DMPS FACILITY ASSESSMENT | BRODY MIDDLE SCHOOL

2.7.2024

ARCHITECTS
ENGINEERS

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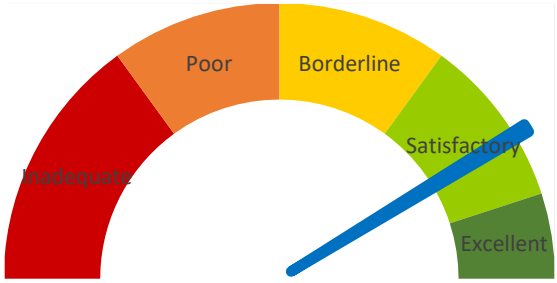


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Brody Middle School's on-site facility conditions assessment was conducted on February 7, 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.

The short term maintenance items identified for Brody Middle School are: pest management, roof and flue repairs, roof conduit support repairs, intake cleaning, stop sign reconfiguration, add emergency stops for boiler, MDF grounding, and clearing error codes within the master clock system. Several deferred maintenance items are starting to become larger projects needing addressed in the near future. Addressing these and tracking on-going maintenance will help to keep the facility in better condition in between large projects.

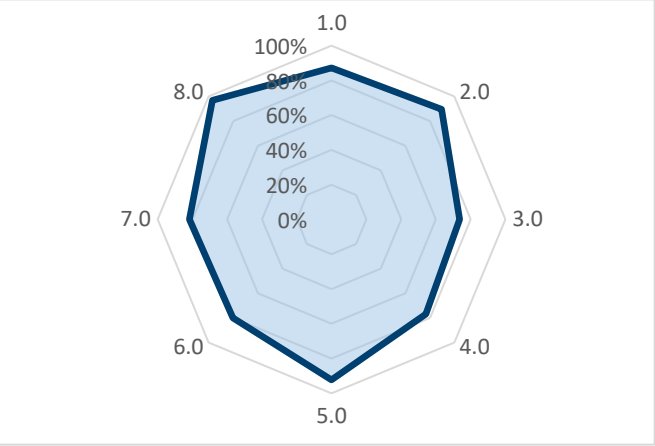
A summary of the recommended projects for Brody Middle School to be completed in the next 1-2 years are as follows:

- Interior Updates and Improvements
- Exterior Sealant and Masonry Repair
- Steel Refinishing
- Exterior Steel Refinishing
- Site Improvements
- Guardrail Reinstallation
- Hot-Water Recirculation Improvements
- Boiler Replacement
- Exterior Lighting Improvements
- Elevator Modernization

Additional 1-2 year project detail 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	125	109	2.00	250	218	87%	Satisfactory
2.0	Environment for Education	395	354	0.60	237	212	90%	Satisfactory
3.0	Exterior Envelope	95	70	3.00	285	210	74%	Satisfactory
4.0	School Site	95	73	1.50	143	110	77%	Satisfactory
5.0	Structural Conditions	155	143	1.30	202	186	92%	Excellent
6.0	Mechanical Systems	670	537	0.80	536	430	80%	Satisfactory
7.0	Electrical Systems	455	372	0.75	341	279	82%	Satisfactory
8.0	Elevator Conditions	65	63	1.00	65	63	97%	Excellent
Total					**1,993**	**1,644**	**82%**	**Satisfactory**

Brody Middle School
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 Brody Middle School scored a building health rating of 82% 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. Brody Middle School is within this positive range. Improvements to the exterior envelope, school site, and mechanical systems, as described within this report, would make the largest impact in increasing the score to "Excellent".

Building Data Record

Building Name: **Brody Middle**

Date: **2.7.2024**

Address: **2501 Park Ave**
Des Moines, IA 50321

High School Feeder System: **Lincoln High**

Building SF: **99,182 SF**

Site Acreage: **30 Acres**

Date(s) of Construction: **1966, 2016 Office Addition**

Date(s) of Roof Replacement: **2013, 2014, 2016**

Current/Scheduled Projects: **Tennis Court Expansion - 2024**
Concrete - 2024
Restroom upgrades - 2025

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

- [ ] Gas/Electric RTU or DOAS
- [x] Boiler
- [ ] Water-to-Water Heat Pump
- [ ] 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
- [x] Stucco
- [x] Metal
- [ ] Wood
- [x] Other **Precast**

Floor/Roof Structure:

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

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.	1	5	5	
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	3	3	9	In need of acoustic absorption. Fitness room adjacent is in need of a finish update including ceilings, wall paint, and floor refinishing.
1.3	Gymnasium is supported by adequate **locker rooms.**	1	3	3	Boys and girls locker room ceilings are in poor condition. Locker space and restrooms appear in adequate condition for limited uses. Shower areas are blocked off and used as additional storage. These areas were unable to be assessed for current condition. If use increases, and is regularly occupied, a renovation would be recommended.
1.4	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	2	5	10	
1.5	**Vocal music room** is adequate for providing music instruction.	2	5	10	
1.6	**Instrumental music room** is adequate for providing music instruction, practice, and lessons.	2	4	8	There is a slight dusty smell. Storage and acoustics appear adequate. Ceilings are showing significant wear.
1.7	**Auditorium** has sufficient arrangement, technology, and acoustics for program.	2	5	10	
1.8	**Art room** has sufficient accommodations for program.	2	3	6	Mouse problem. Art room storage is across the hall. Furniture is in poor condition and is not ideal for group work arrangements. Sink space is highly worn, but regularly maintained. Storage within the space is showing significant wear and hinges are damaged creating issues with door operation.
1.9	**Science classrooms** have sufficient access to water, gas and equipment for program.	2	5	10	
1.10	**Family Consumer Science** classrooms have sufficient accommodations for program.	2	5	10	

A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
1.11	**Industrial Arts** space has sufficient accommodations for program.	2	N/A	0	
1.12	**Library/Resource/Media Center** provides appropriate and attractive space.	1	5	5	
Core Classroom					
1.13	Classroom space permits arrangements for **small group activity.**	2	4	8	Classrooms appear full, but furniture allows for varied arrangements.
1.14	**Student storage space** is adequate.	1	5	5	
1.15	**Teacher storage space** is adequate.	2	5	10	
1.16	Classroom **acoustical treatment** of ceiling, walls, and floors provide effective sound control.	3	4	12	Sound control is effective, however ceiling conditions are poor.
1.17	**Classroom power and data receptacles** are located to support current classroom instruction.	4	4	16	See electrical for concerns with breakers tripping.
1.18	Educational **technology** supports instruction.	4	5	20	
Administration					
1.19	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	4	4	Single 12 person conference room with offices that allow for additional private meetings.
1.20	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL			171	

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.	2	4	8	Yes, however, doors protrude into corridor width approximately 1'. There is no immediate emergency concerns with this.
2.2	Communication among students is enhanced by **common areas.**	2	5	10	
2.3	Areas for students to **interact are suitable to the age group.**	2	5	10	
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	Most classroom furniture was in good condition. Art room furniture was in poor condition.
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	4	8	Additional use of graphics and consistent signage would help celebrate the school character more.
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	Work space is within the lounge, lounge appears to be lacking table and chair space. The table does appear efficient within the 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.	3	5	15	
2.12	**Break room** is adequately sized and furnished for proper use.	1	4	4	Break room is combined with work room. Table and chair space appear to be undersized, but efficient for the space provided.
2.13	**Mother's room** is a separate designated space properly furnished.	1	4	4	Mothers room is designated off the staff women's restroom. Finishes are showing wear but space is functional and a sink with counter space is provided.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	4	4	Most classrooms have tile, or similar, hard flooring. Classrooms with carpet such as the music rooms are showing wear and some minor staining.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	Most all ceilings in the building are a textured ACT tile. Many are in poor condition. Most classroom ceilings are showing wear and damage.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Classroom and corridor walls are masonry and in good condition. Restroom walls are tile but showing signs of damage and wear.
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	4	4	Most classrooms have plastic laminate counters and laminated wood base cabinets at the exterior walls. About 30% are delaminating.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	4	12	Doors are generally in good condition. Door to storage 149 is damaged to the core at the latch and should be replaced.
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	4	16	Yes, however, doors protrude into corridor width approximately 1'. There is no immediate emergency concerns with this.
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	3	9	220and 122 do not have vision panels. All other classroom doors have very skinny vision panels adjacent to the doors. Visibility between the classroom and corridor is minimal.
2.25	**Vision lite** in doors is clear and uncovered.	2	5	10	
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	3	6	Terrazzo corridor and stair flooring are slippery. Stairs have an added textured nosing strip that prevent falling. Other floors appear to either be dusty or need to be refinished.
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	5	25	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	3	15	Stair flooring should be cleaned and re-finished to provide proper slip resistant. Basement stair access is extremely steep, this is likely acceptable but maintenance should be increased to keep in a non-slip condition.

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			354	

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	No significant issues.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	4	12	All roofs are TPO membrane with positive drainage. Anticipate 10+ years remaining service life of all portions. Upper edge of sidewall counter-flashing is generally crazing and should be replaced.
3.3	**Roof access** is safe for all roofs.	3	4	12	Roof access is via a door from Level 2 corridor, or from two roof hatches. Provide guard at each hatch. Provide new ladders from Roof A to B and from Roof A to C. Provide guard or personnel tie-offs at west edge of Roof G for equipment access/servicing.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	3	9	Window sealant is generally crazing. All window perimeters should be resealed.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Glazing is insulated units and appears to have tinting. Original steel window frames appear to be in place at south wall of vestibule at Entry 1.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	4	8	No significant issues.
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	3	6	All doors are aluminum or steel. Steel doors (and window frames) generally require repainting due to significant chalking.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	3	3	Ext. walls generally brick or precast concrete. Recent additions include metal wall panels and EIFS. Sealant joints in precast concrete and brick generally require replacement. Steel columns at entry canopy. repaired/repainted. Repoint brick window sills and misc wall areas. Repair EIFS surfaces.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	4	4	No issues noted.
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	4	4	(6) Entries have card reader. (7) Entries have keyed lockset (including roof access door.) (1) Entry has exit-only hardware. All doors, except auditorium exit, have numbered exterior identification signage.
	TOTAL			70	

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	3	3	Standing water was observed in the southwest corner of the parking lot and the north side of the building does not appear to have sufficient slope to drain water away from the building.
4.2	**Parking areas** are in good condition.	5	4	20	The ADA spaces are on the east side of the school needs replacement. The northern asphalt lot is cracking but not profusely, it does have one sagging area on the northern side and appears to be able to last another 10+ years.
4.3	**Drive areas** are in good condition.	3	3	9	The asphalt in the circle drive will need replacement in the future and the section of concrete should be replaced much sooner.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	5	5	DMPS states there is plenty of parking for staff and that event parking is okay.
4.5	**Sidewalks** around the facility are in good **condition.**	1	4	4	The walk along the east of the school has sections needing replacement, a couple of panels along the bus drop off also in need of replacement.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	5	5	All doors have sidewalk access.
4.7	**Hard surface** playground surfaces are in good condition.	3	3	9	The western section of the walk track is cracking and should be replaced in the future, the asphalt pad to the NW of the school has deteriorated and will also need to be replaced soon.
4.8	**Fencing** around the site is in good condition.	1	5	5	Some of the fencing appeared old but still in good condition.
4.9	**Trash enclosure** is in good condition.	1	N/A	0	The dumpsters were out in the east drive at the time of visit.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	The intake to the east of the storage shed would benefit from a cleaning, no other issues observed.

ASSESSOR: Jack Gorman Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	5	5	There is a lot of room to the north of the building and parking for expansion. The city park play area would be reduced in either case.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	4	4	Buses use the street on the south side and parents use the back parking area for drop off. DMPS states there are no conflicts between the two. The double sided stop sign in the NE corner of the parking lot is confusing and cars were observed both following and ignoring the current signage.
	TOTAL			73	

S | Structural

ASSESSOR: Trevor Pullen

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	2	2	The stoop near room 135 has a significant crack, and the stoop near room 197 has some shrinkage cracks. The doors at rooms 145 and 198 don't have stoops.
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	4	4	There are some minor shrinkage cracks visible in the corridors and some classrooms.
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	5	10	
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	4	4	There is minor rust on some exterior lintels.
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	5	5	

S | Structural

ASSESSOR: Trevor Pullen

		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	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	N/A	0	
5.18	**Mechanical screening** appears to be in good condition.	2	5	10	
5.19	**Stairs** appear to be in good condition.	1	5	5	
5.20	**Stair railings** appear to be in good condition.	1	3	3	The railing at the exterior ramp leading to the front office is loose. The railing at the 2nd floor between rooms 209 & 211B is also loose.

S | Structural

ASSESSOR: Trevor Pullen

		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 is an area in the basement with "fallout shelter" signage.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	0	0	Further study is needed to determine if the fallout shelter in the basement would meet ICC 2018 requirements.
	TOTAL			143	

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 to be true.
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	5	15	Appears to be true.
6.3	Appropriate **amount of ventilation** are provided to each space.	5	3	15	Appears AHUs are designed for approximately 20% outdoor air - based on airflows to spaces, they may be under-ventilated.
6.4	**Ventilation** is provided during occupied hours.	5	4	20	Appears to be true - may be less than required by code as noted under Item 6.3.
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	Appears to be true. Intake at roof.
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	Generally appears to be true. System design does not appear to be ideal for balancing OA and EA.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	True for AHUs and chiller. Does not appear to be true for boilers, which appear to be in poor condition. Water heaters appear are also past the end of their useful life.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	Generally appears to be true.
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	Generally appears to be 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	5	15	Generally appears to be true.
Plumbing Design					
6.12	**Water Supply Pressure** is adequate to allow for operation of plumbing fixtures.	5	5	25	Appears to be true.
6.13	Appropriate **backflow preventer** is provided at connection to city water supply.	5	5	25	Yes
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	5	25	Appears to be true, though water heaters are at the end of their useful life.
6.15	Domestic **hot-water recirculating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	2	6	No hot water observed through recirculating systems are installed.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	Appears to be true.
6.17	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	5	15	Appears to be true. Dual 5,000 gallon interceptors.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	5	25	Appears to be true. Overflow generally from scuppers.
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	4	12	Appears to be true. Automatic fixtures - faucets are not metered.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	4	12	Generally true. There are some tight spots at AHUs.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	2	4	Appears most AHU coils do not have pull space.
6.22	**Filter** sizes are standard and filter types are standard.	2	5	10	Generally appears to be true.
6.23	**Equipment mounting heights** are reasonable.	3	5	15	Generally appears to be true.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	3	6	Multiple wet areas exist in mechanical room.
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 to be true.
6.26	Appropriate means are provided for **airflow and water balancing.**	3	5	15	Appears to be true.
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	2	4	Wall hydrants available at grade but none at roof level. Cooling tower is mounted on tall 1-story section of building.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	5	10	Equipment generally set back from edge of roof.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	Generally appears to be true.
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	0	0	None observed (did search for them but they were not located).
6.35	**Refrigeration evacuation systems** are provided in rooms with chillers.	5	N/A	0	None observed. May not be required due to room volume and refrigerant charge.
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	5	25	Yes.
	TOTAL			537	

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 750kVA, 480/277V 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	5	15	
7.4	The **MDP** appears serviceable.	4	4	16	MDP (FDP) is Square D QED-2 Switchboard rated at 1600A, with 1600A LSIG main breaker. Installed in 2012 (-1 point for age greater than 10 years).
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	3	12	FDP has 117" total mounting space, and 22.5" is currently available, ~19% spare capacity. (-2 points for less than 25%)
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	5	20	
7.8	The Distribution Panel appears **serviceable.**	4	4	16	LDP is Square D QED-2 switchboard rated at 1600A with 1600A LI main breaker. Installed in 2012, fed by 500kVA step-down transformer. (-1 point for age greater than 10 years)
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	5	20	LDP has 117" total mounting space, and 63" space remaining, ~53%.

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	All branch panels observed are in good condition and supported by the manufacturer (all Square D NQ or NQOD). Custodian notes excessive breaker tripping on shared circuit with copier on Level 2.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	0	0	No exterior receptacles noted.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	4	20	Drop-off roadway and west end of building 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	2	8	MDF not secured by card reader, and typically left open for ventilation. Transfer grilles not adequately cooling the space. Main fiber service is spliced in Boiler Room and is looped around sprinkler piping to get to MDF. Violates sprinkler code.
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	5	20	Two racks present, excess of 50% 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	4	4	13 of 30 positions remain as spaces in panel LC.
7.19	MDF employs up-to-date **network cabling.**	2	5	10	Majority of cabling is CAT6.
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	3	3	IDFs are connected with armored OM3 multi-mode cable. (-2 points for less than single-mode)

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	3	6	Grounding busbar has ample capacity, but connections to cable tray, CATV, and Primex head-end are absent. (-2 points for missing grounding connections)
7.22	Building is equipped with an **addressable fire alarm system.**	5	4	20	FACP is Simplex 4010 panel. (-1 point for less than current DMPS standard 4100 series panel)
7.23	Building is equipped with an **access control system.**	5	2	10	Of 13 exterior doors, 6 have card access hardware. 6/13=46%
7.24	Building is equipped with a **CCTV system.**	5	3	15	Front entry and East Entry cameras do not render clear images after dark. Other cameras good.
7.25	Building is equipped with an **intercom system.**	4	5	20	
7.26	Building is equipped with a **master clock system.**	4	3	12	Error lights flashing on Primex head-end unit. (-2 points for maintenance required)
	TOTAL			372	

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	5	10	
8.8	**Finishes** are adequate and maintainable.	1	5	5	
8.9	**Maintenance** is adequate.	1	3	3	Maintenance records are incomplete .
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	5	5	
	TOTAL			63	

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 approximately $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 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

Pest Management	Mouse issue in art room. Traps have been set previously but staff noted there is still an issue. Recommended to provide continued pest management until issue is corrected.
Roof and Flue Repairs	Upper segment of one boiler flue had fallen from base segments at time of visit. Flue segment damaged at point of impact. Roof damaged at apparent point of impact--flashing membrane at top surface of roof expansion joint north of the flues had several inch long cut. Unable to determine if it extended through to second membrane layer.
Roof Support Repairs	Replace missing supports below roof-mounted conduit on Roof D. Approximately 20 rubber pads.
Intake Cleaning	Remove debris from intake to improve parking lot drainage. For location, refer to the civil site plan exhibit found in the appendix of this report.
Stop Sign Reconfiguration	Remove one side of the double sided stop sign and install another stop sign across the access to eliminate confusing signage. For location, refer to the civil site plan exhibit found in the appendix of this report.
Tighten Railing Posts	Railing at the ramp leading to the front office entrance is loose. It appears the bolts just need to be tightened. There are 30 total bolts.
Boiler Emergency Stop	Add emergency stop switches for Boilers

MDF Grounding	Install #6 grounding conductor from TMGB to cable tray. Install #6 grounding conductor from TMGB to cable TV entrance equipment. Install #6 grounding conductor from TMGB to Primex master clock controller.	
Master Clock Error Code	Error lights flashing on Primex master clock head-end during assessment. Investigate and troubleshoot codes.	

1 - 2 Year Priority

		Project Costs
Ceiling Replacement	Ceiling replacement in portions of the North wing including music department spaces and athletic department spaces (exclude rooms 143 and134D). Approximately 4,000 SF of ceiling panels and grid replacement.	$80,000
Art Room Refinish	The Art Room,143, is showing significant wear throughout the space. Recommendation is to replace ceiling panels and grid, built in casework (approximately 24 LF upper and lower cabinets and 1 sink), repaint the walls, and re-finish the concrete floor. Art room is approximately 920 SF, with 9,200 SF of wall area. Furniture replacement would also be recommended but is excluded from listed project costs.	$100,000
Fitness Room Renovation	Fitness room 134D needs to be refinished. New athletic flooring, such as athletic rubber mats, refinish walls with paint and wall graphic, new ceiling panels and grids. Room is approximately 720 SF, with 7,200 SF of wall area.	$25,000
Vision Lite Installation	Add vision lite to single door leafs to rooms 122 and 142.	$11,000
Reseal windows, doors, and wall joints	Remove and replace sealant at perimeter of door and window frames throughout building perimeter, at precast concrete panel joints, and at masonry soft joints (approximately 10,500 LF).	$130,000
Repoint Brick	Repoint joints in brick window sills at Classrooms 150 and 151 and at Restrooms B1 and G1. (135 LF sill on Levels 1 and 2) Repoint brick mortar joints at portions of gymnasium, auditorium, and south classroom wing, including above Roof A. (1,400 SF)	$30,000

Exterior Steel Refinish	Remove surface rust as required and repaint exposed steel surfaces, including doors/frames ((5) single and (10) double units) ; window frames (10 SF) , entry canopy columns ((9) 3x10 tubes x 10' H units), sloped cap at boiler flues (140 SF), (1) roof ladder (10 VLF), and (2) roof hatches.	$20,000
Pavement Replacement	Remove and replace 46 SY of PCC. For location, refer to the civil site plan exhibit found in the appendix of this report.	$11,000
Curb and Gutter Replacement	Remove and replace 70 LF of curb and gutter section. For location, refer to the civil site plan exhibit found in the appendix of this report.	$11,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 11 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$7,000
Playground Pavement Replacement	Take out and restore deteriorated playground asphalt. Approximately 558 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$75,000
Guardrail Reinstallation	The guardrail at the 2nd floor between rooms 209 and 211B is wobbly. I believe it is most likely a connection issue and it needs to be anchored down more thoroughly. 5 posts, 20 LF	$8,000
Stoops Installation	Exterior doors at rooms 145 and 198 need stoops. Stoops would be 5ftX4ft. 5" thick slab w/ #4 @ 9" o.c. each way.8" thick stoop walls, 42" deep w/ #4 @ 12" o.c. each way.	$11,000
Exterior Column Refinish	Steel columns at front entrance canopy need to be sand blasted and repainted. Total area to be painted = 165 SF.	$7,000
Replace Water Heaters and Circulation Pump	Replace existing domestic water heaters and install new hot-water circulating pumps. Ensure hot-water is available at all fixtures.	$120,000

Install Thermostatic Mixing Valve	Install new central digital thermostatic mixing valve for domestic hot-water system.	$20,000
Boiler Replacement	Replace boilers.	$300,000
Exterior lighting	Add perimeter exterior lighting at west end of building. Add pole lighting for entry drive drop-off area.	$25,000
Elevator Modernization	The elevator should be considered for a modernization. The existing controller is no longer supported with many parts.	$180,000
	Total 1-2 Year Project Costs:	**$1,171,000**

3 - 4 Year Priority

		Project Costs
Ceiling Replacement	Ceiling panel replacement in classrooms and corridor areas showing significant damage. Approximately 18,000 SF of ceiling panel replacement.	$320,000
Repair and Reseal EIFS	Repair EIFS finish on wall above Entry 4 (NW end of south wing) and sidewall above west end of Roof D. (Approx. 400 SF) Reseal all perimeter and panel joints (160 LF). See appendix for roof identification plan.	$14,000
Reseal Roof Counter Flashing	Remove and replace sealant at top edge of sidewall counterflashing where Roof A meets Areas B, C, and D. (600 LF) See appendix for roof identification plan.	$12,000
Roof Access Installation	Provide guard at each of two roof hatches. Replace embedded-rung ladders between Roofs A and B (12 VLF) and between A and C (7 VLF) with OSHA-compliant ladder assemblies. Provide guardrail (10 LF) at west edge Roof G for equipment servicing access. See appendix for roof identification plan.	$25,000
Pavement Replacement	Remove and replace 27 SY of PCC and 144 SY of asphalt. For location, refer to the civil site plan exhibit found in the appendix of this report.	$25,000

Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 22 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$9,000
Exterior Column Refinish	The precast columns around the gym have some minor cracking. They should to be repainted to prevent water from getting in and freezing. There is about 1200 SF to be painted.	$11,000
	Total 3-4 Year Project Costs:	**$416,000**

5-10 Year Priority

		Project Costs
Mother's Room Refinish	Interior refinish including wall paint (approximately 300SF) and VCT flooring replacement with new LVT (approximately 60 SF). Furniture replacement is also recommended, however it is not included in the project costs.	$8,000
Casework Replacement	Replacement of plastic laminate countertops and base cabinets, in approximately 4 classrooms, showing significant damage. Approximately 150 LF.	$270,000
Flashing Replacement	Replace oozing asphaltic through-wall flashing at base of masonry wall at Classrooms 150 and 151 and at Restrooms B1 and G1 (245 LF)	$160,000
Pavement Replacement	Remove and replace 200 SY of PCC and 707 SY of asphalt. For location, refer to the civil site plan exhibit found in the appendix of this report.	$160,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 101 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$25,000
Playground Pavement Replacement	Take out and restore deteriorated playground asphalt. Approximately 565 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$100,000
Stoop Replacement	The stoop at room 135 has a significant crack. It should be replaced. Stoop is 8ftX4ft. 5" thick slab w/ #4 @ 9" o.c. each way.8" thick stoop walls, 42" deep w/ #4 @ 12" o.c. each way.	$10,000

Lintel Refinish	Brick lintels are galvanized, but not painted. Some have minor rust. It is recommended that they all be painted to increase longevity. Approximately 150 LF of lintels.	$8,000

Total 5-10 Year Project Costs: **$741,000**

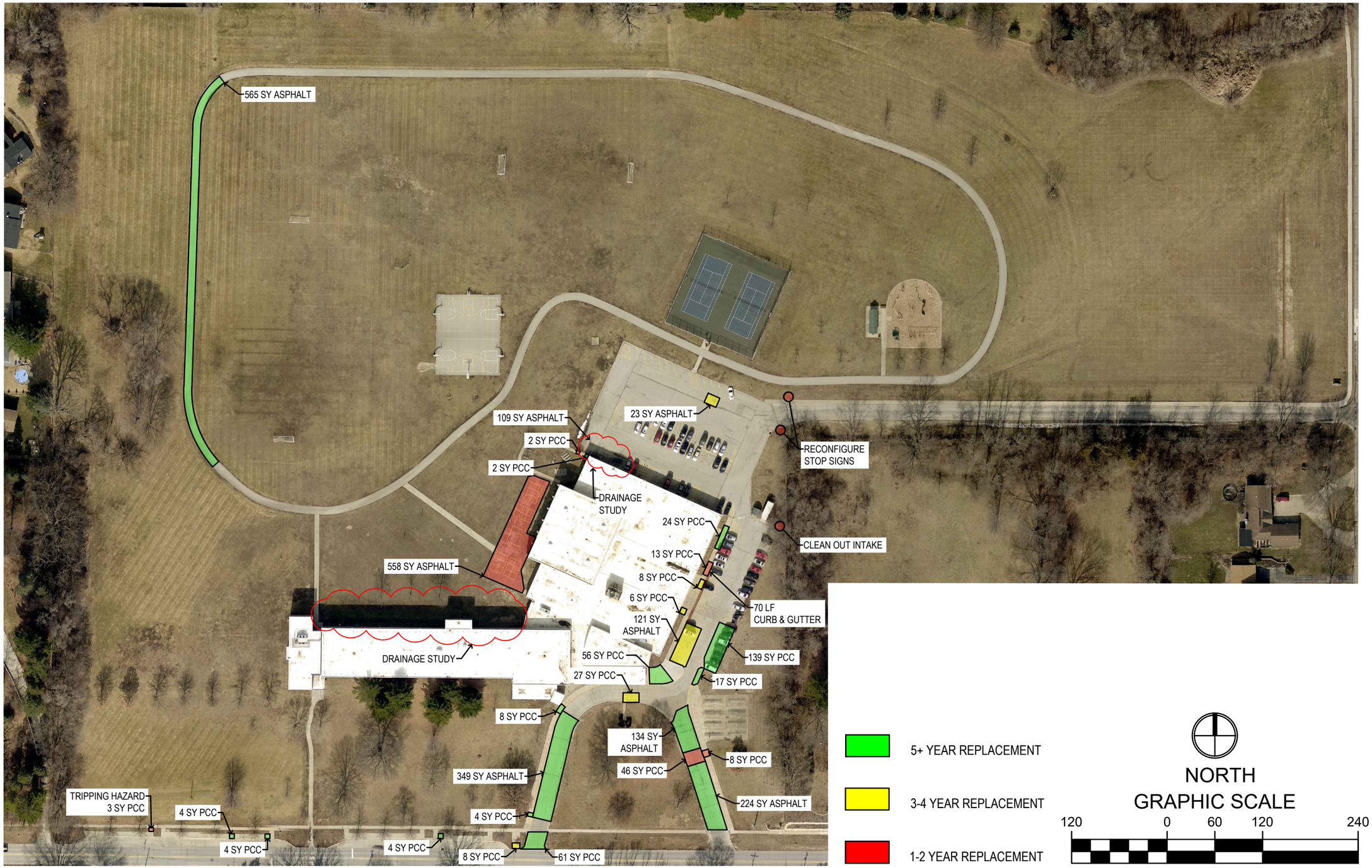
Projects Requiring Study

		Design Services Fee
Drainage Study	The north side of the building and the SW corner of the parking lot do not have sufficient slope to drain water away and out of the parking lot. A study is needed to determine the severity of the issue and most economic solution.	$5,000
Designated Hardened Area	There is an area in the basement labeled "fallout shelter". Further study is needed to determine if this meets ICC 2018 requirements for a true "hardened" area. Study to determine the feasibility of adding a designated hardened area to the building including location within the existing building, schematic design concept if deemed feasible, and preliminary project costs.	$2,500
Air Handling System Retrofit	Existing Air Handlers are dual duct units with dual duct boxes serving each space. These were updated in 2013. However, this system type is outdated and inefficient. There are also issues with maintenance and access to existing air handlers. Consider modifying HVAC systems with new custom units on roof to improve access and switch to single duct VAVs with reheat. Anticipated Capital Investment: $11,000,000	$20,000

Anticipated Capital Investment Costs: **$11,000,000**

Total Study Design Service Fees: **$27,500**

APPENDIX



bbs ARCHITECTS ENGINEERS

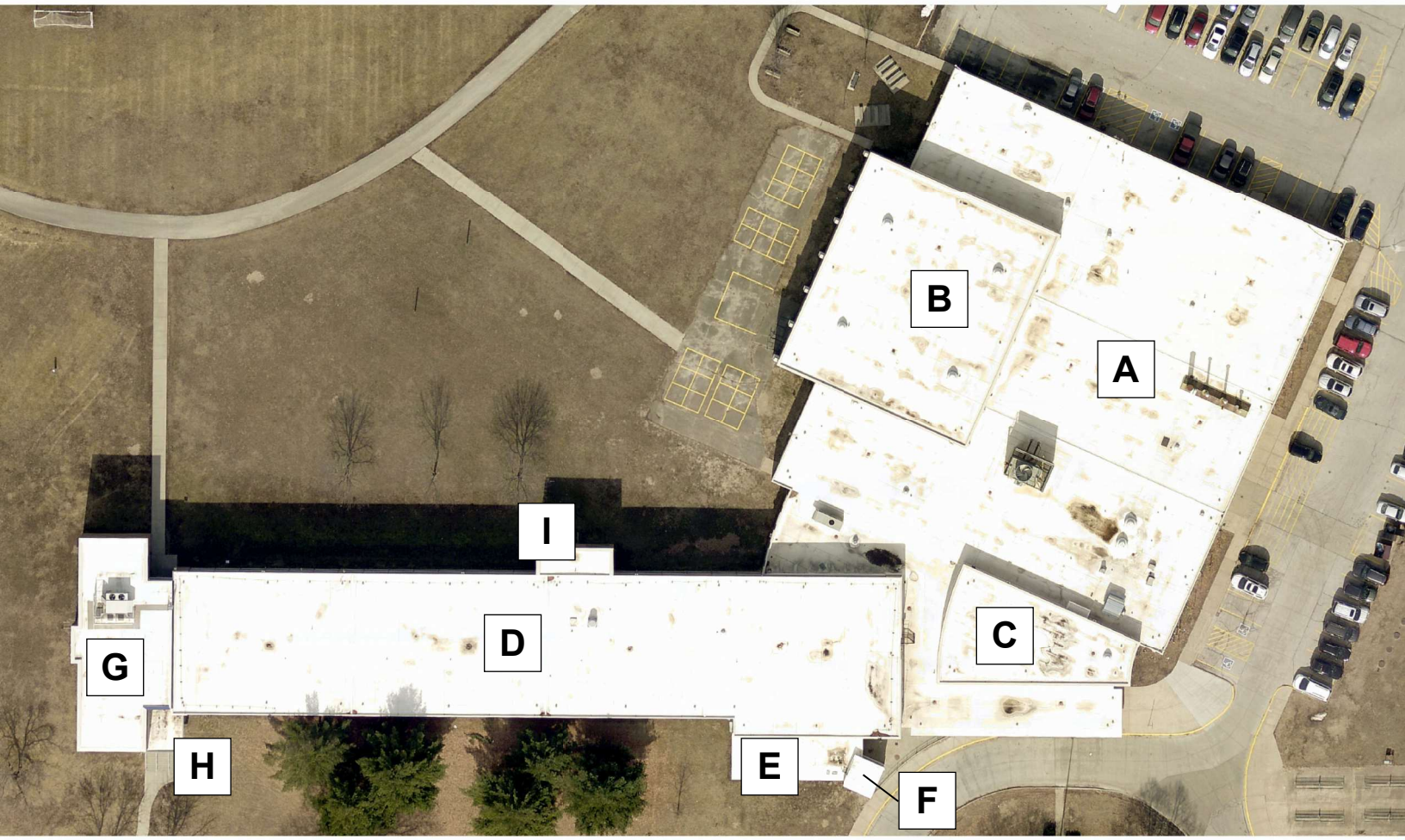
BISHOP ENGINEERING +

BRODY MIDDLE SCHOOL

EXHIBIT

PROJECT # 230286-39

DATE 2/9/2024



N

bbs ARCHITECTS ENGINEERS

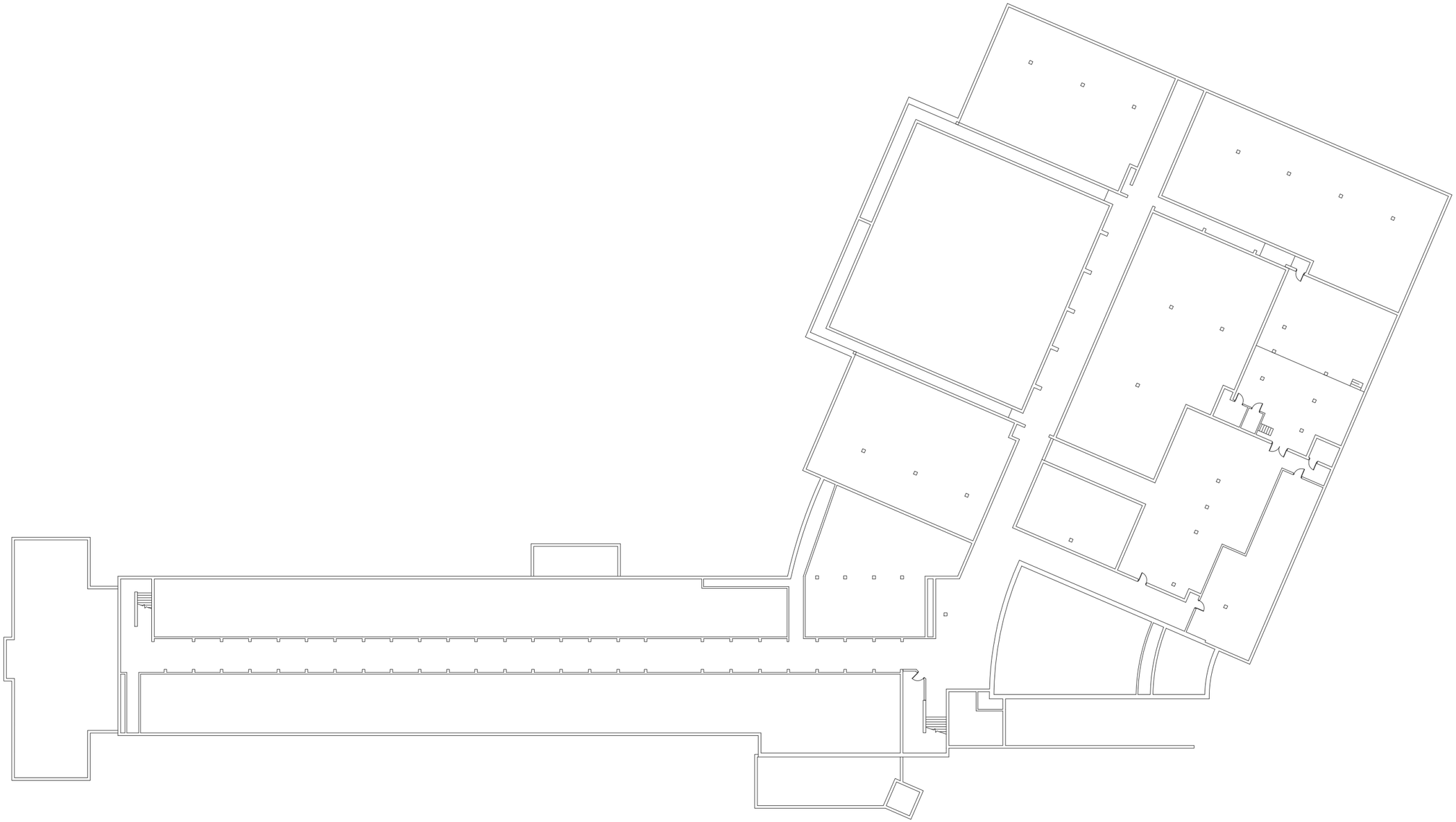
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Brody Middle
2.7.2024

BRODY MIDDLE SCHOOL

2501 PARK AVENUE
DES MOINES, IOWA 50321

GROUND FLOOR

NORTH



BRODY MIDDLE SCHOOL

2501 PARK AVENUE
DES MOINES, IOWA 50321

FIRST FLOOR

NORTH

bbs
ARCHITECTS
ENGINEERS

BRODY MIDDLE SCHOOL

2501 PARK AVENUE
DES MOINES, IOWA 50321

SECOND FLOOR

NORTH