DMPS FACILITY ASSESSMENT | MEREDITH MIDDLE SCHOOL

02.13.2024

ARCHITECTS
ENGINEERS

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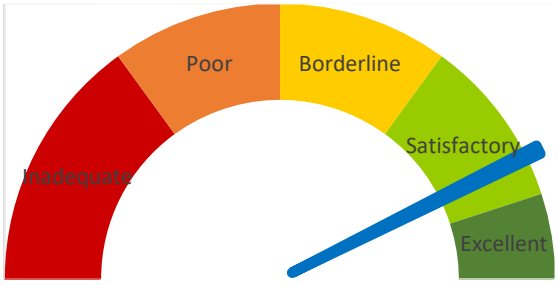


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Meredith Middle School's on-site facility conditions assessment was conducted on February 13, 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 Meredith Middle School are: casework repairs, physical education storage, roof cleaning, exterior wall repairs, landscape wall repairs, hot water recirculation system repair, toilet carrier repairs, pump seal repairs, geo-loop and heat exchanger flushes, and condensate drain acid neutralizer installation.

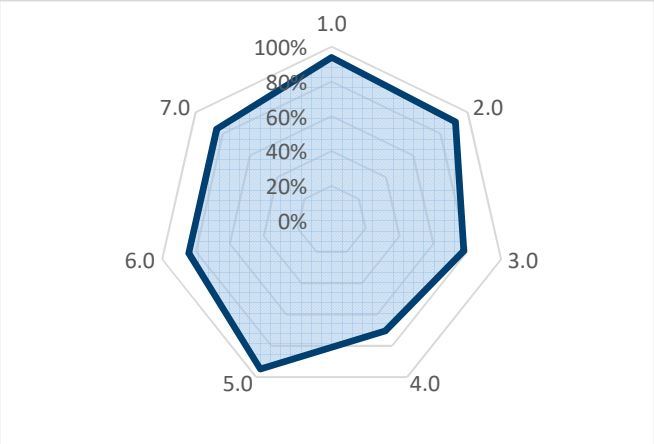
The assessment of Meredith Middle School identified a sizeable list of projects that should be addressed in the next 1-2 years. Some of the highest priority items for the 1-2 year projects are

- Casework repair and replacement
- Door finish repair
- Breakroom power outlet installation
- Restroom upgrades
- Interior wall repair and painting
- Roof repair and access installation
- Exterior sealant replacement
- Exterior painting
- Pavement, sidewalk, and curb replacements
- Redundant backflow preventer installation
- Mixing valve upgrade
- Geo-loop bypass valve repiping
- Exterior lighting installation

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

Discipline Comparison				Building Health				
Assessment Category Summary		Max Pnts	Earned Pnts	Bldg Weight Factor	Max Pnts	Earned Pnts	%	Rating
1.0	Educational Adequacy	180	169	2.00	360	338	94%	Excellent
2.0	Environment for Education	345	314	0.60	207	188	91%	Excellent
3.0	Exterior Envelope	95	74	3.00	285	222	78%	Satisfactory
4.0	School Site	85	60	1.50	128	90	71%	Satisfactory
5.0	Structural Conditions	95	90	1.30	124	117	95%	Excellent
6.0	Mechanical Systems	660	557	0.80	528	446	84%	Satisfactory
7.0	Electrical Systems	455	385	0.75	341	289	85%	Satisfactory
Total					**1,972**	**1,690**	**86%**	**Satisfactory**

Meredith 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 Meredith Middle School scored a building health rating of 86% or "Satisfactory" per the scale described above. Per the graph shown on the cover page of this report, scores within the "green" range are considered positive scores. Meredith Middle School is within this positive range. Significant improvement projects focused on the school site and exterior envelope would make the largest impact in increasing this performance score.

Building Data Record

Building Name: Meredith Middle School

Date: 2.13.2024

Address: 4827 Madison Avenue
Des Moines, IA 50310

High School Feeder System: Hoover High School

Building SF: 107,316 square feet

Site Acreage: 46.12 acres (with Hoover)

Date(s) of Construction: 1962, 1966, 1971, 1975, 1991, 2013

Date(s) of Roof Replacement: 2000, 2019

Current/Scheduled Projects: Restrooms and Painting - 2024
Door Security - 2024
Cafeteria Expansion - 2024

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

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

Exterior Facade:

- [x] Brick
- [x] Stucco
- [x] Metal
- [x] Wood
- [x] Other
  Rock-Faced Precast Concrete

Floor/Roof Structure:

- [ ] Wood Joists
- [x] Steel Joists/Beams
- [x] Slab on Grade
- [ ] 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	5	5	
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	4	4	Locker rooms are across the hallway from the gymnasium instead of directly connected.
1.4	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	2	4	8	Cafeteria is two separate areas, and both are fully open to the corridor. This is not ideal for managing noise.
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	5	10	
1.7	**Auditorium** has sufficient arrangement, technology, and acoustics for program.	2	N/A	0	
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	5	10	

A | Architectural, Programming

ASSESSOR: Tim Bungert

		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	N/A	0	
Core Classroom					
1.13	Classroom space permits arrangements for **small group activity.**	2	4	8	All classrooms have movable desks, but a handful of classrooms were very crowded.
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 power strips and extension cords stretched across the floor were noted in a few classrooms.
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	No large meeting space available beyond classrooms. Cafeterias could work, but do not provide any privacy.
1.20	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL			169	

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	The only common areas available to students are locker bays, which do not appear to be used frequently.
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	3	6	Divided cafeteria areas areas do not manage noise well and require double the supervision compared to a single cafeteria space.
2.5	**Furniture Systems** are in good or like new condition.	1	4	4	Some staff furniture (desk chairs, conference room furniture) is older, uncomfortable, or heavily worn. Science room 5290 does not have any student furniture. Student furniture was all in good to excellent condition in other rooms.
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	5	5	
2.13	**Mother's room** is a separate designated space properly furnished.	1	1	1	Two spaces observed are currently used by staff as mother's rooms. These arrangements appeared to be informal, and both spaces lacked adequate furnishings.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	3	3	Older 8 inch vinyl tile flooring is showing signs of age and wear in many rooms.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Gymnasium ceiling is missing approximately 60 adhered-type ceiling tiles.
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	4	4	Wood veneer casework in a handful of rooms needs repair or replacement See projects list.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	3	9	Nearly all wood doors have significant staining or damage from mopping and foot traffic. Add mop and/or kick plates to wood doors - see project list.
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	4	8	Some vision lites were noted as covered, but the majority were unobstructed.
2.26	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	
2.27	**Flooring** is maintained in a **non-slip** condition	2	5	10	
2.28	**Traffic areas terminate at exit or** stairway leading to egress	5	5	25	
2.29	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	N/A	0	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	N/A	0	

A | Architectural, Interior

ASSESSOR: 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			318	

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	3	6	Main facade (south) is very opaque with two sets of three doors very far from one another leaving the main entry / entries without easy identification or welcoming aesthetic.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	5	15	
3.3	**Roof access** is safe for all roofs.	3	3	9	Roof hatch lacks guardrails. Improve access to three roof transitions.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	4	12	Some sealant replacement at needed at gymnasium.
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	Several exterior doors require refinishing.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	3	3	This is a larger building with more areas in need of upkeep projects that are primarily confined to painting and replacement of sealant in a few repetitive locations.
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	4	4	0 - Doors do not latch 4 - Doors with card readers 13 - Doors with locks 1 - Doors with no exterior lock 0 - Doors with no signage. 3 - Doors at courtyard with no monitoring.
	TOTAL			74	

C | Civil

ASSESSOR: Jack Gorman / Joel Jackson

4.0 The School Site

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	4	4	Good drainage away from building. The NW corner of the south parking lot was ponding water and it appeared the intake was not functioning at all. The wooden retaining wall by the tennis courts was shifting and could be removed without replacement.
4.2	**Parking areas** are in good condition.	5	3	15	The south lot asphalt was in poor condition and in need of replacement. The NE parking lot was new concrete and appeared to be holding up well.
4.3	**Drive areas** are in good condition.	3	4	12	The drives into both parking lots appeared to be in okay condition but will need replacement within 10 years. The north drive into the NE parking lot was in worse condition and will need replaced sooner.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	5	5	DMPS states staff parking okay and events are managed with the parking at Hoover High School.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	Sections of sidewalk across site have deteriorated and need replacement. The SW corner of the building appeared to have frequent truck traffic over the sidewalk to access the walk track. Expanding the sidewalk to 10' in width would improve access and help extend future pavement life.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	A couple of building doors were without sidewalk access. Site was easy to navigate otherwise.
4.7	**Hard surface** playground surfaces are in good condition.	3	N/A	0	
4.8	**Fencing** around the site is in good condition.	1	4	4	Most of the fencing across site was in good condition. The fence around the eastern bike racks appeared worn and old, recommending replacement within 10 years.
4.9	**Trash enclosure** is in good condition.	1	4	4	The pavement and masonry brick were in good condition but the gate was lightly damaged.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	There were a couple of missing cleanout lid on the SE corner of the building. The intake in the NW corner of the south parking lot may need to be cleaned with a vac truck.

ASSESSOR: Jack Gorman / Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	3	3	There is some space available to the east of the existing building for building or parking expansion but they would be limited in size. The available space to the west of the building is used for athletics.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	2	2	Buses use the south drop off area and parents use the south and west areas. DMPS states the south area gets congested and that there are drop off conflicts on a daily basis.
	TOTAL			60	

S | Structural

ASSESSOR: Erik Raker

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	N/A	0	
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	5	10	
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	5	5	
5.9	**CMU** is in good condition.	1	N/A	0	
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Erik Raker

		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	N/A	0	One story building - no elevated framing.
5.13	Floor framing appears to meet the **code requirements.**	3	N/A	0	
Roof Framing					
5.14	**Roof framing** appears to be in good condition.	3	5	15	
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	N/A	0	
5.16	**Canopies** appear to be in good condition.	1	5	5	Framing appears in good shape. Columns along the south edge of the building should be painted soon (non-structural issue).
5.17	**Loading dock concrete** appears to be in good condition.	2	5	10	
5.18	**Mechanical screening** appears to be in good condition.	2	5	10	
5.19	**Stairs** appear to be in good condition.	1	N/A	0	
5.20	**Stair railings** appear to be in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Erik Raker

		Weight Factor	Rating	Points	Comments
5.21	**Tunnels** appear to be in good condition without cracks.	1	N/A	0	
5.22	There is a **designated hardened area** in the building.	1	0	0	No hardened area was observed.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			90	

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	5	15	
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	5	15	
6.3	Appropriate **amount of ventilation** are provided to each space.	5	2	10	Ventilation air provided to classrooms is 60-70% off what is required. See note below regarding operation of existing ERV units.
6.4	**Ventilation** is provided during occupied hours.	5	3	15	3 ERVs not operational on day of site visit with relative mild ambient temps.
6.5	**Outdoor air intake locations** are appropriate.	4	4	16	Rooftop ERVs with relatively tight screening and restrictive airlow.
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	4	20	Appears to be true, however see note under 6.4 regarding ERV operation.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	3	6	Significant air movement in the main corridor noted when on site.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	2	10	Significant failure rate of WSHP. Noted filters on inlet appear to have not been changed and limited airflow. Also noted an event that introduced sediment to geo-exchange piping has potentially settled in coaxial heat exchange and reduced geo-fluid flow.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.11	**Dehumidification** is provided and addressed humidity loads in incoming outside air.	3	4	12	All DOAS units, except one, are provided with heat pumps for cooling/dehumidification.
Plumbing Design					
6.12	**Water Supply Pressure** is adequate to allow for operation of plumbing fixtures.	5	4	20	Maintenance reported that there have been two separate breaks in the water service to the building. These breaks were patched but the line has not been replaced.
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	Limited to no hot water at lavatories.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	4	20	Condensate drains off of boilers goes directly to sewer instead of going through condensate neutralizer. This can cause corrosion and failure of cast iron piping.
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	Damaged water closet carrier in rooms 5215 and 5220. Back to back water closet carrier is not anchored properly.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	5	15	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	N/A	0	
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	5	15	
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	4	8	Noted moisture on floor due to leaking pump seal on P-3.
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	Bypass valve for geo-exchange loop does not isolate well-field from building as desired by maintenance. Only isolates the boiler from the building.
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	4	8	Hose bibbs located at grade. Buiding is single story. Only a couple of devices require water for cleaning.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	4	8	Fall protection needed at some rooftop equipment.
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			545	

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	Light equipment stored in MDP area.
7.4	The **MDP** appears serviceable.	4	4	16	Eaton 1200A 480Y/277 2012 (<25 year old equipment)
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	4	16	6/17=35%
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	4	16	Light equipment stored in front of DP.
7.8	The Distribution Panel appears **serviceable.**	4	4	16	(<25 year old equipment)
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	4	16	7spare of 19 total - 37%

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	5	10	
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	0	0	No exterior receptacles observed.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	Staff lot is dark. SE inset of building is dark, especially at egress door. West side of building is dark, especially as contrasted to west side of Hoover (adjacent HS).
Electronic System Design					
7.14	MDF is **neatly organized** and has appropriate clearances and working spaces. Cables are neatly laced or trained. Entry to the room is restricted.	4	5	20	MDF evaluation includes MDF room AND DEMARC room with fiber switches. No card reader controlled 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	20kVA liebert UPS in Demarc feeding multiple panels. Minuteman in MDF NOT IN USE. Backed up by Generator.
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 AND 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	0	0	Ground bar in Demarc appears OK. MDF and IDF ground bars not grounded - only connected to one rack.
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	Sub-panel from Hoover HS Simplex 4100U
7.23	Building is equipped with an **access control system.**	5	2	10	5/16=31%
7.24	Building is equipped with a **CCTV system.**	5	4	20	West side perimeter lighting levels are low. Camera images in Black & White.
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 - from Hoover.
	TOTAL			385	

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

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

Project Descriptions

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

Projects Requiring a Study

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

Cost Estimating

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

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

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

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

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

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

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

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

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

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

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

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

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

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

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

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

PROJECT RECOMMENDATIONS

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

Short Term Maintenance

Casework Repairs	Replace 26 LF of plastic laminate edge banding at removed countertop in room 5155. Replace 13 LF of plastic laminate edge banding at countertop in room 5195.
Walkoff Mats Replacement	Replace damaged walkoff mats at building entrances.
Physical Education Storage	Organize and properly store workout equipment and other items in rooms 5190 and 5240. These rooms were completely inaccessible during assessment due to the large volume and disarray of items stored.
Restroom Mirrors Installation	Install mirrors in restroom 5210 and 5225.
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. Also, remove birds nests from sprinkler head at door to room 5670 and 5840.
Exterior Repairs	Provide new roof drain cover to drain at roof area C. Conduit above roof north of gymnasium is laying on roof. Mount it to the wall above the roofing. Patch hole in wall at north-east intersection of Meredith and Hoover. Patch soffit hole near room 5700. Remove loose pipe/conduit above gas meter and fill penetration with grout.

Landscape Wall Repair	Repair the blocks of the modular landscaping block wall to restore aesthetic qualities of the wall. For location, refer to the civil site plan exhibit found in the appendix of this report.	
Install Cleanout Lid	Install a lid over the cleanout to prevent debris from clogging the pipe. For location, refer to the civil site plan exhibit found in the appendix of this report.	
Hot Water Recirculation System Repair	Investigate hot water recirc system for restrictions or piping issues. Install automatic balancing valves in loops to control flow.	
Toilet Carrier Repairs	Repair carriers for water closet (toilet) that are not secured to floors in rooms 5215 and 5220.	
Pump Seal Repair	Pump seal on P-3 in need of replacement.	
Geo-Loop Flush	Conduct flush of fluid in geo-loop to remove sediment added due to damage to loop.	
Coaxial Heat Exchangers Flush	Flush out sediment from larger coaxial heat exchangers in WSHPs and DOAS unit.	
Condensate Drain Acid Neutralizers	Install acid neutralizer to hot water boiler condensate drain to protect downstream underfloor piping. Recommend immediate flushing with water to help dilute acid.	

1 - 2 Year Priority

		Project Costs
Casework Repair and Replacement	Replace 22 LF of casework and countertop in science classroom 5290. Replace 14 LF of casework and countertop in art room 5595. Repair a total of 70 SF of finish of wood veneer casework in FCS room 5500.	$35,000

Door Finish Repair	Repair finish on both sides of wood doors 5000B, 5300B (x2), 5300C (x2), and 5340A. 7 doors total.	$8,000
Room 5290 Furniture	Provide appropriate student furniture for science classroom 5290. This room currently has no furniture but appears to still be in use.	DMPS
Restroom Upgrades	The boys', girls', and staff restrooms north of room 5555 (no room numbers available) should be renovated to include walls, flooring, ceilings, lighting, casework, plumbing fixtures, toilet partitions, and restroom accessories. Girls Restroom: 7 water closets, 4 lavatories, 285 SF. Boys Restroom: 4 water closets, 2 urinals, 2 lavatories, 300 SF. Staff Restroom: 1 water closet, 1 lavatory, 76 SF.	$320,000
Interior Wall Repair and Painting	Repair minor wall damage and touch up paint in rooms 5000, 5050, 5075, 5100, 5105, 5110, 5120, 5170, 5230, 5235, 5250, 5270, 5710, 5900, 5915, and 5960 (total 660 SF). Repair 35 SF of plaster damage and paint in room 5115. Repaint all walls in rooms 5005 (500 SF) and 5175 (1,200 SF). Paint single-door hollow metal frames at rooms 5045, 5075 (x2), 5535, 5540, and 5545.	$11,000
Roof Access Installation	Provide guardrail around roof hatch, roof area T listed under Hoover HS. Provide (2) 2 VLF ladders to transition between roof areas D and F. Provide 2 VLF roof ladder extensions to both ladders (2) from roof area B to E.	$13,000
Roof Repair	Provide splash pads where roof area G drains onto F, H, and I; 7 locations total, 4 SF each.	$6,000

Exterior Sealant Replacement	Replace sealant at metal jambs of many rock-faced concrete panels around building: (14) north of wing rm5700-5720; three walls from room 5730-5930; Approx. total: 66 LF Replace sealant where exterior metal framing meets masonry: near room 5560; room 5500 north and south; Approx. total: 48 LF Replace sealant where exterior metal framing meets soffit: (30) north of wing rm5700-5720; (18) three walls from room 5730-5930; Approx. total: 48 LF Replace sealant at perimeter head joint of windows of gymnasium and louver north of gymnasium. Approx. total: 120 LF Replace sealant where soffit meets enameled wall panels: north of wing rm5700-5720; three walls from room 5730-5930; south facade; room 5180-5230; Approx. total: 862 LF Replace sealant where soffit meets wall: room 5180-5230; Approx. total: 80 LF	$15,000
Exterior Repainting	Repaint exterior metal siding at north-east wing; approx. 380 SF. Repaint wood screen door (single) at 5655 and install screen.	$8,000
Pavement Replacement	Remove and replace 1,652 SY of asphalt. For location, refer to the civil site plan exhibit found in the appendix of this report.	$220,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 36 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$11,000
Curb Repairs	Return damaged curbs to new condition. Approximately 83 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$10,000
Thermsotatic Mixing Valve Replacement	Install digital thermsotatic mixing valve in place of existing.	$13,000
Geo-loop Bypass Valve Repiping	Repipe three way valve to allow exterior well field to be bypassed. Currently three way valve bypasses flow around boilers.	$85,000

Domestic Water Main Replacement	Replace domestic water main from curb stop to building.	$15,000
Breakroom Power Outlet Installation	Install 2 duplex receptacles, each on dedicated circuits to provide power for refrigerator and other appliances in breakroom 5075. Locate outlets to eliminate extension cords stretched across the room.	$9,000
Exterior Lighting	Add building-mounted exterior lighting along west perimeter similar to Hoover HS west perimeter lighting. Add building-mounted exterior lighting at inset on east side of the building. Add pole mounted lighting at southwest staff parking lot.	$80,000
	Total 1-2 Year Project Costs:	**$859,000.00**

3 - 4 Year Priority

		Project Costs
Gymnasium Acoustic Upgrade	At gymnasium 5300 remove 6,200 SF of damaged adhered ceiling tile (abate hazardous materials if required -- abatement not included in estimate). Install acoustic panels or baffles to reduce sound reverberation time. The space is approximately 6,200 SF with approximately 2,000 SF of acoustic material needed.	$110,000
Vocal Music Room Acoustic Upgrade	At vocal music room 5505 remove 1,600 SF of damaged adhered ceiling tile (abate hazardous materials if required -- abatement not included in estimate). Install acoustic panels or baffles to reduce sound reverberation time. The space is approximately 1,160 SF with approximately 500 SF of acoustic material needed.	$30,000
Wood Door Protection	Install kick plates on both sides of all classroom, office, and other wood doors adjacent to hard surface flooring (approximately 80 doors) to prevent further damage from impact and mopping.	$45,000

Flooring Replacement	Older style 8" VCT flooring is still present in many rooms and is heavily worn or damaged. Remove VCT flooring and replace with carpet tile in rooms 5505, 5515, 5520, and 5530 (total 3,400 SF). Remove VCT flooring and replace with LVT in rooms 5040, 5046, 5300, 5340, 5390, 5585, 5595, 5600, 5700, 5705, 5710, 5715, 5720, 5900, 5905, 5910, 5915, 5920, 5930, 5945, and 5950 (total 15,100 SF).	$180,000
Conference Room Furniture	Replace worn, uncomfortable conference table and chairs in conference room 5005.	DMPS
Exterior Repainting	Repaint exterior plywood panels below roof area G; approx. 1,100 SF. Repaint steel plates at gymnasium; approx. 15 SF. Repaint steel framing fascia at: room 5600-5700; room 5920-5930; room 5120-5230; rm5290-5500; courtyard along 5585-5595; Approx.: 466 SF Repaint lintels at courtyard along 5585-5595, south side (locker rooms); Approx.: 50 SF Repaint steel posts along south facade. Approx.: 400 SF Repaint soffit: room 5720-5730; room 5920-5930; 5120-5230; Approx.: 180 SF Repaint soffit at south facade between doors. Approx.: 3,300 SF	$30,000
Exterior Door Repainting	Repaint rusty doors: double with sidelites at 5608; double with sidelites near 5600; triple door with sidelites at 5010; triple door with sidelites at 5045; double door with sidelites near 5290.	$14,000
Splash Pan Installation	Install splash pans below condensate drains around building and in courtyards. Approx. 93 total.	$10,000
Pavement Replacement	Remove and replace 25 SY of PCC. For location, refer to the civil site plan exhibit found in the appendix of this report.	$9,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 204 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$40,000

Widen Sidewalk	Expand the sidewalk width to 10' to allow for better truck access and improve future pavement life. For location, refer to civil site plan exhibit found in the appendix of this report.	$20,000
Heat Pump Replacement	Replace classroom heat pumps. Consider 2-speed unit to better match load and provide dehumidification.	$5,200,000
Replace ERVs	Replace existing ERVs with new DOAS units with energy recovery, gas heat, DX cooling and hot-gas reheat for dehumidification. Address ventilation deficiencies with added ventilation capacity and distribution to classrooms.	$1,600,000
	Total 3-4 Year Project Costs:	**$7,288,000.00**

5 - 10 Year Priority

		Project Costs
Pavement Replacement	Remove and replace 163 SY of PCC. For location, refer to the civil site plan exhibit found in the appendix of this report.	$30,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 635 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$140,000
Bike Rack Pavement Replacement	Remove and replace 390 SY of asphalt around the bike racks. For location, refer to the civil site plan exhibit found in the appendix of this report.	$70,000
Fence Replacement	Remove and replace 329 LF of 6' chain link fence. For location, refer to the civil site plan exhibit found in the appendix of this report.	$45,000
Wall Removal and Track Repairs	Remove the wooden retaining wall and repair the damaged section of walk track. For location, refer to the civil site plan exhibit found in the appendix of this report.	$25,000
	Total 5-10 Year Project Costs:	**$310,000.00**

Projects Requiring Study

		Design Services Fee
Room 5145 Space Use Study	Study to explore improvements to room 5145 to provide an appropriate learning space for students. This room is currently used for student educational support, but also contains many stored items and electrical panels. The study will consider potential for removal of stored items, mechanical noise mitigation, electrical panel relocation, and finish upgrades. If renovation is deemed not feasible, explore possible locations for this function elsewhere in the building.	$10,000
Mother's Room Study	Study to define a private dedicated space for a Mother's Room that includes a sink, side table, chair, and privacy door hardware.	$5,000
Main Entry Improvements	Explore ways to provide maneuvering clearances at both accessible entrances (guardrail impedes on ADA clearance). Explore ways to make the main entry more recognizable, welcoming, and appropriate for elementary school students.	$10,000
Roof Access Prevention	Design a way to prevent someone from climbing the exterior gas line at the NE wing, near room 5655. It appears as though the gas line at the roof is not being used, except at room 5500. Explore eliminating the gas line entirely or taking the gas line inside the building and up through the roof in lieu of an exterior fence or other screening.	$5,000
Flagpole Replacement	The finish on the flagpole is significantly worn. Two options are possible: 1) replace pole with non-wearing pole of aluminum (internal halyard recommended); 2) replace halyard components with non-wearing components and repaint flagpole.	$2,500
Utility Improvement	The NW corner of the south parking lot was ponding water. Determining if the intake should be cleaned with a vac truck or to raise the last 5 stalls of the parking lot during pavement replacement is needed.	$1,500
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	**$36,500**

APPENDIX

HOOVER HIGH SCHOOL

MEREDITH MIDDLE SCHOOL

HOOVER HIGH SCHOOL

MEREDITH MIDDLE SCHOOL

CITY MAINTAINED

MEREDITH MIDDLE SCHOOL

REMOVE RETAINING WALL

REPAIR WALK TRACK
12 SY ASPHALT

NO SIDEWALK ACCESS

177 SY PCC

6 SY PCC

11 SY PCC

9 SY PCC

9 SY PCC

42 SY PCC

10 LF 6" PCC CURB

25 SY PCC

73 LF 6" PCC CURB

11 SY PCC

366 SY ASPHALT

20 SY PCC

8 SY PCC

329 LF 6' CHAIN-LINK FENCE

22 SY PCC

29 SY PCC

16 SY PCC

REPAIR MODULAR BLOCK WALL

5 SY PCC

2 SY PCC

7 SY PCC

12 SY PCC

NO SIDEWALK ACCESS

7 SY PCC

5 SY PCC

13 SY PCC

55 SY PCC

WIDEN SIDEWALK TO 10'

35 SY PCC

7 SY PCC

18 SY PCC

10 SY PCC

MISSING CLEANOUT LID

UTILITY IMPROVEMENT-
CLEAN WITH VAC TRUCK OR RAISE
PARKING LOT DURING REPLACEMENT

133 SY PCC

1,652 SY ASPHALT

4 SY PCC

7 SY PCC

4 SY PCC

15 SY PCC

40 SY PCC

80 SY PCC

37 SY PCC

15 SY PCC

3 SY PCC

75 SY PCC

5 SY PCC

6 SY PCC

5 SY PCC

2 SY PCC

2 SY PCC

23 SY PCC

13 SY PCC

50 SY PCC

2 SY PCC

24 SY PCC

2 SY PCC

18 SY PCC

38 SY PCC

7 SY PCC

2 SY PCC

2 SY PCC

4 SY PCC

3 SY PCC

2 SY PCC

5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

100 0 50 100 200

bbs ARCHITECTS ENGINEERS

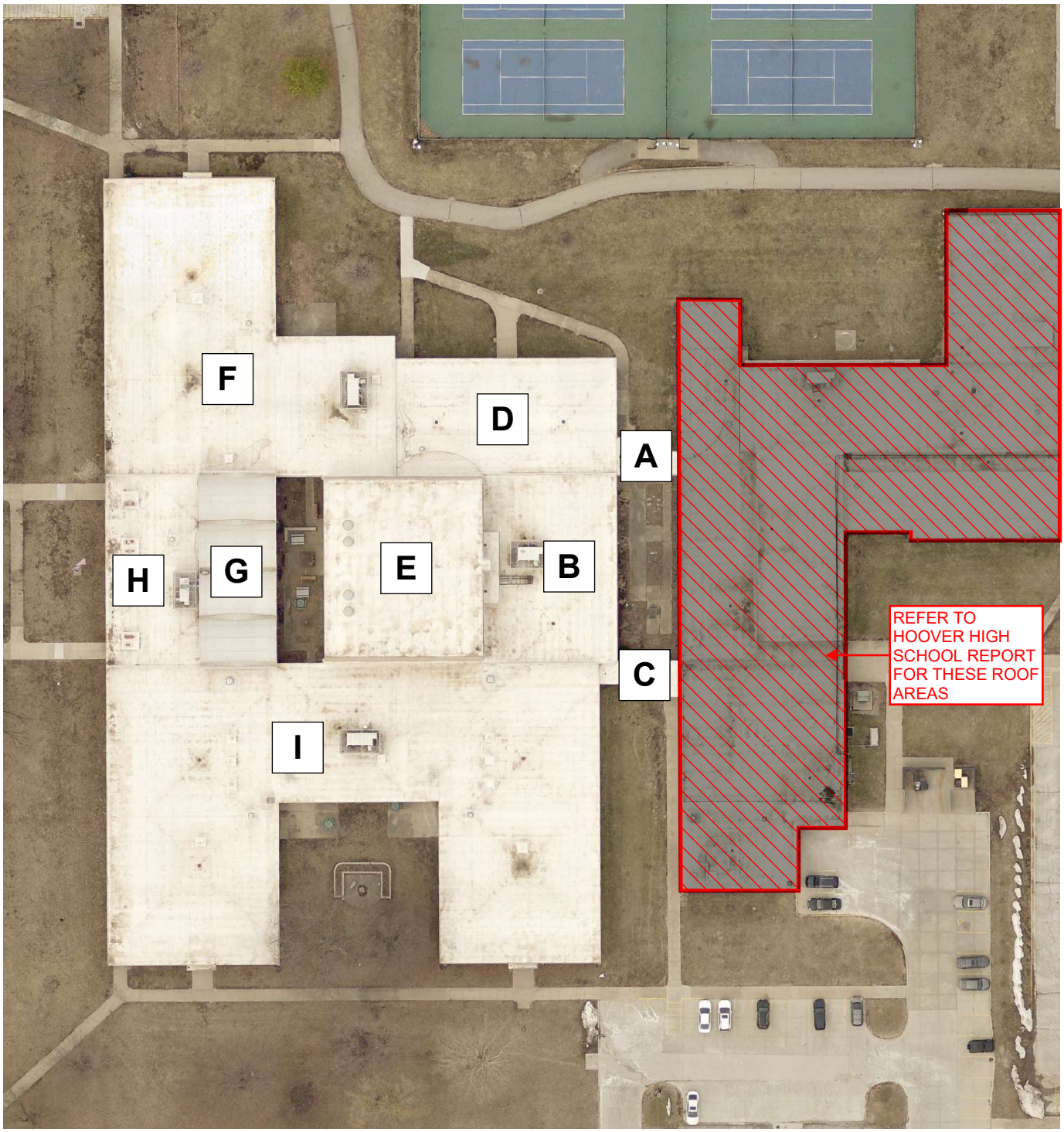
BISHOP ENGINEERING +

MEREDITH MIDDLE SCHOOL

EXHIBIT

PROJECT # 230286-46

DATE 2/16/2024



bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Meredith Middle School
February 13, 2024

MEREDITH MIDDLE SCHOOL

4827 MADISON AVENUE
DES MOINES, IOWA 50310

FIRST FLOOR

NORTH