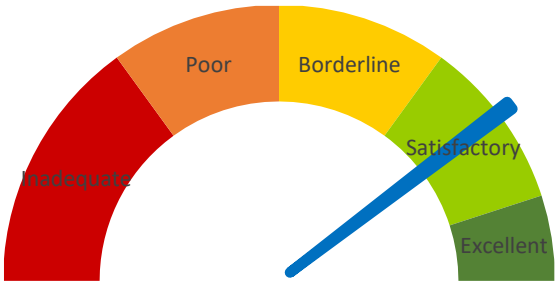
DMPS FACILITY ASSESSMENT | MCKINLEY ELEMENTARY

1.17.2024

bbs
ARCHITECTS
ENGINEERS

219 Eighth Street
Suite 100
Des Moines, IA 50309
515.244.7167

www.bbsae.com



REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

McKinley Elementary's on-site facility conditions assessment was conducted on January 17, 2024, and included visual conditions assessment from professionals covering interior architecture, exterior building envelope, the property's grounds (site), structural condition, mechanical (HVAC/Plumbing) systems, electrical systems (power, exterior lighting, interior lighting, fire alarm, and general IT), and the elevator conditions.

A few immediate maintenance items identified for McKinley Elementary are: interior egress stair access, exiting panic device replacement, chemical feeder relocation, MDP vibration concerns, and repairs to the elevator operation panel. Several other maintenance items are recommended and described later within this report. There are many maintenance and short term projects recommended for McKinley. While the overall score is showing "satisfactory" many items that need attention are immediate or short term items. In order to keep this building healthy and the occupants safe, comfortable, and healthy it is recommended many of these following projects be addressed in the near future.

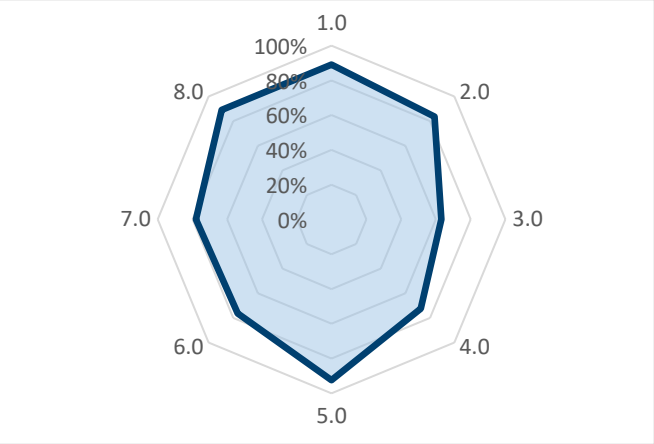
A summary of the recommended projects for McKinley Elementary to be completed in the next 1-2 years are as follows:

- Water Mitigation, Study
- Interior Wall Repairs
- Exterior Envelope Repairs (work described within 7 separate projects)
- Site Repairs
- HVAC Retrofit
- Exterior Lighting Installation

These projects along with all of the recommended potential projects at the 3-4 year and 5-10 year priority levels are further described within this report.

Discipline Comparison				Building Health				
Assessment Category Summary		Max Pnts	Earned Pnts	Bldg Weight Factor	Max Pnts	Earned Pnts	%	Rating
1.0	Educational Adequacy	165	147	2.00	330	294	89%	Satisfactory
2.0	Environment for Education	375	314	0.60	225	188	84%	Satisfactory
3.0	Exterior Envelope	95	60	3.00	285	180	63%	Borderline
4.0	School Site	95	69	1.50	143	104	73%	Satisfactory
5.0	Structural Conditions	145	134	1.30	189	174	92%	Excellent
6.0	Mechanical Systems	670	512	0.80	536	410	76%	Satisfactory
7.0	Electrical Systems	450	351	0.75	338	263	78%	Satisfactory
8.0	Elevator Conditions	65	58	1.00	65	58	89%	Satisfactory
Total					**2,110**	**1,671**	**79%**	**Satisfactory**

McKinley Elementary
Discipline Comparison



Rating Table				
1-29%	30-49%	50-69%	70-89%	90-100%
Inadequate	Poor	Borderline	Satisfactory	Excellent

After totaling the scores from the various discipline assessment reports McKinley Elementary scored a building health rating of 79%, or Satisfactory, per the scale described above. Per the graph shown on the cover page of this report, scores within the "green" range are considered positive scores. McKinley Elementary is within this positive range. Improvements to the exterior envelope, school site, and mechanical systems would make the largest impact in increasing the score to Excellent.

Building Data Record

Building Name: McKinley Elementary

Date: 1.17.2024

Address: 1610 SE 6th St
Des Moines, IA 50315

High School Feeder System: Lincoln High

Building SF: 50,000 SF

Site Acreage: 3.94 Acres

Date(s) of Construction: 1904, 1927, 2002, 2004 Renovation

Date(s) of Roof Replacement: 2011, 2015

Current/Scheduled Projects: Technology fiber (underground) for school network
Interior painting - 2023/2024
Flooring renovation - 2023/2024
Sanitary Sewer - 2024
Classroom casework upgrades and grease interceptor - 2024
Sidewalk and Steps

Existing Building Data:

- [x] Egress Plans
- [ ] Original Docs
- [x] Major Renovations and Additions
- [ ] Minor Projects
- [ ] Maint. Reports

Site Items:

- [ ] Student Garden
- [x] Loading Dock
- [ ] Stormwater Detention

Energy Source:

- [x] Electric
- [x] Gas
- [x] Geothermal
- [ ] Solar

Cooling:

- [ ] DX RTU or DOAS
- [x] Chiller
- [ ] VRF
- [x] Water Source Heat Pump
- [ ] Fluid Cooler

Heating:

- [ ] Gas/Electric RTU or DOAS
- [x] Boiler
- [x] Water-to-Water Heat Pump
- [ ] VRF
- [x] Water Source Heat Pump

Structure Fireproofing:

- [x] No
- [ ] Yes

Construction:

- [x] Load Bearing Masonry
- [x] Steel Frame
- [ ] Concrete
- [x] Wood
- [ ] Other

Exterior Facade:

- [x] Brick
- [x] Stucco
- [ ] Metal
- [ ] Wood
- [x] Other
  Stone & CMU

Floor/Roof Structure:

- [x] Wood Joists
- [x] Steel Joists/Beams
- [x] Slab on Grade
- [x] Struct. Slab
- [ ] Other

A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

1.0 Educational Adequacy

		Weight Factor	Rating	Points	Comments
General					
1.1	**Floor materials** are appropriate for space type.	2	4	8	Music room has hard flooring where carpet may be better suited. Janitor closet 159 is a wood floor with significant damage. All other flooring is appropriate.
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	2	4	8	There is a portable tv and stand for lesson learning, versus a projector and sound system.
1.3	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	2	5	10	
1.4	**Music room** is adequate for providing introductory music instruction.	2	3	6	Appears to be a lack of storage space for instruments. A space for small group lessons was not observed.
1.5	**Art room** has sufficient accommodations for program.	2	3	6	Kiln closet shows significant wall damage from potential moisture or improper ventilation around the kiln. Storage seems okay, but very full which may be contributing to the issues around the kiln.
1.6	**Library/Resource/Media Center** provides appropriate and attractive space.	1	5	5	There is an exit sign at a stair directly to the exterior that door doesn't have exit hardware and a sign is noted staff only.
Core Classroom					
1.7	Classroom space permits arrangements for **small group activity.**	3	5	15	
1.8	**Student storage space** is adequate.	2	5	10	123 has one student table without storage and should be replaced to match the rest of the room.
1.9	**Teacher storage space** is adequate.	3	4	12	Classroom storage seems appropriate. General teacher storage for shared materials and work space appears to be lacking.
1.10	Classroom **acoustical treatment** of ceiling, walls, and floors provide effective sound control.	3	5	15	

A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
1.11	**Classroom power and data receptacles** are located to support current classroom instruction.	4	5	20	
1.12	Educational **technology** supports instruction.	4	5	20	
Administration					
1.13	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	4	4	Conference room is sufficient for meetings of 6-10 people with staff offices providing additional private meeting space.
1.14	**Main office** has a check-in and waiting area.	2	4	8	Waiting area is one bench within the office and other benches in the vestibule and corridor outside the office.
	TOTAL			147	

A | Architectural, Interior

ASSESSOR: Kaela shoemaker

2.0 Environment for Education

Design

		Weight Factor	Rating	Points	Comments
2.1	**Traffic flow** is aided by appropriate foyers and corridors.	1	5	5	
2.2	Communication among students is enhanced by **common areas.**	1	5	5	
2.3	Areas for students to **interact are suitable to the age group.**	1	5	5	Locker common spaces create small central areas for interactions within grade levels.
2.4	Large group areas are designed for effective **management of students.**	2	5	10	
2.5	**Furniture Systems** are in good or like new condition.	1	5	5	
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	3	6	Basement classrooms are the only area that doesn't have good use of color and engaging finishes.
2.7	Windows and skylights provide access to **adequately controlled daylight** for regularly occupied spaces.	3	5	15	
2.8	Windows provide access to **quality views** (to exterior, courtyards, artwork etc.) for regularly occupied spaces.	3	5	15	
2.9	**Lighting has proper controls** to provide the required light levels for various teaching and learning needs.	2	5	10	Most all have dimming capabilities.
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	3	3	Lounge and work room are a single combined space with inadequate work tables and counter space. The room is quite full of storage and chairs.

A | Architectural, Interior

ASSESSOR: Kaela shoemaker

		Weight Factor	Rating	Points	Comments
2.11	**Main office** is visually connected to the entry and is welcoming to students, staff, and guests.	2	3	6	Reception desk is not visually connected to the front door by a window, likely visibility is achieved through cameras. Otherwise main entry is welcoming and connected within the entry vestibule.
2.12	**Break room** is adequately sized and furnished for proper use.	1	3	3	Inadequate counter space, and combined with teacher work room.
2.13	**Mother's room** is a separate designated space properly furnished.	1	4	4	Staff wellness room observed with a sink. The glass on the door was not able to be covered so lack of privacy is a concern but in general the room is appropriate for mental health and new mother needs.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	4	4	Most flooring in good condition. The janitor closet 159 with wood floor is not. Wood floor at the drinking fountain also is showing minor damage. Classroom restrooms have wall base and floor issues at the water closets.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	3	3	Many ceilings are showing minor edge damage or have minor water spots. Third floor ceilings that are painted metal are peeling.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	Basement classroom and common space walls have bubbling and peeling paint which is a sign of potential moisture infiltration. The kiln storage room has significant wall issues that are likely caused by moisture infiltration.
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	5	5	
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	5	15	
2.19	**Facility doors** are keyed to standardized master keying system.	3	5	15	Telecom doors are standard medico which is separate from the master key set.
2.20	**Restroom partitions** are securely mounted and of durable finish.	2	2	4	The restrooms with plastic laminate partitions are delaminating. Classroom restroom fixtures have degraded sealant and the walls and floors are in borderline condition.

A | Architectural, Interior

ASSESSOR: Kaela shoemaker

		Weight Factor	Rating	Points	Comments
2.21	**Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces.	1	5	5	
Occupant Safety					
2.22	Classroom doors are **recessed and open outward.**	4	5	20	
2.23	Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.**	3	5	15	
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	5	15	
2.25	**Vision lite** in doors is clear and uncovered.	2	5	10	Only a couple were covered or partially covered.
2.26	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	
2.27	**Flooring** is maintained in a **non-slip** condition	2	5	10	
2.28	**Traffic areas terminate at exit or** stairway leading to egress	5	2	10	The main central stair out is partially blocked with janitorial storage including washing chemicals. Not acceptable in an egress stair.
2.29	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	2	10	The library stair exit is noted with emergency signage but the door is lacking exit hardware and there is a sign saying staff only. See additional note above at the central stair.
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	5	25	

A | Architectural, Interior

ASSESSOR: Kaela shoemaker

		Weight Factor	Rating	Points	Comments
2.31	At least **two independent exits** from any point in the building	5	5	25	
2.32	**Emergency lighting** is provided throughout the building.	5	5	25	
	TOTAL			320	

A | Architectural , Exterior

ASSESSOR: David Unick

3.0 Exterior Envelope

		Weight Factor	Rating	Points	Comments
Design					
3.1	Overall **design is aesthetically pleasing** and appropriate for the age of students.	2	4	8	Main entry obscured by parking lot, but clearly distinguished by canopy.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	3	9	Roofing system generally in acceptable condition, Active leak reported during visit under Area O (See appendix for roof identification plan.). Source not discovered. Roofing system reportedly 10-15 yrs old, so would reasonably expect to replace within 10 yrs.
3.3	**Roof access** is safe for all roofs.	3	4	12	Two roof access hatches-on Roof K (west addition) and Roof C (original bldg). Provide guards at each location and improve interior access at C. Ladders connect all lower roof areas except O, which is one-story and contains no equipment. Some ladders require modification.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	2	6	Window sealant should be replaced in several portions of the building. Approximately 900 LF total.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	All windows appear to have insulated glazing, except for original wood-framed arch transom at north exit.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	3	6	Frames and mullions do have air leakage in most all locations.
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	3	6	All exterior doors are steel or aluminum. (2) steel frames (south exit and north exit) will require surface rust repair and repainting. (1) half-height service access door (to basement mech room B11) has rust damage and should be replaced.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	2	2	Primary exterior wall material is brick and concrete masonry. Upper portions of 2001 addition contain EIFS. Efflorescence noted on CMU and staining of some brick mortar joints indicate potential water infiltration. Sealant joints in brick, CMU, and EIFS should be replaced.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	4	4	All doors other than service doors have panic hardware. See 3.10 and project list for panic device that appears to be malfunctioning.
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	3	3	(1) Door does not consistently OPEN: Southwest exit (alum pair). (5) Entries have card readers. (1) Entries have keyed locksets. (plus 2 half-size service doors). (2) Entries have pulls only. (4) Entries have no exterior hardware. Zero doors have exterior identification signage.
	TOTAL			60	

C | Civil

ASSESSOR: Jack Gorman Joel Jackson

4.0 The School Site

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	5	5	Site was moderately flat and no issues were found.
4.2	**Parking areas** are in good condition.	5	3	15	Areas of the NW lot was cracking and sections of the parking within the circle drive need replacement.
4.3	**Drive areas** are in good condition.	3	3	9	Sections in the circle drive need replacement and the approach into the NW lot was in poor condition.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	2	2	DMPS states parking is short for day to day and that there is no event parking available.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	The tree roots on the south side of the site are heaving the sidewalk and creating trip hazards. Other sections of sidewalk across site need replacement.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	One door was without sidewalk access, site was easy to navigate otherwise.
4.7	**Hard surface** playground surfaces are in good condition.	3	5	15	The walk track appeared to be new concrete and in good condition. The asphalt by the basketball hoops had some cracking but appeared to be able to last another 10 years.
4.8	**Fencing** around the site is in good condition.	1	5	5	No issues observed.
4.9	**Trash enclosure** is in good condition.	1	N/A	0	The dumpsters are currently out in the NW lot.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	5	5	All utilities appeared to be in good condition.

ASSESSOR: Jack Gorman Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	2	2	There is not much room on site for expansion, maybe some space available to the south for a building expansion.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	4	4	The buses use the east side of the site and parents use the north circle drive. DMPS states the only conflict is parent traffic backing up onto the north road.
	TOTAL		69		

S | Structural

ASSESSOR: Tyler Scott

5.0 Structural Conditions

		Weight Factor	Rating	Points	Comments
Foundations					
5.1	**Foundations** appear to be in good condition with no visible cracks.	1	5	5	
5.2	There does not appear to be any **foundation settlement.**	2	5	10	
5.3	**Basement walls** do not appear to have any cracks.	1	4	4	Basement walls in the boiler room B11 are in stable condition, however, their condition is continuing to decline. Water has been deteriorating the mortar joints and eroding the material. Walls should be considered for maintenance with in the next few years.
5.4	**Stoops** appear to be in good condition.	1	4	4	One stoop outside of room 122 has a corner of the stoop edge spalled off. the damage is minor and not effecting accessibility, but could easily be patched repaired.
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	5	5	
5.6	Slabs on grade do not appear to have any **settlement.**	1	5	5	
Exterior Walls					
5.7	**Brick masonry** appears to be in good condition.	2	4	8	One minor crack was observed in the brick veneer on a pier on the south elevation of the gymnasium.
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	4	4	Minor surface rust was observed on all of the steel lintels for the south elevation of library 206.
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Tyler Scott

		Weight Factor	Rating	Points	Comments
Interior Walls					
5.11	**Interior walls** appear to be in good condition.	1	5	5	
Floor Framing (Elevated)					
5.12	**Floor framing** appears to be in good condition.	3	5	15	
5.13	Floor framing appears to meet the **code requirements.**	3	5	15	
Roof Framing					
5.14	**Roof framing** appears to be in good condition.	3	5	15	
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	N/A	0	
5.16	**Canopies** appear to be in good condition.	1	5	5	
5.17	**Loading dock concrete** appears to be in good condition.	2	5	10	
5.18	**Mechanical screening** appears to be in good condition.	2	N/A	0	
5.19	**Stairs** appear to be in good condition.	1	4	4	Exterior concrete paving stair outside of the corridor between rooms 121 and 145 has (2) treads that have spalled concrete and exposed rusted rebar. Additionally, the stair as settled approximately 1" relative to the adjacent stoop slab.
5.20	**Stair railings** appear to be in good condition.	1	5	5	

S | Structural

ASSESSOR: Tyler Scott

		Weight Factor	Rating	Points	Comments
5.21	**Tunnels** appear to be in good condition without cracks.	1	5	5	
5.22	There is a **designated hardened area** in the building.	1	5	5	There are designated tornado shelters within the building. (3) were observed, rooms 142, 106 and 112. Signs are small, approximately 2" x 2" and taped to the tops of the door frame.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	0	0	Designated storm shelters do not meet the ICC 2018 code.
	TOTAL			134	

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

6.0 Mechanical Systems

HVAC Design

		Weight Factor	Rating	Points	Comments
6.1	**Zone Control.** Thermostats are provided in each space for individual zone control of space temperatures.	3	5	15	Appears true.
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	5	15	Appears true.
6.3	Appropriate **amount of ventilation** are provided to each space.	5	5	25	Generally appears true.
6.4	**Ventilation** is provided during occupied hours.	5	2	10	ERV in original portion of building was disabled at time of site observation.
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	Generally appears to be true.
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	5	25	Appears to be true.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	4	8	Appears to be balanced to neutral - not clear that it is positively pressurized.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	VAV Boxes, AHU-1&2, boilers, pumps and water-to-water heat pumps appear to be true. 1992 AHU, air-to-water heat pumps in 1902 building, and ERV well beyond acceptable lives.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	Generally appears true.
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	Generally appears true.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.11	**Dehumidification** is provided and addressed humidity loads in incoming outside air.	3	3	9	Ventilation air for the 1902 portion of the building is served by and Energy Recovery Ventilator which does not have supplemental heating, cooling or dehumidification.
Plumbing Design					
6.12	**Water Supply Pressure** is adequate to allow for operation of plumbing fixtures.	5	5	25	True.
6.13	Appropriate **backflow preventer** is provided at connection to city water supply.	5	5	25	Yes - dual RPZ type back flow preventers.
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	2	10	Appears to be operational issues with both water heaters - no hot water observed at outlets.
6.15	Domestic **hot-water recirculating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	3	9	Recirculation exists, but no hot water observed.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	2	10	Maintenance staff has reported issues with sewer smells in the building, especially in the original 1902 and 1927 areas.
6.17	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	0	0	3,000 gallon interceptor appears to be planned for installation this summer.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	3	15	There are typically scuppers and/or overflow drains, however the scuppers on the high roof are well above the adjacent roof level. It may be appropriate to review this condition further.
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	3	9	Manual flush valves throughout - appear to be in good condition.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	5	15	Appears true.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	3	6	True for two AHUs - concern over AHU-1.
6.22	**Filter** sizes are standard and filter types are standard.	2	4	8	Generally true with AHUs, HPs (vertical & horiz.) and ERU - Some variation but standard sizes.
6.23	**Equipment mounting heights** are reasonable.	3	5	15	Appears true.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	5	10	True.
6.25	**Isolation valves** are located in the plumbing and hydronic systems to allow for isolation of only portions of the system for servicing.	2	5	10	Appears true.
6.26	Appropriate means are provided for **airflow and water balancing.**	3	5	15	Appears true.
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	5	10	Existing AHU has a condensing unit that would require a hose bibb for cleaning. No hose bibb on roof but there are hose bibbs on grade and the condensing unit is on a 1-story portion of the building.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	4	8	Most equipment is set back from the edge of the roof. A few smaller fans are closer than 15 feet on the lower roof.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	Yes
Occupant Safety					
6.30	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	5	25	Yes

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.31	Building is fully **sprinklered.**	5	5	25	Yes
6.32	**Domestic hot-water temperature** at lavatories used by students or staff is provided with a thermostatic mixing valve and adjusted properly.	5	0	0	None observed.
6.33	**Emergency eye-washes and tempering valves** are located where required.	5	0	0	Not observed. Recommend evaluation with an occupational safety and health professional to determine necessity of eye wash(es) for facility spaces.
6.34	**Emergency boiler stop switches** are located at exits from boiler rooms.	5	5	25	Yes - both exits.
6.35	**Refrigeration evacuation systems** are provided in rooms with chillers.	5	N/A	0	N/A
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	5	25	Yes
	TOTAL			512	

E | Electrical

ASSESSOR: David Carlson

7.0 Electrical Systems

Electrical Design

		Weight Factor	Rating	Points	Comments
7.1	**Transformer location** is easily accessible by utility line truck to allow for rapid transformer replacement in the event of an issue.	5	5	25	Service entrance consists of a 500kVA 208/120V transformer.
7.2	**Transformer** has adequate clearance from non-combustible building components, paths of egress, etc. 10' clear working area in front of doors.	5	5	25	
7.3	**The MDP environment** is safe, has adequate clearances and exiting.	3	3	9	Light equipment stored in MDP clear area (-1 point). Door does not swing out of room, which does not meet egress requirements (-1 point).
7.4	The **MDP** appears serviceable.	4	4	16	MDP is a 2000A Siemens switchboard installed in 2002. (-1 point for age greater than 10 years.) Vibrating noise impacted by footsteps and touching the unit was observed. Loose connections in electrical gear can be the source of fires. DMPS notified 1/17/24.
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	4	16	Nine of twenty spaces remain for future expansion, 45%. -1 point for less than 50% spare capacity.
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	0	0	Panel 2B is a repurposed Square D I-Line panel that served as the building MDP prior to the 2002 renovation and addition and does not have the 36" clear area in front of the panel due to mechanical equipment and piping.
7.8	The Distribution Panel appears **serviceable.**	4	3	12	2B manufactured in 1991 (-2 points for age greater than 25 years).
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	2	8	Panel 2B has 36" of total mounting capacity and has a single pole space (1.5") remaining. There is a spare breaker (4.5") but little capacity remains even taking that into account (-3 points for less than 15% spare capacity).

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.11	**Electrical panels and disconnect switches** observed during assessment are safe, serviceable, and maintainable.	2	3	6	Score is average of panels observed. All panels were found during site visit, and any not mentioned here have no comments. 1B: Medium storage, desks in front. 1C: 1991 panel, dead front not secure and wires can be accessed. 1A: Completely inaccessible from kitchen storage and shelving. BA/LC: Rust.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	5	5	Receptacles present at all major entrances, but 90% of receptacles have no cover, and the single intact cover is not in-use style. Noted as maintenance project.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	4	20	East perimeter south by basketball courts appears dark and does not support exterior cameras. West side nook is dark.
Electronic System Design					
7.14	MDF is **neatly organized** and has appropriate clearances and working spaces. Cables are neatly laced or trained. Entry to the room is restricted.	4	5	20	
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	3	12	9 of 45 rack units available in data rack (20% spare capacity). (-2 points for less than 25% spare capacity.)
7.16	MDF is equipped with UPS to back up main switch(es), providing **backup power** to necessary equipment in the event of a power outage.	5	5	25	
7.17	MDF Power is supplied by **20A circuits and receptacles.**	1	5	5	
7.18	MDF Power is supplied from a branch panel located in the room with **adequate spare circuit capacity.**	1	3	3	No panel located in room, but Panel 2A is within the secure Janitor's office. (-2 points for less than 25% spare capacity in panelboard.)
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Majority of cabling is CAT5e (-1 point for less than 6/6A).
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	N/A	0	No IDF present.

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	5	10	
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	
7.23	Building is equipped with an **access control system.**	5	2	10	Any doors without access control devices are not intended as entry points and do not have exterior door hardware.
7.24	Building is equipped with a **CCTV system.**	5	4	20	Camera utilization should improve with better exterior lighting.
7.25	Building is equipped with an **intercom system.**	4	5	20	
7.26	Building is equipped with a **master clock system.**	4	4	16	Building utilizes Simplex Clock system (-1 point for not DMPS standard).
	TOTAL			351	

EV | Elevator

ASSESSOR: Mike Brown - ATIS

8.0 Elevator Conditions

		Weight Factor	Rating	Points	Comments
Design					
8.1	**Size** meets minimum as directed by ADA.	2	5	10	
8.2	**Control protections and signals** meet ADA standards.	2	5	10	
8.3	**Signage** meets code requirements.	1	5	5	
Operation and Safety					
8.4	Elevators have **proper level accuracy and door times.**	1	5	5	
8.5	**Safety devices** are in place and operable.	1	5	5	
Condition and Maintainability					
8.6	**Equipment is easily accessible** for periodic maintenance.	1	5	5	
8.7	**Equipment** is at an acceptable point in the life cycle, and does not contain obsolete parts.	2	4	8	Equipment is aging and showing wear. Replacement parts are still available at this time.
8.8	**Finishes** are adequate and maintainable.	1	2	2	Interior is worn. The car operating panel skin has separated from the hinged base plate.
8.9	**Maintenance** is adequate.	1	3	3	Door gibs are worn. Increase maintenance frequency.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	5	5	
	TOTAL			58	

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

One of the major impetuses for our facility condition assessment work is the need to support strategic fiscal and maintenance planning for their facilities. As such, DMPS requires that recommended projects be assigned a total project cost in order to support the strategic planning needs of the District. A total project cost is a cost that includes the estimated construction cost as well as the various other 'hard' and 'soft' costs of a construction project such as professional design fees, contractor overhead, required contingencies, inflation, direct costs (e.g. permitting costs), etc. The full list of these hard and soft costs are defined later in this section.

Project Descriptions

Every building assessment report includes a section titled Recommended Projects and Priorities. This section is divided into the following subcategories: "Short Term Maintenance", "1-2 Year Project Priorities", "3-4 Year Project Priorities", "5 - 10 Year Project Priorities", and "Projects Requiring a Study". Each of these subcategories includes a list of project recommendations. The projects listed in each subcategory are grouped by discipline and listed in the following order: interior architecture, exterior architecture, civil (site), structural, mechanical, electrical, and elevator projects. The discipline order as described mirrors the order of the discipline Scoring Reports section found earlier in the building assessment report. The projects listed within Short Term Maintenance section do not include a cost. It is assumed that DMPS will perform this work. Additionally, projects which recommend furniture repair or replacement do not include a cost since furniture systems are selected and procured via a separate process. All other projects associated with the remaining subcategories, other than "Projects Requiring a Study" are provided an estimated total project cost.

Projects Requiring a Study

The projects listed within Projects Requiring a Study are provided estimated professional design fees to produce the recommended design study. In the future, once commissioned and completed, these recommended studies will not produce a completed design. Rather, the completed study will provide recommended project descriptions and estimated total project costs similar to the projects listed in this assessment report. For studies that most likely will result in a substantial project with a substantial cost associated, an "anticipated capital investment" cost number has been provided to help assist the District's strategic planning. This anticipated capital investment cost is based on a 5-10 Year Priority completion date and very high level general 'rules of thumb' estimations since it is unknown exactly what conclusions or recommendations will be determined by the study before the study is commissioned and completed.

Cost Estimating

To achieve the total project cost reflected in this building report, the recommended projects incorporate construction costs with added percentages to account for professional design services, design phase contingency, construction contingency, general contractor overhead and profit, other direct costs incurred by the project, and year-over-year inflation dependent on how many years out the recommended project is recommended to be completed. Not included in the total project cost are costs associated with hazardous materials abatement, testing, surveys, or site exploration (geotechnical testing, etc.). Additionally, for projects that are expected to produce a minimal amount of waste that is normally acceptable to City of Des Moines collection, costs for dumpsters have been excluded. To arrive at the final estimated total project cost as described above, the following methodology was used by the assessment team for each recommended project:

Step 1: Determine estimated direct cost of construction in 2024 dollars.

The recommended projects are conceptual in nature; therefore, all cost multipliers are overall systems level and/or unit costs. (These costs are not based on itemized breakdowns.) The cost information used is based on current available information which is in 2024 dollars and is a mixture of recent bids, firm experience, manufacturer provided information, and RS Means costing data.

Step 2: For recommended projects that are smaller in scale, scope, and estimated cost, a "small project fee" additive cost is applied to the estimated direct cost of construction determined in Step 1. This additive cost works to cover outsized mobilization, staffing, and equipment costs that are incurred on a small scale project the same as for a large project with a large economy of scale. These costs are as follows:

For projects with a Step 1 cost of $4,999.99 or less, an additive cost of $5,000.00 has been added.

For projects with a Step 1 cost of $5,000.00 to $14,999.99, a graduated additive cost from $5,000.00 to $0 has been added.

For all other projects (Step 1 cost of $15,000.00 and above) this step is skipped.

Step 3: Add 10% of the estimated direct construction cost for construction contingency.

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

Step 4: Add a percentage of estimated direct construction cost plus construction contingency for inflation.
The projects are grouped based on how many years out it is recommended that the project is started. Projects closer to 2024 are more urgent projects. As project start times move further and further away from 2024, inflation must be added to best estimate how 2024 dollars will translate into the future. 5% year-over-year inflation was chosen as a reasonable assumption for this work.

- For projects assigned the 1-2 Year Priority add 10% of the estimated construction cost.
- For projects assigned the 3-4 Year Priority add 20% of the estimated construction cost.
- For projects assigned the 5-10 Year Priority add 50% of the estimated construction cost.

Step 5: Add 5% of the estimated direct construction cost, construction contingency, plus inflation for general conditions.
This cost covers the incidental costs incurred by the contractor to perform the work that are not directly tied to the specific materials and labor; examples include mobilizing to the site and final cleaning.

Step 6: Add 10% of the estimated direct construction cost, construction contingency, inflation, plus inflation for general contractor overhead and profit; combined, this is the total construction cost.

Step 7: Add 10% of the total construction cost for professional design services.
These services include, when appropriate: architectural design and project management, civil engineering, structural engineering, mechanical engineering, and electrical engineering. These services are for conceptual design through construction phase work.

Step 8: Add 5% of the total construction cost and professional design services for other direct costs.
These costs cover various other costs directly associated with the project such as printing, equipment, required permits, etc.

At the conclusion of Step 8, the total project cost for the recommended project is finalized.

PROJECT RECOMMENDATIONS

Below are recommended maintenance, projects, and studies based on the previous assessment scoring information. Short Term Maintenance items are items requiring DMPS attention in less than a year's time and is less than $5,000. Costs for these items are not estimated. 1-2 year priority projects are projects that require attention within the next 2 years. 3-4 year priority projects are projects that require attention within the next 4 years. 5-10 year priority projects are projects that require attention within the next 10 years. Project quantities are all estimated based on observations. These are not measured or verified quantities. Project costs are listed. Project requiring Study are items where project scope is not able to be defined at this time and further investigation is required. Costs for these items are design service fees, not project costs. See the Cost Methodology description for additional information.

Short Term Maintenance

Casework panel replacement	Replace or repair laminate casework panel in classroom 124.
Ceiling Repairs	Ceiling outside of room 127 had several missing tiles and several additional with water damage. It appears work is on-going in this area. Recommended to repair leak and replace damaged ceiling tiles with new to match.
Egress Stair Access	Storage and custodial equipment should be moved out of egress stair 220. This stair is part of a required exiting path and should not be blocked. The library stair should be accessible for emergencies for all occupants. "Staff Only" sign is acceptable as a temporary sign, but is part of the emergency egress requirements.
Replace Panic Device	Older-style panic device at southwest exit does NOT consistently release door. Top rod seems to remain engaged. Replace both panic devices on door pair.
Roof Repair O	Locate and repair source of water leak under Roof O. See Roof Identification Image for roof location.
Roof Debris Removal	Remove vegetative debris from roof perimeters and drains. Should be completed regularly.
Patch Cracked Stairs	Patch the cracks in the set of stairs on the west side of the building. For location, refer to the civil site plan exhibit found in the appendix of this report.

Stoop Patch Repair - Room 122	A minor patch repair is needed for the stoop located outside of room 122.	
Repair/Enable ERV	Repair or enable ERV to operate at roof of original portion of building.	
Repair Domestic Hot Water Heaters	Address existing operational issues with domestic hot water heaters. No hot water observed at fixtures.	
Relocate Chemical Feeder	Relocate chemical bypass feeder (pot feeder) in front of distribution panelboard in second floor south mechanical room to be outside clear working area for panelboard and to reduce potential for spraying/splashing of liquid onto panelboard.	
MDP Vibration	Loud vibrating noise was emitted from MDP during assessment. DMPS alerted 1/17/24 for immediate action to investigate source of vibration.	
Replace Exterior Outlets	Replace existing exterior receptacles after exposure to elements and add in-use weatherproof covers to at least five exterior outlets noted. Snow may have obscured the presence of more.	
Repair the car operating panel	The adhesive holding the stainless steel to the car operating panel has failed. Apply new adhesive to correct.	

1 - 2 Year Priority

		Project Costs
Interior Wall Replacement	Replace movable partition between rooms 120 and 121 with a built, acoustically insulated, wall. Approximately 345 SF, acoustic wall to deck.	$9,000
Interior Wall Refinish, partial	Basement walls, in classrooms, central commons area, and kiln room B05A appear to have water infiltration into the main walls. See study for water mitigation repairs. Following the study and repairs, approximately 700 SF of wall space is to be refinished. This project only includes refinish with Epoxy paint.	$9,000

Reglet Drip Flashing Installation	Reinstall and reseal metal flashing strip on south wall of 1991 classroom addition, above south building exit, 10 LF.	$6,000
Joint Sealant Replacement	Replace sealant between EIFS wall finish and adjacent masonry--including horizontal joint at base of EIFS--at 2001 building additions (gymnasium and cafeteria) including areas above adjacent roofs, 255 LF.	$8,000
Concrete Masonry Cleaning	Remove efflorescence staining from CMU walls in courtyard west of gymnasium (Approx. 600 SF.) This should occur in conjunction with replacement of EIFS joint sealant at top of CMU to reduce risk of recurrence.	$10,000
Masonry Joint Sealant Replacement	Replace sealant in masonry soft joints and at cracked CMU control joints at 2001 building additions (gymnasium and cafeteria), 325 LF.	$9,000
Window Sealant Replacement	Replace sealant at windows in east wall of 1927 addition (south of main entry) plus those above Roofs G, K, and O. Includes joint between brick mold and masonry plus joint between brick mold and window frame; 865 LF. Replace sealant at window sill flashing on east wall of gymnasium; 16 LF. Replace sealant perimeter of all windows in 1991 addition (SW wing--Classrooms 120, 121, 122, 123, 124, and 125); 370 LF. Replace sealant in 2001 addition (Cafeteria 117, and Restrooms 167 and 168); 100 LF.	$20,000
Exterior Door Refinish	Remove surface rust from door and/or frames at north and west exits from 1902 Bldg. ((1) single door with sidelights and (1) pair with transom) and south exit from 1991 Addition ((1) single door with sidelights.) Replace single door opening to basement mechanical room B11.	$14,000
Roof Accessory Refinish	Remove rust and repaint (2) roof hatches (Roofs C and E; 7 SF ea.), (1) flue transition segment (Roof C; 10 SF.) and (5) roof ladders ((1) @ 4 VLF, (1) @ 8 VLF, and (3) at 12 VLF.)	$8,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 69 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$14,000

Pavement Replacement	Remove and replace 18 SY of PCC. For locations, refer to civil site plan exhibit found in the appendix of this report.	$8,000
Boiler Basement Wall Repairs	The multi-wythe solid brick basement walls in the boiler room B11 need to be cleaned free of debris and tuck pointed. There is approximately 1400 sf of surface area needing repairs.	$35,000
Lintel Refinish	Remove surface rust and repaint steel lintels at windows in east wall of 1927 addition (south of main entry); 36 LF, and at 1991 addition (SW wing--Classrooms 120, 121, 122, 123,124, and 125); 85 LF. Project could be paired with sealant replacement for efficiency.	$7,000
Replace ERV	Replace existing ERV serving original portion of building with new DOAS unit with energy recovery, gas heat, DX cooling and hot-gas reheat for dehumidification.	$270,000
Replace AHU serving 1992 portion of building	Replace VAV air handler installed in 1992. Confirm if chilled water capacity exists with water-to-water heat pumps and if so, connect AHU to water-to-water heat pumps	$210,000
Replace water heaters and add digital mixing valve	Replace two existing 120, 140° water heaters with one water heater. Install new digital mixing valve.	$40,000
Add Exterior Lighting	Add building mounted lighting at East side (south) near basketball courts and at building nook on west side. Cost includes two new exterior wall packs.	$9,000
	Total 1-2 Year Project Costs:	$686,000.00

3 - 4 Year Priority

		Project Costs
Window Replacement	Replace storefront throughout the building with thermally broken frames, operable awnings for classrooms, and insulated glazing units. Approximately (13 - 4'x'4 windows, 75 - 4x12)	$630,000

Restroom Renovation	Multi-User restrooms 144, 145, 167 and 168 should get new wall, ceiling, and floor finishes with new partitions and fixtures. (5) fixtures in each restroom, approximately 190SF each. Wash fountains appear in good condition and could remain. ADA accessibility is provided. The 4 classroom, single occupant restrooms should receive new fixtures and finishes. Approximately 40SF each.	$370,000
Roof Access Improvements	Provide permanent ladder in Room 226 to access Area C--remove existing lockers as required, provide ladder (15 VLF) with security gate to attic access, and provide lighting and rails (5 LF) to allow transition to offset roof ladder. Provide guards at each of the two roof hatches (on Roofs C and E.) Replace ladder between F and G (9 VLF) with OSHA-compliant unit. Relocate or replace ladder between E and D to eliminate access conflict with PVC exhaust piping. Consider addition of ladder between N and O (Roof O one story above grade with no equipment so ladder not mandated but recommended -- not included in estimate.) Provide fall protection screen or railing at skylight on Roof C (26 LF.)	$35,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 85 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$15,000
Pavement Replacement	Remove and replace 52 SY of PCC. For locations, refer to civil site plan exhibit found in the appendix of this report.	$12,000
Stoop Top Replacement	Remove and replace the stoop creating a tripping hazard outside the building door. For location, refer to civil site plan exhibit found in the appendix of this report.	$7,000
Concrete Pavement Stair Replacement - West Elevation Egress	The entire concrete pavement stair of the main West elevation egress will need to be replaced. Stair footprint is approximately 12' x 16'x8". Rebar shall be #4 bars @ 9" o.c. each way and #4 nosing bars at each tread (8 bars x 12'-0" long). Option to use epoxy coated bars should be considered.	$11,000
Lintel Repainting	Lintels for the all the windows along the East elevation of Library 206 shall be sanded clean of any surface rust and prepped for high performance paint. Total linear feet of lintels to be refinished is 51 feet.	$6,000

Gymnasium Roof Joist Rust Cleaning and Painting	(5) Roof Joists and (1) deck bearing angle at the south end of the Gymnasium need to be cleaned of surface rust and loose paint and repainted with high performance coating. Joists are approx. 68 feet long and 30" deep. Linear feet of deck angle is approx. 100 feet.	$14,000
Replace water to air heat pumps	Replace water-to-air heat pumps in original part of the building. Heat pumps to include 2-stage compressor for dehumidification.	$540,000
	Total 3-4 Year Project Costs:	**$1,640,000.00**

5-10 Year Priority

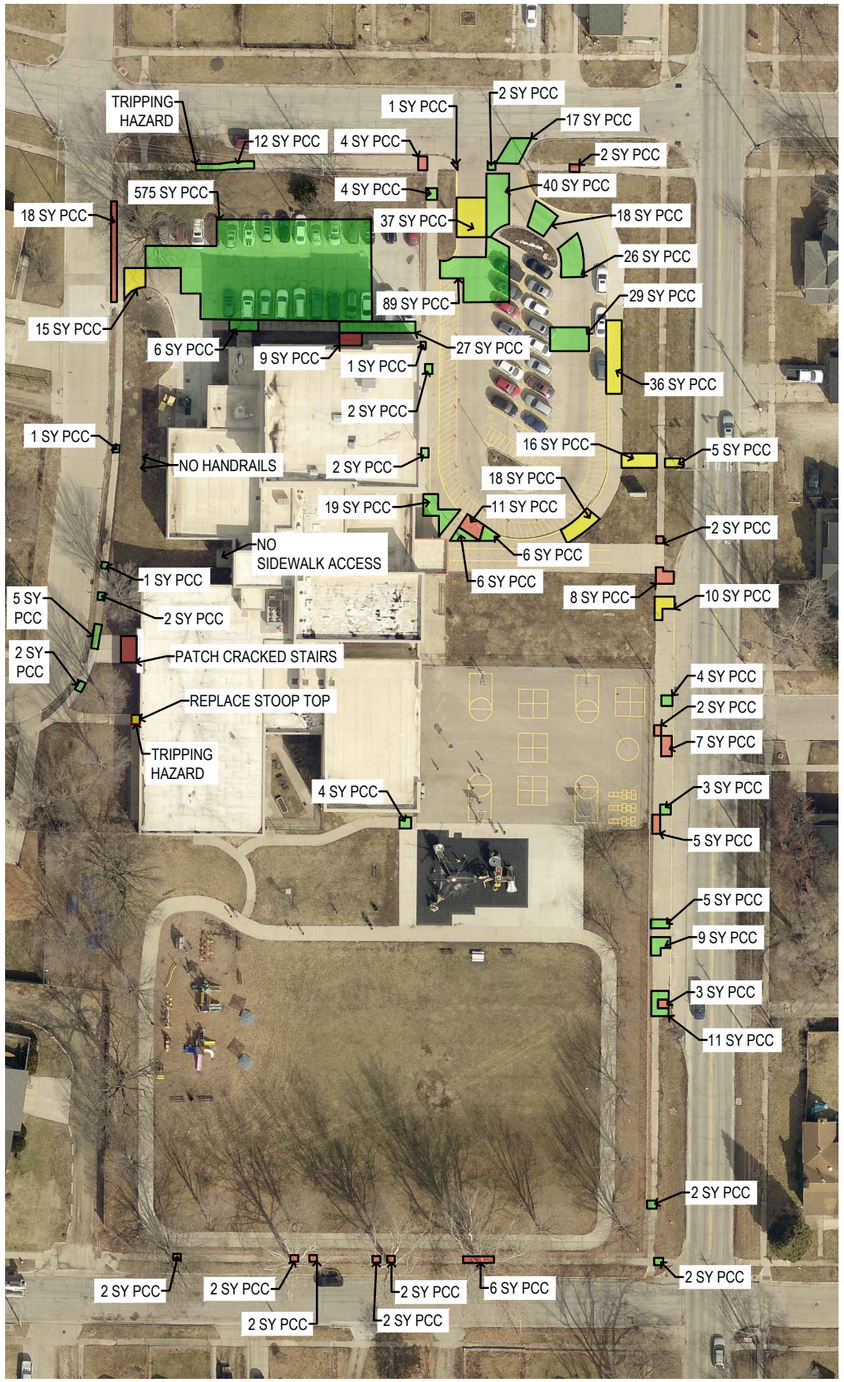
		Project Costs
Roofing Replacement	Replace PVC roofing on all areas of building with new TPO membrane. 52,600 SF.	$1,700,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 132 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$30,000
Pavement Replacement	Remove and replace 794 SY of PCC. For locations, refer to civil site plan exhibit found in the appendix of this report.	$140,000
	Total 5-10 Year Project Costs:	**$1,870,000.00**

Projects Requiring Study

		Design Services Fee
Restroom Addition Study	A study is recommended to understand the feasibility of adding restrooms into 2 classrooms (121 and 120) serving preschool and special education.	$10,000
Interior Wall Repair	Basement walls, in classrooms, central commons area, and kiln room B05A appear to have water infiltration into the main walls. Paint is peeling and in several rooms there is a rancid smell. A study should be conducted to determine the full cause of the moisture and smell. Waterproofing and repairs should then be made. Approximately 700 SF of wall space to be repaired and refinished. **This study is a high priority. See related interior refinish project for anticipated refinish costs.**	$5,000

Sanitary Sewer Investigation and Corrections	Several smells have been reported, especially in the original portion of the building. Scope existing sanitary and vent lines as much as possible to identify failed piping sections. Replace failed sections.		$20,000
	Anticipated Capital Investment:	$1,700,000	
		Anticipated Capital Investment Costs	**$1,700,000**
		Total Study Design Service Fees	**$35,000**

APPENDIX



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

80 0 40 80 160

bbs ARCHITECTS ENGINEERS

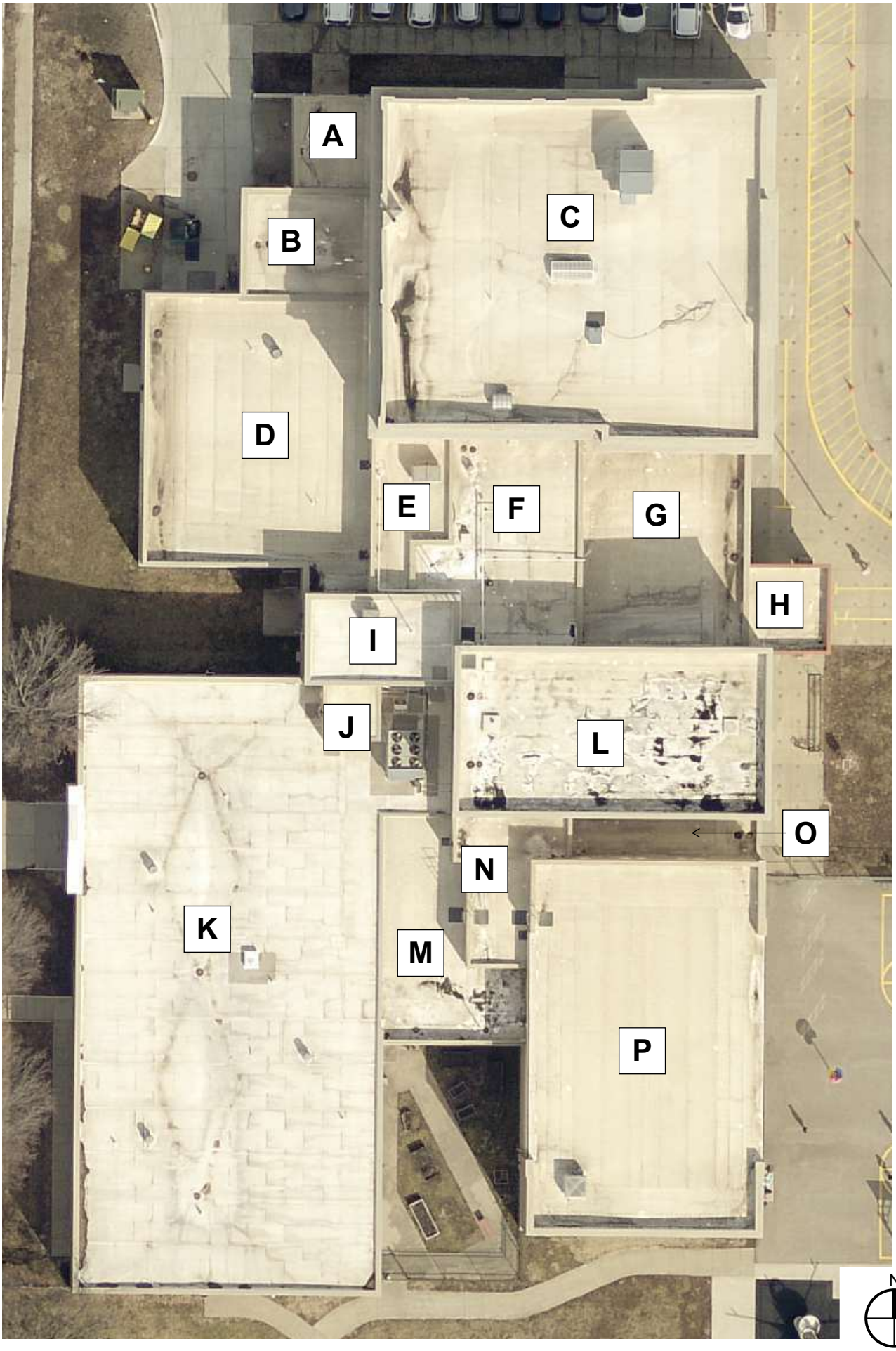
BISHOP ENGINEERING +

McKINLEY ELEMENTARY

EXHIBIT

PROJECT # 230286-20

DATE 1/15/2023



bbs ARCHITECTS ENGINEERS

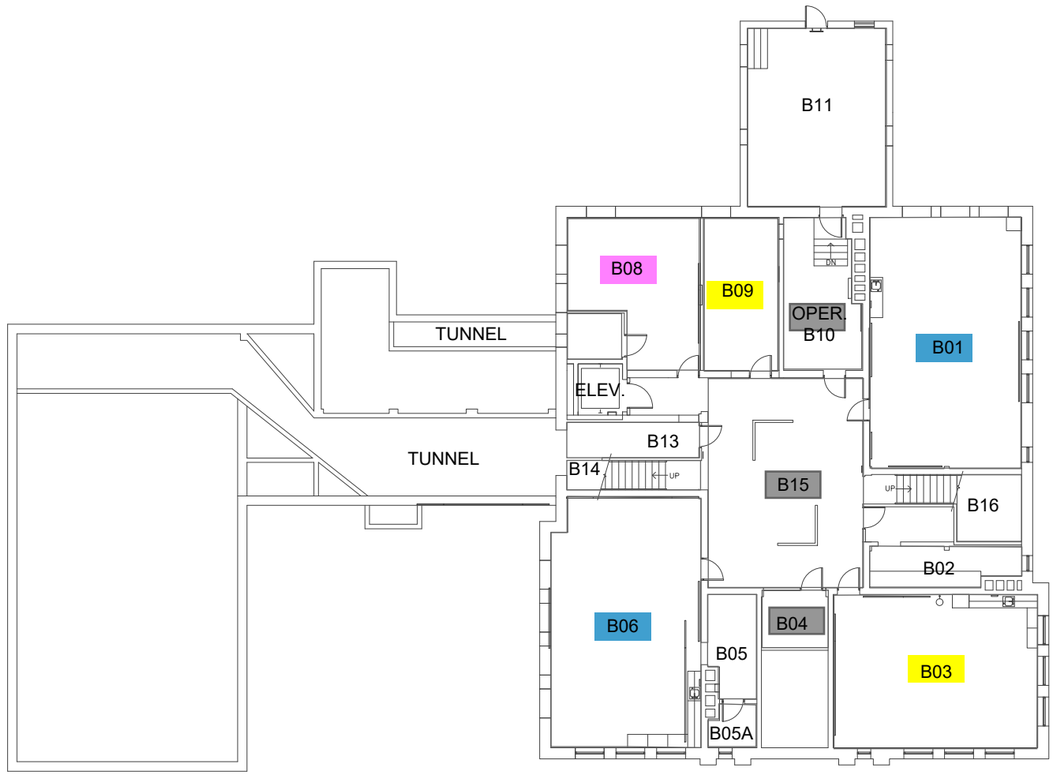
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
McKinley Elementary
1.17.2024

MCKINLEY ELEMENTARY SCHOOL

1610 SE 6TH STREET
DES MOINES, IOWA 50315

LOWER LEVEL

NORTH



- Core Classroom
- Student Support
- Administration
- Large Shared Space
- Other

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

1.17.2024

MCKINLEY ELEMENTARY SCHOOL

1610 SE 6TH STREET
DES MOINES, IOWA 50315

FIRST FLOOR

NORTH

- Core Classroom
- Student Support
- Administration
- Large Shared Space
- Other

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

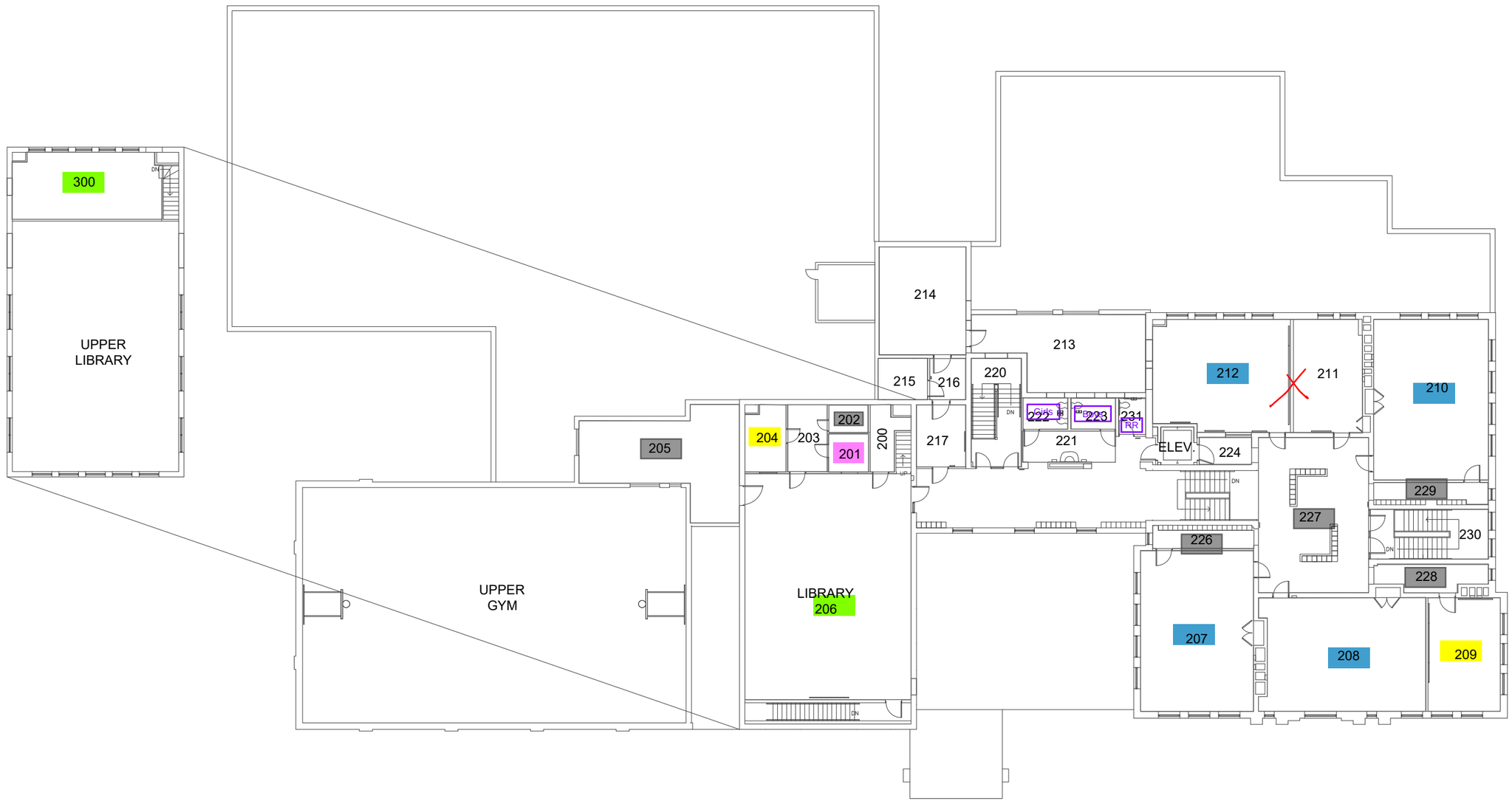
1.17.2024

MCKINLEY ELEMENTARY SCHOOL

1610 SE 6TH STREET
DES MOINES, IOWA 50315

SECOND FLOOR

NORTH



- Core Classroom
- Student Support
- Administration
- Large Shared Space
- Other

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

1.17.2024