SCHOOL DISTRICT OF FORT • ATKINSON

FACILITIES ASSESSMENT REPORT - VOL. 2

04.24.19

CG SCHMIDT INC

SCHOOL DISTRICT OF FORT • ATKINSON

pra PLUNKETT RAYSICH ARCHITECTS, LLP

SCHOOL DISTRICT OF
FORT•ATKINSON

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CG SCHMIDT INC

SCHOOL DISTRICT OF FORT • ATKINSON

PRA PLUNKETT RAYSICH ARCHITECTS, LLP

Summary Of Maintenance Needs for All Buildings

Building	Urgent	Needed in the next 2-5 years	Needed in the next 6-10 years	Needed in 10+ Years	Secure Entrances	Radon Testing	Subtotal
District Office	NA	NA	NA	NA	$ 17,873	NA	$ 17,873
Barrie Elementary School	$ 259,900	$ 1,712,640	$ 916,920	$ 859,000	$ 242,843	$ 2,510	$ 3,993,813
Luther Elementary School	$ 1,392,950	$ 3,464,177	$ 1,296,100	$ 79,000	$ 70,868	$ 3,220	$ 6,306,315
Purdy Elementary School	$ 237,000	$ 2,432,918	$ 2,656,072	$ 633,000	$ 601,996	$ 3,220	$ 6,564,206
Rockwell Elementary	$ 427,150	$ 1,764,582	$ 1,012,116	$ 263,000	$ 270,345	$ 2,510	$ 3,739,703
Middle School	$ 1,618,400	$ 2,838,216	$ 4,717,775	$ 1,524,000	$ 579,284	$ 2,400	$ 11,280,075
High School	$ 233,100	$ 2,880,133	$ 1,574,874	$ 3,792,185	$ 106,984	$ 4,150	$ 8,591,425
Totals:	**$ 4,168,500**	**$ 15,092,666**	**$ 12,173,856**	**$ 7,150,185**	**$ 1,890,193**	**$ 18,010**	**$ 40,493,409**

The budgets developed for this report are for the purposes of prioritizing and decision making. Due to the nature of items observed, the full extent of repair and/or replacement cannot be ascertained without deconstructing the spaces in which they were found. Upon prioritization of issues to be resolved, we will investigate fully and provide complete engineered solutions with finalized costs for final review/approval. All work to be scheduled and reviewed prior to commencement. Spaces were not inspected for Hazardous Materials such as Lead Paint, Asbestos, etc. CG Schmidt, Inc. has made every reasonable effort to review the spaces available to us and to assign budgets that reflect cosmetic solutions for the items found.

Notes:

***Notes about leaking will need to be investigated further if no immediate cause was evident.**

***Many of the cracks observed in the report appear to be cosmetic. Cracks ought to be monitored to determine if they are indeed shrinkage cracks or settling of the structures. Upon Approval to proceed, CG Schmidt will provide the next step to determine cause and cost of crack mitigation.**

***Grading at existing structures where noted will need to be evaluated by Civil Engineers to determine corrective action.**

FORT ATKINSON MIDDLE SCHOOL

FACILITIES ASSESSMENT REPORT

04.24.19

CG SCHMIDT INC

SCHOOL DISTRICT OF FORT • ATKINSON

pra PLUNKETT RAYSICH ARCHITECTS, LLP

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
	General Building Issues					
G1	Remove stack or tuck pointing	$ 9,500				
G2	Paint lintels (Per Lintel)	$ 650				
G3	Exterior membrane	$ 650				
G4	Tuckpointing required on parapet	$ 5,000				
G5	Tuckpointing and moisture mitigation	$ 5,000				
G6	Veneer water damage	$ 5,000				
G7	Replace all worn and stained carpet and VCT	$ 5,000				
G8	Repair water leak		$ 750			
G9	Crack in CMU		$ 1,100			
G10	Crack in CMU		$ 1,100			
G11	Repair water Damage		$ 1,500			
G12	Bathroom upgrades & replace fixtures where corroded			$ 150,000		
G13	Repair cracking plaster		$ 1,200			
G14	Repair cracking plaster		$ 1,200			
G15	Repair water damage on ceiling		$ 3,500			
G16	Repair ceiling cracking		$ 1,500			
G17	Repair transition cracking	$ 2,000				
G18	Repair cracking concrete at doorway	$ 4,000				
G19	Water leaks throughout roofing. Advise on replacement. Inside		$ 68,000			
G20	Water leaks throughout roofing. Advise on replacement.	$ 200,000				
G20	Repair water leaks		$ 12,000			
G21	Upgrade bathrooms to ADA compliance as required			$ 1,100,000		
G22	Repair cracking in cmu		$ 1,100			

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G23	Brick tuckpointing as needed.	$ 5,000				
G24	Repair siding pulling away from windows	$ 1,400				
G25	Repair brick cracking	$ 3,200				
G26	Repair crack in block		$ 1,000			
G27	Abated floor as required (allowance) (abatement by School District)			$ 375,000		
G28	Replace finishes in vestibules		$ 9,000			
G29	Repair ceiling (INC G28)					
G30	Repair cracks in cmu		$ 1,250			
G31	Repair water damage		$ 1,500			
G32	Repair cracks in cmu		$ 1,000			
G33	Storage issues - NIC (not a facility assessment issue)					
G34	Replace doors and frames	$ 8,000				
G35	Repair Cracks in cmu		$ 2,000			
G36	Repair plaster damage		$ 27,000			
G37	Repair water damage		$ 1,500			
G38	Repair cracking in tile and cmu		$ 1,100			
G39	Replace doors		$ 2,500			
G40	Abate all 9” x 9” and replace.			$ 10,000		
G41	Abate and replace 9” x 9” VCT			$ 5,250		
G42	Repair water damage and leaks		$ 4,000			
G43	Repair cracking in cmu		$ 750			
G44	Repair cracking in cmu		$ 5,250			
G45	Repair cracking in masonry		$ 4,000			
G46	Repair door issues		$ 3,250			

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G47	Enlarge ADA bathrooms			$ 150,000		
G48	Repair cracking in concrete		$ 1,000			
G49	Repair water leak		$ 1,250			
G50	Replace door hardware			$ 205,000		
G51	Repair water leak		$ 2,250			
G52	Repair water leak		$ 2,500			
G53	Repair water leak issues		$ 2,500			
G54	Repair cmu		$ 2,500			
G55	Repair water leaks along the ceiling and wall		$ 12,500			
G56	Repair cracking in cmu		$ 3,000			
G57	Repair door issues and weather stripping		$ 1,250			
G58	Repair crack in cmu		$ 1,850			
G59	Repair water leak		$ 2,750			
G60	Make orchestra room larger, remove cmu wall			$ 32,000		
G61	Repair various water leaks		$ 3,000			
G62	Replace ACT as need throughout the building	$ 200,000		$ 255,000	$ 625,000	
G63	Repair cracking in cmu		$ 850			
G64	Secure entrance (See secure entrance section for more information)					
G65	Repair cracking in foundation wall		$ 2,750			
G66	Repair cracking in foundation wall		$ 2,750			
G67	Repair cracking in concrete header		$ 1,350			
G68	Tear down building, replace rails on bleachers, repaint goal posts, replace track and scoreboard, fix site lighting and press box windows			$ 825,000		
G69	Replace sill caulking		$ 850			
G70	Repair broken glass in door	$ 750				

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G71	Repair water damage	$ 600				
G72	Repair crack in veneer	$ 1,150				
G73	Recaulk windows on entire elevation	$ 4,250				
G74	Repair crack in cast stone	$ 650				
G75	Repair cracks in veneer	$ 2,750				
G76	Frame is rusted	$ 3,200				
G77	Dents in siding		$ 14,000			
G78	Caulk and paint	$ 950				
G79	Repair water damage	$ 950				
G80	Tuckpointing required	$ 6,000				
G81	Repair water damage	$ 950				
G82	Fill in opening	$ 2,750				
G83	Repair shifted veneer	$ 26,000				
G84	Repair cracks in veneer	$ 15,000				
G85	Repair shifted veneer	$ 26,500				
G86	Repair exposed rebar and patch concrete	$ 2,000				
G87	Replace vent and sign	$ 2,000				
G88	Recaulk windows	$ 5,500				
G89	Repair cracking in plaster	$ 1,300				
G90	Expansion joints	$ 4,750				
G91	Recaulk expansion joints	$ 4,750				
G92	Repair water issue and spalling	$ 13,000				
G93	Repair cracking, tuckpointing required	$ 7,000				
G94	Replace frame and door	$ 3,250				

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G95	Repair cracking, tuckpointing required	$ 4,750				
G96	Replace doors	$ 7,000				
G97	Replace doors and paint as required	$ 6,000				
G98	Repair cracking concrete	$ 850				
G99	Replace Caulk	$ 2,000				
G100	Repair water damage, tuckpointing required	$ 7,000				
G101	Veneer water damage on roof	$ 7,000				
G102	Moisture damage, tuckpointing required	$ 4,750				
G103	Clean veneer	$ 2,000				
G104	Clean brick and rusting lintel	$ 2,000				
G105	Tuckpointing required	$ 13,000				
G106	Spalled and delaminated concrete (Ambrose Engineering Report)	$ 110,000				
G107	Corroded steel reinforcing bars (Ambrose Engineering Report)	$ 20,000				
G108	Water leaks and standing water (clean and repair underside fo deck) . Water will disappear with fixing cracks. (Ambrose Engineering Report)	$ 25,000				
G109	Ceramic tile deterioration (Ambrose Engineering Report)	$ 17,500				
G110	Landscape worn down mulched and overgrown areas			$ 90,000		
G111	Replace cracking sills of storefront of IMC	$ 2,200				
G112	Replace window seals as required	$ 2,750				
G113	Clean Brick	$ 3,200				
G114	Repair or replace concrete stairs			$ 72,000		
G115	Rusted frame on curtainwall	$ 15,500				
G116	Replace science casework (allowance)	$ 130,000	$ 130,000			

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
Roofing Issues						
R1	Roof Report (RED - replace immediately)	$ 97,000				
R1A	Roof Report (WHITE - unknown life span area)	$ 548,000				
R1B	Roof report (GREEN - >10 years life span)				$ 899,000	
Fire Protection Issues						
FP1	Add fire protection to the entire existing building		$ 625,961			
Plumbing Issues						
P1	Replace in wall galvanize pipe (Allowance)		$ 23,012			
P2	Remove HW storage tank and heat exchanger in Janitors closet		$ 7,500			
P3	Water main upgrade for Fire protection		$ 49,482			
P4	Demo abandon HW storage tank and Heat Exchanger		$ 6,149			
P5	Adding mixing valve and HW to eye wash stations		$ 24,000			
Mechanical/H.V.A.C Issues						
M1	Drain pipe in window	$ 500				
M2	Provide supplemental high efficiency boiler to geothermal loop		$ 112,030			
M3	Heat Pump replacement schedule (30% replacement within 5 years and the remainder before 10 years)		$ 393,461	$ 733,269		
M4	Replace OA RTUs			$ 715,256		
M5	Pool high efficiency condensing boiler		$ 78,038			

Middle School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
Electrical Issues						
E1	Upgrade Clock/PA system (New system for entire school)		$ 134,135			
E2	Replace main service panel		$ 26,790			
E3	Replace 30kW Generator		$ 55,302			
E4	Panelboard replacement		$ 102,390			
E5	ARC Flash Study		$ 10,000			
E6	Interior generator		$ 41,694			
E7	Add additional receptacles and circuits to learning and admin spaces (Allowance based on sqft)		$ 89,423			
E8	Provide floor mounted data racks , additional CAT6 as needed and fiber to all IDF racks (Allowance)		$ 71,538			
E9	Expand door access control system to monitor all exterior doors.		$ 14,400			
E10	Replace all florescent fixtures with LED and dimming controls		$ 625,961			
TOTAL		**$ 1,618,400**	**$ 2,838,216**	**$ 4,717,775**	**$ 1,524,000**	**$ -**

Key:
G = General Building Issues
R = Roofing Issues
FP = Fire Protection Issues
P = Plumbing Issues
M = Mechanical Issues
E = Electrical Issues

AMBROSE ENGINEERING

December 4, 2018

Mr. Josh Carter
Director of Buildings & Grounds
School District of Fort Atkinson
201 Park Street
Fort Atkinson, Wisconsin 53538

Re: Fort Atkinson Middle School
Follow-up Structural Condition Assessment of
Existing Concrete Pool Structure
AE Project No. 018-492

Dear Mr. Carter:

At the request of the School District of Fort Atkinson (Fort Atkinson), Ambrose Engineering, Inc., (Ambrose) performed a follow-up structural condition assessment of the existing concrete pool structure at the Fort Atkinson Middle School located at 310 S. 4th Street in Fort Atkinson, Wisconsin. The purpose of the condition assessment, which is a supplement to the facility study currently being performed by Plunkett Raysich Architects, is to provide a gauge of the existing condition of the concrete pool structure; identify distressed, deteriorated, or deficient conditions that require repair; and provide general recommendations for repair. Our scope of services were performed in general accordance with our proposal to Fort Atkinson dated November 26, 2018.

STRUCTURE DESCRIPTION AND BACKGROUND

The existing pool, located at the first floor of the Fort Atkinson Middle School, is a conventionally reinforced concrete structure built as an addition to the original school building circa 1957. Based on limited original design drawings provided for our review, as prepared by Foeller, Schober, Berners, Safford, and Jahn Architects, the pool structure is rectangular in plan with overall dimensions of approximately 32 feet in the north-south direction by 80 feet in the east-west direction. A mechanical tunnel is located at the basement level, directly below the pool deck, around the entire perimeter of the pool structure. Based on original design drawings, the pool deck structure above the tunnel is shown to consist of a conventionally reinforced, 4 inch thick, one-way concrete slabs. Primary reinforcement in the structural pool deck slabs is shown to consist of 3/8 inch diameter reinforcing bars spaced at 8 inches on center. The structural pool deck slabs are shown to be supported by 12 inch thick reinforced concrete pool and building foundation walls. The top surfaces of the pool deck and pool are covered with ceramic tile. Likewise, the gutter at the perimeter of the pool, at the interface where the structural pool deck slab is supported by the pool walls, was formed with ceramic tile. A typical cross-section through the concrete tunnel around the perimeter of the pool, as excerpted from the original design drawings, is shown in Figure 1.

Ambrose performed an initial site visit to the Fort Atkinson Middle School in March 2017 to observe and document reported deterioration of the concrete structure on the underside of the pool deck. Observed conditions of deterioration and distress included: active water leaks through the concrete pool deck structure, loose overhead concrete, open concrete spalls with exposed corroded reinforcement, areas of delaminated

concrete at overhead and vertical surfaces, and isolated areas of cracked tiles on the top surface of the pool deck. Refer to our email to the School District of Fort Atkinson dated March 22, 2017 for further details regarding our preliminary observations and recommendations.

SITE OBSERVATIONS

Condition assessment of the concrete pool structure was performed by Nicholas Chow of Ambrose on November 29, 2018. The condition assessment consisted of observation and documentation of visibly accessible portions of the concrete structure. A delamination survey of select accessible portions of the underside and vertical surfaces was also performed by sounding representative areas of concrete with a steel hammer. The purpose of sounding the concrete was to help identify areas of deteriorated concrete that may not be readily identified during the visual survey. Observed conditions were documented on survey sheets and with photographs. Significant findings of our site observations are summarized as follows:

1. Spalled and delaminated (hollow sounding) concrete were observed as follows (Figures 2 through 6):
    a. Underside of structural pool deck slab: approximately 200 to 300 square feet
    b. Vertical surface of pool walls: approximately 200 to 300 square feet
    c. Vertical surface of foundation walls: approximately 100 to 150 square feet
2. Areas of loose concrete (incipient spalls) exist at many locations of distress on the underside of the structural pool deck slab (Figures 6 and 7)
3. Corroded steel reinforcing bars exist at open spall locations on both the underside of the structural pool deck slab and vertical surfaces of the pool walls (Figure 8)
4. Exposed corroded steel reinforcing at the surface of the concrete on the underside of the slab exist at the northwest and southwest corners and near the center of the north edge of the pool (Figure 9). Sounding areas directly adjacent to the exposed reinforcing bars did not indicate areas of delaminated or unsound concrete
5. Active water leaks exist throughout the pool structure. Active water leaks generally appear to occur at the joint between the integrally formed gutter around the perimeter of the concrete pool structure and the concrete slab that forms the deck surrounding the pool (Figure 10)
    a. Additional signs of previous or active water leakage, e.g. efflorescence, exist around the perimeter of the pool deck structure (Figure 11)
    b. Standing water, at an active water leak, exists at the southeast corner of the pool (Photo 12)
6. Isolated areas of deterioration exist throughout the ceramic tile on the top surface of the pool deck. Observed deterioration typically included cracked and open grout joints and cracked tile (Photos 13 and 14)
    a. An area of tile, approximately 6 square feet, has debonded from the underlying concrete structure at the southeast corner of the pool (Figure 15). Sounding of the underlying concrete at this location did not indicate any areas of delaminated or unsound concrete on the top surface of the
    b. Areas of deterioration observed on the underside of the structural concrete pool deck slab are generally within the vicinity of areas of deterioration observed in the ceramic tile on the top surface of the pool deck

DISCUSSION AND OPINIONS

Based on our visual and delamination survey of the concrete pool structure it is our opinion that the concrete pool structure remains in serviceable condition. Comparison of observations between our 2018 and 2017 condition assessments indicate that there has been some increase in the extent of distress and deterioration in the concrete structure. Based on observed conditions it is our opinion that immediate shoring or stabilization is

not required; however, in order to maintain the long term structural integrity and service life of the concrete structure repairs will be required.

Concrete deterioration in the form of spalls and delaminations exist throughout the exposed concrete surfaces of the pool deck and pool structure. Based on our experience with the investigation and assessment of similar concrete structures, observed deterioration is consistent with corrosion of the embedded steel reinforcement resulting from prolonged exposure to oxygen and chlorinated water infiltrating through the pool deck. When embedded steel reinforcement corrodes, it expands and occupies a volume larger than the original steel reinforcing. This expansion exerts stresses on the surrounding concrete that is typically relieved by cracking in a plane parallel to the concrete surface (delamination). Concrete spalls occur when the delaminated concrete completely debonds from the substrate leaving a void and exposing the corroded steel reinforcement.

Corrosion of the reinforcing steel should be expected to continue and accelerate if conditions remain the same in the structure. Unmitigated corrosion of the embedded steel reinforcement has and will lead to a loss of cross-sectional area of the steel bars. Significant loss of cross-sectional area will reduce the strength of the steel section and reduce the load-carrying capacity of the concrete structure. Development of corrosion on embedded steel reinforcement can be mitigated by limiting water infiltration through the concrete floor slabs. Deterioration in the existing ceramic tile, including cracked tile and cracked and open grout joints, provide pathways for the chlorinated pool water to breach the waterproofing layer and infiltrate the pool deck slab through cracks and joints in the concrete. The extent of active water leaks and development of efflorescence at the pool deck to pool wall support interface suggests that the ceramic tile and grout particularly at the gutter are no longer effective in mitigating water infiltration through the pool deck.

RECOMMENDATIONS

In order to maintain the structural integrity of the reinforced concrete pool structure and extend its useful service life it should be expected that regular repair and maintenance will need to be performed. The longer repair work is delayed, the longer deteriorated conditions are allowed to develop; thereby, increasing the extent of potential repairs required and cost of the repair project.

Recommended repairs and time frames for implementation of repairs are summarized as follows:

Priority I Repairs (Immediate)

1. Remove loose concrete from the underside of the concrete slabs and upper surfaces of walls throughout the tunnel structure to minimize potential falling hazards for personnel working under the pool deck. It is recommended that this work be performed by a qualified Contractor who specializes in concrete restoration. The Contractor performing the work should sound all overhead and vertical surfaces to help identify areas of deteriorated concrete to be removed.

Priority II Repairs (12 to 18 Months)

A comprehensive program to repair existing areas of delaminated and spalled concrete at the structural pool deck slab and walls should be developed and implemented. The repair program should include details for addressing observed water leakage through the pool deck. Further study or review by a pool consultant may be required in order to develop appropriate and comprehensive means of waterproofing the top surface of the gutter and pool deck to mitigate further water infiltration through the pool deck. If only concrete repairs are performed, i.e. no repairs to mitigate existing or further water infiltration through the pool deck, it should be

expected that the repairs will have a limited lifespan and will likely fail shortly after installation. Anticipated repairs include but are not limited to the following:

1. Repair deteriorated concrete on underside surfaces of the structural pool deck slab. Concrete repairs typically consist of removal of unsound and sound concrete, proper surface preparation of the exposed steel reinforcing bars and concrete surfaces, installation of supplemental steel reinforcement, and placement of a concrete patching material.
2. Repair deteriorated concrete at vertical surfaces of the pool and foundation walls. Repair procedure should be similar to that described for the floor slab repairs. For proper repairs to be performed, shoring will likely be required at many of the column repair locations
3. Consideration could also be given to injecting cracks and joints, at the integrally formed gutter around the perimeter of the concrete pool structure and the concrete slab that forms the deck, with polyurethane grout or epoxy. This crack injection repair should be performed in conjunction with top surface waterproofing repairs. Depending on the extent and quality of injection repairs, they may provide an additional layer of protection against water infiltration through the slab. If top surface waterproofing repairs are not performed, and injection repairs do not properly fill cracks and joints, this type of repair could trap water within the slab leading to further concrete deterioration.

Due to the potentially complex nature of the repairs and to receive competitive bid estimates from qualified Contractors, it is recommended that the recommended repairs be based on drawings and specifications designed and prepared by a licensed Professional Engineer in the State of Wisconsin experienced with the evaluation and repair design of concrete structures. Construction phase services, by the designer of record, are recommended during the repair work to observe the work in progress and assist the Owner and selected Contractor with providing recommendations and clarifications regarding repair details and specifications and addressing unexpected conditions that may be uncovered during the course of the repair project.

If recommended repairs are delayed, we recommend that the pool deck structure be monitored by building personnel and re-assessed on a yearly basis by a licensed Professional experienced with the evaluation and repair design of concrete structures. The purpose of the assessments is to gauge whether observed conditions of distress are worsening, to determine if immediate repair or supplemental shoring is required, and to identify any loose and delaminated areas of concrete that should be removed in order to mitigate potential falling hazards.

If you have questions, need additional information, or would like to discuss further, please do not hesitate to contact us.

Sincerely,
Ambrose Engineering, Inc

Nicholas Chow, P.E.

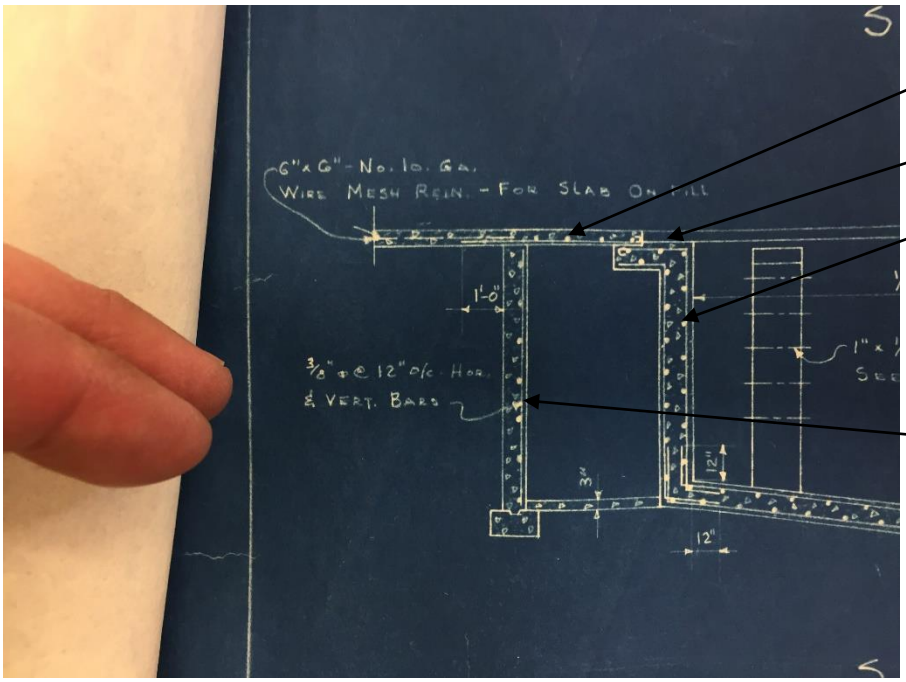


Figure 1: *Typical cross-section through the reinforced concrete mechanical tunnel around the perimeter of the pool as excerpted from the original design drawings prepared by Foeller, Schober, Berners, Safford, and Jahn Architects dated 1957*

Figure 2: *Spalled concrete, with exposed corroded steel reinforcement, on the underside of the structural pool deck slab. Note efflorescence staining (white mineral deposits), an indication of previous and/or active water infiltration, along the length of the slab to pool wall support interface.*

Figure 3: *Spalled concrete, with exposed corroded steel reinforcement, on the underside and face of the portion of the pool wall that supports the pool deck slab*

Figure 4: *Incipient spall (loose concrete) at the base of the pool wall as observed along the north edge, near the west corner of the pool*

Figure 5: *Incipient spall (loose concrete) at the base of the pool wall as observed near the center of the south edge of the pool*

Figure 6: *Incipient spall (loose overhead concrete) at the building foundation wall as observed near the center of the north edge of the pool. Note, spalled concrete with exposed steel reinforcement on the underside of the pool deck slab*

Figure 7: *Incipient spall (loose overhead concrete) on the underside of the pool deck slab as observed along the south edge of the pool*

Figure 8: *Typical view of an open spall on the underside of the pool deck slab with exposed corroded steel reinforcement. Arrow indicates an incipient spall (loose overhead concrete) adjacent to the spall*

Figure 9: *View of corroded steel reinforcement placed at the bottom surface of the pool deck slab. Sounding of adjacent areas did not indicate areas of unsound concrete*

Figure 10: *View of active water leak and efflorescence staining at the slab to pool wall support interface.*

Figure 11: *Typical view of efflorescence staining (white mineral deposits), an indication of previous and/or active water infiltration, along the length of the slab to pool wall support interface.*

Figure 12: *Standing water on the tunnel floor slab at an area of an active water leak as observed at the southwest corner of the pool*

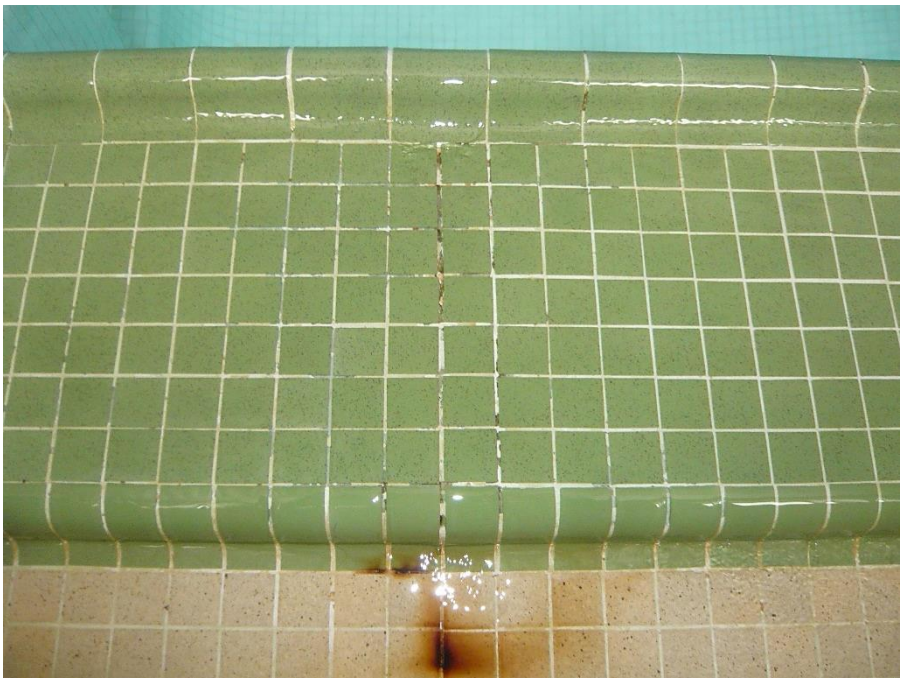


Figure 13: *Cracked and deteriorated grout joints in the ceramic tile gutter as observed near the southwest corner of the pool*

Figure 14: *Cracked tile and grout joints, previously filled with a caulk material, as observed near the southwest corner of the pool*

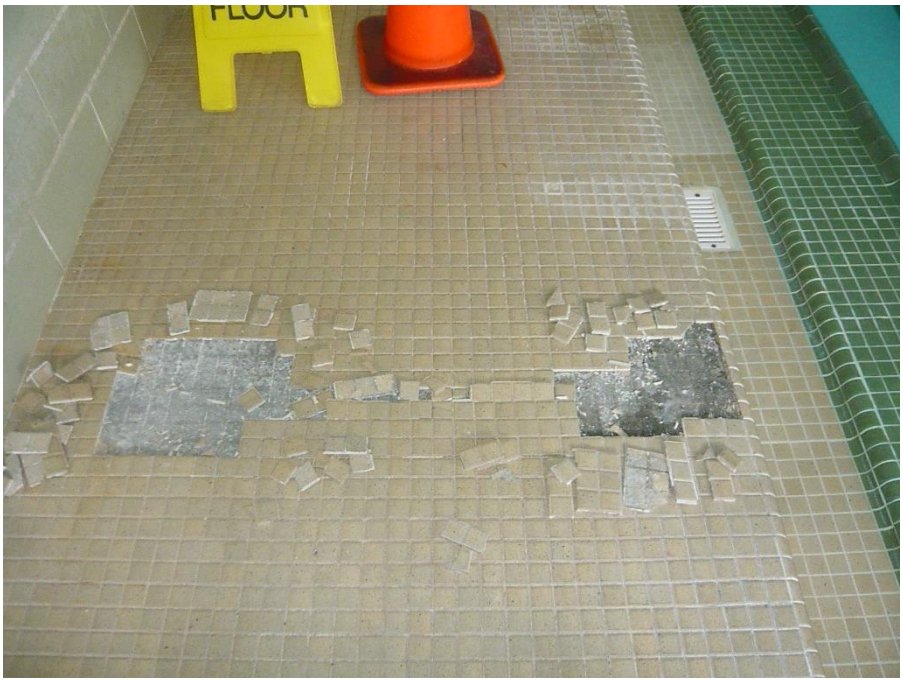


Figure 15: *Debonded tile near the southwest corner of the pool. No unsound concrete was visually observed or detected via hammer sounding where exposed*

FORT ATKINSON HIGH SCHOOL

FACILITIES ASSESSMENT REPORT

04.24.19

CG SCHMIDT INC

SCHOOL DISTRICT OF FORT • ATKINSON

pra PLUNKETT RAYSICH ARCHITECTS, LLP

SCHOOL DISTRICT OF FORT·ATKINSON

High School - Facilities Maintenance List
(Facilities Assessment Performed on March 13, 2019)

Item #	Description	Urgent	2-5 years	6-10 years	10+ Years	TBD
	General Building Issues					
G1	Repair water leak		$ 5,000			
G2	Repair water leak		$ 2,250			
G3	Joint filler missing, cold air coming in	$ 1,100				
G4	Repair crack in cmu near joist		$ 1,850			
G5	Motor for wrestling mats on 2 circuits, issues with lowering mats evenly			$ 6,000		
G6	Repair cracks in cmu		$ 10,000			
G7	Weather stripping		$ 1,250			
G8	Gym baseboard falling off	$ 500				
G9	Repair crack in cmu, tuckpointing required		$ 2,000			
G10	Weather stripping at all exterior doors	$ 7,000				
G11	Repair cracks in cmu near joists, check all bar joists	$ 5,500				
G12	Repair cracks in floor		$ 850			
G13	Repair peeling epoxy floor		$ 12,000			
G14	Patch cmu around conduit		$ 1,100			
G15	Replace toilet partitions		$ 9,000			
G16	Repair crack in floor		$ 850			
G17	Paint is peeling on all walls		$ 4,000			
G18	Patch tile (50 sf)	$ 950				
G19	Hand dryers inoperable	$ 3,000				
G20	Replace door	$ 3,200				
G21	Fill joint in cmu	$ 750				
G22	Repair cracking in cmu		$ 3,000			
G23	Scrape and paint the rusting lintel	$ 500				
G24	CMU tuckpointing required		$ 7,000			
G25	Fix tile issue in the gutter	$ 1,250				

High School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G26	Repair crack in cmu		$ 1,250			
G27	Repair broken corner beads on soffits		$ 1,500			
G28	Repair crack on floor		$ 1,100			
G29	Repair crack in VCT		$ 750			
G30	Repair cracked window sill		$ 650			
G31	Repair cracked window sill		$ 350			
G32	Replace ACT		$ 15,000			
G33	Floor coating is peeling			$ 18,500		
G34	Repair cracked deflector/rail		$ 950			
G35	Repair crack in concrete		$ 650			
G36	Recaulk joint		$ 750			
G37	Repair cracks in concrete, condensate leaks through to kitchen		$ 1,500			
G38	Weather stripping needs to be replaced	$ 1,250				
G39	Repair water leaks from roof		$ 1,200			
G40	Repair water leaks		$ 850			
G41	Repair water leaks		$ 750			
G42	Repair water leaks		$ 500			
G43	Repair crack in cmu		$ 1,000			
G44	Repair cracks in cmu	$ 800				
G45	Condensation issues	$ 1,350				
G46	Repair cracks in cmu		$ 5,000			
G47	Door won't close	$ 750				
G48	Replace door	$ 4,000				
G49	Repair water leak		$ 350			
G50	Repair water leaks		$ 350			
G51	Repair skylight leaks		$ 3,000			

High School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G52	Repair tile (20 sf)	$ 1,000				
G53	Repair damaged doors		$ 2,500			
G54	Replace worn floor		$ 48,500			
G55	Repair damaged door		$ 3,250			
G56	Replace door	$ 6,250				
G57	Repair roof leaks		$ 1,100			
G58	Repair water and grading issues along exterior wall	$ 6,500				
G59	Repair damaged door	$ 1,250				
G60	Repair cracked VCT		$ 1,250			
G61	Fire Wall rating issues	$ 4,000				
G62	Repair cracked VCT		$ 4,000			
G63	Repair cracked VCT		$ 650			
G64	Repair cracked tile		$ 1,000			
G65	Repair cracked VCT		$ 2,500			
G66	Repair crack/expansion in vct		$ 2,500			
G67	Repair cracked VCT		$ 3,000			
G68	Repair VCT issues, tiles are popping due to moisture		$ 2,500			
G69	Repair frosting on door	$ 1,600				
G70	Repair cracks in cmu		$ 1,500			
G71	Door is rusting	$ 6,000				
G72	VCT movement		$ 2,500			
G73	Undersized Performing Arts Center for size of school. Scope of work unknown at this time.					X
G74	Repair corner	$ 500				
G75	Repair water leak on back of stage		$ 5,000			
G76	Repair door issues	$ 1,750				
G77	Repair crack in cmu		$ 3,500			

High School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G78	Storage issues (not part of facility study)					
G79	Repair water leaks		$ 9,500			
G80	Chilled water lines		$ 2,750			
G81	Grout tile	$ 1,000				
G82	Leaking window gaskets on operational panes and cracked panel	$ 1,500				
G83	Leaking window gasket on operational panes and cracked panels	$ 850				
G84	Leaking window gasket on operational panes and cracked panels	$ 2,500				
G85	Replace weather stripping on door 26	$ 1,600				
G86	Leaking gasket on operational panes	$ 1,000				
G87	Leaking gasket on operational panes	$ 1,000				
G88	Settling concrete	$ 4,500				
G89	Leaking window gasket on operational panes and cracked panels	$ 2,300				
G90	General note: repaint lintels		$ 25,000			
G91	Leaking gasket on window pane	$ 1,200				
G92	Repaint lintel (INC G90)					
G93	Install light fixture cover (door 35)	$ 750				
G94	Settling concrete	$ 6,500				
G95	Back pitched towards storefront	$ 6,000				
G96	Repaint doors		$ 3,000			
G97	General note: recaulk expansion joints	$ 6,500				
G98	Broken condensate fitting (near door 5)	$ 750				
G99	Broken strobe (near door 1)	$ 1,100				
G100	Replace weather-stripping (door 12)	$ 1,600				
G101	Repaint or replace door 9	$ 350				
G102	Repair cracking brick	$ 1,500				
G103	Replace weather stripping	$ 1,600				

High School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
G104	Repair cracks in brick	$ 3,000				
G105	Window caulk needs replacement	$ 550				
G106	Repair cracking joints	$ 3,000				
G107	Asphalt is cracked in the main parking lot and several of the walkways are showing wear due to drainage.			$ 360,000		
G108	Precast concrete benches at the main entry are cracked.		$ 8,500			
G109	The tennis courts have not been resurfaced recently and are in poor condition.	$ 46,000				
G110	Brick below several white painted louvers is stained white.		$ 5,500			
G111	A few stair treads need to be replaced.		$ 5,500			
Roofing Issues						
R1	Recaulk skylight	$ 2,000				
R2	Repair roof hatch flashing	$ 1,250				
R3	Pillowing	$ 4,500				
R4	Pillowing	$ 4,500				
R5	Repair brick joint	$ 350				
R6	Missing flash	$ 650				
R7	Flashing repair (near solar panels)	$ 5,500				
R8	Missing elbows	$ 750				
R9	Repair flashing	$ 600				
R10	Repair flashing	$ 600				
R11	Abandoned sign base and exposed wiring	$ 2,000				
R12	Pillowing (roof pulling away from insulation)	$ 4,500				
R13	Replace roof on administration area (RED - required now per PRA due to shrinkage)	$ 30,000				
R13A	Roof report (GREEN - >10 years life span)				$ 3,000,000	
Fire Protection Issues						
FP1	Add fire protection to entire existing building		$ 618,230			

High School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
Plumbing Issues						
P1	Plumbing trap issues, traps are drying out		$ 10,000			
P2	Repair leaking pump	$ 3,500				
P3	Backflow preventer at greenhouse		$ 3,600			
P4	Camera storm sewers	$ 2,500				
P5	Replace HW heaters		$ 54,365			
Mechanical/H.V.A.C Issues						
M1	Replaceexisting boilers & hot water pumps				$ 136,102	
M2	AHU Maintenance (replace fans/motors) (20% upgrades within 5 years 40% more within 10 years and the remainder within 15 years) Replace fans, motors, VFDs, controls upgrades		$ 174,955	$ 524,866	$ 656,083	
M3	VAV Maintenance		$ 262,433	$ 459,258		
M4	Replace chillers and pumps			$ 206,250		
M5	Cooling to pool to pool units		$ 61,200			
Electrical Issues						
E1	Open junction boxes	$ 5,000				
E2	Fire Doors: not connected to FA system, sensors are separate for each door, failed last test	$ 7,500				
E3	Replace FA head end and additional devices as needed (Allowance based on sqft)		$ 131,217			
E4	ARC Flash Study		$ 10,000			
E5	Panel & breaker maintenance (Allowance)		$ 12,320			
E6	New generator for data closets		$ 26,400			
E7	Replace all metal halide wall packs and canopy fixtures with LED		$ 22,500			
E8	New Clock/PA System		$ 196,825			
E9	Provide addition CAT6 cabling as needed (Allowance based on sqft)		$ 104,973			
E10	Expand door access control system to monitor all exterior doors.		$ 30,000			
E11	Replace all florescent fixtures with LED and dimming controls		$ 918,516			

High School - Facilities Maintenance List *(Facilities Assessment Performed on March 13, 2019)*						
Item #	**Description**	**Urgent**	**2-5 years**	**6-10 years**	**10+ Years**	**TBD**
TOTAL		**$ 233,100**	**$ 2,880,133**	**$ 1,574,874**	**$ 3,792,185**	**$ -**

Key:
G = General Building Issues
R = Roofing Issues
FP = Fire Protection Issues
P = Plumbing Issues
M = Mechanical Issues
E = Electrical Issues

FORT ATKINSON, WI
BARRIE - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$22,406
DEMOLITION	$12,099
CONCRETE	$3,361
CASEWORK	$11,203
CARPENTRY	$8,290
DOORS / FRAMES & HARDWARE	$8,066
STOREFRONT/GLAZING	$22,249
FRAMING & DRYWALL	$12,099
FLOORING	$9,909
CEILINGS	$9,909
PAINT	$5,602
TILE	$5,058
SPECIALTIES	$560
FIRE PROTECTION	NIC
PLUMBING	$39,211
HVAC	$33,609
ELECTRICAL	$28,008
SECURITY	$11,203
TOTAL PROJECT COST	**$242,843**

FORT ATKINSON, WI
LUTHER - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$6,686
DEMOLITION	$3,031
MASONRY	$4,458
CARPENTRY	$892
DOORS / FRAMES & HARDWARE	$1,337
STOREFRONT/GLAZING	$27,163
FRAMING & DRYWALL	$4,458
FLOORING	$1,672
CEILINGS	$557
PAINT	$2,229
FIRE PROTECTION	NIC
HVAC	$557
ELECTRICAL	$6,686
SECURITY	$11,144
TOTAL PROJECT COST	**$70,869**

FORT ATKINSON, WI
PURDY - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$44,851
DEMOLITION	$22,874
EARTHWORK	$22,426
CONCRETE	$17,200
MASONRY	$32,966
STEEL	$44,851
CARPENTRY	$16,819
MOISTURE BARRIER	$9,688
ROOFING	$25,229
DOORS / FRAMES & HARDWARE	$9,419
STOREFRONT/GLAZING	$54,074
FRAMING & DRYWALL	$81,741
FIREWALL	$39,245
FLOORING	$13,789
CEILINGS	$12,536
PAINT	$8,970
FIRE PROTECTION	NIC
PLUMBING	$28,032
HVAC	$56,064
ELECTRICAL	$44,403
SECURITY	$16,819
TOTAL PROJECT COST	**$601,995**

FORT ATKINSON, WI
ROCKWELL - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$22,402
DEMOLITION	$23,881
CONCRETE	$3,360
MASONRY	$2,240
CASEWORK	$13,441
CARPENTRY	$10,753
DOORS / FRAMES & HARDWARE	$5,377
STOREFRONT/GLAZING	$22,122
FRAMING & DRYWALL	$21,473
FLOORING	$13,553
CEILINGS	$12,321
PAINT	$11,201
TILE	$5,057
SPECIALTIES	$560
FIRE PROTECTION	NIC
PLUMBING	$28,003
HVAC	$16,802
ELECTRICAL	$44,357
SECURITY	$13,441
TOTAL PROJECT COST	**$270,346**

FORT ATKINSON, WI
MIDDLE - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$44,869
DEMOLITION	$17,050
CONCRETE	$3,365
CASEWORK	$22,435
CARPENTRY	$31,409
DOORS / FRAMES & HARDWARE	$26,922
STOREFRONT/GLAZING	$57,983
FRAMING & DRYWALL	$89,739
FLOORING	$32,600
CEILINGS	$29,636
PAINT	$22,435
TILE	$15,194
SPECIALTIES	$1,683
FIRE PROTECTION	NIC
PLUMBING	$39,261
HVAC	$22,435
ELECTRICAL	$111,052
SECURITY	$11,217
TOTAL PROJECT COST	**$579,284**

FORT ATKINSON, WI
HIGH SCHOOL - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$6,687
DEMOLITION	$4,458
MASONRY	$0
CASEWORK	$0
CARPENTRY	$7,801
DOORS / FRAMES & HARDWARE	$3,343
STOREFRONT/GLAZING	$33,433
FRAMING & DRYWALL	$7,801
FLOORING	$6,687
CEILINGS	$4,458
PAINT	$3,343
FIRE PROTECTION	NIC
HVAC	$3,343
ELECTRICAL	$8,915
SECURITY	$16,716
TOTAL PROJECT COST	**$106,985**

FORT ATKINSON, WI
DISTRICT OFFICE - SECURE ENTRANCE
FORT ATKINSON, WI

TOTAL PROJECT COST SUMMARY
COST MODEL ESTIMATE
APRIL 19, 2019

BUILDING SYSTEM BREAKDOWN	4/19/2019 TOTAL COST
PROJECT COSTS	
GENERAL CONDITIONS	$2,193
DEMOLITION	$2,193
MASONRY	$1,097
STOREFRONT/GLAZING	$3,290
PAINT	$329
SECURITY	$8,772
TOTAL PROJECT COST	**$17,873**

CG Schmidt has partnered with Upper 90 Energy to evaluate the district's opportunities for energy savings as part of this facility study.

Upper 90 is a local, independent, and Wisconsin-owned energy efficiency consulting and contracting company focused on bringing flexible, high-quality, low-cost solutions to the marketplace.

This report is designed to answer a two main questions:

1. **HOW ENERGY EFFICIENT ARE THE FACILITIES, AND HOW HAVE WE BEEN DOING LATELY?**
2. **WHAT ARE SOME OPPORTUNITIES TO BE MORE ENERGY EFFICIENT?**

The recommendations made by Upper 90 are intended to be considered with the entirety of the recommendations by PRA & CG Schmidt. For example, if a major renovation project is being considered, it would not be recommended to convert the existing lighting to LED lighting prior to the renovation project as it would likely turn into a stranded investment.

Contents:

Preamble:

Through the analysis, it was apparent to Upper 90 that Fort Atkinson School District is committed to both reducing and generating energy. We've included a report written by the Director of Buildings & Grounds in 2017 to provide historical perspective on district's past accomplishments in the area of energy efficiency and renewable energy; however, he also indicates maintenance projects were starting to accumulate while the focus on safety and security was increasing.

To answer Question #1, Upper 90 gathered the district's historical and recent utility data and calculated the Energy Use Intensity (EUI) for each building. It is important to understand what EUI is, as it is considered the "industry-standard" for comparing energy use amongst facilities; Upper 90 calculated the 'Site EUI' specifically. The report contains an article that further explains EUI.

To answer Question #2, Upper 90 performed an ASHRAE Level 1 Energy Audit resulting in a table breakout of simple economics including estimated project budgets of the strategies listed above, brief project descriptions, estimated Focus on Energy rebate/incentive, and overall return on investment (ROI). A table is contained within the report.

Lastly, there is a cost of waiting if the savings opportunity is not realized. As the budget stands today, there is enough dollars to *overpay* on utility expenditures. Even though it can be costly to implement the upgrades necessary to achieve the savings, we believe that if you can afford to overpay, you can afford to make the improvements to no longer be overpaying. The cost of delay is expressed in a graphical format on the last page.

2017 ALTERNATIVE ENERGY INITIATIVES REPORT

The District continued to look at ways to reduce energy consumption and costs by installing lighting, geothermal, solar, and wind initiatives. Besides the cost savings, the District believes it is important to shape future leaders in environmental awareness, teaching the importance of saving energy by living it every day, and leading the way to the future.

Since 2007, the District has saved over one million dollars as a result of installing and implementing energy savings measures. The District's outlay costs were significantly decreased due to the lucrative incentives offered by *We Energies* and *Focus on Energy.* Many of these incentives are no longer available. The savings and outlay costs for the various initiatives are as follows:

Major projects have included: Lighting upgrade (12/2006, $278,368); geothermal (9/2007 and 9/2008, $1,040,000); solar hot water at the middle school (10/2008, $25,816); solar hot water at the high school (10/2008, $52,930); solar electric at Purdy (7/2010, $12,397); wind turbine at the high school (4/2011, $149,524); solar electric at Rockwell (9/2013, $68,180); and pool vent unit at the high school (3/2012, $136,964).

Other energy savings decisions and initiatives have included installing tankless hot water heaters, increasing roof insulation, window upgrades, automatically powering down computers, and installing occupancy sensors. The above projects are responsible for lowering energy costs to approximately $110,000 a year.

Future energy saving projects of interest include updated HVAC controls and occupancy sensors, LED lighting, solar thermal and photovoltaic; and additional geothermal at Luther Elementary and the High School. These projects will continue to be balanced with the maintenance and upkeep of our buildings and evolving student needs. All energy projects are done with financial payback in mind while trying to maximize resources to keep the current state our buildings running smoothly.

Like most things, energy innovation and student needs are always changing. With the leveling off of natural gas prices and the continual rise of electricity costs, the option for energy efficiency and reduction is increasing. This balanced with the continued increase in devices that are plugged in.

The Board, when approving each of these energy savings measures, understood it was investing in future energy savings that would eventually exceed the initial District outlay in years to come. There are many factors, from the weather to utility prices that impact energy usage and ultimate payback; however, the District feels it is doing its part to decrease its environmental impact and reduce costs. I believe doing energy efficiency projects continue to be important, but recently projects focusing on safety and maintenance repairs are starting to pile up, pushing energy initiatives to the side.

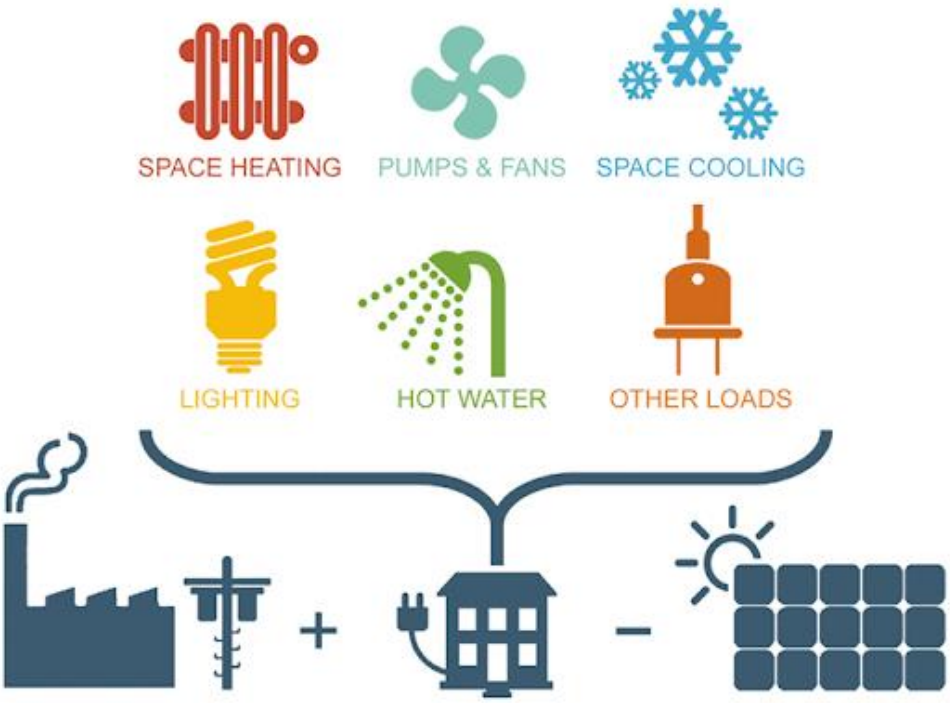
Moving forward, energy conservation should be kept in mind when doing a project, but it should not replace projects that our students and community need to keep our buildings running and safe. The "new" high school is going on 20 years old and that is typically the benchmark when building systems start to have trouble. While balancing maintenance to keep buildings running, we have begun upgrading security and safety measures throughout the District and have many of those projects in the near future.

Respectfully submitted,

Tom Kulczewski, Director of Building and Grounds

Energy Use Intensity (EUI) in Simple Terms

Originally published on August 17, 2017 by BNP Media through the Building Enclosure Blog.



By Daniel Overbey, AIA, NCARB, LEED Fellow (LEED AP BD+C, ID+C, O+M), WELL AP. Dan is an Assistant Professor of Architecture at Ball State University and the Director of Sustainability for Browning Day Mullins Dierdorf in Indianapolis, Ind. His work focuses on high-performance building design and construction, environmental systems research, green building certification services, energy/life-cycle assessment modeling, and resilient design.

Figure property of Daniel Overbey

Energy use intensity - or EUI. It has been called "the miles per gallon rating of the building industry," but many design and construction professionals are not entirely sure how EUI is defined and what its utility is with regard to the project.

Energy Use Intensity (EUI) can be defined as the measurement of a building's annual energy consumption relative to its gross square footage. EUI is often used to:

1. Express an existing building's actual, metered energy consumption;
2. Convey the average annual energy use derived from a data set of similar building type and location; or
3. Communicate the anticipated energy use for a particular project based on design performance or energy modeling (sometimes, this latter use is distinguished as pEUI - for predicted).

Site EUI or Source EUI?

EUI is expressed relative to either site or source energy. Site energy is most often referenced in the design community. In simple terms, site EUI is the energy consumed at the building site and is reflected in the utility bills paid by the owner. Source energy is a more accurate representation of a building's energy footprint as it considers the site energy as well as the energy lost during production, transmission, and delivery to the site.

Baselining EUI

In May 2007, the American Institute of Architects (AIA), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Architecture 2030, the Illuminating Engineering Society of North America (IESNA), and the U.S. Green Building Council (USGBC), supported by representatives of the U.S. Department of Energy, agreed to define the baseline for their common energy performance target goals as the national average energy consumption of existing U.S. commercial buildings as reported by the 2003 CBECS. The U.S. Department of Energy's Commercial Buildings Energy Consumption Survey (CBECS) is a national sample survey that collects information on the stock of U.S. commercial buildings, including their energy-related building characteristics and energy usage data (consumption and expenditures).

Determining a Target EUI

How can a design team quickly determine the appropriate EUI target for a project? There are a number of great resources to consult. In particular, the Zero Tool by Architecture 2030 is easy-to-use and well-suited for sustainable design professionals striving to meet the 2030 Challenge.

District Utility Data & Benchmarking

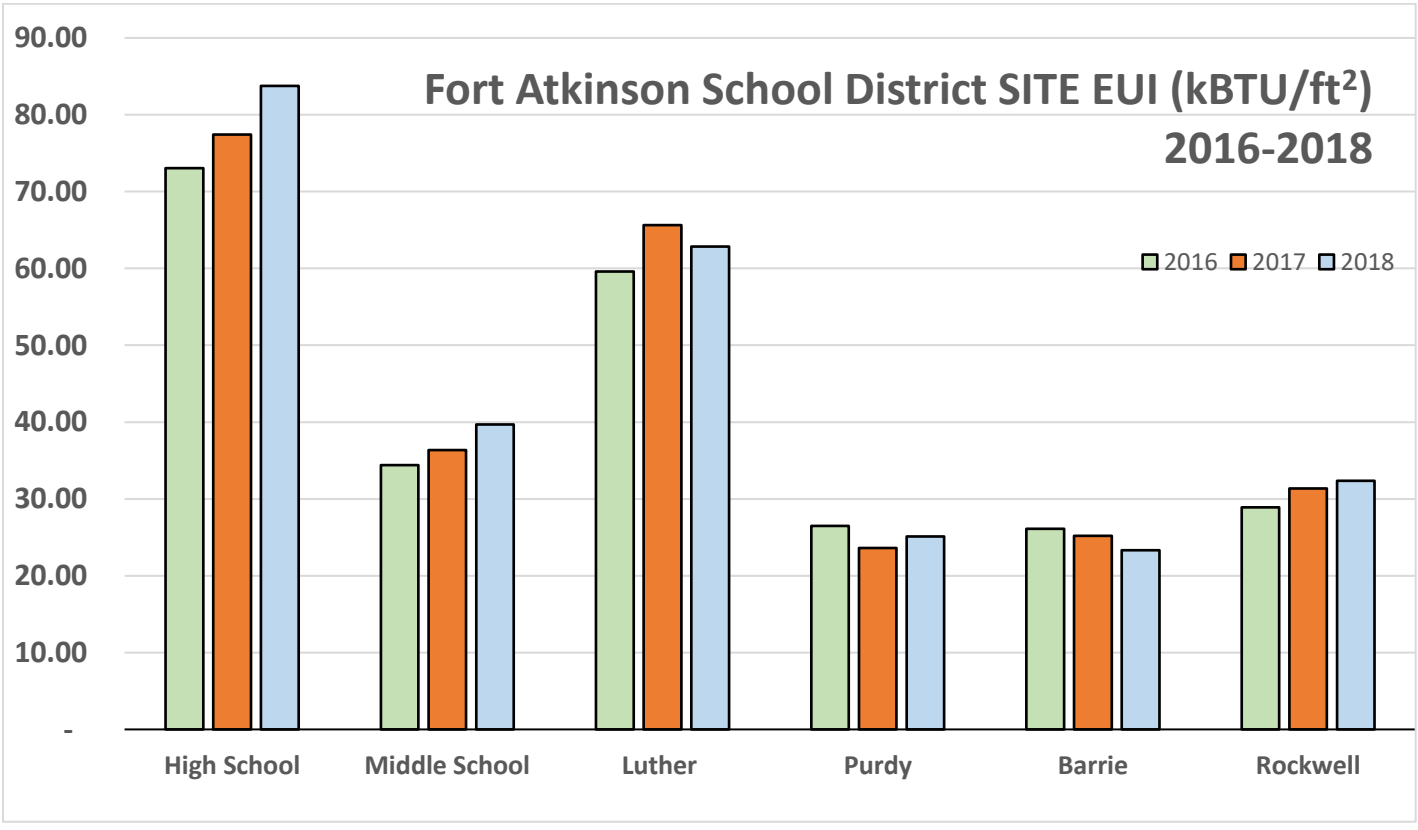
Upper 90 collected utility data from the district's Energy Star Portfolio Manager, a free web-based portal where the utility invoices are manually entered. The table below represents the energy consumed by each building for calendar year 2018—including energy generation from the district's renewable sources.

Building	GSF	Electric (kWh)	Electric $	Therms	Natural Gas $	Btu/GSF	Total $	Solar (kWh)	Wind (kWh)	Total $/sf
Fort Atkinson High School	261,700	2,187,200	$ 243,512	144,547	$ 73,668	83,750	$ 317,180	89,655	66,920	$ 1.21
Fort Atkinson Middle School	185,500	1,538,800	$ 168,244	21,108	$ 11,768	39,683	$ 180,012	64,544	N/A	$ 0.97
Luther Elementary School	84,400	492,423	$ 69,681	36,231	$ 21,150	62,835	$ 90,831	N/A	N/A	$ 1.08
Purdy Elementary School	82,600	566,880	$ 72,132	1,411	$ 839	25,125	$ 72,971	25,600	N/A	$ 0.88
Barrie Elementary School	49,172	293,040	$ 39,649	1,461	$ 892	23,305	$ 40,541	N/A	N/A	$ 0.82
Rockwell Elementary School	40,200	331,320	$ 43,244	1,703	$ 1,098	32,357	$ 44,342	24,937	N/A	$ 1.10
Totals	**703,572**	**5,409,663**	**$ 636,461**	**206,461**	**$ 109,416**	**55,579**	**$ 745,877**	**204,736**	**66,920**	**$ 1.06**

The buildings performed well in 2018 but with the continuing changes in building technologies, there is room for improvement. Key performance indicators are the individual EUI's for each building, with an average of 55 kBTU/ft^2, and the Total $/ft^2 at $1.06.

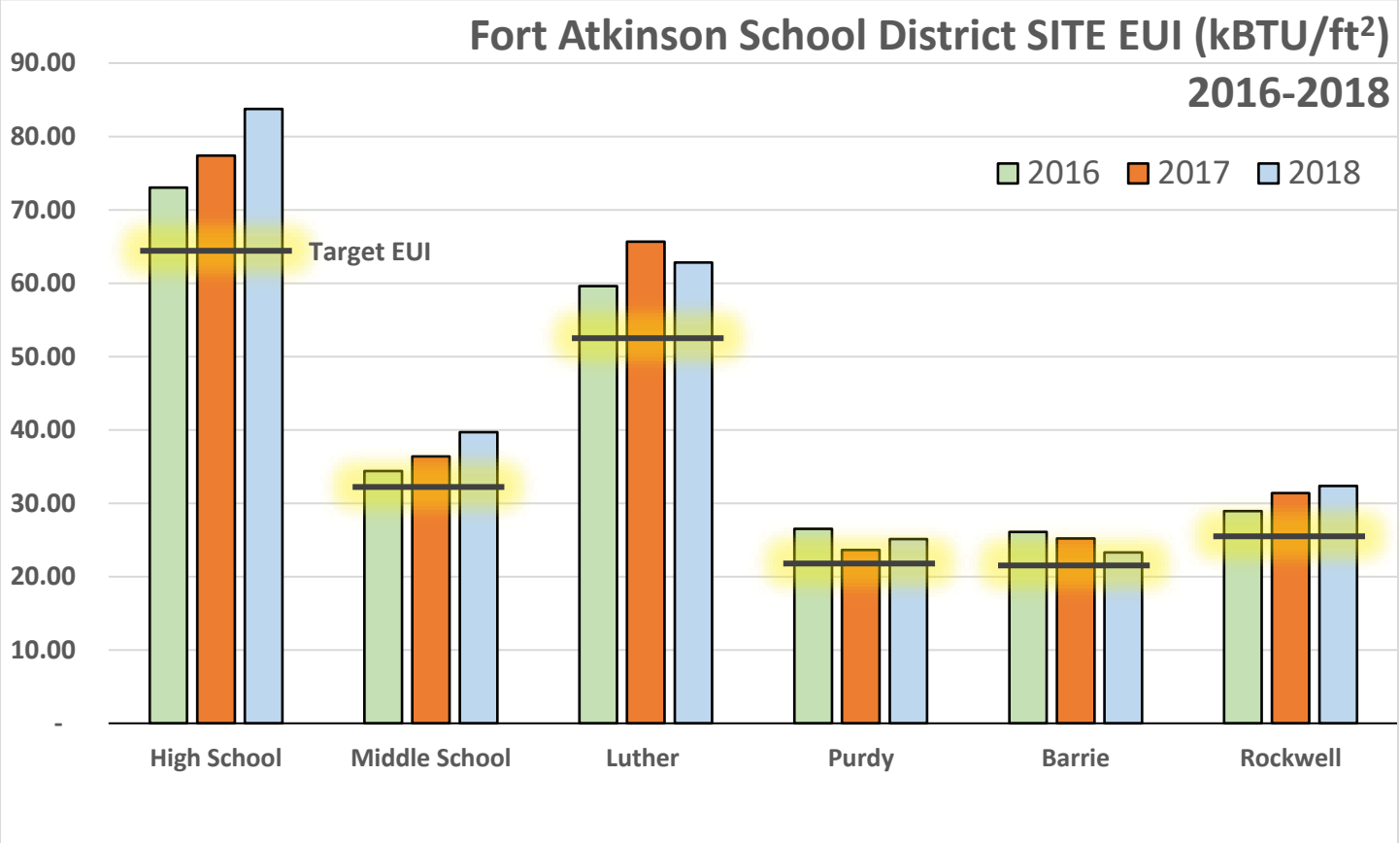
The variance in weather will impact how much energy the buildings use, but to better understand how the building is performing year-in and year-out, Upper 90 uses "Weather Normalized Site Energy" – defined by EnergyStar as "the energy use your property would have consumed during 30-year average weather conditions. For example, if 2012 was a very hot year, then your Weather Normalized Site Energy may be lower than your Site Energy Use, because you would have used less energy if it had not been so hot".

See the graph below comparing the Weather Normalized Site Energy EUI for each district building over the last three years. Notice the increasing trend at the High School, Middle School, and Rockwell, while Barrie is a decreasing trend.



This analysis begs the question, how 'should' the buildings be performing, or what would be considered 'good performance'? To answer that question, we refer to building utility data sets from past surveys and sets we've collected over a number of years to establish a target or benchmarks for where we believe the building could be performing in terms of Site EUI. Then, we use historical experience to evaluate the facility systems during a brief, preliminary site walkthrough. We are looking to determine if what the utility bills are reflecting is happening in the field with respect to current building operations and use. See the graph below for a 'Target EUI' for each building.

The Site EUI for the three buildings with Geothermal would benefit from upgrades such as converting fluorescent lighting to LED lighting to reduce energy consumption, but further energy reduction strategies would require additional analysis as Upper 90 suspects there may be heating load capacity issues present.



Reducing the Site EUI can be done in several ways such as behavioral changes, small modifications to facility systems, or a complete overhaul of the system(s). Upper 90 proposes four primary reduction strategies or Energy Conservation Measures (ECMs) to work towards the target EUI. These would be considered relatively straight-forward alterations.

1. LED Lighting Conversion – convert from older technologies like fluorescent to LED technology
2. Building Envelope Improvements – seal gaps, cracks, roof-wall joints to reduce air leakage/infiltration
3. Destratification Fans – eliminate stratified layers of air in spaces with high ceilings
4. HVAC/Control System Retro-commissioning – optimize performance of systems w/ updated building codes

A table breakout on the following page indicates a budget for each ECM for each building, along with an annual energy savings estimate, annual maintenance savings estimate, rebate/incentive, and overall simple payback. Upper 90 is estimating $130,000 in annual energy savings, a 17% reduction, with less than a 7 year payback.

Energy Conservation Measure (ECM) Matrix

School District of Fort Atkinson
Energy Conservation Measures - Preliminary Report
Spring 2019

Building	Energy Conservation Measures	Description	Estimated Cost/Budget	Estimated Annual Energy Savings	Estimated Annual Maintenance Savings	Estimated Utility Rebate	Simple Payback (years)
High School	LED Lighting	Retrofit or replace remaining interior/exterior lighting to LED technology	$210,000	$55,000	$8,250	$50,000	6.8
	Building Envelope	Reduce air leakage through new weather stripping and roof-wall intersection	$48,000				
	Destratification Fans	Install new fans to eliminate stratification in high ceiling areas	$35,000				
	RetroCommissioning	Optimize existing HVAC system, new programming and sequences on equipment	$184,000				
Middle School	LED Lighting	Retrofit or replace remaining interior/exterior lighting to LED technology	$149,000	$30,000	$6,000	$25,000	8.0
	Building Envelope	Reduce air leakage through new weather stripping and roof-wall intersection	$24,000				
	Destratification Fans	Install new fans to eliminate stratification in high ceiling areas	$10,000				
	RetroCommissioning	Optimize existing HVAC system, new programming and sequences on equipment	$130,000				
Luther Elementary	LED Lighting	Retrofit or replace remaining interior/exterior lighting to LED technology	$68,000	$23,000	$3,450	$15,000	4.8
	Building Envelope	Reduce air leakage through new weather stripping and roof-wall intersection	$8,000				
	Destratification Fans	Install new fans to eliminate stratification in high ceiling areas	$7,000				
	RetroCommissioning	Optimize existing HVAC system, new programming and sequences on equipment	$60,000				
Purdy Elementary	LED Lighting	Retrofit or replace remaining interior/exterior lighting to LED technology	$67,000	$10,000	$1,500	$10,000	7.3
	Building Envelope	Reduce air leakage through new weather stripping and roof-wall intersection	$20,000				
	Destratification Fans	Install new fans to eliminate stratification in high ceiling areas	$7,000				
	RetroCommissioning	Optimize existing HVAC system, new programming and sequences on equipment	n/a				
Barrie Elementary	LED Lighting	Retrofit or replace remaining interior/exterior lighting to LED technology	$40,000	$5,000	$750	$5,000	8.8
	Building Envelope	Reduce air leakage through new weather stripping and roof-wall intersection	$10,700				
	Destratification Fans	Install new fans to eliminate stratification in high ceiling areas	$5,000				
	RetroCommissioning	Optimize existing HVAC system, new programming and sequences on equipment	n/a				
Rockwell Elementary	LED Lighting	Retrofit or replace remaining interior/exterior lighting to LED technology	$33,000	$7,000	$1,050	$5,000	5.2
	Building Envelope	Reduce air leakage through new weather stripping and roof-wall intersection	$6,700				
	Destratification Fans	Install new fans to eliminate stratification in high ceiling areas	$7,000				
	RetroCommissioning	Optimize existing HVAC system, new programming and sequences on equipment	n/a				
		Subtotal	**$1,129,400**	**$130,000**	**$21,000**	**$110,000**	**6.8**
		Total (Fee, Insurance, Bond, GC)	**1,391,172**				

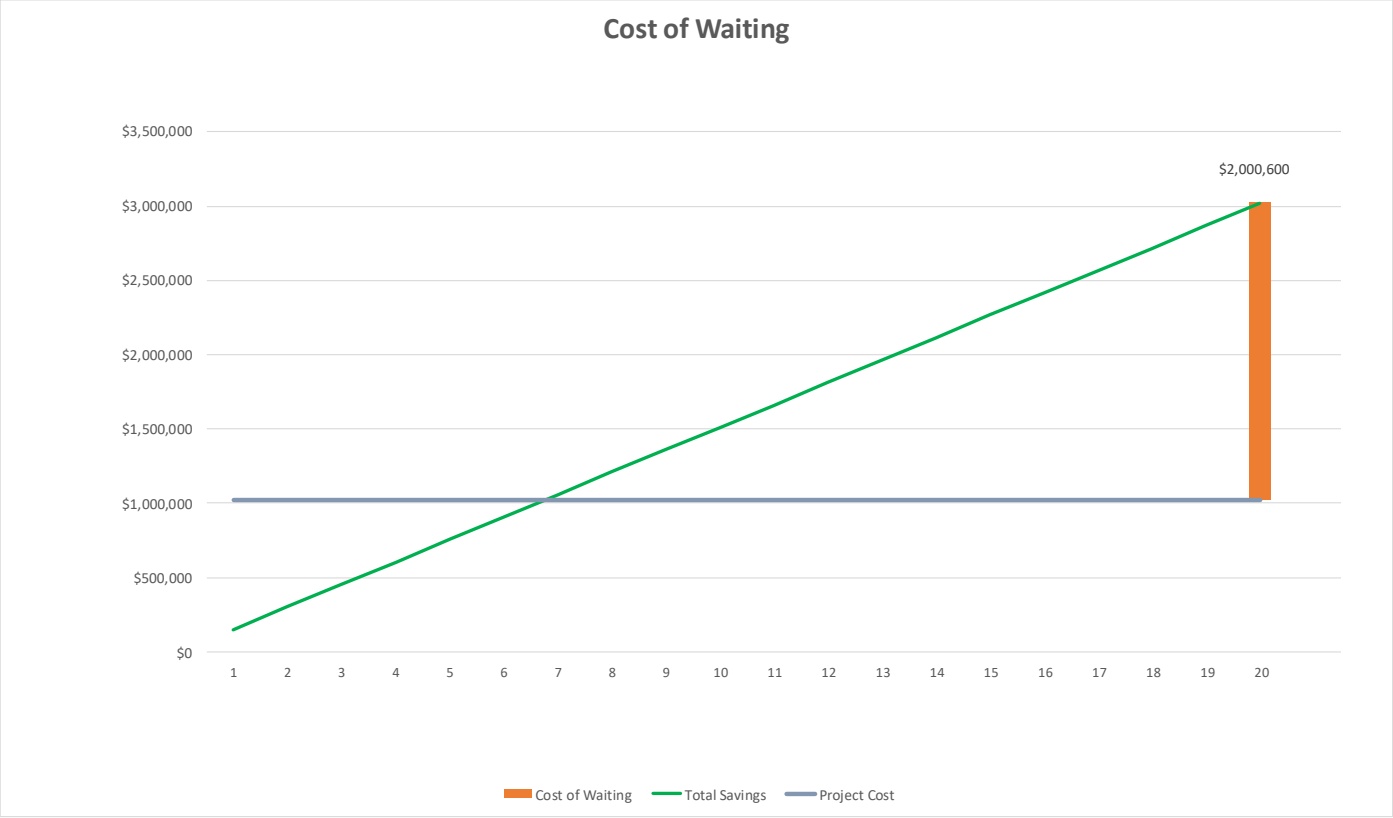
Upper 90 is conservative with our projections and further analysis is required to determine the actual, measurable annual energy savings.

While it is important to consider the environmental aspect of reducing energy and one's carbon footprint, the financial impact to the bottom line for business operations is also very important. Essentially, the district is *overspending* on utility expenditures by an estimated $130,000 per year. It is estimated to cost around $1.1M to realize the yearly savings. While that cost is significant, the cost of delay is even more significant.

Cost of Waiting

As previously stated, the estimated annual savings opportunity is $130,000. Using simple math, if you delay doing the projects necessary to realize the savings for 5 years, you will have *overspent* on utility expenditures by 5 x $130,000 = $650,000. This computation also assumes no changes in variables such as project cost, utility rate, weather, and overall inflation (the time value of money).

Now factor in the cost of the project ($1.1M in today's dollars) and analyze over a 20 year period; the *savings* is over $2 million. Please refer to the table below; the green line demonstrates the accumulation of savings over time, the blue line is the project cost in today's dollars, the intersection is the 'simple payback' and the orange bar represents the accumulation of savings less the project cost.



ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Barrie Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, AII-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
004 ART (EB-4)	CEILING TILE-TECTUM	---	A	G	OM	M	2	
004 ART (EB-4)	12" FLOOR TILE/ADHESIVE	720 SQ FT	I	G	OM	M	2	UNDER CARPET
004/007 HALL	12" FLOOR TILE/ADHESIVE	800 SQ FT	I	G	OM	M	2	
004A ART STOR.	12" FLOOR TILE/ADHESIVE	115 SQ FT	I	G	OM	M	2	
007 MUSIC (EB-7)	12" FLOOR TILE/ADHESIVE	720 SQ FT	I	G	OM	M	2	
013 OFFICE AREA	12" FLOOR TILE/ADHESIVE	420 SQ FT	I	G	OM	M	2	
013/117 HALL	12"FLOOR TILE/ADHESIVE	496 SQ FT	I	G	OM	M	2	REMOVED 4/2014
015 HEALTH	12" FLOOR TILE/ADHESIVE	190 SQ FT	I	G	OM	M	2	UNDER CARPET
115	12" FLOOR TILE/ADHESIVE	84 SQ FT	I	G	OM	M	2	UNDER CARPET
116	12" FLOOR TILE/ADHESIVE	60 SQ FT	I	G	OM	M	2	REMOVED 4/2014
117	12" FLOOR TILE/ADHESIVE	144 SQ FT	I	G	OM	M	2	UNDER CARPET
134 GYM	CEILING-TECTUM	---	A	G	OM	M	2	
134 GYM	FIRE DOORS	4	A	G	OM	M	2	
134 OFFICE	12" FLOOR TILE/ADHESIVE	350 SQ FT	I	G	OM	M	2	
134/154 HALL	12" FLOOR TILE/ADHESIVE	1600 SQ FT	I	G	OM	M	2	REMOVED 4/2014
135 STORAGE	12" FLOOR TILE/ADHESIVE	117 SQ FT	I	G	OM	M	2	
145 MULTIPURP. RM	CEILING-TECTUM	---	A	G	OM	M	2	
145 MULTIPURP. RM	12' FLOOR TILE/ADHESIVE	2024SQ FT	I	G	OM	M	3	REMOVED 7/2015

CONDITION: G = GOOD M = MODERATE P = POOR
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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Barrie Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, AII-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
148 KITCHEN	FIRE DOORS	---	A	G	OM	M	2	
148 KITCHEN	12' FLOOR TILE/ADHESIVE	252 SQ FT	A	G	OM	M	2	
149 RECEIVING	FIRE DOORS	3	A	G	OM	M	2	
150 A BOILER ROOM STOR	FIRE DOOR	1	A	G	OM	M	2	
150 BOILER ROOM	FIRE DOORS	2	A	G	OM	M	2	
152 PRINCIPAL	12" FLOOR TILE.ADHESIVE	420 SQ FT	I	G	OM	M	2	
153 CONF. ROOM	12"FLOOR TILE/ADHESIVE	240 SQ FT	I	G	OM	M	2	UNDER CARPET
154	12" FLOOR TILE/ADHESIVE	240 SQ FT	I	G	OM	M	2	UNDER CARPET
156	TRANSITE	85 SQ FT	A	G	OM	M	2	
156 HALL	12" FLOOR TILE/ADHESIVE	374 SQ FT	I	G	OM	M	2	
160/177 HALL	12" FLOOR TILE/ADHESIVE	374 SQ FT	I	G	OM	M	2	CRACKING/CHIPPING TILES
162	TRANSITE	60 SQ FT	A	G	OM	M	2	
162/164 HALL	12" FLOOR TILE/ADHESIVE	540 SQ FT	I	G	OM	M	2	
164	12"FLOOR TILE/ADHESIVE	720 SQ FT	I	G	OM	M	2	UNDER CARPET
171 JC	TSI FITTINGS	2	I	G	OM	T	2	
171 JC	TSI WRAP	19 LF	I	G	OM	T	2	
171 JC	LINOLEUM/ADHESIVE	12 SQ FT	A	G	OM	M	2	

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Barrie Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE:** March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
177 KINDERGARTEN	TRANSITE	96 SQ FT	A	G	OM	M	2	
177 KINDERGARTEN	12" FLOOR TILE/ADHESIVE	600 SQ FT	I	G	OM	M	2	UNDER CARPET
207	TRANSITE	120 SQ FT	A	G	OM	M	2	
207/210 HALL	CEILING TILE-TECTURM	---	A	G	OM	M	2	
207/210 HALL	TRANSITE	30 SQ FT	A	G	OM	M	2	
208	TRANSITE	75 SQ FT	A	G	OM	M	2	
209	TRANSITE	75 SQ FT	A	G	OM	M	2	
210	TRANSITE	120 SQ FT	A	G	OM	M	2	
213 J.C.	12" FLOOR TILE/ADHESIVE	27 SQ FT	I	G	OM	M	2	
903 STORAGE	FIRE DOORS	2	A	G	OM	M	2	
NORTH CRAWL SPACE	TSI WRAP & FITTINGS	380 LF	I	G	OM	T	2	

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Luther School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE:** March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
100 ORCHESTRA	9X9 FLOOR TILE & ADHESIVE	300 SQ FT	I	G	OM	M	1	AT FILLED PIT-BELOW CONCRETE
100 ORCHESTRA	9X9 FLOOR TILE & ADHESIVE	300 SQ FT	I	G	OM	M	1	REMOVED IN PART
101 BAND ROOM	9X9 FLOOR TILE & ADHESIVE	2700 SQ FT	I	G	OM	M	2	OFF WHITE/OLIVE GREEN/ALMOND
101A OFFICE	9X9 FLOOR TILE & ADHESIVE	227 SQ FT	I	G	OM	M	2	OFF WHITE/OLIVE GREEN/ALMOND
101B PRACTICE	9X9 FLOOR TILE & ADHESIVE	63 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
101C PRACTICE	9X9 FLOOR TILE & ADHESIVE	68 SQ FT	I	G	OM	M	2	OFF WHITE/OLIVE GREEN/ALMOND
101D PRACTICE	9X9 FLOOR TILE & ADHESIVE	135 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
101E PRACTICE	9X9 FLOOR TILE & ADHESIVE	46 SQ FT	I	G	OM	M	2	OFF WHITE/OLIVE GREEN/ALMOND
102	MIXED MASTICS (BLACK & YELLOW)	700 SQ FT	I	G	OM	M	2	ABATED - SUMMER 2018
102/OFFICE HALL	9X9 FLOOR TILE & ADHESIVE	1702 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
108	9X9 FLOOR TILE & ADHESIVE	300 SQ FT	I	G	OM	M	2	ABATED - SUMMER 2018
109	12X12 FLOOR TILE & ADHESIVE	240 SQ FT	I	G	OM	M	2	CREAM/BROWN
110 CONF. ROOM	9X9 FLOOR TILE & ADHESIVE	135 SQ FT	I	G	OM	M	2	OFF WHITE/GREEN/GRAY
111A FILE ROOM	9X9 FLOOR TILE & ADHESIVE	108 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
113/D.O HALL	TSI FITTINGS	29	I	G	OM	T	2	
114/140 IMC	9X9 FLOOR TILE & ADHESIVE	2620 SQ FT	I	G	OM	M	2	BELOW CARPET
114/140 IMC	TRANSITE	---	A	G	OM	M	2	ABOVE DOORS
114A IMC OFFICE	9X9 FLOOR TILE & ADHESIVE	189 SQ FT	I	G	OM	M	2	BELOW CARPET

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Luther School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
122	CARPET ADHESIVE	419 SQ FT	A	G	OM	M	2	TILE BELOW?
135 OFFICE	9X9 FLOOR TILE & ADHESIVE	315 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE BELOW CARPET
138	9X9 FLOOR TILE & ADHESIVE	150 SQ FT	I	G	OM	M	2	BELOW CARPET
145 BOILER ROOM	BREECHING	220 SQ FT	A	G	OM	M	2	BEIGE/TAN
145 BOILER ROOM	BOILER DOOR INSULATION	---	A	G	OM	M	2	
145 BOILER ROOM	BOILER GASKETS	---	A	G	OM	M	2	
145 BOILER ROOM	DUCTING EXP. JOINT - BLACK	---	A	G	OM	M	2	
145 BOILER ROOM	TROWELED ON PLASTER	---	A	G	OM	M	2	CEILING
145 BOILER ROOM	TSI FITTINGS	55	A	M	OM	T	5	EXPOSED FITTINGS AROUND E. BOILER AT NW & NE
146/143 HALL	9X9 FLOOR TILE & ADHESIVE	1008 SQ FT	I	G	OM	M	3	CHIPPED AT AUD. DOORS AT SOUTH
146/143 HALL	TSI FITTINGS	22	A	G	OM	T	2	
146A KITCHEN OFFICE	9X9 FLOOR TILE & ADHESIVE	80 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE & SMALL 12" PATCH
147	12X12 FLOOR TILE & ADHESIVE	479 SQ FT	A	G	OM	M	2	OFF WHITE/BLUE/BLACK
147	TSI FITTINGS	2	I	G	OM	T	2	ABATED - SUMMER 2018
147A WORK AREA	12X12 FLOOR TILE & ADHESIVE	28 SQ FT	A	G	OM	M	2	OFF WHITE/BLUE/BLACK
147B OFFICE	12X12 FLOOR TILE & ADHESIVE	117 SQ FT	A	G	OM	M	2	OFF WHITE/BLUE/BLACK
148	TSI FITTINGS	3	I	G	OM	T	2	ABATED - SUMMER 2018

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Luther School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
200 FAC. OFF.	9X9 FLOOR TILE & ADHESIVE	788 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY/UNDER CARPET
200 MECH ROOM	TSI PATCHES ON PENATRATIONS	---	I	G	OM	T	2	
200/207 HALL	9X9 FLOOR TILE & ADHESIVE	1474 SQ FT	I	G	OM	M	3	BEIGE/TAN/WHITE - CHIPPED AT 206 STAIRS
201 I.T. STOR.	9X9 FLOOR TILE & ADHESIVE	810 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
201 MECH ROOM	TSI PATCHES ON PENATRATIONS	---	I	G	OM	T	2	
202	9X9 FLOOR TILE & ADHESIVE	810 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
203	9X9 FLOOR TILE & ADHESIVE	810 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
204	9X9 FLOOR TILE & ADHESIVE	810 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
205	9X9 FLOOR TILE & ADHESIVE	810 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
206	9X9 FLOOR TILE & ADHESIVE	788 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
207	9X9 FLOOR TILE & ADHESIVE	567 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
BOYS LOCKER ROOM	TSI FITTINGS	1	I	G	OM	T	2	
BOYS LR OFC	9X9 FLOOR TILE & ADHESIVE	80 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
CAFETERIA	9X9 FLOOR TILE & ADHESIVE	3490 SQ FT	I	G	OM	M	2	
GIRLS LR OFC	9X9 FLOOR TILE & ADHESIVE	80 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY
GYM	TSI FITTINGS	42	A	G	OM	T	2	ABATED - SUMMER 2016

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Luther School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
GYM HALL	9X9 FLOOR TILE & ADHESIVE	99 SQ FT	I	G	OM	M	2	OFF WHITE/BROWN/GRAY - UNDER CARPET
JC 1 AT WEST STAIRS	TSI FITTINGS	1	I	G	OM	T	2	
JC 2 AT EAST STAIRS	9X9 FLOOR TILE & ADHESIVE	68 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
LAUNDRY RM	TSI FITTINGS	52	A	G	OM	T	2	
N MECH RM	TRANSITE	---	A	G	OM	M	2	
OFFICE STOR AT HALL	TSI FITTINGS	36	A	G	OM	T	2	
STAGE NORTH ENTR. & STOR.	9X9 FLOOR TILE & ADHESIVE	245 SQ FT	I	G	OM	M	2	BEIGE/TAN/WHITE
THROUGHOUT	CERAMIC BASEBOARD	—	A	G	OM	M	2	CHIPPED/MISSING TILES, MASTIC EXPOSED
THROUGHOUT	TRANSITE	---	A	G	OM	M	2	ABOVE DOORS
THROUGHOUT	TSI FITTINGS	INACCESS	A	G	OM	T	2	ABOVE LOCKIN CEILING

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MATERIALS TO BE REPAIRED

FORT ATKINSON SCHOOL DISTRICT

BUILDING: Luther School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
145 BOILER ROOM	TSI FITTINGS	55	A	M	OM	T	5	EXPOSED FITTINGS AROUND E. BOILER AT NW & NE

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Purdy Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman. All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
01 BAND ROOM	12X12 FLOOR TILE & ADHESIVE	360 SQFT	I	G	OM	M	2	WHITE/TAN
05 ART (A-113)	TRANSITE	84 SQFT	A	G	OM	M	2	
06 4K (A-118)	TRANSITE	96 SQFT	A	G	OM	M	2	
08 KINDER. (A-116/A-117)	TRANSITE	188 SQ FT	A	G	OM	M	2	
09 KINDER. (A-114/A-115)	TRANSITE	188 SQ FT	A	G	OM	M	2	
47 TCHRS WORKRM	12X12 FLOOR TILE & ADHESIVE	450 SQFT	I	G	OM	M	2	WHITE/TAN
48 LOUNGE (C-142)	12X12 FLOOR TILE & ADHESIVE	540 SQFT	I	G	OM	M	2	WHITE/TAN
49 VOCAL MUSIC	12X12 FLOOR TILE & ADHESIVE	1200 SQFT	I	G	OM	M	2	WHITE/TAN
50 SPEECH RM	12X12 FLOOR TILE & ADHESIVE	154 SQFT	I	G	OM	M	2	WHITE/TAN
52 SPEECH (C-143)	12X12 FLOOR TILE & ADHESIVE	210 SQFT	I	G	OM	M	2	WHITE/TAN
54 COUNC. OFFICE	12X12 FLOOR TILE & ADHESIVE	192 SQFT	I	G	OM	M	2	WHITE/TAN
56 PSYCH. (B-105)	12X12 FLOOR TILE & ADHESIVE	110 SQFT	I	G	OM	M	2	WHITE/TAN
58 NURSES OFFICE	12X12 FLOOR TILE & ADHESIVE	468 SQFT	I	G	OM	M	2	WHITE/TAN
A131 BOILER ROOM	BOILER INSULATION	440 SQ FT	I	G	OM	M	2	KEWANEE (4'X6'X8')
A131 BOILER ROOM	FIRE DOORS	---	A	G	OM	M	2	
A131 BOILER ROOM	TSI WRAP/FITTINGS	130 LF46	A	M	RP	T	5	(3) DAMAGED FITTINGS AT ENTRANCE TO TUNNEL NEXT TO OUTSIDE WALL

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Purdy Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman. All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
B132 GEOTHERMAL	TSI FITTINGS	40	N	G	OM	T	2	
CONFERENCE ROOM	12X12 FLOOR TILE & ADHESIVE	396 SQFT	I	G	OM	M	2	WHITE/TAN
GYM OFFICE	12X12 FLOOR TILE & ADHESIVE	130 SQFT	I	G	OM	M	2	WHITE/TAN
GYM STORAGE	12X12 FLOOR TILE & ADHESIVE	480 SQFT	I	G	OM	M	2	WHITE/TAN
GYMNASIUM	TECTUM CEILING	---	A	G	OM	M	2	
MAIN OFC WRK.	12X12 FLOOR TILE & ADHESIVE	140 SQFT	I	G	OM	M	2	WHITE/TAN
MAIN OFC WRK.	TSI FITTINGS	4	A	G	OM	T	2	
MAIN OFC. PRIN.	12X12 FLOOR TILE & ADHESIVE	414 SQ FT	I	G	OM	M	2	WHITE/TAN
MAIN OFFICE	12X12 FLOOR TILE & ADHESIVE	496 SQFT	I	G	OM	M	2	WHITE/TAN
MAIN OFFICE	TSI FITTINGS	9	A	G	OM	T	2	
NW MLTPRP JC	TSI FITTINGS	29	A	G	OM	T	2	
STAGE UPPER WEST	TSI FITTINGS	1	I	G	OM	T	2	
TUNNEL A	TSI WRAP & FITTINGS	130 LF	A	G	OM	T	2	
TUNNEL B	TSI WRAP & FITTINGS	510 LF	A	G	OM	T	2	

CONDITION: G = GOOD M = MODERATE P = POOR
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I/A/N: I = IDENTIFIED A = ASSUMED N = NEGATIVE

ENVIRONMENTAL MANAGEMENT CONSULTING, INC.
W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

MATERIALS TO BE REPAIRED

FORT ATKINSON SCHOOL DISTRICT

BUILDING: Purdy Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman. AII-208554 **SURVEILLANCE DATE:** March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
A131 BOILER ROOM	TSI WRAP/FITTINGS	130 LF46	A	M	RP	T	5	(3) DAMAGED FITTINGS AT ENTRANCE TO TUNNEL NEXT TO OUTSIDE WALL

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W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Rockwell Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
104/107 HALL (G)	1X1 CEILING TILE & GLUE PODS	1600 SF	A	G	OM	M	2	WHITE
104/107 HALL (G)	TSI FITTINGS	3	I	G	OM	T	2	NEAR 105 STAIRS
105 ART ROOM	12X12 FLOOR TILE & ADHESIVE	1176 SF	I	G	OM	M	2	OFF WHITE/TAN
105 ART ROOM	TRANSITE	---	A	G	OM	M	2	
106 ART STORAGE	12X12 FLOOR TILE & ADHESIVE	280 SF	I	G	OM	M	2	OFF WHITE/TAN
107 STORE ROOM	TSI FITTINGS	6	I	G	OM	T	2	
108 BOILER ROOM	TSI FITTINGS	27	I	M	RP	T	5	DAMAGE AT 2 VALVES NEAR FLOOR
214 GYM	TECTUM CEILING	—	A	G	OM	M	2	
220 GYM OFFICE	12X12 FLOOR TILE & ADHESIVE	85 SF	I	G	OM	M	2	OFF WHITE/TAN
221 STORAGE	12X12 FLOOR TILE & ADHESIVE	480 SF	I	G	OM	M	2	OFF WHITE/TAN
227 BOILER RM	FIRE DOOR	1	A	G	OM	M	2	
227 BOILER RM	TROWELLED ON PLASTER	300 SF	A	G	OM	M	2	CEILING
227 BOILER RM	TSI FITTINGS	18	I	G	OM	M	2	ABATED WITH BOILER
227/235 HALL (C)	12X12 FLOOR TILE & ADHESIVE	319 SF	I	G	OM	M	2	WHITE/TAN
228 KITCHEN	12X12 FLOOR TILE & ADHESIVE	320 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM
233 STOR RM	12X12 FLOOR TILE & ADHESIVE	165 SF	I	G	OM	M	2	TAN/BROWN/CREAM
236 CUST CLOSET	TSI FITTINGS	22	I	G	OM	T	2	IN PIPECHASE
238 STAGE	12X12 FLOOR TILE & ADHESIVE	600 SF	I	G	OM	M	2	TAN/BROWN/CREAM

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Rockwell Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE:** March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
238 UPPER HVAC WEST	TSI WRAP	13 LF	I	G	OM	T	2	
238/239 HALL (A)	12X12 FLOOR TILE & ADHESIVE	1700 SF	I	G	OM	M	2	WHITE
238/239 HALL (A)	TRANSITE	---	A	G	OM	M	2	
239 MULTI PURPOSE RM	12X12 FLOOR TILE & ADHESIVE	2542 SF	I	M	RP	M	5	TAN/BROWN/CREAM-MISSING TILE AND EXPOSED MASTIC AT LOBBY WALL
248	12X12 FLOOR TILE & ADHESIVE	928 SF	A	G	OM	M	2	TAN/BROWN/CREAM
249 CONF. RM	12X12 FLOOR TILE & ADHESIVE	352 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM/UNDER CARPET
251	12X12 FLOOR TILE & ADHESIVE	928 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM
252	12X12 FLOOR TILE & ADHESIVE	288 SF	I	G	OM	M	2	BROWN/DK BROWN/TAN/UNDER CARPET
256 COPY ROOM	12X12 FLOOR TILE & ADHESIVE	420 SF	I	G	OM	M	2	BROWN/BLACK/TAN
260A HEALTH ROOM	12X12 FLOOR TILE & ADHESIVE	80 SF	I	G	OM	M	3	BROWN/BLACK/TAN-TILE MISSING MASTIC EXPOSED
262 LOUNGE	12X12 FLOOR TILE & ADHESIVE	464 SF	I	G	OM	M	3	BROWN/BLACK/TAN-DAMAGE @ SINK
263	12X12 FLOOR TILE & ADHESIVE	896 SF	I	G	OM	M	2	BROWN/BLACK/TAN
264	12X12 FLOOR TILE & ADHESIVE	928 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM
265	12X12 FLOOR TILE & ADHESIVE	928 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM
266	12X12 FLOOR TILE & ADHESIVE	928 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM
267	12X12 FLOOR TILE & ADHESIVE	928 SF	I	G	OM	M	2	BEIGE/BROWN/CREAM

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Rockwell Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE:** March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
270 CLASS/HALL	12X12 FLOOR TILE & ADHESIVE	90 SF	I	G	OM	M	2	OFF WHITE
270 JC	TSI FITTINGS	26	A	G	OM	T	2	IN PIPECHASE
270/253 ENTRY	TRANSITE	---	A	G	OM	M	2	
271 COUN. OFFICE	9X9 FLOOR TILE & ADHESIVE	6 SF	I	G	OM	M	2	RED/WHITE-UNDER CARPET
LOBBY	12X12 FLOOR TILE & ADHESIVE	189 SF	I	G	OM	M	2	WHITE

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W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

MATERIALS TO BE REPAIRED

FORT ATKINSON SCHOOL DISTRICT

BUILDING: Rockwell Elementary School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE:** March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
108 BOILER ROOM	TSI FITTINGS	27	I	M	RP	T	5	DAMAGE AT 2 VALVES NEAR FLOOR
239 MULTI PURPOSE RM	12X12 FLOOR TILE & ADHESIVE	2542 SF	I	M	RP	M	5	TAN/BROWN/CREAM-MISSING TILE AND EXPOSED MASTIC AT LOBBY WALL

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ENVIRONMENTAL MANAGEMENT CONSULTING, INC.
W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3rd Ed. Method No. 3050B/Method No. 7420

AIHA Environmental Lead ACCREDITED LABORATORY

Customer: Environmental Management Consulting
W7748 Cnty Hwy V
Lake Mills WI 53551

Attn: David Sherrard, CIH

Lab Order ID: 708067
Analysis ID: 708067_PBP
Date Received: 10/15/2007
Date Reported: 10/15/2007

Project: 070106- For Atkinson

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Mass (g)	Analytical Sensitivity (% by weight)	Concentration (% by weight)
F-01	Ceiling-250	0.0695	0.002%	<0.01%
708067PBP_1				
F-02	Ceiling-248	0.0217	0.005%	0.03%
708067PBP_2				

Scientific Analytical Institute successfully participates in the AIHA ELPAT for Lead program. ELPAT Laboratory ID: 173190 (R.L. = 0.01 wt.%)
The quality control samples run with the samples in this report have passed all AIHA required specifications unless otherwise noted.

Amy Scheuerman (2)

Analyst

Approved Signatory

708067

Scientific Analytical Institute
302-L Pomona Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

Lab use only
Lab Order ID:
Client Code:

Contact Information	
Company Name:	Environmental Mgmt. Consulting
Address:	W7748 County Highway V
	Lake Mills, WI 53551
Contact:	
Phone ☐:	920-648-6343
Fax ☐:	920-648-4370
Email ☒:	emc@emc-wi.com
PO Number:	070106
Project Name/Number:	FOR Atkinson

Billing/Invoice Information	
Company:	Same
Address:	
Contact:	
Phone ☐:	
Fax ☐:	
Email ☐:	

Lead Test Types		
Paint Chips by Flame AA ☒	Soil by Flame AA ☐	Other ☐
Wipe by Flame AA ☐	Air by Flame AA ☐	

Turn Around Times			
3 Hours	☐	72 Hours	☐
6 Hours	☐	96 Hours	☐
12 Hours	☐	120 Hours	☐
24 Hours	☐	144+ Hours	☐
48 Hours	☒		

Sample ID #	Description/Location	Volume/Area	Comments
F-01	ceiling - 250		
F-02	ceiling - 240		
			Accepted ☑
			Rejected

Total Number of Samples ________

Relinquished by	Date/Time	Received by	Date/Time
[signature]	10/1/07	[signature]	10-15 1800

Page _____ of _____

LEAD BULK SAMPLE CHART

SAMPLE DATE: OCTOBER 11, 2007
SAMPLE LOCATION: ROCKWELL ES
EMC INSPECTOR: DAVID A. SHERRARD

PROJECT NUMBER: 070106-08
INSPECTOR NUMBER: LRA-847
COMPANY LICENSE: HSF-13160

SAMPLE NUMBER	ROOM/AREA	PAINT DESCRIPTION/COLOR	SUBSTRATE	SPECIFIC SAMPLE LOCATION	RESULTS % BY WEIGHT OR ppm
F-1	250	WHITE	METAL	CEILING	<0.01%
F-2	248	WHITE	METAL	CEILING	0.03%

LEAD PAINT

State of Wisconsin	Federal HUD
.06% by weight	.5% by weight
600 ppm	5000 ppm

W7748 County Highway V
Lake Mills, WI 53551

ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
001 BOILER ROOM	FIRE DOOR	1	A	G	OM	M	2	
002 ELECTRICAL ROOM	GENERATOR EXHAUST WRAP	30 LF	A	G	OM	T	2	
002 ELECTRICAL ROOM	ROOF DRAIN	1 FITTING	A	G	OM	M	2	
003	12" FLOOR TILE & ADHESIVE	1700 SF	I	G	OM	M	2	
003 OFFICE	12" FLOOR TILE & ADHESIVE	187 SF	I	G	OM	M	2	
004A	12" FLOOR TILE & ADHESIVE	224 SF	I	G	OM	M	2	
005 OFC	12" FLOOR TILE & ADHESIVE	165 SF	I	G	OM	M	2	UNDER CARPET
005A	12" FLOOR TILE & ADHESIVE	165 SF	I	G	OM	M	2	
005B	12" FLOOR TILE & ADHESIVE	64 SF	I	G	OM	M	2	
005C	12" FLOOR TILE & ADHESIVE	192 SF	I	G	OM	M	2	
005D	12" FLOOR TILE & ADHESIVE	64 SF	I	G	OM	M	2	
005E	12" FLOOR TILE & ADHESIVE	192 SF	I	G	OM	M	2	
006	12" FLOOR TILE & ADHESIVE	1100 SF	I	G	OM	M	2	
008	12" FLOOR TILE & ADHESIVE	1073 SF	I	G	OM	M	2	
008	TRANSITE	---	A	G	OM	M	2	
009	12" FLOOR TILE & ADHESIVE	1073 SF	I	G	OM	M	2	
009 OFFICE	12" FLOOR TILE & ADHESIVE	112 SF	I	G	OM	M	2	

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W7748 COUNTY HIGHWAY V
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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

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ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
010	FIRE DOOR	---	A	G	OM	M	2	
011 OFFICE	12" FLOOR TILE & ADHESIVE	100 SF	I	G	OM	M	2	
012	12" FLOOR TILE & ADHESIVE	1248 SF	I	G	OM	M	2	
012	VIBRATION GASKET	---	A	G	OM	M	2	
014	FIRE DOOR	---	A	G	OM	M	2	
014	ROOF DRAIN FITTING	1	A	G	OM	M	2	
017 BOYS LR	DUCT VIBRATION	1	A	G	OM	M	2	
017 BOYS LR	FIRE DOOR	1	A	G	OM	M	2	
018 GIRLS LR	DUCT VIBRATION	1	A	G	OM	M	2	
018 GIRLS LR	FIRE DOOR	1	A	G	OM	M	2	
019 TEAM ROOM STORAGE	PIPE WRAP & TSIF	6 LF	A	G	OM	T	2	
019A TRAINING ROOM	FIRE DOOR	1	A	G	OM	M	2	
022	12" FLOOR TILE & ADHESIVE	782 SF	I	G	OM	M	2	
023	12" FLOOR TILE & ADHESIVE	782 SF	A	G	OM	M	2	UNDER CARPET
023B	9" FLOOR TILE & ADHESIVE	270 SF	A	G	OM	M	2	
045 COMMONS	12" FLOOR TILE & ADHESIVE	3500 SF	I	G	OM	M	3	
045 COMMONS	TRANSITE	---	A	G	OM	M	2	

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
102B	9" FLOOR TILE & ADHESIVE	---	A	G	OM	M	2	REMOVED SUMMER 2016
103	12" FLOOR TILE & ADHESIVE	600 SF	A	G	OM	M	2	UNDER CARPET
103 MECH	VIBRATION GASKET	---	A	G	OM	M	2	
103B	12" FLOOR TILE & ADHESIVE	---	A	G	OM	M	2	REMOVED SUMMER 2016
106	12" FLOOR TILE & ADHESIVE	720 SF	A	G	OM	M	2	UNDER CARPET
108B OFF./ENTRY	12" FLOOR TILE & ADHESIVE	24 SF	I	G	OM	M	2	
109	12" FLOOR TILE & ADHESIVE	1100 SF	I	G	OM	M	2	
109A	12" FLOOR TILE & ADHESIVE	120 SF	I	G	OM	M	2	
111	9" FLOOR TILE & ADHESIVE	1400 SF	A	G	OM	M	2	
111A	12" FLOOR TILE & ADHESIVE	160 SF	I	G	OM	M	2	
111B	9" FLOOR TILE & ADHESIVE	392 SF	I	G	OM	M	2	
111C	9" FLOOR TILE & ADHESIVE	110 SF	I	G	OM	M	2	
111D	12" FLOOR TILE & ADHESIVE	168 SF	I	G	OM	M	2	
111E	12" FLOOR TILE & ADHESIVE	1 SF	I	G	OM	M	2	
111E	9" FLOOR TILE & ADHESIVE	168 SF	I	G	OM	M	2	
111F	12" FLOOR TILE & ADHESIVE	160 SF	I	G	OM	M	2	
111G	9" FLOOR TILE & ADHESIVE	36 SF	I	G	OM	M	2	
112	12" FLOOR TILE & ADHESIVE	140 SF	I	G	OM	M	2	

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

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112	9" FLOOR TILE & ADHESIVE	1260 SF	I	G	OM	M	2	
112A	9" FLOOR TILE & ADHESIVE	192 SF	I	G	OM	M	2	
113	9" FLOOR TILE & ADHESIVE	840 SF	I	G	OM	M	2	
113A	9" FLOOR TILE & ADHESIVE	48 SF	A	G	OM	M	2	
115 GYM	VIBRATION GASKETS	---	A	G	OM	M	2	
134A ATHLETIC STOR.	9" FLOOR TILE & MASTIC	100 SF	A	G	OM	M	2	
134B TICKET OFFICE	12" FLOOR TILE & ADHESIVE	80 SF	I	G	OM	M	2	
202	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
204	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
205	12" FLOOR TILE & ADHESIVE	288 SF	I	G	OM	M	2	
206	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
213	9" FLOOR TILE & ADHESIVE	784 SF	A	G	OM	M	2	
300	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
301	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
301A	9" FLOOR TILE & ADHESIVE	60 SF	A	G	OM	M	2	
302	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
305	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
305	LAB TABLES	---	A	G	OM	M	2	

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W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
305A	9" FLOOR TILE & ADHESIVE	120 SF	A	G	OM	M	2	
305A	VIBRATION GASKETS	2	A	G	OM	M	2	
306	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
307	9" FLOOR TILE & ADHESIVE	768 SF	A	G	OM	M	2	
307	LAB TABLES	---	A	G	OM	M	2	
307A	9" FLOOR TILE & ADHESIVE	140 SF	A	G	OM	M	2	
307A	VIBRATION GASKET	1	A	G	OM	M	2	
308	9" FLOOR TILE & ADHESIVE	768 SF	I	G	OM	M	2	
308	LAB TABLES	---	A	G	OM	M	2	
309A	9" FLOOR TILE & ADHESIVE	240 SF	A	G	OM	M	2	
309B	9" FLOOR TILE & ADHESIVE	100 SF	A	G	OM	M	2	
310	9" FLOOR TILE & ADHESIVE	1320 SF	A	G	OM	M	2	CHIPPED MASTIC EXPOSED
310	LAB TABLES	---	A	G	OM	M	2	
310A	9" FLOOR TILE & ADHESIVE	200 SF	A	G	OM	M	2	
310A	LAB TALBES	---	A	G	OM	M	2	
311	9" FLOOR TILE & ADHESIVE	768 SF	I	G	OM	M	2	
47 WORK ROOM	12" FLOOR TILE & ADHESIVE	690 SF	I	G	OM	M	2	
GREEN HOUSE	FIRE DOOR	1	A	G	OM	M	2	

CONDITION: G = GOOD M = MODERATE P = POOR
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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
HALL 1-100	12" FLOOR TILE & MASTIC	---	A	G	OM	M	2	REMOVED SUMMER 2016
HALL 1-200	12" FLOOR TILE & ADHESIVE	---	A	G	OM	M	2	REMOVED SUMMER 2016
HALL 2-100	12" FLOOR TILE & MASTIC	---	A	G	OM	M	2	REMOVED SUMMER 2016
HALL 2-200	12" FLOOR TILE & MASTIC	1200 SF	A	G	OM	M	3	EXPOSED MASTIC NEAR STAIR B
HALL 2-300	12" FLOOR TILE & MASTIC	175 SF	A	G	OM	M	2	
HALL 2-A	12" FLOOR TILE & MASTIC	1300 SF	A	G	OM	M	3	EXPOSED MASTIC AT STAIRWELL B
HALL 2-B	12" FLOOR TILE & MASTIC	240 SF	A	G	OM	M	2	
HALL 2-C	12" FLOOR TILE & MASTIC	150 SF	A	G	OM	M	2	
HALL 2-D	12" FLOOR TILE & MASTIC	220 SF	A	G	OM	M	2	
HALL 300 - G MENS	TSI WRAP	--	A	G	OM	T	2	ABOVE CEILING
HALL A-1	12" FLOOR TILE & MASTIC	575 SF	A	G	OM	M	2	REMOVED SUMMER 2016
HALL G-100	12" FLOOR TILE & ADHESIVE	1286 SF	I	G	OM	M	2	
HALL G-200	12" FLOOR TILE & ADHESIVE	1968 SF	I	G	OM	M	2	
HALL G-5	12" FLOOR TILE & ADHESIVE	996 SF	I	G	OM	M	2	
HALL G-500	12" FLOOR TILE & ADHESIVE	1260 SF	I	G	OM	M	2	
HALL G-C	12" FLOOR TILE & ADHESIVE	1100 SF	A	G	OM	M	2	
HALL OFF. PRIN.	12" FLOOR TILE & ADHESIVE	150 SF	I	G	OM	M	2	
HEALTH OFFICE	12" FLOOR TILE & ADHESIVE	60 SF	I	G	OM	M	2	

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ENVIRONMENTAL MANAGEMENT CONSULTING, INC.
W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
HEALTH ROOM	12" FLOOR TILE & ADHESIVE	288 SF	I	G	OM	M	2	
JC 1-5	12" FLOOR TILE & ADHESIVE	28 SF	A	G	OM	M	2	
KITCHEN B	FIRE DOOR	1	A	G	OM	M	2	
LECTURE A	12" FLOOR TILE & ADHESIVE	110 SF	I	G	OM	M	2	
LECTURE B	12" FLOOR TILE & ADHESIVE	110 SF	I	G	OM	M	2	
LECTURE ROOM	12" FLOOR TILE & ADHESIVE	3055 SF	I	G	OM	M	2	
MECHANICAL	FIRE DOOR	---	A	G	OM	M	2	
MECHANICAL	VIBRATION GASKET	1	A	G	OM	M	2	
OFF. COPY A	12" FLOOR TILE & ADHESIVE	63 SF	A	G	OM	M	2	
OFF. WORK	12" FLOOR TILE & ADHESIVE	154 SF	A	G	OM	M	2	
OFFICE 3	12" FLOOR TILE & ADHESIVE	425 SF	I	G	OM	M	2	
OFFICE S-2	12" FLOOR TILE & ADHESIVE	192 SF	I	G	OM	M	2	
OFFICE STORAGE	12" FLOOR TILE & ADHESIVE	240 SF	I	G	OM	M	2	
OFFICE VAULT	12" FLOOR TILE & ADHESIVE	60 SF	A	G	OM	M	2	
ROOM I	12" FLOOR TILE & ADHESIVE	832 SF	I	G	OM	M	2	
ROOM S 2-2	12" FLOOR TILE & ADHESIVE	240 SF	I	G	OM	M	2	
S 2-1	9" FLOOR TILE & ADHESIVE	48 SF	A	G	OM	M	2	MISSING FLOOR TILE
S 3-1	9" FLOOR TILE & ADHESIVE	48 SF	A	G	OM	M	2	

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W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Fort Atkinson Middle School

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554 **SURVEILLANCE DATE: March 7, 2019**

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
STORAGE 1-1	FLOOR TILE & ADHESIVE	105 SF	A	G	OM	M	2	
STORAGE 3	12" FLOOR TILE & ADHESIVE	480 SF	I	G	OM	M	2	
STORAGE G-8	FIRE DOOR	2	A	G	OM	M	2	
TEACHER ENTRY	12" FLOOR TILE & ADHESIVE	108 SF	I	G	OM	M	2	

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ASBESTOS SURVEILLANCE
FORT ATKINSON SCHOOL DISTRICT

BUILDING: Crossroads House

PERSON CONDUCTING SURVEILLANCE: Thomas J. Bushman, All-208554

SURVEILLANCE DATE: March 7, 2019

ROOM	MATERIAL DESCRIPTION	AMOUNT	I A N	MATERIAL CONDITION	RESPONSE ACTION	MATERIAL TYPE	HAZARD RANK	COMMENTS
EXTERIOR	ASPHALT ROOFING	---	A	G	OM	M	2	
EXTERIOR	EXTERIOR INSULATION	---	A	G	OM	M	2	ASSUMED BENEATH SIDING
THROUGHOUT	CARPET ADHESIVE	---	A	G	OM	M	2	
THROUGHOUT	DRYWALL & JOINT COMPOUND	---	A	G	OM	M	2	
THROUGHOUT	VINLYL BASE & ADHESIVE	---	A	G	OM	M	2	
THROUGHOUT	VINYL FLOOR & ADHESIVE 1	---	A	G	OM	M	2	KITCHEN
THROUGHOUT	VINYL FLOOR & ADHESIVE 2	---	A	G	OM	M	2	BATHROOM
THROUGHOUT	WALL PANELING ADHESIVE	---	A	G	OM	M	2	

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W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551

Environmental Management Consulting, Inc.

February 5, 2019

School District of Fort Atkinson
Attn: Josh Carter
201 Park Street
Fort Atkinson, WI 53538

Re: School District of Fort Atkinson – Radon Testing Proposal

Mr. Carter:

At the request of the School District of Fort Atkinson (SDFA), Environmental Management Consulting, Inc. (EMC) is providing this letter to serve as a cost estimate and proposal to conduct testing for Radon as recommended by the U.S. Environmental Protection Agency (EPA) throughout all school buildings in the SDFA. This is an estimate of costs and is for budgetary purposes only and includes laboratory analysis for all Radon detectors as well as all EMC related professional time to set-up, place and remove the Radon detectors, review analytical results and prepare a summary report for each building tested.

Radon Background

Although never made a requirement, the EPA has twice recommended that all school buildings should be tested for Radon as a precautionary measure. According to the EPA and the Surgeon General, Radon is an odorless, colorless, tasteless naturally occurring soil gas that comes from the radioactive decay of Uranium to Radium and then to Radon. Radon can therefore enter buildings and increase the risk of lung cancer to building occupants, which leads to Radon exposure being the second leading cause of lung cancer behind only smoking. Because it is naturally occurring, the national average concentration for Radon outdoors is 0.4 pCi/L and indoor in homes is 1.3 pCi/L. Nearly 1 out of every 15 homes in the U.S. is estimated to have elevated Radon concentrations above the EPA action level. Although there is no “safe” concentration of Radon exposure, the EPA has set an action level for Radon at 4.0 pCi/L. At 4.0 pCi/L or higher, EPA recommends that active corrective measures, such as mitigation, be taken to reduce Radon concentrations to building occupants in the indoor environment.

Testing Protocol

While short-term, forty-eight (48) hour tests are available, these are typically used in real estate transactions as an initial screening tool due to the quick timeline for a property purchase. Long-term tests provide a more representative picture of the average school year radon level than short-term tests and are therefore used by EMC for testing in schools. The appropriate time to place the radon detectors for best accuracy is for a greater than ninety (90) day period during the winter months of the year when the building has closed conditions for a "worst-case" scenario.

EPA’s research in schools shows that radon levels can vary greatly from room to room within the same building. Therefore, EPA recommends that schools conduct measurements in all frequently occupied rooms in contact with the ground whether at or below grade. These rooms

are usually classrooms, offices, labs, cafeterias, etc…, while restrooms, hallways, stairwells, storage closets, etc... need not be tested. For larger areas or pod design, detectors shall be placed every approximately 2,000 square feet. Based on these protocols as well as the layout of the buildings, EMC provides the following cost estimates:

High School:

24 Hours of EMC Professional Time @ $95.00/Hour	$2,280.00
85 Alpha Track Radon Detectors @ $22.00/Detector	$1,870.00
Total Radon Testing Cost Estimate:	$4,150.00

Middle School:

16 Hours of EMC Professional Time @ $95.00/Hour	$1,520.00
40 Alpha Track Radon Detectors @ $22.00/Detector	$ 880.00
Total Radon Testing Cost Estimate:	$2,400.00

Barrie Elementary School:

16 Hours of EMC Professional Time @ $95.00/Hour	$1,520.00
45 Alpha Track Radon Detectors @ $22.00/Detector	$ 990.00
Total Radon Testing Cost Estimate:	$2,510.00

Luther Elementary School:

20 Hours of EMC Professional Time @ $95.00/Hour	$1,900.00
60 Alpha Track Radon Detectors @ $22.00/Detector	$1,320.00
Total Radon Testing Cost Estimate:	$3,220.00

Purdy Elementary School:

20 Hours of EMC Professional Time @ $95.00/Hour	$1,900.00
60 Alpha Track Radon Detectors @ $22.00/Detector	$1,320.00
Total Radon Testing Cost Estimate:	$3,220.00

Rockwell Elementary School:

16 Hours of EMC Professional Time @ $95.00/Hour	$1,520.00
45 Alpha Track Radon Detectors @ $22.00/Detector	$ 990.00
Total Radon Testing Cost Estimate:	$2,510.00

Note that if testing at more than one (1) building is conducted simultaneously, EMC professional time will be slightly reduced, leading to some combined cost savings.

Please contact me with any questions or if you would like to proceed with this work.

Sincerely,

Jason G. Schneider, CIEC
Environmental Professional/Hydrogeologist
EMC