CLARINDA COMMUNITY SCHOOL DISTRICT

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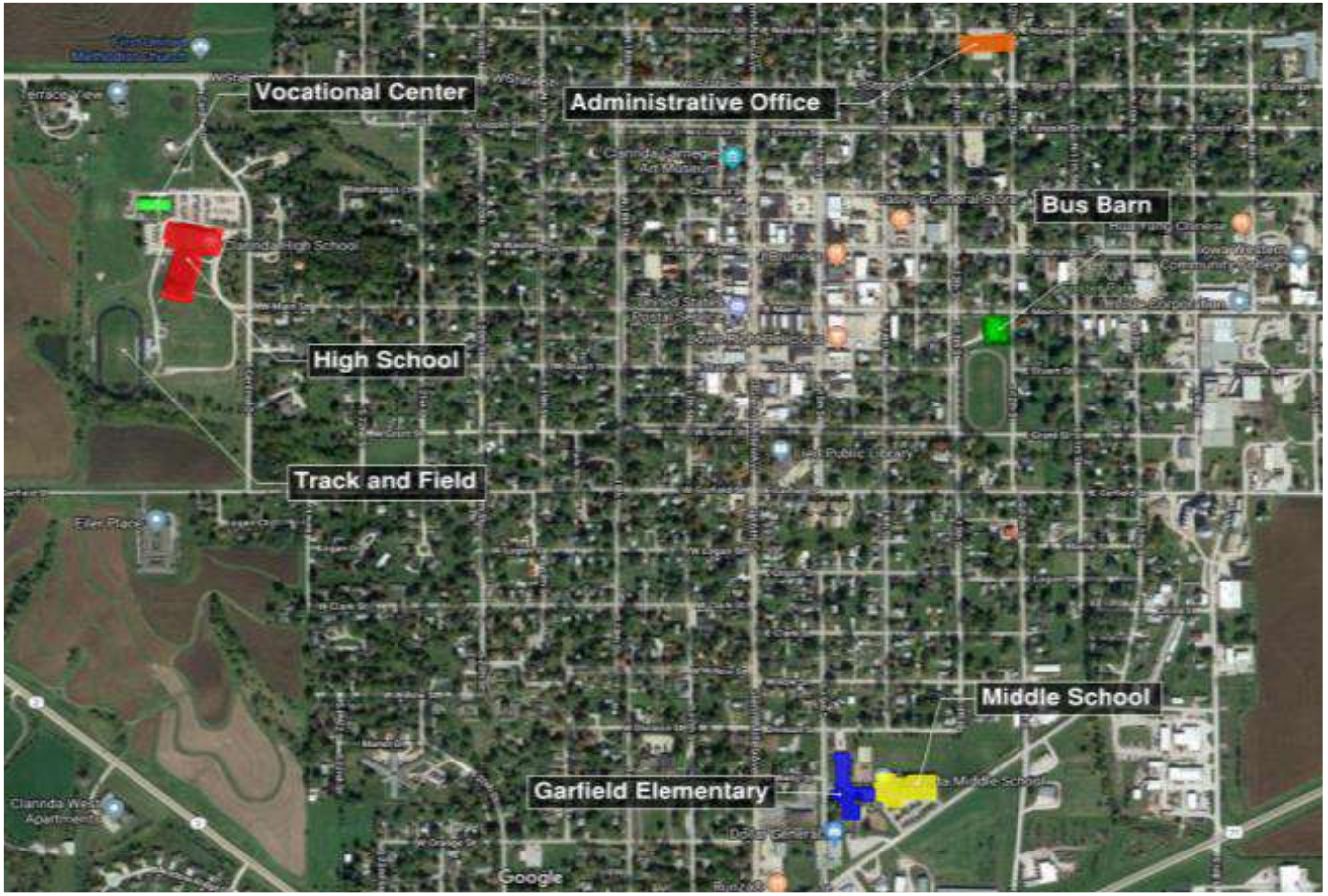

FACILITY CONDITION ASSESSMENT

February 19th, 2018

EXECUTIVE SUMMARY

Introduction

The Iowa Construction Advocate Team (ICAT) is a partnership of the Iowa Association of School Boards (IASB), and Estes Construction formed for the purpose of providing its members and affiliated industry associates with a quality construction and facility resource staffed with recognized experts in the school facility and construction industry. Team members are also knowledgeable in State of Iowa education issues, infrastructure funding & planning, future trends in education, and 21st century learning environments.

As part of its mission to provide the highest quality facilities, effective maintenance, continuous improvement, and plan for the future, the Clarinda Community School District (CCSD) contracted with the Estes ICAT Program to conduct a comprehensive facility condition report.

The goal of this work is to identify short & longer term improvement needs in each facility, and utilize this information, along with other district input, to produce a District Facility Master Plan.

Assessment Overview

This report contains the results of the facility condition assessment for the buildings and grounds at the following district facilities:

- Garfield Elementary School
- Clarinda Middle School
- Clarinda High School
- Administrative Office
- Vocational Center
- Track and Field
- Bus Barn

The assessment is a visual, non-destructive inspection identifying existing conditions and provides an opinion of probable costs to perform the necessary maintenance, repairs or renovations required to bring the current conditions into compliance with building codes, quality, comfort, improved learning environment, aesthetics, and accessibility requirements for the Americans with Disabilities Act (ADA).

The report is intended to be used as a planning tool to assist the district in making decisions needed in achieving short and long-term facility goals. The report contains data and exhibits meant to objectively describe the findings and summarize the results.

The assessment findings detailed in this report are derived from standard processes of collecting, recording and reporting. The information collecting process begins with review of the existing building plans, specifications, reports and other facility data available to prepare for the field investigation.

During the field investigation portion of the process, the ICAT Team utilized the knowledge and expertise of the district's administrative and facility maintenance personnel to assist in understanding facility issues, short-comings, district goals, and functional needs. Video and photos of areas requiring assessment were taken to document the findings, and then used in the assessment document. Smaller standard maintenance issues generally handled by facility maintenance staff are not included in this report.

Following the field investigation, the ICAT Team reviewed the findings with staff to confirm all issues were being addressed. The team then focused on solutions, identify concepts, prepare probable cost data, and complete the report.

EXECUTIVE SUMMARY

District Overview

The Mission of the District is:
To educate all students to succeed by insuring quality leadership, curriculum, and instruction.

The goals of the District are:
1. Promote student achievement through ensuring each student will have one year of measurable growth in reading/literacy, math, and science; studying credit requirements for graduation; and studying grading scale and impact on post-secondary options and scholarships.
2. Improve student culture by practicing models of discipline that support positive behavior and leadership, building trust by providing space for students to learn and grow through responsible actions and behaviors, building pride in school and staff, provide preventative education that reflects good decision making and socially acceptable behaviors

District's objectives for this assessment:
Provide a safe learning environment, study strategies to improve security, study parking options at the middle school, and develop a five year facility plan.

Probable Cost Ranges

When using this report, you will notice a range of probable costs. This is shown to indicate there are multiple solutions and many variables for each condition. For example, if new wall construction is required, this could be accomplished with drywall or masonry wall construction. Each of these has a different cost with masonry costing more than drywall. The intent is to show the full "range" of probable costs based on what could be a design solution.

The probable cost ranges shown include budgets for construction costs, bonds, insurance, and associated fees. It also include budgets for other costs typically referred to as "soft" costs. These include architectural and engineering design fees, reimbursable expenses, contingencies, fixtures, furnishings and equipment.

Other costs such as land acquisition, financing, legal, and staffing are not included unless specifically stated. When considering the total project feasibility, these items and others should be analyzed to provide a complete budget.

While the assessment is segmented into individual elements, the probable cost ranges are based on an assembly of elements being completed at the same time for economy of scale. Should elements be completed on an individual basis, the probable cost ranges should be modified accordingly.

Facility conditions change subtly over time; however, they can also change quickly. Construction costs can also change based on a number of variables including work scope, quantity, quality, design, product selection, competition, and inflation. Construction inflation can vary as much as 4 to 8% per year. The probable cost ranges presented are based on today's costs. If projects are planned to be long-range, we recommend an inflation factor be included when evaluating future probable costs.

Ranges provided are schematic and not based on actual costs or bids. Variances to actual costs should be anticipated. These ranges are intended for project feasibility, planning and budgeting purposes only.

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School Infrastructure Funding Sources

School infrastructure funding in Iowa is limited by Iowa statues, but does offer several avenues when planning for major renovations or new construction. These include a combination of school board and voter approved levies, sales tax funds, general obligation and revenue bonds. Most major facility plans will include a strategy to use one or more of these funding streams, including borrowing against future revenues to accelerate project funding. The benefit of borrowing against future revenues enables the district to accelerate projects, thereby offsetting the cost of construction inflation over many years, which is typically more than the cost of interest paid to borrow funds. The following is a description of possible sources.

General Operating Fund

The primary source of funding daily expenses and salaries can be used for infrastructure improvements, but generally these funds are required to fund the district's budgeted costs, and not available for improvements. The general fund is sometimes used for emergency repairs, but should not be considered a viable source for infrastructure projects.

Statewide School Sales Tax Revenue

Formerly known as the Local Option Sales and Service Tax (LOSST), and the School Infrastructure Local Option Sales Tax (SILO) programs, the state replaced the local options tax and made it statewide in 2008. Currently known as the Secure an Advance Vision for Education (SAVE) program. Sales tax funds can be used for the retirement of general obligation bonds or tax relief. Funds can be used for any school infrastructure that might otherwise qualify for the use of general obligation bonds. The district may borrow against future sales tax revenues up to 80% of the expected income. The current maximum term of borrowing is to 12/31/2029.

Voters must first approve a Revenue Purpose Statement (RPS) by a simple majority. Once approved, the board has the authority to spend or borrow up to the allowed amount and to authorize spending on a project or projects of the board's choosing. Once the RPS is approved, only the state legislature can make changes to the program.

Physical Plant & Equipment Levy (PPEL)

The Physical Plant & Equipment Levy is a designated source for infrastructure funding, but is often used to fund transportation, property, computers, technology, or equipment purchases and leases. It can also be used to fund energy improvements, demolition, hazardous material abatement, or facility repairs and maintenance.

The PPEL is a two part property tax levy which includes both a school board approved and a voter approved levy. The board may levy up to $0.33 per $1,000 of property valuation, and the voters may approve up to $1.34. The PPEL is typically approved for ten year increments, and borrowing against the PPEL is permissible, but only for the life of the approved levy.

Voters must approve the levy with a simple majority to pass. The ballot asks for approval of the levy, not for a specific project, or projects. Once approved, the board has the authority to spend or borrow up to the allowed amount. Elections may be held at four different times per year.

EXECUTIVE SUMMARY

School Infrastructure Funding Sources *(continued)*

General Obligation Bonds

General Obligation Bonds that are approved by at least 60 percent of the voters are essentially a loan to the district that is repaid or secured by a levy or tax on property values which will repay the principle and interest. The bonding capacity of a district is limited to 5% of the actual property valuation within the district less the current indebtedness. Until the other funding sources were added, this was the primary means for a district contemplating major renovation or new construction projects. Districts can with a single vote levy up to $2.70 per $1,000 of assessed property value per year. With an additional vote, the maximum levy can be raised to $4.05 per $1,000 of value.

The bond referendum requires a specific project or projects be identified as the intended use of the funds. Elections are limited to four times per year, and if the election fails, the district must wait a minimum of 6 months, or unit the next election after the 6 month period, before voting again.

Grants

Grants are another opportunity for infrastructure funding, however they are generally one time contributions, and should not be considered as a reliable and predictable funding source. Grants may require matching funds, and are awarded on an annual basis subject to funding of the programs. When accepting grants, districts are obligated to follow the grant guidelines, which may include additional costs to the district. Grants are typically awarded based on need by peer review, and limited based on the grant requirements. Grants may be available through state or federal agencies, or available through local and national foundations, however these are difficult to obtain, and typically competitive.

Other Sources

Other infrastructure funding may include cash reserves from accumulated sales tax or PPEL funds. Local utility providers may offer rebates for energy efficiency upgrades to lighting, heating and air conditioning equipment, as well as building envelope insulation improvements. Private contributions can also be another source.

Clarinda CSD Funding Options

Current total district property valuation:

$529,085,082 assessed value

Sales Tax Revenues:

$995,208 current amount per year
$7,060,000 available revenue bonds

PPEL Revenues:

$0.33 / $1,000 Board approved $100,564
$1.34 / $1,000 Voter approved: N/A

General Obligation Bond Funds:

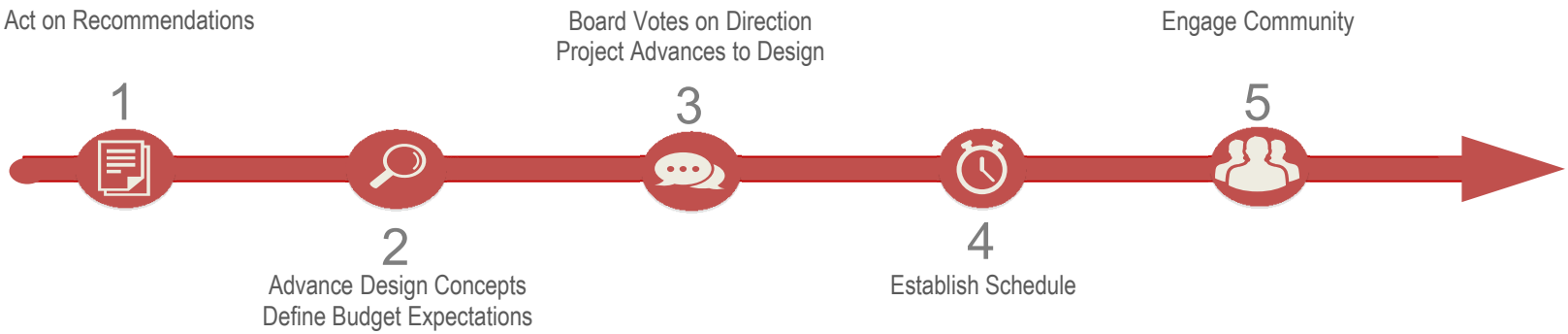
$11,800,000 at $2.70 levy rate
$17,700,000 at $4.05 levy rate

Other Funding Sources:

$0 debt service reserve fund not available until bonds are paid off.

Source: Piper Jaffray Report

EXECUTIVE SUMMARY

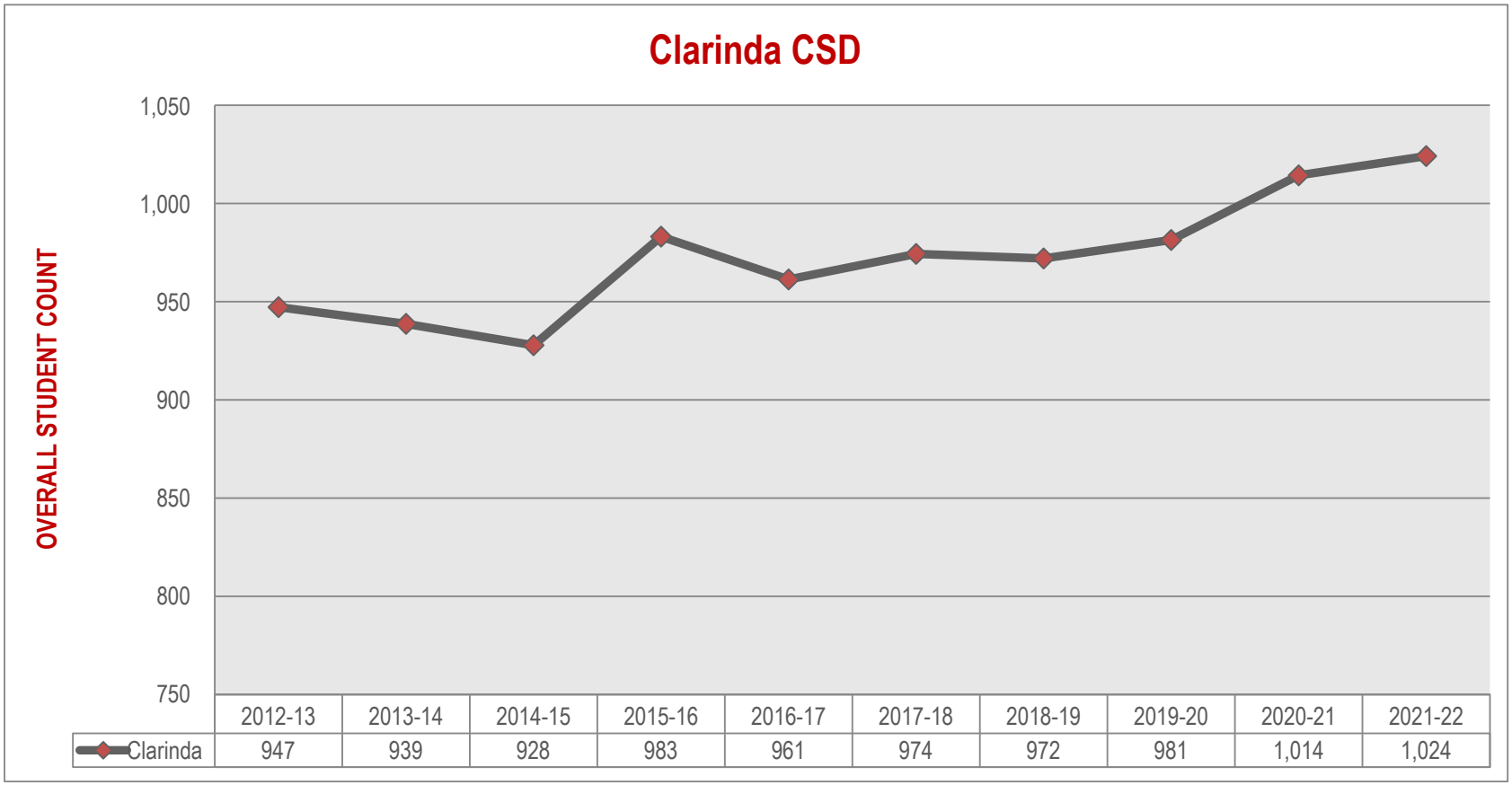


Next Steps

The assessment contains a vast amount of information for the use in developing solutions and timeframes for implementation. Some elements may require implementation sooner than later, and others may be future endeavors based on need and funding availability. The process doesn't end with this assessment. Actually, this is just the start of building a strategic facility master plan to reach the goals of the district.
The following is a general list of next steps to move the facility plan forward:

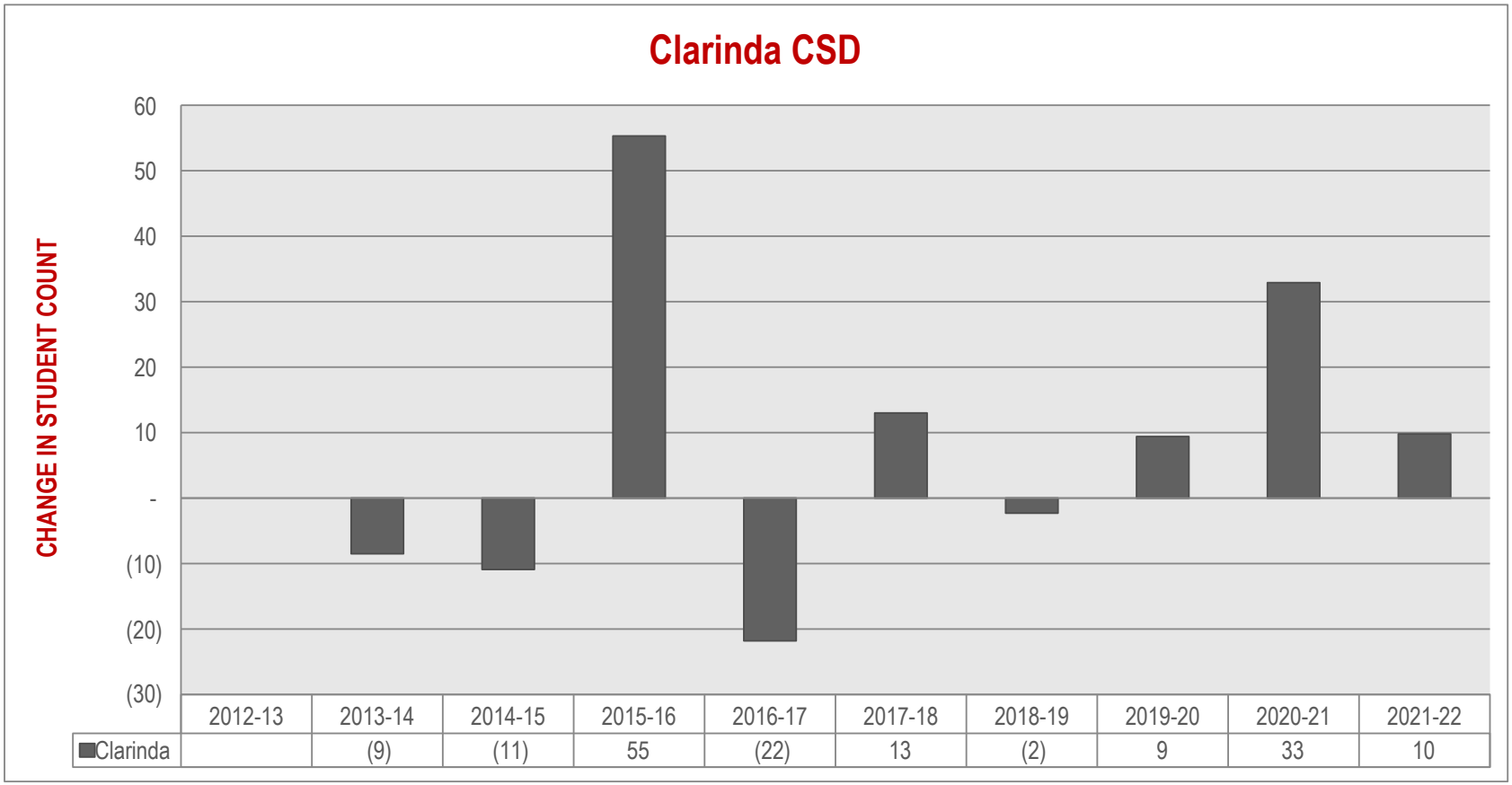
1. Select the group, committee or team to advance the process.
2. Prioritize the assessment elements into categories: Urgent, Required, Recommended or Suggested.
3. Determine funding sources, amounts, and availability. Match funding availability with priorities. Determine if a bond referendum process is required.
4. Make recommendations to the board.
5. Board acts on recommendations. Determines projects to proceed into design concepts.
6. Estes to assist in design team selection. Advance design concepts.
7. Establish an overall project timeline and schedule.
8. Begin community engagement sessions, or if a referendum is required, begin referendum support process.
9. Secure public support & board approval to proceed.
10. Create construction documents, obtain bids, award contracts and complete construction.

Thank you for engaging your Estes ICAT team to help formulate solutions for your facility needs. We stand ready to continue supporting the district as well as facilitate, plan, prioritize, advocate, and move the process forward with the next steps in the process.



Data Source: Iowa Department of Education, Bureau of Information and Analysis Services.

Enrollment projections are calculated using birth rates funneled through a survival projection methodology algorithm. Some of the outside influencers which could alter and are not accounted for in the projections include; business, industry, agriculture, curriculum and facility conditions.



Data Source: Iowa Department of Education, Bureau of Information and Analysis Services.

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ASSESSMENT SUMMARY

GARFIELD ELEMENTARY SCHOOL		Low	High	Priority	Remarks
1	**HEALTH & LIFE SAFETY**	**333,030**	**540,098**		
1.01	Asbestos Containing Flooring	62,108	137,638	B	REQUIRED
1.02	New ADA Compliant Water Coolers	2,856	6,143	B	REQUIRED
1.03	New ADA Compliant Doors and Hardware	66,368	94,458	B	REQUIRED
1.04	New Safety Rated Glazing	3,060	4,846	C	RECOMMENDED
1.05	New ADA Compliant Restrooms	92,711	144,663	C	RECOMMENDED
1.06	New Code Compliant Stairway Railings	6,188	8,873	C	RECOMMENDED
1.07	New Fire Suppression Sprinkler System at Original Portion of Facility	78,200	109,883	B	REQUIRED
1.08	New Exhaust at Custodian Closet	4,080	6,825	C	RECOMMENDED
1.09	New Domestic Water Backflow Preventer	10,200	13,650	B	REQUIRED
1.10	New Horn Strobes in Restrooms	1,428	2,594	B	REQUIRED
1.11	New Electrical Panel	4,760	8,600	B	REQUIRED
1.12	New GFCI Receptacles at Water Coolers	119	222	B	REQUIRED
1.13	New Relocation of Transformers at Select Locations	952	1,706	B	REQUIRED

ASSESSMENT SUMMARY

2	**BUILDING IMPROVEMENTS**	**1,622,374**	**2,847,520**		
2.01	New Ceiling Tiles at Various Locations	476	1,092	C	RECOMMENDED
2.02	New Flooring at Gymnasium	28,220	67,977	C	RECOMMENDED
2.03	New Flooring at Entrance Vestibules	2,142	3,686	C	RECOMMENDED
2.04	New Corridor Wall Finishes	22,848	76,440	C	RECOMMENDED
2.05	New Wainscoting Repair in Corridor	517	683	C	RECOMMENDED
2.06	New Wall Pads in Gymnasium	2,040	2,457	C	RECOMMENDED
2.07	New Special Education Classroom Renovation	100,650	162,022	C	RECOMMENDED
2.08	New Exterior Windows	35,360	44,363	B	REQUIRED
2.09	New Exterior Doors at Gymnasium	5,984	10,920	B	REQUIRED
2.10	New Weather Strips at Exterior Doors	286	430	B	REQUIRED
2.11	New Masonry Infill at Louver Opening	408	532	C	RECOMMENDED
2.12	New Mini-Split Systems	374,000	778,050	B	REQUIRED
2.13	New Cabinet Unit Heaters at Classrooms	34,000	54,600	C	RECOMMENDED
2.14	New Exhaust Systems at Restrooms	6,800	9,555	B	REQUIRED
2.15	New Chiller System	204,000	341,250	C	RECOMMENDED
2.16	New Heat Pumps at 1990s Addition	136,000	273,000	B	REQUIRED
2.17	New Web Based PA System	45,084	81,900	C	RECOMMENDED
2.18	New LED Lighting	49,384	86,740	C	RECOMMENDED
2.19	Additional Receptacles in Original Portion	18,088	31,395	D	SUGGESTED
2.20	New Local Audio System for Hearing Impaired Students	23,800	42,725	C	RECOMMENDED
2.21	New Lighting Controls	30,274	54,259	C	RECOMMENDED
2.22	New Cabinet Unit Heaters at Restrooms	8,160	10,920	D	SUGGESTED
2.23	New Roof System	493,854	712,525	C	RECOMMENDED
3	**SITE IMPROVEMENTS**	**14,147**	**21,663**		
3.01	New Path of Egress	1,907	2,553	B	REQUIRED
3.02	New Overhead Door on Storage Shed	5,440	9,555	B	REQUIRED
3.03	New Exterior Lighting	6,800	9,555	C	RECOMMENDED
GARFIELD ELEMENTARY SCHOOL TOTAL		**1,969,551**	**3,409,280**		

ASSESSMENT SUMMARY

MIDDLE SCHOOL		Low	High	Priority	Remarks
1	**HEALTH & LIFE SAFETY**	**70,649**	**99,588**		
1.01	New ADA Accessibility at Stage	26,520	29,348	B	REQUIRED
1.02	New ADA Compliant Bleachers	2,040	4,095	B	REQUIRED
1.03	New Safety Rated Glazing	8,500	13,002	C	RECOMMENDED
1.04	New Locker Room Showers	5,032	12,484	C	RECOMMENDED
1.05	New Emergency Gas Shutoff	2,720	4,095	B	REQUIRED
1.06	New Range Hood Ventilation	20,400	27,300	B	REQUIRED
1.07	New Grease Trap at Kitchen	4,080	6,825	B	REQUIRED
1.08	New Relocation of Transformers at Select Locations	952	1,706	B	REQUIRED
1.09	New Exit Sign at Boiler Room	286	512	B	REQUIRED
1.10	New GFCI Receptacles at Water Coolers	119	222	B	REQUIRED

ASSESSMENT SUMMARY

2	**BUILDING IMPROVEMENTS**	**2,168,704**	**3,705,234**		
2.01	New Bottle Fill Water Cooler	2,747	5,597	D	SUGGESTED
2.02	New Ceilings at Various Locations	190	437	C	RECOMMENDED
2.03	New Countertops at Science Classrooms	6,691	7,699	C	RECOMMENDED
2.04	New Exterior Doors at Gymnasium	5,984	10,920	B	REQUIRED
2.05	New Caulking at Interior Masonry	238	478	C	RECOMMENDED
2.06	New Wrestling Mat Hanging Storage System	21,284	28,665	D	SUGGESTED
2.07	New Dedicated Outside Air System	408,000	819,000	B	REQUIRED
2.08	New Heat Pumps	544,000	955,500	C	RECOMMENDED
2.09	New Cooling Tower	68,000	109,200	C	RECOMMENDED
2.10	New Plate and Frame Heat Exchanger	13,600	27,300	C	RECOMMENDED
2.11	New Automatic Controls for Kiln Ventilation	4,080	6,825	C	RECOMMENDED
2.12	New Additional Cooling in Room 347	5,440	6,825	C	RECOMMENDED
2.13	New Exhaust Fans at Commons	40,800	68,250	C	RECOMMENDED
2.14	New Unit Ventilators at Restrooms	9,792	13,650	C	RECOMMENDED
2.15	New Additional Exhaust at Locker Rooms	9,520	12,285	B	REQUIRED
2.16	New Air Handling Units at Commons	272,000	477,750	C	RECOMMENDED
2.17	New Makeup Air Unit and Exhaust Fan at Kitchen	61,200	102,375	C	RECOMMENDED
2.18	New Thermostats Throughout	20,400	27,300	C	RECOMMENDED
2.19	New LED Lighting	53,611	94,165	C	RECOMMENDED
2.20	New Web Based PA System	42,840	81,900	D	SUGGESTED
2.21	New Roof System	536,112	773,494	C	RECOMMENDED
2.22	New Local Audio System for Hearing Impaired Students	11,900	21,362	C	RECOMMENDED
2.23	New Lighting Controls	30,274	54,259	D	SUGGESTED
3	**SITE IMPROVEMENTS**	**195,764**	**295,043**		
3.01	New Fencing Around Electrical Equipment	2,040	3,413	C	RECOMMENDED
3.02	New Path of Egress	8,415	11,261	B	REQUIRED
3.03	New Exterior Lighting	3,400	4,778	B	REQUIRED
3.04	New Student Drop-Off Bus Loop	181,909	275,592	C	RECOMMENDED
MIDDLE SCHOOL TOTAL		**2,435,116**	**4,099,866**		

ASSESSMENT SUMMARY

HIGH SCHOOL		Low	High	Priority	Remarks
1	**HEALTH & LIFE SAFETY**	**498,229**	**765,158**		
1.01	Asbestos Containing Pipe Insulation	40,800	61,425	B	REQUIRED
1.02	New ADA Compliant Water Coolers	5,780	11,944	C	RECOMMENDED
1.03	New ADA Compliant Defibrillator Cabinet	408	751	B	REQUIRED
1.04	New Platform Lift at Stage in Auditorium	29,240	40,950	B	REQUIRED
1.05	New Interior Accessibility at Weight Room	29,240	56,648	C	RECOMMENDED
1.06	New ADA Compliant Ramp to Locker Rooms	5,882	16,039	B	REQUIRED
1.07	New Floor Leveling at Shower Corridor	734	1,024	B	REQUIRED
1.08	New Code Compliant Stairway Railings and Guardrails	7,004	29,416	B	REQUIRED
1.09	New ADA Compliant Door Hardware	2,856	5,733	B	REQUIRED
1.10	New ADA Compliant Emergency Exit at Auditorium	9,486	15,493	B	REQUIRED
1.11	New Safety Rated Glazing	3,944	5,678	B	REQUIRED
1.12	New ADA Compliant Restrooms	78,479	120,386	B	REQUIRED
1.13	New Fire Suppression Sprinkler System	265,710	373,362	B	REQUIRED
1.14	New Grease Trap	6,800	9,555	B	REQUIRED
1.15	New Domestic Water Backflow Preventer	10,200	13,650	B	REQUIRED
1.16	New Horn Strobes in Restrooms	857	1,638	B	REQUIRED
1.17	New Exit Sign at Kitchen and Art Room	571	1,024	B	REQUIRED
1.18	New GFCI Receptacles at Water Coolers	238	444	B	REQUIRED

ASSESSMENT SUMMARY

2	**BUILDING IMPROVEMENTS**	**1,946,913**	**2,874,543**		
2.01	New Ceilings at Various Locations	952	2,184	C	RECOMMENDED
2.02	New Concrete Finish at Locker Rooms	1,428	2,867	C	RECOMMENDED
2.03	New Classroom Doors and Frames	31,661	46,437	B	REQUIRED
2.04	New Restroom Renovation	39,372	84,425	C	RECOMMENDED
2.05	New Locker Room Shower Renovations	30,238	60,138	C	RECOMMENDED
2.06	New Exterior Doors at Select Locations	5,984	10,920	B	REQUIRED
2.07	New Weather Strips at Exterior Doors	95	143	B	REQUIRED
2.08	New Masonry Control Joint Caulking	1,224	2,048	B	REQUIRED
2.09	New Domestic Water Heater	6,800	9,555	C	RECOMMENDED
2.10	New Air Handling Units at Gymnasium	408,000	546,000	C	RECOMMENDED
2.11	New Air Handling Unit at Kitchen	81,600	109,200	C	RECOMMENDED
2.12	New Rooftop Units at Northwest Addition	204,000	341,250	C	RECOMMENDED
2.13	New Unit Ventilators at Weight Room	122,400	204,750	C	RECOMMENDED
2.14	New Heat Pump at ICN Room	20,400	27,300	C	RECOMMENDED
2.15	New Classroom Unit Ventilators	408,000	546,000	C	RECOMMENDED
2.16	New Rooftop Unit at Commons	102,000	122,850	C	RECOMMENDED
2.17	New Rooftop Unit at Media Center	102,000	122,850	C	RECOMMENDED
2.18	New Unit Ventilators at Stage	40,800	68,250	B	REQUIRED
2.19	New Receptacles in Computer Lab	2,856	5,119	B	REQUIRED
2.20	New Lighting Controls	44,268	79,443	C	RECOMMENDED
2.21	New LED Lighting	85,027	149,345	C	RECOMMENDED
2.22	New Web Based PA System	75,208	133,770	D	SUGGESTED
2.23	New Local Audio System	23,800	42,725	C	RECOMMENDED
2.24	New Roof System at Auditorium	108,800	156,975	C	RECOMMENDED
3	**SITE IMPROVEMENTS**	**14,637**	**20,270**		
3.01	New Path of Egress	4,437	5,938	B	REQUIRED
3.02	New Exterior Lighting	10,200	14,333	C	RECOMMENDED
4	**NEW FACILITIES**	**2,170,662**	**2,576,608**		
4.01	New Gymnasium and Athletic Entrance Addition	2,170,662	2,576,608	D	SUGGESTED
HIGH SCHOOL TOTAL		**4,630,442**	**6,236,579**		

ASSESSMENT SUMMARY

ADMINISTRATIVE OFFICE		Low	High	Priority	Remarks
1	**HEALTH & LIFE SAFETY**	**368,064**	**624,253**		
1.01	Asbestos Containing Flooring	34,680	116,025	B	REQUIRED
1.02	Asbestos Containing Pipe Insulation	40,800	61,425	B	REQUIRED
1.03	New ADA Compliant Water Coolers	2,598	4,846	B	REQUIRED
1.04	New ADA Compliant Fire Extinguisher Cabinets	476	648	B	REQUIRED
1.05	New Doors and Hardware	72,896	108,108	B	REQUIRED
1.06	New Safety Rated Glazing	136	232	C	RECOMMENDED
1.07	New ADA Compliant Restrooms	50,402	74,038	B	REQUIRED
1.08	New ADA Compliant Ramp to Locker Room	5,712	12,394	B	REQUIRED
1.09	New Domestic Water Backflow Preventer	10,200	13,650	B	REQUIRED
1.10	New Air Handling Unit at Multipurpose Room	136,000	204,750	C	RECOMMENDED
1.11	New Range Hood Ventilation	2,720	5,460	B	REQUIRED
1.12	New Domestic Water Heater and Expansion Tank	2,720	6,825	C	RECOMMENDED
1.13	New Electrical Panel in Office Closet	7,344	13,377	B	REQUIRED
1.14	New Horn Strobes in Restrooms	571	1,024	B	REQUIRED
1.15	New Exit Signs	571	1,024	B	REQUIRED
1.16	New GFCI Receptacles at Restrooms and Water Coolers	238	427	B	REQUIRED
2	**BUILDING IMPROVEMENTS**	**377,850**	**615,307**		
2.01	New Ceilings at Various Locations	29,512	67,704	B	REQUIRED
2.02	New Flooring at Offices	9,180	22,113	C	RECOMMENDED
2.03	New Corridor Wall Finishes	6,800	27,300	C	RECOMMENDED
2.04	New Exterior Windows & Doors	118,728	159,159	B	REQUIRED
2.05	New Fascia Repair	410	825	C	RECOMMENDED
2.06	New Caulking at Interior Masonry	95	191	C	RECOMMENDED
2.07	New Classroom Casework at Exterior Walls	30,600	50,573	C	RECOMMENDED
2.08	New AHU at Classrooms	136,000	204,750	C	RECOMMENDED
2.09	New LED Lighting	18,714	32,869	C	RECOMMENDED
2.10	New Web Based PA System	16,388	29,348	D	SUGGESTED
2.11	New Lighting Controls	11,424	20,475	C	RECOMMENDED

ASSESSMENT SUMMARY

3	**SITE IMPROVEMENTS**	**64,808**	**106,696**		
3.01	New Parking Lot Improvements	53,706	89,612	C	RECOMMENDED
3.02	New Sidewalk Improvements	6,324	9,521	B	REQUIRED
3.03	New Exterior Concrete Stairs	4,778	7,563	B	REQUIRED
ADMINISTRATIVE OFFICE TOTAL		**810,722**	**1,346,255**		

ASSESSMENT SUMMARY

VOCATIONAL CENTER		Low	High	Priority	Remarks
1	**HEALTH & LIFE SAFETY**	**216,410**	**285,849**		
1.01	New ADA Compliant Water Coolers	2,312	4,778	C	RECOMMENDED
1.02	New Doors and Hardware	26,928	39,926	B	REQUIRED
1.03	New Safety Rated Glazing	326	557	B	REQUIRED
1.04	New ADA Compliant Restrooms	9,704	17,615	B	REQUIRED
1.05	New Fire Suppression Sprinkler System	20,740	29,143	C	RECOMMENDED
1.06	New Ventilation System	81,600	102,375	B	REQUIRED
1.07	New Dust Collection System	68,000	81,900	C	RECOMMENDED
1.08	New Emergency Shower and Eyewash Station	6,800	9,555	B	REQUIRED
2	**BUILDING IMPROVEMENTS**	**69,727**	**117,110**		
2.01	New Wall Finishes at Entrance Vestibule	2,570	7,310	C	RECOMMENDED
2.02	New Entrance Doors	2,992	5,460	C	RECOMMENDED
2.03	New Heating Water Boiling System	20,400	34,125	C	RECOMMENDED
2.04	New Explosion-Proof Unit Heaters	27,200	40,950	B	REQUIRED
2.05	New Lighting Controls	4,080	7,098	C	RECOMMENDED
2.06	New LED Lighting	6,637	11,657	B	REQUIRED
2.07	New Web Based PA System	5,848	10,511	B	REQUIRED
VOCATIONAL CENTER TOTAL		**286,137**	**402,959**		

ASSESSMENT SUMMARY

TRACK AND FIELD		Low	High	Priority	Remarks
3	**SITE IMPROVEMENTS**	**1,751,767**	**2,757,047**		
3.01	New Parking Lot Improvements	457,871	738,451	D	SUGGESTED
3.02	New Athletic Field	251,600	505,050	C	RECOMMENDED
3.03	New All-Weather Track	1,042,296	1,513,546	C	RECOMMENDED
TRACK AND FIELD TOTAL		**1,751,767**	**2,757,047**		

ASSESSMENT SUMMARY

BUS BARN		Low	High	Priority	Remarks
4 NEW FACILITIES		**1,162,375**	**1,712,500**		
4.01	New Bus Barn	1,162,375	1,712,500	D	SUGGESTED
BUS BARN TOTAL		**1,162,375**	**1,712,500**		

ASSESSMENT SUMMARY

TOTAL COSTS BY FACILITY

		Low	High
	GARFIELD ELEMENTARY SCHOOL	1,969,551	3,409,280
	MIDDLE SCHOOL	2,435,116	4,099,866
	HIGH SCHOOL	4,630,442	6,236,579
	ADMINISTRATIVE OFFICE	810,722	1,346,255
	VOCATIONAL CENTER	286,137	402,959
	TRACK AND FIELD	1,751,767	2,757,047
	BUS BARN	1,162,375	1,712,500
TOTAL COSTS BY FACILITY		**13,046,109**	**19,964,486**

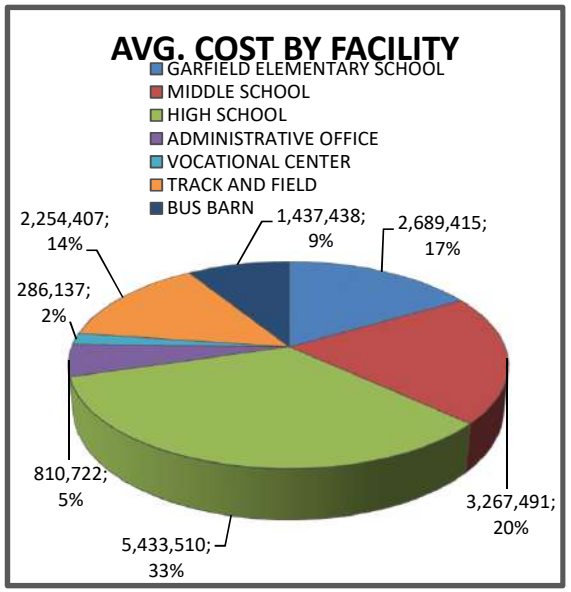
TOTAL COSTS BY CATEGORY

		Low	High
1	HEALTH & LIFE SAFETY	1,486,381	2,314,945
2	BUILDING IMPROVEMENTS	6,185,568	10,159,714
3	SITE IMPROVEMENTS	2,041,123	3,200,719
4	NEW FACILITIES	3,333,037	4,289,108
TOTAL COSTS BY CATEGORY		**13,046,109**	**19,964,486**

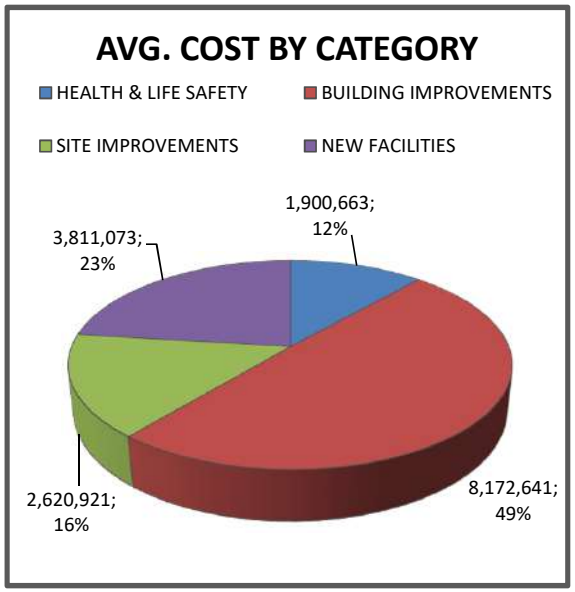
TOTAL COSTS BY PRIORITY

		Low	High
A	URGENT	0	0
B	REQUIRED	2,389,061	4,160,622
C	RECOMMENDED	6,651,151	10,400,452
D	SUGGESTED	4,005,897	5,403,412
TOTAL COSTS BY PRIORITY		**13,046,109**	**19,964,486**

ASSESSMENT SUMMARY



The pie charts shown on this page indicate the probable cost average and percentage as a visual aid when reviewing the assessment. These are calculated by sorting the assessment summary into different value breakdowns. The first chart above is sorted by the average probable costs per facility.



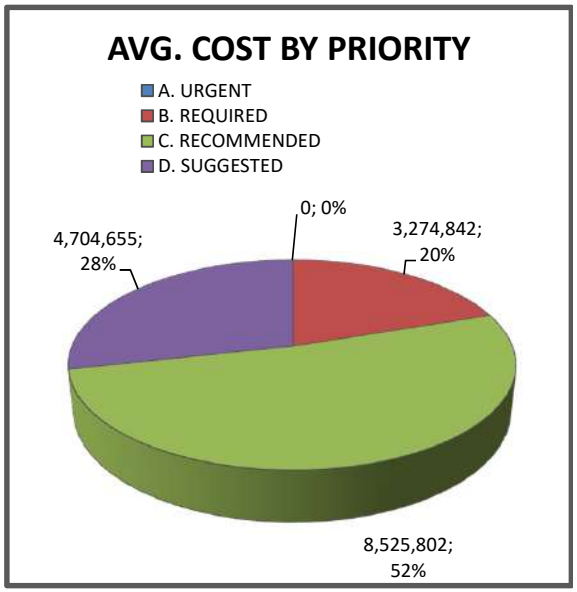
The chart above is sorted by the type of work required. These are separated by the following categories:

Health & Life Safety; Building code improvements, accessibility (ADA) requirements, building safety & security, exiting & egress requirements.

Building Improvements; Any building component improvements which are a part of the existing facility.

Site Improvements; Includes any site component improvements which are a part of the existing site conditions.

New Facilities; Includes new structures or additions to existing structures.



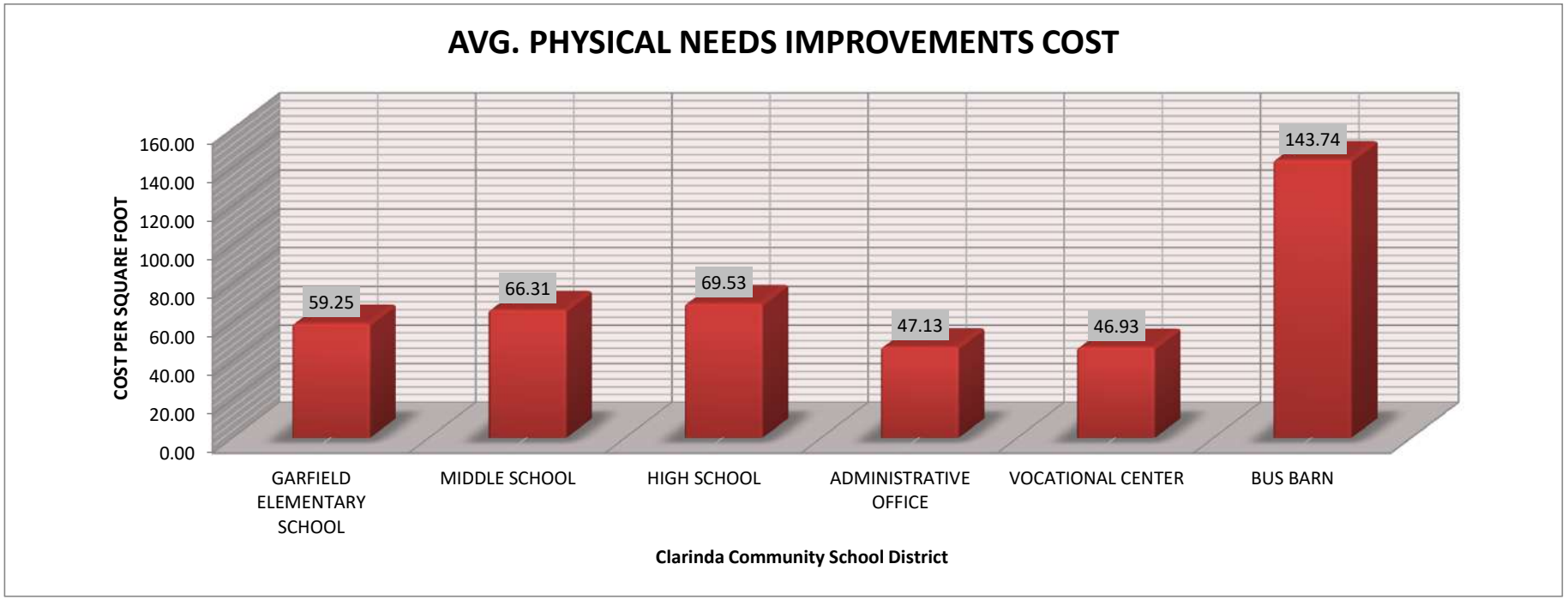
The chart above is sorted by the priority of the work, meaning when it may need to be completed. These are separated by the following categories:

A. Urgent; This work should be completed within a year.

B. Required; This work should be completed within 1 to 5 years.

C. Recommended; This work may not be required to be completed at this time, but is recommended to be completed within 5 to 10 years.

D. Suggested; This work may not be required to be completed at this time, but is suggested to be completed 10+ years out.


AVG. PHYSICAL NEEDS IMPROVEMENTS COST
COST PER SQUARE FOOT
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
59.25
66.31
69.53
47.13
46.93
143.74
GARFIELD ELEMENTARY SCHOOL
MIDDLE SCHOOL
HIGH SCHOOL
ADMINISTRATIVE OFFICE
VOCATIONAL CENTER
BUS BARN
Clarinda Community School District

ELEMENTARY SCHOOL

Garfield Elementary School

910 S 15th St
Clarinda, IA 51632

Type: Single Story
Masonry

Original Construction: 1956

Additions: 1996

Current Grades: PreK, K-4th

Enrollment: 410

Building Area: 45,390 sf

Current Square Feet per Student: 113 sf

Region Average for Elementary School:
240 sf per student

Source: School Planning and Management 20th annual school construction report

HEALTH & LIFE SAFETY

1.01 Asbestos Containing Flooring

ASSESSMENT

Classroom and corridor flooring is vinyl asbestos tile (VAT) which does not comply with current building code requirements.

SOLUTION

Encapsulate asbestos containing material by applying new floor over the existing tile (lower cost), or remove the tile and adhesive, and provide a new flooring material (higher cost).

Approximately 9,100 square feet

PROBABLE COST RANGE

$62,108 - $137,638

Existing asbestos containing floor tile

HEALTH & LIFE SAFETY

1.02 New ADA Compliant Water Coolers

ASSESSMENT

Existing water coolers do not comply with the Americans with Disabilities Act (ADA) requirements.

SOLUTION

Replace existing water coolers with new ADA compliant water coolers.

2 locations

PROBABLE COST RANGE

$2,856 - $6,143

Existing water cooler

Example of an ADA compliant water cooler

HEALTH & LIFE SAFETY

1.03 New ADA Compliant Doors and Hardware

ASSESSMENT

Existing doors contain hardware that is not compliant with the Americans with Disabilities Act (ADA) as well as glazing that is not safety rated or tempered.

SOLUTION

Replace existing doors and hardware.

Approximately 40 locations

PROBABLE COST RANGE

$66,368 - $94,458

Existing non-compliant door and hardware

Example of an ADA compliant door and hardware

HEALTH & LIFE SAFETY

1.04 New Safety Rated Glazing

ASSESSMENT

Existing glazing is not labeled as being safety rated or tempered, or it contains wired glazing; therefore it is no longer compliant with current building codes.

SOLUTION

Replace the existing non-compliant glazing with new safety rated or tempered glazing.

Approximately 20 locations

PROBABLE COST RANGE

$3,060 - $4,846

Existing wired glazing

Example of glazing safety label

HEALTH & LIFE SAFETY

1.05 New ADA Compliant Restrooms

ASSESSMENT

The existing common use restrooms are not compliant with the Americans with Disabilities Act (ADA).

SOLUTION

Renovate the common use restrooms to accommodate persons with disabilities and upgrade finishes. Range variance is based on wide selection of finishes.

3 locations, approximately 900 square feet

PROBABLE COST RANGE

$92,711 - $144,663

Existing conditions

Example of new ADA compliant restroom

HEALTH & LIFE SAFETY

1.06 New Code Compliant Stairway Railings

ASSESSMENT

Existing stair railings do not meet current building code requirements for end of stair rail extensions.

SOLUTION

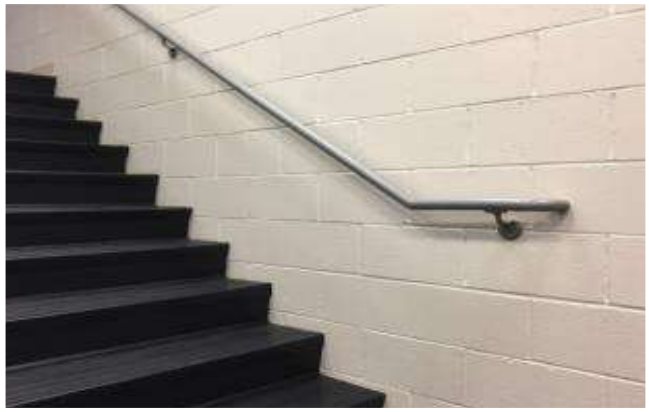
Replace the existing railings with new code compliant railings.

2 locations

PROBABLE COST RANGE

$6,188 - $8,873

Existing non-compliant stair railings



Example of code compliant railing

HEALTH & LIFE SAFETY

1.07 New Fire Suppression Sprinkler System at Original Portion of Facility

ASSESSMENT

Original portion of the building does not have a fire suppression sprinkler system which may be required to meet current building codes.

SOLUTION

Install new fire suppression sprinkler system with fire main service to building. Remove and replace existing acoustical ceiling tile.

Approximately 23,000 square feet

PROBABLE COST RANGE

$78,200 - $109,883

1.08 New Exhaust at Custodian Closet

ASSESSMENT

Existing custodian closet does not have an exhaust system as required by code.

SOLUTION

Install new exhaust fan at custodian closet.

1 location

PROBABLE COST RANGE

$4,080 - $6,825

1.09 New Domestic Water Backflow Preventer

ASSESSMENT

Existing domestic water service does not have a backflow preventer.

SOLUTION

Install a new backflow preventer to the domestic water service.

1 location

PROBABLE COST RANGE

$10,200 - $13,650

HEALTH & LIFE SAFETY

1.10 New Horn Strobes in Restrooms

ASSESSMENT

Existing fire alarm system does not contain adequate horn strobes as required by code.

SOLUTION

Install new horn strobes in restrooms.

Entire facility

PROBABLE COST RANGE

$1,428 - $2,594

1.11 New Electrical Panel

ASSESSMENT

Existing panel serving the original portion of the building has reached end of useful life.

SOLUTION

Install new 200A electrical panel.

1 location

PROBABLE COST RANGE

$4,760 - $8,600

1.12 New GFCI Receptacles at Water Coolers

ASSESSMENT

Existing electrical receptacles located at the water coolers are not ground fault circuit interrupter (GFCI) receptacles as required by code.

SOLUTION

Install new GFCIs at water coolers.

Entire facility

PROBABLE COST RANGE

$119 - $222

HEALTH & LIFE SAFETY

1.13 New Relocation of Transformers at Select Locations

ASSESSMENT

Existing transformers in multiple locations are installed above ceilings or in locations without proper access.

SOLUTION

Relocate transformers to appropriate locations.

Entire facility

PROBABLE COST RANGE

$952 - $1,706

BUILDING IMPROVEMENTS

2.01 New Ceiling Tiles at Various Locations

ASSESSMENT

Existing ceilings show signs of water damage and have reached end of useful life.

SOLUTION

Remove and replace damaged tile with new. Acoustical ceilings cost are determined by tile size, thickness and finish desired.

Approximately 100 square feet

PROBABLE COST RANGE

$476 - $1,092

Existing water damaged ceiling tile

Example of a new ceiling system

BUILDING IMPROVEMENTS

2.02 New Flooring at Gymnasium

ASSESSMENT

Existing vinyl composite tile (VCT) flooring in the gymnasium has reached end of useful life.

SOLUTION

Remove and replace existing flooring. Flooring costs vary based on product type, thickness, and finish desired.

Approximately 4,150 square feet

PROBABLE COST RANGE

$28,220 - $67,977

Existing VCT gymnasium flooring

Example of new gymnasium flooring

BUILDING IMPROVEMENTS

2.03 New Flooring at Entrance Vestibules

ASSESSMENT

Existing walk off carpet at entrance vestibules has reached end of useful life.

SOLUTION

Remove and replace existing walk off carpet with new.

Approximately 225 square feet

PROBABLE COST RANGE

$2,142 - $3,686

Existing walk off carpet

Example of new walk off carpet

BUILDING IMPROVEMENTS

2.04 New Corridor Wall Finishes

ASSESSMENT

Existing tile wainscoting finishes are dated and have reached end of useful life.

SOLUTION

Prime and paint the existing wainscoting and adjacent wall (lower cost), demo wainscoting and install new wall finishes (higher cost).

Approximately 2,000 square feet

PROBABLE COST RANGE

$22,848 - $76,440

Existing tile wainscoting

Example of new wall finishes

BUILDING IMPROVEMENTS

2.05 New Wainscoting Repair in Corridor

ASSESSMENT

Existing masonry wainscoting contains a vertical crack extending from the floor to the top of the wainscoting.

SOLUTION

Replace broken section of wainscoting and tuck-point cracked mortar joints.

1 location

PROBABLE COST RANGE

$517 - $683

Existing crack in wainscoting

BUILDING IMPROVEMENTS

2.06 New Wall Pads in Gymnasium

ASSESSMENT

Existing wall pad logos in the gymnasium are damaged and have reached end of useful life.

SOLUTION

Replace the existing wall pads with new.

2 locations

PROBABLE COST RANGE

$2,040 - $2,457

Existing damaged gymnasium wall pads

BUILDING IMPROVEMENTS

2.07 New Special Education Classroom Renovation

ASSESSMENT

Existing special education classrooms are not configured in such a way that is conducive to student learning.

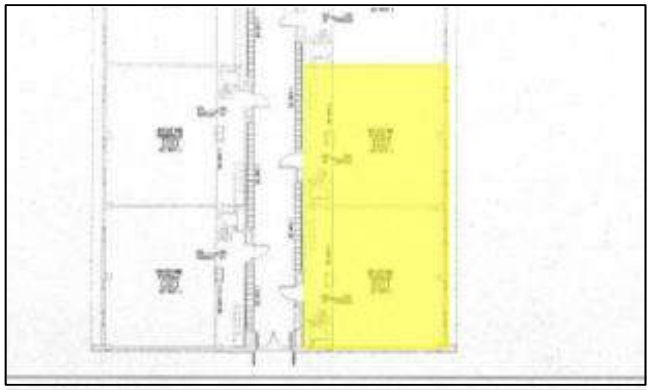
SOLUTION

Renovate and reconfigure existing classroom space to provide individualized learning spaces to better suit the needs of the students.

Approximately 1,700 square feet

PROBABLE COST RANGE

$100,650 - $162,022



Area of proposed renovation

Example of a new classroom configuration

BUILDING IMPROVEMENTS

2.08 New Exterior Windows

ASSESSMENT

Existing exterior windows are energy-inefficient and have reached end of useful life.

Existing exterior window

SOLUTION

Replace the existing with new energy-efficient exterior windows.

Example of a new exterior windows

Approximately 650 square feet of windows

PROBABLE COST RANGE

$35,360 - $44,363

BUILDING IMPROVEMENTS

2.09 New Exterior Doors at Gymnasium

ASSESSMENT

Existing exterior doors at gymnasium have reached end of useful life.

SOLUTION

Replace existing exterior doors with new.

2 locations

PROBABLE COST RANGE

$5,984 - $10,920

Existing exterior door

Example of a new exterior door

BUILDING IMPROVEMENTS

2.10 New Weather Strips at Exterior Doors

ASSESSMENT

Existing exterior doors do not provide a weather-tight seal when closed.

SOLUTION

Install new weather-stripping at exterior double doors to create a weather-tight seal.

3 locations

PROBABLE COST RANGE

$286 - $430

Existing air gap at exterior doors

BUILDING IMPROVEMENTS

2.11 New Masonry Infill at Louver Opening

ASSESSMENT

An existing louver has been removed and a piece of plywood has been installed over the resulting opening.

SOLUTION

Remove the plywood and infill the opening with new masonry bricks.

1 location

PROBABLE COST RANGE

$408 - $532

Existing masonry opening

BUILDING IMPROVEMENTS

2.12 New Mini-Split Systems

ASSESSMENT

Each classroom in the original portion of the facility is served by a mini-split system, mini-split systems are approaching end of useful life.

SOLUTION

Replace existing mini-split systems with new.

13 units

PROBABLE COST RANGE

$374,000 - $778,050

2.13 New Cabinet Unit Heaters at Classrooms

ASSESSMENT

Each classroom in the original portion of the facility is served by a recessed cabinet unit heater which has reached end of useful life.

SOLUTION

Replace existing cabinet unit heaters with new.

13 units

PROBABLE COST RANGE

$34,000 - $54,600

2.14 New Exhaust Systems at Restrooms

ASSESSMENT

Existing restrooms do not have adequate ventilation.

SOLUTION

Install new exhaust system at restrooms.

2 locations

PROBABLE COST RANGE

$6,800 - $9,555

BUILDING IMPROVEMENTS

2.15 New Chiller System

ASSESSMENT

Existing HVAC system does not contain a chiller system to support the new mechanical units recommended with cooling capabilities.

SOLUTION

Install new chiller system to support new mechanical equipment.

1 unit

PROBABLE COST RANGE

$204,000 - $341,250

2.16 New Heat Pumps at 1990s Addition

ASSESSMENT

The existing heat pumps in the 1990s addition to the building have reached median service life expectancy.

SOLUTION

Replace existing heat pumps with new.

Approximately 15 units

PROBABLE COST RANGE

$136,000 - $273,000

2.17 New Web Based PA System

ASSESSMENT

Existing public addressing (PA) system is no longer in use.

SOLUTION

Replace the unused PA system with a new web based PA system.

Entire facility

PROBABLE COST RANGE

$45,084 - $81,900

BUILDING IMPROVEMENTS

2.18 New LED Lighting

ASSESSMENT

Existing interior lighting is energy inefficient and does not contain occupancy sensors or daylight harvesting capabilities.

SOLUTION

Replace existing light fixtures with new energy efficient LED fixtures. Update lighting controls using occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$49,384 - $86,740

2.19 Additional Receptacles in Original Portion

ASSESSMENT

Existing electrical system does not contain adequate number of receptacles.

SOLUTION

Install additional receptacles as necessary.

Entire original portion

PROBABLE COST RANGE

$18,088 - $31,395

2.20 New Local Audio System for Hearing Impaired Students

ASSESSMENT

Existing facility does not have recommended local audio system to best serve students with hearing impairment.

SOLUTION

Install new audio system.

Entire facility

PROBABLE COST RANGE

$23,800 - $42,725

BUILDING IMPROVEMENTS

2.21 New Lighting Controls

ASSESSMENT

Existing lighting controls do not contain occupancy sensors and do not meet current energy code.

SOLUTION

Install new lighting controls utilizing occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$30,274 - $54,259

2.22 New Cabinet Unit Heaters at Restrooms

ASSESSMENT

Existing cabinet unit heaters serving the restrooms have reached median service life expectancy.

SOLUTION

Replace existing cabinet unit heaters with new.

Approximately 10 units

PROBABLE COST RANGE

$8,160 - $10,920

2.23 New Roof System

ASSESSMENT

Existing roofing system is approaching end of useful life.

SOLUTION

Replace existing ballasted roof with new roofing system.

Entire facility

PROBABLE COST RANGE

$493,854 - $712,525

SITE IMPROVEMENTS

3.01 New Path of Egress

ASSESSMENT

Existing exit doors do not have a sidewalk to allow for emergency egress away from the building.

SOLUTION

Install new sidewalk connecting exit door stoops to existing sidewalk.

Approximately 320 square feet

PROBABLE COST RANGE

$1,907 - $2,553

Existing exit doors without path of egress

New path of egress sidewalk

SITE IMPROVEMENTS

3.02 New Overhead Door on Storage Shed

ASSESSMENT

Existing overhead door located on the storage shed has reached end of useful life.

SOLUTION

Replace existing overhead door with a new overhead door system.

1 location

PROBABLE COST RANGE

$5,440 - $9,555

Existing overhead door at storage shed

Example of new overhead door

SITE IMPROVEMENTS

3.01 New Parking Lot Improvements

ASSESSMENT

Existing gravel parking lot located on the North end of the school has reached end of useful life.

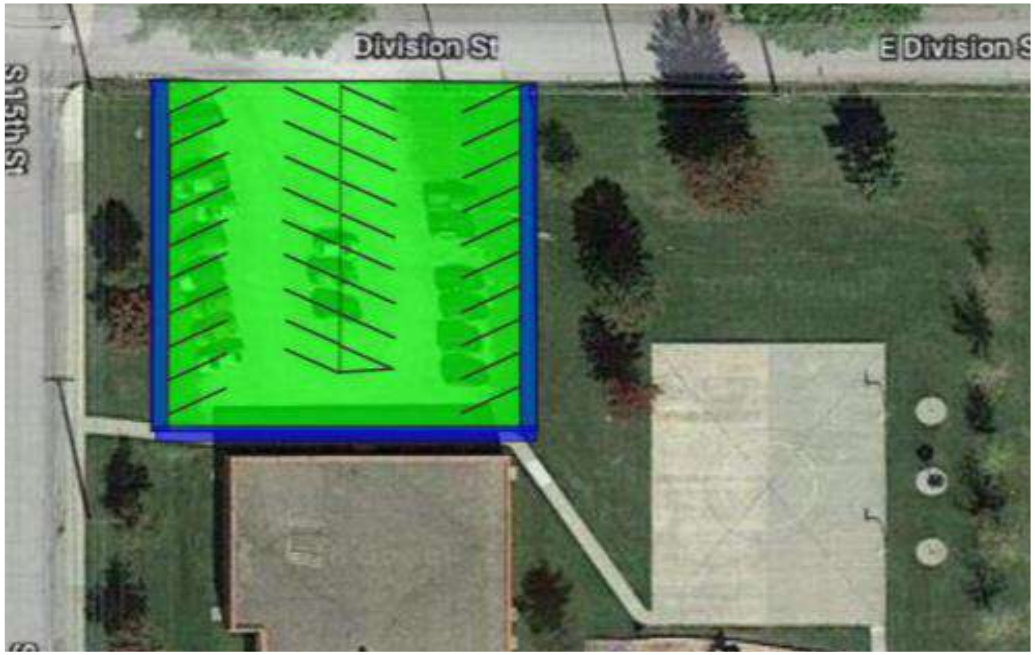
SOLUTION

Replace existing gravel parking lot with new paved parking lot.

Approximately 13,500 square feet, 34 parking spaces

PROBABLE COST RANGE

$132,002 - $217,513



Example of new parking

SITE IMPROVEMENTS

3.03 New Exterior Lighting

ASSESSMENT

Existing exterior wall mounted light fixtures are energy inefficient and have reached end of useful life.

SOLUTION

Replace existing with new energy efficient light fixtures.

Approximately 10 locations

PROBABLE COST RANGE

$6,800 - $9,555

MIDDLE SCHOOL

Middle School

305 E Glenn Miller Dr
Clarinda, IA 51632

Type: Single Story
Masonry

Original Construction: 1996

Additions: N/A

Current Grades: 5th -8th

Enrollment: 309

Building Area: 49,275 sf

Current Square Feet per Student: 153 sf

Region Average for Middle School:
184 sf per student

Source: School Planning and Management 20th annual school construction report

HEALTH & LIFE SAFETY

1.01 New ADA Accessibility at Stage

ASSESSMENT

Existing stage is not conveniently accessible by persons with disabilities.

SOLUTION

Install new stair climber at the stage for easier wheelchair access.

1 location

PROBABLE COST RANGE

$26,520 - $29,348

Existing stairs to stage

Example of new stair climber

HEALTH & LIFE SAFETY

1.02 New ADA Compliant Bleachers

ASSESSMENT

Existing bleachers do not have safety railings at stairs as required by the Americans with Disabilities Act (ADA).

SOLUTION

Modify the existing bleachers to add safety railings along stairs.

1 location

PROBABLE COST RANGE

$2,040 - $4,095

Existing bleachers

Example of ADA compliant bleachers

HEALTH & LIFE SAFETY

1.03 New Safety Rated Glazing

ASSESSMENT

Existing glazing contains wired glazing and is no longer compliant with current building codes.

SOLUTION

Replace the existing non-compliant glazing with new safety rated or tempered glazing.

Approximately 45 locations

PROBABLE COST RANGE

$8,500 - $13,002

Existing non-compliant glazing

Example of code compliant glazing label

HEALTH & LIFE SAFETY

1.04 New Locker Room Showers

ASSESSMENT

Existing showers are not health code compliant. They do not contain stalls to separate the individual students while showering.

SOLUTION

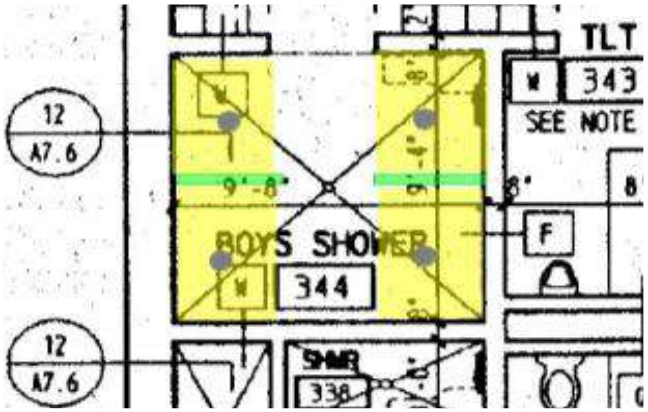
Install an additional floor drain for each shower head (lower cost), renovate showers to create individual stalls each with a separate floor drain (higher cost)

1 location, approximately 100 square feet

PROBABLE COST RANGE

$5,032 - $12,484

Existing communal drain in shower



Proposed new shower layout

HEALTH & LIFE SAFETY

1.05 New Emergency Gas Shutoff

ASSESSMENT

Existing emergency gas shutoff is located in a locked box and is no longer acceptable according to current building codes.

SOLUTION

Replace existing emergency gas shutoff with new code approved shutoff.

2 locations

PROBABLE COST RANGE

$2,720 - $4,095

1.06 New Range Hood Ventilation

ASSESSMENT

Existing ranges in family consumer science classroom do not have adequate ventilation as required by code.

SOLUTION

Install new ventilation hood over ranges.

Approximately 4 locations

PROBABLE COST RANGE

$20,400 - $27,300

1.07 New Grease Trap at Kitchen

ASSESSMENT

Existing kitchen does not have required grease trap.

SOLUTION

Install new grease trap at the kitchen's triple basin sink.

1 location

PROBABLE COST RANGE

$4,080 - $6,825

HEALTH & LIFE SAFETY

1.08 New Relocation of Transformers at Select Locations

ASSESSMENT

Existing transformers in multiple locations are installed above ceilings or in locations without proper access.

SOLUTION

Relocate transformers to appropriate locations.

Entire facility

PROBABLE COST RANGE

$952 - $1,706

1.09 New Exit Sign at Boiler Room

ASSESSMENT

Existing boiler room does not have proper exit signage.

SOLUTION

Install new illuminated, battery backup, exit sign in boiler room

1 location

PROBABLE COST RANGE

$286 - $512

1.10 New GFCI Receptacles at Water Coolers

ASSESSMENT

Existing electrical receptacles located at the water coolers are not ground fault circuit interrupter (GFCI) receptacles as required by code.

SOLUTION

Install new GFCIs at water coolers.

Entire facility

PROBABLE COST RANGE

$119 - $222

BUILDING IMPROVEMENTS

2.01 New Bottle Fill Water Cooler

ASSESSMENT

The existing water coolers are not bottle fill similar to others in the facility.

SOLUTION

Replace existing water coolers with bottle fill style water coolers.

1 location

PROBABLE COST RANGE

$2,747 - $5,597

Existing water cooler

Example of new bottle fill style water cooler

BUILDING IMPROVEMENTS

2.02 New Ceilings at Various Locations

ASSESSMENT

Existing ceiling tiles show signs of water damage and have reached end of useful life.

Existing water damaged ceiling tile

SOLUTION

Remove and replace damaged tile with new. Acoustical ceilings cost are determined by tile size, thickness and finish desired.

Example of a new ceiling system

Approximately 40 square feet

PROBABLE COST RANGE

$190 - $437

BUILDING IMPROVEMENTS

2.02 New Flooring at Science Classroom

ASSESSMENT

Existing vinyl composite tile (VCT) flooring has reached end of useful life.

SOLUTION

Remove and replace existing VCT flooring.

Approximately 1,000 square feet

PROBABLE COST RANGE

$6,800 - $16,380

Existing flooring

Example of new VCT flooring

BUILDING IMPROVEMENTS

2.03 New Countertops at Science Classrooms

ASSESSMENT

Existing countertops at science classrooms have reached end of useful life.

Existing countertop

SOLUTION

Remove and replace existing countertops with new acid-proof countertops.

Example of new acid-proof countertop

2 locations, approximately 120 square feet

PROBABLE COST RANGE

$6,691 - $7,699

BUILDING IMPROVEMENTS

2.03 New Wall Finishes at Skylights

ASSESSMENT

Existing wall finishes located at skylights in corridors are showing signs of water damage.

SOLUTION

Repair damaged finishes, re-caulk around skylights.

Approximately 550 lineal feet

PROBABLE COST RANGE

$1,496 - $2,252

Existing wall finish at skylights

BUILDING IMPROVEMENTS

2.04 New Exterior Doors at Gymnasium

ASSESSMENT

Existing exterior doors at gymnasium have reached end of useful life.

SOLUTION

Replace existing exterior doors with new.

2 locations

PROBABLE COST RANGE

$5,984 - $10,920

Existing exterior door

Example of a new exterior door

BUILDING IMPROVEMENTS

2.05 New Caulking at Interior Masonry

ASSESSMENT

Existing caulking in concrete masonry block walls has reached end of useful life.

SOLUTION

Head joints should be tooled and re-caulked.

2 locations, approximately 25 lineal feet

PROBABLE COST RANGE

$238 - $478

Existing masonry caulk joint

BUILDING IMPROVEMENTS

2.06 New Wrestling Mat Hanging Storage System

ASSESSMENT

Existing wrestling mats are shared by the middle and high school and are transported between facilities as needed.

SOLUTION

Purchase an additional set of wrestling mats and install new hanging storage system in gymnasium.

1 location

PROBABLE COST RANGE

$21,284 - $28,665

Example of hanging mat storage

HEALTH & LIFE SAFETY

2.07 New Dedicated Outside Air System

ASSESSMENT

Existing dedicated outside air system (DOAS) units have reached median service life expectancy.

SOLUTION

Replace existing DOAS units with new.

6 units

PROBABLE COST RANGE

$408,000 - $819,000

2.08 New Heat Pumps

ASSESSMENT

Existing heat pumps have reached median service life expectancy.

SOLUTION

Replace existing heat pumps with new.

Approximately 75 units

PROBABLE COST RANGE

$544,000 - $955,500

2.09 New Cooling Tower

ASSESSMENT

Existing cooling tower has reached median service life expectancy.

SOLUTION

Replace existing cooling tower with new.

1 unit

PROBABLE COST RANGE

$68,000 - $109,200

HEALTH & LIFE SAFETY

2.10 New Plate and Frame Heat Exchanger

ASSESSMENT

Existing plate and frame heat exchanger works in conjunction with the cooling tower and has reached median service life expectancy.

SOLUTION

Replace existing plate and frame heat exchanger with new.

1 unit

PROBABLE COST RANGE

$13,600 - $27,300

2.11 New Automatic Controls for Kiln Ventilation

ASSESSMENT

Existing kiln ventilation system is controlled by a manual switch.

SOLUTION

Install automatic controls on the kiln ventilation system to prevent the ability for the kiln to operate without the ventilation system.

1 location

PROBABLE COST RANGE

$4,080 - $6,825

2.12 New Additional Cooling in Room 347

ASSESSMENT

Room 347 does not have adequate cooling to offset the heat produced by multiple appliances in the room.

SOLUTION

Increase cooling capabilities within the space.

1 location

PROBABLE COST RANGE

$5,440 - $6,825

HEALTH & LIFE SAFETY

2.13 New Exhaust Fans at Commons

ASSESSMENT

Existing wall mounted exhaust fans serving the auditorium have reached median service life expectancy.

SOLUTION

Replace existing exhaust fans with new.

2 units

PROBABLE COST RANGE

$40,800 - $68,250

2.14 New Unit Ventilators at Restrooms

ASSESSMENT

Existing unit ventilators serving men's and women's restrooms have reached median service life expectancy.

SOLUTION

Replace existing unit ventilators with new.

2 units

PROBABLE COST RANGE

$9,792 - $13,650

2.15 New Additional Exhaust at Locker Rooms

ASSESSMENT

Existing locker room ceilings appear to be deteriorating due to moisture from use of the showers.

SOLUTION

Install additional exhaust systems at locker rooms.

2 locations

PROBABLE COST RANGE

$9,520 - $12,285

BUILDING IMPROVEMENTS

2.16 New Air Handling Units at Commons

ASSESSMENT

Existing air handling unit (AHU) serving the auditorium has heating capabilities only.

SOLUTION

Replace existing AHU with new unit with heating, cooling, humidification, dehumidification, and code required year round outside air capabilities.

2 units

PROBABLE COST RANGE

$272,000 - $477,750

2.17 New Makeup Air Unit and Exhaust Fan at Kitchen

ASSESSMENT

Existing makeup air unit (MAU) and exhaust fans serving the kitchen are approaching median service life expectancy.

SOLUTION

Replace existing MAU and exhaust fan with new.

1 location

PROBABLE COST RANGE

$61,200 - $102,375

2.18 New Thermostats Throughout

ASSESSMENT

Existing thermostats are original to the building and are approaching median service life expectancy.

SOLUTION

Replace existing thermostats with new.

Entire facility

PROBABLE COST RANGE

$20,400 - $27,300

BUILDING IMPROVEMENTS

2.19 New LED Lighting

ASSESSMENT

Existing interior lighting is energy inefficient and does not contain occupancy sensors or daylight harvesting capabilities.

SOLUTION

Replace existing light fixtures with new energy efficient LED fixtures. Update lighting controls using occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$53,611 - $94,165

2.20 New Web Based PA System

ASSESSMENT

Existing public addressing (PA) system is no longer in use.

SOLUTION

Replace the unused PA system with a new web based PA system.

Entire facility

PROBABLE COST RANGE

$42,840 - $81,900

2.21 New Roof System

ASSESSMENT

Existing roofing system is approaching the end of useful life.

SOLUTION

Replace existing roof with new roofing system.

Entire facility

PROBABLE COST RANGE

$536,112 - $773,494

BUILDING IMPROVEMENTS

2.22 New Local Audio System for Hearing Impaired Students

ASSESSMENT

Existing facility does not have recommended local audio system to best serve students with hearing impairment.

SOLUTION

Install new audio system.

Entire facility

PROBABLE COST RANGE

$11,900 - $21,362

2.23 New Lighting Controls

ASSESSMENT

Existing lighting controls do not contain occupancy sensors and do not meet current energy code.

SOLUTION

Install new lighting controls utilizing occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$30,274 - $54,259

SITE IMPROVEMENTS

3.01 New Fencing Around Electrical Equipment

ASSESSMENT

The electrical equipment located outside the building is not isolated from the general public by a fence or barrier.

SOLUTION

Provide new fence around equipment.

Approximately 50 lnft

PROBABLE COST RANGE

$2,040 - $3,413

Existing equipment

SITE IMPROVEMENTS

3.02 New Path of Egress

ASSESSMENT

Existing exit doors do not have a sidewalk to allow for emergency egress away from the building.

SOLUTION

Install new sidewalk connecting exit door stoops to existing sidewalk.

Approximately 1,375 square feet

PROBABLE COST RANGE

$8,415 - $11,261

Existing exit doors without path of egress

New path of egress sidewalk

SITE IMPROVEMENTS

3.03 New Exterior Lighting

ASSESSMENT

Existing exterior wall mounted light fixtures are energy inefficient and have reached end of useful life.

SOLUTION

Replace existing with new energy efficient light fixtures.

Approximately 5 locations

PROBABLE COST RANGE

$3,400 - $4,778

SITE IMPROVEMENTS

3.04 New Student Drop-Off Bus Loop

ASSESSMENT

The site does not provide for adequate and safe student drop-off locations.

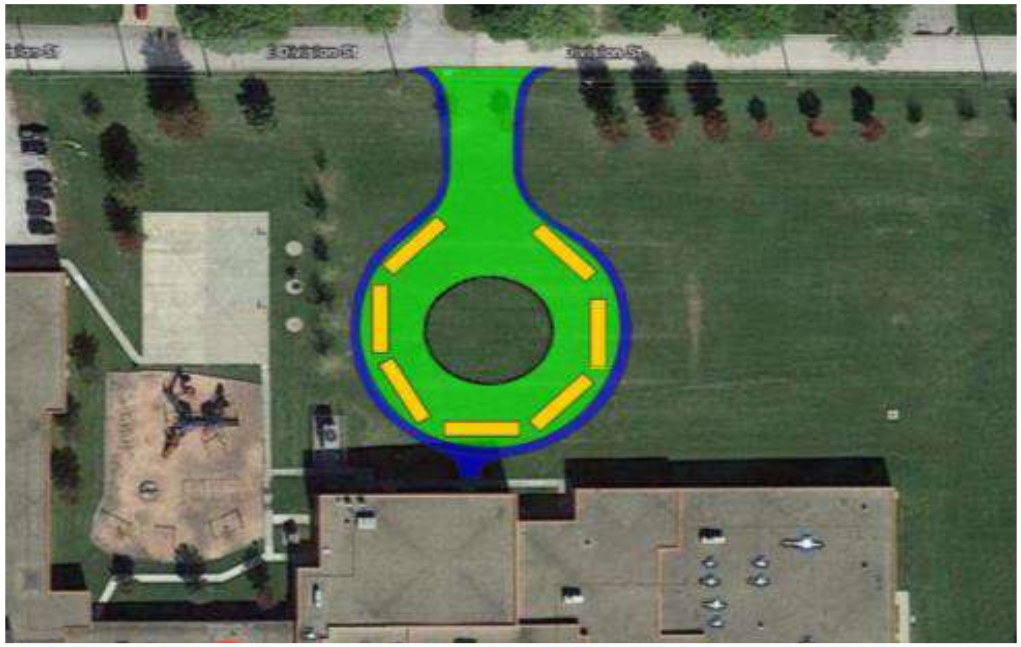
SOLUTION

Provide new bus only student drop-off lane.

Approximately 21,000 square feet

PROBABLE COST RANGE

$181,909 - $275,592



Proposed new drop off lane

HIGH SCHOOL

High School

100 N Cardinal Dr
Clarinda, IA 51632

Type: Single Story
Masonry

Original Construction: 1966

Additions: 1996, 2001

Current Grades: 9th-12th

Enrollment: 284

Building Area: 78,150 sf

Current Square Feet per Student: 268 sf

Region Average for High Schools:
192 sf per student

Source: School Planning and Management 20th annual school construction report

HEALTH & LIFE SAFETY

1.01 Asbestos Containing Pipe Insulation

ASSESSMENT

Existing pipe insulation appears to be asbestos containing material.

SOLUTION

Abate and remove existing asbestos containing insulation and replace with new insulation.

Approximately 1,500 lineal feet

PROBABLE COST RANGE

$40,800 - $61,425

Existing asbestos insulation

HEALTH & LIFE SAFETY

1.02 New ADA Compliant Water Coolers

ASSESSMENT

The existing water coolers do not meet the Americans with Disabilities Act (ADA) requirement for dual height water coolers.

SOLUTION

Install additional water coolers to meet the ADA requirement for dual height.

5 locations

PROBABLE COST RANGE

$5,780 - $11,944

Existing water cooler

Example of an ADA compliant water cooler

HEALTH & LIFE SAFETY

1.03 New ADA Compliant Defibrillator Cabinet

ASSESSMENT

Existing defibrillator protrudes into the corridor greater than the allowable amount by the Americans with Disabilities Act (ADA) requirements.

SOLUTION

Install new recessed defibrillator cabinet.

1 location

PROBABLE COST RANGE

$408 - $751

Existing defibrillator

Example of recessed defibrillator cabinet

HEALTH & LIFE SAFETY

1.04 New Platform Lift at Stage in Auditorium

ASSESSMENT

The stage is not accessible by persons with disabilities and is not in compliance with the Americans with Disabilities Act (ADA).

SOLUTION

Install new platform lift.

1 location

PROBABLE COST RANGE

$29,240 - $40,950

Existing stage access

Example of platform lift

HEALTH & LIFE SAFETY

1.05 New Interior Accessibility at Weight Room

ASSESSMENT

The second floor weight room is inaccessible by persons with disabilities

SOLUTION

Install new chair lift at stairs to weight room (lower cost), install new platform lift (higher cost).

1 location

PROBABLE COST RANGE

$29,240 - $56,648

Example of platform lift

HEALTH & LIFE SAFETY

1.06 New ADA Compliant Ramp to Locker Rooms

ASSESSMENT

The corridor leading to the locker rooms is not accessible by persons with disabilities, and is not in compliance with the American Disabilities Act (ADA).

SOLUTION

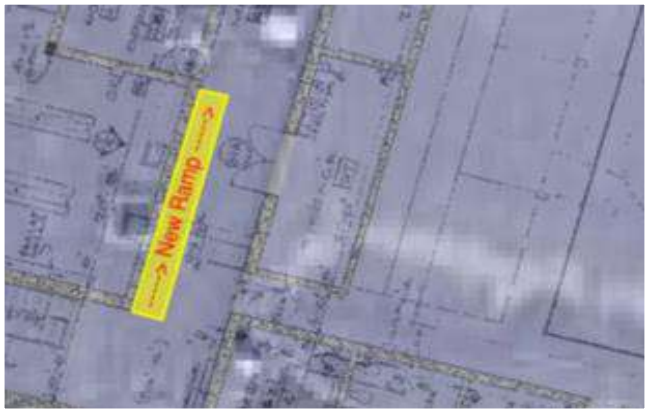
Install new ADA compliant ramp to make floor accessible to persons with disabilities.

Approximately 75 square feet

PROBABLE COST RANGE

$5,882 - $16,039

Existing non-accessible floor



Proposed ramp location

HEALTH & LIFE SAFETY

1.07 New Floor Leveling at Shower Corridor

ASSESSMENT

The corridor leading to the showers contains a step down and is not compliant with the Americans with Disabilities Act (ADA).

SOLUTION

Install floor leveling compound to create a sloped floor in lieu of a step.

Approximately 30 square feet

PROBABLE COST RANGE

$734 - $1,024

Existing step down in floor

HEALTH & LIFE SAFETY

1.08 New Code Compliant Stairway Railings and Guardrails

ASSESSMENT

Existing stair railings and guardrails do not meet current building code requirements.

Existing non-compliant stair railings

SOLUTION

Modify the existing railing to meet current codes (lower cost), or provide new code compliant railings by replacing the existing (higher cost).

Example of code compliant railing

2 locations

PROBABLE COST RANGE

$7,004 - $29,416

HEALTH & LIFE SAFETY

1.09 New ADA Compliant Door Hardware

ASSESSMENT

Existing door hardware is not compliant with the American Disabilities Act (ADA).

Existing non-compliant door hardware

SOLUTION

Replace existing hardware with new code compliant hardware.

Example of an ADA compliant door hardware

Approximately 15 locations

PROBABLE COST RANGE

$2,856 - $5,733

HEALTH & LIFE SAFETY

1.10 New ADA Compliant Emergency Exit at Auditorium

ASSESSMENT

Existing emergency exit at auditorium requires use of steps to egress away from the building and is not in compliance with the Americans with Disabilities Act (ADA).

SOLUTION

Replace exterior egress stairs with new ADA compliant ramp.

Approximately 40 lineal feet

PROBABLE COST RANGE

$9,486 - $15,493

Existing non-accessible entryway

Example of an accessible entryway

HEALTH & LIFE SAFETY

1.11 New Safety Rated Glazing

ASSESSMENT

Existing glazing is not labeled as being safety rated or tempered, or it contains wired glazing; therefore it is no longer compliant with current building codes.

SOLUTION

Replace the existing non-compliant glazing with new safety rated or tempered glazing.

Approximately 20 locations

PROBABLE COST RANGE

$3,944 - $5,678

Existing non-rated corridor door

Example of a fire rated corridor door, frame & hardware

HEALTH & LIFE SAFETY

1.12 New ADA Compliant Restrooms

ASSESSMENT

The existing restrooms are not compliant with the Americans with Disabilities Act (ADA).

Existing conditions

SOLUTION

Renovate restrooms to accommodate persons with disabilities and upgrade finishes. Range variance is based on wide selection of finishes.

4 locations, approximately 900 square feet

Example of new ADA compliant stall

PROBABLE COST RANGE

$78,479 - $120,386

HEALTH & LIFE SAFETY

1.13 New Fire Suppression Sprinkler System

ASSESSMENT

Existing building does not have a fire suppression sprinkler system which may be required to meet current building codes.

SOLUTION

New fire suppression sprinkler system with fire main service to building. Remove and replace existing acoustical ceiling tile.

Approximately 78,150 square feet of sprinkler coverage

PROBABLE COST RANGE

$265,710 - $373,362

1.14 New Grease Trap

ASSESSMENT

Existing kitchen does not have required grease trap.

SOLUTION

Install new grease trap at the kitchen's triple basin sink.

1 location

PROBABLE COST RANGE

$6,800 - $9,555

1.15 New Domestic Water Backflow Preventer

ASSESSMENT

Existing domestic water service does not have a backflow preventer.

SOLUTION

Install a new backflow preventer to the domestic water service.

1 location

PROBABLE COST RANGE

$10,200 - $13,650

HEALTH & LIFE SAFETY

1.16 New Horn Strobes in Restrooms

ASSESSMENT

Existing fire alarm system does not contain adequate horn strobes as required by code.

SOLUTION

Install new horn strobes located in the restrooms.

Entire facility

PROBABLE COST RANGE

$857 - $1,638

1.17 New Exit Sign at Kitchen and Art Room

ASSESSMENT

Existing kitchen and art room does not have proper exit signage.

SOLUTION

Install new illuminated, battery backup, exit signs.

2 locations

PROBABLE COST RANGE

$571 - $1,024

1.18 New GFCI Receptacles at Water Coolers

ASSESSMENT

Existing electrical receptacles located at the water coolers are not ground fault circuit interrupter (GFCI) receptacles as required by code.

SOLUTION

Install new GFCIs at water coolers.

Entire facility

PROBABLE COST RANGE

$238 - $444

BUILDING IMPROVEMENTS

2.01 New Ceilings at Various Locations

ASSESSMENT

Existing ceilings show signs of water damage and have reached end of useful life.

Existing water damaged ceiling tile

SOLUTION

Remove and replace with a new acoustical ceiling system. Acoustical ceilings cost are determined by tile size, thickness and finish desired.

Example of a new ceiling system

Approximately 200 square feet

PROBABLE COST RANGE

$952 - $2,184

BUILDING IMPROVEMENTS

2.02 New Concrete Finish at Locker Rooms

ASSESSMENT

Existing sealed concrete finish in locker rooms has reached end of useful life.

SOLUTION

Apply new clear coat to existing concrete floor.

Approximately 2,100 square feet

PROBABLE COST RANGE

$1,428 - $2,867

Existing sealed concrete floor

Example of sealed concrete floor

BUILDING IMPROVEMENTS

2.03 New Classroom Doors and Frames

ASSESSMENT

Existing doors and frames have reached end of useful life.

SOLUTION

Remove existing door and frame and replace with new.

Approximately 12 locations

PROBABLE COST RANGE

$31,661 - $46,437

Example of existing door/frame

Example of new door/frame

BUILDING IMPROVEMENTS

2.04 New Restroom Renovation

ASSESSMENT

Existing restroom finishes are worn, dated, and have reached end of useful life.

SOLUTION

Install new restroom finishes including flooring, ceilings, walls, partitions, fixtures and accessories.

2 locations, approximately 450 square feet

PROBABLE COST RANGE

$39,372 - $84,425

Existing restroom finishes

Example of new restroom finishes

BUILDING IMPROVEMENTS

2.05 New Locker Room Shower Renovations

ASSESSMENT

Existing shower finishes are worn, dated, and have reached end of useful life.

SOLUTION

Install new shower finishes including flooring, ceilings, walls, and fixtures.

2 locations, approximately 320 square feet

PROBABLE COST RANGE

$30,238 - $60,138

Existing shower finishes

Example of new shower finishes

BUILDING IMPROVEMENTS

2.06 New Exterior Doors at Select Locations

ASSESSMENT

Existing exterior doors are energy-inefficient, and have reached end of useful life.

Existing exterior door

SOLUTION

Replace the existing with new energy-efficient exterior doors.

Example of a new exterior doors

2 locations

PROBABLE COST RANGE

$5,984 - $10,920

BUILDING IMPROVEMENTS

2.07 New Weather Strips at Exterior Doors

ASSESSMENT

Existing exterior doors do not currently provide a weather-tight seal when closed.

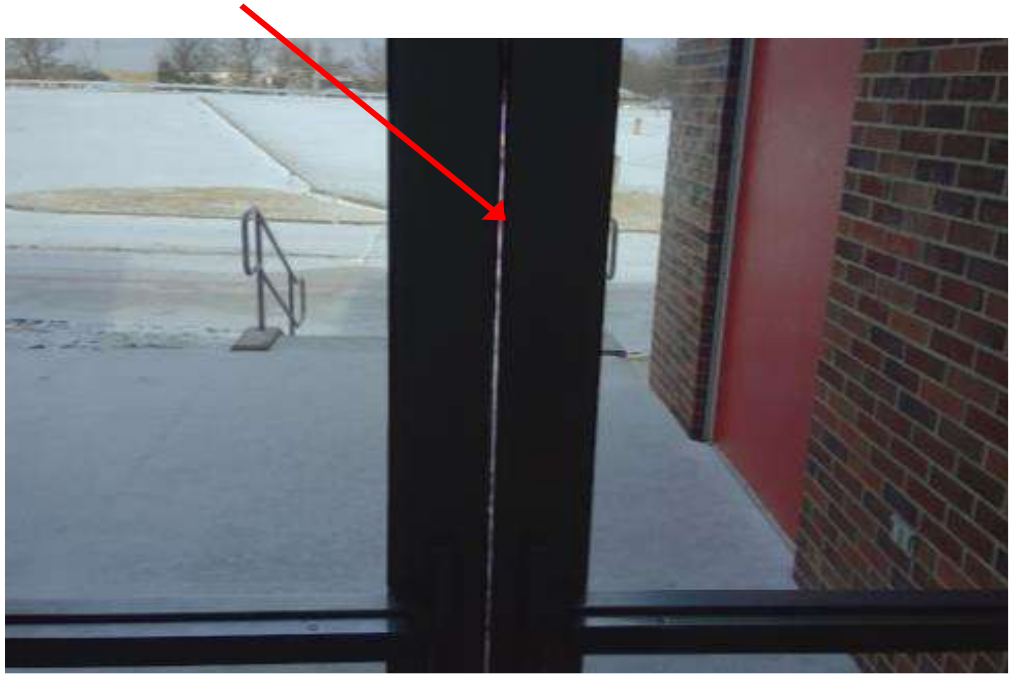
SOLUTION

Install new weather-stripping at exterior double doors to create a weather-tight seal.

1 location

PROBABLE COST RANGE

$95 - $143



Existing air gap at exterior doors

BUILDING IMPROVEMENTS

2.08 New Masonry Control Joint Caulking

ASSESSMENT

The existing exterior masonry caulking at control joints has reached end of useful life.

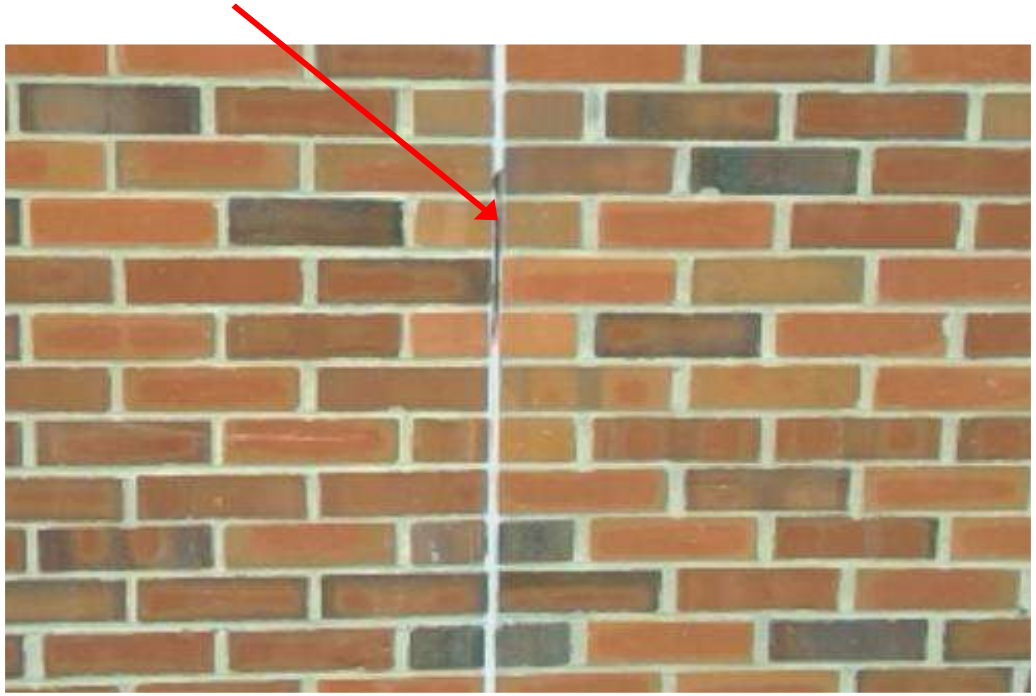
SOLUTION

Remove existing joint sealant, tool and re-caulk.

Approximately 300 lineal feet

PROBABLE COST RANGE

$1,224 - $2,048



Existing masonry requiring new joint sealant

BUILDING IMPROVEMENTS

2.09 New Domestic Water Heater

ASSESSMENT

Existing domestic water heater has reached end of useful life.

SOLUTION

Replace existing domestic water heater with new.

1 location

PROBABLE COST RANGE

$6,800 - $9,555

2.10 New Air Handling Units at Gymnasium

ASSESSMENT

Existing air handling units (AHU) serving the gymnasium have heating capabilities only.

SOLUTION

Replace existing AHUs with new unit with heating, cooling, humidification, dehumidification, and code required year round outside air capabilities.

2 units

PROBABLE COST RANGE

$408,000 - $546,000

2.11 New Air Handling Unit at Kitchen

ASSESSMENT

Existing air handling units (AHU) serving the kitchen has heating capabilities only.

SOLUTION

Replace existing AHU with new unit with heating, cooling, humidification, dehumidification, and code required year round outside air capabilities.

1 unit

PROBABLE COST RANGE

$81,600 - $109,200

BUILDING IMPROVEMENTS

2.12 New Rooftop Units at Northwest Addition

ASSESSMENT

Existing rooftop units (RTU) serving the northwest addition to the facility have reached end of useful life.

SOLUTION

Replace existing RTUs with new.

2 units

PROBABLE COST RANGE

$204,000 - $341,250

2.13 New Unit Ventilators at Weight Room

ASSESSMENT

Existing unit ventilators serving the weight room have reached end of useful life.

SOLUTION

Replace existing unit ventilators with new.

3 units

PROBABLE COST RANGE

$122,400 - $204,750

2.14 New Heat Pump at ICN Room

ASSESSMENT

Existing heat pump serving the ICN room has reached end of useful life.

SOLUTION

Replace existing heat pump with new.

1 unit

PROBABLE COST RANGE

$20,400 - $27,300

BUILDING IMPROVEMENTS

2.15 New Classroom Unit Ventilators

ASSESSMENT

Classrooms are served by either floor mounted or ceiling mounted unit ventilators that have reached end of useful life.

SOLUTION

Replace existing unit ventilators with new.

Approximately 13 units

PROBABLE COST RANGE

$408,000 - $546,000

2.16 New Rooftop Unit at Commons

ASSESSMENT

Existing rooftop unit (RTU) serving the commons has reached end of useful life.

SOLUTION

Replace existing RTU with new.

1 unit

PROBABLE COST RANGE

$102,000 - $122,850

2.17 New Rooftop Unit at Media Center

ASSESSMENT

Existing rooftop unit (RTU) serving the media center has reached end of useful life.

SOLUTION

Replace existing RTU with new.

1 unit

PROBABLE COST RANGE

$102,000 - $122,850

BUILDING IMPROVEMENTS

2.18 New Unit Ventilators at Stage

ASSESSMENT

Existing unit ventilators serving the stage at the auditorium have reached end of useful life.

SOLUTION

Replace existing unit ventilators with new.

2 units

PROBABLE COST RANGE

$40,800 - $68,250

2.19 New Receptacles in Computer Lab

ASSESSMENT

Existing electrical system does not have adequate receptacles located in the computer lab.

SOLUTION

Install additional receptacles within the computer lab.

1 location

PROBABLE COST RANGE

$2,856 - $5,119

2.20 New Lighting Controls

ASSESSMENT

Existing lighting controls do not contain occupancy sensors and do not meet current energy code.

SOLUTION

Install new lighting controls utilizing occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$44,268 - $79,443

BUILDING IMPROVEMENTS

2.21 New LED Lighting

ASSESSMENT

Existing interior lighting is energy inefficient and does not contain occupancy sensors or daylight harvesting capabilities.

SOLUTION

Replace existing light fixtures with new energy efficient LED fixtures. Update lighting controls using occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$85,027 - $149,345

2.22 New Web Based PA System

ASSESSMENT

Existing public addressing (PA) system is no longer in use.

SOLUTION

Replace the unused PA system with a new web based PA system.

Entire facility

PROBABLE COST RANGE

$75,208 - $133,770

2.23 New Local Audio System

ASSESSMENT

Existing hearing impaired audio system has reached end of useful life.

SOLUTION

Replace existing system with new.

Entire facility

PROBABLE COST RANGE

$23,800 - $42,725

BUILDING IMPROVEMENTS

2.24 New Roof System at Auditorium

ASSESSMENT

Existing roofing system at auditorium is approaching end of useful life.

SOLUTION

Replace existing roof with new roofing system.

Approximately 10,000 square feet

PROBABLE COST RANGE

$108,800 - $156,975

SITE IMPROVEMENTS

3.01 New Path of Egress

ASSESSMENT

Existing exit doors do not have a sidewalk to allow for emergency egress away from the building.

SOLUTION

Install new sidewalks connecting exit door stoops to existing sidewalk.

2 locations, approximately 725 square feet

PROBABLE COST RANGE

$4,437 - $5,938

Existing exit doors without path of egress

New path of egress sidewalks

SITE IMPROVEMENTS

3.02 New Exterior Lighting

ASSESSMENT

Existing exterior wall mounted light fixtures are energy inefficient and have reached end of useful life.

SOLUTION

Replace existing with new energy efficient light fixtures.

Approximately 15 locations

PROBABLE COST RANGE

$10,200 - $14,333

NEW FACILITIES

4.01 New Gymnasium and Athletic Entrance Addition

ASSESSMENT

The current gymnasium facilities do not meet the needs of the athletic program.

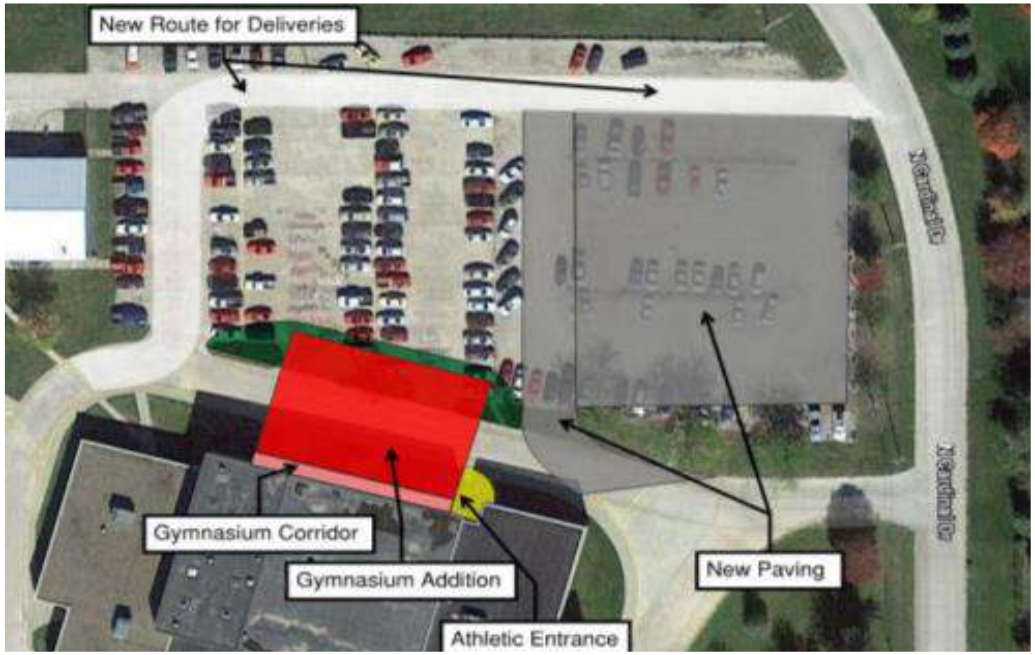
SOLUTION

New gymnasium and athletic addition, reconfiguration of parking lot to maximize parking spaces.

Approximately 8,000 square foot addition; and 31,000 square feet of new paving

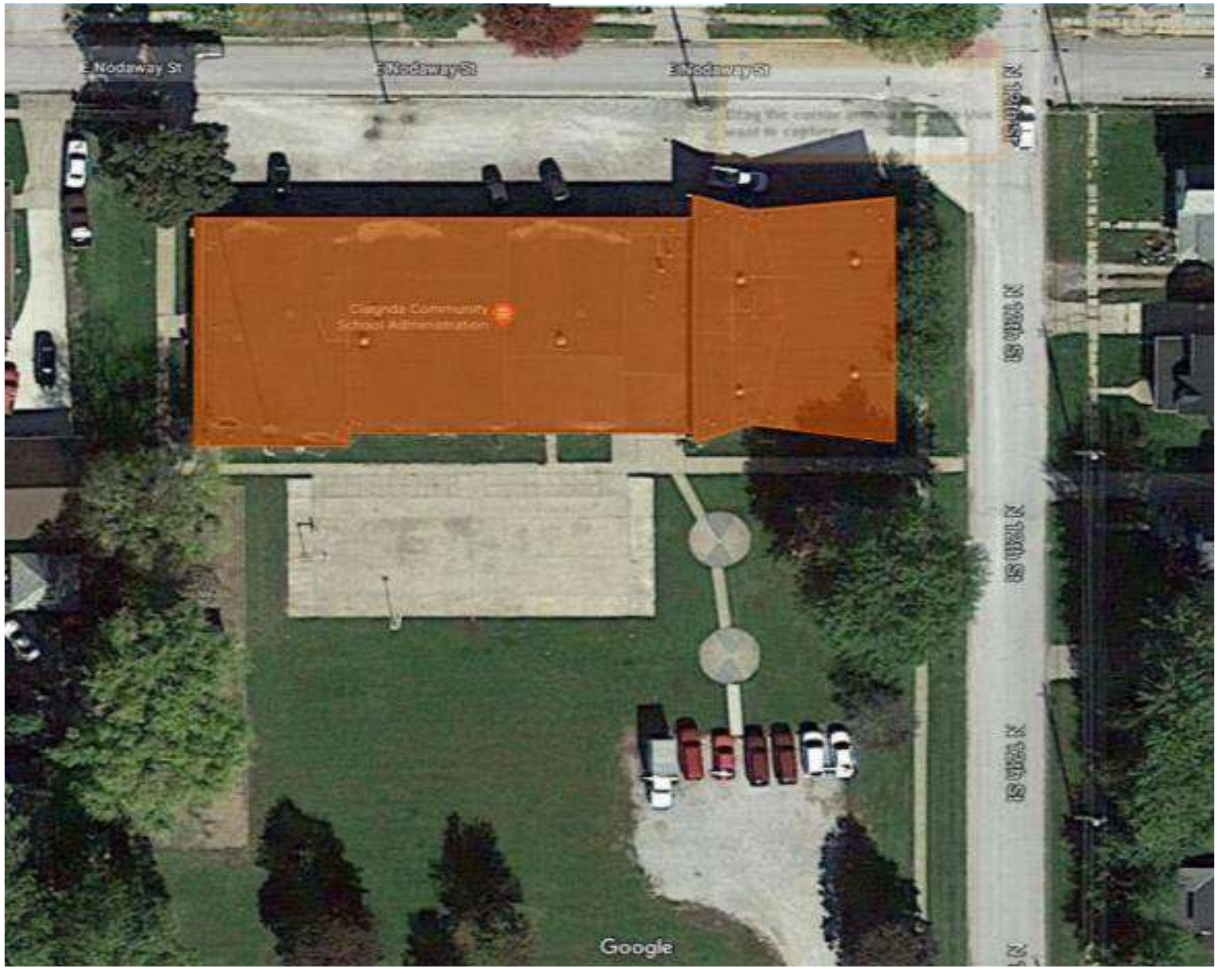
PROBABLE COST RANGE

$2,170,662 - $2,576,608



Proposed gymnasium addition and parking lot reconfiguration

ADMINISTRATIVE OFFICE



Administrative Office

423 E Nodaway St
Clarinda, IA 51632

Type: Single Story
Masonry

Original Construction: 1957

Building Area: 17,200 sf

HEALTH & LIFE SAFETY

1.01 Asbestos Containing Flooring

ASSESSMENT

Existing flooring appears to be vinyl asbestos tile (VAT) which does not comply with current building code requirements.

SOLUTION

Encapsulate asbestos containing material by applying new floor over the existing tile (lower cost), or remove the tile and adhesive, and provide a new flooring material (higher cost).

Approximately 8,500 square feet

PROBABLE COST RANGE

$34,680 - $116,025

Existing asbestos containing floor tile

HEALTH & LIFE SAFETY

1.02 Asbestos Containing Pipe Insulation

ASSESSMENT

Existing pipe insulation is identified as containing asbestos containing materials.

SOLUTION

Abate and remove existing asbestos containing insulation and replace with new insulation.

Approximately 1,500 lineal feet

PROBABLE COST RANGE

$40,800 - $61,425

Asbestos insulation warning label

HEALTH & LIFE SAFETY

1.03 New ADA Compliant Water Coolers

ASSESSMENT

The water coolers do not meet accessibility requirements for persons with disabilities.

SOLUTION

Replace existing with new water coolers that are compliant with the Americans with Disabilities Act (ADA).

2 locations

PROBABLE COST RANGE

$2,598 - $4,846

Existing water cooler

Example of an ADA compliant water cooler

HEALTH & LIFE SAFETY

1.04 New ADA Compliant Fire Extinguisher Cabinets

ASSESSMENT

Existing fire extinguisher cabinets are not compliant with the Americans with Disabilities Act (ADA) due to protruding into corridor greater than the allowable amount.

SOLUTION

Remove existing fire extinguisher cabinets and replace with a recessed or semi-recessed ADA compliant fire extinguisher cabinet.

1 location

PROBABLE COST RANGE

$476 - $648

Existing fire extinguisher cabinet

Example of an ADA compliant fire extinguisher cabinet

HEALTH & LIFE SAFETY

1.05 New Doors and Hardware

ASSESSMENT

Existing doors and hardware have reached end of useful life and contain components that are not acceptable by current building codes.

SOLUTION

Replace existing doors and hardware with new.

Approximately 40 locations

PROBABLE COST RANGE

$72,896 - $108,108

Existing non-compliant door

Example of new door and hardware

HEALTH & LIFE SAFETY

1.06 New Safety Rated Glazing

ASSESSMENT

Existing glazing contains wired glazing and is no longer compliant with current building codes.

SOLUTION

Replace the existing non-compliant glazing with new safety rated or tempered glazing.

1 location

PROBABLE COST RANGE

$136 - $232

Existing non-compliant glazing

Example of code compliant glazing label

HEALTH & LIFE SAFETY

1.07 New ADA Compliant Restrooms

ASSESSMENT

The existing common use restrooms are not compliant with the Americans with Disabilities Act (ADA).

SOLUTION

Renovate the common use restrooms to accommodate persons with disabilities and upgrade finishes. Range variance is based on wide selection of finishes.

2 locations, approximately 400 square feet

PROBABLE COST RANGE

$50,402 - $74,038

Existing conditions

Example of new ADA compliant stall

HEALTH & LIFE SAFETY

1.08 New ADA Compliant Ramp to Locker Room

ASSESSMENT

The locker room located off of the multipurpose room is not accessible by persons with disabilities.

SOLUTION

New ADA compliant ramp to make floor accessible to persons with disabilities.

Approximately 75 square feet

PROBABLE COST RANGE

$5,712 - $12,394

Existing non-accessible floor

Proposed ADA compliant ramp

HEALTH & LIFE SAFETY

1.08 New Fire Suppression Sprinkler System

ASSESSMENT

Existing building does not have a fire suppression sprinkler system which may be required to meet current building codes.

SOLUTION

Install new fire suppression sprinkler system with fire main service to building. Remove and replace existing acoustical ceiling tile.

Approximately 17,200 square feet

PROBABLE COST RANGE

$58,480 - $82,173

1.09 New Domestic Water Backflow Preventer

ASSESSMENT

Existing domestic water service does not have a backflow preventer.

SOLUTION

Install a new backflow preventer to the domestic water service.

1 location

PROBABLE COST RANGE

$10,200 - $13,650

1.10 New Air Handling Unit at Multipurpose Room

ASSESSMENT

Existing air handling unit (AHU) serving the multipurpose room has heating capabilities only.

SOLUTION

Replace existing AHU with new unit with heating, cooling, humidification, dehumidification, and code required year round outside air capabilities.

1 unit

PROBABLE COST RANGE

$136,000 - $204,750

HEALTH & LIFE SAFETY

1.11 New Range Hood Ventilation

ASSESSMENT

Existing convection oven does not have adequate ventilation as required by code.

SOLUTION

Install new range hood over convection oven.

1 unit

PROBABLE COST RANGE

$2,720 - $5,460

1.12 New Domestic Water Heater and Expansion Tank

ASSESSMENT

Existing domestic water heater is nearing end of useful life.

SOLUTION

Install new domestic water heater and expansion tank.

1 location

PROBABLE COST RANGE

$2,720 - $6,825

1.13 New Electrical Panel in Office Closet

ASSESSMENT

Existing electrical panels located in office closet has reached the end of useful life and does not have adequate clearance around panel as required by code.

SOLUTION

Install new electrical panel with proper clearance.

2 locations

PROBABLE COST RANGE

$7,344 - $13,377

HEALTH & LIFE SAFETY

1.14 New Horn Strobes in Restrooms

ASSESSMENT

Existing restrooms do not contain horn strobes as required by code.

SOLUTION

Install new horn strobes in restrooms.

4 locations

PROBABLE COST RANGE

$571 - $1,024

1.15 New Exit Signs

ASSESSMENT

A number of the existing exit signs are paper style and are not illuminated as required by code.

SOLUTION

Replace paper exit signs with new illuminated, battery backup, exit signs.

Approximately 5 locations

PROBABLE COST RANGE

$571 - $1,024

1.16 New GFCI Receptacles at Restrooms and Water Coolers

ASSESSMENT

Existing electrical receptacles located at the water coolers and the restrooms are not ground fault circuit interrupter (GFCI) receptacles as required by code.

SOLUTION

Install new GFCIs at restrooms and water coolers.

Entire facility

PROBABLE COST RANGE

$238 - $427

BUILDING IMPROVEMENTS

2.01 New Ceilings at Various Locations

ASSESSMENT

Existing acoustical ceilings have reached end of useful life.

SOLUTION

Remove and replace with a new acoustical ceiling system. Acoustical ceilings cost are determined by tile size, thickness and finish desired.

Approximately 6,200 square feet

PROBABLE COST RANGE

$29,512 - $67,704

Existing ceiling

Example of a new ceiling system

BUILDING IMPROVEMENTS

2.02 New Flooring at Offices

ASSESSMENT

Existing flooring in the office area has reached end of useful life.

SOLUTION

Removed and replace existing flooring. Flooring costs vary based on product type, thickness, and finish desired.

Approximately 1,350 square feet

PROBABLE COST RANGE

$9,180 - $22,113

Existing flooring

Example of new flooring

BUILDING IMPROVEMENTS

2.03 New Corridor Wall Finishes

ASSESSMENT

Existing tile wainscoting finishes are dated and have reached end of useful life.

Existing wall finish

SOLUTION

Prime and paint the existing wainscoting and adjacent wall (lower cost), demo wainscoting and install new wall finishes (higher cost).

Example of new wall finishes

Approximately 2,000 square feet

PROBABLE COST RANGE

$6,800 - $27,300

BUILDING IMPROVEMENTS

2.04 New Exterior Windows & Doors

ASSESSMENT

Existing exterior doors and windows are energy-inefficient, and have reached end of useful life.

Existing exterior windows

SOLUTION

Replace the existing with new energy-efficient exterior doors and windows.

Example of a new exterior windows

6 doors, approximately 50 square feet of storefront, and approximately 1800 square feet of windows

PROBABLE COST RANGE

$118,728 - $159,159

BUILDING IMPROVEMENTS

2.05 New Fascia Repair

ASSESSMENT

The existing fascia is damaged and has reached end of useful life.

SOLUTION

Remove and replace damaged portions of fascia.

2 locations, approximately 20 lineal feet

PROBABLE COST RANGE

$410 - $825

Existing damaged fascia

BUILDING IMPROVEMENTS

2.06 New Caulking at Interior Masonry

ASSESSMENT

Existing caulking in concrete masonry block walls has reached end of useful life.

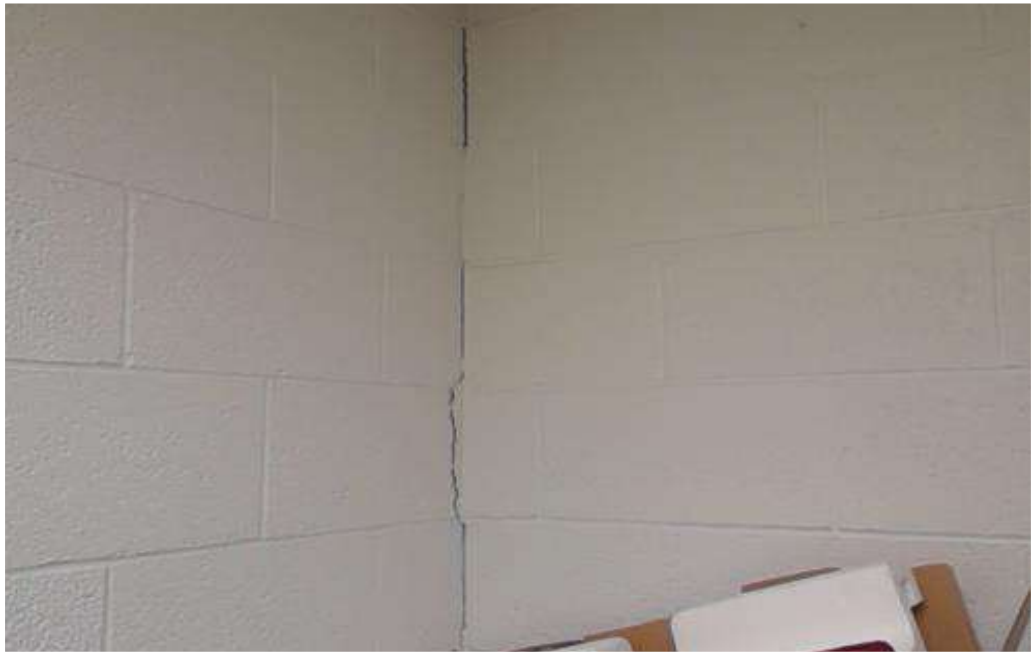
SOLUTION

Head joints should be tooled and re-caulked.

1 location, approximately 10 lineal feet

PROBABLE COST RANGE

$95 - $191



Existing masonry caulk joint

BUILDING IMPROVEMENTS

2.07 New Classroom Casework at Exterior Walls

ASSESSMENT

Existing classroom casework at exterior walls has reached end of useful life.

SOLUTION

Remove and replace existing casework with new.

Approximately 150 lineal feet

PROBABLE COST RANGE

$30,600 - $50,573

Existing casework

Example of new casework

BUILDING IMPROVEMENTS

2.05 New Building Automation System

ASSESSMENT

Existing mechanical system does not contain a building automation system (BAS).

SOLUTION

Install new BAS including automatic switchover between the two boilers and the two heating water pumps.

Entire facility

PROBABLE COST RANGE

$68,000 - $109,200

2.06 New Heating Water Pump Motors and Variable Frequency Drives

ASSESSMENT

Existing heating water pump motors have reached end of useful life and are constant flow pumps which are energy inefficient.

SOLUTION

Replace existing pump motors with new and install new variable frequency drives (VFD) to increase efficiency.

2 units

PROBABLE COST RANGE

$20,400 - $34,125

2.07 New Neutralizing/Ball Trap at Condensing Boilers

ASSESSMENT

Existing condensing boilers do not contain a neutralizing/ball trap.

SOLUTION

Install new neutralizing/ball trap at gas vent drainage prior to discharging to the sewer.

1 location

PROBABLE COST RANGE

$4,080 - $6,825

BUILDING IMPROVEMENTS

2.08 New AHU at Classrooms

ASSESSMENT

Existing classrooms temperatures are managed by heating only unit ventilators and mini split units that are nearing end of useful life.

SOLUTION

Replace existing systems with air handling unit with heating and cooling capabilities.

Entire facility

PROBABLE COST RANGE

$136,000 - $204,750

BUILDING IMPROVEMENTS

2.09 New LED Lighting

ASSESSMENT

Existing interior lighting is energy inefficient and does not contain occupancy sensors or daylight harvesting capabilities.

SOLUTION

Replace existing light fixtures with new energy efficient LED fixtures. Update lighting controls using occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$18,714 - $32,869

2.10 New Web Based PA System

ASSESSMENT

Existing public addressing (PA) system is no longer in use.

SOLUTION

Replace the unused PA system with a new web based PA system.

Entire facility

PROBABLE COST RANGE

$16,388 - $29,348

2.11 New Lighting Controls

ASSESSMENT

Existing lighting controls do not contain occupancy sensors and do not meet current energy code.

SOLUTION

Install new lighting controls utilizing occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$11,424 - $20,475

SITE IMPROVEMENTS

3.01 New Parking Lot Improvements

ASSESSMENT

Existing gravel parking lot located on the Southwest corner of the property has reached end of useful life.

SOLUTION

Replace existing gravel parking lot with new paved parking lot.

Approximately 5,000 square feet, 16 parking spaces

PROBABLE COST RANGE

$53,706 - $89,612

Existing parking conditions

Example of new parking

SITE IMPROVEMENTS

3.02 New Sidewalk Improvements

ASSESSMENT

Sidewalks are damaged, unlevel, and do not provide for a safe walking condition.

Existing sidewalks needing repair

SOLUTION

Replace the damaged sidewalks with new concrete sidewalks.

Example of a new sidewalk

3 locations, approximately 775 square feet

PROBABLE COST RANGE

$6,324 - $9,521

SITE IMPROVEMENTS

3.03 New Exterior Concrete Stairs

ASSESSMENT

The existing exterior concrete stairs at the multipurpose room require a step down when exiting the building and do not meet current building code.

SOLUTION

Remove and replace concrete stairs with new stairs at correct elevation.

1 location

PROBABLE COST RANGE

$4,778 - $7,563

Existing exterior stairs

VOCATIONAL CENTER

Vocational Center

100 N Cardinal Dr
Clarinda, IA 51632

Type: Single Story
Masonry

Original Construction: 1968

Additions: N/A

Building Area: 6,100 sf

HEALTH & LIFE SAFETY

1.01 New ADA Compliant Water Coolers

ASSESSMENT

The existing water coolers do not meet the Americans with Disabilities Act (ADA) requirement for dual height water coolers.

SOLUTION

Install additional water coolers to meet the ADA requirement for dual height.

2 locations

PROBABLE COST RANGE

$2,312 - $4,778

Existing water cooler

Example of an ADA compliant water cooler

HEALTH & LIFE SAFETY

1.02 New Doors and Hardware

ASSESSMENT

Existing doors and hardware have reached end of useful life, door hardware is not compliant with the Americans with Disabilities Act (ADA).

SOLUTION

Replace existing doors and hardware with new.

Approximately 15 locations

PROBABLE COST RANGE

$26,928 - $39,926

Existing door and hardware

Example of an ADA compliant door handle

HEALTH & LIFE SAFETY

1.03 New Safety Rated Glazing

ASSESSMENT

Existing glazing contains wired glazing and is no longer compliant with current building codes.

SOLUTION

Replace the existing non-compliant glazing with new safety rated or tempered glazing.

Approximately 24 square feet

PROBABLE COST RANGE

$326 - $557

Existing non-compliant glazing

Example of code compliant glazing label

HEALTH & LIFE SAFETY

1.04 New ADA Compliant Restrooms

ASSESSMENT

The existing restroom is not compliant with the Americans with Disabilities Act (ADA).

SOLUTION

Renovate the restroom to accommodate persons with disabilities and upgrade finishes.

1 location, approximately 150 square feet

PROBABLE COST RANGE

$9,704 - $17,615

Existing conditions

Example of new ADA compliant stall

HEALTH & LIFE SAFETY

1.05 New Fire Suppression Sprinkler System

ASSESSMENT

Existing building does not have a fire suppression sprinkler system which may be required to meet current building codes.

SOLUTION

New fire suppression sprinkler system with fire main service to building. Remove and replace existing acoustical ceiling tile.

Approximately 6,100 square feet of sprinkler coverage

PROBABLE COST RANGE

$20,740 - $29,143

1.06 New Ventilation System

ASSESSMENT

Existing facility does not have adequate ventilation.

SOLUTION

Install new ventilation system.

1 unit

PROBABLE COST RANGE

$81,600 - $102,375

1.07 New Dust Collection System

ASSESSMENT

The existing dust collection system is nearing end of useful life.

SOLUTION

Replace existing dust collecting system with new.

1 unit

PROBABLE COST RANGE

$68,000 - $81,900

HEALTH & LIFE SAFETY

1.08 New Emergency Shower and Eyewash Station

ASSESSMENT

The existing facility does not currently have emergency shower and eyewash stations.

SOLUTION

Install new emergency shower and eyewash stations.

2 units

PROBABLE COST RANGE

$6,800 - $9,555

BUILDING IMPROVEMENTS

2.01 New Wall Finishes at Entrance Vestibule

ASSESSMENT

Existing wall finishes at entrance vestibule have reached end of useful life.

SOLUTION

Replace existing wall finishes with new.

Approximately 315 square feet

PROBABLE COST RANGE

$2,570 - $7,310

Existing wall conditions

Example of new interior wall finish

BUILDING IMPROVEMENTS

2.02 New Entrance Doors

ASSESSMENT

Existing exterior doors have reached end of useful life.

SOLUTION

Replace existing exterior doors with new.

1 location

PROBABLE COST RANGE

$2,992 - $5,460

Existing exterior door

Example of a new exterior door

BUILDING IMPROVEMENTS

2.03 New Heating Water Boiling System

ASSESSMENT

Existing heating water boiling system appears to be original to the building and is nearing end of useful life.

SOLUTION

Replace existing heating water boiling system with new.

1 unit

PROBABLE COST RANGE

$20,400 - $34,125

2.04 New Explosion-Proof Unit Heaters

ASSESSMENT

Existing unit heaters located in the areas where wood products are handled are not explosion-proof (XP) style.

SOLUTION

Replace existing unit heaters with new XP style unit heaters.

Entire facility

PROBABLE COST RANGE

$27,200 - $40,950

2.05 New Lighting Controls

ASSESSMENT

Existing lighting controls do not contain occupancy sensors and do not meet current energy code.

SOLUTION

Install new lighting controls utilizing occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$4,080 - $7,098

SITE IMPROVEMENTS

2.06 New LED Lighting

ASSESSMENT

Existing interior lighting is energy inefficient and does not contain occupancy sensors or daylight harvesting capabilities.

SOLUTION

Replace existing light fixtures with new energy efficient LED fixtures. Update lighting controls using occupancy sensors and daylight harvesting.

Entire facility

PROBABLE COST RANGE

$6,637 - $11,657

2.07 New Web Based PA System

ASSESSMENT

Existing public addressing (PA) system is no longer in use and has been removed.

SOLUTION

Replace the unused PA system with a new web based PA system.

Entire facility

PROBABLE COST RANGE

$5,848 - $10,511

TRACK AND FIELD

Track and Field

100 N Cardinal Dr
Clarinda, IA 51632

Type: Single Story
Masonry

Original Construction: 1977

Upgrades: 1995, 2007

SITE IMPROVEMENTS

3.01 New Parking Lot Improvements

ASSESSMENT

The track and field facility does not have adequate parking or convenient access for persons with disabilities.

SOLUTION

Provide new off-street parking.

Approximately 152 spaces; 46,300 square feet

PROBABLE COST RANGE

$457,871 - $738,451

Area in need of additional parking

Example of new parking

SITE IMPROVEMENTS

3.02 New Athletic Field

ASSESSMENT

The existing athletic field has reached end of useful life.

SOLUTION

Regrade the athletic field and install new sod (lower cost), install new athletic turf system (higher cost).

Approximately 74,000 square feet

PROBABLE COST RANGE

$251,600 - $505,050

Existing athletic field

Example of a new athletic field

SITE IMPROVEMENTS

3.03 New All-Weather Track

ASSESSMENT

The existing athletic field has reached end of useful life.

SOLUTION

Replace the existing track and asphalt substrate with new, install new asphalt and athletic surface to "D" areas at each of the end zones.

Approximately 65,225 square feet

PROBABLE COST RANGE

$1,042,296 - $1,513,546

Existing athletic field

Example of a new athletic track

BUS BARN

Bus Barn

Corner of E. Main and S. 12th St.
Clarinda, IA 51632

NEW FACILITIES

4.01 New Bus Barn

ASSESSMENT

School buses are currently stored outdoors and exposed to the elements.

SOLUTION

Construct new 12 bay bus barn.

Approximately 10,000 square feet

PROBABLE COST RANGE

$1,162,375 $1,712,500

Proposed new bus barn location

Midwest Engineering
Associates, Inc.

FACILITY ASSESSMENT REPORT – FINAL
APRIL 3, 2018

Clarinda Community School District

Clarinda Community School Administration Building
423 E. Nodaway, Clarinda, Iowa 51632

Clarinda Middle School
305 E. Glenn Miller Drive, Clarinda, Iowa 51632

Garfield Elementary School
910 S. 15th Street, Clarinda, Iowa 51632

Clarinda High School
100 N. Cardinal Drive, Clarinda, Iowa 51632

Vocational Building

100 N. Cardinal Drive, Clarinda, Iowa 51632

Track & Field/Stadium Restroom Facilities

100 N. Cardinal Drive, Clarinda, Iowa 51632

Scope

The purpose of this report is to assess the condition of the mechanical, electrical, plumbing, fire protection and technology systems for the Clarinda Community School District.

The Administration Building is approximately 17,200 square feet.

The Elementary School is approximately 45,400 square feet.

The Middle School is approximately 49,275 square feet.

The High School is approximately 78,150 square feet.

The Vocational Building is approximately 6,100 square feet.

The Track & Field/Stadium Restroom Facilities is approximately 1,200 square feet. The Concession Stand is approximately 1,200 square feet.

Each location was reviewed for life safety items, code items, and facility improvements. This report contains a summary of existing conditions, recommendations, and associated opinions of probable costs for the recommendations.

Rebecca Roecker and Ed Escobar with Midwest Engineering Associates walked through the buildings with Estes Construction and Mr. Craig Hill, Clarinda CSD Maintenance Director on February 19 and 20, 2018. In the afternoon of February 19, 2018, we reviewed the buildings starting with the Administration Building. Starting in the morning of February 20, 2018, we sequentially reviewed the Elementary School, Middle School, High School, Vocational Building, and Track & Field/Stadium Concession Stand throughout the day. We went back to discuss the Building Automation System with Mr. Craig Hill. We reviewed our findings with the staff before the end of the day on February 20, 2017.

Existing Conditions
Clarinda Community School Administration Building
Mechanical, Plumbing, and Fire Protection

HVAC

The original building was built in 1956.

The existing heating system which was provided in 2006 consists of two (2) Aerco KC gas-fired condensing heating water boilers operating on a lead-lag basis each with a net output between 860 MBH and 930 MBH with 1,000 MBH with a manifolded gas vent and through the roof. Other associated equipment includes an expansion tank, two (2) circulating pumps with one operating and the other a 100% standby each with a 2-hp motor, pot feeder, and air separator. The boilers are 12 years old. Operation of the two boilers and the two pumps is performed via manual switchover. The condensing boilers are not provided with a neutralizing/ball trap. [Picture M1]

The existing natural gas service with pressure regulator and meter are located outside and north of the building then routed into the Boiler Room (or Furnace Room).

An existing turned down duct is provided through the north exterior wall for combustion air. Each of the two boilers are provided with a combustion air duct from the turned down duct to the boilers.

An existing labeled “Boiler Emergency Kill Switch” is located just outside the Boiler (or Furnace) Room. [Picture M2]

Some of the heating water piping in tunnels appears to be with asbestos insulation. Per discussion with Mr. Craig Hill, maintenance director, the length of piping with asbestos insulation is estimated to be 1500 ft. [Picture M3 & M4].

Various rooms (9) are provided with existing heating-only unit ventilators. They appear to be original to the building but functional.

Various rooms (5) are provided with existing split systems and heat pumps that were provided at various times from 1997 to 2018. Per discussion with the Maintenance Director, these were replaced as they fail.

The Corridors are provided with existing recessed cabinet unit heaters. They appear to be original to the building but functional.

An existing heating-only recirculating air handling unit serves the existing Multi-Purpose Room or Gymnasium. The unit has a disconnected outside air duct in the mechanical room. The 3-way pneumatic control valve has a disconnected pneumatic control tubing and it is operating wild. There is no exhaust fan that serves this room.

There appears to be a duct distribution throughout the building that was part of the original building but is no longer functional.

The Alternative High School room is provided with an in-floor heating that is no longer functional.

A Classroom, adjacent to the Boiler Room, has an existing convection oven with no hood.

CONTROLS

This building does not have a Building Automation System.

Control of the existing unit ventilators is via existing electric thermostats.

PLUMBING

An existing 40-gallon Bradford White domestic water heater with gas provides domestic hot water to the plumbing fixtures. It is located in the

Boiler (or Furnace) Room. It is uncertain whether the existing water heater was installed in 2006 or 2010. [Picture M5]

The existing turned down duct through the north exterior wall which is provided for combustion air to the heating boilers also provide combustion air for the existing domestic water heater ducted from the turn down duct to a location near the existing domestic water heater but not directly connected to the water heater.

The existing domestic water service entering the building is provided with a meter but it does not have a backflow preventer.

An existing Culligan domestic water cooler/heater is provided and located in Multi-Purpose Room or Gymnasium.

Adequacy of the existing sanitary, storm, and domestic cold, hot, and hot water return piping located in the original building for further use needs to be evaluated due to the length of time they have been in service since mid-1950s.

The majority of the existing plumbing fixtures appear to be original to the building but functional. [Picture M6]

The sink in one Classroom is served by an existing point-of-use instantaneous domestic water heater.

FIRE PROTECTION

There is no fire sprinkler system that serves the Administration Building.

Fire extinguishers, wall-mounted and inside cabinets are provided throughout the building.

Picture M1

Picture M2

Picture M3

Picture M4

Picture M5

Picture M6

Existing Conditions
Clarinda Community School Administration Building
Electrical and Technology

ELECTRICAL

The electrical service to the Administration building is fed underground from utility poles that are located on the north side of the property [Picture E1]. The service comes into the building and feeds a wireway that feeds three panelboards and two disconnect switches in the electrical room [Picture E3]. The service is 240/120V, single phase. The majority of the service appears original to the building with two of the panels appearing to have been replaced more recently. There is an additional utility feed to existing outdoor lighting that is feed from an overhead utility line [Picture E2]. The controls conductors for the fixture appear to enter the building near the existing electrical room. There is a branch panel located in one of the office closets that appears to have been original as well. This branch panel does not have the code required working space due to closet shelving [Picture E4]. There is a second branch panel located in one of the administration offices that is located high on the wall [Picture E5] that used to feed an air conditioning unit in the window but now feeds the water cooler and several office loads. This panel does not have code required accessibility due to the mounting height of the panel. The receptacle feeding the drinking fountain in the hallway is not a GFCI receptacle [Picture E6]. There are no receptacles located in the restrooms near the sinks.

The lighting in the corridors and offices area are T8 fluorescent 2x4 lay in grid fixtures [Picture E7] controlled by manual wall switches. The lighting in most the classrooms is either linear T-8 fixtures or surface mounted fluorescent fixtures [Pictures E8 and E10]. Some of the existing linear fixtures were T-12. The gym has linear fluorescent fixtures controlled by wall switches [Picture E9]. The electrical and mechanical rooms and one portion of the hallway have incandescent fixtures [Picture E13]. The egress lighting was accomplished by battery powered wall pack fixtures [Pictures E11 and E12]. Exit signs were located by most of the doors and throughout the building, but some exits had paper exit signs posted that were not illuminated [Pictures E11, E13, and E14].

The existing fire alarm panel is located in the hallway near the entrance of the building [Picture E15]. The public restrooms in the building are missing a code required strobe devices. Detectors and horn strobes in the hallways and appear adequate [Pictures E15 through E18].

TECHNOLOGY

The building had WIFI access and it was noted by staff as adequate for the building. The technology systems were said to be recently replaced by the school [Picture E22].

No access control card readers were present at the exterior doors, and staff discussed that card readers would be added in an upcoming project. The upcoming project will also include new cameras and head end system for the cameras.

The clocks were battery powered clocks. Staff indicated this was adequate. There were some old uncovered junction boxes that were for the old clock system that is no longer in use [Picture E20].

The PA system for the building is no longer in use and has been removed [Picture E19]. Some of the old Rauland devices are still in the building but are no longer operational since the head end system has been removed [Picture E21]. It was mentioned if they wish to re-use any of the existing space for classrooms they may need a PA system.

Picture E1

Picture E2

Picture E3

Picture E4

Picture E5

Picture E6

Picture E7

Picture E8

Picture E9

Picture E10

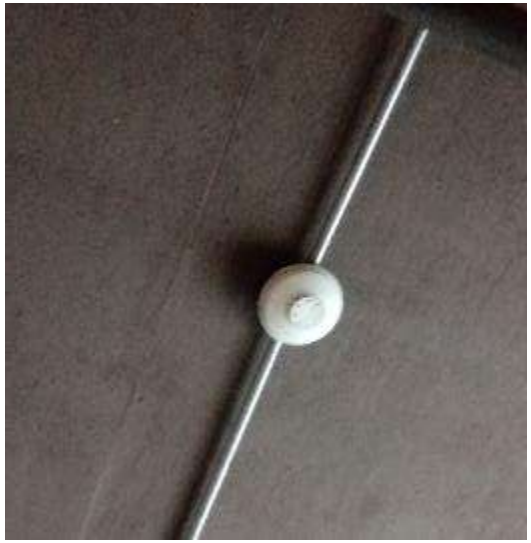
Picture E11

Picture E12

Picture E13

Picture E14

Picture E15



Picture E16

Picture E17

Picture E18

Picture E19

Picture E20

Picture E21

Picture E22

Recommendations
Clarinda Community School Administration Building
Mechanical, Plumbing, and Fire Protection, Electrical and Technology:

The items below are recommendations based on the walk through associated with life safety, code deficiencies, and current facility needs. A Glossary of Terms is included at the end of this report for clarification of terminology.

1. Life Safety Issues
    a) Remove existing asbestos insulation in existing heating water piping
    b) Provide complete sprinkler coverage
    c) Provide new backflow preventer in the existing domestic water system to comply with current code
    d) Add several smoke detectors and horn strobes as necessary.
    e) Add illuminated and battery backup exit signs as necessary.

2. Code Issues
    a) Replace existing air handling unit with new HVAC unit for the Multi-Purpose Room with heating, cooling, humidification, dehumidification, and year round Code-required outside air
    b) Provide an exhaust hood over the existing convection oven
    c) Provide new domestic water heater with new including a new expansion tank
    d) Replace existing plumbing fixtures with new Code-compliant fixtures
    e) Add GFCI protection to receptacles feeding drinking fountains. Add GFCI receptacles to restrooms.
    f) Re-locate and replace the original branch panel located in the office closet and the existing branch panel mounted too high to provide code required access.

3. Facility Improvements
    a) Provide new Building Automation System that will include an automatic switchover between the two (2) existing boilers and the two (2) existing heating water pumps.
    b) Replace existing heating water pump motors with new and provide new variable frequency drives to serve the new heating water pumps
    c) Provide neutralizing/ball trap at gas vent drainage prior to discharging to the sewer.
    d) Replace existing heating-only unit ventilators and split air conditioners and heat pumps with new VAV-type air handling unit with cooling, heating, dehumidifying, and humidifying capability. New system will also include various VAV boxes with heating coil.
    e) Provide inspection of existing sanitary, storm, and domestic cold, hot, and hot water return piping
    f) Replace existing incandescent or linear fluorescent light fixtures with new, more efficient LEDs.
    g) Replace existing light fixtures throughout the corridors and classrooms with more efficient LEDs or LED retrofit kits. The school mentioned wanting to wait until utility rebates were available to help pay for the upgrades.
    h) Replace existing controls with occupancy sensors and daylight sensors per energy code.
    i) Add a new web based PA system.

Probable Cost Range: It is understood that Midwest Engineering Associates (MWEA) has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Opinions of Probable Construction Costs provided herein are made on the basis of MWEA's experience and available estimating material.

MWEA makes no warranty, expressed or implied, as to the final cost as compared to actual bid or Contractor developed cost.

1. Life Safety Issues
    a) Remove asbestos insulation $100,000-$120,000
    b) Complete sprinkler coverage $110,000 - $170,000
    c) Add domestic water backflow preventer $7,500- $10,000
    d) New Horn Strobes in Restrooms $420 - $750
    e) New illuminated and battery backup exit signs $420 - $750

2. Code Issues
    a) New Multi-Purpose room HVAC $100,000 - $150,000
    b) New convection oven exhaust hood $2,000 - $4,000
    c) New domestic hot water system $2,000-$5,000
    d) New plumbing fixtures $50,000 - $70,000
    e) Add GFCI protection to the hallway receptacle feeding the drinking fountain. $35 - $63
    f) Add GFCI receptacles to the restrooms $140 - $250
    g) Re-locate and replace the existing electrical panel mounted too high to provide code required access $2,700 - $4,900
    h) Re-locate and replace the original branch panel located in the office closet. $2,700 - $4,900

3. Facility Improvements
    a) New BAS $50,000 - $80,000
    b) New VFDs and heating pump motors $15,000 - $25,000
    c) New neutralizing/ball trap at boilers $3,000 - $5,000
    d) New VAV-type AHU $100,000 - $150,000
    e) Inspection of existing piping systems $2,000 - $4,000
    f) Replace existing incandescent or linear fluorescent light fixtures with new LED fixtures $18,100 - $32,300
    g) Replace existing 2x4 fixtures with LED or use LED retrofit kits. $6,050 - $10,100
    h) Replace existing controls with occupancy sensors and daylight sensors per energy code. $8,400 - $15,000
    i) New web based PA system $12,050 - $21,500

Existing Conditions
Clarinda Middle School
Mechanical, Plumbing, and Fire Protection

HVAC

The Middle School building is located alongside the Elementary School building.

The existing HVAC systems for the Middle School building appear to be installed at that time the building was built in the late 1990s.

The entire Middle and Elementary School buildings are served by six (6) dedicated outside air systems (DOAS) identified as MAU or makeup air units. These were provided in the late 1990s and are approximately 20 years old. The estimated median service life of this equipment is 20 years. The existing dedicated outside air systems are at the end of their median service life.

There are seventy-seven (77) Trane heat pumps that serve the Middle and Elementary Schools. The estimated median service life of this equipment is 20 years. The existing heat pumps are at the end of their median service life. The staff has been replacing them with new as they fail.

Main heating required by the building is provided by two (2) existing gas-fired AERCO Benchmark 1.5 Low NOx condensing heating water boilers with integral circulating pumps and neutralizer drain piping at bottom of gas vents. [Picture M1] These boilers were installed in 2010. The boilers are 8 years old. The estimated median service life of this equipment is 25 years.

Gas vents from the boilers are individually vented through the roof. Ducted combustion air serves each boiler. The boilers are operated on a lead-lag basis with one able to provide the required capacity of the building and the other boiler is a 100% standby. The boilers are a part of the entire heat pump loop system which also consists of two (2) base-mounted secondary heating water pumps, the evaporative cooling tower which is located just outside the Boiler Room and installed in 1997, plate and frame heat exchanger, and the individual heat pumps serving various rooms.

The cooling tower was installed in 1997. It is 21 years old. The estimated median service life of this equipment is 20 years. The cooling tower is at the end of its life.

An existing plate and frame heat exchanger [Picture M2] is provided for the heat pump heating water system and operates in conjunction with an outdoor evaporative cooling tower to provide cooling during the intermediate seasons. Two (2) pumps circulate water between the cooling tower and the heat exchanger. The heat exchanger was installed in 1997. It is 21 years old. The estimated median service life of this equipment is 20 years. The heat exchanger is at the end of its life.

The secondary base-mounted loop water pumps which were replaced in 2008 operate on a lead-lag basis with one in operation and the other a 100% standby. [Picture M3] The pumps are 10 years old. The estimated median service life of this equipment is 20 years. Switchover between the two (2) pumps is manually performed. The pumps do not have variable frequency drives. The pumps circulate water to the various heat pumps.

Changeover between the heat pump cooling capacity and the cooling tower is provided by a 3-way bypass valve to maintain a local temperature setpoint of 78ºF.

Water treatment is provided to serve the heating water system. [Picture M4]

Two (2) emergency shutoff pushbuttons are provided. One is located just outside the Boiler Room door [Picture M5] and the other one is located just inside the double door to the Boiler Room. [Picture M6]

EAST END OF THE MIDDLE SCHOOL:

The rooms appear to be adequately heated, ventilated, and air-conditioned.

The individual rooms are served by Trane heat pumps each distributing air into the room via ductwork and ceiling supply and return diffusers. The estimated median service life of this equipment is 20 years. The existing heat pumps are at the end of their median service life.

Room 447 has a small room (Room 448) which houses the kiln and is served by an exhaust fan that is manually operated. Operating staff has requested to consider automating exhaust fan operation whenever the kiln is in use. The wall exhaust grille is dirty and needs cleaning.

Room 437 is warm. Adjust thermostat setting to keep the room cooler or provide additional cooling due to miscellaneous equipment (refrigerator, vending machine, coffee maker, and microwave).

Room 454 (F.C.S.) contains various cooking ovens with no exhaust hoods. [Picture M7]

WEST END OF THE MIDDLE SCHOOL:

The Gymnasium is currently served by two (2) heat pump units via ducted sidewall registers. Return registers are provided near the floor level on the opposite side of the Auditorium and ran underfloor back to the air handling units. These units are tagged Heat Pump HP-14 (345S) and Heat Pump HP-14 (345 N) both with refrigerant R-22. The estimated median service life of this equipment is 20 years. The existing heat pumps are at the end of their median service life.

The Gymnasium is served by two (2) wall-mounted exhaust fans. The estimated median service life of this equipment is 15 years. The existing fans are 21 years old and beyond their median service life.

The Dining/Commons is served by two (2) heat pump units. They are about 20 years old. The estimated median service life of these equipment is 20 years. The existing heat pumps are at the end of their median service life.

The Women's and Men's Toilets are each served by ceiling-mounted unit ventilators. Exhaust grilles are provided by are not functional per maintenance staff. The estimated median service life of these equipment is 15-20 years. The existing unit ventilators are 21 years old and at the end of their median service life.

The ceilings of the Women's Lockers and Men's Lockers appear to be deteriorating due to moisture from use of the showers.

The Corridor is provided with recessed cabinet unit heaters which appear to be part of the original building but functional. The estimated median service life of these equipment is 20 years. The existing unit heaters are at the end of their median service life.

The Kitchen hood is provided with integrated makeup air supply openings. The hood is served by an existing roof exhaust fan and makeup air unit on the roof.
The estimated median service life of fans and makeup air units is 20-25 years. They are 21 years old and nearing the end of their median service life.

The dishwasher in the Kitchen does not have an exhaust hood. Per operations staff, this is a low temperature washer combined with chemical rinse. The dishwasher appears to be original to the building but functional. When replacement will be provided in the future, consider high temperature operation which would require a booster heater and exhaust hood. Whether to continue with low-temperature vs. high-temperature operation, obtain complete concurrence from the Authority Having Jurisdiction and the governing department of public health. An exhaust grille is provided at ceiling above the dishwashing equipment. [Picture M8]

CONTROLS

Operation of the Kitchen hood, exhaust fan, and makeup air unit is via manual switches.

Existing Alerton (Ascent Compass) Building Automation System (BAS) with direct digital controls (DDC) serves the existing HVAC systems of the Middle School, Elementary School and High School. The BAS is located in Room 309-EMS on the Upper Level west of the Auditorium.

EAST END OF THE MIDDLE SCHOOL: Each heat pump is controlled by a room thermostat. Room thermostats are the LCD (or liquid crystal display) type and appear to be original with the building but functional.

PLUMBING

The A.O. Smith Burkay Genesis domestic water heater with a hot water circulating pump and corresponding vertical storage tank was installed in 2000 provides hot water to the various plumbing fixtures. [Picture M9 & M10] The gas vent contains a barometric relief damper. Combustion air is ducted from the outdoors.

EAST END OF MIDDLE SCHOOL:

Plumbing fixtures appear new and code-compliant.

The lab sinks in Science rooms are provided with faucet with vacuum breaker and natural gas turrets.

Room 424-Science: The Lab gas shut-off valve is located in a locked box. [Picture M11]

A valve assembly provides tempered water to the showers. [Picture M12]

WEST END OF MIDDLE SCHOOL:
There is no grease trap provided in the kitchen. Per staff, grease is manually removed, placed in containers, and shipped remotely.

Plumbing fixtures appear to be original to the building but functional.

Adequacy of the existing sanitary, storm, and domestic cold, hot, and hot water return piping located in the original building for further use needs to be evaluated due to the length of time they have been in service.

FIRE PROTECTION

The Middle School is fully covered by a fire sprinkler system.

The Kitchen hood is served by an existing fire suppression system control (Fire Master) via manual pull handle mounted on the kitchen wall.

Fire extinguishers, wall-mounted and located inside cabinets are provided throughout the building.

Picture M1

Picture M2

Picture M3

Picture M4

Picture M5

Picture M6

Picture M7

Picture M8

Picture M9

Picture M10

Picture M11

Picture M12

Existing Conditions
Clarinda Middle School and Garfield Elementary School
Electrical and Technology

ELECTRICAL

The School is served by a pad mounted utility transformer, the main service is 1600A, 480/277V, 3 phase, 4Wire [Picture E1]. The service was installed with the addition to the building in the 1990's. The original 200A, 120/240V, 1 phase, 3 wire service serving the 1950s portion of the building (Garfield Elementary School) was re-feed with the new service. The branch panels in the 1950s (Garfield Elementary School) portion of the building appear to be original to the building, and the branch panels in the addition appear to be from the 1990s when the addition was built [Pictures E2 through E5]. The branch panel in the 1950s portion of the building that used to be the main service panel prior to the 1990s addition had piping for the boilers installed directly in front of the panel infringing on the 3'-6" code required clear space [Picture E8]. This panel also appeared to have had the cover modified due to gaps in the cover exposing live parts [Picture E9]. There were also boxes for fuses for the panel stored within the panel [Picture E9]. In many cases items were stored in front of the electrical panels infringing on the code required 3'-6" clear space [Pictures E2 through E4]. Transformers feeding receptacle panels were also lacking proper working space due to being located above the panel or above ceiling tiles [Pictures E3 and E6]. The receptacles for the drinking fountains in a few areas in the building may need to be replaced with GFCI receptacles [Picture E7]. It was mentioned by the staff in the elementary portion of the building (1950s portion) that many classrooms are lacking enough receptacles and the school may want to add them in the future. This may require running power from the newer portion of the building to increase capacity.

The lighting is mostly T8 fluorescent 2x4 lay in grid fixtures [Picture E10] controlled by manual wall switches. In the newer areas of the middle school there are some skylights with recessed fluorescent can lighting around the perimeter of the skylight area [Picture E11] along with the 2x4 lay in grid fixtures. There are no daylighting controls in the areas with the sky lighting. The lighting in some of the shops or maintenance areas is accomplished by linear T8 fluorescent fixtures [Pictures E6 and E15], and the lighting in the gyms and the art room are by metal halide high bay fixtures [Picture E14]. The metal halide fixtures are controlled by remote ballasts [Picture E12]. There were also some square light fixtures with CFL bulbs in the 1950s portion of the building used in areas with hard ceilings like restrooms, IT closets and as accent fixtures [Picture E13]. The egress lighting was accomplished by some of the general lighting fixtures being provided with battery backup [Picture E16]. Exit signs were located by the doors and throughout and appeared to be adequate [Pictures E11 and E15].

The existing fire alarm system is a Herrington System [Pictures E17 and E18]. The main fire alarm panel was added with the 1990s addition was added. The 1990s addition has a sprinkler system, and smoke detectors are located in the hallways. Horn strobes and pull stations are also located in hallways and most of the restrooms [Picture E19], the faculty single stall restroom is missing a strobe device and another single stall restroom in the hallway. The original 1950s portion of the building does not have a sprinkler system, and there are smoke detectors in almost all the rooms and the hallways [Picture E13]. Restrooms near the gym were missing code required strobe devices.

TECHNOLOGY

The data appears to be recently renovated throughout the building. WIFI and data access points were noted as adequate by staff.

No access control card readers were present at the exterior doors, and staff discussed that card readers would be added in an upcoming project. The upcoming project will also include new cameras and head end system for the cameras.

The clocks were battery powered clocks. Staff indicated this was adequate.

The PA system is a switched Rauland System [Picture E20] that is tied into the original telephone system in the 1950s portion of the building [Pictures E22 through E24]. The school expressed wanting to upgrade to a web based system. In the 1990s portion, they have newer speakers, but they are tied into the existing switched system in the 1950s portion of the building [Picture E21].

Several classrooms throughout the middle school (1990s portion) had local audio systems with microphones for the teacher and classroom speakers for hearing impaired students [Picture E25].

Picture E3

Picture E4

Picture E1

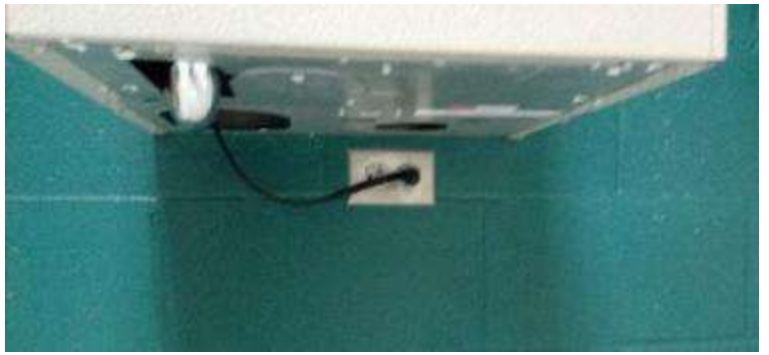
Picture E2

Picture E5

Picture E6

Picture E7

Picture E8



Picture E9

Picture E10

Picture E11

Picture E12

Picture E16

Picture E13

Picture E14

Picture E17

Picture E18

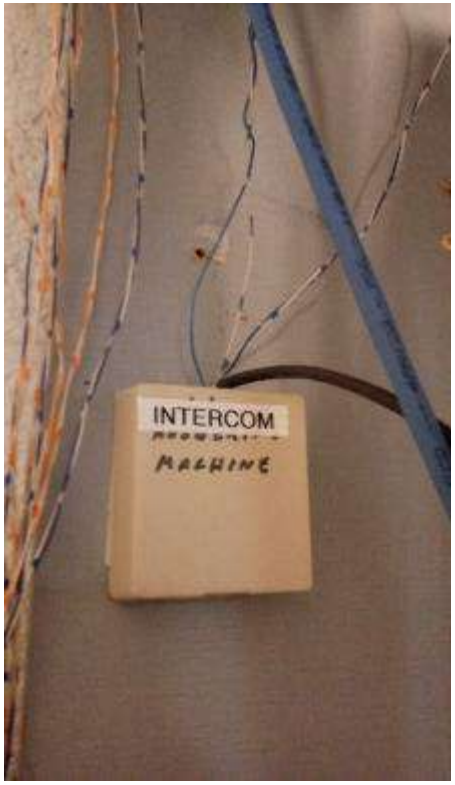
Picture E15

Picture E19

Picture E20

Picture E21

Picture E22



Picture E23

Picture E24

Picture E25

Recommendations
Clarinda Middle School
Mechanical, Plumbing, and Fire Protection, Electrical and Technology:

The items below are recommendations based on the walk through associated with life safety, code deficiencies, and current facility needs. A Glossary of Terms is included at the end of this report for clarification of terminology.

1. Life Safety
    a) Relocate one (1) existing emergency shutoff switch in the Boiler room from inside the room to just outside the room in the Corridor. Provide tamper-proof and clear lockable cover.
    b) Provide new emergency gas shutoff valve per Owner.
    c) Add several smoke detectors and horn strobes as necessary.
    d) Add an exit sign in the boiler room above the egress door.

2. Code Issues
    a) Provide new hoods over various cooking ovens in Room 454.
    b) Replace existing plumbing fixtures with new Code-compliant plumbing fixtures
    c) Provide grease trap in the Kitchen
    d) Remove existing items stored in front of electrical panels.
    e) Re-locate transformers that are located above ceilings or above the electrical panels.
    f) Add GFCI protection to receptacles feeding drinking fountains.
    g) Re-locate and replace the original 200A, 120/240V, 1 phase, 3 wire panel serving the 1950s portion of the building.
    h) Lock all panels in the corridors or in accessible locations.

3. Facility Improvements
    a) Replace six (6) existing Dedicated Outside Air Systems (DOAS)
    b) Replace seventy seven (77) existing heat pumps, two (2) Auditorium heat pumps, two (2) Dining/Commons heat pumps
    c) Replace existing cooling tower
    d) Replace existing plate and frame heat exchanger
    e) Automate operation of the exhaust fan with the operation of the kiln
    f) Provide additional cooling in Room 437.
    g) Replace two (2) existing wall-mounted exhaust fans serving the Auditorium
    h) Replace two (2) existing heat pump units serving the Dining/Commons.
    i) Replace two (2) existing unit ventilators serving the Men's and Women's toilets.
    j) Provide additional exhaust in Men's and Women's locker rooms
    k) Replace existing recessed cabinet unit heaters in the corridors
    l) Replace existing exhaust fan for kitchen hood.
    m) Replace existing makeup air unit serving the kitchen hood.
    n) Replace existing LCD room thermostats
    o) Inspect existing plumbing piping systems
    p) Replace existing metal halide light fixtures with new, more efficient LEDs.
    q) Replace existing light fixtures throughout the corridors and classrooms with more efficient LEDs or LED retrofit kits. The school mentioned wanting to wait until utility rebates were available to help pay for the upgrades.
    r) Replace existing controls with occupancy sensors and daylight sensors per energy code.

s) Upgrade the existing switched PA system to a web based system.
t) Replace existing local audio systems for hearing impaired students with new.
u) Additional receptacles wanted in the 1950s portions of the building.

Probable Cost Range: It is understood that Midwest Engineering Associates (MWEA) has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Opinions of Probable Construction Costs provided herein are made on the basis of MWEA's experience and available estimating material. MWEA makes no warranty, expressed or implied, as to the final cost as compared to actual bid or Contractor developed cost.

1. Life Safety
   a) Boiler Rm. emergency switch $2,500 - $4,000
   b) New emergency gas shutoff valve $5,000-$7,000
   c) New Horn Strobes in Restrooms $1,050 - $1,900
   d) New illuminated and battery backup exit signs $210 - $375

2. Code Issues
   a) New hoods over ovens $15,000 - $20,000
   b) New plumbing fixtures $140,000 - $200,000
   c) New grease trap $3,000 - $5,000
   d) Add GFCI protection to the hallway receptacles feeding the drinking fountains. $175 - $325
   e) Relocation of existing transformers. $1,400 - $2,500
   f) Removal of items stored in front of electrical panels and addition of locks on accessible panels. $350 - $625
   g) Re-locate and replace the original service panel in the 1950's portion of the building. $3,500 - $6,300

3. Facility Improvements
   a) New DOAS $300,000-$600,000
   b) New heat pumps $400,000 - $700,000
   c) New cooling tower $50,000 - $80,000
   d) New plate & frame heat exchanger $10,000 - $20,000
   e) Automatic kiln operation $3,000 - $5,000
   f) Additional cooling in Room 437 $4,000 - $5,000
   g) New exhaust fans $30,000 - $50,000
   h) Additional exhaust in Locker Rooms $7,000 - $9,000
   i) New cabinet unit heaters $6,000 - $8,000
   j) New kitchen hood exhaust fan $15,000 - $25,000
   k) New kitchen hood makeup air unit $30,000 - $50,000
   l) New room thermostats $15,000 - $20,000
   m) Inspect plumbing systems $10,000 - $15,000
   n) Replace existing metal halide light fixtures with new LED fixtures $40,000 - $72,000
   o) Replace existing 2x4 fixtures with LED or use LED retrofit kits. $53,100 - $95,000
   p) Replace existing controls with occupancy sensors and daylight sensors per energy code. $44,520 - $79,500
   q) New web based PA system $66,300 - $120,000
   r) New local audio systems for hearing impaired students $17,500 - $31,300
   s) Additional receptacles in 1950s portion of the building $13,300 - $23,000

Existing Conditions
Garfield Elementary School
Mechanical, Plumbing, and Fire Protection

HVAC

Main heating required by the building is provided by two (2) existing gas-fired AERCO Benchmark 1500 condensing heating water boilers with integral circulating pumps all located in the Furnace Room. [Picture M1]

Two (2) existing inline heating water pumps are provided and operate on a lead-lag basis with one in operation and the other a 100% standby. [Picture M2] Variable frequency drives are not provided for these pumps.

Two (2) emergency boiler shut-off pushbuttons are located inside the Furnace Room with one at each door. [Picture M3 & M4]

Ducted combustion air connected to the outdoors serves each boiler. Individual gas vents with neutralizer drain piping serve the boilers.

EAST END OF THE ELEMENTARY SCHOOL BUILDING

Each classroom is served by a split system (13 total). They were installed at varying times between 1997 and 2018. Each is replaced as they fail. [Picture M5]

Each classroom is served by a recessed ceiling-mounted unit ventilator [Picture M6] with an electric room thermostat [Picture M7]. Return to the unit ventilator is via a return air grille at the column and ducted back to the unit ventilator. [Picture M8] which should be kept clear at all times.

Sidewall grilles are provided in each classroom but the Maintenance Director mentioned that their function is not understood. [Picture M9]

The radiant in-floor heating of Room 216 is not operational.

The Custodian's Closet is not provided with exhaust.

Recessed cabinet unit heaters serve various spaces and appear to be part of the original to the building but functional. [Picture M10]

Men's and Women's Toilet Rooms are served by ceiling-mounted unit ventilators. Exhaust grilles are provided but are not functional per Maintenance Director. [Picture M11]

Two (2) existing air handling units are located in the Furnace Room to serve the adjacent Auditorium via sidewall registers. [Picture M12] Return registers are provided near the floor level on the opposite side of the Auditorium and ran underfloor back to the air handling units. [Picture M13]

The Auditorium is served by two (2) existing wall exhaust fans. [Picture M14]

WEST END OF THE ELEMENTARY SCHOOL BUILDING:

Each classroom in the north part of the West End of the Elementary School Building is served by a heat pump.

CONTROLS

Various pneumatic thermostats are abandoned in place.

Each of the existing split system is remotely controlled via a wireless device. [Picture M15]

PLUMBING

The existing plumbing fixtures appear to be original to the building but functional. [Picture M16 & 17]

A gas-fired A.O. Smith domestic hot water heater provided hot water to the plumbing fixtures.

The incoming domestic water service located in the Sprinkler Room is provided with a meter but not equipped with a backflow preventer. [Picture M18]

FIRE PROTECTION

The east end of the Elementary School building is not equipped with a fire protection sprinkler system.

The west end of the Elementary School building is equipped with a fire protection sprinkler system. Incoming service in the Sprinkler Room is provided with a backflow preventer. [Picture M19]

Fire extinguishers, wall-mounted and inside cabinets are provided throughout the facility.

Picture M1

Picture M2

Picture M3

Picture M4

Picture M5

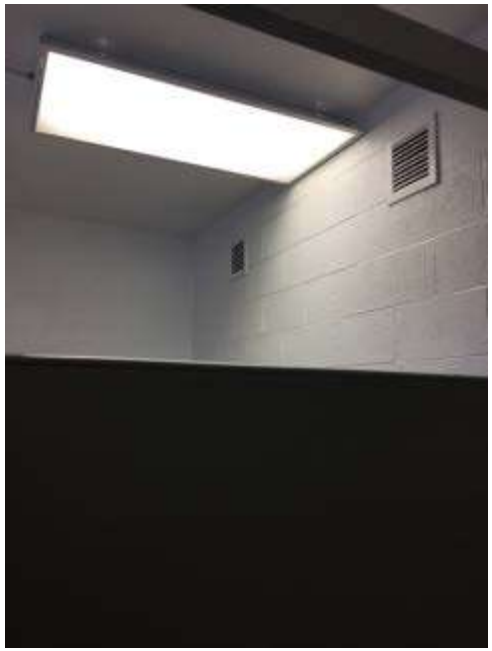
Picture M6

Picture M7

Picture M8

Picture M9

Picture M10



Picture M11

Picture M12

Picture M13

Picture M14

Picture M15

Picture M16

Picture M17

Picture M18

Picture M19

Recommendations
Garfield Elementary School
Mechanical, Plumbing, and Fire Protection

The items below are recommendations based on the walk through associated with life safety, code deficiencies, and current facility needs. A Glossary of Terms is included at the end of this report for clarification of terminology.

1. Life Safety
    a) Provide complete sprinkler coverage of the east end of the Elementary School building
    b) Relocate two (2) existing emergency shutoff pushbuttons just outside of the Furnace Room doors.

2. Code Issues
    a) Provide exhaust from the Custodian's Closet
    b) Replace existing plumbing fixtures with new Code-compliant fixtures
    c) Provide a new backflow preventer in the domestic water service

3. Facility Improvements
    a) Replace existing split systems of the east end of the Elementary School building with new unit ventilators with heating, cooling, and 100% economizer capability
    b) New chiller system
    c) Replace existing unit ventilators of the east end of the Elementary School building
    d) Replace existing recessed cabinet unit heaters in the Corridor
    e) Provide adequate exhaust to serve the Toilet Rooms
    f) Provide new Auditorium air handling units with heating, cooling, ventilating, humidification capabilities
    g) Replace existing heat pumps of the north part of the West End of the Elementary School building

Probable Cost Range: It is understood that Midwest Engineering Associates (MWEA) has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Opinions of Probable Construction Costs provided herein are made on the basis of MWEA's experience and available estimating material. MWEA makes no warranty, expressed or implied, as to the final cost as compared to actual bid or Contractor developed cost.

1. Life Safety
    a) Complete sprinkler coverage $50,000 -$85,000
    b) Relocate emergency pushbuttons $5,000 -$8,000

2. Code Issues
    a) New Custodian's Closet exhaust $3,000 - $5,000
    b) New plumbing fixtures $70,000 - $90,000
    c) New backflow preventer $7,500 - $10,000

3. Facility Improvements
    a) New unit ventilators $275,000 - $570,000
    b) New chiller system $150,000 - $250,000
    c) New cabinet unit heaters $25,000 - $40,000
    d) New Toilet Room exhaust $5,000 - $7,000
    e) New Auditorium AHUs $200,000 - $350,000
    f) New heat pumps $100,000 - $200,000

Existing Conditions
Clarinda High School
Mechanical, Plumbing, and Fire Protection

HVAC

ORIGINAL BUILDING:
The original building was built in the late 1960s. The northern portion of the original building has two (2) floors while the southern portion has one (1) floor.

The Gymnasium, a 2-story space, which was part of the 1968 original building, is served by two (2) air handling units with heating water and chilled water cooling coils and located in the mezzanine. Although upgrades were provided, these air handling units are original to the building and beyond their service life. Fabric supply ductwork was provided for air distribution. The space is served by two (2) exhaust fans. These exhaust fans are original to the building and way beyond their useful life.

The Kitchen, which was part of the 1968 original building, is served by two (2) ceiling-mounted unit ventilators with heating capability. The kitchen exhaust hood (7' x 12') (PHOTO 4541) is not provided with a makeup air unit. Per the Maintenance Director, the hood is no longer in use.

The Dishwasher Area is served by a sidewall exhaust grille which is assumed to be connected to an exhaust fan. The dishwasher is not provided with an exhaust duct. The exhaust fan would be original to the building and beyond its useful life.

The Commons is served by one (1) heating-only air handling unit that is located in the same mezzanine as the Gymnasium air handling units. It is appears to be original to the building and way beyond its useful life.

An interior section of the southern portion of the building is served by a heating only roof-mounted air handling unit. It is original to the building and beyond its useful life.

The remainder of the interior section of the southern portion of the building is served by unit ventilators without outside air connection. They appear to be original to the building and beyond their useful life.

Main heating is provided by three (3) existing gas-fired AERCO Benchmark 2.0 condensing heating water boilers. These are located in the Mechanical (Maintenance) Room. [Picture M4]

An emergency pushbutton is located inside the Mechanical (Maintenance) Room. [Picture M5]

Asbestos insulation appears to be present in piping that go through the pipe tunnels. [Picture M6 & M7]

Two inline heating water pumps operate on a lead-lag basis with one pump in operation and the other a 100% standby. These are manually scheduled to operate. [Picture M8] Other accessories of the heating water system includes three (3) expansion tanks, one (1) pot feeder, and a chemical treatment system. They appear to be beyond their useful life but functional.
Located in the Mechanical (Maintenance) Room are Multistack chiller compressors and evaporators with the outdoor condensers located on the roof serve the building's connected loads [Picture M9]. They appear to be relatively new.

The typical classroom in the southern portion of the original building is served by a floor-mounted heating-only unit ventilator below the window at the perimeter. Some rooms are served by ceiling-mounted unit ventilators. [Picture M2]. Existing louvers were sized for minimum outside air.

The Media Center is served by a unit ventilator is functional and appears to be original to the building. It is way beyond its useful life.

AUDITORIUM ADDITION:
The Auditorium Addition was built circa 1977.

The Stage is served by one (1) air handling unit with heating water coil and chilled water cooling coil. It appears to be original to the addition but functional.

The Auditorium is served by two (2) air handling units with heating water coil and chilled water cooling capability. They appear to be original to the addition but functional. [Picture M3]

NORTHWEST ADDITION:
The Northwest Addition, a 1-story building with seven (7) classrooms) and built circa 1997, is served by two (2) constant volume rooftop units with electric cooling and gas heat and installed in 1997. Each rooftop unit serves multiple zones of temperature control. Each rooftop unit is provided with a bypass damper between supply and return. They are 21 years old and beyond their useful life. Various exhaust fans serving the Kiln Room, Dark Rooms, Locker/Shower Room, and Science Room are original to the Addition. They are 21 years old and beyond their useful life.

NORTHEAST ADDITION:
The Northeast Addition, a 1-story building built circa 2001, includes, but not limited to, the Wrestling Room and Band Room. This addition is served by three (3) rooftop units with DX cooling and gas heat and installed in 2001. They are 17 years old and at the end of their service life.

Four (4) roof-mounted exhaust fans serve Northeast Addition spaces including toilet rooms and shower rooms. They are 17 years old and beyond their service life.

The Computer Room is served by a Liebert-type recirculating cooling system.

The Wrestling Room is served by three (3) unit ventilators near the ceiling. [Picture M1]

The ICN Room is served by a heat pump with ducted air distribution.

CONTROLS

Alerton Building Automation System serves the High School building. [Picture M10]

PLUMBING

GENERAL:

An existing A.O. Smith gas-fired 100-gallon domestic water heater provides hot water to the plumbing fixtures. [Picture M11]. It appears to be relatively new.

One domestic water heater appears to be original to the building but not operational. Remove this water heater including associated piping and gas vent.

The domestic water service is provided with a meter but has no backflow preventer.

The existing plumbing fixtures appear to be part of the original building but functional. [Picture M12]

A tempered water system is provided in Mechanical Room. [Picture M13]

The Kitchen triple basin sink is not provided with a grease trap. [Picture M14]

In Room 111-Science Room, the gas shutoff valve is located in a covered wall-recessed box. [Picture M15]

The Science Rooms are provided with lab sinks with handicapped accessible faucets with vacuum breaker and natural gas turrets.

A water softener system serves the building.

There is a ceiling tile discoloration. [Picture M16]

Adequacy of the existing sanitary, storm, and domestic cold, hot, and hot water return piping located in the original building for further use needs to be evaluated due to the length of time they have been in service.

FIRE PROTECTION

Except for the Auditorium, the High School building is not equipped with a sprinkler system. [Picture M17]

Fire extinguishers are provided throughout the building.

Picture M1

Picture M2

Picture M3

Picture M4

Picture M5

Picture M7

Picture M6

Picture M8

Picture M9

Picture M10

Picture M11

Picture M12

Picture M13

Picture M14

Picture M15

Picture M16

Picture M17

Existing Conditions
Clarinda High School
Electrical and Technology

ELECTRICAL

The High School electrical service is a 208/120V, 3 phase, 4 wire, 2,000A NEMA 3R panel that is located outside near the main electrical room. It is feed by a pad-mounted utility transformer [Picture E1]. It appears to have been installed with the most recent addition to the building. The newer service feeds an older 1200A, 3 phase, 4 wire, 208/120V fused switch that appears original to the 1968 portion of the building [Picture E2]. The branch panels are a mixture of newer and older panels, some of the panels in the older areas appear to have been replaced while others appear original [Pictures E4 through E6]. The main panel for the 1968 portion of the building is 1200A 208/120V freestanding panel [Picture E3]. In many cases items were stored in front of the electrical panels infringing on the code required 3'-6" clear space [Pictures E4 through E6]. The receptacles for the drinking fountains in a few areas in the building may need to be replaced with GFCI receptacles [Picture E7]. There were also power strips and heavily loaded floor boxes in the computer lab [Pictures E25 and E26] additional receptacles or power to the room may need to be considered. It was noticed on of the branch panels had a modified latch for the cover [Picture E27].

The lighting is mostly T8 fluorescent 2x4 lay in grid fixtures [Pictures E8 and E10] controlled by manual wall switches. The lighting in some of the shops or maintenance areas is accomplished by linear T8 florescent fixtures [Picture E12], and the lighting in the wrestling room was metal halide high bay fixtures [Picture E11]. The metal halide fixtures are controlled by remote ballasts [Picture E12]. The lighting in the gym was fluorescent T-5 fixtures [Picture E13] that are controlled by occupancy sensors. The theatre lighting is incandescent can lights for general purpose lighting and accent T-12 fixtures [Pictures E14 through E15]. The school mentioned that they would like to update the theatre in the near future and update the lighting in this area. The T-12 fixtures had many bulbs that were in need of replacement, and the middle row had been removed during a previous project. The egress lighting was accomplished by battery powered wall pack fixtures in some of the commons areas, wrestling and various other locations. General lighting fixtures with battery backup are also used in some locations [Pictures E10 and E11]. Exit signs were located by the doors and throughout and appeared to be adequate [Picture E10]. Art room is missing an exit sign above the egress door. Back door located in the kitchen is also missing the code required exit signage.

The existing fire alarm system is a Honneywell System with a Notifier main Fire Alarm Panel and Firelite and Notifier annunciators [Pictures E18, E20 and E21]. The addition for the theatre which was added in 1977 is the only portion of the building with a sprinkler system. Horn strobes, smoke detectors, and pull stations are also located in hallways and throughout the building [Picture E19 and E21]. Men's public restroom is missing a code required strobe device. Both restrooms near the theater are missing a code required strobe device.

TECHNOLOGY

The data appears to be recently renovated throughout the building [Picture E24]. WIFI and data access points were noted as adequate by staff.

No access control card readers were present at the exterior doors, and staff discussed that card readers would be added in an upcoming project. The upcoming project will also include new cameras and head end system for the cameras.

The clocks were battery powered clocks. Staff indicated this was adequate.

The PA system is a switched System, some locations have the Rauland system similar to the Middle School and the Elementary that is still operational, and others have old speakers that are no longer operational and are being replaced by newer speakers [Picture E22]. The school expressed wanting to upgrade to a web based system. The 1997 and 2001 Additions have newer speakers tied into the existing switched system installed in the original portion of the building [Picture E23].

Picture E1

Picture E2

Picture E3

Picture E4

Picture E5

Picture E6

Picture E7

Picture E8

Picture E9

Picture E10

Picture E11

Picture E12

Picture E13

Picture E14

Picture E15

Picture E16

Picture E17

Picture E18

Picture E19

Picture E20

Picture E21

Picture E22

Picture E23

Picture 24

Picture E25

Picture E26

Picture E27

Recommendations
Clarinda High School
Mechanical, Plumbing, and Fire Protection, Electrical and Technology:

The items below are recommendations based on the walk through associated with life safety, code deficiencies, and current facility needs. A Glossary of Terms is included at the end of this report for clarification of terminology.

1. Life Safety Issues
    a. Remove asbestos insulation in the piping
    b. Provide new and complete fire sprinkler coverage
    c. Provide new accessible gas shutoff valve
    d. Add several smoke detectors and horn strobes as necessary.
    e. Add illuminated and battery backup exit sign above the door in the art room and the kitchen.
    f. Relocate existing emergency pushbutton to the Boiler Room

2. Code Issues
    a. Replace existing plumbing fixtures with Code-compliant fixtures
    b. Provide new grease trap in triple basin sink
    c. Provide new domestic water service backflow preventer
    d. Remove existing items stored in front of electrical panels.
    e. Add GFCI protection to receptacles feeding drinking fountains.
    f. Replace covers of the panels that have been modified

3. Facility Improvements
    a. Provide new domestic water heater
    b. Provide new Gymnasium air handling units with cooling, heating, dehumidifying, and humidifying capability
    c. Replace existing Kitchen unit ventilators with new air handling unit with cooling, heating, dehumidifying, and humidifying capability
    d. Replace existing Dishwasher exhaust fan with new.
    e. Replace existing roof-mounted air handling unit that serves part of the interior of the south portion of the original building with new air handling unit with cooling, heating, dehumidifying, and humidifying capability. This unit will also serve the Media Center, Commons, and interior spaces of the south portion of the original building.
    f. Replace existing heating water pumps with new including variable frequency drives and tie-in to the Building Automation System.
    g. Provide new unit ventilators for the perimeter classrooms with heating, cooling, and 100% economizer capability. Increase exterior louvers which were sized for minimum outside airflow required at time of installation.
    h.
    i. Replace existing unit ventilators for the Wrestling Room with new with heating, cooling, and 100% economizer capability.
    j. Provide new unit ventilator for the ICN Room.
    k. Replace existing air handing units with new for the Gymnasium and Stage Area with heating, cooling, dehumidifying, and humidifying capability.
    l. Replace existing RTUs for the Northwest Addition with new roof-mounted air handling unit with heating, cooling, dehumidifying, and humidifying capability.
    m. Replace existing Northeast Addition rooftop units with new air handling unit with cooling, heating, dehumidifying, and humidifying capability.
    n. Replace existing Northeast Addition exhaust fans with new.
    o. Replace existing Computer Room recirculating unit with new.

p. Upgrade existing Building Automation System to include all HVAC systems
q. Remove non-functioning domestic water heater including associated piping and gas vent.
r. Fix roof due to ceiling discoloration
s. Replace existing metal halide light fixtures with new, more efficient LEDs.
t. Replace existing light fixtures throughout the corridors and classrooms with more efficient LEDs or LED retrofit kits. The school mentioned wanting to wait until utility rebates were available to help pay for the upgrades.
u. Replace existing controls with occupancy sensors and daylight sensors per energy code.
v. Upgrade the existing switched PA system to a web based system.
w. Replace existing local audio systems for hearing impaired students with new.

Probable Cost Range: It is understood that Midwest Engineering Associates (MWEA) has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Opinions of Probable Construction Costs provided herein are made on the basis of MWEA's experience and available estimating material. MWEA makes no warranty, expressed or implied, as to the final cost as compared to actual bid or Contractor developed cost.

1. Life Safety Issues
   a. Remove asbestos insulation $100,000 - $150,000
   b. Complete sprinkler coverage $300,000 - $400,000
   c. Provide accessible gas shutoff $5,000 - $6,000
   d. Relocate Boiler Room emer shutoff $2,500 - $4,000
   e. New Horn Strobes in Restrooms $630 - $1,200
   f. New illuminated and battery backup exit signs $420 - $750

Code Issues
   g. New plumbing fixtures $200,000 - $300,000
   h. New grease trap $5,000 - $7,000
   i. New backflow preventer $7,500 - $10,000
   j. Add GFCI protection to the hallway receptacle feeding the drinking fountain. $175 - $325
   k. Removal of items stored in front of electrical panels and addition of locks on accessible panels. $350 - $625
   l. Replace covers of existing panels that have been modified. $2,000 - $3,500

2. Facility Improvements
   a. New domestic water heater $5,000 - $7,000
   b. New Gymnasium AHUs $150,000 - $200,000
   c. New Kitchen AHU $60,000 - $80,000
   d. New Northwest Addition RTUs $150,000 - $250,000
   e. New unit ventilators-Workout Rm. $30,000 - $50,000
   f. New heat pump for the ICN Room $15,000 - $20,000
   g. New classroom unit ventilators $300,000 - $400,000
   h. New indoor unit-Computer Rm. $20,000 - $30,000
   i. New RTU for the Commons $75,000 - $90,000
   j. New RTU for the Media Room $75,000 - $90,000
   k. New unit ventilators for the Stage $30,000 - $50,000
   l. Fix roof due to ceiling tile discolor. $1,500 - $2,000
   m. Inspect existing plumbing systems $20,000 - $30,000
   n. Replace existing metal halide light fixtures with new LED fixtures $33,000 - $59,000
   o. Replace existing 2x4 fixtures with LED or use LED retrofit kits. $44,100 - $78,200
   p. Replace existing controls with occupancy sensors and daylight sensors per energy code. $32,550 - $58,200
   q. New web based PA system $55,300 - $98,000
   r. New local audio systems for hearing impaired students $17,500 - $31,300
   s. Additional receptacles in computer labs $2,100 - $3,750

Existing Conditions
Vocational Building
Mechanical, Plumbing, and Fire Protection

HVAC

Main heating for the building is provided by a gas-fired Lochinvar hot water boiler with an input of 985 MBH and 797 MBH output. [Picture M1] It appears to be original to the building but functional. Other components of the heating system (expansion tank, air separator) appear to be original to the building but functional.

Two inline pumps circulate heating water to the unit heaters. One appears to be original to the building and the other appears new. [Picture M2]

A dust collection system serves the woodworking area. [Picture M3 & M4] There appears to be blow-down of accumulated dust. It appears to be original to the building but functional.

Local exhaust ventilation system provides the primary method of controlling wood dust removing the dust at or near its source. [Picture M5]. It appears to be original to the building but functional.

Various unit heaters provide heating of the building. [Picture M6]. They appear to be original to the building but functional.

A canopy hood serves the area for welding and other operations. Per the Maintenance Director, the canopy is no longer in use. [Picture M7]

CONTROLS

The Vocational Building operation is monitored by the existing Alerton Building Automation System.

Each unit heater is provided with a thermostat. [Picture M8]

PLUMBING

The existing plumbing fixtures appear to be original to the building but functional. [Picture M9]

An existing compressed air system serves the building's woodworking operations.

Adequacy of the existing sanitary, storm, and domestic cold, hot, and hot water return piping located in the original building for further use needs to be evaluated due to the length of time they have been in service.

FIRE PROTECTION

The building is not equipped with a fire suppression system.

Various gases are located inside the building [Picture M10] along with blowdown of dust from the dust collection system, flammables, and dust accumulation everywhere creates an environment in the woodworking area that is susceptible to fire and explosion.

Picture M1

Picture M2

Picture M3

Picture M4

Picture M5

Picture M6

Picture M7

Picture M8

Picture M9

Picture M10

Existing Conditions
Vocational Building
Electrical and Technology

ELECTRICAL

The electrical service to the High School Vocational Building is a 208/120V, 3 phase, 4 wire, 600A panel [Picture E1]. The service panel appears to have been modified to cover the exposed live parts that were exposed due to old breakers being removed [Picture E2]. There is a single branch panel in the shop area of the vocational building that is feed from the service panel [Picture E3]. The receptacle near the sink that is outside of the restrooms is not GFCI protected. This receptacle also feeds a drinking fountain which also requires GFCI protection [Picture E4].

The lighting in the corridors and classroom area are T8 fluorescent 2x4 lay in grid fixtures [Picture E5] controlled by manual wall switches. The lighting in the shop areas is accomplished by linear T-12 florescent fixtures [Picture E6], and the lighting in the restrooms appeared original and may have been either fluorescent or incandescent bulbs [Picture E7]. The egress lighting was accomplished by battery powered wall pack fixtures [Pictures E4 and E9]. Exit signs were located by the doors and throughout and appeared to be adequate [Picture E9].

The existing fire alarm devices are feed from the high school fire alarm system. Classroom and shop areas both had fire alarm devices [Picture E5].

TECHNOLOGY

The classroom had WIFI access and it was noted by staff as adequate for the building [Picture E5].

No access control card readers were present at the exterior doors, and staff discussed that card readers would be added in an upcoming project. The upcoming project will also include new cameras and head end system for the cameras.

The clocks were battery powered clocks. Staff indicated this was adequate.

The PA system consists of speakers that are fed from the system that feeds the main building of the high school [Picture E5]. The school expressed wanting to upgrade to a web based system. If the high school system is upgraded the Vocational Building would need to be re-fed by the new system as opposed to the existing switched PA system currently in use at the high school.

Picture E1

Picture E2

Picture E3

Picture E4

Picture E5

Picture E6

Picture E7

Picture E8

Picture E9

Recommendations
Vocational Building
Mechanical, Plumbing, and Fire Protection, Electrical and Technology:

The items below are recommendations based on the walk through associated with life safety, code deficiencies, and current facility needs. A Glossary of Terms is included at the end of this report for clarification of terminology.

1. Life Safety Issues
    a) Provide a new fire suppression system
    b) Provide adequate ventilation
    c) Provide a new dust collection system
    d) Provide new emergency shower and eyewash station (ESEW)

2. Code Issues
    a) Replace existing plumbing fixtures with new Code-compliant fixtures
    b) Add GFCI protection to receptacles feeding drinking fountains. Add GFCI receptacles to restrooms

3. Facility Improvements
    a) Provide a new heating water boiler system
    b) Provide new explosion-proof (XP) unit heaters
    c) Replace existing T-12 fluorescent light fixtures with new, more efficient LEDs.
    d) Replace existing light fixtures throughout the corridors and classrooms with more efficient LEDs or LED retrofit kits. The school mentioned wanting to wait until utility rebates were available to help pay for the upgrades.
    e) Replace existing controls with occupancy sensors and daylight sensors per energy code. Leave shop areas as switched to avoid unsafe conditions.
    f) Add a new web based PA system.

Probable Cost Range: It is understood that Midwest Engineering Associates (MWEA) has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Opinions of Probable Construction Costs provided herein are made on the basis of MWEA's experience and available estimating material. MWEA makes no warranty, expressed or implied, as to the final cost as compared to actual bid or Contractor developed cost.

1. Life Safety Issues
    a) New fire suppression system $25,000 - $35,000
    b) New ventilation system $60,000 - $75,000
    c) New dust collection system $50,000 - $60,000
    d) New ESEW $5,000 - $7,000

2. Code Issues
    a) New plumbing fixtures $8,000 - $10,000
    b) Add GFCI protection to the receptacle feeding the drinking fountain near the sink. $35 - $62

3. Facility Improvements
    a) New heating water boiler system $15,000 - $25,000
    b) New XP unit heaters $20,000 - $30,000
    c) Inspect plumbing piping systems $5,000 - $7,000
    d) Replace existing T-12 light fixtures with new LED fixtures $9,000 - $16,100
    e) Replace existing 2x4 fixtures with LED or use LED retrofit kits. $1,300 - $2,300
    f) Replace existing controls with occupancy sensors and daylight sensors per energy code. $3,000 - $5,200
    g) New web based PA system $4,300 - $7,700

Existing Conditions
Track & Field/Stadium Restroom Facilities
Mechanical, Plumbing, and Fire Protection

HVAC

The pipe vestibule is provided with an electric unit heater.

The washrooms are provided with an electric unit heater and exhaust fan. [Picture M1]

CONTROLS

Controls of the electric unit heaters are integral to the units.

PLUMBING

An electric domestic water heater along with a code-required expansion tank provides the hot water requirements of the plumbing fixtures. [Picture M2]

The plumbing fixtures appear to be new and code-compliant. [Picture M3]

FIRE PROTECTION

There is no fire sprinkler system in the building.

The Concession Stand was locked during our field survey.

Picture M1

Picture M3

Picture M2

Existing Conditions
Track & Field/Stadium Concession Stand
Electrical and Technology

ELECTRICAL

The electrical service to the Sports Facility is a 208/120V, 3 phase, 4 wire, outdoor NEMA 3R panel [Picture E2]. The service panel is feed from a pad mounted 160 KVA, 208/120V, 3 phase transformer [Picture E1]. There is a single branch panel located in the mechanical chase between the two restrooms [Pictures E7 and E8]. There are no receptacles inside of the restrooms, but there is an outdoor weatherproof GFCI [Picture E6]. It was mentioned that the school does not want GFCI receptacles inside the restrooms because they do not want to encourage people to remain in the restrooms to charge their phones.

The outdoor lighting was HID. There were wallpacks along the sides of the restroom building [Picture E3] and HID sports lighting for the field [Picture E4]. Outdoor rated fixtures located at the entrance of the restrooms were T-8 Fluorescent [Picture E5]. The interior lighting for both restrooms and the mechanical chase were also T-8 linear fluorescent fixtures [Pictures E8 and E9]. There were no exit signs or egress lighting.

There were no fire alarm devices or notification for this building or the sports fields.

TECHNOLOGY

There are no technology systems installed in the sports facility restrooms.

Picture E1

Picture E2

Picture E3

Picture E4

Picture E5

Picture E6

Picture E7

Picture E8

Picture E9

Recommendations
Track & Field/Stadium Concession Stand
Mechanical, Plumbing, Fire Protection, Electrical, and Technology:

The items below are recommendations based on the walk through associated with life safety, code deficiencies, and current facility needs. A Glossary of Terms is included at the end of this report for clarification of terminology.

1. Life Safety Issues
    a) None

2. Code Issues
    a) None

3. Facility Improvements
    a) None

Probable Cost Range: It is understood that Midwest Engineering Associates (MWEA) has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Opinions of Probable Construction Costs provided herein are made on the basis of MWEA's experience and available estimating material. MWEA makes no warranty, expressed or implied, as to the final cost as compared to actual bid or Contractor developed cost.

1. Life Safety Issues
    a) None $0

2. Code Issues
    a) None $0

3. Facility Improvements
    a) None $0

Glossary of Terms

- HVAC: Heating/Ventilation/Air Conditioning.
- Unit Heater: A Cabinet Unit Heater (CUH) was typically used in classrooms. These units supplied heat only and provided no outside air. The International Mechanical Code and ASHRAE 90.1 require a minimum percentage of outside air be supplied to dilute CO2 emissions from the occupants.
- Unit Ventilator: A Cabinet Unit Ventilator (CUV) is typically used in classrooms. These units provide heating, cooling, and ventilation (Outside Air) from a single unit. They use an economizer to provide supply air without operating the refrigeration equipment, during optimum outdoor air temperatures, for energy efficiency.
- Economizer: An economizer is a component of the HVAC system in which it can provide up to 100% outside air to ventilate a space without using, or minimizing, the heating and cooling components of the system.
- Outdoor Air: Outdoor/Outside Air is required per the International Building Code and the International Mechanical Code whenever a space is occupied. Carbon Dioxide (CO2) is produced by the occupants and Outside Air is required to dilute the CO2 levels so as not to create a harmful environment. Outside Air volumes can be set to a minimum, code compliant level or can be controlled by a Building Management System.
- Emergency Shutoff Switch: Per the International Building Code and the International Mechanical Code, an Emergency Shutoff Switch for a boiler shall be located at the egress doors of the mechanical room where the boiler is housed. The Emergency Shutoff Switch is required in the event the boiler's safety devices malfunction and a person evacuating that room can engage the switch to disconnect electrical power from such boiler to keep it from overheating and causing an explosion.
- Back Flow Preventer: A Back Flow Preventer protects the water supply by not allowing any fluids to flow back into the water supply system and contaminating it. The Health Department and the International Plumbing Code require a Back Flow Preventer at the point the water supply enters the building. This requirement includes domestic and fire prevention water supplies.
- Building Management System: A Building Management System is an automated system that can be programmed to control the lighting systems operations, the HVAC systems, and card access devices for entry at exterior and interior doors. The Building Management systems can be programmed to control many different building components and are widely used to assist with energy savings within the facilities.
- Combustion Air: Combustion Air is required for equipment that uses fossil fuels to heat. Combustion Air Vents are a requirement of the International Mechanical Code.
- LED Fixtures: Light Emitting Diode fixtures are the latest technology in light fixtures. This type of lighting is the most energy efficient.
- Fluorescent Fixtures: Fluorescent Fixtures were predominately used prior to the LED Fixture and remain widely used. The most widely used type of fluorescent bulb was the T12 bulb. It is being phased out for the more energy efficient T8 and T5 bulbs. The T8 bulb is very widely used and is quite energy efficient. The T5 bulb is the most energy efficient of the three bulbs mentioned and is the closest to being as energy efficient as the LED Fixture.
- Fire Alarm: The Fire Alarm,(FA) system consists of heat/smoke detectors and visual and audible devices, known as Horn/Strobe devices, which are automatically controlled to warn occupants to evacuate the building if smoke or heat is detected.
- Daylight Harvesting Controls: Daylight Harvesting Controls sense the amount of light in a space and automatically dims the light fixtures in that space to maintain a predetermined light level to save energy. Natural light entering through windows increases the light level in a space and the Daylight Harvesting Controls then controls the light level of the electric lighting to conserve energy.