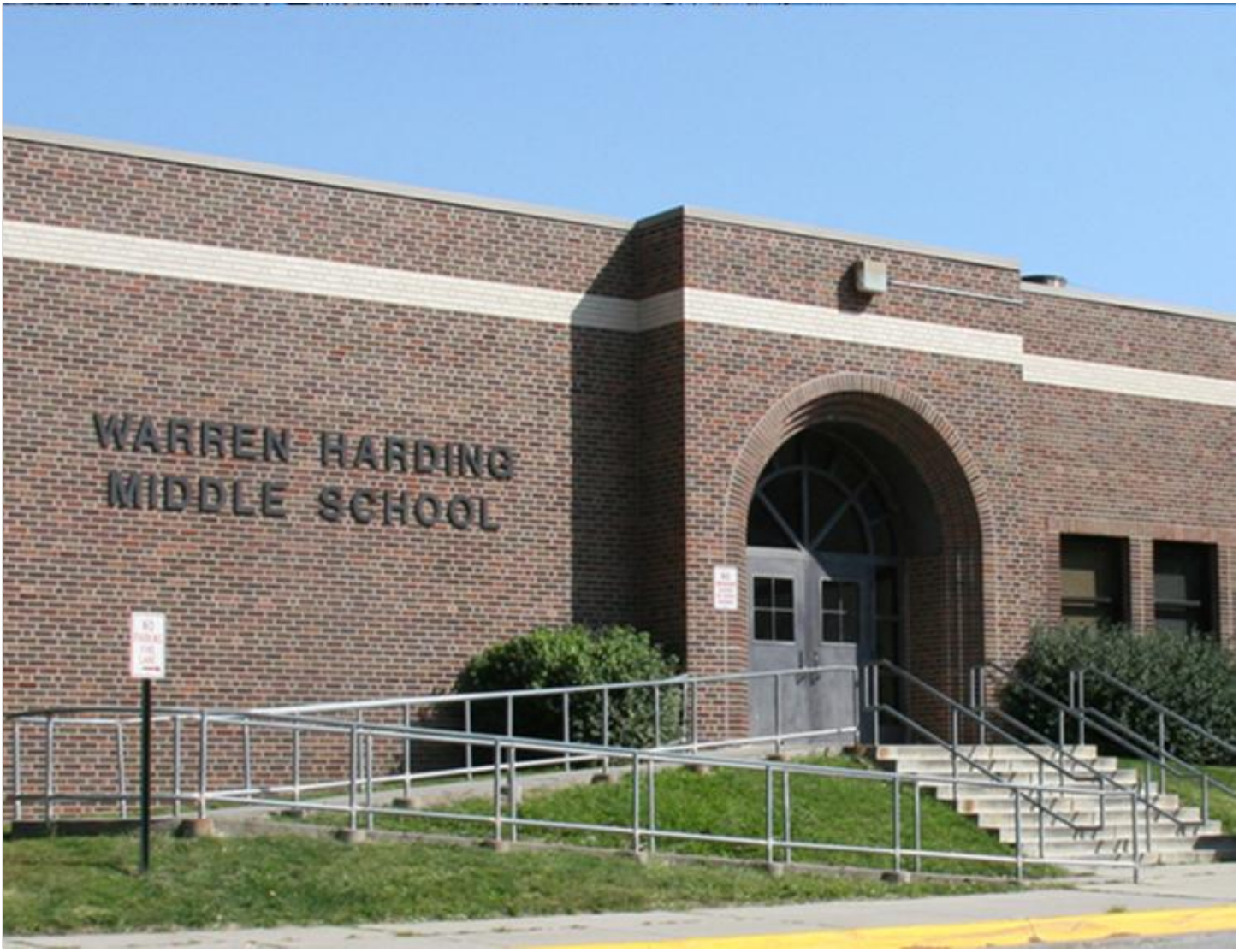
DMPS FACILITY ASSESSMENT | HARDING MIDDLE SCHOOL

02.13.2024



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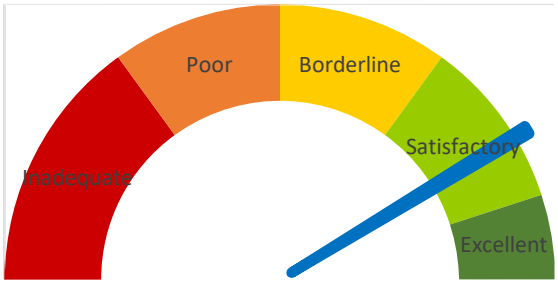


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Harding Middle School's on-site facility conditions assessment was conducted on February 12, 2024 and included visual conditions assessment from professionals covering interior architecture, exterior building envelope, the property's grounds (site), structural condition, mechanical (HVAC/Plumbing) systems, electrical systems (power, exterior lighting, interior lighting, fire alarm, and general IT), and the elevator conditions.

A few of the short term maintenance identified for Harding Middle School are: door protection hardware, floor cleaning, roof cleaning, exterior door adjustment, exterior wall assessment, window adjustment, hot water recirculation system repair, and exterior lighting repair.

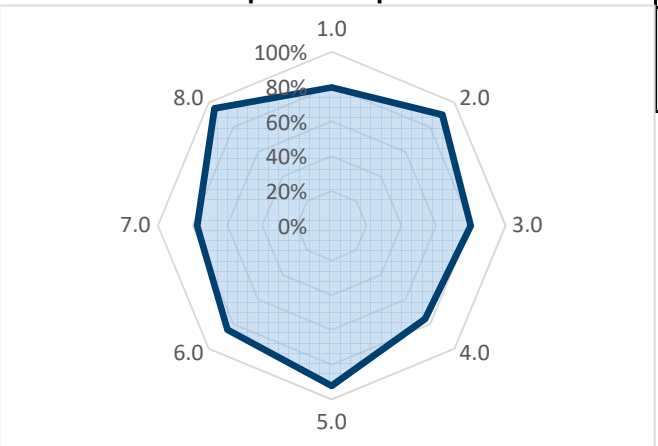
The assessment of Harding Middle School identified a sizable list of projects that should be addressed in the next 1-2 years. Some of the highest priority items for the 1-2 year projects are:

- Carpet Tile Replacement
- Terrazzo Stair Tread Repairs
- Roof Replacement and Roof Access Installation
- Window Infill Replacement
- Exterior Sealant Replacement
- Curb and Sidewalk Repairs
- Backup RPZ Installation
- Exterior Cameras Installation

These projects, along with all of the recommended potential projects at the 1-2 year, 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	205	163	2.00	410	326	80%	Satisfactory
2.0	Environment for Education	395	356	0.60	237	214	90%	Excellent
3.0	Exterior Envelope	95	76	3.00	285	228	80%	Satisfactory
4.0	School Site	100	76	1.50	150	114	76%	Satisfactory
5.0	Structural Conditions	140	129	1.30	182	168	92%	Excellent
6.0	Mechanical Systems	670	568	0.80	536	454	85%	Satisfactory
7.0	Electrical Systems	455	352	0.75	341	264	77%	Satisfactory
8.0	Elevator Conditions	65	62	1.00	65	62	95%	Excellent
Total					**2,141**	**1,768**	**83%**	**Satisfactory**

Harding 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 Harding Middle School scored a building health rating of 83% 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. Harding Middle School is within this positive range. Significant improvement projects focused on the school site, electrical systems, and exterior envelope would make the largest impact in increasing this performance score.

Building Data Record

Building Name: Harding Middle School

Date: 2.13.2024

Address: 203 East Euclid Avenue
Des Moines, IA 50310

High School Feeder System: North High School

Building SF: 107,316 square feet

Site Acreage: 7.15 acres

Date(s) of Construction: 1926, 1990, 1996, 2014, 2016, 2018, 2020

Date(s) of Roof Replacement: 1995, 2015

Current/Scheduled Projects: Walk-In Cooler - 2024
Mini-pitch and Electrical - 2024
Acoustics in Gym, Cafeteria, Art Room, and Rooms 130-131 - 2025

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

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

Floor/Roof Structure:

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

A | Architectural, Programming

ASSESSOR: Tim Bungert

1.0 Educational Adequacy

		Weight Factor	Rating	Points	Comments
General					
1.1	**Floor materials** are appropriate for space type.	1	3	3	Carpet tile that was recently installed in some classrooms is already very heavily stained with markers/ink and food spills. This particular carpet tile may not be the most appropriate floor materials for these rooms. Wood flooring in other classrooms is in excellent condition.
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	3	5	15	
1.3	Gymnasium is supported by adequate **locker rooms.**	1	1	1	The boys locker room still has adequate benches and lockers, but has been repurposed as storage space. The girls locker room has had all benches and lockers removed.
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	3	6	Orchestra room is located on the main level, but the band room is in the basement. A large structural column in the center of the band room obstructs sight lines for some students to the teacher/conductor at the front of the room.
1.7	**Auditorium** has sufficient arrangement, technology, and acoustics for program.	2	3	6	The auditorium has a very long sound reverberation time and would benefit from additional acoustic absorptive materials in the house.
1.8	**Art room** has sufficient accommodations for program.	2	5	10	
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	0	0	No FCS classroom was observed.

A | Architectural, Programming

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
1.11	**Industrial Arts** space has sufficient accommodations for program.	2	0	0	No industrial arts spaces observed.
1.12	**Library/Resource/Media Center** provides appropriate and attractive space.	1	3	3	Library provides ample space and furniture for student seating, but the finishes in the space are relatively bland and outdated. The space lacks access to daylight and quality views despite being partially located along an exterior wall.
Core Classroom					
1.13	Classroom space permits arrangements for **small group activity.**	2	5	10	
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	5	15	
1.17	**Classroom power and data receptacles** are located to support current classroom instruction.	4	4	16	Long extension cords and power strips stretched across the floor were noted in four classrooms to provide convenience power for student laptops.
1.18	Educational **technology** supports instruction.	4	5	20	
Administration					
1.19	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	3	3	A large staff meeting room is located on the basement level, but no small conference rooms were observed. Staff vending areas (rooms 141 and 241) may be able to provide small conference space with upgrades to interior finishes and furniture.
1.20	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL			163	

A | Architectural, Interior

ASSESSOR: Tim Bungert

2.0 Environment for Education

Design

		Weight Factor	Rating	Points	Comments
2.1	**Traffic flow** is aided by appropriate foyers and corridors.	2	5	10	
2.2	Communication among students is enhanced by **common areas.**	2	2	4	Very few common areas for students were observed outside of the cafeteria and library.
2.3	Areas for students to **interact are suitable to the age group.**	2	3	6	Room 174 (former main building entrance lobby) has some tables and chairs, but with upgrades could be utilized as a student gathering area and provide additional flexible meeting space.
2.4	Large group areas are designed for effective **management of students.**	2	4	8	The cafeteria is broken up into smaller rooms by large columns that obstruct visibility.
2.5	**Furniture Systems** are in good or like new condition.	1	5	5	
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	5	10	
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	5	5	

A | Architectural, Interior

ASSESSOR: Tim Bungert

		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	3	3	Multiple staff break rooms are provided but all lack adequate, comfortable furniture.
2.13	**Mother's room** is a separate designated space properly furnished.	1	0	0	No mother's room space was observed.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	3	3	Carpet tile installed in some classrooms is heavily stained and/or damaged. Stains were also noted on terrazzo floors and wall base in corridors immediately outside of restrooms. Classroom wood floors are in excellent condition.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	3	3	Water stained acoustic ceiling tiles were noted in rooms 142, 146, and the corridor outside of room 146. Ceilings in Mens and Womens restrooms on levels 1 and 2 in the south end of the building all had significant staining and damage from apparent vandalism.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	5	5	
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	5	5	
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	5	15	
2.19	**Facility doors** are keyed to standardized master keying system.	3	5	15	
2.20	**Restroom partitions** are securely mounted and of durable finish.	2	5	10	

A | Architectural, Interior

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
2.21	**Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces.	1	5	5	
Occupant Safety					
2.22	Classroom doors are **recessed and open outward.**	4	5	20	
2.23	Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.**	3	5	15	
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	5	15	
2.25	**Vision lite** in doors is clear and uncovered.	2	2	4	A small number of vision lites on level 1 and nearly all vision lites on level 2 were fully covered.
2.26	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	
2.27	**Flooring** is maintained in a **non-slip** condition	2	5	10	
2.28	**Traffic areas terminate at exit or** stairway leading to egress	5	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 guard railings are all lower than required by current building code, but are considered a grandfathered condition. At the stairs leading to the basement near room 54 (band room), metal nosings on the terrazzo stair treads are broken. Previous repair attempts have only made the condition worse.

A | Architectural, Interior

ASSESSOR: Tim Bungert

		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			356	

A | Architectural , Exterior

ASSESSOR: Matthew Gaul

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	5	10	
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	3	9	Multiple pipe penetrations at roof are in need of repair. Roof replacements in 2 and 6 years.
3.3	**Roof access** is safe for all roofs.	3	3	9	Door out to roof is only accessible via step ladder; permanent wall ladder to be provided. Two small roof ladders are needed and one existing ladder needs a loose anchor point to be secured.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	5	15	
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Low-e glazing cannot be determined. Windows are tinted.
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	3	6	Some doors need to be repainted.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	3	3	Window in-fills at the north west light well need more durable replacement. Some sealant replacement.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	5	5	
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	5	5	5 - Doors do not latch 3 - Doors with card readers 14 - Doors with locks 3 - Doors with no exterior lock 0 - Doors with no signage. 2 - Doors at courtyard with no monitoring.
	TOTAL			76	

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	Good drainage away from the building, the slope south of the school was a little steep but still walkable.
4.2	**Parking areas** are in good condition.	5	4	20	Some areas of asphalt are cracking in both the west and east lots but the majority of parking pavement appeared to be in good condition. The asphalt curbs in the east parking lot have deteriorated and need replacement, we recommend replacement with PCC curb and gutter section.
4.3	**Drive areas** are in good condition.	3	4	12	A few access drive panels need replacement in the future, most of drive area pavement appeared to be in good condition.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	3	3	DMPS states staff parking is okay for day to day use, but that event parking is lacking.
4.5	**Sidewalks** around the facility are in good **condition.**	1	4	4	Isolated sections across site need replacement, the ADA ramp into the parking lot on the south side of the building is wearing away at the joints and needs replacement. The tree roots on the east side of Earl Rodine park have moved the sidewalk and created tripping hazards.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	The south and southeast doors of the building are without sidewalk access.
4.7	**Hard surface** playground surfaces are in good condition.	3	4	12	Some of the basketball asphalt is sagging/cracking and will need replacement, the PCC walk track had a few cracked panels but appeared mostly in good condition. There are remains of what appears to be an old sign to the west of the basketball court that create a tripping hazard & should be removed.
4.8	**Fencing** around the site is in good condition.	1	4	4	An area of fence by the east parking lot was warped and did not have the fabric extend all the way to the ground, fencing across site appeared to be in good condition otherwise.
4.9	**Trash enclosure** is in good condition.	1	4	4	The masonry brick was a little worn across the top and some of the pavement to the north of the enclosure was cracking. The gate appeared to be in good condition.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	One cracked outlet structure but it still appeared to be functioning well, 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	1	1	There is not much spaced available on site for expansion. The east parking lot could be expanded to the north, but the basketball area and some of the walk track would be lost.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	3	3	Buses use the east side of the building and parents use the west circle drive for drop off. DMPS states parents back up onto the south and east street but that there are not many conflicts otherwise.
	TOTAL		76		

S | Structural

ASSESSOR: Niles Quick

5.0 Structural Conditions

		Weight Factor	Rating	Points	Comments
Foundations					
5.1	**Foundations** appear to be in good condition with no visible cracks.	1	5	5	
5.2	There does not appear to be any **foundation settlement.**	2	5	10	
5.3	**Basement walls** do not appear to have any cracks.	1	4	4	Some minor cracks in basement walls where exposed, to be expected for age of building, nothing of concern.
5.4	**Stoops** appear to be in good condition.	1	5	5	
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	5	5	
5.6	Slabs on grade do not appear to have any **settlement.**	1	5	5	
Exterior Walls					
5.7	**Brick masonry** appears to be in good condition.	2	4	8	Shrinkage cracks in some areas on exterior brick
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	4	4	Some of the steel lintels are corroding. Corrosion varies from minor to significant
5.9	**CMU** is in good condition.	1	4	4	Shrinkage cracks in some locations
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Niles Quick

		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	N/A	0	
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	4	4	One stairs has concrete spalling at the nosing on some treads and previous repairs keep pushing out the nosing piece further.
5.20	**Stair railings** appear to be in good condition.	1	5	5	

S | Structural

ASSESSOR: Niles Quick

		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	No designated hardened area observed.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			129	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

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	4	12	Several smaller rooms used for offices and one on one without HVAC.
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	3	15	Ventilation air provided to classrooms is 70-80% off what is required. See note below regarding operation of existing ERV units.
6.4	**Ventilation** is provided during occupied hours.	5	5	25	
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	Console heat-pumps are nearing the end of their useful life. Gym and Auditorium HVAC had minor updates in 2011 renovation and are due for replacement. Auditorium fans are original to building (1924) Gym is from 1990. Existing steam boilers were abandoned in Mech Rm and not removed.
6.9	**Cooling loads** are within equipment operational capacity.	5	2	10	Gym and Auditorium do not have cooling
6.10	**Heating loads** are within equipment operations capacity.	5	4	20	Maintenance staff reports operational issues on the heating side. Believes it may be related to how the boilers are tied into the loop water system. No observable issues were noted while on site.

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.11	**Dehumidification** is provided and addressed humidity loads in incoming outside air.	3	5	15	ERVs provided with water-to-air heat pump for cooling/dehumidifying of ventilation air.
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	4	20	Backflow preventer is a single RPZ unit. Two parallel units would allow for some redundancy and allow for testing without disrupting domestic water supply to buildings.
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	5	25	
6.15	Domestic **hot-water recirculating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	3	9	No hot water at lavatories during site visit.
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	5	25	
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	4	12	
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	4	12	Gym and locker room AHUs have poor access.

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	4	8	Gym AHU has inadequate coil pull space recommend use of a RTU and add cooling.
6.22	**Filter** sizes are standard and filter types are standard.	2	4	8	Varies by equipment type
6.23	**Equipment mounting heights** are reasonable.	3	4	12	Overhead AHUs for locker rooms are difficult to access.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	4	8	Maintenance staff has reported issues with damp basement floors. No water present on day of visit.
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	4	8	Some sections of piping and valves are older and operation is questionable.
6.26	Appropriate means are provided for **airflow and water balancing.**	3	5	15	
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	2	4	No hose bibb located near cooling tower. No equipment currently on roof that would require a hose bibb.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	5	10	
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	
Occupant Safety					
6.30	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	5	25	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.31	Building is fully **sprinklered.**	5	5	25	
6.32	**Domestic hot-water temperature** at lavatories used by students or staff is provided with a thermostatic mixing valve and adjusted properly.	5	5	25	There is a centrally located thermostatic mixing valve.
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	
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	5	25	
	TOTAL			568	

E | Electrical

ASSESSOR: Rob Hedgepeth

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	
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	4	12	MDP is partially covered with plastic due to leakage in the area.
7.4	The **MDP** appears serviceable.	4	2	8	2011 gear, Siemens 208Y/120V - 2500A. Showing signs of corrosion from damp/wet environment.
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	0	0	MDP has two 1600A breakers to feed major distribution panels. There is no room for expansion.
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	5	20	
7.8	The Distribution Panel appears **serviceable.**	4	5	20	
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	3	12	15% capacity spare

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.11	**Electrical panels and disconnect switches** observed during assessment are safe, serviceable, and maintainable.	2	3	6	Some panels are adequate, some are very old and need replacement.
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	0	0	Older LED fixtures on east and west sides appear to be failing. Six need replacing.
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	4	16	No card reader for access.
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	5	20	
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	5	5	
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Cat 5e/6A
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	5	5	

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	5	10	
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	Simplex 4100ES in office.
7.23	Building is equipped with an **access control system.**	5	1	5	3/16=19%
7.24	Building is equipped with a **CCTV system.**	5	4	20	Cameras on NW and SW corners render in B&W after dark. Lighting appears OK. Consider camera upgrades.
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	Primex
	TOTAL			352	

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	4	4	The interior finishes are dirty and appear unsanitary. The sill grooves are packed with debris. This will eventually cause door operating issues.
8.9	**Maintenance** is adequate.	1	4	4	The pit and car top are very dirty and need attention.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	4	4	The maintenance control plan needs to be filled out to meet code requirements.
	TOTAL			62	

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

Door Protection Hardware	Install stainless steel armor plates on both sides of wood door 149D to protect the door from impact damage caused by kitchen carts.
Floor Cleaning	Intensive cleaning needed for carpet tile in rooms 121, 201, 211, 225, 27, 228, 229, 230, 247, and 251. Follow carpet manufacturer's instructions for food/drink stain removal and hot water extraction process. Clean terrazzo floors and wall base at entrances to all restrooms to remove heavy soiling/staining.
Wall Return Grate Repair	Securely attach the wall return air grate in room 247 to prevent accidental injury and unauthorized access.
Combi Oven Exhaust	In kitchen 149C, the exhaust from one combi-oven has caused damage to the wall behind the unit. Confirm that the unit is correctly positioned and operating per the manufacturer's instructions. Verify that the exhaust hood is operational and used whenever cooking equipment below it is in use.
Window Screen Replacement	Replace damaged window screen in restroom 226.
Roof Cleaning	Remove debris from roof low spots, drains, overflows, and other areas where it collects so that the roof membrane remains in good condition and sheds water as intended.
Exterior Door Adjustment	Adjust 5 exterior doors so that they latch from any closing position at the following locations: 1 at southwest corner of courtyard; 1 door near room 146; 2 doors at east end of hallway north of gymnasium; 1 door at west end of hallway north of gymnasium.

Exterior Wall Assessment	Remove art panels over window infill panels at east lightwell to visually check if the infill panels may need replacement. Infill panels at west lightwell require replacement.	
Window Adjustment	Adjust hopper window at room 151 where tape has been added to eliminate drafts. Window may need weatherstripping.	
Remove Sign Remains	Remove the remains of an old sign that create a tripping hazard. For location, refer to the civil site plan exhibit found in the appendix of this report.	
Patch Stair Wall	Patch the deteriorated stair wall to return it to good condition. For location, refer to the civil site plan exhibit found in the appendix of this report.	
Exterior Lighting	Replace aging exterior LED fixtures (x6).	

1 - 2 Year Priority

		Project Costs
Countertop Replacement	Replace 12 LF of countertop and one sink on existing casework boxes in room 225. The existing countertop is constructed of formed sheet metal and has dangerous sharp edges and corners. The existing trough-style sink is very stained.	$13,000
Ceiling Tile Replacement	Replace approximately 80 damaged, stained, or missing ceiling tiles in rooms 142, 146, 221, 242, corridor outside 146, corridor outside 149, and corridor outside 163.	$5,000
Restroom Ceilings Replacement	Remove and replace acoustic ceiling grid and tiles in restrooms 122, 145, 222, 226, and 243. Install wipeable type ceiling tile with security hold-down clips. Approximately 1,450 SF total.	$30,000
Carpet Tile Replacement	Replace select damaged carpet tiles in rooms 111, 121, and 232 (total 35 SF). If cleaning maintenance noted above is not successful in removing food and drink stains, replace all carpet tiles in rooms 201, 211, 225, 227, 228, 229, 230, 247, and 251 (total 7,000 SF).	$60,000

Staff Breakroom Furniture	Provide adequate seating and tables in staff breakrooms on all levels of the building. These rooms could also function as conference rooms for staff.	DMPS
Terrazzo Stair Tread Repairs	Remove and replace 6 terrazzo stair treads (6 ft wide) at stair immediately west of room 149C. Previous attempts at repairing tread nosing damage have failed and caused further damage to the stairs.	$11,000
Roof Replacement	Remove approx. 5,840 SF of modified bitumen roofing and insulation over roof area B. Install code compliant insulation and TPO roofing. Approx. year 2026	$150,000
Roof Access Installation	Provide 8 VLF ladder with guard to access door out to roof. Provide (2) 2 VLF ladders to traverse between roof areas D and F. Fix loose ladder anchor at ladder from roof area I to K.	$12,000
Chimney Repair	Repaint 6 SF chimney tile. Replace 4 LF sealant. Repair 2 SF concrete spalling at 1" deep.	$6,000
Flashing Repair	Replace broken lead flashing at 3" pipe penetrations at various locations on roof, 4 total.	$7,000
Mechanical Equipment Repaint	Remove surface rust and repaint rooftop ductwork / exhaust at multiple locations across roof. Approximately 1,200 SF.	$12,000
Window Infill Replacement	Replace 450 SF of insulated metal panel infill at west windows of room 104.	$50,000
Exterior Sealant Replacement	Replace sealant at roof: 2 LF at parapet NW and 2 LF at parapet SE corner roof G; 50 LF at tall parts of parapet at west side of roof area A; 36 LF at tall parts of parapet at north side of roof area A; 30 LF at tall parts of parapet at east side of roof area A. Approx. 120 LF. Replace Sealant at joints in exterior walls: 20 LF outside room 134F; 50 LF outside room 106. Approx. 70 LF	$8,000

Pavement Replacement	Remove and replace 42 SY of asphalt. For location, refer to the civil site plan exhibit found in the appendix of this report.	$11,000
PCC Curb and Gutter Replacement	Remove 600 LF of asphalt curbs, 2' of adjacent asphalt pavement, and install PCC curb and gutter sections. For location, refer to the civil site plan exhibit found in the appendix of this report.	$50,000
Curb Repairs	Return damaged curbs to new condition. Approximately 60 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$8,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 31 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$10,000
Masonry Partition Wall Removal	The masonry partition wall within room 49 is heavily deteriorated and should be removed. Wall is approximately 10' tall and 24 L.F. long	$30,000
Thermostatic Mixing Valve	Install new digital thermostatic mixing valve.	$13,000
Exterior Cameras	Replace NW and SW corner cameras with units that render color better after dark.	$11,000
	Total 1-2 Year Project Costs:	**$497,000.00**

3 - 4 Year Priority

		Project Costs
Casework and Millwork Finish Repair	Repair finish on 35 SF of wood casework in rooms 123 and 231. Repair finish on 100 LF of wood chalk/marker rails in rooms 127, 129, 130, and 131. Repair finish on 20 LF of wood wall base in rooms 151, 227, 231, and 251.	$10,000
Interior Door Painting	Paint 5 single doors at rooms 48A, 48B, 48C, 48F, and 163. Paint one single door frame with sidelite at room 134 from the secure entry vestibule.	$9,000

Auditorium Acoustic Improvements	Acoustic panels or baffles in the auditorium is recommended to reduce the reverberation time. The space is approximately 4,800 SF with approximately 1,500 SF of acoustic material needed.	$60,000
Interior Glazing Replacement	Replace 70 SF of single-pane glazing with laminated glass and new glazing seals in existing hollow metal frames at the interior windows to room 158E.	$12,000
Roofing Repair	Replace membrane flashing at south edge of roof area G. Approx. 300 SF Patch Bitumen roofing at two 1 SF locations at north east corner of roof area G.	$12,000
Roof Drain Installation	Provide overflow drain from roof area I.	$14,000
Exterior Door Repaint	Repaint the following doors: Double door with sidelites near room 133; single door frame near room 56/54; double door to basement mechanical at east façade; double door near room 149C; single door and sidelite to basement near 48D; three double door frames at west facade. At main entry of two single doors with transoms and one double door with transom, make minor patches to wood frames and paint frames only.	$14,000
Exterior Door Replacement	Replace the following doors: double door to basement mechanical at east façade;	$20,000
Flashing Replacement	Replace reglet flashing at several locations at wall base along east façade, approx. 20 LF total.	$6,000
Pavement Replacement	Remove and replace 271 SY of asphalt. For location, refer to the civil site plan exhibit found in the appendix of this report.	$50,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 84 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$20,000

Tuckpoint Stairs	Professionally tuckpoint the marble stairs to restore the stairs to good condition and prolong the life of the stairs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$20,000
Brick Lintel Replacement	Brick lintels outside of rooms 126 (NW window of northmost small courtyard) and 106 (NE window of southernmost small courtyard are corroded and warping. They will need to be replaced. (2) lintels, 4' long. L6x4x3/8 lintel size.	$11,000
Brick Lintel Repair	Many brick lintels need to be sand blasted and repainted to eliminate corrosion. Approximately 900 linear feet of lintels.	$20,000
Exterior Brick Crack Repairs	Tuck and point existing cracks in the exterior mortar/brick located in (6) total locations in the small courtyards. (2) in the northernmost small courtyard, and (4) in the southernmost small courtyard. These cracks occur at lintel bearing and vary from 1'-0" to 3'-0" long	$6,000
CMU Expansion Joint Repairs	Seal gaps in expansion joint in gym CMU (room 163) in multiple locations. Total linear feet of cracks in expansion joint is approximately 45 feet.	$6,000
CMU Crack Repairs	Repair ~8' horizontal crack in the mortar joint at the top of the CMU in room 163, along the interior south wall. Repair (2) ~5' cracks in CMU wall in room 160A	$6,000
Replace Heat Pumps	Replace classroom WSHPs. Consider two speed units to provide better dehumidification and match load.	$6,500,000
Replace ERVs	Installnew DOAS units with ERV and includes gas heat and dehumidification capability. Address ventilation deficiencies with added ventilation capacity and distribution to classrooms.	$710,000
Gym and Locker Rm RTU	Install rooftop HVAC unit in place of AHUs on mezzanine and above locker room ceiling to serve gymnasium and add cooling and dehumification capability. I	$400,000
Auditorium RTU	Install new RTU in place of (2) original 1924 fans and heating coils in Basement serving Auditorium. Add cooling and dehumidification.	$480,000

Electrical Panel Replacement	2500A Main (208Y/120VAC) MDP with 2-1600A feeder breakers is in wet location causing corrosion. Replace with NEMA 3R switchboard. Replace legacy breaker panels. Assume 10 225A panels (based on 1990 drawings).	$550,000
	Total 3-4 Year Project Costs:	**$8,936,000.00**

5 - 10 Year Priority

		Project Costs
Roof Replacement	Remove approx. 20,800 SF of modified bitumen roofing and insulation over roof areas C through I. Install code compliant insulation and TPO roofing. Approx. year 2030	$690,000
Splash Pan Installation	Install 1 SF splash pans on walls at condensate drains in courtyard, 12 total.	$230,000
Conduit Replacement	Replace approx. 240 LF of 1" conduit along north facade of roof.	$13,000
Pavement Replacement	Remove and replace 262 SY of asphalt and 26 SY of PCC. For location, refer to the civil site plan exhibit found in the appendix of this report.	$55,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 142 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$35,000
Playground Pavement Replacement	Take out and restore deteriorated playground asphalt. Approximately 68 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$14,000
Fence Replacement	Remove and replace 20 LF of 6' chain link fence. For location, refer to the civil site plan exhibit found in the appendix of this report.	$8,000

Basement Stair Repair and Guardrail Replacement	Concrete stairs going down into room 6 are spalling at the guardrail post locations. Remove guardrail to repair concrete. (2) locations, approximately 1'-0" wide x 1'-0" deep. Provide (2) 1'-0" #3 epoxy dowels into existing concrete at each location.	$12,000
	Total 5-10 Year Project Costs:	**$1,057,000.00**

Projects Requiring Study

		Design Services Fee
Locker Rooms Reuse Study	Study to evaluate possibilities for reprogramming and renovation of the former boys and girls locker rooms. As noted in assessment item 1.6, the band room is located in a space that is not ideal for instruction. Consider relocating the band room from the lower level to one of these former locker room spaces.	$10,000
Room 174 Reuse Study	Study to evaluate possible uses for the original building main entrance lobby (room 174). With improvements this space could be used as a student gathering area and provide additional flexible meeting space.	$5,000
Basement Structure Assessment	There are many areas in the basement with exposed structure that has deteriorating brick walls, corroding steel framing, openings without proper support, and exposed rebar that is corroding in the elevated slab. This will be a more extensive study to determine severity and scope of the structural issues.	$6,000
Stair Tread Replacement	Replace stair between rooms 127 and 125 at the first floor as the nosing on the treads are falling apart and previous fixes have not fixed the issue. A further study is needed to determine how to replace the stair.	$3,000
Designated Hardened Area	No designated hardened area was observed. 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
	Total Study Design Service Fees:	**$26,500**

APPENDIX

5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

80 0 40 80 160

bbs ARCHITECTS ENGINEERS

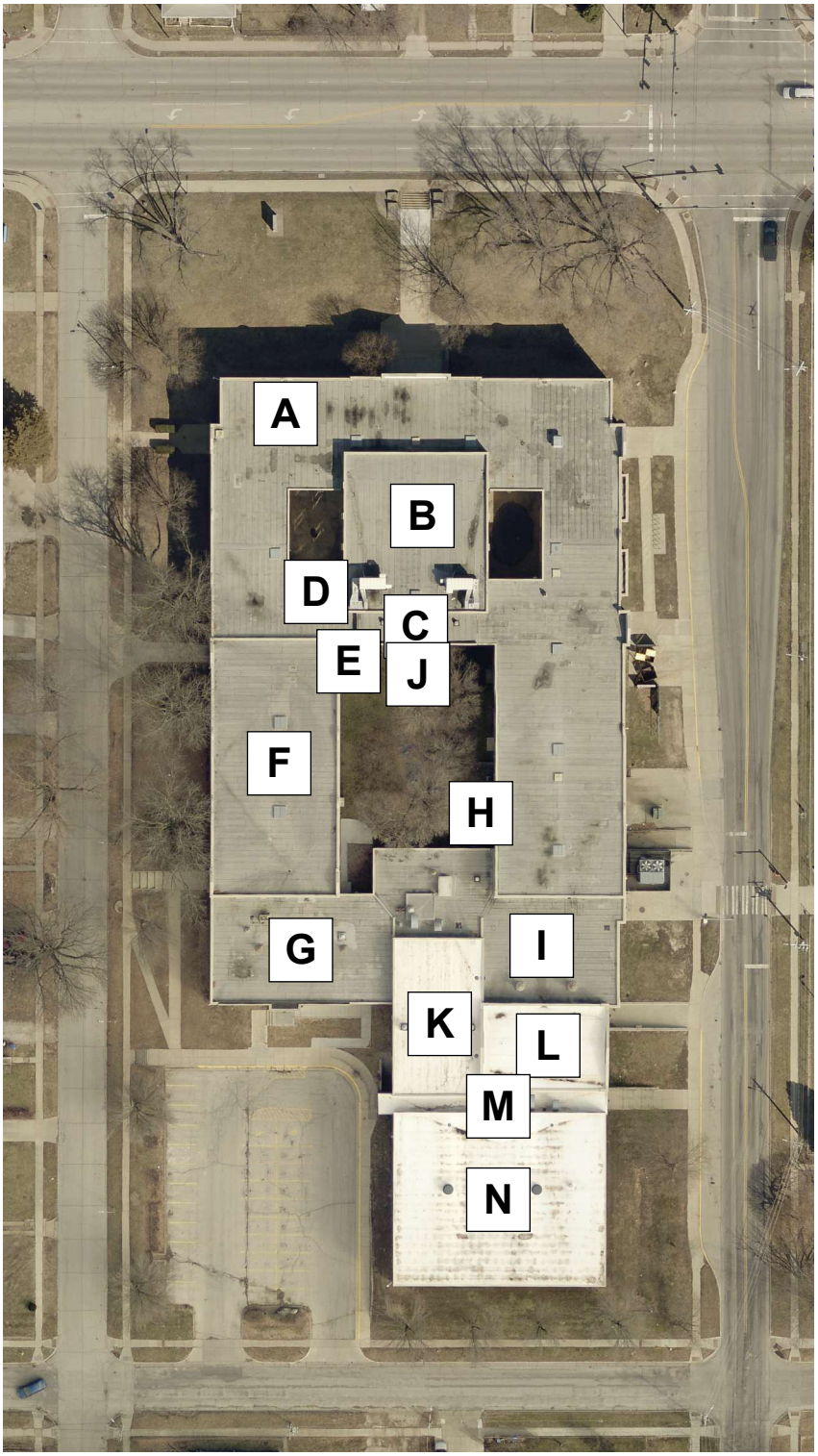
BISHOP ENGINEERING +

HARDING MIDDLE SCHOOL

EXHIBIT

PROJECT # 230286-42

DATE 2/16/2024



N

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Harding Middle School
February 13, 2023

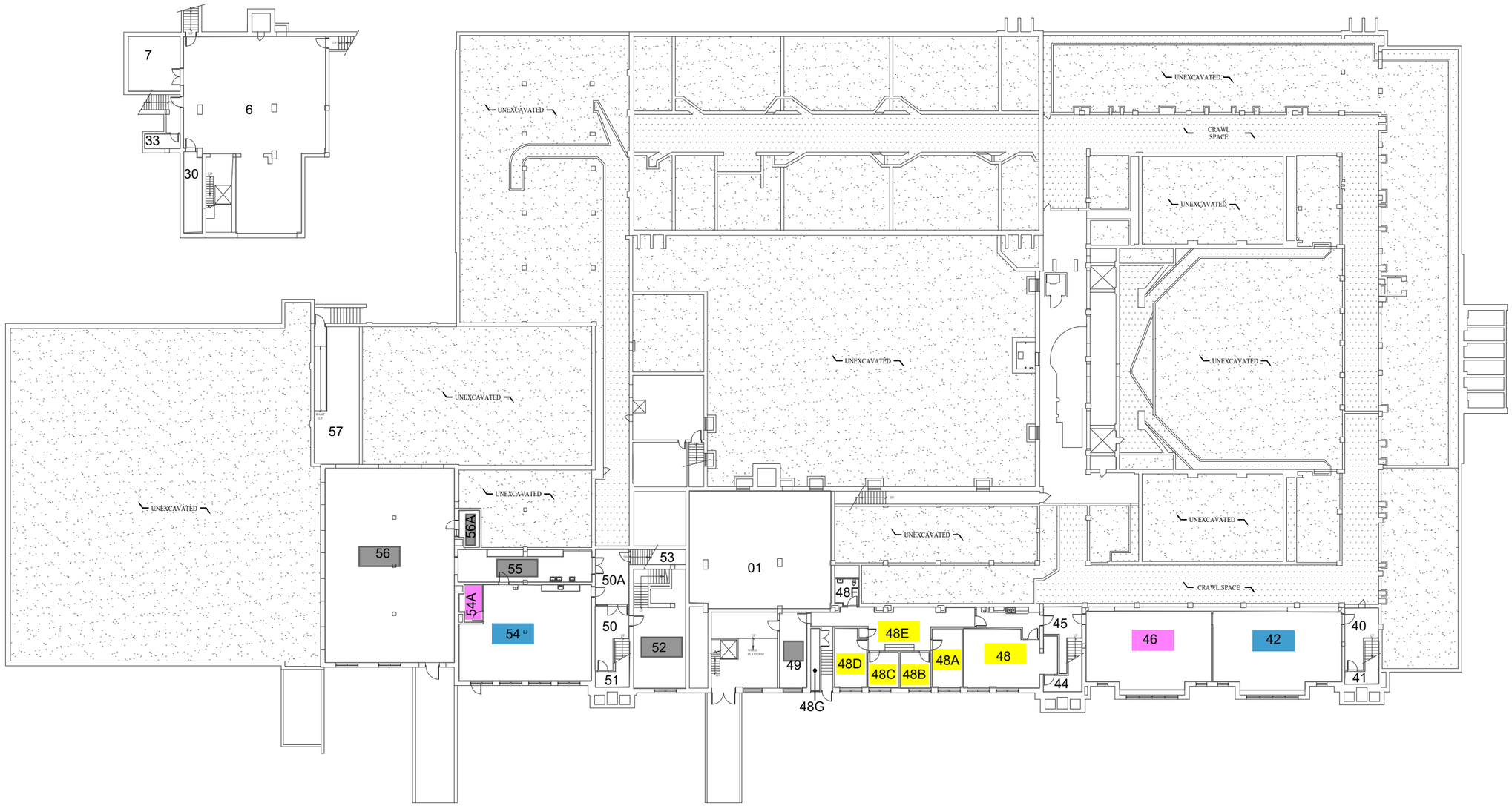
DesMoines PUBLIC SCHOOLS

HARDING MIDDLE SCHOOL

203 E EUCLID AVENUE
DES MOINES, IOWA 50313

BASEMENT

NORTH



HARDING MIDDLE SCHOOL

203 E EUCLID AVENUE
DES MOINES, IOWA 50313

FIRST FLOOR

NORTH

HARDING MIDDLE SCHOOL

203 E EUCLID AVENUE
DES MOINES, IOWA 50313

SECOND FLOOR

NORTH