DMPS FACILITY ASSESSMENT | NORTH HIGH SCHOOL

03.12.2024

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ENGINEERS

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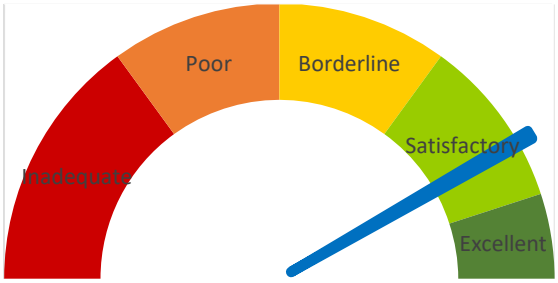


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

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

A few of the short term maintenance identified for North High School include: ceiling tile replacement, interior door hardware repair, roof cleaning, landscaping and pest control, exterior door adjustment, storm intake cleaning, roof drain upgrades, and transformer conduit repairs.

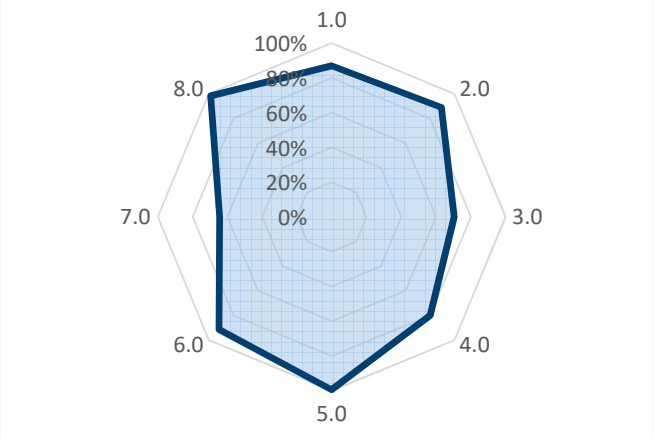
Some of the projects for North High School to be completed in the next 1-2 years include:

- Auditorium carpet replacement
- Flooring replacement, partial
- Stage flooring replacement
- Roof repairs, replacement, and access installation
- Stoop replacement
- Exterior sealant replacement
- Pavement, sidewalk, and curb repairs
- Boiler replacement
- Power distribution upgrade
- 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	245	213	2.00	490	426	87%	Satisfactory
2.0	Environment for Education	360	321	0.60	216	193	89%	Satisfactory
3.0	Exterior Envelope	105	74	3.00	315	222	70%	Satisfactory
4.0	School Site	95	76	1.50	143	114	80%	Satisfactory
5.0	Structural Conditions	160	159	1.30	208	207	99%	Excellent
6.0	Mechanical Systems	700	641	0.80	560	513	92%	Excellent
7.0	Electrical Systems	455	293	0.75	341	220	64%	Borderline
8.0	Elevator Conditions	65	64	1.00	65	64	98%	Excellent
Total					**2,273**	**1,894**	**83%**	**Satisfactory**

North High 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 North High School scored a building health rating of 83% or "Satisfactory" per the scale described above. Per the graph shown on the cover page of this report, scores within the "green" range are considered positive scores. North High School is within this positive range. Significant improvements to Electrical Systems and Exterior Envelope are needed to increase this score to Excellent.

Building Data Record

Building Name: North High School

Date: 3.12.2024

Address: 501 Holcomb Ave
Des Moines, IA

High School Feeder System: N/A

Building SF: 249,639

Site Acreage: 35.78 Acres

Date(s) of Construction: 1957

Date(s) of Roof Replacement: 2000, 2011

Current/Scheduled Projects: Track and Field - 2024
Replace Pavement - 2024
Flooring Renovation Phase 2 - 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:

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

Exterior Facade:

- [x] Brick
- [ ] 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: Tim Bungert / Kaela Shoemaker

1.0 Educational Adequacy

		Weight Factor	Rating	Points	Comments
General					
1.1	**Floor materials** are appropriate for space type.	1	5	5	
Athletics					
1.2	**Gymnasium(s)** are accessible and in good condition. Space is adequate for practice and competition.	3	5	15	
1.3	Athletic department is supported with adequate **training and practice spaces.**	1	4	4	No dedicated wrestling room, but other spaces are adequate.
1.4	Athletics are supported by adequate **locker rooms** for each sport.	2	4	8	6 locker room spaces, but no gender neutral dedicated locker room. Finishes in locker rooms need updating. Football locker rooms are not within the school and we're not assessed.
1.5	**Natatorium** is accessible and in good condition. Space is adequate for practice and competition.	2	3	6	Pool deck is not accessible. Flooring is showing stain and wear. Benches need refinished. Lighting is very yellow which makes the space feel dim and dated. Metal diffusers are starting to show rust and paint peeling.
Arts					
1.6	**Vocal music room** is adequate for providing music instruction.	2	5	10	
1.7	**Band room** is adequate for providing music instruction. Practice and storage rooms are sufficient to support use and instruction.	2	5	10	
1.8	**Orchestra room** is adequate for providing music instruction. Practice and storage rooms are sufficient to support use and instruction.	2	4	8	Orchestra director's office, which also appears to be used for one-on-one lessons, has disruptive mechanical rumbling.
1.9	**Auditorium** has sufficient arrangement, technology, and acoustics for program.	2	4	8	Access to curtain controls is not ideal for student and staff safety. Concerns expressed by drama staff. Carpet is frayed at the edges at all access paths.
1.10	**Industrial Arts** space has sufficient accommodations for program.	2	0	0	Industrial arts spaces are no longer present in the building.

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ASSESSOR: Tim Bungert / Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
1.11	**Art room** has sufficient accommodations for program.	2	4	8	Storage within room is not efficient and total room space appears not well organized or utilized.
1.12	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	1	5	5	
1.13	**Library/Resource/Media Center** provides appropriate and attractive space.	2	3	6	Library appears to be fairly underutilized. Furniture was in good condition but was all office-type furniture without varied postures.
Core Classroom					
1.14	**Science** classrooms and labs have sufficient access to water, gas, and emergency safety equipment for program.	1	5	5	Biology classrooms/labs do not have student stations of water or gas. Chemistry and physics do. All meet current programming needs.
1.15	**Family Consumer Science** classrooms and labs have sufficient accommodations for program.	2	5	10	Classroom and lab space are a single classroom with additional "health" classroom.
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	A few classrooms had minor issues. Furniture in room 1513 would benefit from integrated power with properly concealed feeds.
1.18	Classroom space permits **flexibility of arrangements.**	4	5	20	Room 2411 appeared to have limited flexibility due to high number of student desks present. All others were adequate.
1.19	**Furniture systems** are adequate for the intended use of the space and age of students.	1	4	4	Library on level 1 and Student Center on level 2 would benefit from additional seating types.
1.20	**Student storage** space is adequate.	2	5	10	

A | Architectural, Programming

ASSESSOR: Tim Bungert / Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
1.21	**Teacher storage** space is adequate.	2	5	10	
1.22	**Educational technology** supports instruction.	1	5	5	
Administration					
1.23	**Conference/Private meeting rooms** are adequate for large and small meetings.	2	5	10	
1.24	**Counseling suites** are provided with adequate privacy and meeting spaces.	1	5	5	
1.25	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL			213	

A | Architectural, Interior

ASSESSOR: Tim Bungert / Kaela Shoemaker

2.0 Environment for Education

Design

		Weight Factor	Rating	Points	Comments
2.1	**Traffic flow** is aided by appropriate foyers and corridors.	3	5	15	
2.2	Communication among students is enhanced by **common areas.**	3	5	15	
2.3	Areas for students to i**nteract are suitable to the age group.**	2	5	10	
2.4	Large group areas are designed for effective **management of students.**	2	5	10	
2.5	**Furniture Systems** are in good or like new condition.	1	5	5	Furniture is in overall good to excellent condition. Furniture in a few select rooms is in need of repair or replacement. See project list for details.
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	3	3	9	Color schemes throughout the building are unified, but fairly bland and unengaging.
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	

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ASSESSOR: Tim Bungert / Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
2.11	**Main office** is visually connected to the entry as 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	3	3	No dedicated mothers room was observed, but the isolation room (1164) appears as though it may currently be used as a mothers room. This may be problematic if the room is also being used to isolate students who are ill.
Maintainability					
2.14	**Floor surfaces** throughout the learning and common areas are durable and in good condition. Spaces include classroom, offices, labs, cafeteria etc.	1	4	4	A handful of classrooms have concrete floors with spider cracking that needs to be filled. Some classrooms have older style VCT floors with wear or damage noted.
2.15	**Floor surfaces** throughout the support and circulation areas are durable and in good condition.Spaces include corridors, restrooms, storage rooms etc.	1	5	5	
2.16	**Ceilings** throughout the learning and common areas are easily cleaned and resistant to stain. Spaces include classroom, offices, labs, cafeteria etc.	1	4	4	A few select rooms with ACT ceilings have minor damage on ceiling tiles.
2.17	**Ceilings** throughout the support and circulation areas are easily cleaned and resistant to stain. Spaces include corridors, restrooms, storage rooms etc.	1	5	5	
2.18	**Walls** throughout the learning and common areas are easily cleaned and resistant to stain. Spaces include classroom, offices, labs, cafeteria etc.	1	5	5	
2.19	**Walls** throughout the support and circulation areas are easily cleaned and resistant to stain. Spaces include corridors, restrooms, storage rooms etc.	1	5	5	
2.20	**Built-in casework** is designed and constructed for ease of maintenance.	1	3	3	Window stools / sill counters in many classrooms need to be repaired or replaced. See project list for more details.

A | Architectural, Interior

ASSESSOR: Tim Bungert / Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
2.21	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	4	12	Most doors are in good condition, but repainting of metal doors, refinishing of wood doors, and repairs to door hardware are needed.
2.22	**Facility doors** are keyed to standardized master keying system.	3	4	12	Doors in the cafeteria / kitchen are not keyed to the standard building master key.
2.23	**Restroom partitions** are securely mounted and of durable finish.	2	5	10	
2.24	**Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces.	1	5	5	
Occupant Safety					
2.25	Classroom doors are **recessed and open outward.**	4	5	20	
2.26	Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.**	4	3	12	Kitchen door hardware does not meet DMPS standards for intruder locksets and also does not meet accessibility code requirements. Doors 1244, do not have intruder locksets.
2.27	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	4	4	16	2 doors
2.28	**Vision lite** in doors is clear and uncovered.	2	3	6	Many covered
2.29	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	Upper level natatrorium door has broken glass
2.30	**Flooring** is maintained in a **non-slip** condition	2	5	10	

A | Architectural, Interior

ASSESSOR: Tim Bungert / Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
2.31	**Traffic areas terminate at exit or** stairway leading to egress	5	4	20	No students allowed in stair ####
2.32	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	5	25	
2.33	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	4	0	Guardrail height, slate treads in stair #s##. Loose steel tread nosings in balcony of auditorium
2.34	At least **two independent exits** from any point in the building	5	5	0	
2.35	**Emergency lighting** is provided throughout the building.	4	5	0	
	TOTAL			321	

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	4	8	Besides the repainting mentioned below, the outward appearance of the school is appropriate for occupants. The touches of granite near the entrance coordinate well with the school and elevate the entry.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	3	9	One roof area appears to be without an overflow and damage to the roof membrane was found in one location. Most of roof to be replaced in 1-2 or 5-10 years.
3.3	**Roof access** is safe for all roofs.	3	2	6	Ladder from roof P to Q is two stories tall; roof Q was not accesses; roof Q was assessed from roof P. Several locations require permanent roof access.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	4	12	Sealant needs to be replaced at several locations.
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. Two window glazing units need to be replaced.
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	4	8	A few doors require repainting.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	3	3	Sealant needs to be replaced in many locations, some walls require repainting, and glass block walls require pointing.
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.	3	3	9	1 - Doors do not latch 6 - Doors with card readers 9 - Doors with locks 1 - Doors with no exterior lock 0 - Doors with no signage. 5 - Doors at courtyard with no monitoring.
	TOTAL			74	

ASSESSOR: Jack Gorman Joel Jackson

4.0 The School Site

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	3	3	There are holes along the west side of the building that should be backfilled. The scour stops in the south detention basin do not appear to be functioning as intended and the area has eroded. The north building edge is also experiencing erosion from the roof drain outlets and the area needs work as well.
4.2	**Parking areas** are in good condition.	5	4	20	A section of the north parking lot asphalt is in poor condition and requires immediate replacement. Most of the south parking lot concrete appeared new and in good condition.
4.3	**Drive areas** are in good condition.	3	4	12	A couple sections drive area pavement will need replacement in the future, most of the pavement is in good condition.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	2	4	8	The combination of the north and south parking lots provide enough parking for staff and day to day use, events are tight but manageable
4.5	**Sidewalks** around the facility are in good **condition.**	2	4	8	A section of sidewalk to the south of the building needs immediate, isolated areas across site will also need replacement down the road.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	2	5	10	All doors have sidewalk access and the site is easy to get across by sidewalk.
4.7	**Fencing** around the site is in good condition.	1	4	4	There was one broken top fence bar to repair, no other issues observed.
4.8	**Trash enclosure** is in good condition.	1	N/A	0	The dumpsters were out behind the building.
4.9	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	3	3	An intake in the north parking lot needs to be cleaned of debris, there are some missing utility lids on the backside of the school, and the wiring by the transformer by the SW corner of the building was exposed and needs professional repair work, the work should be coordinated ASAP to prevent damage to the utility or harm to people.
4.10	**Site has sufficient room** for both building and parking expansion.	1	4	4	There is space available to the NW and west of the building for either a building or parking expansion.

ASSESSOR: Jack Gorman Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	4	4	The multiple access provided in the south lot allows for good circulation, some backups occur during dismissal but they straighten out reasonably quickly.
	TOTAL		76		

S | Structural

ASSESSOR: Niles Quick

5.0 Structural Conditions

		Weight Factor	Rating	Points	Comments
Foundations					
5.1	**Foundations** appear to be in good condition with no visible cracks.	1	5	5	
5.2	There does not appear to be any **foundation settlement.**	2	5	10	
5.3	**Basement walls** do not appear to have any cracks.	1	5	5	
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: Niles Quick

		Weight Factor	Rating	Points	Comments
Interior Walls					
5.11	**Interior walls** appear to be in good condition.	1	5	5	
Floor Framing (Elevated)					
5.12	**Floor framing** appears to be in good condition.	3	5	15	
5.13	Floor framing appears to meet the **code requirements.**	3	5	15	
Roof Framing					
5.14	**Roof framing** appears to be in good condition.	3	5	15	
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	5	5	
5.16	**Canopies** appear to be in good condition.	1	5	5	
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	5	5	
5.20	**Stair railings** appear to be in good condition.	1	4	4	Exterior railing at North entrance near room 1516 needs replacement

S | Structural

ASSESSOR: Niles Quick

		Weight Factor	Rating	Points	Comments
5.21	**Pool Deck** appears in good condition without cracks.	1	5	5	
5.22	**Balconies** appear in good, stable, condition	1	5	5	
5.23	**Tunnels** appear to be in good condition without cracks.	1	5	5	
5.24	There is a **designated hardened area** in the building.	1	0	0	No designated hardened area observed
5.25	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			159	

MP | Mechanical & Plumbing

ASSESSOR: Chuck H

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	4	12	
6.3	Appropriate **amount of ventilation** are provided to each space.	5	4	20	Ventilation air provided to classrooms is 75-85% of what is required.
6.4	**Ventilation** is provided during occupied hours.	5	5	25	
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	5	25	
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	5	10	
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	Console WSHPs are 13 years old and may need to be replaced sooner than others. Boilers are 13 years old and appear to have had some tubes replaced. Boiler are 80% efficient.
6.9	**Cooling loads** are within equipment operational capacity.	5	3	15	Geo-Exchange well-field is at max capacity or slightly undersized.
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	

MP | Mechanical & Plumbing

ASSESSOR: Chuck H

		Weight Factor	Rating	Points	Comments
6.11	**Dehumidification** is provided and addressed humidity loads in incoming outside air.	4	5	20	ERVs provided ventilation air are provided with water-to-air heat pump for cooling/dehumidification.
6.12	Appropriate levels of ventilation, cooling and dehumidification are being provided within **Natatorium.**	5	5	25	Pool unit installed in 2015. No noted issues.
Plumbing Design					
6.13	**Water Supply Pressure** is adequate to allow for operation of plumbing fixtures.	5	5	25	
6.14	Appropriate **backflow preventer** is provided at connection to city water supply.	5	4	20	BFP located below boiler room in tunnel. Recommend adding second BFP for redundancy to allow for repair and reduced pressure drop.
6.15	**Domestic hot-water systems** are within equipment operational capacity.	5	5	25	
6.16	Domestic **hot-water recirculating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	5	15	
6.17	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	
6.18	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	5	15	
6.19	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	4	20	Several older roof drains with small dome. Duplex storm sump pumps located in basement tunnel, west side.
6.20	**Restroom fixtures** comply with DMPS preferences.	3	4	12	Some older manual style plumbing fixtures in a few places.

MP | Mechanical & Plumbing

ASSESSOR: Chuck H

		Weight Factor	Rating	Points	Comments
Maintainability					
6.21	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	5	15	
6.22	AHUs and chiller are provided with **coil pull space.**	2	5	10	
6.23	**Filter** sizes are standard and filter types are standard.	2	4	8	Varies by equipment type.
6.24	**Equipment mounting heights** are reasonable.	3	4	12	WSHP in several areas located above ceiling.
6.25	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	5	10	
6.26	**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	
6.27	Appropriate means are provided for **airflow and water balancing.**	3	5	15	
6.28	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	2	4	Wall hydrants located at grade, but parts of buildng are 2-stories. Numerous rooftop equipment requiring cleaning. Recommend a roof hydrant be installed for cleaning rooftop condenser coils.
6.29	**Fall protection** is provided for equipment within 15 ft of roof edge.	2	5	10	
6.30	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	

MP | Mechanical & Plumbing

ASSESSOR: Chuck H

		Weight Factor	Rating	Points	Comments
Occupant Safety					
6.31	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	5	25	
6.32	Building is fully **sprinklered.**	5	5	25	
6.33	**Domestic hot-water temperature** at lavatories used by students or staff is provided with a thermostatic mixing valve and adjusted properly.	5	5	25	
6.34	**Emergency eye-washes and tempering valves** are located where required.	5	1	5	One EEW found in Kitchen. Recommend evaluation with an occupational safety and health professional to determine necessity of eye wash(es) for facility spaces.
6.35	**Emergency boiler stop switches** are located at exits from boiler rooms.	5	5	25	
6.36	**Refrigeration evacuation systems** are provided in rooms with chillers.	5	N/A	0	
6.37	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	5	25	
	TOTAL			628	

E | Electrical

ASSESSOR: 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	0	0	Tx A, B and C are dry-type transformers dating from the 1950s. Very dirty and tough to replace.
7.2	**Transformer** has adequate clearance from non-combustible building components, paths of egress, etc. 10' clear working area in front of doors.	5	0	0	15kV switches offer very restricted access for 15kV switch operation Dirty filters!!! There are unlocked 15kV compartments in the building. New transformer on west side needs grading and conduit repair work. Conduits to meter (located on side of building) have pulled apart due to settling dirt.
7.3	**The MDP environment** is safe, has adequate clearances and exiting.	3	0	0	MSH - 4 (based on age) All others 0. Sub E - no clearance or second exit based on length of gear Sub B - no clearance for MDP Sub C - 15kV compartment un-secured. Sub B&C - 208V bus exposed in panel (no deadfront). A, B, C, & E very dirty.
7.4	The **MDP** appears serviceable.	4	0	0	MSH - 480Y/277 - 3000A Cutler Hammer - 2011 Substation E is very old, probably 1950s. Size unknown, no label. Fed from 208y/120v 500kVA. Subs A, B, and C are old, B is covered in plastic from past roof leak. No clearance for breakers. MDP-B has no deadfront, Fed from 225kVA 208Y/120 xfmrs
7.5	The MDP is **maintainable.**	3	0	0	MSH is easy to repair Sub E has old drawout breakers, probably 1950s era. Would require a major rebuild or replacement. Corroded Sub B has added breakers that were modified to fit. Now no deadfront
7.6	The MDP will support **future expansion.**	4	0	0	MSH - 4 spare, 17 total MDP/Sub E is full with disconnects added MDP/Subs A, B, and C are mostly full
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	5	20	DPLA (by MSH) - 3 800A - 208Y/120
7.8	The Distribution Panel appears **serviceable.**	4	5	20	DPLA (by MSH)
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	4	16	DPLA 7 spare of 15 total

E | Electrical

ASSESSOR: Hedgepeth

		Weight Factor	Rating	Points	Comments
7.11	**Electrical panels and disconnect switches** observed during assessment are safe, serviceable, and maintainable.	2	0	0	480 panel in office is good. 208 panels in office appear full Building has a number of old Frank Adam panels that should be replaced.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	5	5	
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	4	20	Mostly adequate lighting. West side of building and SE corner are dark. SE and SW corners are areas that have pedestrian traffic after dark due to athletic events. Lighting in these areas should be increased for pedestrian safety. Two lights in inset area by cafeteria appear inoperative.
Electronic System Design					
7.14	MDF is **neatly organized** and has appropriate clearances and working spaces. Cables are neatly laced or trained. Entry to the room is restricted.	4	4	16	Storage for carts and chairs. UPS installation conflicts with panel EML. Door will not open.
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	Liebert UPS on 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,6,6A
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	3	3	12 MM50 FO cable to IDFs

E | Electrical

ASSESSOR: Hedgepeth

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	5	10	
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	Simplex 4100U
7.23	Building is equipped with an **access control system.**	5	2	10	6/19=32% with card readers
7.24	Building is equipped with a **CCTV system.**	5	5	25	Good camera coverage.
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			293	

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	4	4	The equipment is very dirty.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	5	5	
	TOTAL			64	

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

Ceiling Tile Replacement	Replace damaged, stained, or missing ceiling tiles in rooms 1000, 1004, 1011, 1014, 1017, 1103, 1261, 1304, 1307, 1320, 1321, 1330, 1402, 1411, 1424, 1431, 1432, 1434, 1502, 2220, 2403, 2414, and corridors outside rooms 1000, 1224, 1503, and 2502. Most rooms listed have only a small handful of affected tiles.
Kitchen Ceiling Cleaning	Clean all supply diffusers, return grilles, and adjacent ceiling tiles throughout the kitchen. Verify that HVAC filters are properly installed and replaced periodically.
Interior Door Hardware Repair	Repair damaged door hardware at rooms 1124, 1421, 1501, 1512, 2232, and 2502.
Room 1515 Lighting Modification	Install permanent power and proper controls for decorative pendant lighting in room 1515. These pendants are currently plugged into outlets above ceiling and lighting controls were not readily observable.
Window Treatments	Repair horizontal blinds in room 1403. Install horizontal blinds on windows in rooms 1513 and 1518.
Roof Cleaning	Remove debris from roof low spots, drains, overflows, gutters, and other areas where it collects so that the roof membrane remains in good condition and sheds water efficiently as designed. Remove unused wire, including coax cable, from roof.
Landscaping	Trim tree back from north side of roof C and from south side of roof L. Remove vines from courtyard.

Landscaping and Pest Control	There are many holes near the base of the exterior wall around the perimeter of the building and in the courtyard that are approx. 6" in diameter and appear to be made by an animal. The recommendation is to work with a local pest control company to develop a plan to remove and prevent animal habitation of the ground immediately adjacent to the building and possibly within the building below grade. Finally, these holes should be filled in to protect the foundations and prevent tripping/ injury by occupants and groundskeepers.
Exterior Door Adjustment	Adjust 1 exterior door so that it latches from any closing position at the following location: room1515. Add closer to courtyard door at room 1141.
Exterior Repairs	Add 12 LF of condensate line outside room 1125. Repaint big "N" sign at SE corner of building.
Replace Fence Bar	Replace the top fence bar to restore the fence to good condition. For location, refer to the civil site plan exhibit found in the appendix of this report.
Replace Utility Lids	Replace the missing utility lids to protect the pipes/structures underneath. For locations, refer to the civil site plan exhibit found in the appendix of this report.
Backfill Around Building	Backfill the holes along the building to prevent water infiltration. For locations, refer to the civil site plan exhibit found in the appendix of this report.
Add Soil & Sod	Add soil and sod to prevent erosion of existing soil. For locations, refer to the civil site plan exhibit found in the appendix of this report.
Clean Storm Intake	Remove debris from the intake opening to increase its capacity to drain the lot. For location, refer to the civil site plan exhibit found in the appendix of this report.
Repair Transformer Wiring	Contact a professional electrician to repair the building wiring from the transformer and eliminate the safety hazard created from the exposed wires.

Roof Drain Upgrades	Repair or replace roof drains and include appropriate dome on drain. Include new roof drains with reroofing projects and install with appropriate dome strainer.	
Power Substation Cleaning and Security	Schedule outage to clean transformers and gear. Check torque tightness. Secure doors on 15kV compartments and 208V compartments with no deadfronts. Dangerous Situations.	
West Transformer Conduit Repair	Repair settled and missing dirt between transformer and building. Repair conduits that have pulled apart due to settled earth.	
Elevator Cleaning	Clean pit, car top and machine room. The interior appears smudged with something. Recommend disinfecting.	

1 - 2 Year Priority

		Project Costs
Auditorium Carpet Replacement	Remove carpet throughout the auditorium house/balcony and replace with carpet tile (approximately 7,000 SF total).	$60,000
Flooring Replacement, Partial	Replace damaged, stained, or missing VCT flooring in rooms1323, 1501, 1521, 2423, and stair S301. Approximately 6,000SF. Abatement is not included as part of the listed project costs. Replace damaged or stained carpet tile in rooms 2411 and 2412, approximately 3,000SF.	$65,000
Stage Flooring Replacement	Replace wood flooring and subfloor/framing) at room 1174 stage (350 SF) and auditorium 1111 stage (1,500 SF).	$130,000
Roof Repair	Repair roofing at NE corner of roof K, approx. 4 SF. Cut in two scuppers at roof O; provide (1) 14 VLF downspout and roof walkway as splash pad. Replace flashing at the following locations: 4 LF at roof P; 4 LF at roof S; 6 LF at roof C near SW corner of roof B; 2 SF flashing at top of brick in courtyard.	$10,000
Roof Replacement	Remove approx. 61,500 SF of PVC roofing and insulation over roof areas G, I, J, N-S, and U-W. Install code compliant insulation and TPO roofing. Approx. year 2025.	$1,500,000

Roof Access Installation	Provide the following ladders: 4 VLF ladder extension from roof A to B. 4 VLF ladder extension from roof K to L. 10 VLF ladder from roof S to U; adjacent ladder is not close enough to transfer. 4 VLF ladders from roof V to W.	$13,000
Exterior Sealant Replacement	Replace sealant at masonry joints at the following locations at the roof: 24 LF roof A, west; 14 LF roof I, west; 10 LF roof L, east; 14 LF roof N, west, south; 4 LF roof O, west; 48 LF roof S, NW, SE, east; 200 LF roof T, north; 30 LF roof V, west, east; 6 LF roof W, east; Approx. total: 350 LF Replace sealant at masonry joints at the following locations around the building: 110 LF at vertical stone band at main entry; 140 LF outside room 1200; 84 LF near entry SE of main gym; 8 LF outside room 1232; 12 LF SE of pool; 36 LF east of room 1323; 2 LF north of room 1411; 60 LF outside room 1123-1125; 78 LF outside room 1035; 100 LF outside room 1021-1027; 32 LF outside room 1141; Approx. total: 662 LF Replace sealant at wide masonry at roof T, NE: 32 LF. Replace sealant at the following roof locations: 8 LF roof A to B, north end; 4 LF NE roof F; 44 LF roof K, south; Approx. 56 LF Replace sealant at roof flashing at locations: 84 LF roof A, east; 12 LF roof P; 10 LF roof W; Approx. 106 LF Replace sealant at perimeter of windows / louvers: 20 LF at jambs roof H; 10 LF at jambs roof I; 12 LF roof N; 160 LF at jambs around courtyard; 50 LF at sills and jambs room 1321-1323; Approx. total: 252 LF Replace sealant around windows at the following locations: 112 LF at sill for length of wall at second story room 2330-2333; 150 LF at sill for length of wall at first and second story rm1502-1503; 350 LF at sill for length of wall at first and second story room 1421-1426; Approx. total: 612 LF Replace sealant at perimeter of door near 1320: 10 LF. Replace sealant between granite cap stones of landscaping walls south of building, as well as underneath them: 520 LF Replace sealant at double wide joint at north end of granite cap wall SE of main entry 11 LF. Replace sealant where canopies meet walls: east end of canopy over main entry and canopy outside room 1125: 16 LF.	$35,000

Parapet Cap Weatherproofing	Replace sealant between stone parapet cap units and cover top and backside with elastomeric coating. Locations: roof B, north and east; roof F, north, two locations; roof G, east; roof I, east; roof L, NE and south; roof M, south, and roof S, west; roof Q, south; roof T, west and south; roof W, west and east; Approx. 900 LF and 3,000 SF respectively	$30,000
Pavement Replacement	Remove and replace 456 SY of asphalt. For location, refer to the civil site plan exhibit found in the appendix of this report.	$110,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 139 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$25,000
Curb Repairs	Return damaged curbs to new condition. Approximately 35 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$7,000
Exterior Stair Railing Replacement	Replace exterior railing at the North entrances outside of room 1502 and outside of 1426, 50 LF total.	$25,000
Stoop Replacement	Remove (4) 40 SF stair-stoops at courtyard. Replace with (4) 20 SF stoops with 5' wide 3 riser stairs on grade and (2) 7' long railings. Landscape accordingly.	$60,000
Redundant Backflow Preventer Installation	Add second BFP for redundancy to allow for repair.	$13,000
Install Hose Bibb	Install hose bibb at roof level to allow for cleaning of roof mounted condensers.	$12,000
Power Distribution Upgrade	Replace 15kV substations and 1950s era switchgear. Upgrade Frank Adam panelboards (approx. 35).	$2,300,000
Exterior Perimeter Lighting Installation	Add perimeter lighting at SE and SW corners.	$12,000

Exterior Lighting Installation	Add pole or pedestrian scale lighting on walkway between building and 6th Ave to provide lighting to stadium.	$25,000

Total 1-2 Year Project Costs: $4,432,000.00

3 - 4 Year Priority

		Project Costs
Casework Replacement	In rooms 1402, 2151, 2401, and 2434: remove damaged casework and replace with solid surface countertop and plastic laminate base cabinets (no sinks) (total 90 LF). In rooms 2332, 2431, 2432, and 2433: remove damaged wood countertops and replace with solid surface countertops (no sinks) (total 130 LF). In corridor outside room 2502: remove and replace damaged plastic laminate window stool (10 LF).	$180,000
Casework Finish Repairs	In rooms 1173, 1421, 1422, 1424, 2421, 2422, 2423, and 2430: refinish existing wood finish on countertops (total 450 SF). In rooms 2330, 2331, 2402, 2403, 2424, 2425: repaint wood base cabinets (total 600 SF).	$30,000
Wall and Ceiling Painting	Repaint portions of gypsum board ceilings in rooms 1251, 1320, 1408, and 1422 (total 150 SF). Repaint walls in rooms 1021, 1035, 1123, 1210 (south wall and above bleachers each side), 1222, 1242, 1246, 1408, 1411, 1424, 1425, 1426, 1502, 1514, 2168, 2171, 2401, 2402, 2403, and 2404 (total 4,100 SF).	$20,000
Interior Door Finish Repairs	Repaint hollow metal doors and frames. (3) single doors and frames in corridor outside of 1401. (1) single door and frame to room 1505. Refinish wood door and paint hollow metal frames. (1) Double door and frame to stair outside of room 1405. (@) single doors and frames at rooms 1321 and 1322. (1) single door at 1402. (1) single door and frame at 1330. Replace current locksets with intruder function in doors 1241, 1302, (5) doors in 1301, and 1332.	$25,000
Furniture Upgrades	Replace 10 conference chairs in room 1034. Replace 12 tables in room 1323. Replace 1 faculty chair in room 1125. Install soft seating in library 1411.	DMPS

Concession Stand Renovation	Renovate concession stand 1103: Remove and replace existing casework with new base cabinets and solid surface counters (total 35 LF, one sink). Replace transaction counter with solid surface counter (15 LF). Remove wood paneling on walls and replace with gypsum board (400 SF).	$75,000
Vocal Music Room Acoustic Improvements	Install acoustic panels or baffles in vocal music room 1125 to reduce reverberation time. Approximately 600 SF of acoustic material (room is roughly 2,000 SF).	$25,000
Exterior Repainting	Repaint rooftop mechanical equipment at the following locations: Roof A, (2) ducts, (3) hoods: 300 SF; Roof B: 80 SF; Roof F (3) hoods: 120 SF; Roof H (1) hood: 80 SF; Roof I (1) hood, some screening: 50 SF; Roof K (1) hood: 80 SF; Roof N (1) hood: 80 SF; Roof O (4) hoods: 320 SF; Roof P (1) hood: 20 SF; Roof Q (1) hood: 80 SF; Roof F (2) hoods: 240 SF. Repaint the roof ladders at various locations, approx. total 110 VLF.	$20,000
Exterior Repainting	Repaint the following exterior walls: Roof R metal siding 2 SF; Wall north of roof V: 1,500 SF Wall north and west of roof Q: 1,500 SF Wall south of roof O: 800 SF Walls (2) east and north of room 1261: 4,000 SF Walls (4) around rooms 1505-1524: 4,400 SF Repaint single roof access door at roof J and 60 SF of louvers at roof J, as well as louver at roof A, 40 SF. Repaint double door with sidelites equivalent near room 1320. Repaint double door with sidelites equivalent near room 1426. Repaint steel under exterior portion of stairs at the following locations: SW and SW of room 1200; NW of room 1426; Approx. 120 SF Repaint lintel and angles at jambs south of 1261, 24 SF. Repaint lintel and column outside door near room 1321, 24 SF.	$90,000
Pavement Replacement	Remove and replace 299 SY of PCC. For location, refer to the civil site plan exhibit found in the appendix of this report.	$45,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 195 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$35,000

Grading Repair	Re-grade along the building, install concrete splash pads, and replace curbs to restore positive drainage along building. For location, refer to the civil site plan exhibit found in the appendix of this report.	$11,000
Erosion Repair	Remove the existing scour stops, re-grade area, and install flexamat to prevent further erosion and any potential undermining of pavement. For location, refer to the civil site plan exhibit found in the appendix of this report.	$12,000
Pool Wall Steel Repair	Sand Blast and re-paint 30 L.F. of the steel framed pool wall on the NW side. Approximately 400 sq. ft. of steel to be sand blasted and re-painted.	$11,000
Restroom Fixture Upgrades	Install auto flush and hands-free fixtures in restrooms and other public areas.	$80,000
	Total 3-4 Year Project Costs:	**$659,000.00**

5 - 10 Year Priority

		Project Costs
Locker Room Renovations	Locker Rooms 1222, 1231, 1235, and 12 65. Lockers to be replaced with collegiate style lockers and arranged to provide teaming spaces within each room. Approximately 100 LF of lockers each room. Wall finishes and graphics are either nonexistent or starting to peel and wear. Approximately 10,000SF total wall painting. 4 total wall graphics. Flooring in several locker rooms is concrete floor with carpet tiles that are not fully adhered and badly stained. CMU walls should be prepped and repainted with new epoxy paint and wall graphics. Approximately 10,000SF total wall painting. 4 total wall graphics. Carpet should all be removed and epoxy flooring installed. Athletic carpet, such as Kinetex, "rug" spaces could be provided in the teaming spaces. Approximately 400 SF of Kinetex Carpet tile. Approximately 5,500SF of epoxy flooring. Replace single wood door and hardware in locker room 1222, frame to remain.	$480,000
Roof Replacement	Remove approx. 75,400 SF of PVC roofing and insulation over roof areas A-F, H, and K-M. Install code compliant insulation and TPO roofing. Approx. year 2030.	$2,400,000

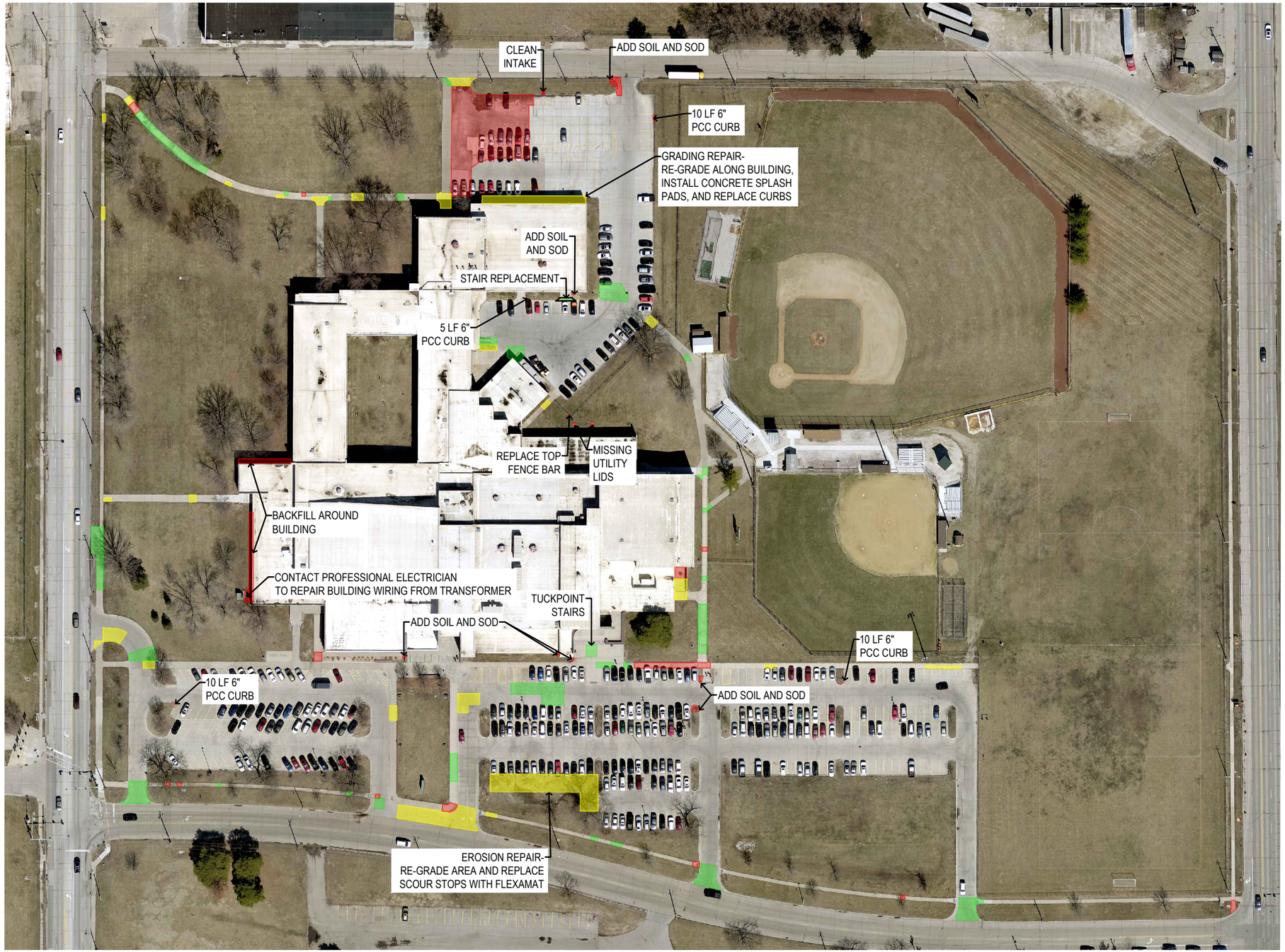
Masonry Repointing	Repoint stone cap at roof M and S, approx. 120 SF. Repoint at outside corner of roof P over roof O, 6 SF. Repoint glass block at east and west of roof R, 750 SF. Repoint brick at SW corner of courtyard, 8 SF.	$25,000
Exterior Glazing Replacement	Replace insulated glazing unit in frames from room 1511-1514, (2) units 8 SF each	$8,000
Pavement Replacement	Remove and replace 456 SY of PCC. For location, refer to the civil site plan exhibit found in the appendix of this report.	$85,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 338 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$75,000
Stairs Repointing	Professionally repoint the grout joints of the marble stairs to restore the stairs to good condition and prolong the life of the stairs. For location, refer to civil site plan exhibit found in the appendix of this report.	$13,000
Stair Replacement	Remove and replace the deteriorated stairs. For location, refer to civil site plan exhibit found in the appendix of this report.	$35,000
Boiler Replacement	Replace existng standard eff. boilers with new high efficiency units. Exisitng boilers were intsalled in 2010 but it appears that repairs have been done to them.	$300,000
Console Heat Pump Replacements	Replace console WSHPs and consider two stage unit to better match load and improve dehumidification and reduced load on wellfield.	$4,900,000
Add Geothermal Wellpoints	The existing well field apepars to not have adequate capacity. Add additional well points to the north of the existing field.	$830,000
	Total 5-10 Year Project Costs:	**$9,151,000.00**

Projects Requiring Study

		Design Services Fee
Auditorium Renovation Study	Explore options for improving function, access, and safety of operation for stage lighting, rigging, and curtain control systems in the auditorium.	$7,500
Natatorium Renovation Study	Create a master plan for renovations to the natatorium, spectator seating area, and swimming locker rooms. Study should consider improvements to finishes, lighting, audio/visual systems, and accessibility.	$15,000
Designated Hardened Area	No designated hardened area was observed. Study to determine the feasibility of adding a designated hardened area to the building including location within the existing building, schematic design concept if deemed feasible, and preliminary project costs.	$2,500
Wood Shoring in Pool Basement	Study to determine if the wood shoring is actually structural, or covering up something that needs to be addressed	$1,000
Power Installation Study	Approximately 7 of 32 classrooms appear not to have adequate access to power for student work. This is based on uses of extension cords and power strips to supplement power to the center of the room. A study is recommended based on a class by class basis to determine the appropriate solution for additional power outlet access in each classroom.	$10,000
	Total Study Design Service Fees	**$36,000**

APPENDIX

PAVEMENT QUANTITIES (SY)			
	SIDEWALK	PCC	ASPHALT
	338	456	0
	195	299	0
	139	456	832



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

120 0 60 120 240

bbs ARCHITECTS ENGINEERS

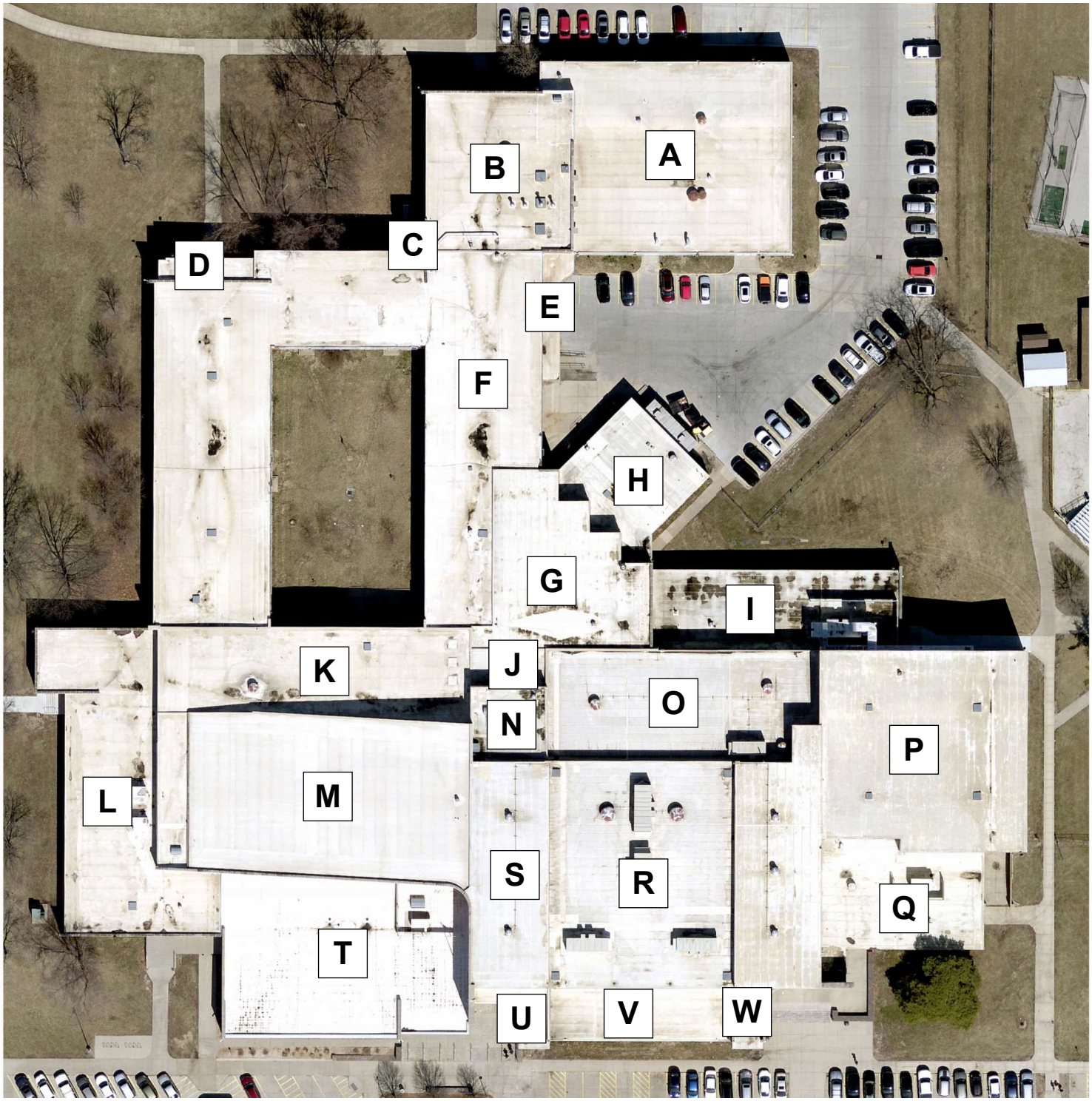
BISHOP ENGINEERING +

NORTH HIGH SCHOOL

EXHIBIT

PROJECT # 230286-52

DATE 3/15/2024



N

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment
Roof Identification Image
North High School
March 12, 2024

NORTH HIGH SCHOOL

501 HOLCOMB AVENUE
DES MOINES, IOWA 50313

FIRST FLOOR

NORTH

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

bbs
ARCHITECTS
ENGINEERS

NORTH HIGH SCHOOL

501 HOLCOMB AVENUE
DES MOINES, IOWA 50313

SECOND FLOOR

NORTH

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

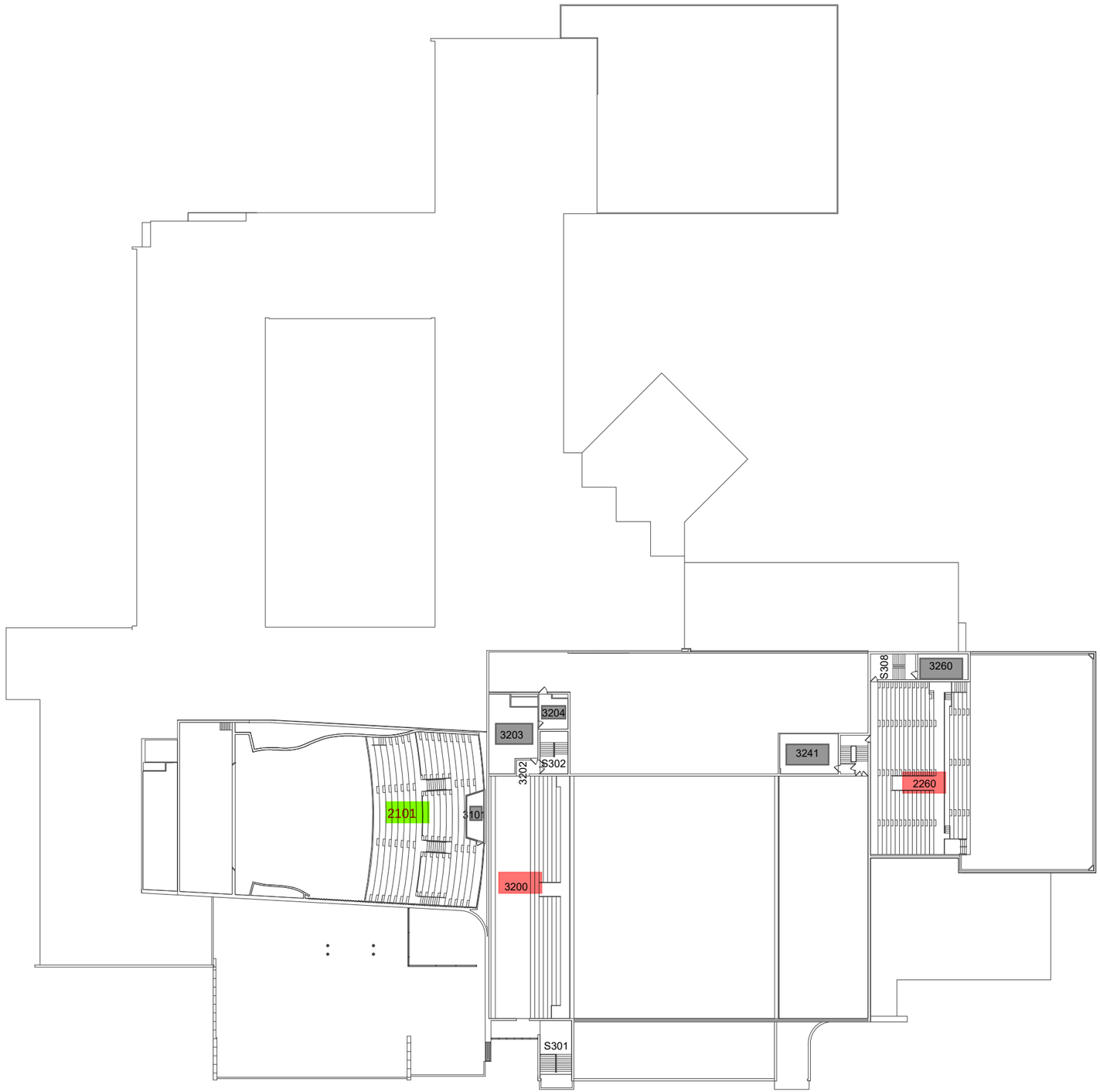
bbs ARCHITECTS ENGINEERS

NORTH HIGH SCHOOL

501 HOLCOMB AVENUE
DES MOINES, IOWA 50313

THIRD FLOOR

NORTH



- Core Classroom
- Student Support
- Administration
- Large Shared Space
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bbs
ARCHITECTS
ENGINEERS