHOOL



BE-3

# PATTENGILL ELEMENTARY SCHOOL



BE-4

# PATTENGILL ELEMENTARY SCHOOL



BE-5



# PATTENGILL ELEMENTARY SCHOOL



BE-6

# PATTENGILL ELEMENTARY SCHOOL



BE-7

# PATTENGILL ELEMENTARY SCHOOL



BE-8A

# PATTENGILL ELEMENTARY SCHOOL



BE-8B

# PATTENGILL ELEMENTARY SCHOOL



BE-9

# PATTENGILL ELEMENTARY SCHOOL



BE-10

# PATTENGILL ELEMENTARY SCHOOL



BE-11

# PATTENGILL ELEMENTARY SCHOOL



BI-1



# PATTENGILL ELEMENTARY SCHOOL



BI-2

# PATTENGILL ELEMENTARY SCHOOL



BI-3

# PATTENGILL ELEMENTARY SCHOOL



BI-4A

# PATTENGILL ELEMENTARY SCHOOL



BI-4B

# PATTENGILL ELEMENTARY SCHOOL



AB-1

# PATTENGILL ELEMENTARY SCHOOL



AB-2

# PATTENGILL ELEMENTARY SCHOOL



AB-3

# PATTENGILL ELEMENTARY SCHOOL



AB-4



# PATTENGILL ELEMENTARY SCHOOL



AB-6

# PATTENGILL ELEMENTARY SCHOOL



AB-8

# PATTENGILL ELEMENTARY SCHOOL



AB-9

# PATTENGILL ELEMENTARY SCHOOL



MS-1

# PATTENGILL ELEMENTARY SCHOOL



MS-3

# PATTENGILL ELEMENTARY SCHOOL



MS-4

# PATTENGILL ELEMENTARY SCHOOL



MS-8

# PATTENGILL ELEMENTARY SCHOOL



MS-9



# PATTENGILL ELEMENTARY SCHOOL



MS-10

# PATTENGILL ELEMENTARY SCHOOL



PS-2

# PATTENGILL ELEMENTARY SCHOOL



PS-4

# PATTENGILL ELEMENTARY SCHOOL



PS-5

# PATTENGILL ELEMENTARY SCHOOL



ES-1

# PATTENGILL ELEMENTARY SCHOOL



ES-2

# PATTENGILL ELEMENTARY SCHOOL



ES-5A

# PATTENGILL ELEMENTARY SCHOOL



ES-5B



# ROGERS ELEMENTARY SCHOOL



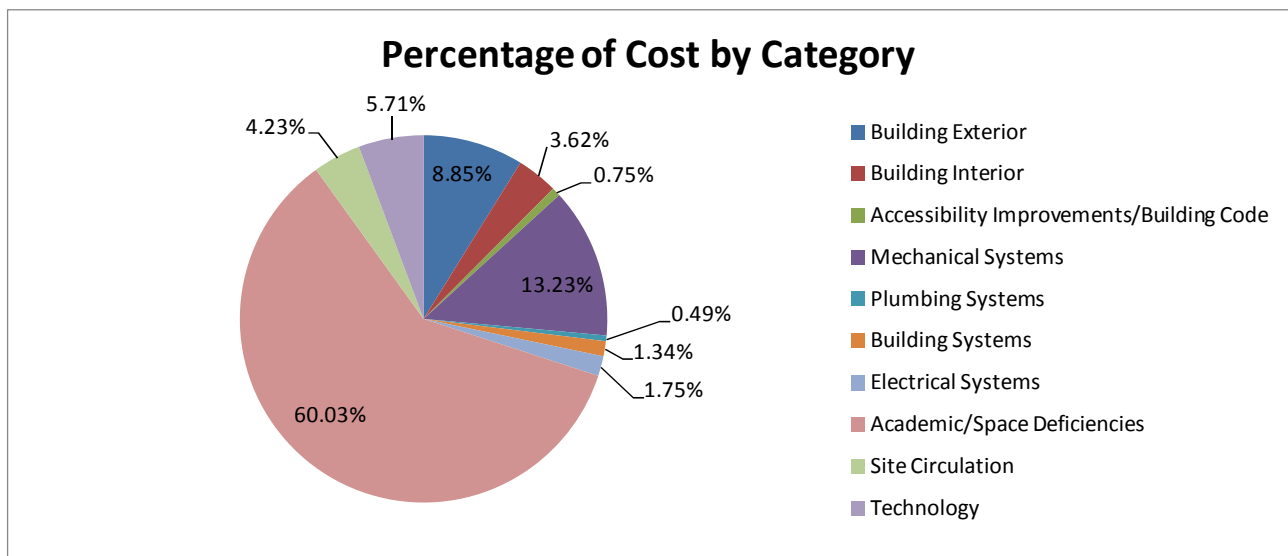
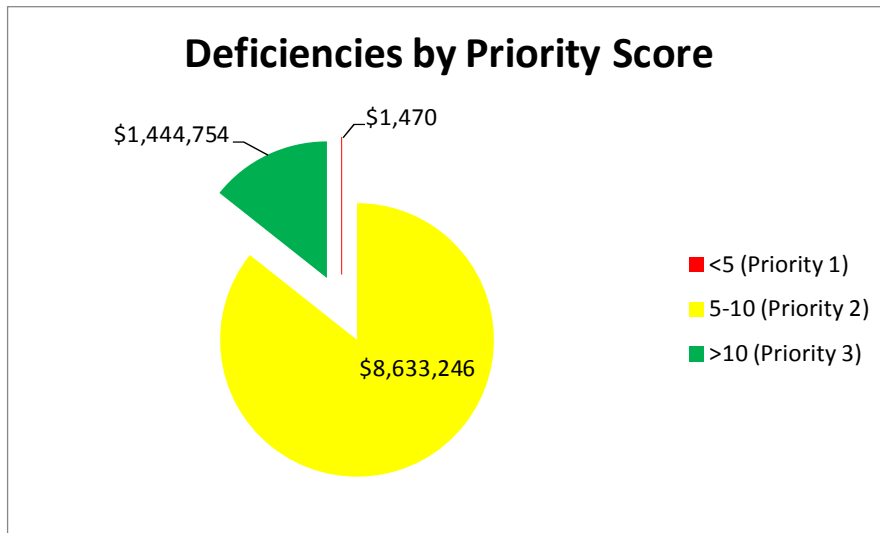
# ROGERS ELEMENTARY SCHOOL

## GENERAL OVERVIEW

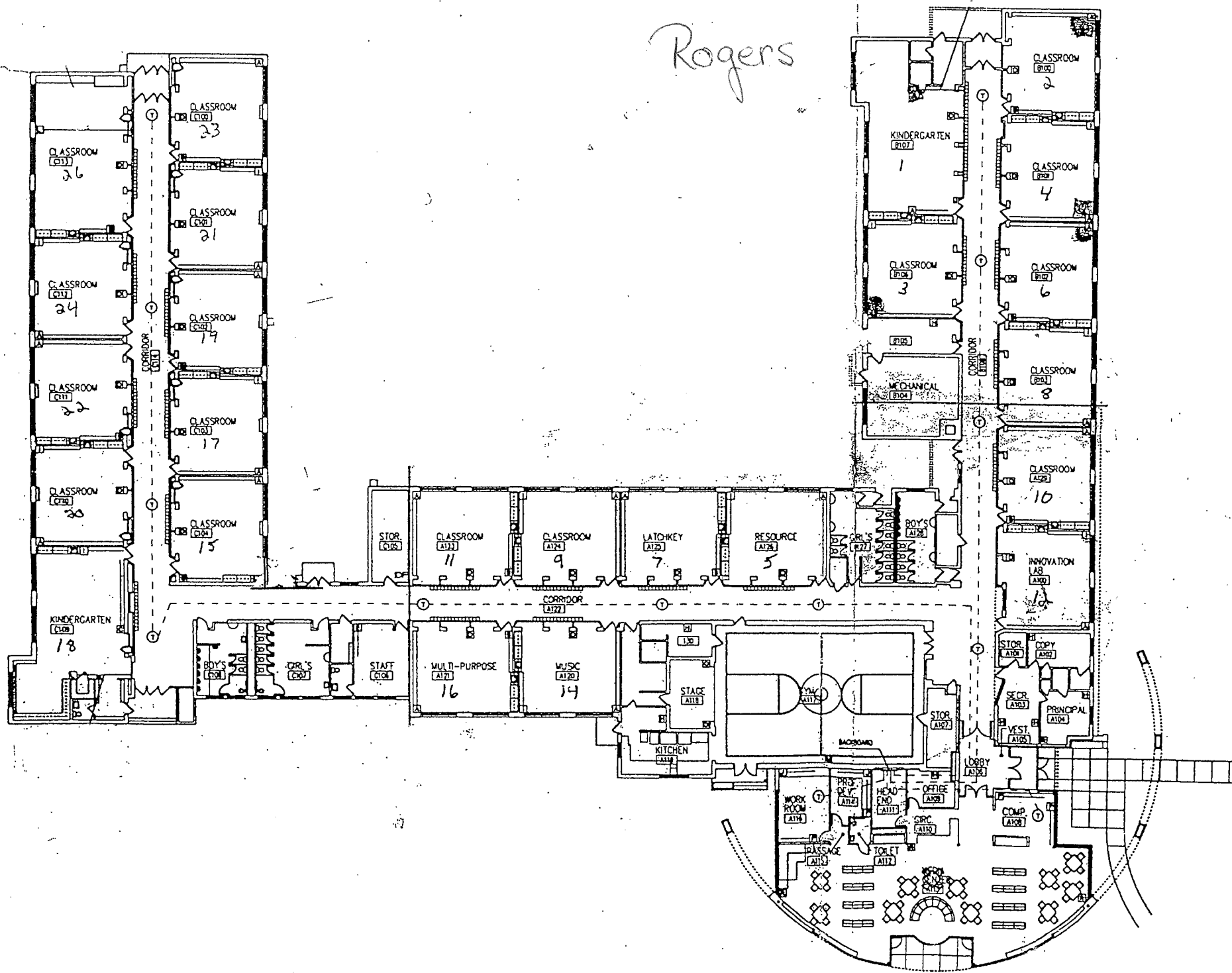
Use: Elementary School  
 Year Built: 1953  
 Total Area: 37,222 GSF  
 Floors: 1

## MAJOR FINDINGS

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



Rogers





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



**Rogers Elementary School**

Address: 2265 Hamilton, Berkley, Michigan Bldg. Area: 37,222 GSF No. of Floors: 1 Year Built: 1953 Evaluation Date: January 2014	<b>Item No. Codes</b> 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		<b>Building Deficiencies Priorities by Category</b> <table border="1"> <tr> <td style="background-color: yellow;"> <b>Consequences of the Problem</b>            1. Hazards            2. Interruption            3. Deterioration            4. Utility            5. Energy         </td> <td style="background-color: lightgreen;"> <b>Need</b>            1. Critical            2. Urgent            3. Necessary            4. ADA            5. Desirable         </td> <td style="background-color: orange;"> <b>Frequency of Use</b>            1. Constant            2. Frequent            3. Occasional            4. Infrequent            5. Meager         </td> </tr> </table>			<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager	<b>Notes</b> 1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 4. Project Cost includes 20.5% mark-ups and fees for technology.			
	<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 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	Entire Building	BE-1	3	3	2	8		Paint is peeling and steel is rusted.	Provide aluminum soffit panels.	4,070	SF	\$ 6.00	\$ 24,420					\$ 36,825
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 tuck point brick.	250	SF	\$ 10.50	\$ 2,625					\$ 3,959
BE-3	Sealant a Door and Window Openings	Entire Building	--	3	3	2	8		Sealant deteriorated and cracked.	Replace sealant.	2,700	LF	\$ 4.75	\$ 12,825					\$ 19,340
BE-4	Steel Lintels at Wall Openings	Media Center	BE-4	3	3	2	8		Steel is rusted.	Paint lintels.	120	SF	\$ 10.50	\$ 1,260					\$ 1,900
BE-5	Steel Stair/Ramp Railings	Kitchen Exit	BE-5	3	3	2	8		Paint is peeling and steel is rusted.	Paint railings.	10	LF	\$ 10.00	\$ 100					\$ 151
BE-6	Metal Stair Treads	Kitchen Exit	BE-6	1	1	2	4		Treads are missing and rusted.	Replace with aluminum treads.	15	LF	\$ 60.00	\$ 900					\$ 1,357
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.	16	EA	\$ 2,800.00	\$ 44,800					\$ 67,558
BE-8	Entrance Canopy Soffits	Building Entrances	BE-8	3	3	2	8		Wood is deteriorated and paint is peeling.	Provide aluminum soffit panels.	585	SF	\$ 7.50	\$ 4,388					\$ 6,616
BE-9	Clerestory Windows	Classrooms - South Wing	BE-9	4	4	2	10		Single glazed glass.	Replace with aluminum frames and insulating glass.	250	SF	\$ 80.00	\$ 20,000					\$ 30,160
BE-10	Site Drainage	Building Perimeter	BE-10	2	3	1	6		Roof drainage ponds along building face.	Add landscape drain tile system.	7,500	LF	\$ 15.00	\$ 112,500					\$ 169,650
BE-11	Canopy Gutter	West Entrance	BE-11	3	3	2	8		Gutter is damaged.	Replace gutter and downspout.	1	LS	\$ 600.00	\$ 600					\$ 905
BE-12	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.	5,040	SF	\$ 80.00	\$ 403,200					\$ 608,026
<b>Subtotal - Building Exterior</b>																			<b>\$ 946,447</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	--	4	3	2	9		Delaminating.	Replace with solid surface material and new sinks with point of use TMV.	290	LF	\$ 150.00	\$ 43,500	\$ 74.00	\$ 21,460			\$ 97,960
BI-3	Carpet	Corridors	BI-3	3	3	1	7		Carpet reaching life expectancy.	Replace carpet and resilient base.	7,130	SF	\$ 7.00	\$ 49,910					\$ 75,264
BI-4	Steel Stair	Boiler Room	BI-4	1	3	1	5		Stair treads and post are rusted.	Replace treads and post.	1	LS	\$ 750.00	\$ 750					\$ 1,131
BI-5	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>\$ 387,096</b>
<b>ACCESSIBILITY IMPROVEMENTS/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	Boy's and Girl's Toilet Rooms	Various locations	AB-2	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.	700	SF	\$ 40.00	\$ 28,000	\$ 27.00	\$ 18,900	\$ 4.20	\$ 2,940	\$ 75,159
AB-3	Chair and Table Storage Under Stage	Gymnasium	AB-3	1	4	2	7		Code violation considering current construction of stage.	Limit storage to non-combustible items.	--	--							
AB-4	Fire Extinguisher Cabinets	Entire building	AB-4	1	4	2	7		Mounted too high above the floor.	Mount extinguishers lower.	1	LS	\$ 500.00	\$ 500					\$ 754
AB-5	Emergency Egress	Former Video Production Room 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>\$ 79,834</b>

Rogers 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>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.	37,000	SF			\$ 3.32	\$ 122,840			\$ 185,243
MS-2	Boilers	Boiler Room	MS-2	2	2	1	5	X	Existing boilers are 61 years old; beyond their useful life.	Two (2) new boilers at 1,500 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	HWH Pumps	Boiler Room	MS-3	2	2	1	5		Five (5) base mounted end suction pumps are in poor condition.	Replace with like and kind with all associated trim.	2	EA			\$ 15,600.00	\$ 31,200	\$ 1,350.00	\$ 2,700	\$ 51,121
MS-4	Pipe Insulation	Entire Building	MS-4	4	4	4	12	X	Several areas of missing piping insulation.	Install new pipe insulation.	150	LF			\$ 3.25	\$ 488			\$ 735
MS-5	Gym Air Handling Unit	Fan Room South of Stage	MS-5	4	4	1	9	X	Existing indoor heating and ventilating unit is in poor condition.	Replace with like and kind; approximate 4,000 CFM.	1	LS			\$ 39,000.00	\$ 39,000	\$ 3,360.00	\$ 3,360	\$ 63,879
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			\$ 51,067.00	\$ 51,067	\$ 6,750.00	\$ 6,750	\$ 87,188
MS-6	Roof Mounted Heating and Ventilating Units	Roof	MS-6	4	4	1	9	X	Eight (8) heating and ventilating rooftop units are beyond their useful life.	Replace with like and kind; 3,000 CFM.	8	EA			\$ 22,000.00	\$ 176,000	\$ 3,230.00	\$ 25,840	\$ 304,375
MS-6A	Roof Mounted HVAC	Roof	--	5	5	1	11	X	Existing rooftop units are heating and ventilating only.	Replace existing units with HVAC and insulated ductwork.	8	EA	\$ 3,000.00	\$ 24,000	\$ 35,000.00	\$ 280,000	\$ 5,455.00	\$ 43,640	\$ 524,241
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	Office HVAC	Roof	--	5	5	2	12	X	Office rooftop unit is beyond its useful life.	Replace with like and kind; 6-ton unit.	1	EA			\$ 27,000.00	\$ 27,000	\$ 4,500.00	\$ 4,500	\$ 47,502
MS-9	Media Center HVAC	Roof	--	5	5	2	12	X	Office rooftop unit is beyond its useful life.	Replace with like and kind; 7.5-ton unit.	1	EA			\$ 27,000.00	\$ 27,000	\$ 5,275.00	\$ 5,275	\$ 48,671
MS-10	Media Center Perimeter HVAC	Roof	--	5	5	2	12	X	Office rooftop unit is beyond its useful life.	Replace with like and kind; 6-ton unit.	1	EA			\$ 27,000.00	\$ 27,000	\$ 4,500.00	\$ 4,500	\$ 47,502
MS-11	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>\$ 1,414,556</b>
<b>PLUMBING SYSTEMS</b>																			
PS-1	Domestic Water Pipe	Miscellaneous	--	2	3	1	6		20% existing galvanized pipe.	Replace with copper pipe.	7,400	SF			\$ 3.25	\$ 24,050			\$ 36,267
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 Cooler	Main Corridor	PS-3	4	4	1	9		Single bubbler in main corridor.	Install new bi-level electric water cooler.	1	EA			\$ 3,900.00	\$ 3,900	\$ 1,200.00	\$ 1,200	\$ 7,691
<b>Subtotal - Plumbing Systems</b>																			<b>\$ 52,237</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					\$ 80,027.00	\$ 80,027	\$ 120,681
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.	40	EA					\$ 300.00	\$ 12,000	\$ 18,096
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>\$ 142,878</b>
<b>ELECTRICAL SYSTEMS</b>																			
ES-1	Electrical Distribution System	Boiler Room	ES-1A ES-1B	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 lack space for new circuits	Corridors	--	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.	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.	20	EA					\$ 55.00	\$ 1,100	\$ 1,659
ES-4	Exit Lighting Fixtures	Classrooms	--	4	3	4	11	X	Rooms over 1000 SF require 2 exits with exit signs.	Add exit signs.	6	EA					\$ 300.00	\$ 1,800	\$ 2,714

**Rogers Elementary School**

Address: 2265 Hamilton, Berkley, Michigan Bldg. Area: 37,222 GSF No. of Floors: 1 Year Built: 1953 Evaluation Date: January 2014	Item No. Codes		Building Deficiencies Priorities by Category			Notes
	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	<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager	1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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-5	Exterior Lighting	Exterior Doors	ES-5A ES-5B	1	2	2	5	X	Lighting fixtures are in disrepair.	Replace with more efficient LED fixtures.	8	EA					\$ 520.00	\$ 4,160	\$ 6,273
ES-6	Site Lighting	Parking Lot	--	3	5	3	11	X	Inadequate lighting.	Replace with more efficient LED fixtures.	4	EA	\$ 6,000.00	\$ 24,000			\$ 6,960.00	\$ 27,840	\$ 78,175
ES-7	Storage in Electrical Rooms	Main Electrical Room	ES-7A ES-7B	4	5	5	14		Code violation.	Store stuff elsewhere.	--	--							
ES-11	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>\$ 186,917</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	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	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
AD-5	Kindergarten	Old Music Room	--	4	3	1	8		Existing building short a kindergarten room.	Renovate music room to be a kindergarten.	700	SF	\$ 100.00	\$ 70,000					\$ 105,560
AD-6	Main Office	Classroom Module	--	4	3	1	8		Office is in an existing classroom module.	Switch main office with classroom near entry	2,160	SF	\$ 125.00	\$ 270,000					\$ 407,160
<b>Subtotal - Academic/Space Deficiencies</b>																			<b>\$ 6,417,106</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>\$ 610,660</b>

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

**Total Project Cost \$ 10,690,131**

# ROGERS ELEMENTARY SCHOOL



BE-1

# ROGERS ELEMENTARY SCHOOL



BE-2



# ROGERS ELEMENTARY SCHOOL



BE-4

# ROGERS ELEMENTARY SCHOOL



BE-5

# ROGERS ELEMENTARY SCHOOL



BE-6

# ROGERS ELEMENTARY SCHOOL



BE-7

# ROGERS ELEMENTARY SCHOOL



BE-8

# ROGERS ELEMENTARY SCHOOL



BE-9

# ROGERS ELEMENTARY SCHOOL



BE-10

# ROGERS ELEMENTARY SCHOOL



BE-11



# ROGERS ELEMENTARY SCHOOL



BI-1

# ROGERS ELEMENTARY SCHOOL



BI-3

# ROGERS ELEMENTARY SCHOOL



BI-4

# ROGERS ELEMENTARY SCHOOL



BI-4

# ROGERS ELEMENTARY SCHOOL



AB-1

# ROGERS ELEMENTARY SCHOOL



AB-2

# ROGERS ELEMENTARY SCHOOL



AB-3

# ROGERS ELEMENTARY SCHOOL



AB-4



# ROGERS ELEMENTARY SCHOOL



MS-1

# ROGERS ELEMENTARY SCHOOL



MS-2

# ROGERS ELEMENTARY SCHOOL



MS-3

# ROGERS ELEMENTARY SCHOOL



MS-4

# ROGERS ELEMENTARY SCHOOL



MS-5

# ROGERS ELEMENTARY SCHOOL



MS-6

# ROGERS ELEMENTARY SCHOOL



PS-2

# ROGERS ELEMENTARY SCHOOL



PS-3



# ROGERS ELEMENTARY SCHOOL



ES-1A

# ROGERS ELEMENTARY SCHOOL



ES-1B

# ROGERS ELEMENTARY SCHOOL



ES-5A

# ROGERS ELEMENTARY SCHOOL



ES-5B

# ROGERS ELEMENTARY SCHOOL



ES-7A

# ROGERS ELEMENTARY SCHOOL



ES-7B

# TYNDALL CENTER



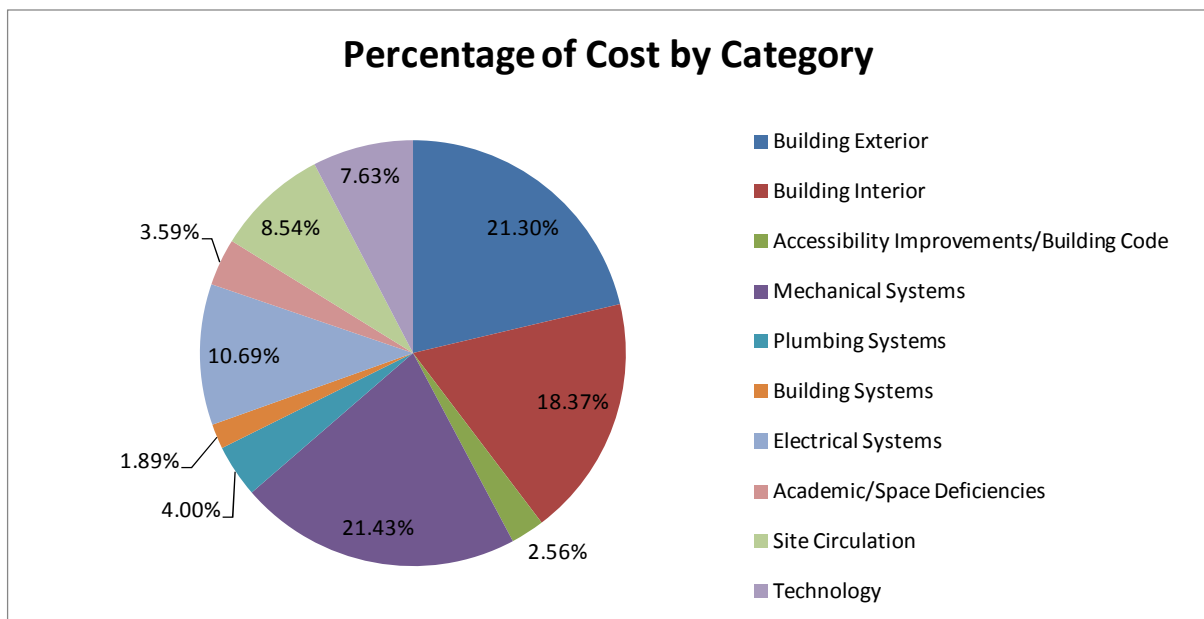
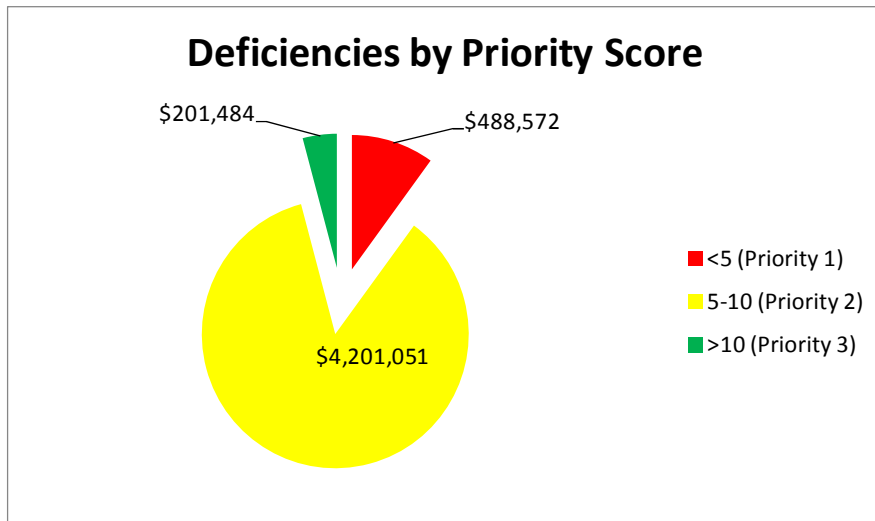
# TYNDALL CENTER

## GENERAL OVERVIEW

Use: Educational  
 Year Built: 1966  
 Total Area: 24,633 GSF  
 Floors: 1

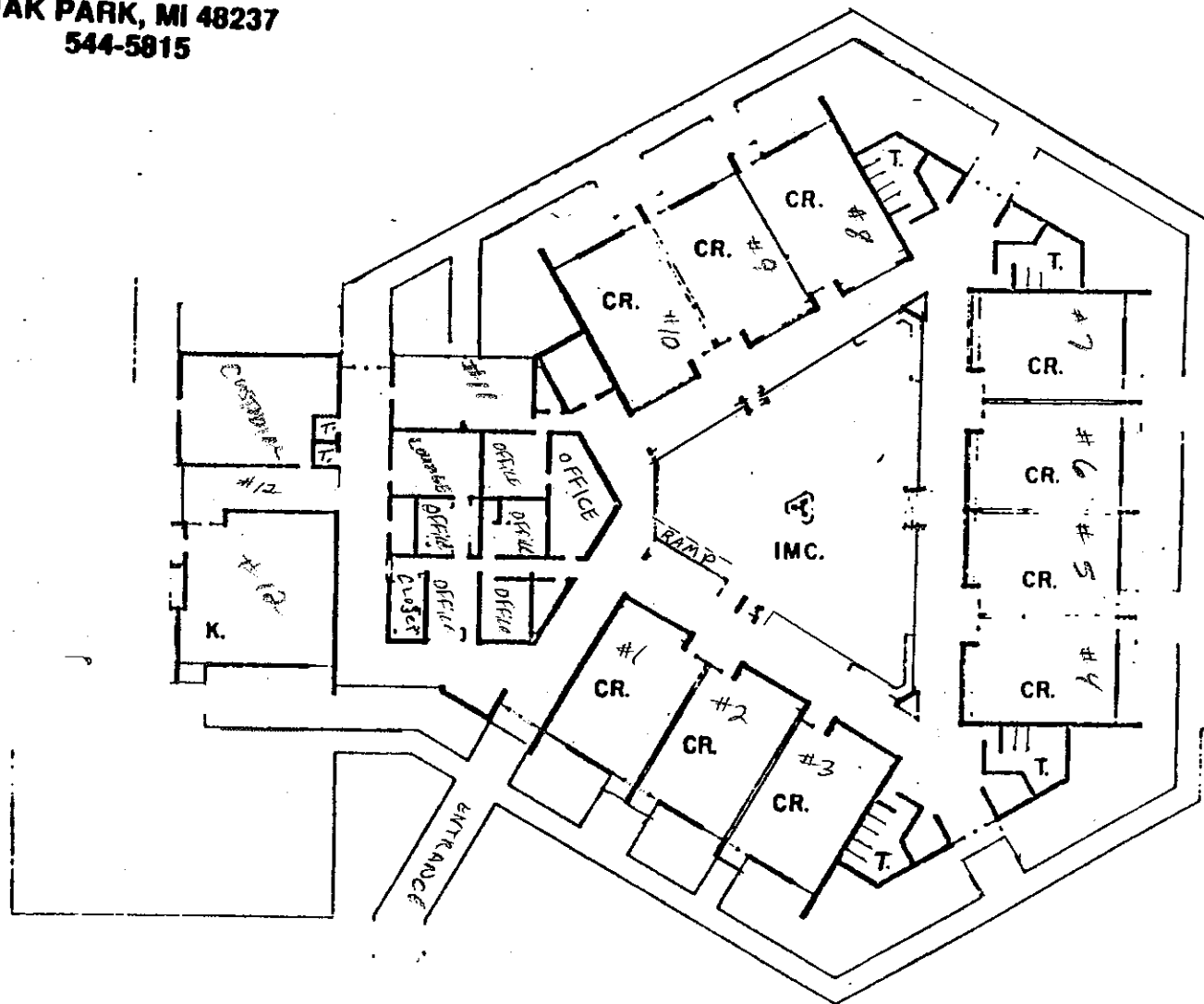
## MAJOR FINDINGS

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





**TYNDALL CENTER**  
14501 TALBOT  
OAK PARK, MI 48237  
544-5815



SCALE 0 10 20





BERKLEY SCHOOLS

Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment



Tyndall Center

Address: 14501 Talbot, Oak Park, Michigan Bldg. Area: 24,633 GSF No. of Floors: 1 Year Built: 1966 Evaluation Date: January 2014		Item No. Codes		Building Deficiencies Priorities by Category							Notes								
		AB: Accessibility Improvement/Building Code	AD: Academic/Space Deficiencies	Consequences of the Problem			Need		Frequency of Use		1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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 Unit Cost	Architectural Subtotal	Mechanical Unit Cost	Mechanical Subtotal	Electrical Unit Cost	Electrical Subtotal	2014 Project Cost
<b>BUILDING EXTERIOR</b>																			
BE-1	Aluminum Storefront and Doors	Classrooms	BE-1	3	3	2	8		System offers minimal thermal resistance (single glazing) and doors are in poor condition.	Replace with a better quality, higher thermal resistance storefront system with doors.	1,350	SF	\$ 75.00	\$ 101,250					\$ 152,685
BE-2	Foundation Wall	Building Perimeter	BE-2	2	2	2	6		Void in perimeter foundation wall allows rodents to burrow under floor slab.	Add concrete sill wall or slab at building perimeter.	600	SF	\$ 22.00	\$ 13,200					\$ 19,906
BE-3	Fascias	Entire Building	BE-3	3	3	2	8		Stone faced cement fascia panels are cracked and delaminated.	Replace fascia panels with a more durable material.	900	SF	\$ 25.00	\$ 22,500					\$ 33,930
BE-4	Soffits	Entire Building	BE-4	3	3	2	8		Cement plaster soffits are cracked and delaminated.	Replace soffits with a more durable material.	1,100	SF	\$ 525.00	\$ 577,500					\$ 870,870
BE-4	Steel Doors and Frames	Entire Building	BE-4	3	3	1	7		Deteriorated and rusted.	Replace with aluminum frames and FRP doors.	12	EA	\$ 2,800.00	\$ 33,600					\$ 50,669
<b>Subtotal - Building Exterior</b>																			<b>\$ 1,128,059</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 (Dutch style doors at classrooms).	42	EA	\$ 2,350.00	\$ 98,700					\$ 148,840
BI-3	Carpet	Corridors		3	3	1	7		Carpet reaching life expectancy.	Replace carpet and resilient base.	9,950	SF	\$ 7.00	\$ 69,650					\$ 105,032
BI-4	Casework Cabinets	Classrooms, Work Room, Staff Lounge and Kiva.	BI-3A BI-3B	4	5	2	11		Poor condition.	Replace cabinets.	270	LF	\$ 300.00	\$ 81,000					\$ 122,148
BI-4	Lay-in Acoustical Ceilings	Corridors and Kiva	BI-4	4	3	1	8		Poor condition.	Replace acoustical ceilings, grid and lighting.	6,550	SF	\$ 5.75	\$ 37,663	\$ 1.00	\$ 6,550	\$ 4.00	\$ 26,200	\$ 106,182
BI-5	Accordion Folding Doors	Classrooms	BI-5	4	5	1	10		Poor condition, do not function well.	Replace with dutch style doors in HM frames.	7	EA	\$ 2,350.00	\$ 16,450		\$ -			\$ 24,807
BI-6	Lay-in Acoustical Ceilings	Classrooms and Office Area	BI-6	4	3	1	8		Poor condition.	Replace acoustical ceilings, grid and lighting.	10,700	SF	\$ 5.75	\$ 61,525	\$ 1.00	\$ 10,700	\$ 9.00	\$ 96,300	\$ 254,136
BI-7	Coat Racks	Corridors	BI-7	4	5	1	10		Insufficient space to hang coats and store foot gear. Lack of lockers contributes to reported lice problems.	Add lockers.	192	LF	\$ 500.00	\$ 96,000					\$ 144,768
BI-8	Resilient Tile	Classrooms	BI-8						Fair to poor condition.	Replace resilient floor and base.	9,280	SF	\$ 4.75	\$ 44,080					\$ 66,473
BI-9	Room Security	Head End Room	--	1	1	1	3		Room door is not secure.	Recore door lock.	1	EA	\$ 75.00	\$ 75					\$ 113
<b>Subtotal - Building Interior</b>																			<b>\$ 972,498</b>
<b>ACCESSIBILITY IMPROVEMENT/BUILDING CODE</b>																			
AB-1	Toilet Rooms	Children Toilets	AB-1	1	4	2			Toilet fixtures are not sized to accommodate small children and do not meet current accessibility requirements.	Provide new plumbing fixtures, lighting, floor/wall/ceiling finishes, stalls and automatic door operators.	960	SF	\$ 40.00	\$ 38,400	\$ 35.00	\$ 33,600	\$ 4.20	\$ 4,032	\$ 114,656
AB-2	Exit Door Concrete Slabs	Classrooms	AB-2	1	4	2			Slab slope exceeds 1/4"/FT. maximum as required by building and BF code.	Replace concrete slabs at exit doors.	120	SF	\$ 115.00	\$ 13,800					\$ 20,810
<b>Subtotal - Accessibility Improvements/Building Code</b>																			<b>\$ 135,467</b>
<b>MECHANICAL SYSTEMS</b>																			
MS-1	Building Controls	Entire Building	MS-1	2	2	1	5		Existing pneumatic controls are outdated.	Provide new DDC controls throughout.	25,000	SF			\$ 3.30	\$ 82,500			\$ 124,410
MS-2	Boiler	Boiler Room	--	1	1	1	3		Existing boiler is in poor condition; +48 years old.	Install two (2) new boilers, controls, combustion intake, stacks, etc.; approximately 1,000 MBH each.	1	LS			\$ 190,000.00	\$ 190,000			\$ 286,520

Tyndall Center

Address: 14501 Talbot, Oak Park, Michigan Bldg. Area: 24,633 GSF No. of Floors: 1 Year Built: 1966 Evaluation Date: January 2014	Item No. Codes		Building Deficiencies Priorities by Category			Notes
	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	<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager	1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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	
MS-3	HWH Pipe	Entire Building	MS-3	3	3	1	7		Existing pipe is in poor condition.	Replace with like and kind.	250	LF			\$ 5.25	\$ 1,313			\$ 1,979
MS-4	HWH Pumps	Boiler Room	--	3	3	1	7		Existing HWH pumps are in fair to poor condition.	Replace with like and kind; approximate 120 GPM at 40 TDH.	2	EA			\$ 15,600.00	\$ 31,200			\$ 47,050
MS-5	Pipe Insulation	Entire Building		4	4	1	9		Sections of missing insulation.	Install new insulation and labels.	100	LF			\$ 8.55	\$ 855			\$ 1,289
MS-6	Horizontal UV - Heating and Ventilating Only	Entire Building	MS-6	3	3	1	7		Horizontal unit ventilators are in poor condition. Completely remove 12 units.	Provide perimeter HWH radiant ceiling panels.	250	LF			\$ 71.00	\$ 17,750			\$ 26,767
MS-7	Infant Room Rooftop Units	Roof	MS-7	5	5	1	11		Existing rooftop units are beyond their useful life.	Install new DX rooftop units; approximately 3-tons each.	2	EA			\$ 15,000.00	\$ 30,000	\$ 5,455.00	\$ 10,910	\$ 61,692
MS-8	Office HVAC	Fan Room 110	MS-8	3	3	2	8		Original HVAC units are in fair to poor condition.	Provide new indoor HVAC; approximate 7.5-ton unit; lower thru roof opening.	1	LS			\$ 27,000.00	\$ 27,000	\$ 6,535.00	\$ 6,535	\$ 50,571
MS-9	Classroom HVAC Units	Roof	MS-9	4	4	2	10		Ten rooftop units are beyond their useful life; cooling only.	Replace with like and kind; 3-tons. Add HWH coil to ductwork.	10	EA			\$ 20,000.00	\$ 200,000	\$ 5,455.00	\$ 54,550	\$ 383,861
MS-10	LMC Center HVAC	Roof	MS-10	4	4	1	9		Three existing rooftop units are beyond their useful life; cooling only.	Replace with like and kind; 3-tons each.	3	EA			\$ 15,000.00	\$ 45,000	\$ 5,455.00	\$ 16,365	\$ 92,538
MS-11	Roof Exhaust Fans	Roof	MS-11	4	4	1	9		Existing roof exhaust fans are beyond their useful life.	Provide eight (8) new roof exhaust fans, average size is 600 CFM.	8	EA			\$ 3,500.00	\$ 28,000	\$ 175.00	\$ 1,400	\$ 44,335
MS-12	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>\$ 1,134,585</b>
<b>PLUMBING SYSTEMS</b>																			
PS-1	Add Classroom Sinks	Classrooms	--	3	3	5	11		Add a second sink to five (5) classrooms for hand washing.	Second sink required by code.	5	EA			\$ 1,200.00	\$ 6,000			\$ 9,048
PS-2	Domestic Water Pipe	Entire Building	--	2	3	1	6		80% of existing domestic water pipe is galvanized steel.	Replace with copper pipe.	19,000	SF			\$ 3.25	\$ 61,750			\$ 93,119
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), 2" gate valves.	3	EA			\$ 1,750.00	\$ 5,250			\$ 7,917
PS-4	Sanitary Pipe	Entire Building	--	3	3	1	7		Sanitary pipe is in poor condition.	Replace accessible portions.	10,000	SF			\$ 4.35	\$ 43,500			\$ 65,598
PS-5	Water Coolers	Entire Building	--	4	4	1	9		Drinking fountains are wrong height.	Install all new drinking fountains.	8	EA			\$ 3,000.00	\$ 24,000			\$ 36,192
<b>Subtotal - Plumbing Systems</b>																			<b>\$ 211,874</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					\$ 60,351.00	\$ 60,351	\$ 91,009
BS-2	Emergency Lighting	Corridors, Kiva	--	1	3	4	8		Spacing of existing emergency battery units exceeds requirements.	Install new units in existing fixtures.	20	EA					\$ 300.00	\$ 6,000	\$ 9,048
BS-3	Public Address System	Entire building	--	2	3	2	7		No PA system.	Install new PA system included under Technology Assessment.								\$ -	\$ -
<b>Subtotal - Building Systems</b>																			<b>\$ 100,057</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.	2	EA					\$ 15,900.00	\$ 31,800	\$ 47,954
ES-2	Electrical Panels	Corridors to Serve Classrooms	--	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.	4	EA					\$ 4,875.00	\$ 19,500	\$ 29,406
ES-3	Electrical Receptacles	Child Use Areas	ES-3	1	3	2	6		Electrical receptacles in child care centers are required to be inaccessible to children.	Replace all receptacles with tamper resistant devices.	60	EA					\$ 55.00	\$ 3,300	\$ 4,976
ES-4	Original Lighting Fixtures	Entire Building	ES-4	3	3	1	7	X	Original lighting fixtures with obsolete T12 fluorescent lamps.	Replace fixtures with more efficient T8 fluorescent lamps.	24,633	SF					\$ 9.00	\$ 221,697	\$ 334,319
ES-5	Exit Lighting Fixtures	Path of Egress, Exterior Doors	ES-5	4	3	4	11	X	Additional exit signs are required to comply with code requirements.	Add Exit signs	19	EA					\$ 300.00	\$ 5,700	\$ 8,596

Tyndall Center

Address: 14501 Talbot, Oak Park, Michigan Bldg. Area: 24,633 GSF No. of Floors: 1 Year Built: 1966 Evaluation Date: January 2014		Item No. Codes		Building Deficiencies Priorities by Category						Notes									
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				<b>Consequences of the Problem</b> 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy		<b>Need</b> 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable		<b>Frequency of Use</b> 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager		1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 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-6	Exterior Lighting	Exterior Doors	--	1	2	2	5	X	Lighting fixtures are required at each exit.	Install efficient LED fixtures in soffit above door.	17	EA					\$ 1,020.00	\$ 17,340	\$ 26,149
ES-7	Site Lighting	Parking Lot	--	3	5	2	10	X	Inadequate site lighting.	Install new poles with efficient LED fixtures.	5	EA	\$ 6,000.00	\$ 30,000			\$ 6,960.00	\$ 34,800	\$ 97,718
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>\$ 566,159</b>
<b>ACADEMIC/SPACE DEFICIENCIES</b>																			
AD-1	Child Care Room Toilets	Day Care Rooms	--	4	3	1	8		Child care rooms don't have dedicated toilets.	Add toilets to each day care room.	720	SF	\$ 175.00	\$ 126,000					\$ 190,008
<b>Subtotal - Academic/Space Deficiencies</b>																			<b>\$ 190,008</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		Day care 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>\$ 404,126</b>

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

**Total Project Cost \$ 5,295,234**



BE-1



BE-2



BE-3



BE-4





BE-5



BI-1



BI-3A

# TYNDALL CENTER



BI-3B



BI-4

# TYNDALL CENTER



BI-5



BI-6

# TYNDALL CENTER



BI-7



# TYNDALL CENTER



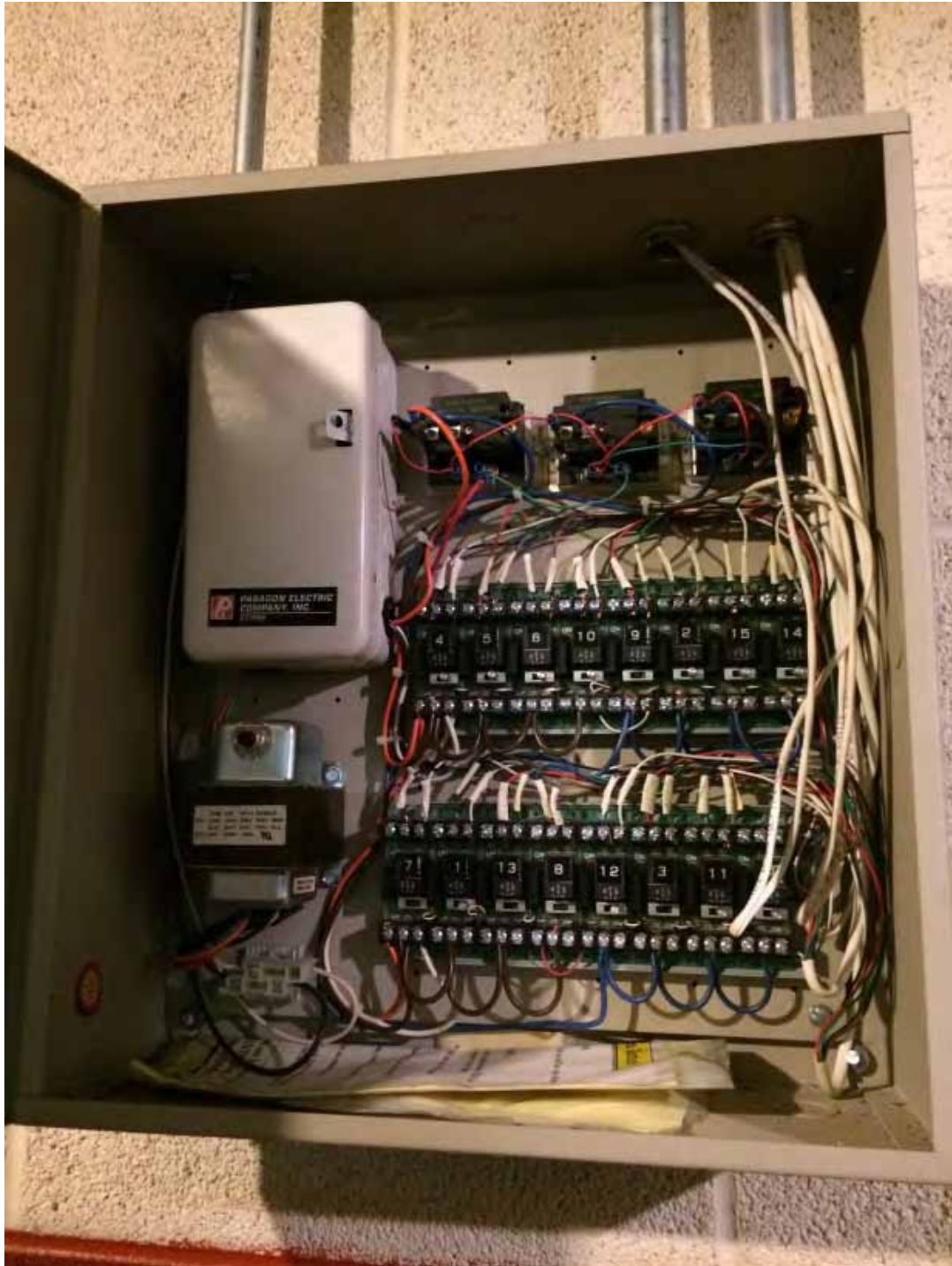
BI-8



AB-1



AB-2



MS-1



MS-3

# TYNDALL CENTER



MS-6



MS-7



MS-8





MS-9



MS-10



MS-11



PS-3

# TYNDALL CENTER



ES-1



ES-3

# TYNDALL CENTER



ES-4

# TYNDALL CENTER



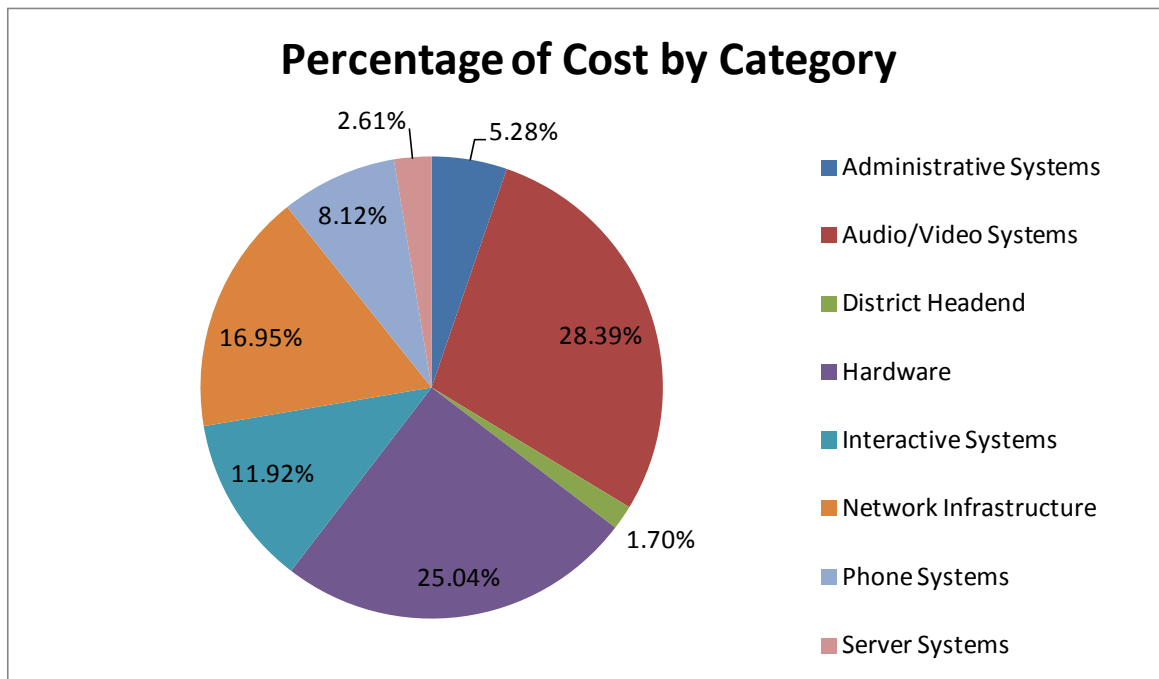
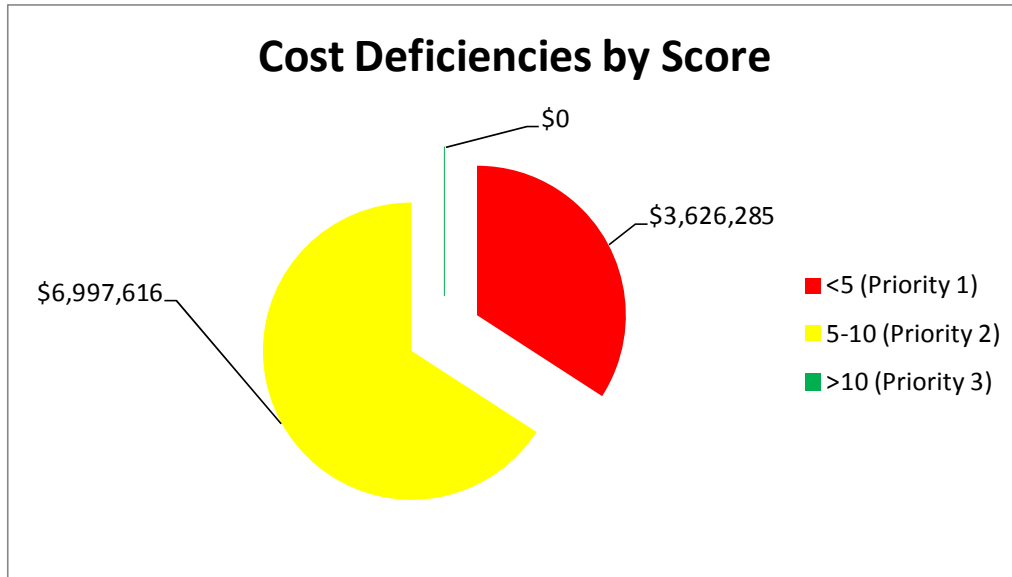
ES-5



# DISTRICT-WIDE TECHNOLOGY

## MAJOR FINDINGS

Refer to the following charts for a summary of deficiencies by category and priority score. Note: Lower priority score equals highest urgency. District technology deficiency costs have been applied to individual buildings within the Facility Condition Index on a weighted per square foot basis.





BERKLEY SCHOOLS

Comprehensive Academic Spaces, Facilities and Technologies Needs Assessment



District-Wide Technology

Address: Various Bldg. Area: N/A No. of Floors: N/A Year Built: N/A Evaluation Date: January 2014		Item No. Codes		Building Deficiencies Priorities by Category					Notes													
		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		Consequences of the Problem 1. Hazards 2. Interruption 3. Deterioration 4. Utility 5. Energy	Need 1. Critical 2. Urgent 3. Necessary 4. ADA 5. Desirable	Frequency of Use 1. Constant 2. Frequent 3. Occasional 4. Infrequent 5. Meager	1. Energy column "X" refers to items that have an energy consumption impact, either increase or decrease. 2. Lower score equals higher priority. 3. Project Cost includes 50.8% mark-ups and fees for Facility Condition Analysis. 4. Project Cost includes 20.5% mark-ups and fees for technology.															
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												Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal			
<b>ADMINISTRATIVE SYSTEMS</b>																						
IT-1	Door Entry Cameras	District-Wide		1	1	1	3		Camera and intercom system enables office staff to see and speak with visitors before allowing entry. Need to consider a replacement plan for these systems as well as standardizing. There is a desire to be able to lock/unlock all doors in the building from a central location. 9 buildings - 4 high school, 1 at all others.	12	EA									\$ 8,000.00	\$ 96,000	\$ 115,680
IT-2	Finance Student Information	District-Wide		2	3	2	7		More professional development on the use of Skyward modules is needed.	1	EA									\$ 7,500.00	\$ 7,500	\$ 9,038
IT-3	Food Service	District-Wide		2	2	2	6		Point-of-sale hardware is currently 4 years old. Need to develop a plan for the replacement of this POS hardware.	13	EA									\$ 6,500.00	\$ 84,500	\$ 101,823
IT-4	Key Fob Entry	District-Wide		1	1	1	3		District standard for number of doors with fob entry at each level (3 elementary, 4 middle school, 6 high school). Principals have requested that more doors at their buildings be equipped. System was standardized two years ago. MB- 32 required. Quote - \$3k/door, \$6.5K district controller.	32	EA									\$ 3,200.00	\$ 102,400	\$ 123,392
IT-5	Media Circulation	District-Wide		2	3	2	7		Need a system to monitor library books being taken from the media center without being checked out. Consider an RFID or other system to use in books and scanner at each media center entrance/exit. \$25K per building.	1	LS									\$ 175,000.00	\$ 175,000	\$ 210,875
												<b>Subtotal - Administrative Systems</b>										<b>\$ 560,807</b>
<b>AUDIO/VIDEO SYSTEMS</b>																						
IT-6	Classroom Clocks	District-Wide		1	2	1	4		Limited visibility on clocks, also limited to 12 clocks per zone. Replace clock system in each building based on Primex system. 301 classrooms*120%=362 clocks. 15 transmitters. \$2,000/license (1 time).	1	LS									\$ 152,560.00	\$ 152,560	\$ 183,835
IT-7	Classroom Televisions	District-Wide		2	3	2	7		Many rooms have 32" CRT TVs not in use because 70-80% of classrooms have projectors. Project will remove all TVs and free up some electrical circuits for repurposing.	200	EA									\$ 190.00	\$ 38,000	\$ 45,790
IT-8	Projector and Sound System	High School Auditorium		2	2	3	7		District auditorium projection and audio systems need to be updated to handle digital audio and video. \$32,000 speakers/amp, \$13,000 mixing board, \$12,000 wireless microphone system, \$2,500 MP3, \$10,000 intercom, \$14,000 projector, \$9,000 screen, \$5,000 cabling, \$9,000 Crestron controller.	1	LS									\$ 120,000.00	\$ 120,000	\$ 144,600
IT-9	Production Equipment	High School Auditorium		2	2	3	7		District auditorium equipped with new HD cameras and TriCaster editor.	1	LS									\$ 150,000.00	\$ 150,000	\$ 180,750
IT-10	Collaboration Center	High School		2	2	3	7		Two new projectors and sound system, use existing motorized screens.	1	LS									\$ 14,000.00	\$ 14,000	\$ 16,870
IT-11	Public Address System	District-Wide		1	1	1	3		Issues with PA system and phone system interface locking up. Need a PA system that will interface with a modern phone system. Look for a system that supports cell phone access for emergencies. \$29K/elem, \$47K/MS, \$66/HS	1	LS									\$ 363,000.00	\$ 363,000	\$ 437,415

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IT-12	Security Camera Update	District-Wide		1	1	1	3		Replace 64 cameras at high school, 30 at Norup. High school system is 10 years old. Expand coverage to include elementary bldgs. IP-based system is needed to permit onsite and remote viewing of cameras using smartphones or other devices. Add 32 @ Anderson, 12 per elementary, include Tyndall.	252	EA							\$ 1,800.00	\$ 453,600	\$ 546,588
IT-13	Sound Field	District-Wide		2	3	2	7		System installed in elementary buildings, many not functioning due to broken mics or other issues. Parts very difficult to obtain. Set a district standard for grade-level usage to determine replacement sites. All elementary classrooms, 8 per secondary (band orchestra, art, choir, etc.).	192	EA							\$ 1,500.00	\$ 288,000	\$ 347,040
IT-14	Video Distribution System	District-Wide		2	2	1	5		Current RF system is not functioning due to bad modulators, need distribution system to leverage classroom projectors instead of CRT televisions. Convert from older analog system to current digital system. Demolish RF system and replace with digital system. 301 classrooms and media center. Include encoder carts. \$25,000/building and \$350/classroom.	1	LS							\$ 550,000.00	\$ 550,000	\$ 662,750
IT-15	Video Editing	Elementary Buildings		2	3	3	8		Elementary video editing needs two iPads with Makayama video accessory kits to support recording and editing video projects for students. Two systems x 7 elementaries = 14 Makayama, iPad, plus accessories.	14	EA							\$ 950.00	\$ 13,300	\$ 16,027
IT-16	Video Editing	Middle School		2	3	3	8		Middle school video editing class needs 15 iPads with Makayama video accessory kits to teach class instead of 1 PC for 15 students. Two middle schools x 15 stations = 30 total.	30	EA							\$ 950.00	\$ 28,500	\$ 34,343
IT-17	Video Editing	High School		2	3	2	7		High school video editing class needs 20 updated PCs that can handle video editing and cameras to support recording. Furniture? Current Tricaster cannot handle HD formats.	23	EA							\$ 3,400.00	\$ 78,200	\$ 94,231
IT-18	Video Editing	High School		2	3	2	7		High school video equipment, studio renovations. Replace/upgrade cameras (HD), microphones, amps, Telemetrics, cabling, green screen.	1	LS							\$ 212,000.00	\$ 212,000	\$ 255,460
IT-19	Video Editing	High School		2	3	2	7		TriCaster for high school video editing (current system cannot handle HD formats).	1	LS							\$ 35,000.00	\$ 35,000	\$ 42,175
IT-20	Video Editing	District-Wide		2	3	2	7		District needs 2 upgraded video editing computers to support HD and digital format video editing.	2	EA							\$ 3,400.00	\$ 6,800	\$ 8,194
											<b>Subtotal - Audio/Video Systems \$ 3,016,067</b>									

DISTRICT HEADEND																					
IT-21	Disaster Recovery	Avery Center		1	1	2	4		Expand storage capabilities of current EqualLogic SAN. System now has twelve 1 TB drives and is near capacity limit of 6.5 TB. Increase storage capacity for students and staff by replacing 1 TB drives with larger drives.	1	EA								\$ 40,000.00	\$ 40,000	\$ 48,200
IT-22	Disaster Recovery	Anderson Middle School		1	1	2	4		Install a local SAN at Anderson to accommodate file recovery. Dark fiber and fiber channel connection can be used between Anderson and Avery to permit mirrored backup of files for essential data such as Skyward.	1	EA								\$ 35,000.00	\$ 35,000	\$ 42,175
IT-23	Fire Suppression	Avery Center/Anderson Middle School		1	1	3	5		Install a chemical-based fire suppression system at Avery and Anderson. Chemical-based system will not damage the headend room equipment like a water-based system would.	2	EA								\$ 35,000.00	\$ 70,000	\$ 84,350

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IT-24	Generator - Portable	N/A		2	1	2	5		Obtain a portable generator with inverter to be shared among all other facilities. This generator would be transported to a bldg that has no power to maintain phone and PA system operation for a longer period of time than can be supported by UPS battery system.	2	EA							\$ 2,600.00	\$ 5,200	\$ 6,266

**Subtotal - District Headend \$ 180,991**

<b>HARDWARE</b>																					
No.	Item/Description	Location	Photo No.	Cons.	Need	Freq.	Score	Energy	Notes/Action	Qty.	Unit	Architectural		Mechanical		Electrical		Technology		2014 Project Cost	
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IT-25	Desktops - Phase 1	District-Wide		2	3	1	6		Replace desktop computers purchased between 2000 and 2007. This phase will replace Windows XP systems. Phases are scheduled over consecutive years. Includes 5% spares.	393	EA							\$ 900.00	\$ 353,700	\$ 426,209	
IT-26	Desktops - Phase 2	District-Wide		2	3	1	6		Replace desktop computers purchased between 2008 and 2010. Phased replacement will maintain standardization of models across the District. Includes 5% spares.	395	EA							\$ 900.00	\$ 355,500	\$ 428,378	
IT-27	Desktops - Phase 3	District-Wide		2	3	1	6		Replace desktop computers purchased between 2011 and 2013. This phase completes the replacement of all desktop computers. Includes 5% spares.	406	EA							\$ 900.00	\$ 365,400	\$ 440,307	
IT-28	Document Cameras	District-Wide		4	3	1	8		Inventory shows 301 instructional spaces. Install new document cameras in all locations at same time.	301	EA							\$ 530.00	\$ 159,530	\$ 192,234	
IT-29	Laptops - Phase 1	District-Wide		2	3	1	6		Replace laptop computers purchased between 2004 and 2009. This phase replaces the oldest laptops currently in use in the District. Includes 5% spares and replacement carts.	167	EA							\$ 1,100.00	\$ 183,700	\$ 221,359	
IT-30	Laptops - Phase 2	District-Wide		2	3	1	6		Replace laptop computers purchased between 2010 and 2011. Phased replacement will maintain standardization of models across the District. Includes 5% spares and replacement carts.	214	EA							\$ 1,100.00	\$ 235,400	\$ 283,657	
IT-31	Laptops - Phase 3	District-Wide		2	3	1	6		Replace laptop computers purchased between 2012 and 2013. This phase completes the replacement of all laptop computers. Includes 5% spares and replacement carts.	120	EA							\$ 1,100.00	\$ 132,000	\$ 159,060	
IT-32	Mobile Devices - Phase 1	District-Wide		2	3	1	6		Replace mobile devices purchased in 2011 and half of the mobile devices purchased in 2012. This will replace oldest mobile devices and level out the quantities purchased in each phase. Includes 5% spares and carts.	268	EA							\$ 600.00	\$ 160,800	\$ 193,764	
IT-33	Mobile Devices - Phase 2	District-Wide		2	3	1	6		Replace the second half of the mobile devices purchased in 2012. Phased replacement will maintain standardization and equalize quantities per year. Includes 5% spares and carts.	235	EA							\$ 600.00	\$ 141,000	\$ 169,905	
IT-34	Mobile Devices - Phase 3	District-Wide		2	3	1	6		Replace mobile devices purchased in 2013. This phase completes replacement of mobile devices. Includes 5% spares and carts.	121	EA							\$ 600.00	\$ 72,600	\$ 87,483	
IT-35	Network Printers - Phase 1	District-Wide		2	3	1	6		Replace network printers purchased between 2003 and 2008. This phase replaces the oldest network printers in the District.	120	EA							\$ 320.00	\$ 38,400	\$ 46,272	
IT-36	Network Printers - Phase 2	District-Wide		2	3	1	6		Replace network printers purchased between 2009 and 2013. This phase completes the replacement of network printers.	20	EA							\$ 320.00	\$ 6,400	\$ 7,712	
IT-37	Scanners	District-Wide		2	3	1	6		Replace 34 legacy scanners purchased between 2004 and 2011, used in labs or by Special Education. Obtain a model that is compatible with new workstations and is standardized across the District.	34	EA							\$ 95.00	\$ 3,230	\$ 3,892	

**Subtotal - Hardware \$ 2,660,230**

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<b>INTERACTIVE SYSTEMS</b>																						
IT-38	Projectors	District-Wide		2	3	1	6		Need to set a District standard for interactive projectors and whiteboards - device for each level (elementary, middle school, high school) and quantities. Currently have 27 SmartBoards or Promethean boards scattered across District. Rogers just installed 18 Smart interactive projectors. Budget covers all classrooms and Media Centers.	301	EA									\$ 3,490.00	\$ 1,050,490	\$ 1,265,840
<b>Subtotal - Interactive Systems</b>																				<b>\$ 1,265,840</b>		
<b>NETWORK INFRASTRUCTURE</b>																						
IT-39	Fiber Network	District-Wide/Avery Center		1	1	1	3		Provide fiber plant inspection/repair for District's 7-mile fiber network, most of which is above ground. Have had recent outages due to lashing damage. Eight strands of fiber running to each bldg - 2 for phone, 2 for data, 2 for TV which are now dark. No Miss Dig service in place. \$6,000 inspection, \$8,000 repairs.	1	LS									\$ 14,000.00	\$ 14,000	\$ 16,870
IT-40	Network Anti-Virus	District-Wide/Avery Center		1	1	1	3		Provide updated server for Symantec Anti-Virus system to distribute and manage virus definitions, detection, and alerts. Current server and 10/100 network speeds create challenges to keeping virus software up to date.	1	LS									\$ 3,500.00	\$ 3,500	\$ 4,218
IT-41	Network Content Filter	District-Wide		2	2	1	5		Provide redundant iBoss content filter with dual power supplies to support failover. Current failover results in open access to the Internet.	1	LS									\$ 5,000.00	\$ 5,000	\$ 6,025
IT-42	Network Core	District-Wide		1	1	1	3		Replace building core and edge switches with new devices that will support 10 Gig between buildings and 1 Gig to the desktop, include PoE for VoIP and security cameras.	1	LS									\$ 390,000.00	\$ 390,000	\$ 469,950
IT-43	Network Edge Switches	District-Wide		1	1	1	3		Replace edge switches with devices that support 1 Gig to the desktop and provide PoE ports for wireless access points, VoIP phone system. Current Cisco 2950 switches do not have PoE and do not support 1 Gig to the desktop.	1	LS									\$ 480,000.00	\$ 480,000	\$ 578,400
IT-44	Network Cabling (Category 6)	District-Wide		2	1	1	4		Replace Category 5 cabling that does not meet specifications for 10/100/1000 networking.	1	LS									\$ 20,000.00	\$ 20,000	\$ 24,100
IT-45	Network Cabling (Category 6)	District-Wide		2	1	1	4		Replace Category 5 cabling that does not meet specifications for 10/100/1000 networking.	1	LS									\$ 20,000.00	\$ 20,000	\$ 24,100
IT-46	Network Cabling (Category 6)	District-Wide		2	1	1	4		Replace Category 5 cabling that does not meet specifications for 10/100/1000 networking.	1	LS									\$ 20,000.00	\$ 20,000	\$ 24,100
IT-47	Network Cabling (Category 6)	District-Wide		2	1	1	4		Replace Category 5 cabling that does not meet specifications for 10/100/1000 networking.	1	LS									\$ 20,000.00	\$ 20,000	\$ 24,100
IT-48	Network Firewall	District-Wide		2	2	1	5		Provide network firewall that supports 10 Gig connectivity between buildings. Current Fortigate 200B from 2008 only supports 5 Gig connectivity. 10Gig interface with support.	1	LS									\$ 46,000.00	\$ 46,000	\$ 55,430
IT-49	Wireless Systems	District-Wide		1	2	1	4		High School and Norup have complete WiFi coverage (Aerohive). Other schools have one access point in the media center. Budget provides full coverage - all buildings.	405	EA									\$ 1,135.00	\$ 459,675	\$ 553,908
IT-50	Communications	Hurley Field/Anderson Middle School		2	2	3	7		Directional bore to Anderson (\$9,000 includes conduit, MM fiber, terminations), VoIP phone, external wireless access point, multiple data drops (\$7,000).	1	LS									\$ 16,000.00	\$ 16,000	\$ 19,280
<b>Subtotal - Network Infrastructure</b>																				<b>\$ 1,800,481</b>		

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<b>PHONE SYSTEMS</b>																				
IT-51	Phone System - Alarms	District-Wide		1	1	1	3		Review all alarm sensors, replace bad alarm sensors and install fire/smoke alert sensors in all buildings. Includes boilers, refrigerators, panic buttons, sump pumps, carbon monoxide, headend environmental sensors, etc. Test and corrective actions in budget.	9	EA							\$ 5,000.00	\$ 45,000	\$ 54,225
IT-52	Phone System - Cellular Coverage	District-Wide		1	1	3	5		Install antenna system to boost cellular phone coverage inside all buildings.	1	LS							\$ 432,000.00	\$ 432,000	\$ 520,560
IT-53	Phone System Replacement	District-Wide		1	1	1	3		Replace all phone controllers and handsets including voicemail, unified messaging, E-911, call accounting, automated attendant, fax, servers, UPS, 5 year warranty. 464 digital phones, 23 analog phones. New system will not use "9" to access an outside line.	487	EA							\$ 490.00	\$ 238,630	\$ 287,549
<b>Subtotal - Phone Systems</b>																			<b>\$</b>	<b>862,334</b>
<b>SERVER SYSTEMS</b>																				
IT-54	Desktop Management	Avery Center		3	3	2	8		Using Ghost to image workstations, but not working effectively in part due to 10/100 network speeds. Need a system to manage/image workstations. KACE quoted with 5 years of support. Budget includes software/hardware inventory, remote software distribution/removal, patch management, help desk management, disk imaging, software deployment/updates, and system configuration.	1	LS							\$ 110,000.00	\$ 110,000	\$ 132,550
IT-55	Network Operating System	District-Wide/Avery Center		2	2	2	6		Currently running Novell 6.5. Many apps do not run on Novell (Skyward, RecPro, Read Naturally, Pearson apps, etc.). Need to move away from Novell to Active Directory which would support in-house VMWare servers, VPN access, network printers with print management.	1	LS							\$ 64,000.00	\$ 64,000	\$ 77,120
IT-56	Servers	Avery Center		1	1	1	3		District has three PowerEdge 2950 servers (new in 2005) to run Netware 6.5, EZ Care, KidPix, Kidspiration, Suse Linux for DNS.	2	EA							\$ 7,000.00	\$ 14,000	\$ 16,870
IT-57	Servers - VMWare	Avery Center		1	1	1	3		VMWare servers (PowerEdge R710 and PowerEdge 1855 Blade) are hosted at Berkley Schools for GroupWise, Manhattan app, DNS, storage, Skyward, Ghost, SuccessMaker, RecPro. Preferred solution is to have in-house VMWare servers instead of off premises, but network OS change to Active Directory is necessary. Need to obtain in-house VMWare servers if services are brought back to Berkley from Oakland Schools.	1	LS							\$ 42,000.00	\$ 42,000	\$ 50,610
<b>Subtotal - Server Systems</b>																			<b>\$</b>	<b>277,150</b>

Building	Square Footage	Cost
Anderson Middle School	95,908	\$ 1,573,457
Angell Elementary School	40,981	\$ 672,330
Avery Center	37,307	\$ 612,055
Berkley High School	227,326	\$ 3,729,487
Burton Elementary School	48,272	\$ 791,945
Norup International School	89,603	\$ 1,470,018
Pattengill Elementary School	46,314	\$ 759,823
Rogers Elementary School	37,222	\$ 610,660
Tyndall Center	24,633	\$ 404,126
<b>Total</b>		<b>\$ 10,623,901</b>

**Total Project Cost \$ 10,623,901**