DMPS FACILITY ASSESSMENT | WRIGHT ELEMENTARY

11.07.2023

ARCHITECTS
ENGINEERS

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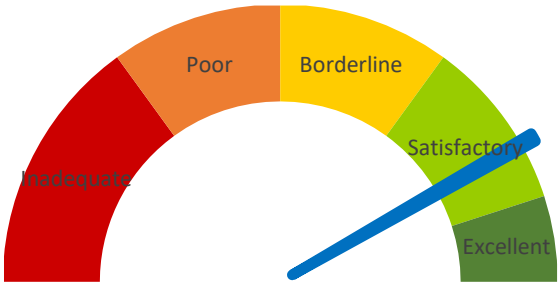


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Wright Elementary's on-site facility conditions assessment was conducted on November 7, 2023 and included visual conditions assessment from professionals covering interior architecture, exterior building envelope, the property's grounds (site), structural condition, mechanical (HVAC/Plumbing) systems, electrical systems (power, exterior lighting, interior lighting, fire alarm, and general IT), and the elevator conditions.

The building is generally well-maintained. No immediate concerns or short term maintenance projects were noted.

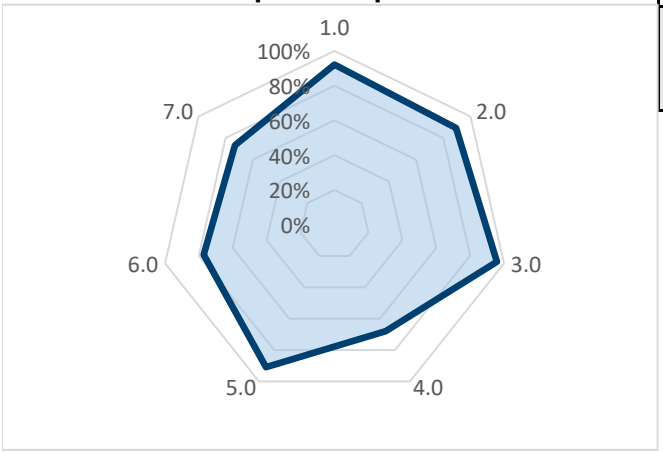
The recommended projects for Wright Elementary to be completed in the next 1-2 years include:

- Exterior sealant replacement at control joints, select doors, and building fascia
- Replacement of some portions of asphalt and concrete paving
- Mechanical HVAC equipment replacements
- Installation of a secondary backflow preventer
- Design and installation of upgrades to the building electrical distribution system

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

Discipline Comparison				Building Health				
Assessment Category Summary		Max Pnts	Earned Pnts	Bldg Weight Factor	Max Pnts	Earned Pnts	%	Rating
1.0	Educational Adequacy	165	152	2.00	330	304	92%	Excellent
2.0	Environment for Education	350	313	0.60	210	188	89%	Satisfactory
3.0	Exterior Envelope	95	91	3.00	285	273	96%	Excellent
4.0	School Site	100	68	1.50	150	102	68%	Borderline
5.0	Structural Conditions	110	100	1.30	143	130	91%	Excellent
6.0	Mechanical Systems	610	471	0.80	488	377	77%	Satisfactory
7.0	Electrical Systems	450	330	0.75	338	248	73%	Satisfactory
Total					**1,944**	**1,621**	**83%**	**Satisfactory**

Wright Elementary
Discipline Comparison



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

After totaling the scores from the various discipline assessment reports Wright Elementary scored a building health rating for 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. The improvements to building site, mechanical systems, and electrical systems proposed in this report may help increase this rating to "Excellent".

Building Data Record

Building Name: **Wright Elementary**

Date: **November 7, 2023**

Address: **5001 SW 14th Street**
Des Moines, IA 50315

High School Feeder System: **Lincoln High School**

Building SF: **39,139 square feet**

Site Acreage: **7.59 acres**

Date(s) of Construction: **1961, 2010, 2016, 2018**

Date(s) of Roof Replacement: **2000, 2017**

Current/Scheduled Projects: **Underground Fiber for School Network - 2024**

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

- [ ] Gas/Electric RTU or DOAS
- [ ] 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
- [x] Metal
- [ ] Wood
- [x] Other **Precast Concrete**

Floor/Roof Structure:

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

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.	2	5	10	
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	2	5	10	
1.3	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	2	3	6	Dry goods are stored on movable shelving in cafeteria and throughout kitchen including in front of cooking equipment. Storage space appears to be inadequate.
1.4	**Music room** is adequate for providing introductory music instruction.	2	5	10	
1.5	**Art room** has sufficient accommodations for program.	2	5	10	
1.6	**Library/Resource/Media Center** provides appropriate and attractive space.	1	2	2	Media center is very small and does not include any casual reading spaces. No daylight or view access.
Core Classroom					
1.7	Classroom space permits arrangements for **small group activity.**	3	4	12	Most classrooms are able to create space for small group activities. A few classrooms (notably 114, 122, and 124) do not appear to have sufficient space for small group areas.
1.8	**Student storage space** is adequate.	2	5	10	
1.9	**Teacher storage space** is adequate.	3	5	15	
1.10	Classroom **acoustical treatment** of ceiling, walls, and floors provide effective sound control.	3	5	15	Acoustic control in classrooms is very good.

A | Architectural, Programming

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
1.11	**Classroom power and data receptacles** are located to support current classroom instruction.	4	5	20	
1.12	Educational **technology** supports instruction.	4	5	20	
Administration					
1.13	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	4	4	Small conference room is well equipped and attractive. There is no large conference space available.
1.14	**Main office** has a check-in and waiting area.	2	4	8	Waiting area is very small.
	TOTAL			152	

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.	1	5	5	Radial floor plan makes the school very easy to navigate.
2.2	Communication among students is enhanced by **common areas.**	1	0	0	Very few common areas present.
2.3	Areas for students to **interact are suitable to the age group.**	1	5	5	
2.4	Large group areas are designed for effective **management of students.**	2	5	10	
2.5	**Furniture Systems** are in good or like new condition.	1	5	5	
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	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.	2	5	10	
2.12	**Break room** is adequately sized and furnished for proper use.	1	5	5	
2.13	**Mother's room** is a separate designated space properly furnished.	1	0	0	No mothers room provided.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	5	5	
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	5	5	
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	4	12	Nearly all wood doors and adjacent wood trim show signs of finish damage from wet mopping the hard surface flooring.
2.19	**Facility doors** are keyed to standardized master keying system.	3	4	12	Exterior mechanical room adjacent to gym is not on the master key.
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	0	0	Classroom function lock sets. Unsure if they are intruder lock sets.
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	5	15	All classroom doors have either a vision lite in the door or an adjacent sidelite.
2.25	**Vision lite** in doors is clear and uncovered.	2	2	4	Nearly all vision lites or sidelites adjacent to classroom doors are blocked or partially blocked from view.Nearly all vision lights or sidelights adjacent to classroom doors are obstructive
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	5	25	

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			313	

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	5	15	
3.3	**Roof access** is safe for all roofs.	3	5	15	
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	5	5	Low-e coating cannot be determined.
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	5	10	
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	5	5	
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	1	1	1 door does not latch. 6 doors do not have card readers. 13 doors lack exterior signage.
	TOTAL		91		

C | Civil

ASSESSOR: Jack Gorman

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	There is good drainage away from the building, the north side of the site is quite steep but walkable. The north asphalt area is flat by the building
4.2	**Parking areas** are in good condition.	5	3	15	The parking pavement in the west lot is in good condition. The east lot parking pavement is cracking throughout and will need replacement in areas.
4.3	**Drive areas** are in good condition.	3	4	12	The drive aisle through the west lot appears to be performing well. The asphalt drive in the east lot was recently replaced with concrete.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	4	4	There was visitor parking available in the west lot and spaces available in the west lot as well.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	Most of the interior walk on site were in good condition. The perimeter walk was patched throughout the west side with some older sections requiring repair.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	All the building doors were accessible by walk. There are two outdoor stages near the playground area without sidewalk access.
4.7	**Hard surface** playground surfaces are in good condition.	3	2	6	The concrete areas in the south looked new and in good condition, including the walk track. The north asphalt was cracking badly in areas and had moved away from the building by ~ 6".
4.8	**Fencing** around the site is in good condition.	1	4	4	The fence along northeast of the site looked a little rusty/old but was without any major issues. The fence along the south looked worn out and will need replacement in the future.
4.9	**Trash enclosure** is in good condition.	1	5	5	The brick masonry, adjacent pavement, and gate were all in good shape.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	5	5	There was one intake covered with grass and another with the concrete rim cracked but no major issues were observed.

ASSESSOR: Jack Gorman

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	4	4	There is some room for parking expansion in the southwest of the site but not a lot. The building has space to the north and northwest for expansion.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	2	2	Bus lane is on the west side of the site and parents use the circle drive just to the south of the bus lane. Parents backup onto the street daily and a conflict arises when parents are trying to exit the circle drive and buses are loading and unloading.
	TOTAL			68	

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	N/A	0	
5.4	**Stoops** appear to be in good condition.	1	4	4	Two stoop locations (doors 169 and 170) were not full-depth stoops, and do not cover the swing of the door.
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	4	4	Minor cracks were visible throughout the main hallways in the main building. Something to keep an eye on but not an immediate concern. There were also some minor cracks in the restrooms by the new gymnasium that appeared to have been filled once before.
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	5	5	
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	N/A	0	One story building, no floor 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	Visible roof framing appeared to be in good shape. While walking on the roof, there was one soft spot near a roof drain over the hallway that leads to the new gymnasium. Structure was covered by ceiling inside, so not able to determine if this soft spot is caused by inadequate framing.
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	N/A	0	
5.16	**Canopies** appear to be in good condition.	1	5	5	
5.17	**Loading dock concrete** appears to be in good condition.	2	4	8	Some minor spalling and cracking of concrete at the loading dock slab.
5.18	**Mechanical screening** appears to be in good condition.	2	5	10	
5.19	**Stairs** appear to be in good condition.	1	5	5	
5.20	**Stair railings** appear to be in good condition.	1	4	4	Concrete around one exterior railing post outside the southwest corner of the cafeteria appears to have been repaired in the past. Post is still a bit loose, but not of immediate concern.

S | Structural

ASSESSOR: Niles Quick

		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 designated hardened area observed.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			100	

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	3	15	400 CFM per equip schedule. This does not include a de-rating due to exterior louver used for both outdoor air and exhaust
6.4	**Ventilation** is provided during occupied hours.	5	5	25	
6.5	**Outdoor air intake locations** are appropriate.	4	2	8	Poor placement of intake and exhaust at classroom units allows for re-entrainment of exhaust .
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	Yes. Per equipment schedules and observations.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	2	10	Majority of equipment is 13 years old and has a expected useful life of 15 to 20 years. DOAS unit is also 13 years old but appears to be be in need of replacement. Heat-pumps above ceiling are in worse shape due to outdoor air direct. RTU for addition is 5 years old and appears in good condition.
6.9	**Cooling loads** are within equipment operational capacity.	5	4	20	Cooling is adequate and no well field issues per Owner.
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	Electric heat in ductwork for classrooms. Electric heat in DOAS. Supplemental electric heat in corridors and entries

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	3	9	Humidity issues present in areas without hot gas reheat at the heat-pump. Classrooms have HGRH and humidity controls equipment. DOAS unit not designed for deep dehumidification to offset. Some possible oversizing of heat pumps in certain areas.
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	1	5	Single RPZ. Prefer dual RPZ to reduce pressure drop and provide redundancy for RPZ testing and repair.
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	4	12	Limited hot water at hand washing area. Need to re-balance and confirm operating correctly.
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	0	0	No outdoor interceptor shown on recent plans. Addition of a DMMWRA approved device appears to be needed.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	5	25	Scuppers used for overflow.
6.19	**Restroom fixtures** comply with DMPS preferences.	3	5	15	All auto-flush and hands free fixtures.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	4	12	Classroom heat-pump units are floor mounted. with open face cabinets for service. The rest are above ceiling. DOAS unit on roof.

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	3	6	Multiple filter sizes for mechanical equipment. 20 x 20 and 24 x 24 for equipment other than console heat pumps.
6.23	**Equipment mounting heights** are reasonable.	3	4	12	Classroom units are floor mounted. Heat-pumps above ceiling in corridor have limited space.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	5	10	
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	2	4	Console heat pumps lack isolation valves. Some domestic water valves in need of replacement where original to building. Some possible sewer gas odor in building and recommend a check.
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	No hydrant on roof for cleaning of RTU and DOAS condenser coils.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge.	2	5	10	No perimeter equipment noted on roof.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	Controls upgrade in 2001 throughout.
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	3	15	Limited hot water at lavatories.
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	N/A	0	No boiler in building.
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	N/A	0	Electric only.
	TOTAL			471	

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	3	15	Near egress path for one set of exit doors.
7.3	**The MDP environment** is safe, has adequate clearances and exiting.	3	2	6	3P-800A 480Y/277V main breaker Small equipment pad in front of 1/2 the MDP. Surge Suppression.
7.4	The **MDP** appears serviceable.	4	4	16	Meter appears inoperative.
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	4	16	22.5 / 66" = 34%
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	5	20	
7.8	The Distribution Panel appears **serviceable.**	4	4	16	
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	1	4	Panel appears full (LDP)

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	2	4	Some older GE panels still in use. Load center for MDF.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	4	4	Minimal outlets - not much exterior maintenance requirements.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	Mostly good lighting - could use motion detected exterior lights at pockets to left and right of front doorway. High Pressure Sodium (HPS) light at southeast corner.
Electronic System Design					
7.14	MDF is **neatly organized** and has appropriate clearances and working spaces. Cables are neatly laced or trained. Entry to the room is restricted.	4	2	8	Room is too small for all devices and adequate work clearances. Room is warm. Window fan in use. Split system does not appear operational.
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	2	8	Rack is nearly full (accounting for airflow around switches).
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	Two UPS units. Minuteman 2kVA
7.17	MDF Power is supplied by **20A circuits and receptacles.**	1	0	0	One 20A for UPS units, one 15A.
7.18	MDF Power is supplied from a branch panel located in the room with **adequate spare circuit capacity.**	1	0	0	Panel is in an adjacent room. Panel is load center style.
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Cat 5e, Cat 6A
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	N/A	0	

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	5	10	Rack is grounded to TMGB.
7.22	Building is equipped with an **addressable fire alarm system.**	5	4	20	Simplex 4010
7.23	Building is equipped with an **access control system.**	5	2	10	4/13=31%
7.24	Building is equipped with a **CCTV system.**	5	5	25	
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			330	

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

Repair MDF Room Split System	Repair split system unit serving the MDF room to provide adequate cooling.	
Exterior Door Adjustment	Adjust one exterior door (main entry north, exterior) so that it latches from any closing position.	

1 - 2 Year Priority

		Project Costs
Replace Exterior Sealant at Control Joints	Replace sealant in building control joints (10 LF in each of six locations).	$6,000
Replace Exterior Sealant at Door	Replace sealant around one door frame and sidelight at the south side of the cafeteria (20 LF).	$6,000
Replace Exterior Sealant at Fascia Panels	Replace sealant at enamel fascia panels around entire building (250 LF).	$6,000
Replace Playground Paving	Remove and replace a portion of the asphalt paving at the playground. See attached civil exhibit.	$8,000
Replace Sidewalk Paving	Remove and replace portions of heavily degraded sidewalk paving at various locations on site. See attached civil exhibit.	$7,000

Replace Concrete Curb	Replace concrete curb at the south end of the east parking area. See attached civil exhibit.	$14,000
Replace DOAS units with Air-Cooled DOAS/ERV	Replace existing DOAS unit installed in 2010, labeled AHU-1, with new DOAS with energy recovery, DX cooling, hot-gas reheat for dehumidification and electric heat. Duct restroom exhaust currently going to EF-1 to new DOAS unit.	$280,000
Data Closet Cooling System	Install new mini-split to serve data closet.	$20,000
Install Second Backflow Preventer	Add a second parallel back-flow preventer to water service.	$12,000
Upgrade Electrical Distribution System	Design and replacement of outdated/original electrical components. A full evaluation of the building's electrical distribution system will be required for most accurate costing. Costs based on replacement of 6 branch panels.	$50,000
MDP Meter Repair	Repair or replace power meter at the main breaker.	$13,000
Install Exterior Lighting	Add exterior lighting at southeast corner of the building and at dark exterior corners immediately north and south of the main entrance.	$11,000
	Total 1-2 Year Project Costs:	**$433,000.00**

3 - 4 Year Priority

		Project Costs
Refinish Interior Wood Doors and Trim	Refinish stain and clear polyurethane finish on 18 interior wood doors and wood door frames to repair mop damage.	$11,000
Install Door Protection Plates	Install mop protection plates on both sides of on all wood doors adjacent to hard surface flooring. Approximately 24 single doors.	$11,000

Roof Access Install	Provide guardrail at roof hatch.	$9,000
Replace Exterior Stoops	At doors 169 and 170, remove existing roughly 3'-0" x 1'-0" stoop and replace with 5'-0" x 5'-0" stoops. Provide 5" thick stoop slab w/ #4 bars @ 9" o.c. each way and 8" thick walls around perimeter of stoop extending 42" below grade w/ #4 @ 12" o.c. each way.	$11,000
Repair Concrete at Railing Post	Outside cafeteria, cut out and replace 1 sq. ft. of damage concrete around railing post, 8" depth. Provide (2) #3x1'-0" dowels into existing concrete (4" embedment).	$6,000
Splash Pan Install	Provide adhered metal splash pans on watertable below all condensate lines to protect concrete from condensate (16 locations, 1 SF each).	$6,000
Repaint Exterior Door Frames	Repaint both exterior door frames at the northwest vestibule (one single door frame, one double door frame).	$7,000
Install Concrete Curb	Install concrete curb along the entire north elevation of the building for drainage. See attached civil exhibit.	$55,000
Replace Playground Paving	Remove and replace a portion of the asphalt paving at the playground. See attached civil exhibit.	$14,000
Replace Sidewalk Paving	Remove and replace portions of degraded sidewalk paving at various locations on site. See attached civil exhibit.	$25,000
Replace Vestibule Heatpumps	Replace vestibule heat-pumps with electric heating only cabinet unit heater.	$20,000
Install Digital Mixing Valve	Replace existing domestic hot water mixing valve with a new digital mixing valve and monitor through DDC.	$13,000

Expand MDF Room	Expand MDF room into an adjacent room to allow for additional circulation space, rooms 105 and 150. Demolish two walls (85 SF each), patch (25 SF), and paint room (550 SF).	$10,000

Total 3-4 Year Project Costs: $198,000.00

5-10 Year Priority

		Project Costs
Roof and Skylight Replacement	Remove 32,100 SF of membrane roofing and insulation over roof areas A and H. Install code compliant insulation and TPO roofing. Also replace 8 skylights that are beginning to show signs of deterioration.	$1,100,000
Regrade South of Gymnasium	Lower the finish grade by 2 feet over 100 SF of area at two locations south of the Gymnasium to prevent moisture intrusion at wall base flashing.	$30,000
Replace Parking Pavement	Remove and replace portions of parking pavement. See attached civil exhibit.	$30,000
Replace Sidewalk Paving	Remove and replace portions of degraded sidewalk paving at various locations on site. See attached civil exhibit. See attached civil exhibit.	$35,000
Playground Asphalt Replacement	Take out and restore deteriorated playground asphalt. Approximately 2,596 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$460,000
Replace Southern Fence	Remove and replace the south section of chain link fence. See attached civil exhibit.	$45,000
Add Dedicated Outdoor Air for Gymnasium	Replace rooftop HVAC equipment with packaged unit with ERV (DOAS with recirc). Employ demand based ventilation.	$510,000
Replace Heatpumps in Classrooms	Replace classroom heat-pumps units (BARD). Include 2-speed compressor for reduced load on well-field and match classroom load. Include demand control ventilation	$730,000

Replace Loop Water Pumps and VFDs	Replace loop water pumps and VFD.	$160,000

Total 5-10 Year Project Costs: $3,100,000.00

Projects Requiring Study

		Design Services Fee
Mother's Room Space Study	Study to define a private dedicated space for a Mother's Room that includes at least a sink, side table, chair, and privacy door hardware.	$5,000.00
Roof Soft Spot Investigation	Further investigation required to determine the cause of a soft spot noted on the roof above the corridor leading to gymnasium.	$1,500.00
Designated Hardened Area	No designated hardened area was observed. Study to determine the feasibility of adding a designated hardened area, including location, within the existing building, schematic design concept if deemed feasible, and preliminary project costs.	$2,500.00

Total Study Design Service Fees: $9,000

APPENDIX

5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

100 0 50 100 200

ARCHITECTS ENGINEERS

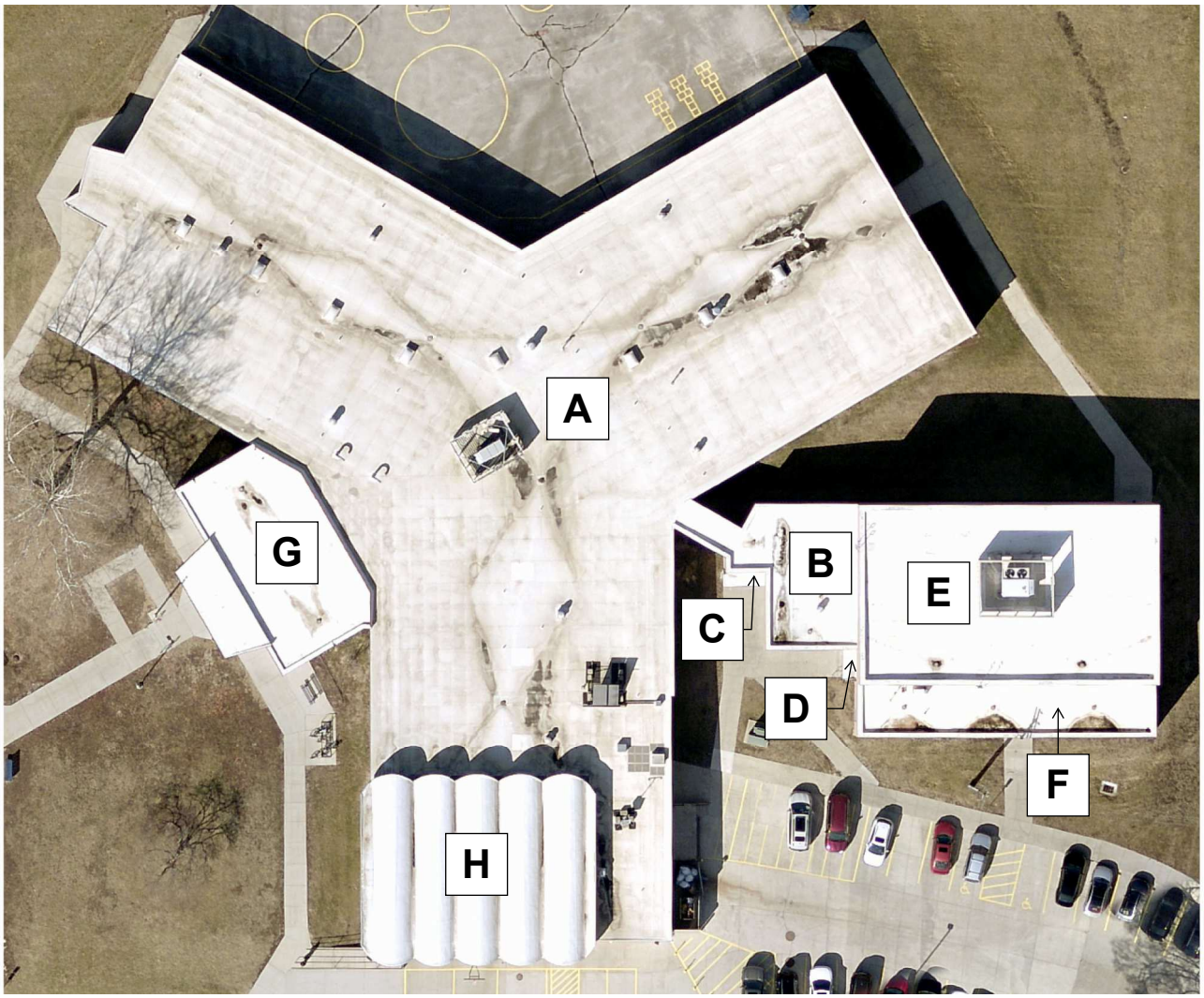
BISHOP ENGINEERING +

WRIGHT ELEMENTARY

EXHIBIT

PROJECT # 230286-38

DATE 10/25/2023



N

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Wright Elementary
November 7, 2023

WRIGHT ELEMENTARY SCHOOL

5001 SW 14TH STREET
DES MOINES, IOWA 50315

FIRST FLOOR

NORTH

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

bbs ARCHITECTS ENGINEERS