DMPS FACILITY ASSESSMENT | MOORE ELEMENTARY

12.13.2023

ARCHITECTS
ENGINEERS

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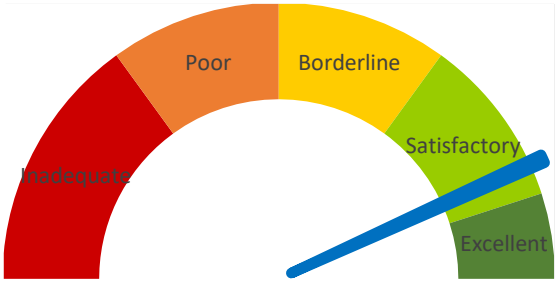


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Moore Elementary's on-site facility conditions assessment was conducted on December 13, 2023 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 of the short term maintenance identified for Moore Elementary are: wall repair, exterior door repair and maintenance, and roof repairs. That roof area was replaced in 2019 and should be under warranty. It is recommended this maintenance work is expedited to be completed under the current roofing warranty. Generally, Moore Elementary appears to be in good condition. There are some interior finish materials that are dated and spaces that could be modified and improved for better circulation and overall space use.

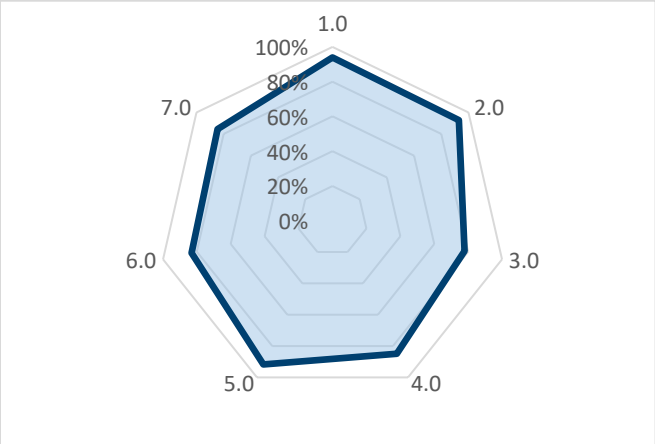
The recommended projects for Moore Elementary to be completed in the next 1-2 years are as follows:

- Brick Tuckpointing and Cleaning
- Site Repairs
- Mechanical and Mezzanine Structural Repairs
- Electrical Panelboard Installation
- Electrical Grounding Improvements

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	155	2.00	330	310	94%	Excellent
2.0	Environment for Education	325	302	0.60	195	181	93%	Excellent
3.0	Exterior Envelope	95	74	3.00	285	222	78%	Satisfactory
4.0	School Site	100	85	1.50	150	128	85%	Satisfactory
5.0	Structural Conditions	145	133	1.30	189	173	92%	Excellent
6.0	Mechanical Systems	660	549	0.80	528	439	83%	Satisfactory
7.0	Electrical Systems	375	317	0.75	281	238	85%	Satisfactory
Total					**1,958**	**1,691**	**86%**	**Satisfactory**

Moore 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 Moore Elementary scored a building health rating of 86% 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. Moore Elementary is within this positive range. Improvements to the exterior envelope as described in this report would make the largest impact in increasing the score to "Excellent".

Building Data Record

Building Name: **Moore Elementary**

Date: **12.13.2023**

Address: **3715 50th St.**
Des Moines, IA 50310

High School Feeder System: **Hoover High**

Building SF: **51,848 SF**

Site Acreage: **7.05 Acres**

Date(s) of Construction: **1950**

Date(s) of Roof Replacement: **2015, 2019**

Current/Scheduled Projects: **None**

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

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

Structure Fireproofing:

- [x] No
- [ ] Yes

Construction:

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

Exterior Facade:

- [x] Brick
- [ ] Stucco
- [x] Metal
- [x] Wood
- [ ] Other

Floor/Roof Structure:

- [ ] 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	Wood floor in cafeteria, but well cared for and in excellent condition.
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	2	5	10	
1.3	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	2	4	8	One corner is partitioned off for community pantry.
1.4	**Music room** is adequate for providing introductory music instruction.	2	4	8	No dedicated orchestra room, they use the boys and girls club room.
1.5	**Art room** has sufficient accommodations for program.	2	4	8	No closed storage for paper or supplies.
1.6	**Library/Resource/Media Center** provides appropriate and attractive space.	1	5	5	Doors have panic hardware that is dogged open to not latch.
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	
1.9	**Teacher storage space** is adequate.	3	5	15	There does appear to be a lack of community space for food and clothing pantry items.
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	3	3	Conference room is located among classroom wings. It appears to be a teacher prep, storage, and meeting space. Principal's office is the only meeting space within the administration area.
1.14	**Main office** has a check-in and waiting area.	2	5	10	Door from vestibule swings into office waiting room.
	TOTAL			155	

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	4	4	Outside of several classrooms there is a small table that appear to be space where students have breakout, one-on-one work. This restricts the walking space within the corridor, but it still appears to be wide enough for general day to day traffic.
2.2	Communication among students is enhanced by **common areas.**	1	3	3	Little to no breakout space or common spaces within the corridors. The largest "common space" is at the west entrance where the food pantry and lost and found items are stored. Some corridors have student work featured, more intentional use of student work at the west entrance would enhance a "common" space feeling.
2.3	Areas for students to **interact are suitable to the age group.**	1	5	5	Classroom furniture and media center furniture is student focused and includes a variety of seating posture options at all 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	4	4	Some of the soft furniture in the classrooms has staining on the cloth upholstery. The more wipe-able materials are in good condition.
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	4	8	Colors and materials are consistent throughout the school. The specific color choices are dated leading to a somewhat less engaging and exciting atmosphere.
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	
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	4	4	Conference room appeared to be a multi-function teacher meeting, storage, and prep space.

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	5	10	Vestibule door opens into the office.
2.12	**Break room** is adequately sized and furnished for proper use.	1	5	5	
2.13	**Mother's room** is a separate designated space properly furnished.	1	0	0	None observed. Staff make their own accommodations as needed.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	5	5	Primarily concrete in corridors and more public spaces.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Only art room 1165 and the boys restroom near 1231 had minor water stains.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Restrooms and high traffic areas tend to be showing minor damage to the tile and grout. Painted walls above the doors in the classroom tend to be peeling where tape has been stuck and removed. Generally good condition throughout.
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	4	4	Base of built in casework at the doors is showing surface damage and discoloration. The finish of the wood on these also shows wherever tape has been applied and since removed.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	4	12	The classroom doors are showing surface scratching and markings where tape has been applied and since removed. Doors at the north corridor on the far west are not set square. the north door is hitting the south door leaf preventing it from fully closing. All doors with panic hardware were dogged open preventing latch/lock.
2.19	**Facility doors** are keyed to standardized master keying system.	3	5	15	
2.20	**Restroom partitions** are securely mounted and of durable finish.	2	5	10	

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	4	12	Many doors were propped open with door stops. Closers are on all classroom doors and do appear to be DMPS's current preferred hold open standard.
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	4	8	2 doors' lites were covered with paper.
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	5	25	
2.29	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	N/A	0	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	N/A	0	

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			302	

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 is located directly adjacent to loading dock. An architectural feature wall has been added to reduce the visual impact, with limited success.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	4	12	All roofs are in good condition with limited areas of water ponding. Roof edge flashing requires re-sealing along east side of Roof G and at northeast side of Roof I.
3.3	**Roof access** is safe for all roofs.	3	4	12	Two roof hatches in place. Both have permanent interior ladders, however, the NE hatch (from mezzanine) has sheet metal wrapping ladder which makes the rails un-graspable. Both hatches need guard rails at roof line.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	3	9	Perimeter window sealant intact, but starting to craze. Sealant should be replaced within 5 years.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Nearly all windows appear to have tinted insulating glazing units, with the exception of original wood window units on north and south sides of Door 1 (NW corner of building--original main entry).
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	5	10	
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	4	8	All doors hollow metal or aluminum. (4) doors/frames have minor rust which should be repaired. All (9) hollow metal door/frames should be repainted.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	4	4	Primary wall material is brick, with limited areas of stained wood, painted wood soffits, and prefinished metal panels. Approximately 750 SF of masonry on north end of building should be repointed, and masonry soft joints plus stone sill joints should be re-sealed within 5 years.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	4	4	Door 10 (SW Gymnasium) does not fully seal against weatherstripping. Door appears to be warped at bottom. Note: The door does still latch securely, but daylight visible on strike side below panic device.
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	3	3	(6) Doors have access control in place (2) Doors have keyed locksets (3) Doors have non-keyed pulls. All doors except one have identification labels visible on exterior of door. (The non-labeled door is storage room with exterior access only.)
	TOTAL			74	

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 fairly flat with no issues observed.
4.2	**Parking areas** are in good condition.	5	4	20	Some panels were cracking but good conditions overall.
4.3	**Drive areas** are in good condition.	3	4	12	South drive has a couple of areas with subsurface moisture issues, areas need a rock base.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	5	5	Seems to be plenty with south parking lot, street parking good for large events.
4.5	**Sidewalks** around the facility are in good **condition.**	1	4	4	Some isolated sections need repair but sidewalk conditions were mostly good overall.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	1 door was without sidewalk access.
4.7	**Hard surface** playground surfaces are in good condition.	3	5	15	All concrete appeared new and in good condition, no playground asphalt areas.
4.8	**Fencing** around the site is in good condition.	1	4	4	Black vinyl fence was good but the east side had some holes and doesn't reach the ground in some sections
4.9	**Trash enclosure** is in good condition.	1	5	5	Pavement, masonry brick, and gate all in good condition.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	All intakes were in good condition, one FES was buried in south detention pond.

ASSESSOR: Jack Gorman Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	3	3	Room for building expansion to the NE but not much room for parking without encroaching into play area or detention.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	4	4	Bus drop off on west side, parents on the east and south. Works well but doesn't have a dedicated off-street area.
	TOTAL			85	

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	5	5	
5.4	**Stoops** appear to be in good condition.	1	4	4	South east wing entrance stair/stoop has spalling concrete. Cap could stand to be replaced in 3 to 5 years.
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	4	4	Cracking was observed, but no settlement was observed. Cracking is just aesthetic and not structural.
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	Base of brick exterior piers of the north wing on both the north and south elevations had vertical cracks on each face of the piers. This appears to be the result of restrained brick with no control joints.
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	5	5	
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	4	4	CMU wall of both mechanical room 1114 and the mechanical mezzanine were observed to have issues. In 1114 MEP penetrations were made without proper lintel support. In the mechanical mezzanine, beam pockets were observed to be open and one had an open pocket below a joist bearing which was compromised.
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	5	5	
5.16	**Canopies** appear to be in good condition.	1	5	5	
5.17	**Loading dock concrete** appears to be in good condition.	2	4	8	Slab has some spalling concrete and could stand to be replaced in the next 3 to 5 years.
5.18	**Mechanical screening** appears to be in good condition.	2	N/A	0	
5.19	**Stairs** appear to be in good condition.	1	5	5	
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	0	0	None observed.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			133	

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	
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	5	15	
6.3	Appropriate **amount of ventilation** are provided to each space.	5	4	20	Generally appears true - A few spaces appear under-ventilated.
6.4	**Ventilation** is provided during occupied hours.	5	3	15	DOAS on south end observed not operating during school day - needs investigation - at least one unventilated "storage space" appears to be occupied.
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	5	25	
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	5	10	
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	VRF Cassettes appear to be nearing the end of their useful life - replacement expected within 3-5 years.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	

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	5	15	
Plumbing Design					
6.12	**Water Supply Pressure** is adequate to allow for operation of plumbing fixtures.	5	5	25	
6.13	Appropriate **backflow preventer** is provided at connection to city water supply.	5	5	25	
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	5	25	
6.15	Domestic **hot-water reicrulcating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	2	6	Pumps in place but hot water not observed at outlets.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	
6.17	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	5	15	
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	4	20	In newer building areas both primary and secondary drains are present - for original area, it appears that overflow is over edge of roof (only primary drains were present but structural review indicates roof can accommodate ponding above edges where there are no parapets).
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	4	12	Auto flush valves - faucets are a mixture of manual and automatic.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	4	12	Generally true - access to central VRF heat pump equipment is difficult.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	N/A	0	N/A
6.22	**Filter** sizes are standard and filter types are standard.	2	3	6	Mix of cassettes, heat pumps, FCUs, and RTUs.
6.23	**Equipment mounting heights** are reasonable.	3	5	15	Generally appears true.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	4	8	Mostly - some water in depressions.
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	Generally 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	2	4	A couple of wall hydrants were found but no roof hydrants. South DOAS unit had condenser coil almost fully plugged with dirt/debris and would benefit from an adjacent hydrant.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	3	6	A few items close to roof edges that may need to have fall protection added.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	Yes - through VRF - FC Bus.
Occupant Safety					
6.30	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	5	25	

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.31	Building is fully **sprinklered.**	5	5	25	Yes - wet and dry zones.
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 - may be hidden.
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	
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	
	TOTAL			549	

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 300kVA 13.2kV to 208/120V step down 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	HVAC filters, tables, and chairs stored in clear area of MDP. -2 points for medium storage.
7.4	The **MDP** appears serviceable.	4	5	20	Siemens P5 switchboard installed in 2015.
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	4	16	6 spaces of 20 total remain. -1 point for less than 50% spare capacity.
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	N/A	0	
7.8	The Distribution Panel appears **serviceable.**	4	N/A	0	
7.9	The Distribution Panel is **maintainable.**	4	N/A	0	
7.10	The Distribution Panel will support **future expansion.**	4	N/A	0	

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	5	10	
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	5	5	
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	Dark building perimeters along West, North, and East sides. Dock area dark. Pole light by playground inoperative. South end of east wing does not support cameras. Parking lots/drives OK.
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	11 of 45 rack units remain for future expansion (24% 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	0	0	No panel present within MDF. Power for all equipment derived from Panel LB across the hall in custodial office (unlocked).
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Majority of cabling is CAT5e. -1 point for less than CAT6/6A.
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	3	3	IDF is connected via a 12 strand 50um OM3 (non-armored) FO cable.

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	2	4	With lugs currently in use, only 1 position of 5 remain for expansion. 2 spaces are taken by #4 conductors, 1 for a equipment connection to the data rack, and another for a grounding connection to the building radio system. No connection present to building MDP grounding bus.
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	3	15	6/9=67%
7.24	Building is equipped with a **CCTV system.**	5	4	20	Exterior South Student Drop-off camera(s) off-line. South end of east wing not supported by exterior lights.
7.25	Building is equipped with an **intercom system.**	4	5	20	
7.26	Building is equipped with a **master clock system.**	4	5	20	
	TOTAL			317	

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

Wall Repair	There is a large crack of missing grout in the corners of the restroom walls in classrooms 1010 and 1020. Repair grout at corner joints. Approximately 4 LF at each restroom.
Roof Maintenance	Re-seal roof edge flashing joint at north and east sides of Roof G and NE side of Roof I, approximately 120 LF. Prior sealant application is crazing. This work should be conducted under roofing warranty.
Door Repair	Door 10 (SW Gymnasium) appears to be warped at bottom. It does latch, but it does NOT fully seal against weather-stripping. Change of weather-stripping might suffice, but likely will need to replace door leaf.
Landscaping	Reduce amount of soil/wood chips in planter box at Door 1 (NW entry). Bottom rail of window and stone sill concealed. Expose to prevent deterioration and/or moisture infiltration. Re-attach loose board on north face of accent wall at Door 4 (Main entry.)
Uncover Flared End Section	Remove vegetation and sediment around FES. For location, refer to civil site plan exhibit found in the appendix of this report.
Service south DOAS Unit	Clean condenser coils and perform any other needed maintenance to return unit to operation when building is occupied.
Domestic Hot Water System	Confirm operation and balancing of domestic hot water heating system and verify whether temperature limiting devices are installed at student lavatories/wash fountains with shrouds.
Mezzanine Ladder	Address mezzanine ladder condition with sheet metal wrap preventing side rails from being used as hand holds.

Grounding Replacement and Bonding Conductor Installation	Replace existing telecom grounding busbar with new model with hole pattern to allow for more grounding connections. Install 250kcmil conductor from new grounding busbar to building main grounding busbar in MDP.	

1 - 2 Year Priority

		Project Costs
Exterior Masonry Repairs and Cleaning	Repoint masonry at NW corner of building and NE area of building (Approximately 750 SF). Power wash existing masonry wall and stone window surrounds in same areas to remove lichens/mildew.	$20,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 2 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$6,000
Curb Repair	Return damaged curbs to new condition. Approximately 10 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$6,000
Mechanical Room & Mezzanine Repairs	Mezzanine beams pockets need to be infilled with non-shrink grout. (5) pockets total, each pocket is approximately 14"x16"x8". Tuck pointing of cracked mortar joints, approximately 50 SF. Lintels needed above MEP penetrations in room 1114. Use L7x4x3/8 (LLH), approximately 16 lineal feet.	$14,000
Panelboard Installation	Add a 100A branch panelboard to serve all receptacles and equipment within the MDF and redirect all existing circuits to new panel.	$20,000
	Total 1-2 Year Project Costs:	**$66,000.00**

3 - 4 Year Priority

		Project Costs
Interior Wood Refinishing	Refinish wood doors and frames. Wood casework adjacent to the doors need some minor refinishing at the base to match. Approximately 14 single doors, 12 doors with side light, and approximately 2,000 SF of wood casework.	$110,000
Roof Access Installation	Add guardrails at both roof hatches.	$11,000

Exterior Wood Refinish	Apply new stain and sealer on wood accent walls/columns. (650 SF)	$35,000
Window Resealing	Reseal perimeter of windows (approximately 3200 LF.) Reseal stone sill joints (approximately 150 locations at .75 LF= 115 LF.) Reseal masonry soft joints (approximately 45 locations, 530 total LF.)	$50,000
Pavement Replacement	Remove and replace 221 SY of PCC and install a rock base. For locations, refer to civil site plan exhibit found in the appendix of this report.	$45,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 10 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$7,000
Loading Dock Slab Replacement	Replace entire loading dock slab, approximately 250 sf (28'-8" x 8'-9") of 8" thick slab. Provide #5's epoxy coated bars at 9" o.c. each way.	$20,000
Stoop and Stair Replacement	Replace stair/stoop cap at southeast entrance. Approximately 60 SF (10'x6'x1'-2"). Cap has one tread formed into three sides, creating two wrap-around nosings. Reinforce with #4's 9" OC each way and #4 bar at each nosing length.	$13,000
	Total 3-4 Year Project Costs:	**$291,000.00**

5 - 10 Year Priority

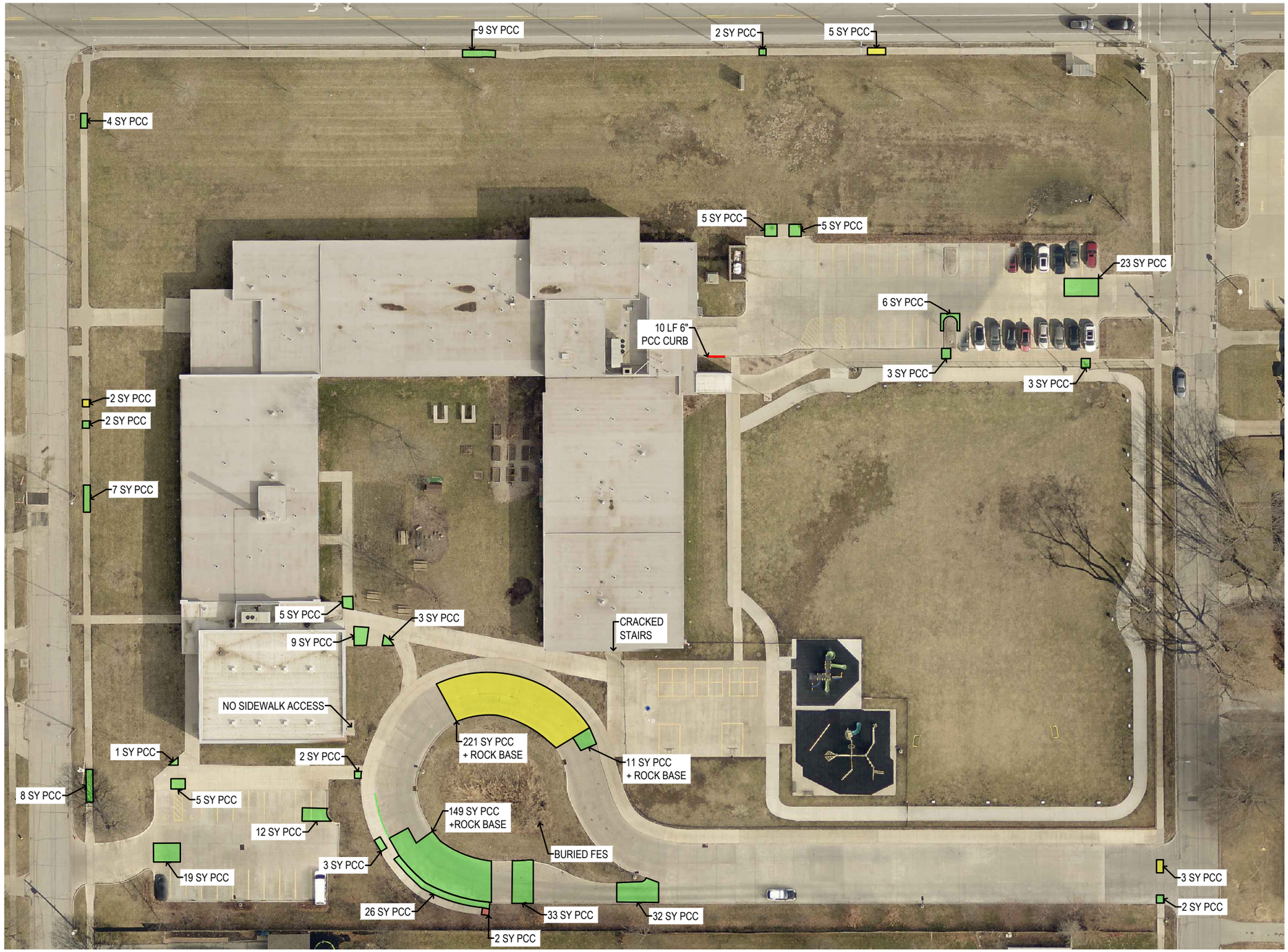
		Project Costs
Interior Refinish	Classroom and Corridor walls should be cleaned and repainted. Approximately 13,500 SF. It is recommended that colors be chosen that unify the school character and spirit as well as engage students, staff, and the public.	$75,000
Pavement Replacement	Remove and replace 285 SY of PCC and install a rock base under the 160 SY experiencing subsurface moisture issues. For locations, refer to civil site plan exhibit found in the appendix of this report.	$65,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 104 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$25,000

VRF System Replacement	VRF system is nearing end of serviceable life. Recommend replacement of head end controllers and branch controllers at a minimum. May also need to replace condensing units and evaporator units.	$1,400,000
	Total 5-10 Year Project Costs:	**$1,565,000.00**

Projects Requiring Study

		Design Services Fee
Mother's Room Space Study	Study to define a private dedicated space for a Mother's Room that includes a sink, side table, chair, and privacy door hardware.	$5,000
Community and Shared Student Space Study	Study of space to determine if there is existing space to be reallocated to more permanent community functions (food pantry, clothes pantry etc.) as well as student common or break out spaces. If existing space is not available this study would include consideration of an addition.	$10,000
Designated Hardened Area	No designated hardened area was observed. Study to determine the feasibility of adding a designated hardened area, including location, within the existing building, schematic design concept if deemed feasible, and preliminary project costs.	$2,500
	Total Study Design Service Fees:	**$17,500**

APPENDIX



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

60 0 30 60 120

bbs ARCHITECTS ENGINEERS

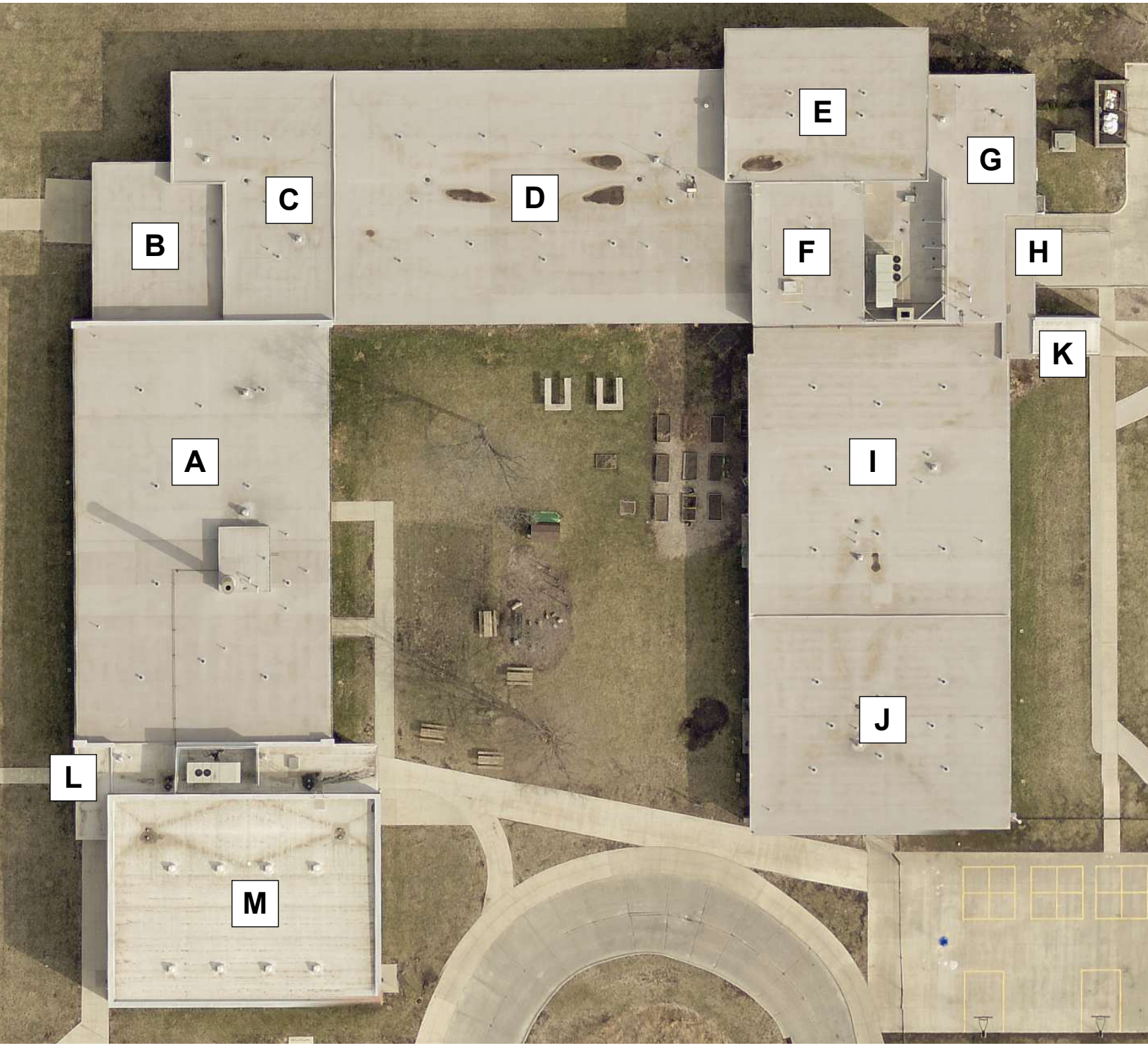
BISHOP ENGINEERING +

MOORE ELEMENTARY

EXHIBIT

PROJECT # 230286-22

DATE 11/6/2023



N

bbs ARCHITECTS ENGINEERS

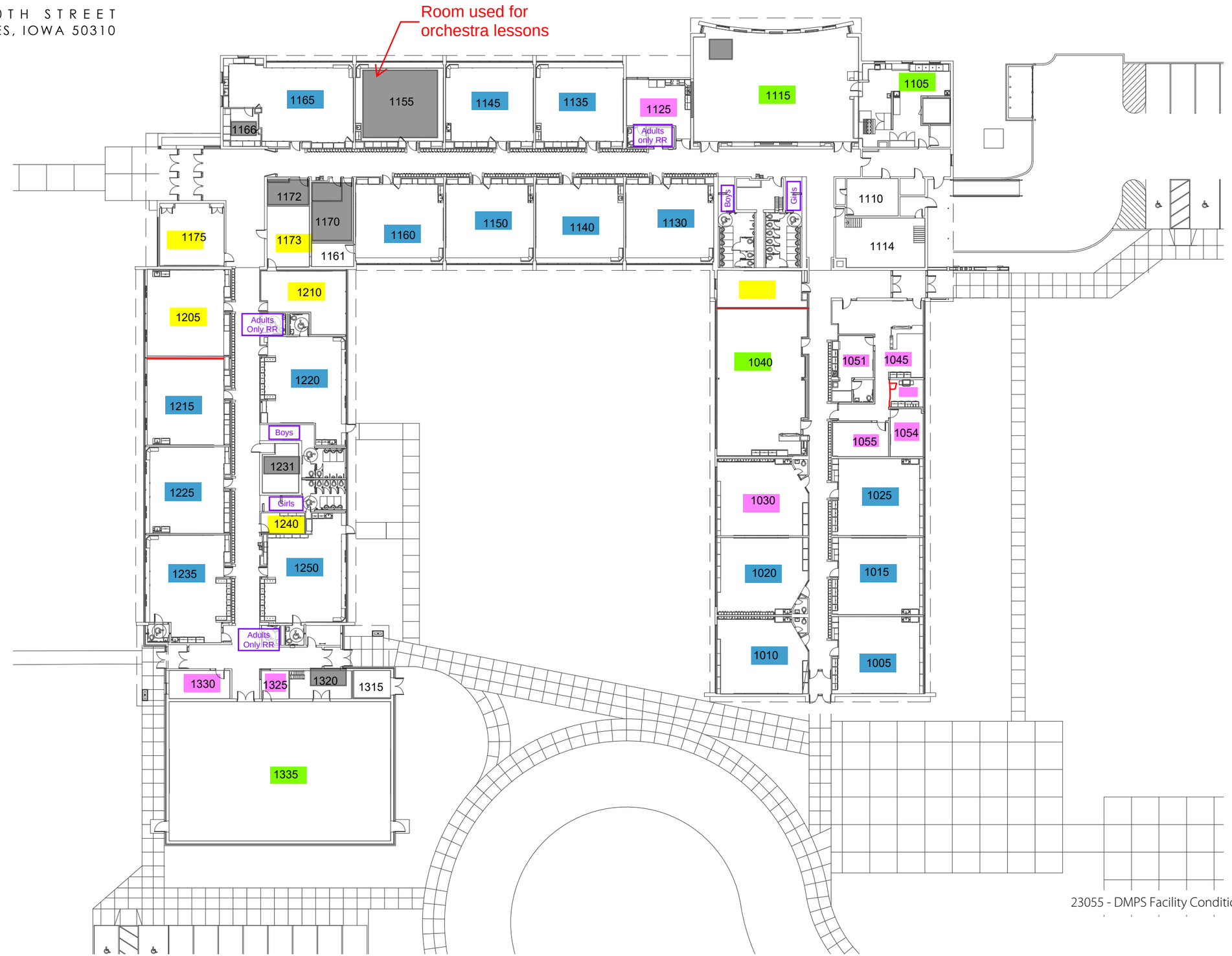
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Moore Elementary
12.13.2023

MOORE ELEMENTARY SCHOOL

3716 50TH STREET
DES MOINES, IOWA 50310

FIRST FLOOR

NORTH



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

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

12.13.2023