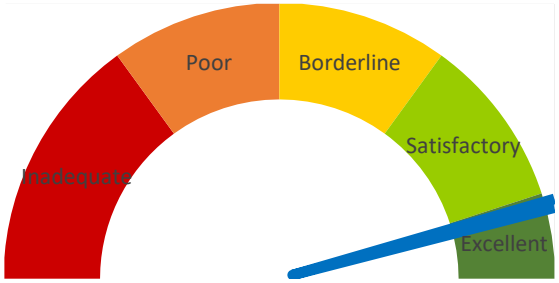
# DMPS FACILITY ASSESSMENT | EDMUNDS ELEMENTARY

12.20.2023


ARCHITECTS
ENGINEERS

219 Eighth Street
Suite 100
Des Moines, IA 50309
515.244.7167

www.bbsae.com



# REPORT ORGANIZATION

# EXECUTIVE BUILDING SUMMARY

Edmunds Elementary's on-site facility conditions assessment was conducted on December 20, 2023 and included visual conditions assessment from professionals covering interior architecture, exterior building envelope, the property's grounds (site), structural condition, mechanical (HVAC/Plumbing) systems, electrical systems (power, exterior lighting, interior lighting, fire alarm, and general IT), and the elevator conditions.

A few of the short term maintenance identified for Edmunds Elementary are: interior finish maintenance, roof warranty maintenance, MDP power monitor repairs, exterior junction box repairs, MDF rack grounding. The roof items should be covered by the warranty period of installation. These suggested repairs and maintenance should be prioritized to be covered by the warranty. Edmunds is a relatively new building in good condition. Some issues with the mechanical system appear to be original to the building and is further described in a recommended study later in this report.

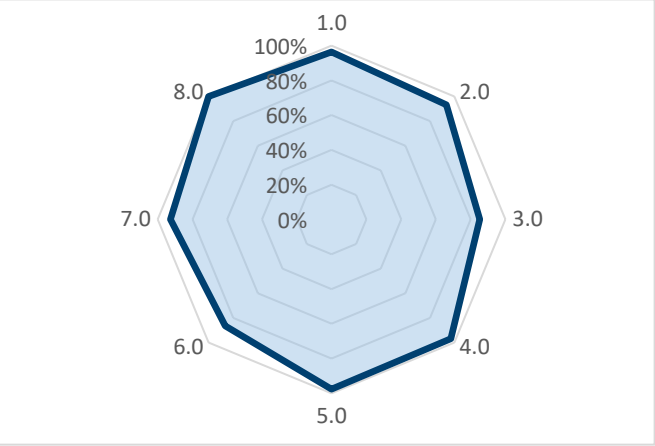
The recommended projects for Edmunds Elementary to be completed in the next 1-2 years are as follows:

- Vision Lite Installation
- Exterior Joint Reseal
- Grading Repair
- Pavement Improvements
- Water to Water Heat Pumps
- Exterior Lighting Installation
- MDP Door Security

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 | 159 | 2.00 | 330 | 318 | 96% | Excellent |
| 2.0 | Environment for Education | 375 | 350 | 0.60 | 225 | 210 | 93% | Excellent |
| 3.0 | Exterior Envelope | 95 | 81 | 3.00 | 285 | 243 | 85% | Satisfactory |
| 4.0 | School Site | 100 | 97 | 1.50 | 150 | 146 | 97% | Excellent |
| 5.0 | Structural Conditions | 125 | 122 | 1.30 | 163 | 159 | 98% | Excellent |
| 6.0 | Mechanical Systems | 635 | 549 | 0.80 | 508 | 439 | 86% | Satisfactory |
| 7.0 | Electrical Systems | 450 | 417 | 0.75 | 338 | 313 | 93% | Excellent |
| 8.0 | Elevator Conditions | 65 | 65 | 1.00 | 65 | 65 | 100% | Excellent |
| **Total** | | | | | **1,998** | **1,827** | **91%** | **Excellent** |

**Edmunds 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 Edmunds Elementary scored a building health rating of 91% or "Excellent" 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. Edmunds Elementary is very high within this positive range. Continued planned maintenance will help to keep this building in excellent condition.

# Building Data Record

Building Name: Edmunds Elementary School

Date: 12.20.2023

Address: 950 15th St
Des Moines, IA

High School Feeder System: Roosevelt High

Building SF: 76,385 SF

Site Acreage: 8.24 Acres

Date(s) of Construction: 2013

Date(s) of Roof Replacement: Original Roof (2013)

Current/Scheduled Projects: Interior painting - 2024

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

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

Structure Fireproofing:

- [x] No
- [ ] Yes

Construction:

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

Exterior Facade:

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

Floor/Roof Structure:

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

# A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

## 1.0 Educational Adequacy

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **General** | | | | | |
| 1.1 | **Floor materials** are appropriate for space type. | 2 | 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 | 5 | 10 | |
| 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 | 5 | 5 | |
| **Core Classroom** | | | | | |
| 1.7 | Classroom space permits arrangements for **small group activity.** | 3 | 5 | 15 | |
| 1.8 | **Student storage space** is adequate. | 2 | 4 | 8 | First level classrooms of kindergarten through 2nd grade have tables with no built in storage. It appears teachers have provided drawers or baskets for student storage in the classroom. Locker storage is adequate. |
| 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 | |

# A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 1.11 | **Classroom power and data receptacles** are located to support current classroom instruction. | 4 | 5 | 20 | |
| 1.12 | Educational **technology** supports instruction. | 4 | 4 | 16 | There are only a few WAP (wireless access points or wifi) in the office areas. Classrooms all have a WAP. |
| **Administration** | | | | | |
| 1.13 | **Conference/Private meeting rooms** are adequate for large and small meetings. | 1 | 5 | 5 | There is a conference room within the office are for teacher planning for about 8-12 people, a multi-use conferencing space, and a conference room for about 4-6 people. |
| 1.14 | **Main office** has a check-in and waiting area. | 2 | 5 | 10 | |
| | **TOTAL** | | | 159 | |

# A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

## 2.0 Environment for Education

### Design

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 2.1 | **Traffic flow** is aided by appropriate foyers and corridors. | 1 | 5 | 5 | |
| 2.2 | Communication among students is enhanced by **common areas.** | 1 | 5 | 5 | Great use of daylight, color, materiality, and furniture to create engaging spaces. |
| 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 | 4 | 4 | Minor surface wear on furniture that is most highly used, but overall good condition. |
| 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 | 4 | 12 | Additional trees and plantings on site would help to improve the views and add buffer to the interstate. |
| 2.9 | **Lighting has proper controls** to provide the required light levels for various teaching and learning needs. | 2 | 4 | 8 | Many rooms have lights covered with blue covers. This is most common for the younger grades. Additional dimming control may be benificial. |
| 2.10 | **Staff dedicated spaces** include conference space, work space, and dedicated restrooms. | 1 | 5 | 5 | |

# A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 2.11 | **Main office** is visually connected to the entry and is welcoming to students, staff, and guests. | 2 | 5 | 10 | |
| 2.12 | **Break room** is adequately sized and furnished for proper use. | 1 | 5 | 5 | Large break room on leve 1 and a smaller break room on level 2. |
| 2.13 | **Mother's room** is a separate designated space properly furnished. | 1 | 4 | 4 | There is no sink, however there is nearby access to a sink away from the restrooms or food prep. |
| **Maintainability** | | | | | |
| 2.14 | **Floor surfaces** are durable and in good condition. | 1 | 3 | 3 | Level 2 floor slab has several long cracks all along the main corridor. Single occupant restrooms in the classrooms are 2" mosaic tile which is much more challenging to keep clean. Those floors are in good condition and no need to replace at this time. |
| 2.15 | **Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain. | 1 | 4 | 4 | Minor water stains appear in several areas on level 2. |
| 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 | Casework is plastic laminate but with a full edge band, no exposed wood. Classrooms 1210 and 1265 have peeling edge bands. Other casework appears in good condition. |
| 2.18 | **Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained. | 3 | 5 | 15 | |
| 2.19 | **Facility doors** are keyed to standardized master keying system. | 3 | 4 | 12 | Room 1056 is keyed differently. |
| 2.20 | **Restroom partitions** are securely mounted and of durable finish. | 2 | 5 | 10 | The handle is broken on the handicap stall in boys restroom 1288. |

# A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 2.21 | **Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces. | 1 | 5 | 5 | |
| **Occupant Safety** | | | | | |
| 2.22 | Classroom doors are **recessed and open outward.** | 4 | 5 | 20 | |
| 2.23 | Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.** | 3 | 5 | 15 | Classroom doors all have taped red/green indicators on the corner of the vision panel. Locks are mortise classroom locks, keyed interior and exterior with a lock indicator arrow. |
| 2.24 | **Door panels** into classrooms and other occupied spaces contain **vision lite.** | 3 | 3 | 9 | Room 1340 is a student support office without a vision lite. The gym has no vision lite in any of the doors. |
| 2.25 | **Vision lite** in doors is clear and uncovered. | 2 | 5 | 10 | |
| 2.26 | **Glass** is properly located and protected to prevent accidental injury. | 2 | 5 | 10 | |
| 2.27 | **Flooring** is maintained in a **non-slip** condition | 2 | 5 | 10 | |
| 2.28 | **Traffic areas terminate at exit or** stairway leading to egress | 5 | 5 | 25 | |
| 2.29 | Multi-story buildings have at least **two stairways** from all upper levels for student egress. | 5 | 5 | 25 | |
| 2.30 | **Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements. | 5 | 4 | 20 | Stair handrail at the west end of the building has some peeling paint. Otherwise stairs and rails are in good condition. |

# A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **2.31** | At least **two independent exits** from any point in the building | 5 | 5 | 25 | |
| **2.32** | **Emergency lighting** is provided throughout the building. | 5 | 5 | 25 | |
| | **TOTAL** | | | 350 | |

# A | Architectural , Exterior

ASSESSOR: David Unick

## 3.0 Exterior Envelope

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **Design** | | | | | |
| **3.1** | Overall **design is aesthetically pleasing** and appropriate for the age of students. | 2 | 5 | 10 | |
| **Maintainability** | | | | | |
| **3.2** | **Roofs** appear sound, have positive drainage, and are water tight. | 3 | 4 | 12 | Roofs generally in excellent condition except at two locations: NW corner of Roof F and east end Roof G (Entry canopy) where roofing membrane does not appear to be fully adhered to substrate. Potential leak concern identified on Roof F, and membrane was intermittently billowing at Roof G. |
| **3.3** | **Roof access** is safe for all roofs. | 3 | 4 | 12 | Generally good access. Add ladders to access Roofs A and C, and add step inside of roof access door. |
| **3.4** | Exterior **window sealant** is fully intact without cracks or gaps. | 3 | 3 | 9 | Sealant to brick in good condition; Sealant to EIFS needs to be replaced. |
| **3.5** | **Glazing** is low-e coated, insulated, and overall in good condition. | 1 | 5 | 5 | |
| **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 | Doors all steel or aluminum. In good condition. |
| **3.8** | **Exterior walls** are of material and finish requiring little maintenance, | 1 | 4 | 4 | Walls primarily brick, in excellent condition. EIFS at spandrels and above low roofs. Sealant joints in EIFS starttting to fail, and some areas of mildew staining noted on north and west walls. |
| **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 | (5) Doors have access control in place<br>(3) Doors have keyed locksets<br>(2) Doors have no exterior hardware.<br>Zero doors have identification labels visible on exterior of door. |
| | **TOTAL** | | | 81 | |

# 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 but there is undermining of the north stairs. |
| 4.2 | **Parking areas** are in good condition. | 5 | 5 | 25 | A few panels need replacement in the east and north lots. |
| 4.3 | **Drive areas** are in good condition. | 3 | 5 | 15 | A couple of access drive panels need replacement. |
| 4.4 | **Sufficient on-site, solid surface parking** is provided for faculty, staff, and community. | 1 | 5 | 5 | DMPS states day to day parking is adequate and events are manageable with the nearby street parking. |
| 4.5 | **Sidewalks** around the facility are in good **condition.** | 1 | 4 | 4 | A couple of sections need replacement, mostly good sidewalk conditions. |
| 4.6 | **Sidewalks are located** in appropriate areas with adequate building access. | 1 | 5 | 5 | Site was easy to navigate by sidewalk and all doors had sidewalk access. |
| 4.7 | **Hard surface** playground surfaces are in good condition. | 3 | 5 | 15 | Playground pavement appeared new, some cracking around the edges but nothing bad. |
| 4.8 | **Fencing** around the site is in good condition. | 1 | 5 | 5 | Fencing appeared new and in good condition. |
| 4.9 | **Trash enclosure** is in good condition. | 1 | 4 | 4 | Gate appeared a little old and the pavement out front was cracking. |
| 4.10 | **Utilities** are in newly constructed conditions and placed in suitable locations. | 1 | 5 | 5 | No issues observed. |

ASSESSOR: Jack Gorman Joel Jackson

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 4.11 | **Site has sufficient room** for both building and parking expansion. | 1 | 5 | 5 | Lots of room available on southern portion of site. |
| 4.12 | Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation. | 1 | 5 | 5 | DMPS states buses use the north pull in area and parents use the east lot, and there are not any conflicts between the two. |
| | **TOTAL** | | | 97 | |

# S | Structural

ASSESSOR: Trevor Pullen

## 5.0 Structural Conditions

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **Foundations** | | | | | |
| 5.1 | **Foundations** appear to be in good condition with no visible cracks. | 1 | 5 | 5 | |
| 5.2 | There does not appear to be any **foundation settlement.** | 2 | 5 | 10 | |
| 5.3 | **Basement walls** do not appear to have any cracks. | 1 | 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 | 5 | 5 | |
| 5.10 | **Precast** is in good condition. | 1 | N/A | 0 | |

# S | Structural

ASSESSOR: Trevor Pullen

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **Interior Walls** | | | | | |
| 5.11 | **Interior walls** appear to be in good condition. | 1 | 5 | 5 | |
| **Floor Framing (Elevated)** | | | | | |
| 5.12 | **Floor framing** appears to be in good condition. | 3 | 4 | 12 | There is significant cracking in the polished corridor floor slab. Some of them may be shrinkage cracks while others appear to be directly over floor beams. |
| 5.13 | Floor framing appears to meet the **code requirements.** | 3 | 5 | 15 | |
| **Roof Framing** | | | | | |
| 5.14 | **Roof framing** appears to be in good condition. | 3 | 5 | 15 | |
| **Miscellaneous** | | | | | |
| 5.15 | **Retaining walls** appear to be in good condition. | 1 | 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 | N/A | 0 | |
| 5.18 | **Mechanical screening** appears to be in good condition. | 2 | 5 | 10 | |
| 5.19 | **Stairs** appear to be in good condition. | 1 | 5 | 5 | The exterior stair at the north side of the building is being undermined. The stair itself still looks fine for now. |
| 5.20 | **Stair railings** appear to be in good condition. | 1 | 5 | 5 | |

# S | Structural

ASSESSOR: Trevor Pullen

| | | 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 | N/A | 0 | |
| **5.23** | The hardened area appears consistent with the **ICC 2018 code.** | 1 | N/A | 0 | |
| | **TOTAL** | | | 122 | |

# MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

## 6.0 Mechanical Systems

### HVAC Design

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 6.1 | **Zone Control.** Thermostats are provided in each space for individual zone control of space temperatures. | 3 | 5 | 15 | |
| 6.2 | **Thermostat location.** Thermostats are properly located in the space. | 3 | 5 | 15 | |
| 6.3 | Appropriate **amount of ventilation** are provided to each space. | 5 | 1 | 5 | Ventilation is approximately 60% less than what is required for all spaces throughout the building including Classrooms, Gym and Cafeteria. |
| 6.4 | **Ventilation** is provided during occupied hours. | 5 | 5 | 25 | Ventilation is provided, however it is inadequate. |
| 6.5 | **Outdoor air intake locations** are appropriate. | 4 | 4 | 16 | Outdoor air intakes are directly adjacent to and tight to screens which can cause recirculation of exhaust air into the outdoor air intake. |
| 6.6 | Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms. | 5 | 5 | 25 | |
| 6.7 | **Building pressurization.** The design takes into account the balance between ventilation and exhaust air | 2 | 5 | 10 | |
| 6.8 | **Major HVAC Equipment** appears to be within it's acceptable **service life.** | 5 | 3 | 15 | Appears to be true, although WWHPs have significant evidence of major work. |
| 6.9 | **Cooling loads** are within equipment operational capacity. | 5 | 5 | 25 | Appears true. |
| 6.10 | **Heating loads** are within equipment operations capacity. | 5 | 4 | 20 | Generally true - though taller spaces may stratify and feel cold during winter months. |

# MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| 6.11 | **Dehumidification** is provided and addressed humidity loads in incoming outside air. | 3 | 5 | 15 | Yes - DOAS units have DX cooling and hot-gas reheat to handle dehumidification loads of incoming outdoor air. |
| **Plumbing Design** | | | | | |
| 6.12 | **Water Supply Pressure** is adequate to allow for operation of plumbing fixtures. | 5 | 5 | 25 | |
| 6.13 | Appropriate **backflow preventer** is provided at connection to city water supply. | 5 | 5 | 25 | |
| 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 | 5 | 15 | Yes - hot water at outlets quickly. |
| 6.16 | **Sanitary sewer systems** are sized and sloped to allow for proper drainage. | 5 | 5 | 25 | |
| 6.17 | Appropriately sized **grease interceptors** are provided for facilities with food service. | 3 | 5 | 15 | Yes, 5000 gal. |
| 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 | 5 | 15 | |
| **Maintainability** | | | | | |
| 6.20 | Equipment is provided with **adequate service clearance** to allow for regular maintenance | 3 | 4 | 12 | Mostly true - screens at roof-mounted equipment create some access issues. |

# MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **6.21** | AHUs and chiller are provided with **coil pull space.** | 2 | N/A | 0 | |
| **6.22** | **Filter** sizes are standard and filter types are standard. | 2 | 4 | 8 | FCUs and ERVs - relatively consistent throughout building with a few odd sizes. |
| **6.23** | **Equipment mounting heights** are reasonable. | 3 | 4 | 12 | Mostly true - gym unit air very high. |
| **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 | 5 | 10 | |
| **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 | 3 | 6 | DOAS units on roof have coils that would require cleaning. There is no roof hydrant. There are wall hydrants on Level 1 but the building is 2 stories. |
| **6.28** | **Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b). | 2 | 5 | 10 | Roof mounted equipment appears to be within 15 ft of roof edge. |
| **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: Corey Metzger

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **6.31** | Building is fully **sprinklered.** | 5 | 5 | 25 | Yes - wet and dry sprinkler zones (dry for exterior overhang). |
| **6.32** | **Domestic hot-water temperature** at lavatories used by students or staff is provided with a thermostatic mixing valve and adjusted properly. | 5 | 4 | 20 | Yes - may be set a little high . |
| **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 | 4 | 20 | Yes - access currently difficult. |
| **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 | |
| | **TOTAL** | | | 549 | |

# 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 | 5 | 15 | |
| 7.4 | The **MDP** appears serviceable. | 4 | 5 | 20 | 2012<br>1600a/480/277vac Sq D<br>Meter inoperative |
| 7.5 | The MDP is **maintainable.** | 3 | 5 | 15 | |
| 7.6 | The MDP will support **future expansion.** | 4 | 5 | 20 | 126", 41" used. (Inc built-in surge suppressor). |
| 7.7 | The Distribution Panel **environment is safe**, has adequate clearances and exiting. | 4 | 4 | 16 | Light equipment stored near dist panel within clearance areas. |
| 7.8 | The Distribution Panel appears **serviceable.** | 4 | 5 | 20 | |
| 7.9 | The Distribution Panel is **maintainable.** | 4 | 5 | 20 | |
| 7.10 | The Distribution Panel will support **future expansion.** | 4 | 5 | 20 | 50% spare for 480V<br>25% spare for 120V |

# 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 | 1 | 1 | Two exterior power junction boxes missing lids. Wires accessible. |
| 7.13 | Building has adequate **exterior lighting** to promote safety and security of the property. | 5 | 3 | 15 | SW corner lighting not adequate for cameras.<br>Dark area by flag pole at SE corner, near main doors. |
| **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 | No card access to room. |
| 7.15 | MDF Equipment Racks have adequate space for **future growth.** | 4 | 5 | 20 | 2 Racks, ample space. |
| 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 | 4 | 20 | Two 2000VA minuteman UPS units. Only one operational. (Other may be new and not yet in use). |
| 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 | 5 | 10 | 5e/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 | Only one of two racks grounded. |
| **7.22** | Building is equipped with an **addressable fire alarm system.** | 5 | 5 | 25 | Simplex 4014. |
| **7.23** | Building is equipped with an **access control system.** | 5 | 3 | 15 | 6/10=60% |
| **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** | | | 417 | |

# EV | Elevator

ASSESSOR: Mike Brown - ATIS

## 8.0 Elevator Conditions

| | | Weight Factor | Rating | Points | Comments |
|---|---|---|---|---|---|
| **Design** | | | | | |
| **8.1** | **Size** meets minimum as directed by ADA. | 2 | 5 | 10 | |
| **8.2** | **Control protections and signals** meet ADA standards. | 2 | 5 | 10 | |
| **8.3** | **Signage** meets code requirements. | 1 | 5 | 5 | |
| **Operation and Safety** | | | | | |
| **8.4** | Elevators have **proper level accuracy and door times.** | 1 | 5 | 5 | |
| **8.5** | **Safety devices** are in place and operable. | 1 | 5 | 5 | |
| **Condition and Maintainability** | | | | | |
| **8.6** | **Equipment is easily accessible** for periodic maintenance. | 1 | 5 | 5 | |
| **8.7** | **Equipment** is at an acceptable point in the life cycle, and does not contain obsolete parts. | 2 | 5 | 10 | |
| **8.8** | **Finishes** are adequate and maintainable. | 1 | 5 | 5 | |
| **8.9** | **Maintenance** is adequate. | 1 | 5 | 5 | |
| **8.10** | **Testing** is up to date, and all **record and logbooks** are present and filled out. | 1 | 5 | 5 | |
| | **TOTAL** | | | 65 | |

# 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

| | |
|---|---|
| Restroom Handle Repair | Repair accessible partition handle in Boys Restroom 1288 |
| Edge banding Repair | Re-adhere edge banding on casework in room 1210 and 1265. |
| Roof Warranty Maintenance | Roof at west half of Area F appears to be incompletely adhered. Significant rippling of membrane in roof field and at parapet-especially at NW corner. Some stress cracking of membrane appears to be developing adjacent to parapet at NW building offset, and fishmouthing of membrane seam observed in same area. Roof G at SE corner of main entry canopy (adjacent to parapet) was observed to be billowing periodically during wind gusts. See Appendix for Roof Identification Plan. |
| Repair MDP Power Monitor | The power meter at the main breaker appears inoperable and should be repaired or replaced. |
| Repair exterior junction boxes with missing covers | PVC junction boxes (one on north side, one on east side) missing covers leaving wiring exposed. |
| Balance UPS loads at MDF | There are two UPS units in the room, but only one has load. |
| MDF rack grounding | Only one of two data racks is connected to TMGB in room. Add conductor and wire to ground second rack. |

## 1 - 2 Year Priority

| | | Project Costs |
|---|---|---|
| Vision Lite Installation | Replace door leaf at door 1340 with wood door that includes a vision lite to match the rest of the classrooms and student support spaces. | $8,000 |
| Exterior Joint Reseal | Remove discoloration on EIFS above 1st floor windows (7 locations, approx 30 SF total) on north wall of classroom wing and at north side of projecting bay on west end of classroom wing (one location, approx 30 SF total).<br>Replace sealant between EIFS and masonry between 1st and 2nd floor windows on all walls of the classroom wing. Approximately 64 locations; 530 LF.<br>Replace the sealant joint between EIFS panels and between EIFS and windows on upper walls above Roofs A, D, F, and H. (See Appendix for Roof Identification Plan.) Approximately 45 locations; 355 LF. | $14,000 |
| Grading Repair - Undermining Stairs | Re-grade, backfill, and sod the areas around the north stairs. For location, refer to civil site plan exhibit found in the appendix of this report. | $9,000 |
| Curb Repair | Return damaged curbs to new condition. Approximately 5 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report. | $6,000 |
| Sidewalk Repair | Repair damaged sidewalks across the site. Approximately 7 SY. For locations, refer to civil site plan exhibit found in the appendix of this report. | $7,000 |
| Water-to-Water Heat Pumps | Address issues with water-to-water heat pumps - likely involves reconfiguration of piping, pumping, and controls to reduce issues | $220,000 |
| Exterior Lighting Installation | Add exterior lighting at SW corner to support cameras and at SE corner near entrance. | $12,000 |
| Add card reader to MDP | Card reader should be added to the MDP room for secure access. | $8,000 |

**Total 1-2 Year Project Costs: $284,000.00**

## 3 - 4 Year Priority

| | | Project Costs |
|---|---|---|
| Stair Railing Refinish | Refinish the interior steel stair railings at the west stair. Clean, remove peeling paint, and repaint. Approximately 60 LF. | $9,000 |
| Access Ladder Refinish | Ladder between Roofs D and E (See Appendix for Roof Identification Plan) has minor areas of rust starting to appear through the paint finish. Repair and repaint.(5 VLF) | $6,000 |
| Roof Access Improvements | Add roof ladder between Roofs B and C (6 VLF.) Recommend adding roof ladder between Roofs D and A (5 VLF), although since there is no equipment on Roof A and it is one story above grade, a ladder would not be mandated. Provide ladder/landing at interior side of roof access door (3 VLF) to improve access from landing platform to roof. | $13,000 |
| Sidewalk Repair | Repair damaged sidewalks across the site. Approximately 9 SY. For locations, refer to civil site plan exhibit found in the appendix of this report. | $7,000 |
| Pavement Replacement | Remove and replace 26 SY of PCC. For locations, refer to civil site plan exhibit in the appendix of this report. | $9,000 |
| | **Total 3-4 Year Project Costs:** | **$44,000.00** |

## 5-10 Year Priority

| | | Project Costs |
|---|---|---|
| Pavement Replacement | Remove and replace 150 SY of PCC and reinforce the 34 SY in front of the trash enclosure. For locations, refer to civil site plan exhibit in the appendix of this report. | $30,000 |
| Sidewalk Repair | Repair damaged sidewalks across the site. Approximately 120 SY. For locations, refer to civil site plan exhibit found in the appendix of this report. | $30,000 |
| Lighting Control Installation | Install lighting controls in classrooms to provide dimming capabilities in addition to current zoned control. Approxiamtley 25 classrooms. | $190,000 |
| | **Total 5-10 Year Project Costs:** | **$250,000.00** |

## Projects Requiring Study

| | | Design Services Fee |
|---|---|---|
| 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 |
| Correct Ventilation Deficiencies | The level of ventilation to all spaces is below what is required. Current system is only 50 to 60% of recommended airflow. Investigate options to provide the required amount of ventilation to the all spaces. | $7,500 |
| | Anticipated Capital Investment: $1,700,000 | |
| | **Anticipated Capital Investment Costs:** | **$1,700,000** |
| | **Total Study Design Service Fees:** | **$10,000** |

# APPENDIX


5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

100 0 50 100 200

bbs ARCHITECTS ENGINEERS

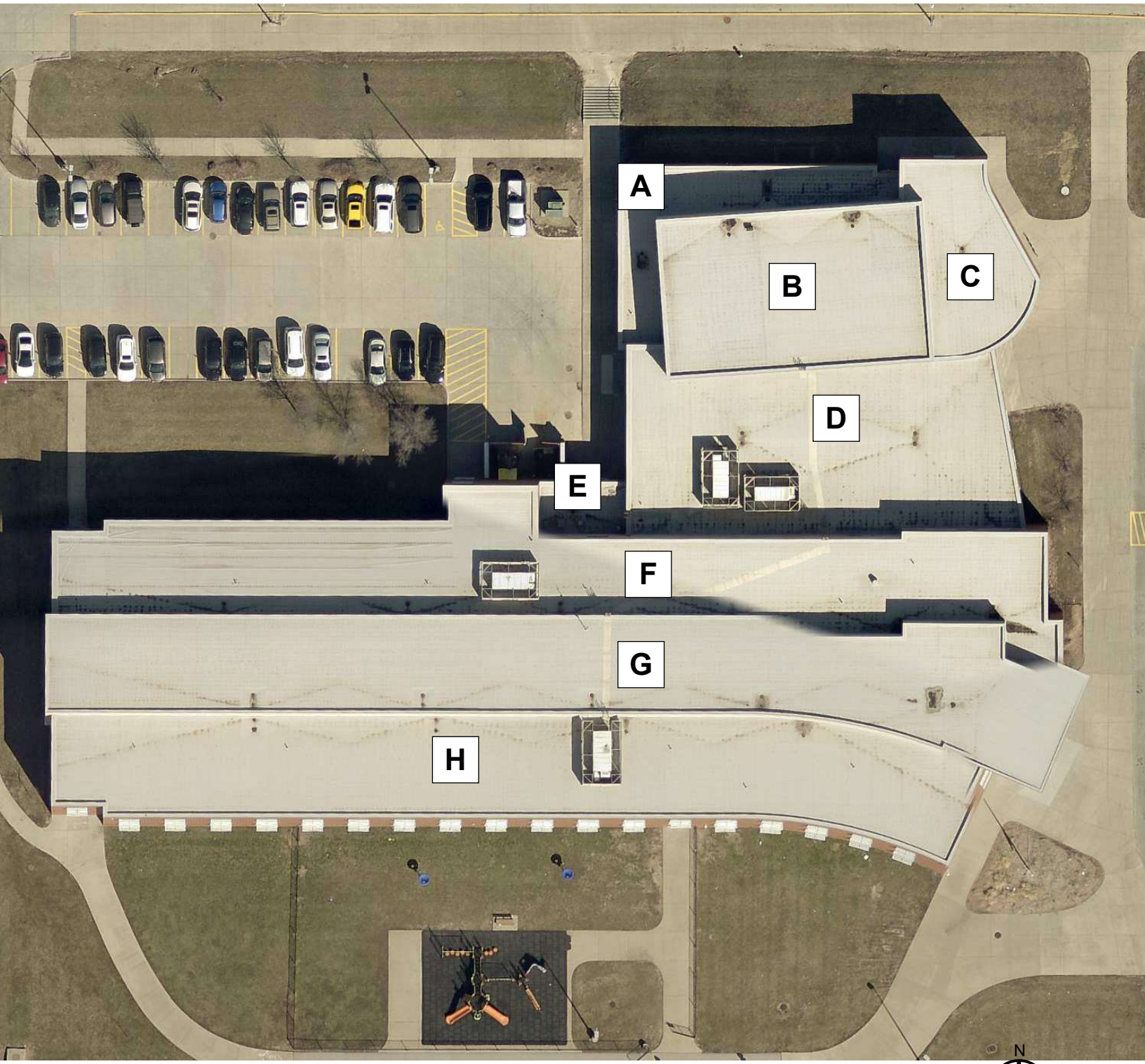
BISHOP ENGINEERING +

# EDMUNDS ELEMENTARY

EXHIBIT

PROJECT # 230286-07

DATE 11/7/2023




bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Edmunds Elementary
12.20.2023

# EDMUNDS ELEMENTARY SCHOOL

950 15TH STREET
DES MOINES, IOWA 50314

# FIRST FLOOR

NORTH


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

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

12.20.2023

# EDMUNDS ELEMENTARY SCHOOL

950 15TH STREET
DES MOINES, IOWA 50314

# SECOND FLOOR

NORTH


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

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

12.20.2023