

Crivitz School District

District-wide Facilities Study



STUDY DOCUMENT

November, 2023

BRAYARCHITECTS

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BRAYARCHITECTS

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CRIVITZ SCHOOL DISTRICT

Administration Team // Crivitz, Wisconsin

CRIVITZ SCHOOL DISTRICT

Board of Education // Crivitz, Wisconsin

BRAY ASSOCIATES - ARCHITECTS, INC.

Bray Team // Davenport • Moline • Milwaukee • Sheboygan

MSA PROFESSIONAL SERVICES, INC.

Electrical + Plumbing + HVAC Team // Milwaukee, Wisconsin

document introduction

FIRM INTRODUCTION

Bray Architects was founded in 1962 and after leadership by two generations of the Bray family, ownership was transitioned to Matthew Wolfert, Stephen Kuhnen, and Ronet Rodewald. Under their leadership, Bray Architects has grown into an architecture and interior design firm focusing on various project types ranging in size from \$100,000 to \$175 million.

Bray Architects has evolved into a diverse group of specialists focusing almost exclusively on the planning and design of PreK-12 education projects. We are guided by the idea that public architecture and public buildings must above all function well, put the user at the center of the design, and connect those users to their communities.

HOW TO USE THE FACILITIES STUDY DOCUMENT

This document reflects observations made by Bray Architects and their consulting engineers surrounding the conditions of any building(s) and associated systems at the time of initial building walk-throughs. Observations include what can be visibly seen at the time of the walk-through, and do not include analysis of any buried, hidden or structural elements that would require partial demolition, extensive investigation or additional testing.



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assessment: process

Observations are given an assessment of "Good / Fair / Poor" that is based on both generalized and numerical criteria and can be established at the individual, categorical, building and District-wide level. This assessment assists in providing a high-level identification of the overall condition of each element, as well as identifying which elements have the most need. While such assessment does not include prioritization of identified needs, it may be used by the District as a tool for making such decisions once needs are identified.

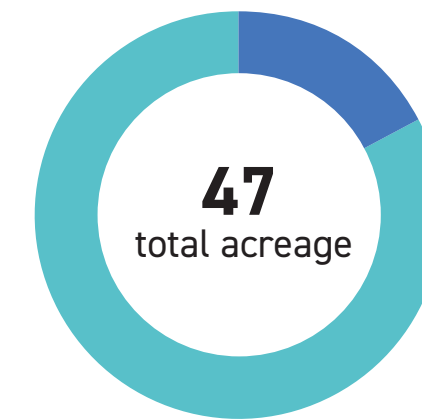
Below is the defined criteria for each level of assessment:

- **GOOD** | No visible damage, wear or need for repair; no replacement required.
- **FAIR** | Some visible damage, wear or need for repair; no immediate replacement required.
- **POOR** | Substantial visible damage, wear or need for repair, or identified as containing potential asbestos; most pressing replacement needed.

It is important to note that any and all observations are not a direct reflection of the maintenance teams or their work. Even with proper maintenance, it is inevitable that buildings and their associated systems will wear with time and use.

district-owned property + boundaries map

● Elementary ● Middle and High School



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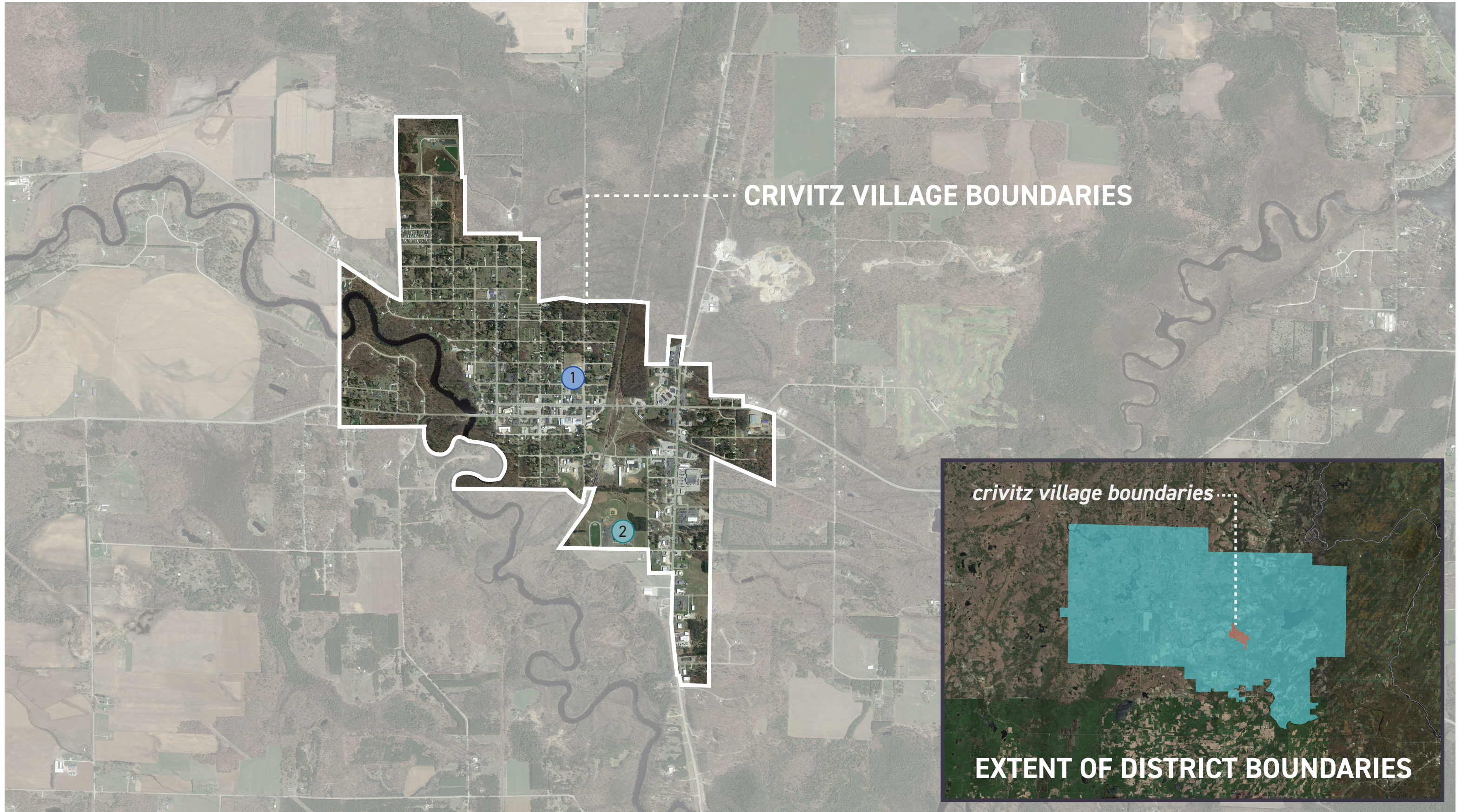
elementary

- 1 Crivitz Elementary (8.20)

middle and high school

- 2 Crivitz Middle and High School (38.8)

district-owned property + boundaries map



overall summary crivitz elementary

▼ ITEMS IN POOR CONDITION

Substantial visible damage, wear or need for repair, or identified as containing potential asbestos

- Replace air handling units
- Replace old panelboards
- Replace all fluorescent fixtures with new in entire building
- Install new exterior rated natural gas generator
- Install new fire alarm system
- Replace public address system
- ADA improvements at identified areas
- Install plaster traps in art sinks
- Potential asbestos remediation
- Ceiling replacement at select/identified areas
- Flooring replacement at select/identified areas
- Replace single pane windows
- Replace air conditioning unit in office
- Replace piping in sanitary system
- Replace wiring devices and plates that are damaged

▼ ITEMS IN FAIR CONDITION

Some visible damage, wear or need for repair

- Exterior doors at identified areas
- Exterior windows at identified areas
- Ceiling replacement at identified areas
- Flooring replacement at identified areas
- Emergency egress lighting
- Replace wiring devices and plates that are damaged
- Replace old cloth branch circuit wiring and feeders
- Replace exterior lighting with LED
- ADA improvements at identified areas
- Storm system

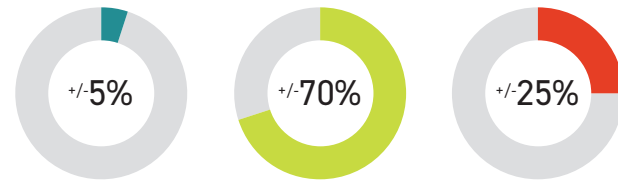
▼ ITEMS IN GOOD CONDITION

No visible damage, wear or need for repair

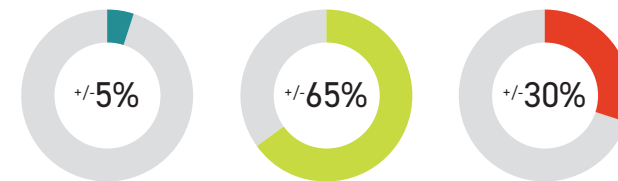
- ADA parking stalls and entrance accessibility
- Drinking fountains

+ OVERALL BREAKDOWN

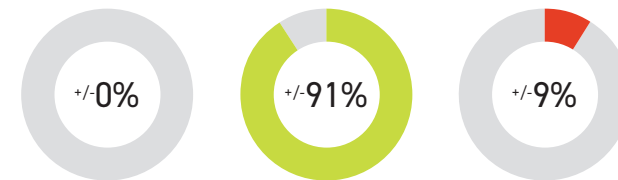
▼ Ceiling



▼ Flooring



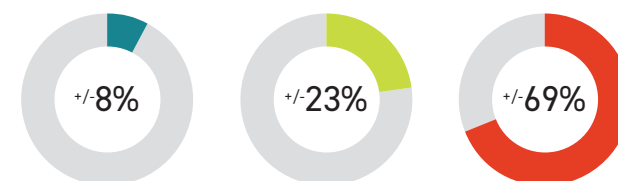
▼ Exterior Doors



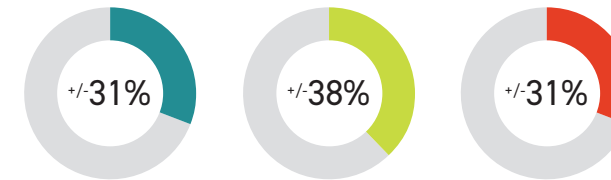
▼ Exterior Windows



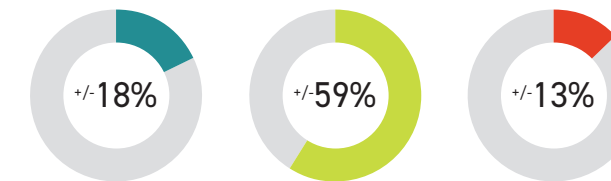
▼ Roof



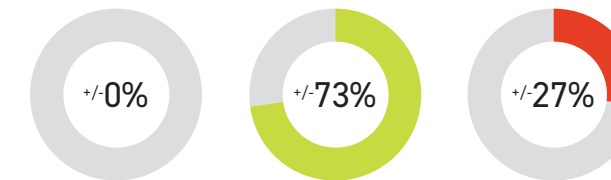
▼ Accessibility



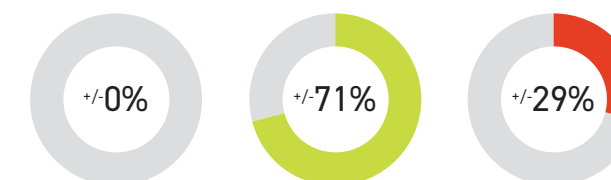
▼ Plumbing



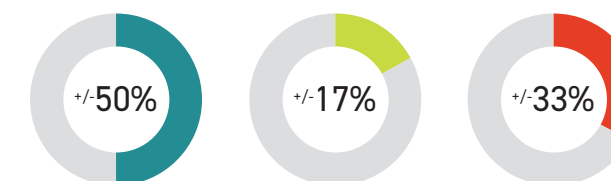
▼ Mechanical



▼ Electrical



▼ Life Safety



overall summary crivitz middle and high school

▼ ITEMS IN POOR CONDITION

Substantial visible damage, wear or need for repair, or identified as containing potential asbestos

- Ceiling replacement at select/identified areas
- Flooring replacement at select/identified areas
- Interior door repair at select/identified areas
- Fire alarm system
- ADA improvements at identified areas
- Water distribution piping
- Exterior doors at identified locations
- Exterior wall repair at select/identified areas

▼ ITEMS IN FAIR CONDITION

Some visible damage, wear or need for repair

- Domestic water system
- Lighting fixtures and controls
- Wiring Devices
- Ceiling replacement at select/identified areas
- Flooring replacement at select/identified areas
- Emergency egress lighting
- Exterior doors at identified areas
- Exterior windows at identified areas
- Air conditioning systems

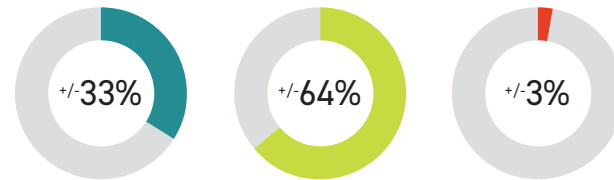
▼ ITEMS IN GOOD CONDITION

No visible damage, wear or need for repair

- Sanitary system
- Storm system
- Natural gas system
- Plumbing equipment
- Plumbing fixtures
- Natural gas system
- Ventilation + A/C systems
- Control systems
- Natural gas system
- Exterior doors at identified areas
- Exterior windows at identified areas

+ OVERALL BREAKDOWN

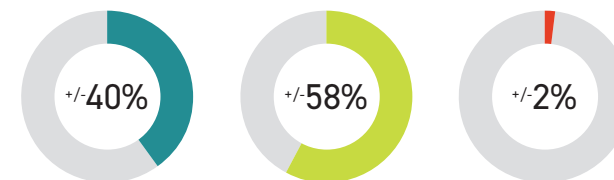
▼ Ceiling



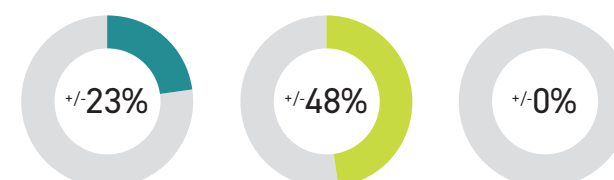
▼ Flooring



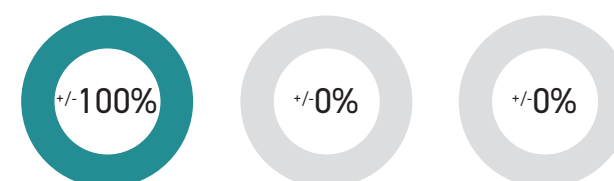
▼ Exterior Doors



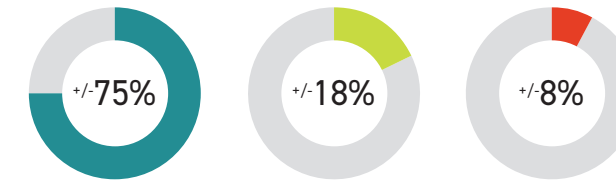
▼ Exterior Windows



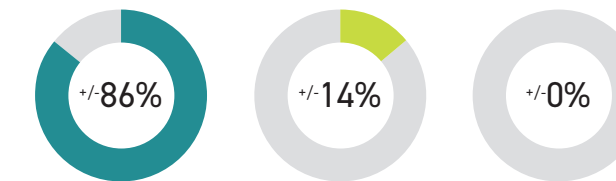
▼ Roof



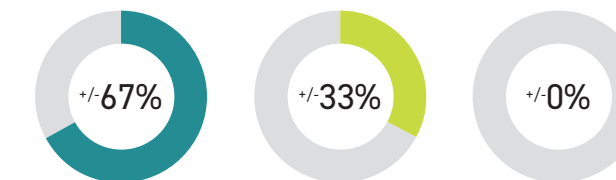
▼ Accessibility



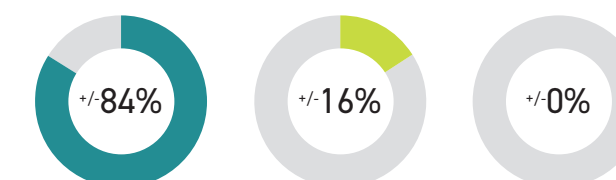
▼ Plumbing



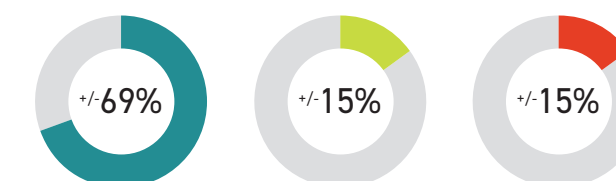
▼ Mechanical



▼ Electrical



▼ Life Safety



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01

Original Date
of Construction

1925

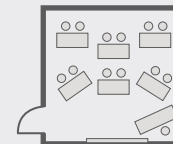
As of 2023: 98 years old

Square Footage

103,240
Sq. Ft.



Average Core Classroom
Size Comparison



812 sq. ft.

Recommended Size

1st - 12th: 900 sq. ft.
Kindergarten: 1200 sq. ft.

crivitz elementary

SUMMARY

Crivitz Elementary provides a comprehensive program for kindergarten-6th grade students.

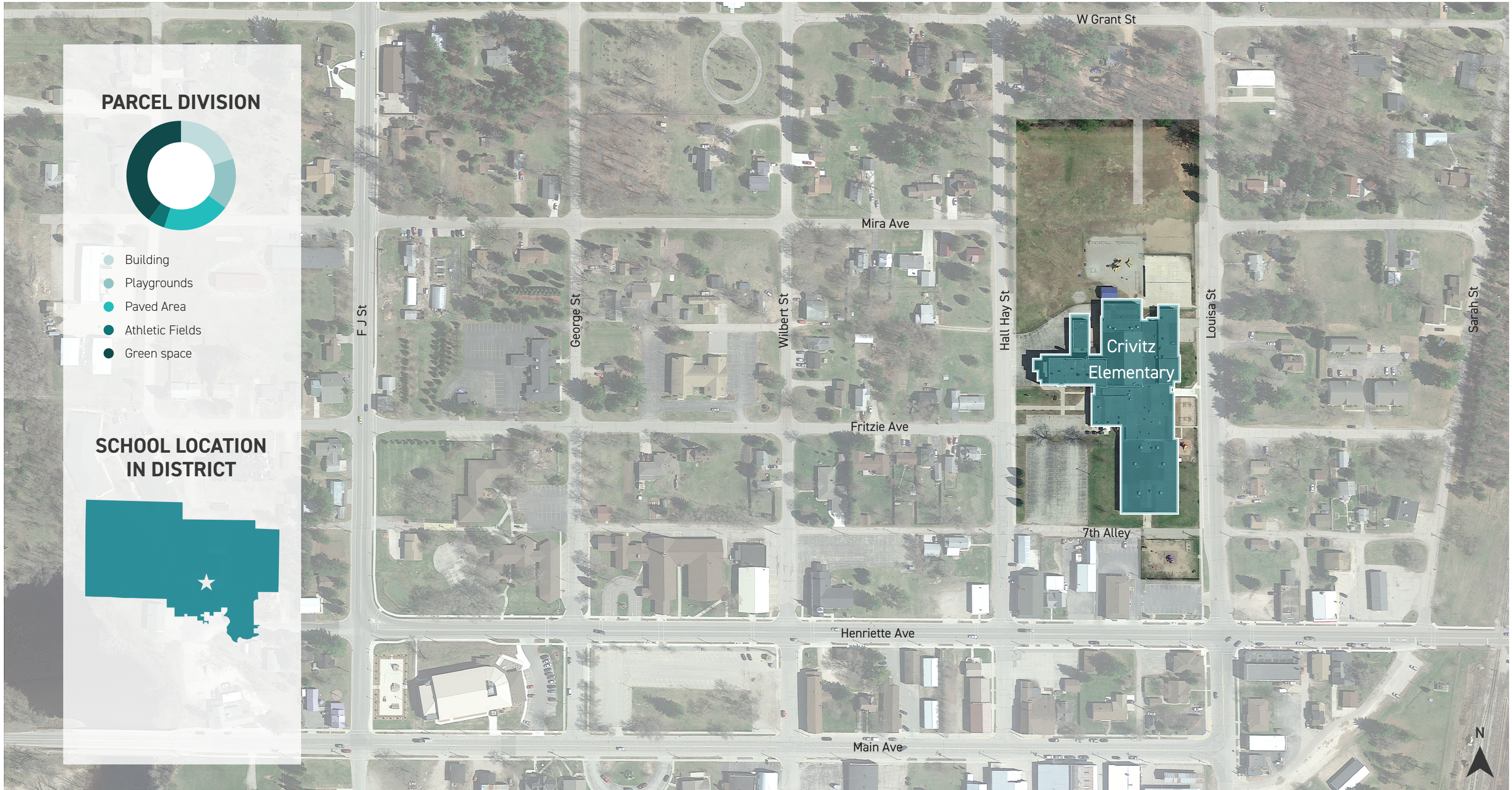
Address: 718 Hall Hay St. Crivitz, WI 54114

Grades Served: Kindergarten - 6th Grade

Site Size: 8.2 acres

Parking: 86 stalls

crivitz elementary site map



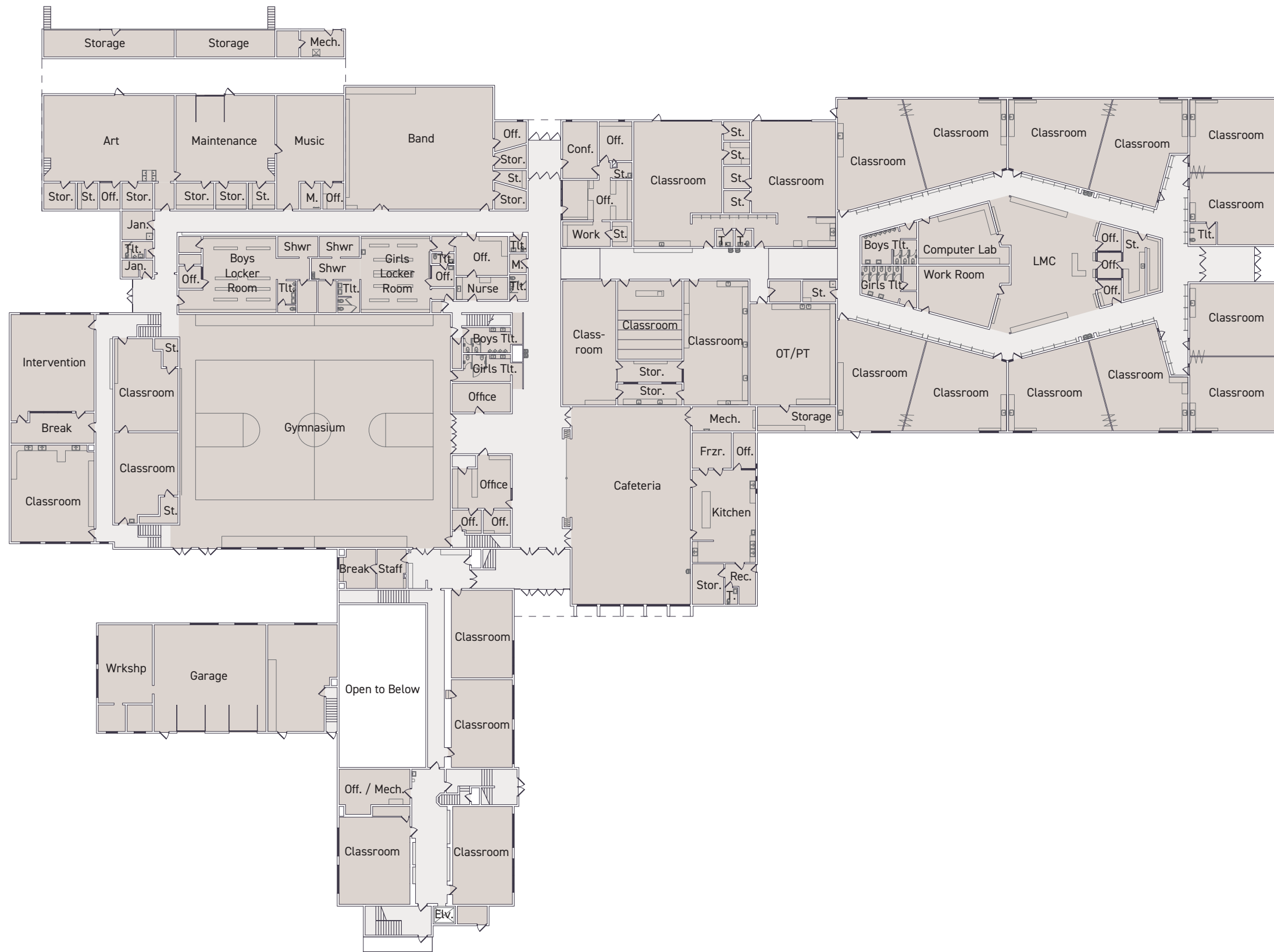
crivitz elementary building evolution



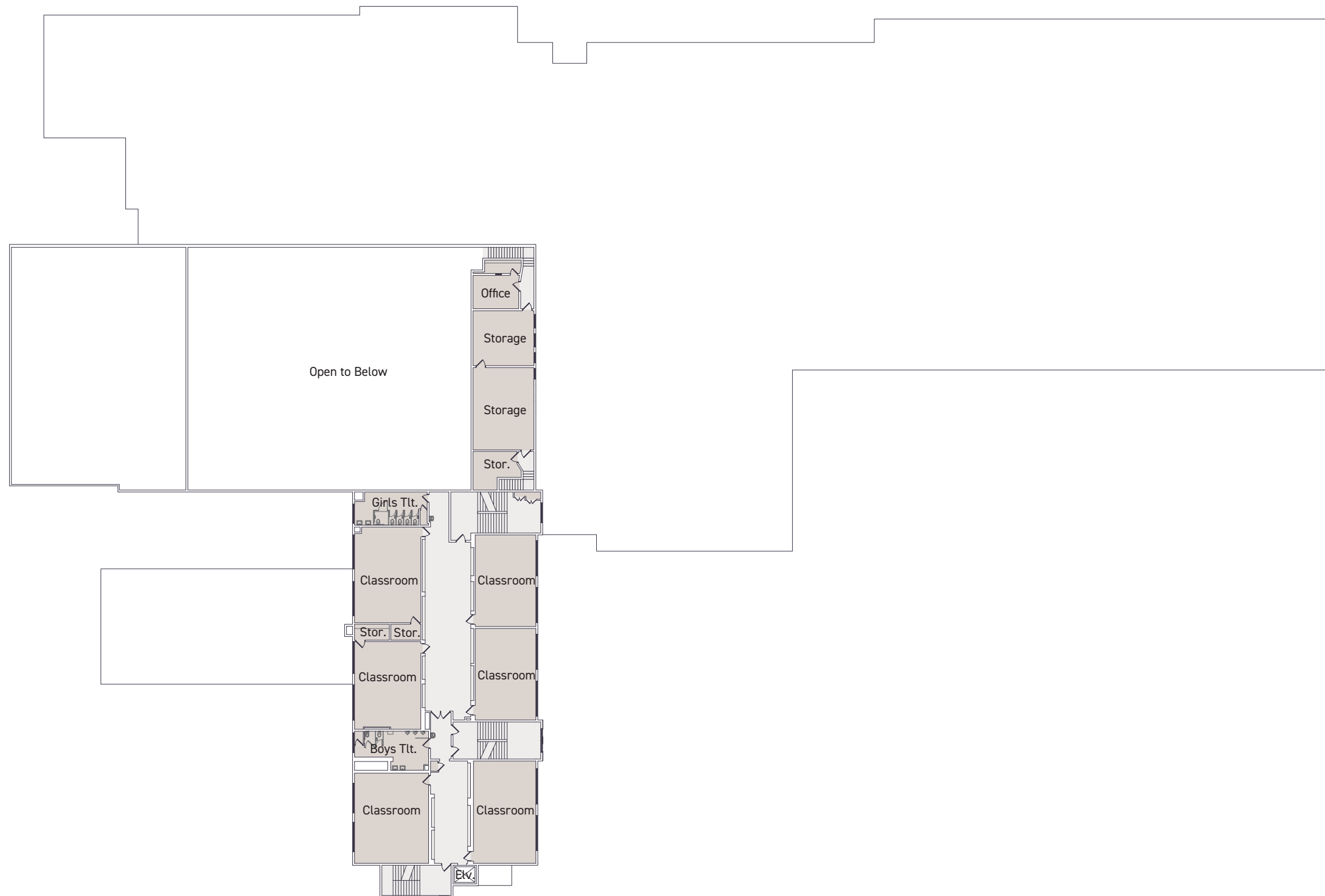
crivitz elementary floor plan



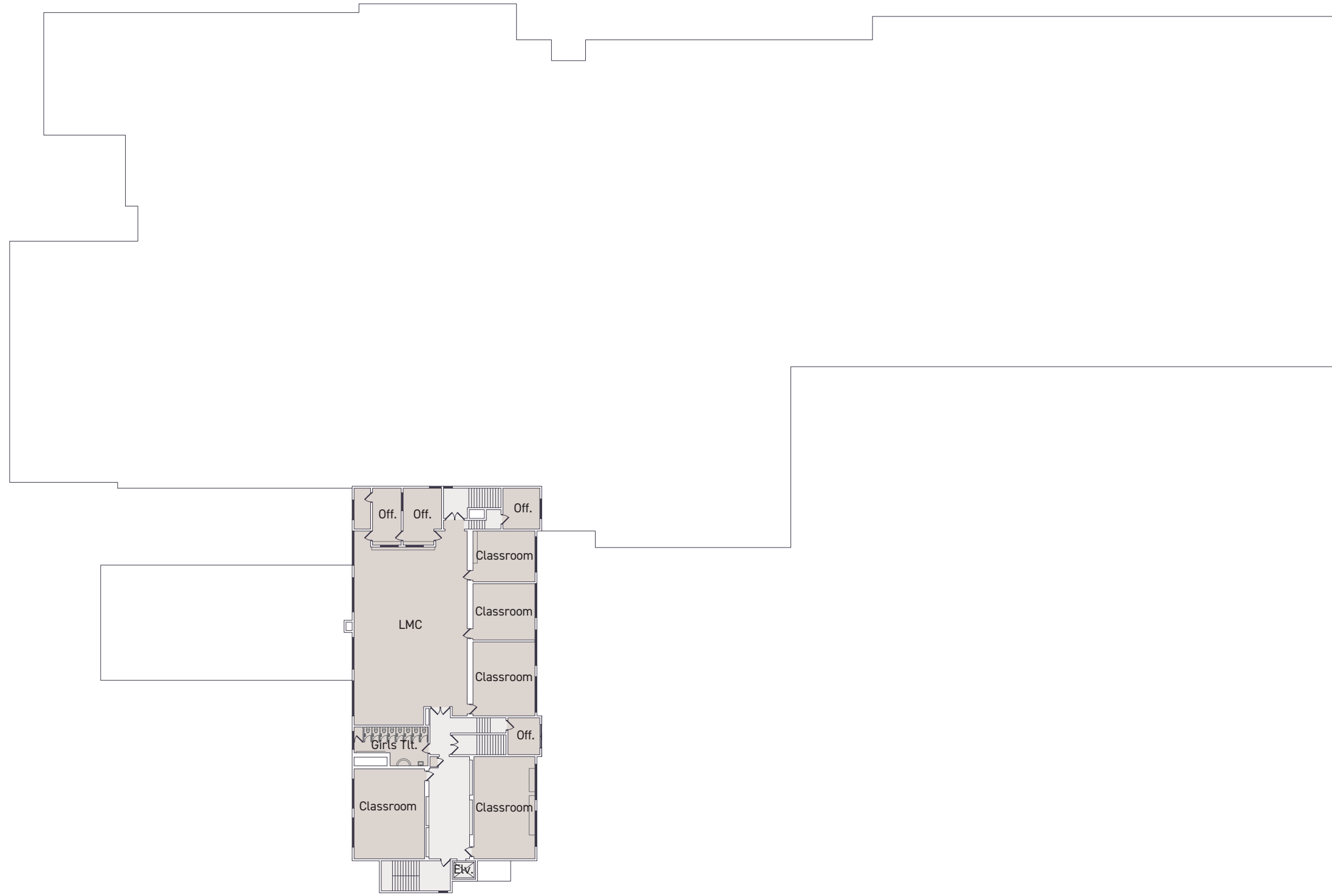
crivitz elementary floor plan



crivitz elementary floor plan



crivitz elementary floor plan



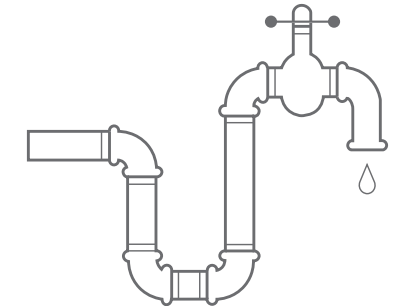
crivitz elementary building systems summary

- **Good Condition**
 No visible damage, wear or need for repair; no replacement needed.
- **Fair Condition**
 Some visible damage, wear or need for repair; no immediate replacement required.
- **Poor Condition**
 Substantial visible damage, wear or need for repair, or identified as containing potential asbestos; most pressing replacement needed.

Plumbing Condition Overview



Replace Galvanized Piping



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PLUMBING

Domestic Water System	■	
Water Service	●	Upgrade if sprinkler added.
Water Distribution Piping	●	Many leaks were noted. Galvanized piping was present.
Water Softening System	○	
Fire Sprinkler System	○	
Sanitary System	■	
Sanitary Waste System	●	Piping is old and vintage to the facility,
Sanitary Drain, Waste + Vent Piping	●	Piping is old and vintage to the facility.
Acid Waste Piping + Basin	○	
Interceptors	○	
Storm System	■	
Storm System	●	Some leaks were noticed.
Storm Waste Piping	○	
Sump Pump	○	
Natural Gas System	■	

* See appendix for full engineer reports + additional information.

crivitz elementary building systems summary

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Plumbing Condition Overview



Add Plaster Traps to Art Room Sinks



PLUMBING

Plumbing Equipment		
Water Heater		4 different ages of water heaters. Two not in service.
Circulator Pump		
Hot Water System		
Plumbing Fixtures		
Water Closets		Many of the plumbing fixtures are old style.
Urinals		
Lavatories		
Drinking Fountains		
Classroom Sinks		
General Sinks		
Art Room Sinks		Add plaster traps.
Emergency Eyewash Stations		

* See appendix for full engineer reports + additional information.

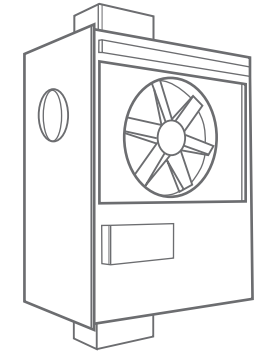
crivitz elementary building systems summary

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Mechanical Condition Overview



Replace Ventilation + A/C Systems



MECHANICAL

Heating		
Boiler Plant		Two boilers installed in 2006. A 20- year service life should be expected for this system.
Pumps		Two sets of pumps; one serves the original building and one serves the 1970 addition.
Ventilation + A/C Systems		
Air Handling Units		Units are constant volume, except for the multi-zone unit serving the center classrooms. Units have well exceeded their expected 30-year life span.
Air Conditioning Systems		Only the unit serving the office contains air conditioning.
Control Systems		
		The original pneumatic controls were replaced with a DDC system around 2005.

* See appendix for full engineer reports + additional information.

crivitz elementary building systems summary

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Electrical Condition Overview



Replace Panelboards



ELECTRICAL

Electrical Service	■	
Utility Service	●	
Switchboard	●	Replace with new equipment. Replace any cloth covered feeders and consider adding surge protective device at service location.
Panelboards	■	Replace old panelboards and loadcenters. Complete Arc Flash Study of existing electrical system and add arc flash labels to all electrical panelboards.
Light Fixtures + Controls	■	
Interior Lighting	●	Replace all fluorescent fixtures with new in entire building.
Corridor Lighting	●	Replace all fluorescent fixtures with new in entire building.
Lighting Controls	●	
Exterior Lighting	●	Majority of exterior building-mounted lights are not LED.
Wiring Devices	■	Replace wiring devices and plates that are damaged. Add additional receptacles and circuits as necessary. Replace old cloth branch circuit wiring and feeders.
Clock System	■	Replace all remaining old style clocks with new.
Data / Telephone	■	Additional CAT6 cable can be added to rooms as needed.

* See appendix for full engineer reports + additional information.

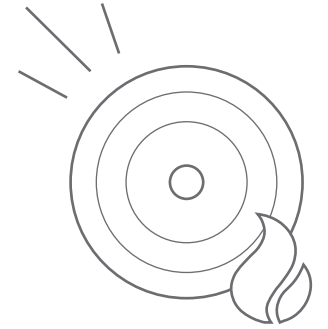
crivitz elementary building systems summary

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Life Safety Condition Overview



Replace Existing Fire Alarm System



LIFE SAFETY

Emergency Generator	□	
Emergency Egress Lighting	■	Add interior and exterior egress lighting to emergency generator or provide additional battery backup egress lighting to comply with current codes.
Fire Alarm System	■	Fire alarm system is more than 20 years old in majority of facility and has reached the end of its life expectancy.
Public Address System	■	Replace this system in its entirety. Provide new analog speakers, wiring and an IP based head end system.
Access Control	■	A new access control system should be considered.
Security System	■	Add additional IP cameras to the existing system as required.

* See appendix for full engineer reports + additional information.

crivitz elementary interior analysis

KEY TAKEAWAYS

- Majority of laminate casework located in classrooms is in poor condition due to staining, scratching, and peeling finish.
- There are instances of partition walls in poor condition due to denting, tearing, and staining.
- Concrete block, brick, and concrete walls in the lower level mechanical areas are in poor condition due to chipping, staining, and cracking.
- There are instances of wooden doors with hollow metal frames located on classrooms in the southern portion of the school in poor condition due to chipping, peeling and worn finish. Some of these doors do not close properly due to rubbing against the jamb.
- Coat shelves and hooks located in the corridors are in fair condition due to instances of chipping and worn finish.

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WALLS

- W1 Concrete Block
- W2 Gypsum
- W3 Tile
- W4 Brick
- W5 Partition
- W6 Wood Panel
- W7 Concrete
- W8 Plaster
- W9 Carpet
- W10 Vinyl Base
- W11 Tile Base
- W12 Terrazzo Base

DOORS

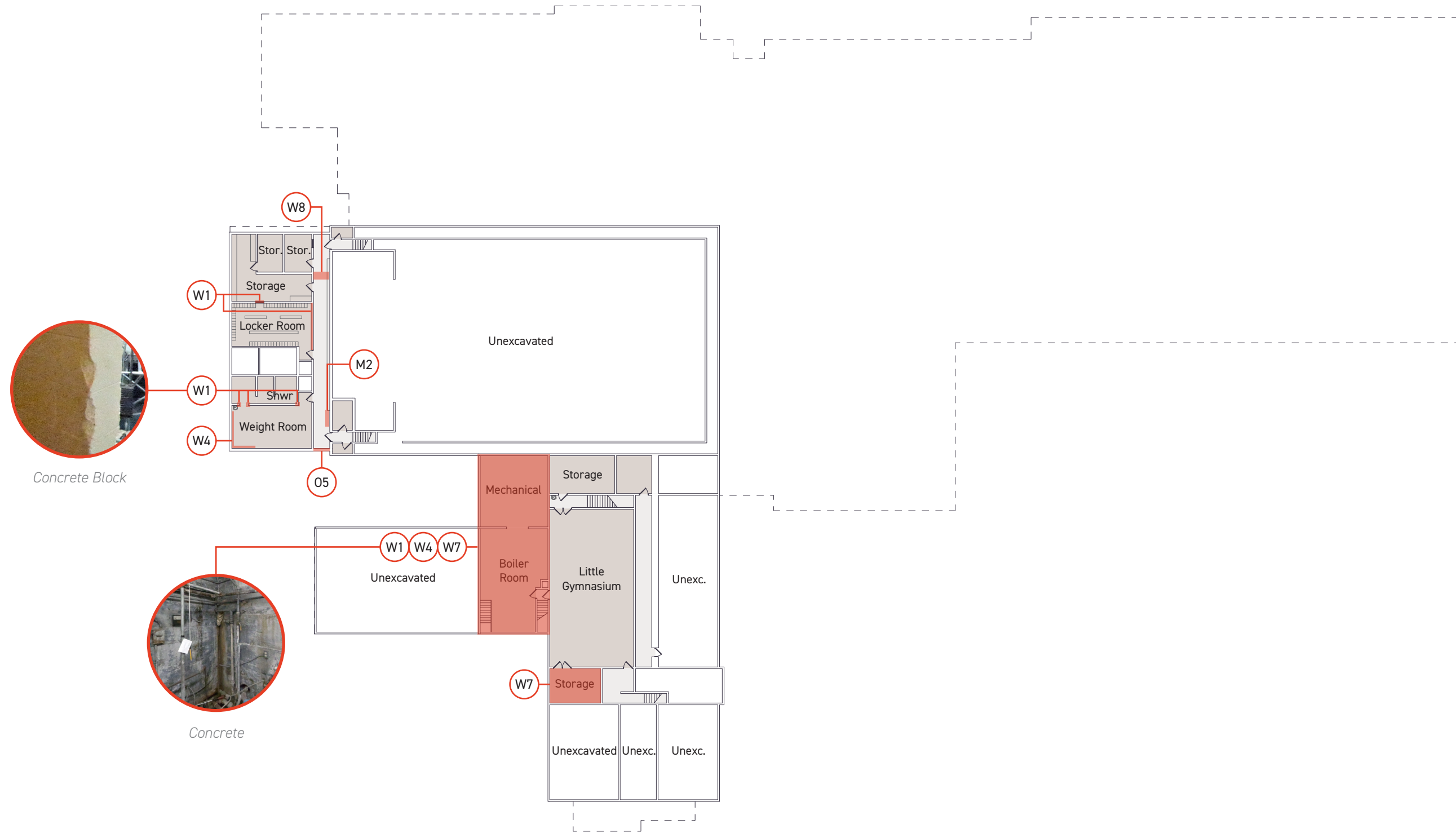
- D1 Wood Door w/ Hollow Metal Frame
- D2 Hollow Metal Door w/ Hollow Metal Frame
- D3 Wood Door w/ Hollow Metal Storefront
- D4 Aluminum Door w/ Aluminum Storefront
- D5 Wood Door w/ Wood Frame

OPENINGS

- O1 Aluminum Overhead Coiling Window
- O2 Aluminum Framed Interior Window
- O3 Laminate Interior Window Sill
- O4 Hollow Metal Framed Interior Window
- O5 Painted Interior Window

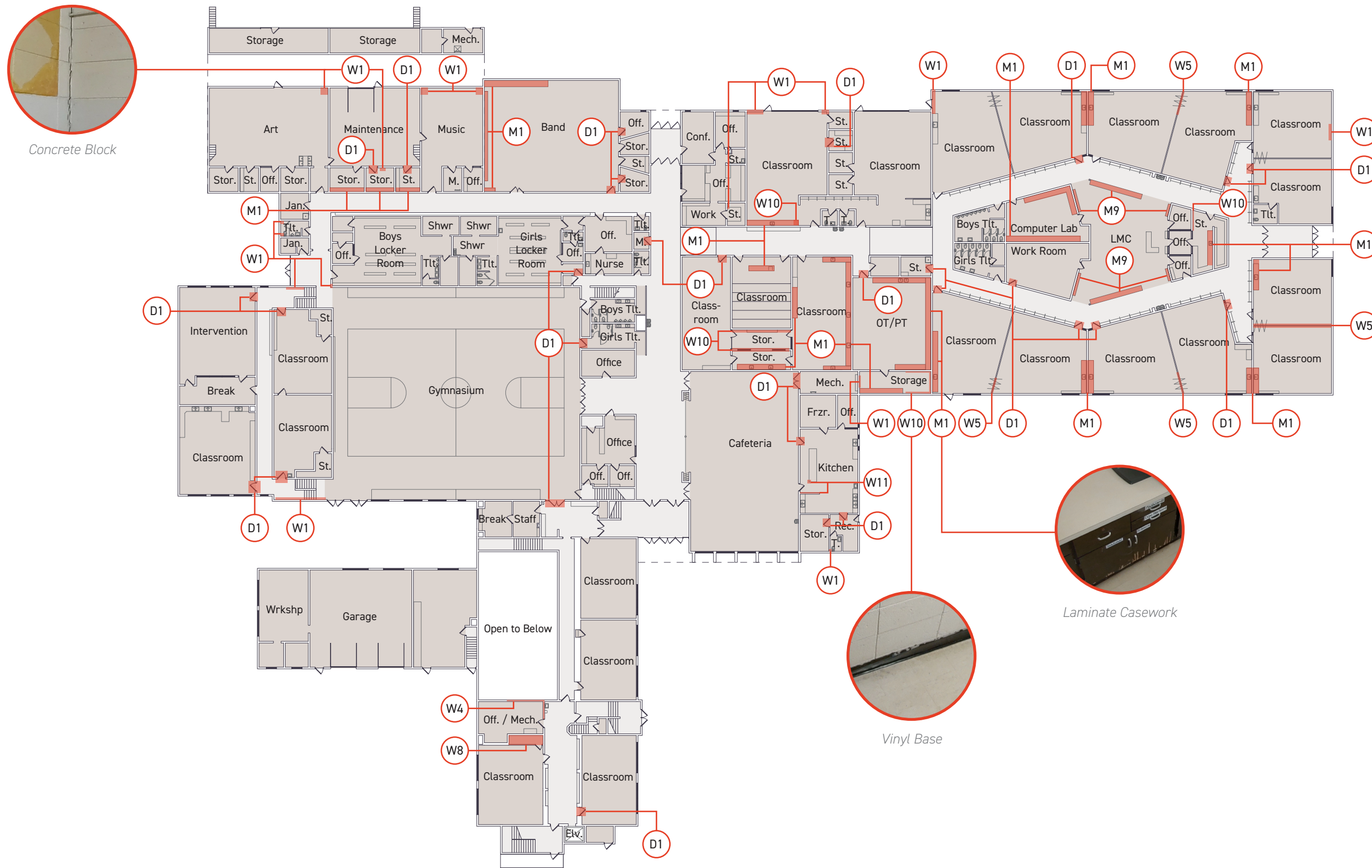
MISCELLANEOUS

- M1 Laminate Casework
- M2 Metal Lockers
- M3 Coat Shelves + Hooks
- M4 Metal Shelves
- M5 Cubbies
- M6 Bleachers
- M7 Composite Toilet Partitions
- M8 Wood Display Cases
- M9 Wood Casework

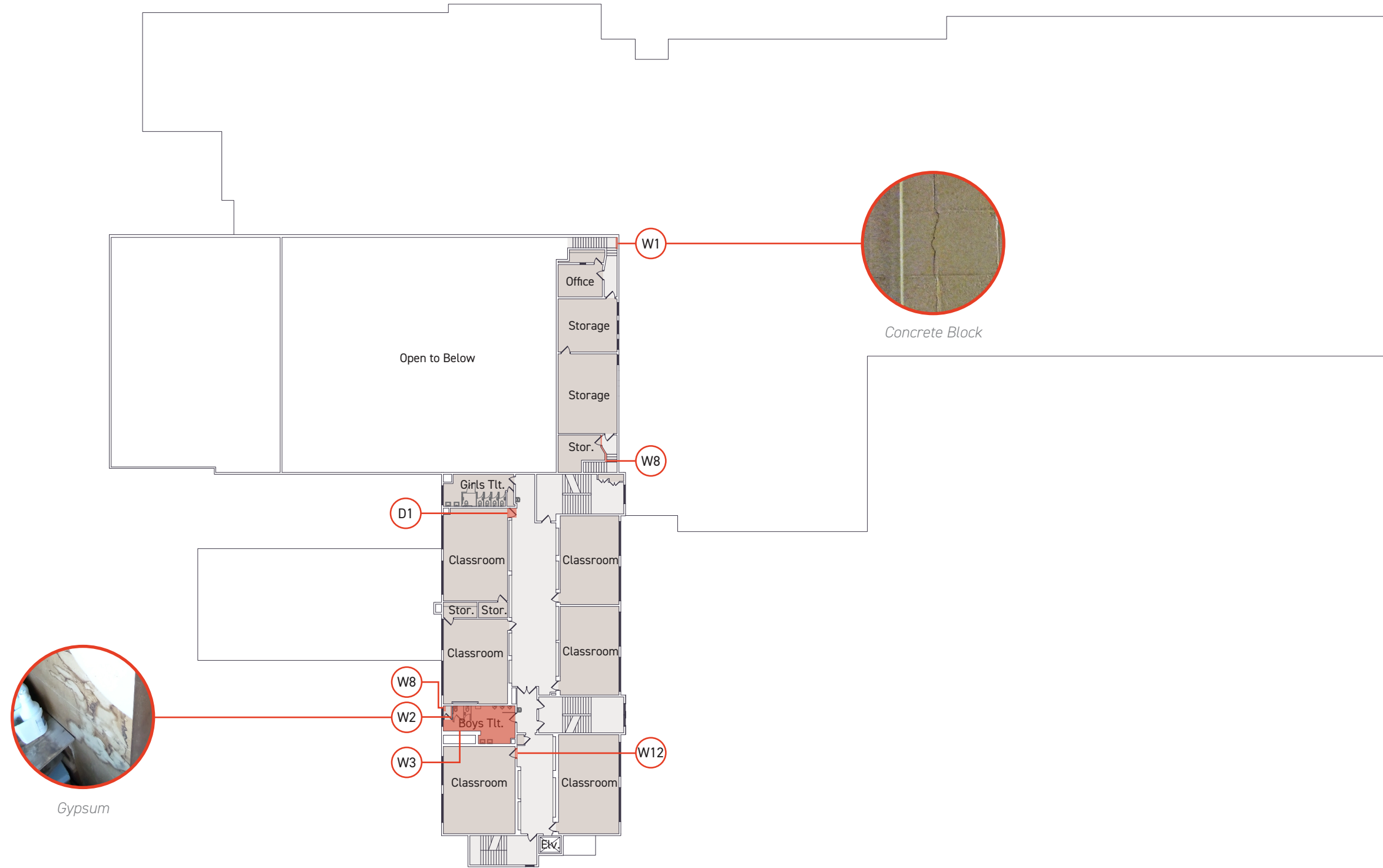


***Note:** The diagram above reflects instances of materials in poor condition, but does not reflect the material's overall condition.



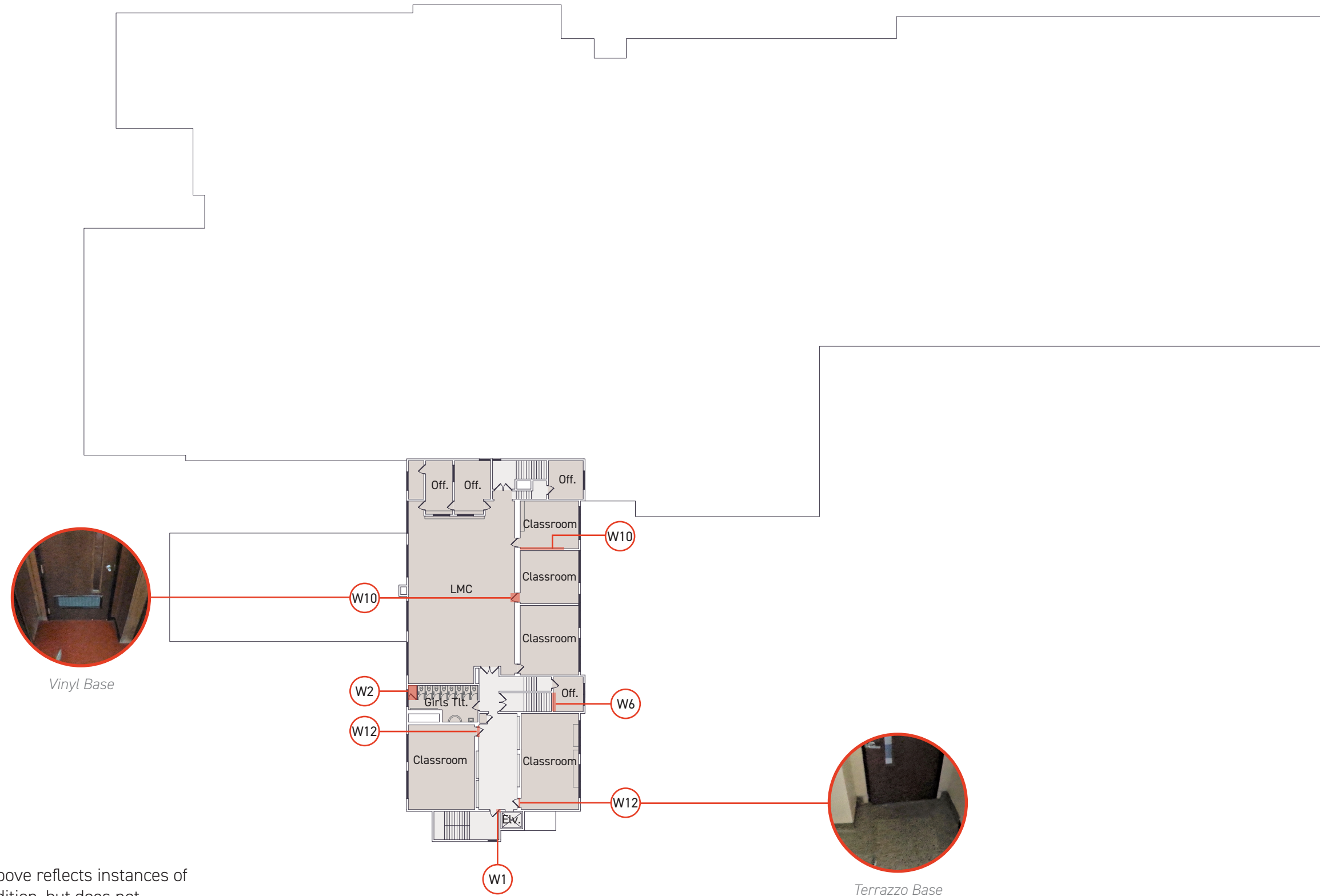


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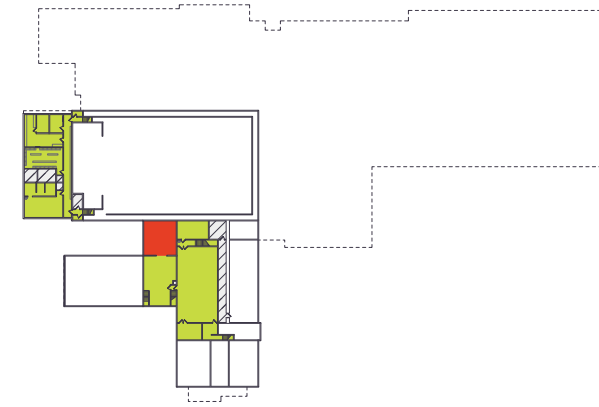


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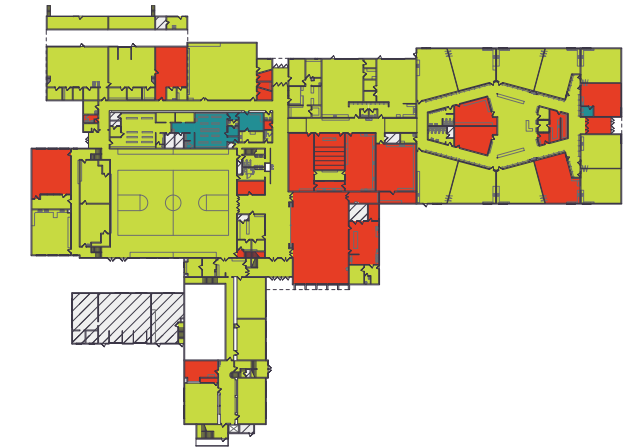


crivitz elementary ceiling analysis

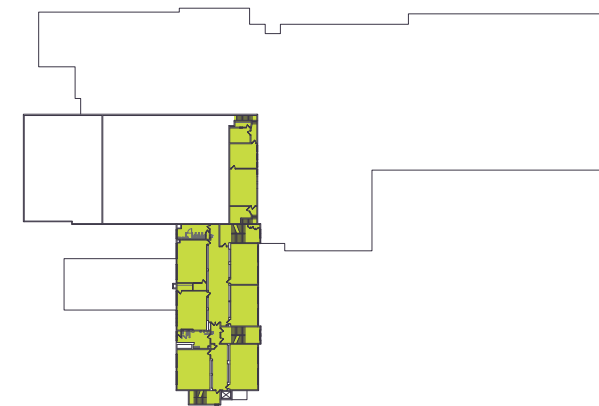
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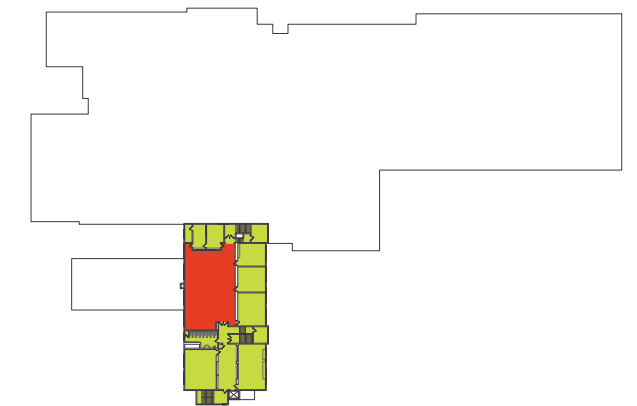
Lower Level



First Floor



Second Floor

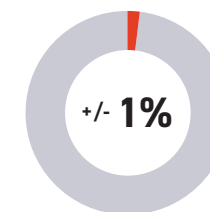


Third Floor

KEY TAKEAWAYS

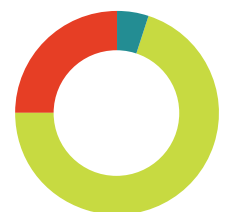
- Materials identified as potentially containing asbestos are considered to be in poor condition.
- Spline ceilings are identified as a potential asbestos containing material. There is one instance of spline ceiling in a stairwell to the second floor.
- The acoustical ceiling tile (ACT) in the third floor LMC is in poor condition due to staining.
- Plaster ceiling in the toilet room in the northeast side of the building is in poor condition due to staining and peeling.

HIGHLIGHT



of ceilings were identified as potentially containing asbestos

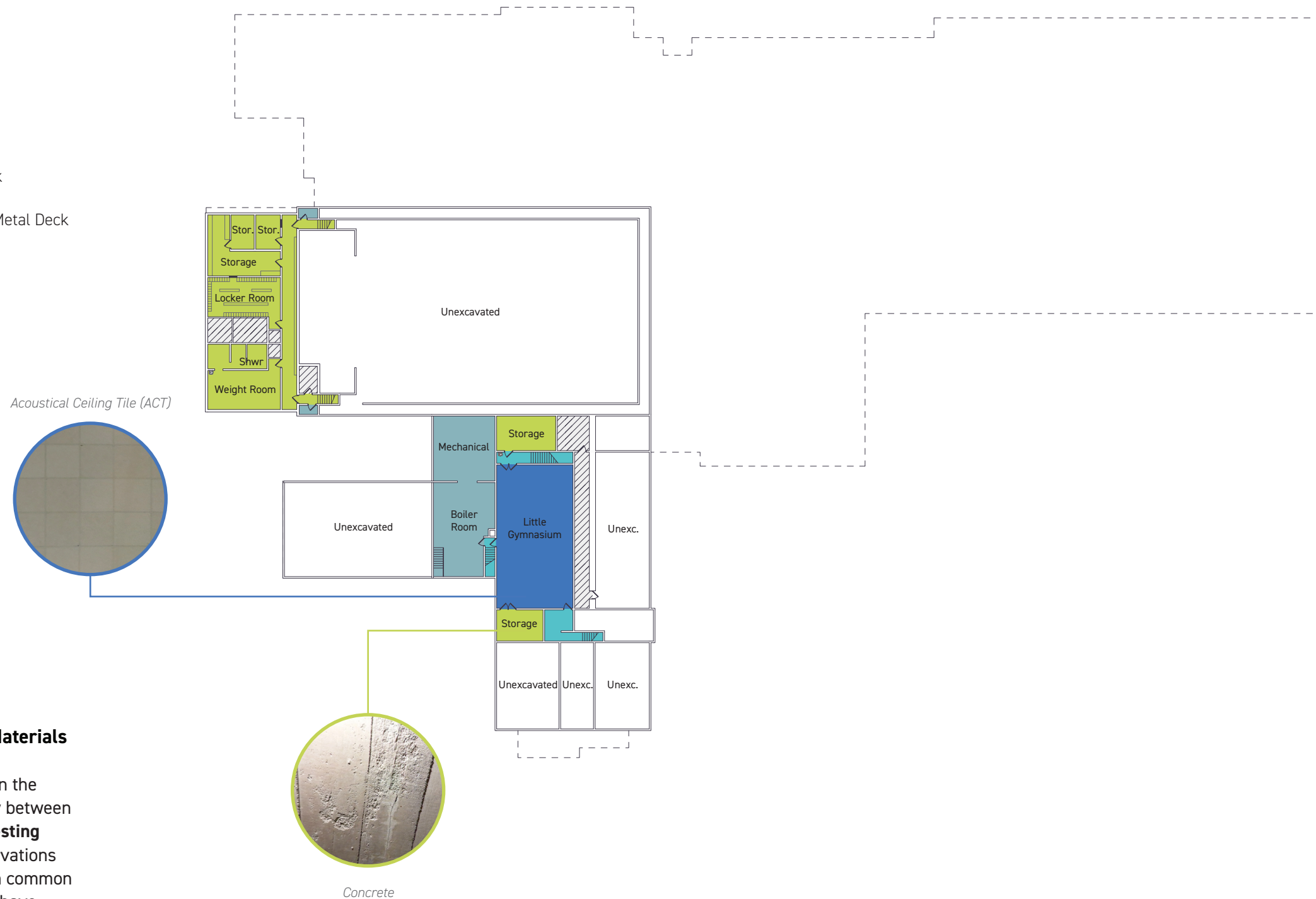
OVERALL CEILING CONDITION



- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage

Materials Key

- Acoustical Ceiling Tile
- Clay Block
- Plaster
- Exposed Metal Deck
- Concrete
- No Data
- Tectum
- Spline



Potential of Asbestos Containing Materials

Asbestos is a material that was used in the construction industry, most commonly between 1960 - 1990. **There was no asbestos testing performed for this assessment.** Observations and assumptions were made based on common older building materials that typically have been identified to containing asbestos.





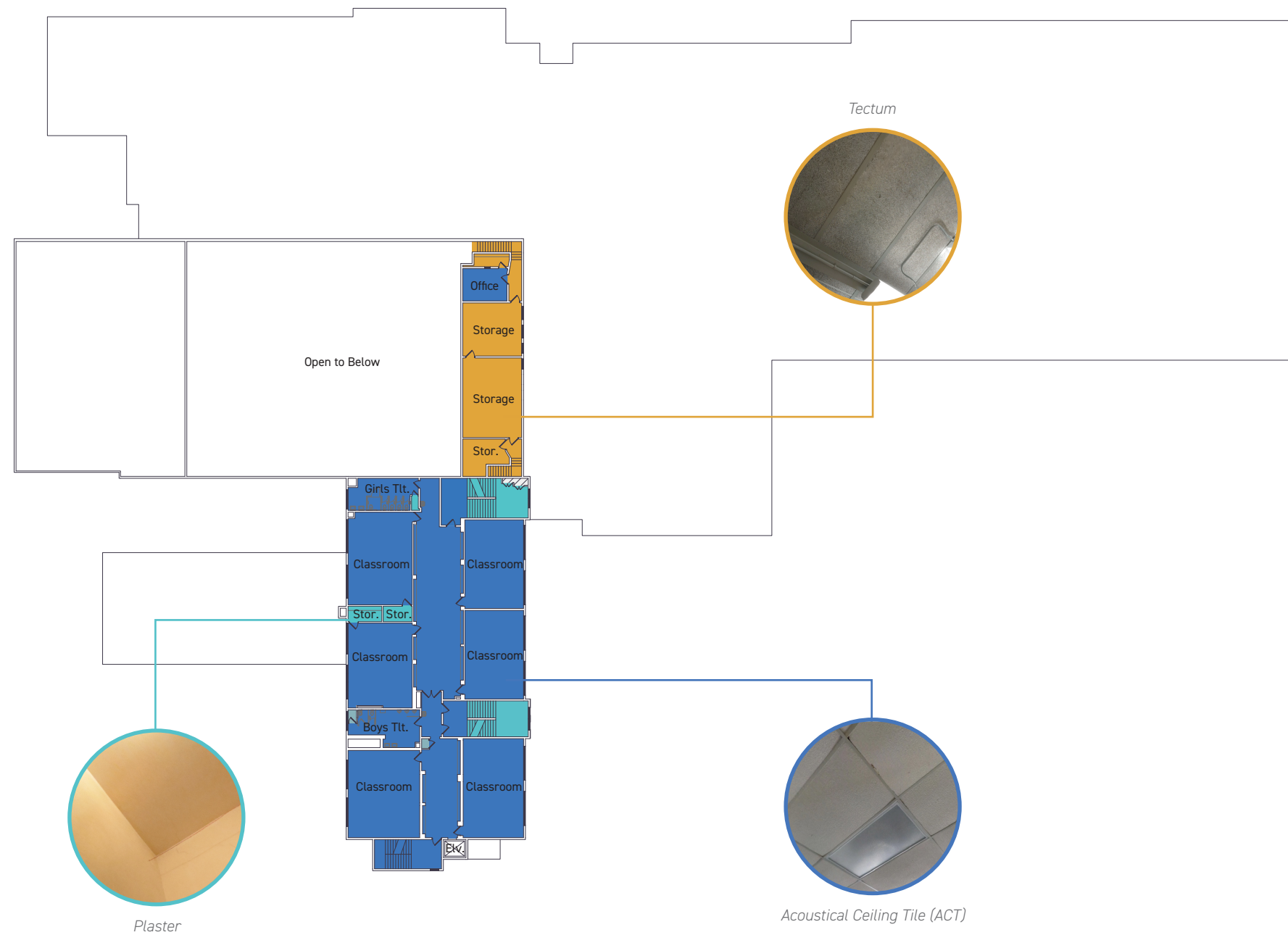
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- Clay Block
- Plaster
- Exposed Metal Deck
- Concrete
- Tectum
- Spline
- No Data

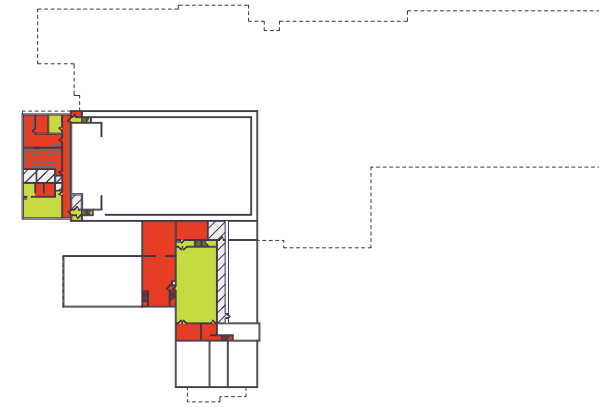


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crivitz elementary flooring analysis



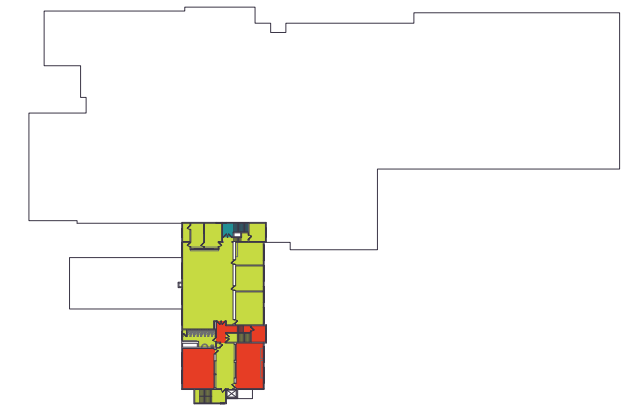
Lower Level



First Floor



Second Floor



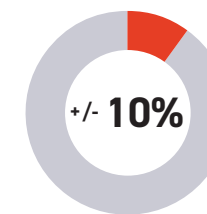
Third Floor

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KEY TAKEAWAYS

- Materials identified as potentially containing asbestos are considered to be in poor condition.
- 9" x 9" vinyl tile flooring is identified as potential asbestos tile.
- Concrete flooring and stairs located in lower level are in poor condition due to cracking, staining, and peeling paint.
- Vinyl Composite Tile (VCT) located in the southern vestibule of the 1968 Addition is in poor condition due to cracking.

HIGHLIGHT

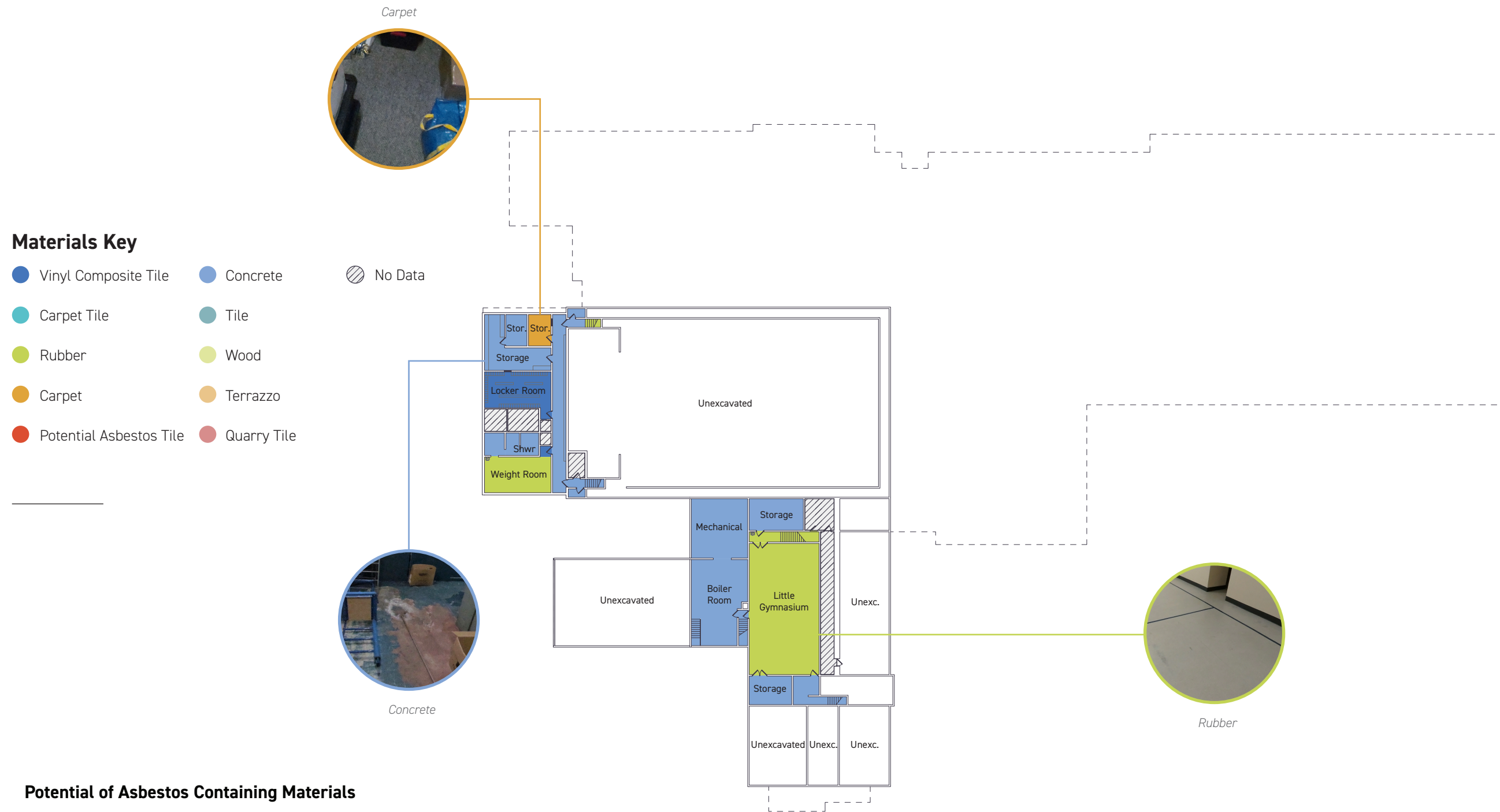


of floors were identified as potentially containing asbestos

OVERALL FLOORING CONDITION



- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage



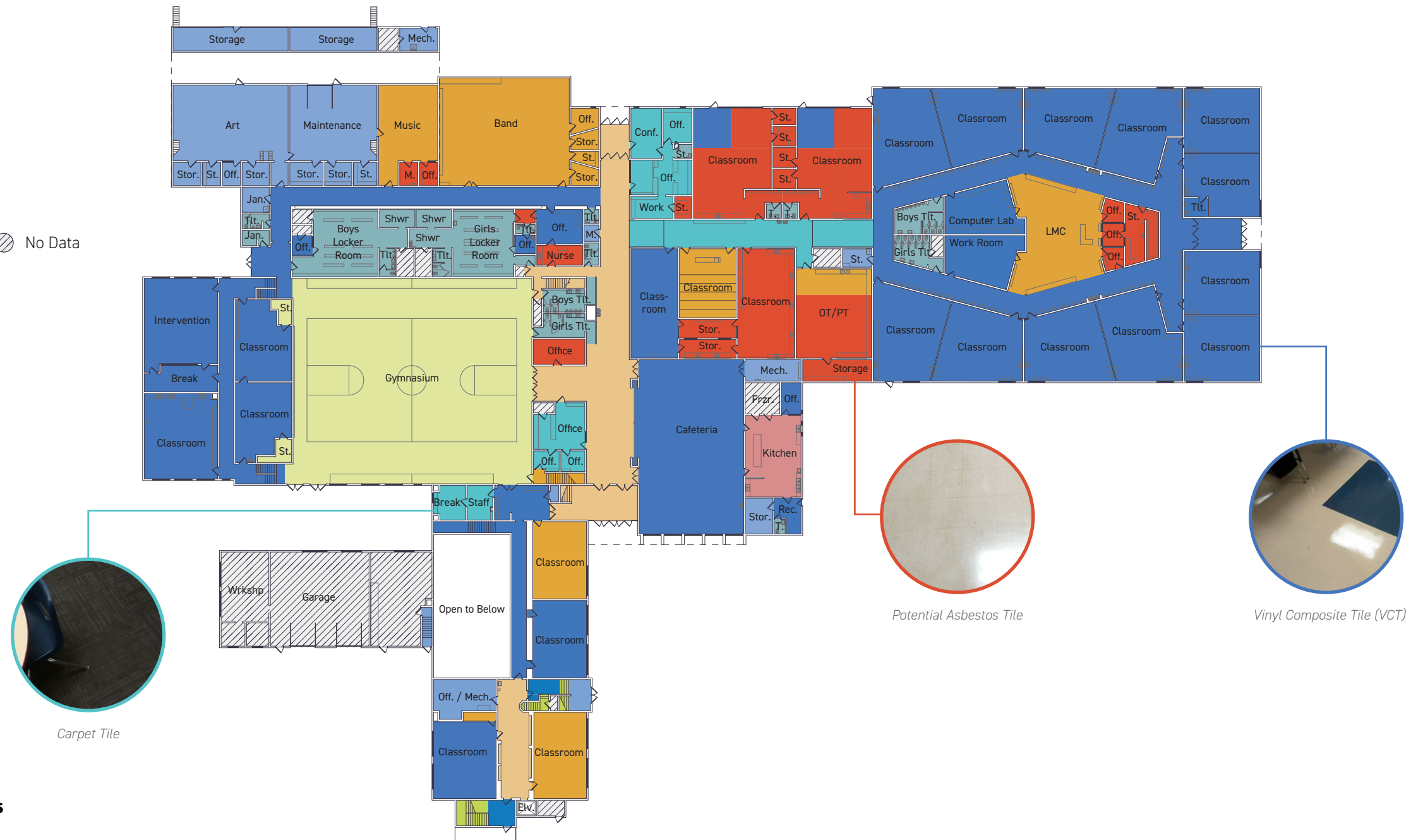
Potential of Asbestos Containing Materials

Asbestos is a material that was used in the construction industry, most commonly between 1960 - 1990. **There was no asbestos testing performed for this assessment.** Observations and assumptions were made based on common older building materials that typically have been identified to containing asbestos.



Materials Key

- Vinyl Composite Tile
- Carpet Tile
- Rubber
- Carpet
- Potential Asbestos Tile
- Concrete
- Tile
- Wood
- Terrazzo
- Quarry Tile
- No Data



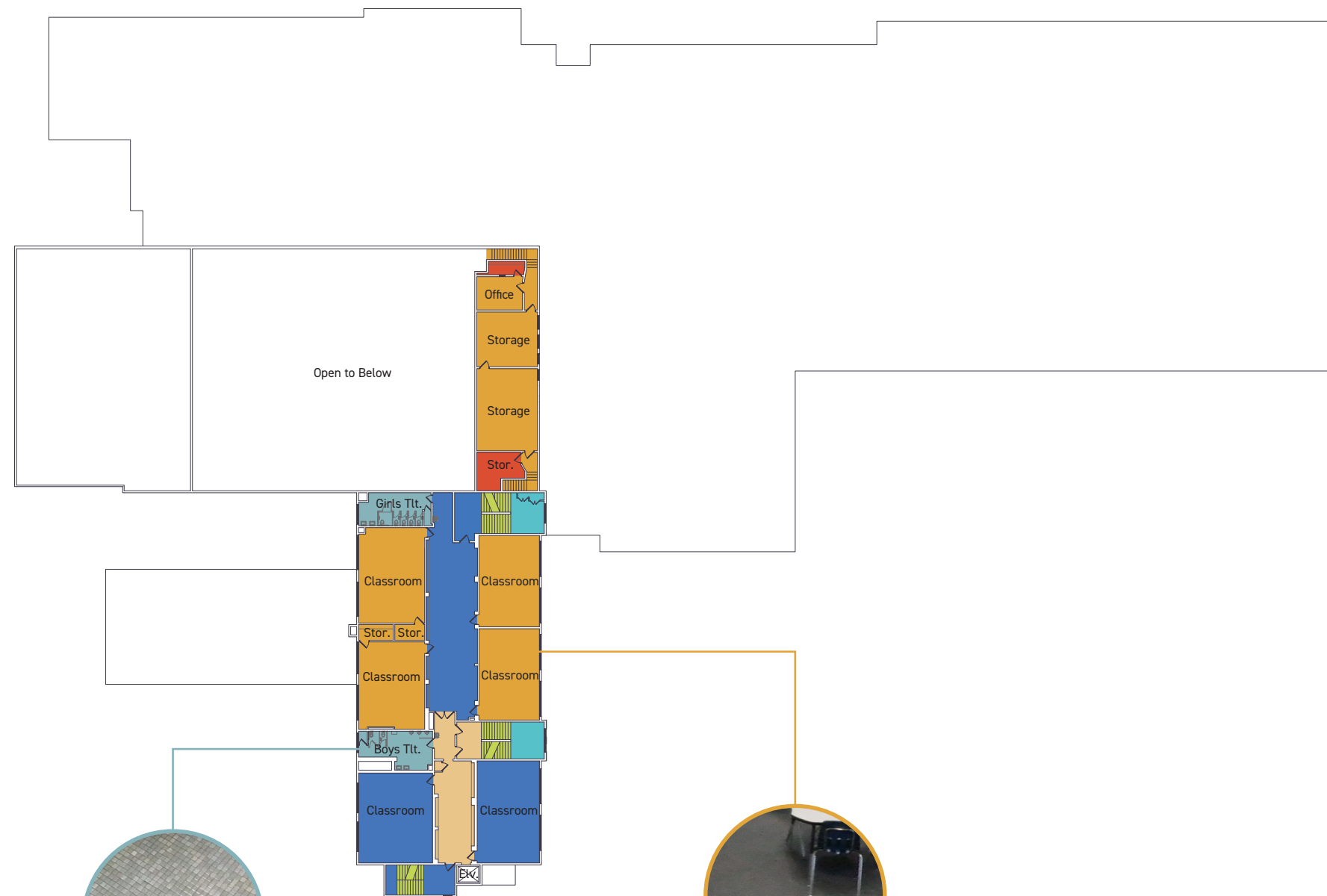
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Materials Key

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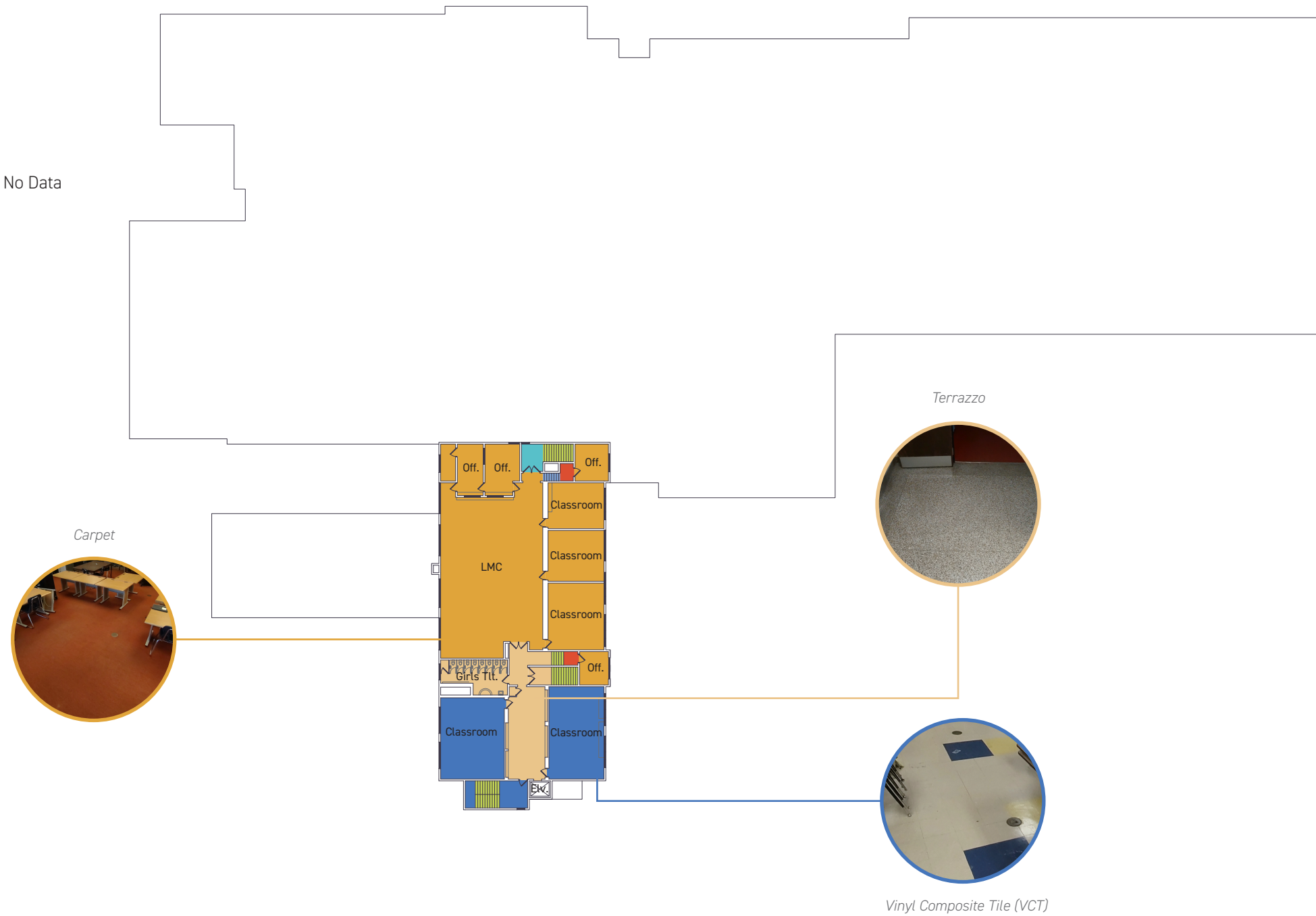
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Materials Key

- Vinyl Composite Tile
- Concrete
- Carpet Tile
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- Rubber
- Wood
- Carpet
- Terrazzo
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crivitz elementary exterior analysis

OVERALL CONDITION RATING & KEY TAKEAWAYS

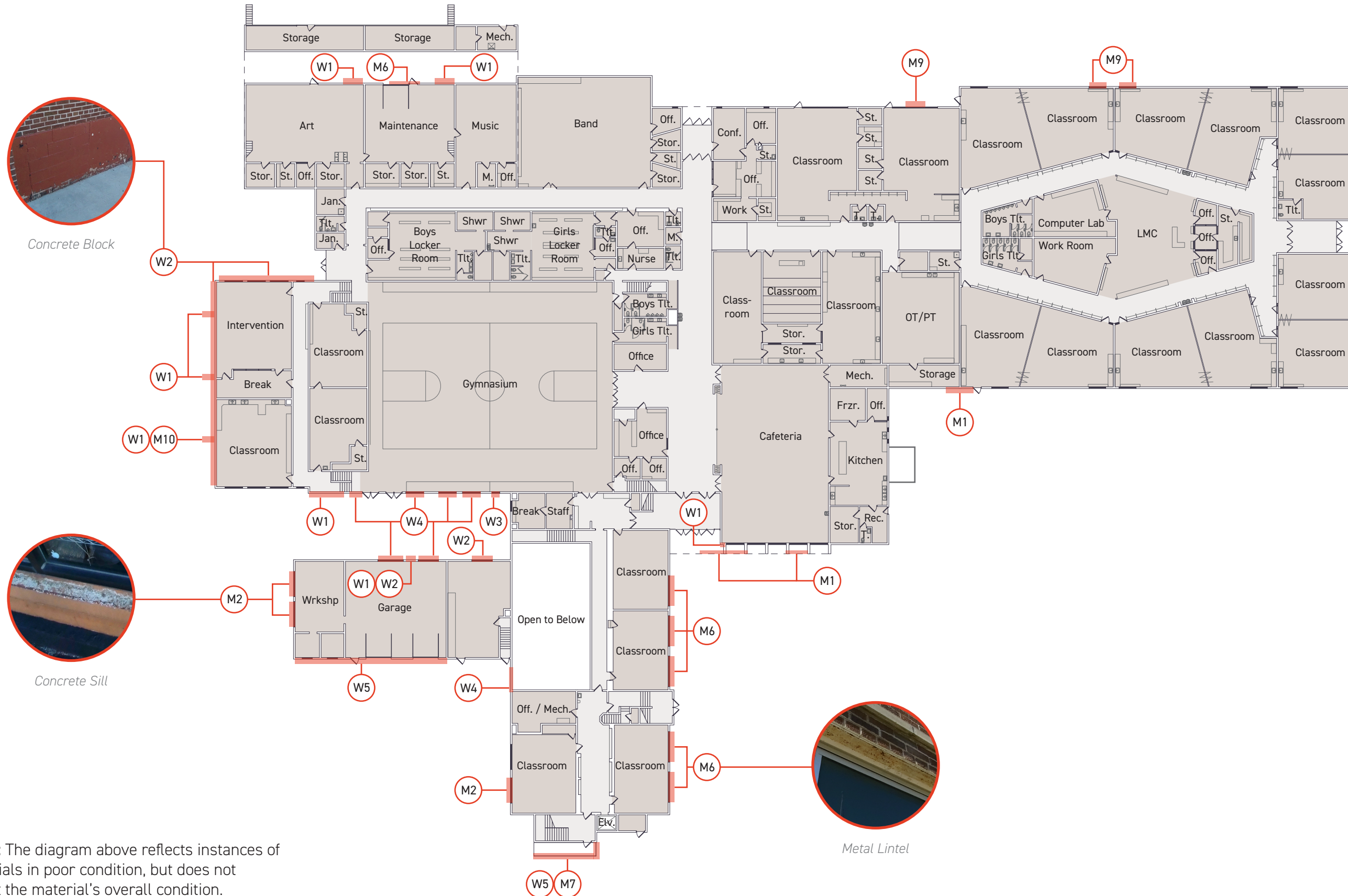
- Concrete wall is in poor condition due to instances of cracking, chipping, and crumbling.
- Majority of metal lintels located above windows on the original portion of the building are in poor condition due to rusting.
- Wood panel wall used to infill existing window openings is in poor condition due to peeling and chipping paint.
- Concrete sills located under windows are in fair condition due to staining.

WALLS

- W1 Brick
- W2 Concrete Block
- W3 Metal Panel
- W4 Wood Panel
- W5 Concrete

MISCELLANEOUS

- M1 Metal Panel Fascia
- M2 Concrete Sill
- M3 E.I.F.S. Soffit
- M4 Metal Panel Soffit
- M5 Metal Coping
- M6 Metal Lintel
- M7 Metal Railing
- M9 Cementitious Board
- M10 Downspout



***Note:** The diagram above reflects instances of materials in poor condition, but does not reflect the material's overall condition.



crivitz elementary exterior door analysis

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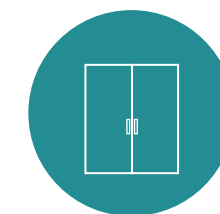
No. Door Type / Door Frame

AA	Aluminum / Aluminum	LL	Hollow Metal / Hollow Metal
BB	Hollow Metal / Hollow Metal	MM	Hollow Metal / Hollow Metal
CC	Rolling Metal	NN	Hollow Metal / Hollow Metal
DD	Hollow Metal / Hollow Metal	OO	Aluminum / Aluminum
EE	Hollow Metal / HM + Aluminum	PP	Aluminum / Aluminum
FF	Hollow Metal / Hollow Metal	QQ	Hollow Metal / Hollow Metal
GG	Hollow Metal / Hollow Metal	RR	Hollow Metal / Hollow Metal
HH	Hollow Metal / Hollow Metal	SS	Aluminum / Aluminum
II	Rolling Metal	TT	Hollow Metal / Hollow Metal
JJ	Rolling Metal	UU	Aluminum / Aluminum
KK	Hollow Metal / Hollow Metal	VV	Aluminum / Aluminum

KEY TAKEAWAYS

- Majority of the hollow metal doors are in fair condition due to rusting and paint peeling.
- Door EE has both hollow metal and aluminum frame types.
- Door II is in poor condition due to scratching and peeling at the opening.

MOST COMMON EXTERIOR DOOR

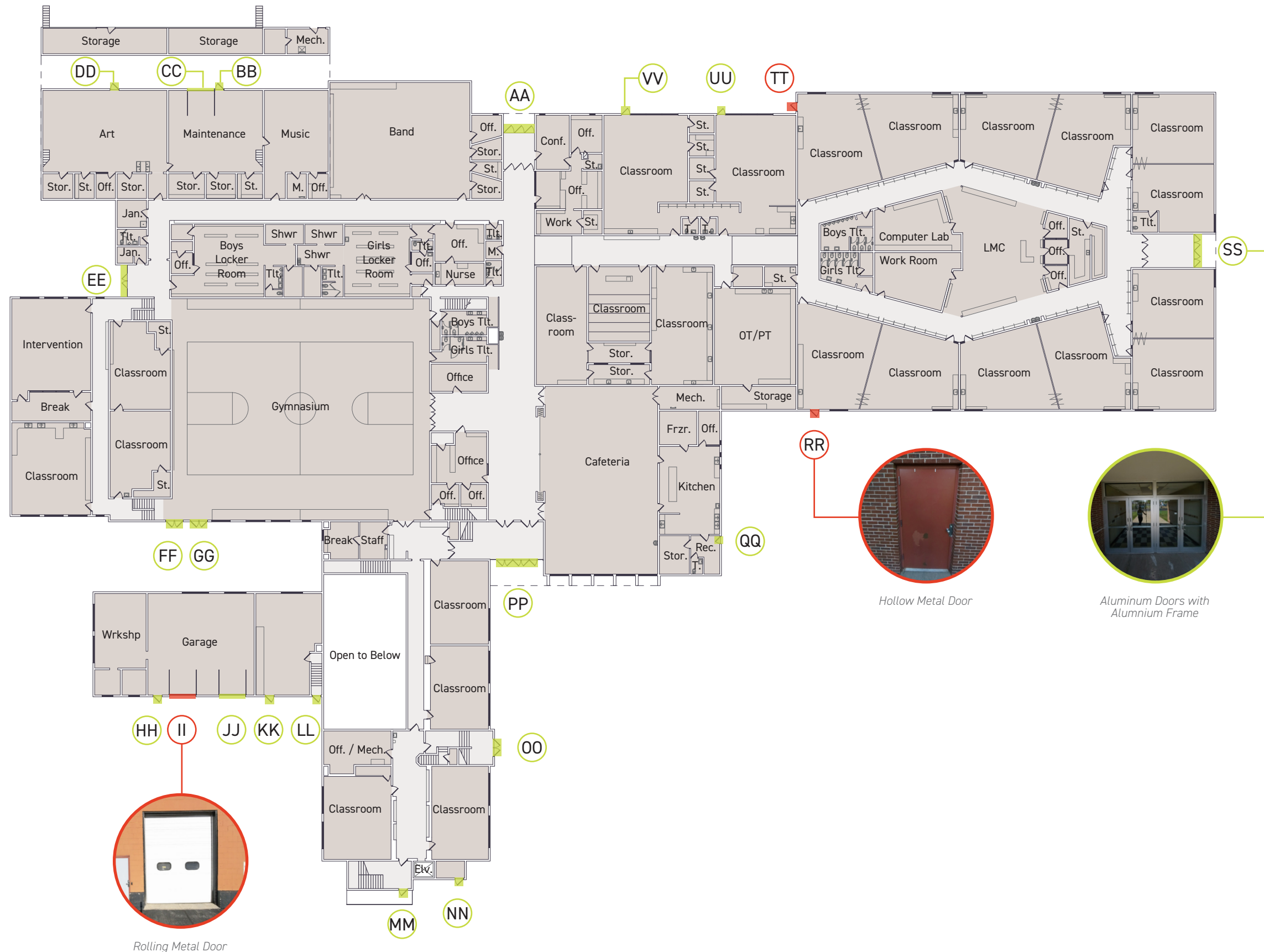


Hollow Metal Door(s) with Hollow Metal Frame

OVERALL EXTERIOR DOOR CONDITION



- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage



Hollow Metal Door

Aluminum Doors with Aluminum Frame

Rolling Metal Door



crivitz elementary exterior window analysis

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No. Frame Type / Glass Type

1	Aluminum / Double Pane	15	Aluminum / Single Pane	29	Aluminum / Double Pane
2	Aluminum / Double Pane	16	Aluminum / Single Pane	30	Aluminum / Double Pane
3	Aluminum / Double Pane	17	Aluminum / Single Pane	31	Aluminum / Double Pane
4	Aluminum / Double Pane	18	Aluminum / Single Pane	32	Aluminum / Double Pane
5	Steel / Single Pane	19	Aluminum / Single Pane	33	Aluminum / Double Pane
6	Aluminum / Double Pane	20	Aluminum / Single Pane	34	Aluminum / Double Pane
7	Aluminum / Double Pane	21	Aluminum / Single Pane	35	Aluminum / Double Pane
8	Aluminum / Double Pane	22	Aluminum / Single Pane	36	Aluminum / Double Pane
9	Aluminum / Double Pane	23	Aluminum / Single Pane	37	Aluminum / Double Pane
10	Aluminum / Single Pane	24	Aluminum / Single Pane	38	Aluminum / Double Pane
11	Aluminum / Single Pane	25	Aluminum / Double Pane	39	Aluminum / Double Pane
12	Aluminum / Single Pane	26	Aluminum / Double Pane		
13	Aluminum / Single Pane	27	Aluminum / Double Pane		
14	Aluminum / Single Pane	28	Aluminum / Double Pane		

KEY TAKEAWAYS

- All of the windows on the 1968 addition are single pane aluminum framed windows, which are considered to be in poor condition.
- Majority of the aluminum framed windows with double pane glass are in fair condition due to fading at the frame and infill panels.
- Window 2 is in poor condition due to a missing pane of glass.

MOST COMMON EXTERIOR WINDOW

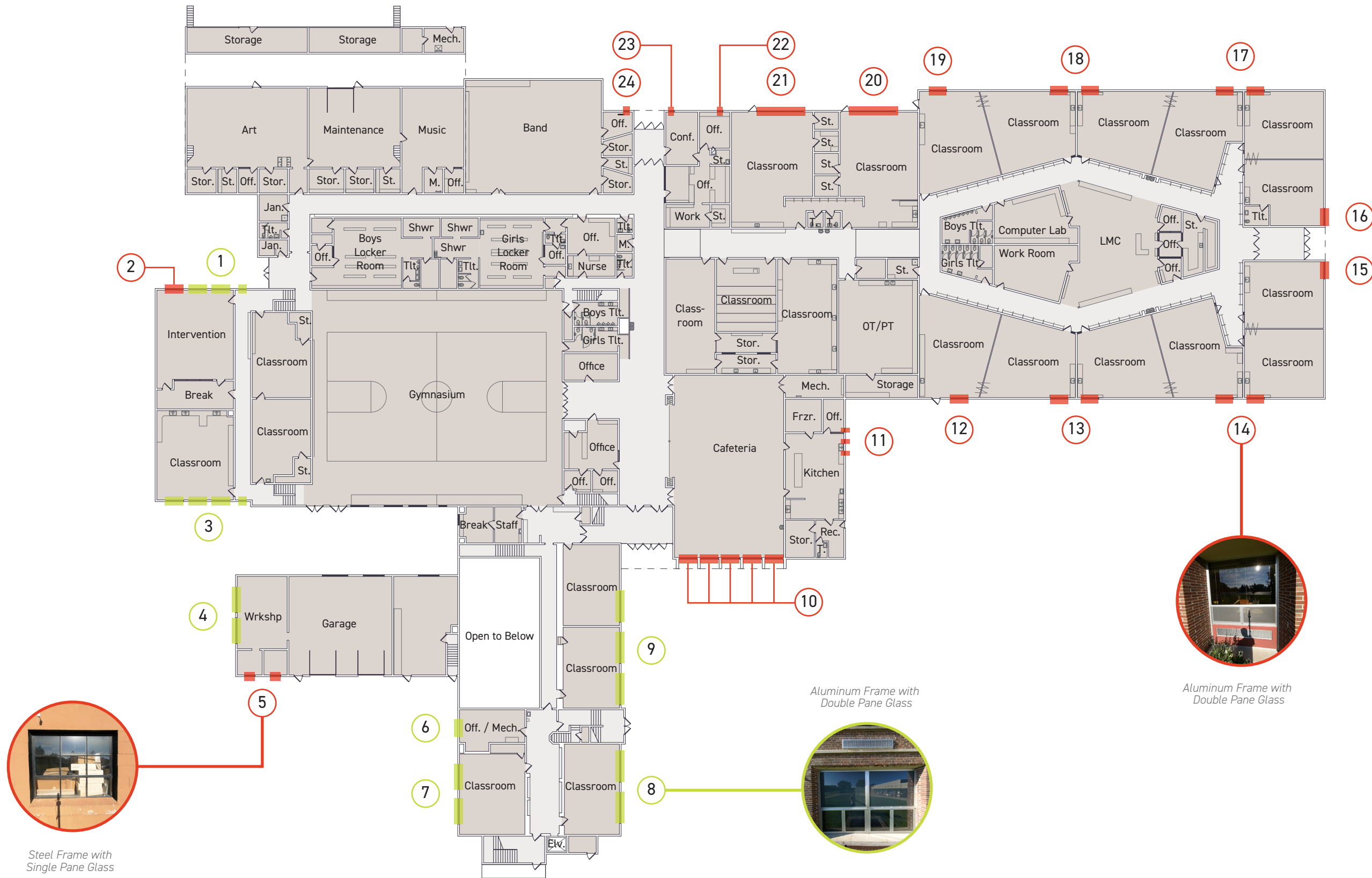


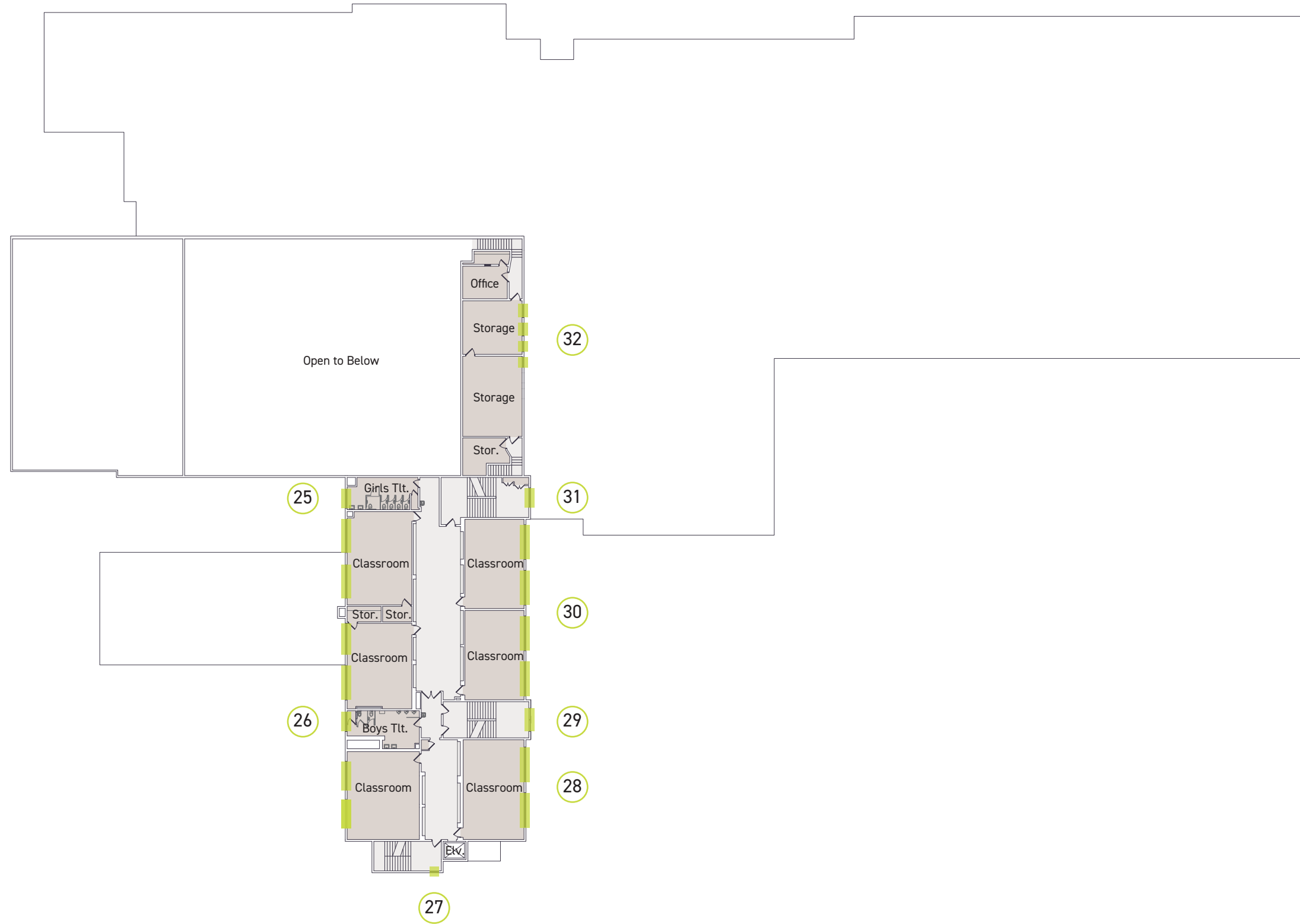
Aluminum with Single Pane Glass

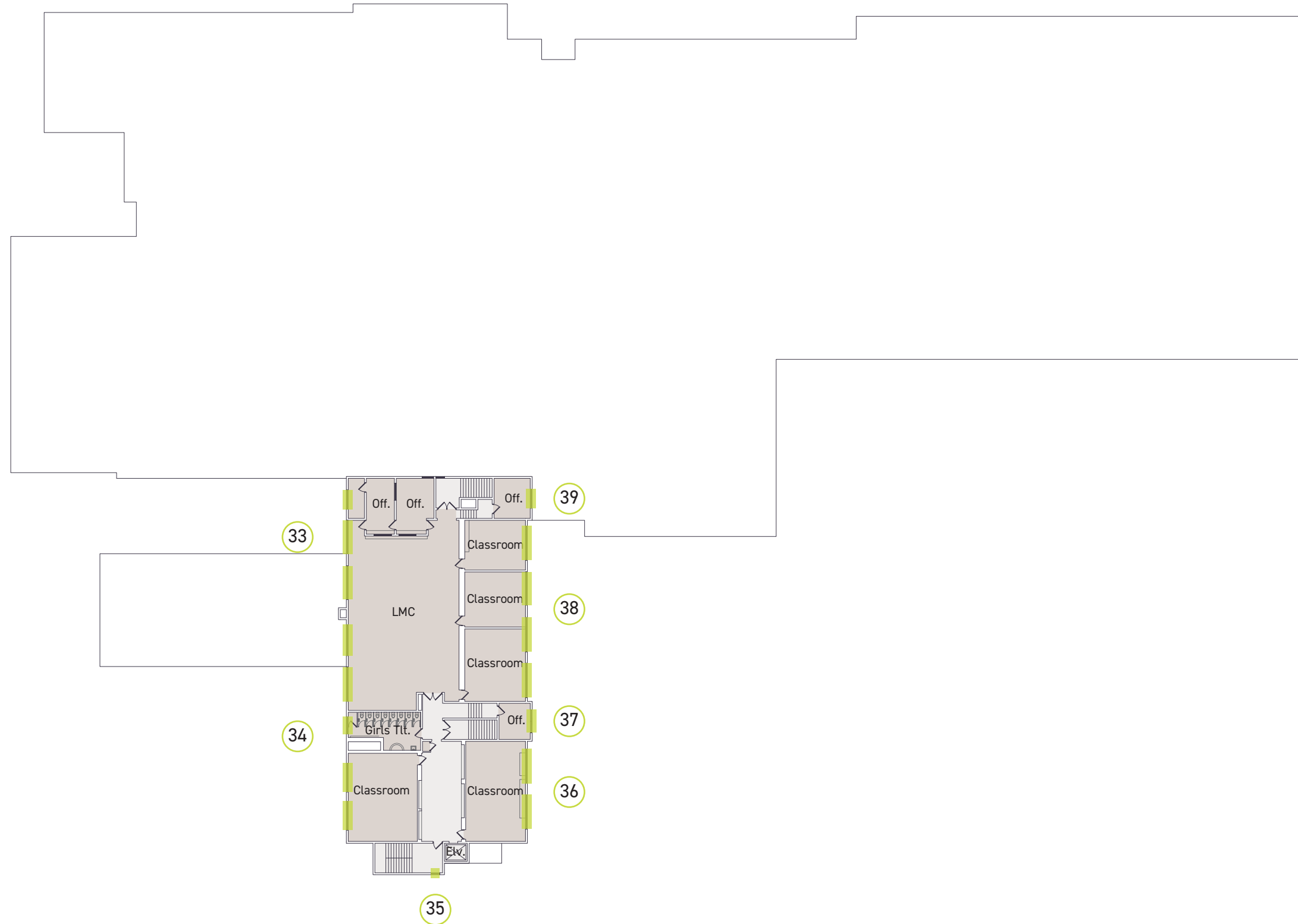
OVERALL EXTERIOR WINDOW CONDITION



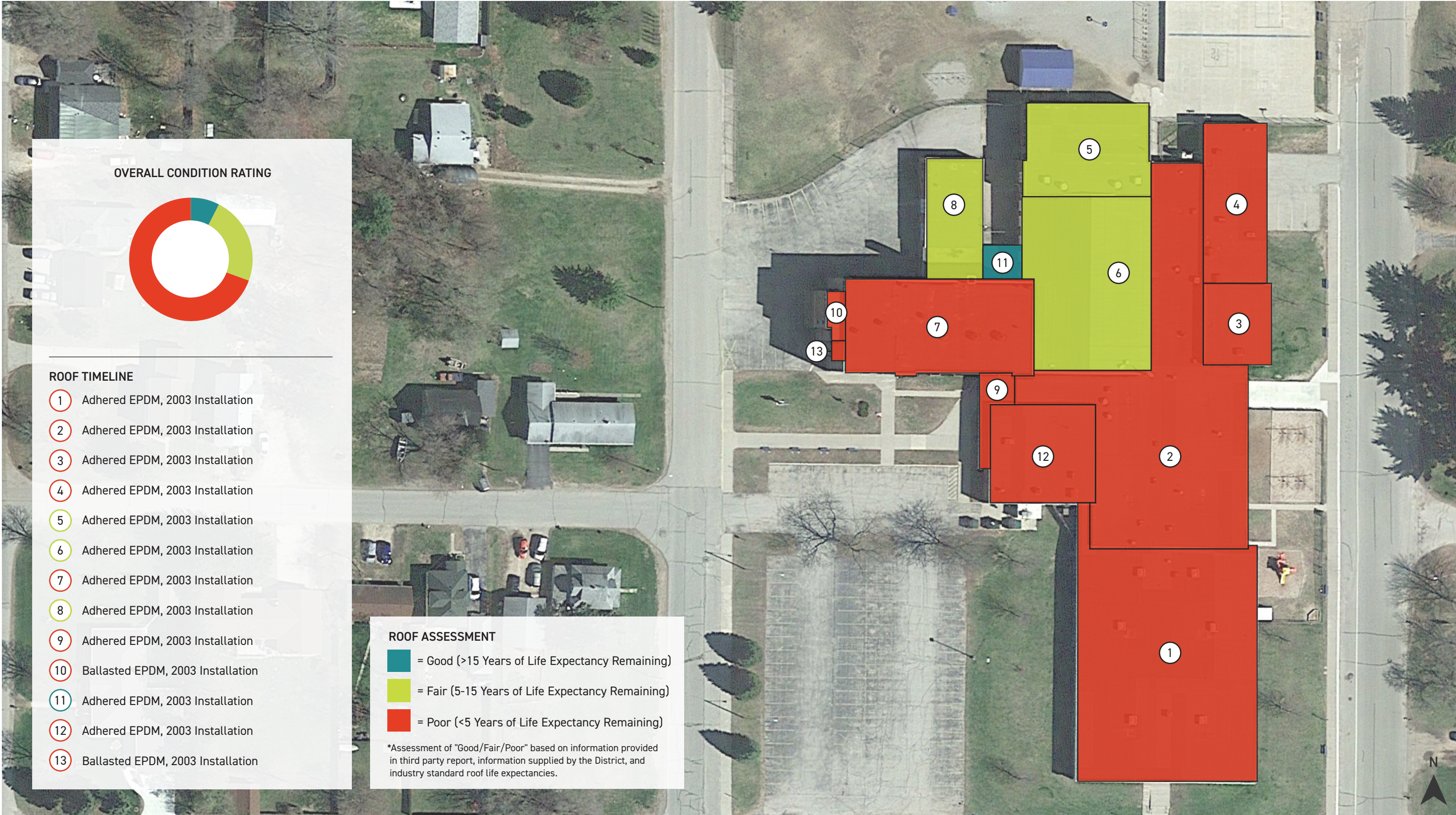
- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage







crivitz elementary roof analysis



crivitz elementary accessibility analysis

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Overall Condition Rating:

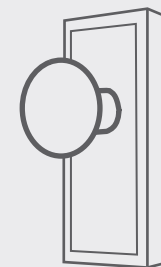


Most Concerning Item That Does Not Meet Code Requirements:



There is an inaccessible route of travel between floor levels

Most Frequently Occurring Item That Does Not Meet Code Requirements:



Door hardware is not ADA compliant

GENERAL ASSESSMENT OF ADA CONDITIONS

■ Building Entrance Accessibility

■ ADA Parking Stalls

■ Accessible Routes of Travel

- Ramps
- Lifts
- Elevators

■ Railings

- Ramp Railings
- Stair Railings

■ Door Hardware

■ Door Clearances

- Push / Pull
- Thresholds
- Maneuvering

■ Toilet Rooms

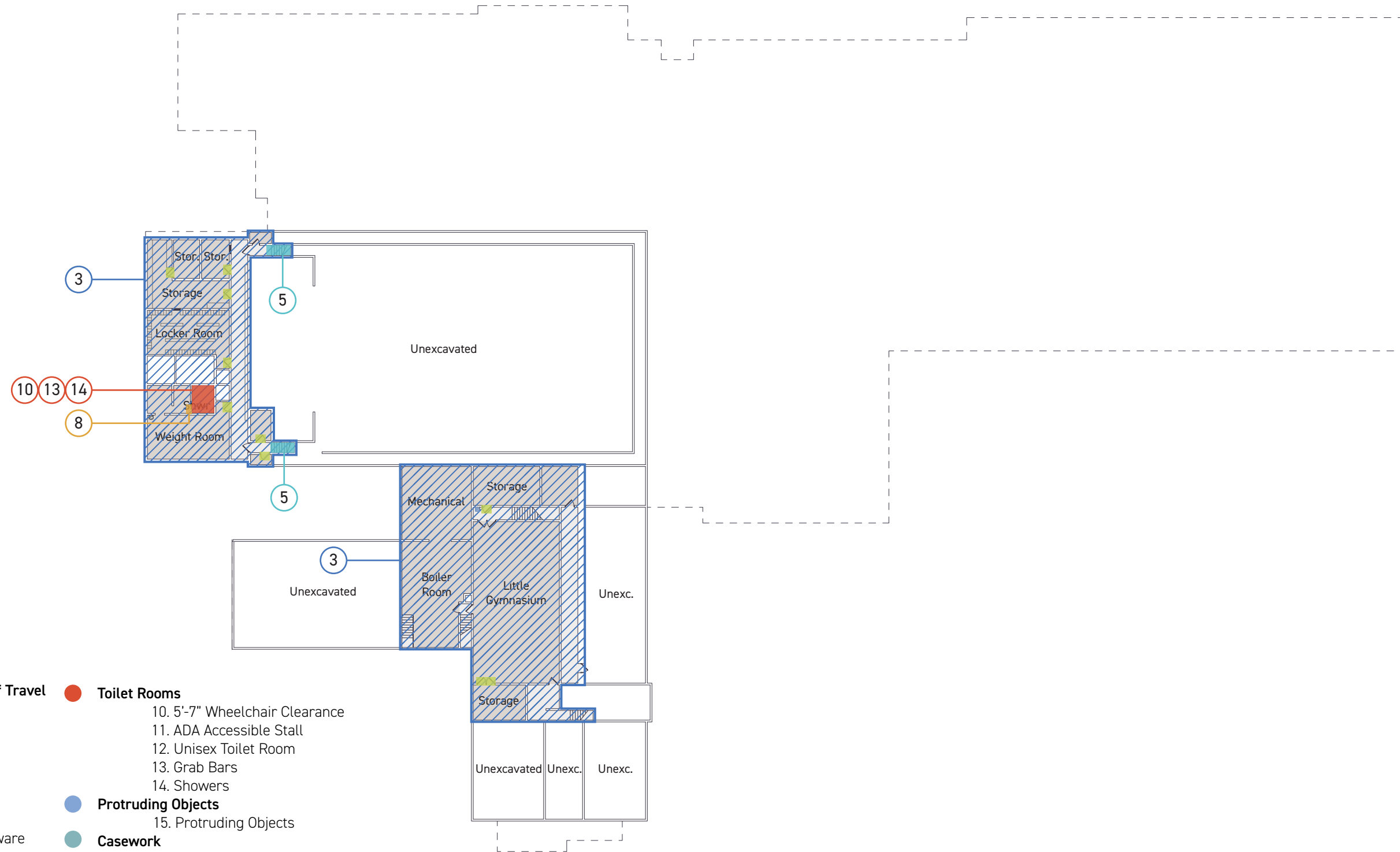
- 5'-7" Wheelchair Clearance
- ADA Accessible Stall
- Unisex Toilet Room
- Grab Bars
- Showers

■ Protruding Objects

■ Drinking Fountains

■ Casework

- Transaction Counters
- Workstations Counters
- Counters with Sinks



Color Key

- **Inaccessible Routes of Travel**
 - 1. Ramps
 - 2. Lifts
 - 3. Elevators
- **Railings**
 - 4. Ramps
 - 5. Stairs
- **Door Hardware**
 - 6. Door Hardware
- **Door Clearances**
 - 7. Push / Pull
 - 8. Thresholds
 - 9. Maneuvering
- **Toilet Rooms**
 - 10. 5'-7" Wheelchair Clearance
 - 11. ADA Accessible Stall
 - 12. Unisex Toilet Room
 - 13. Grab Bars
 - 14. Showers
- **Protruding Objects**
 - 15. Protruding Objects
- **Casework**
 - 16. Transaction Counter
 - 17. Workstation Counters
 - 18. Counters with Sinks



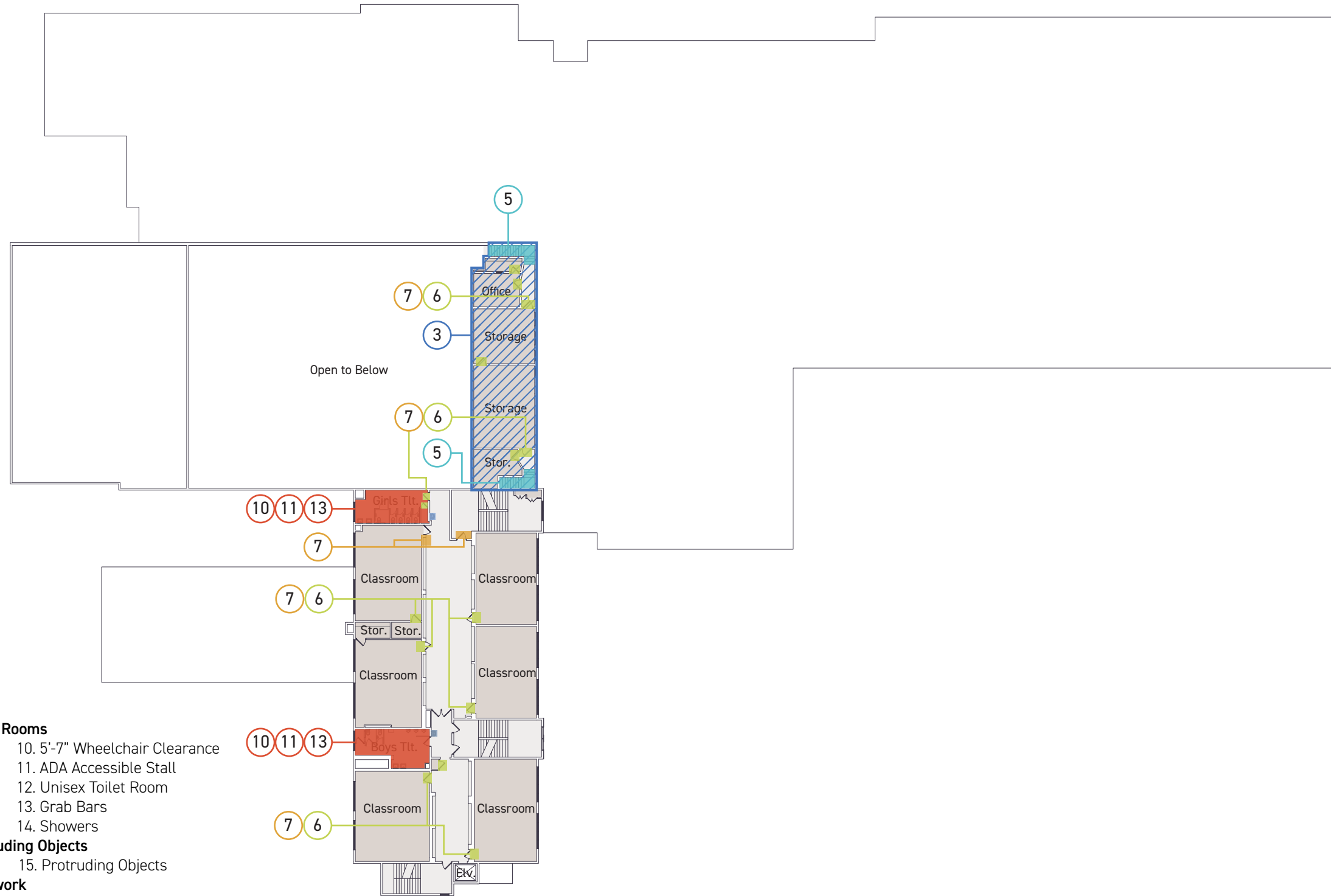


Color Key

- **Inaccessible Routes of Travel**
 - 1. Ramps
 - 2. Lifts
 - 3. Elevators
- **Railings**
 - 4. Ramps
 - 5. Stairs
- **Door Hardware**
 - 6. Door Hardware
- **Door Clearances**
 - 7. Push / Pull
 - 8. Thresholds
 - 9. Maneuvering

- **Toilet Rooms**
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 - 14. Showers
- **Protruding Objects**
 - 15. Protruding Objects
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 - 16. Transaction Counter
 - 17. Workstation Counters
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Color Key

Inaccessible Routes of Travel

- 1. Ramps
- 2. Lifts
- 3. Elevators

Railings

- 4. Ramps
- 5. Stairs

Door Hardware

- 6. Door Hardware

Door Clearances

- 7. Push / Pull
- 8. Thresholds
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Toilet Rooms

- 10. 5'-7" Wheelchair Clearance
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- 13. Grab Bars
- 14. Showers

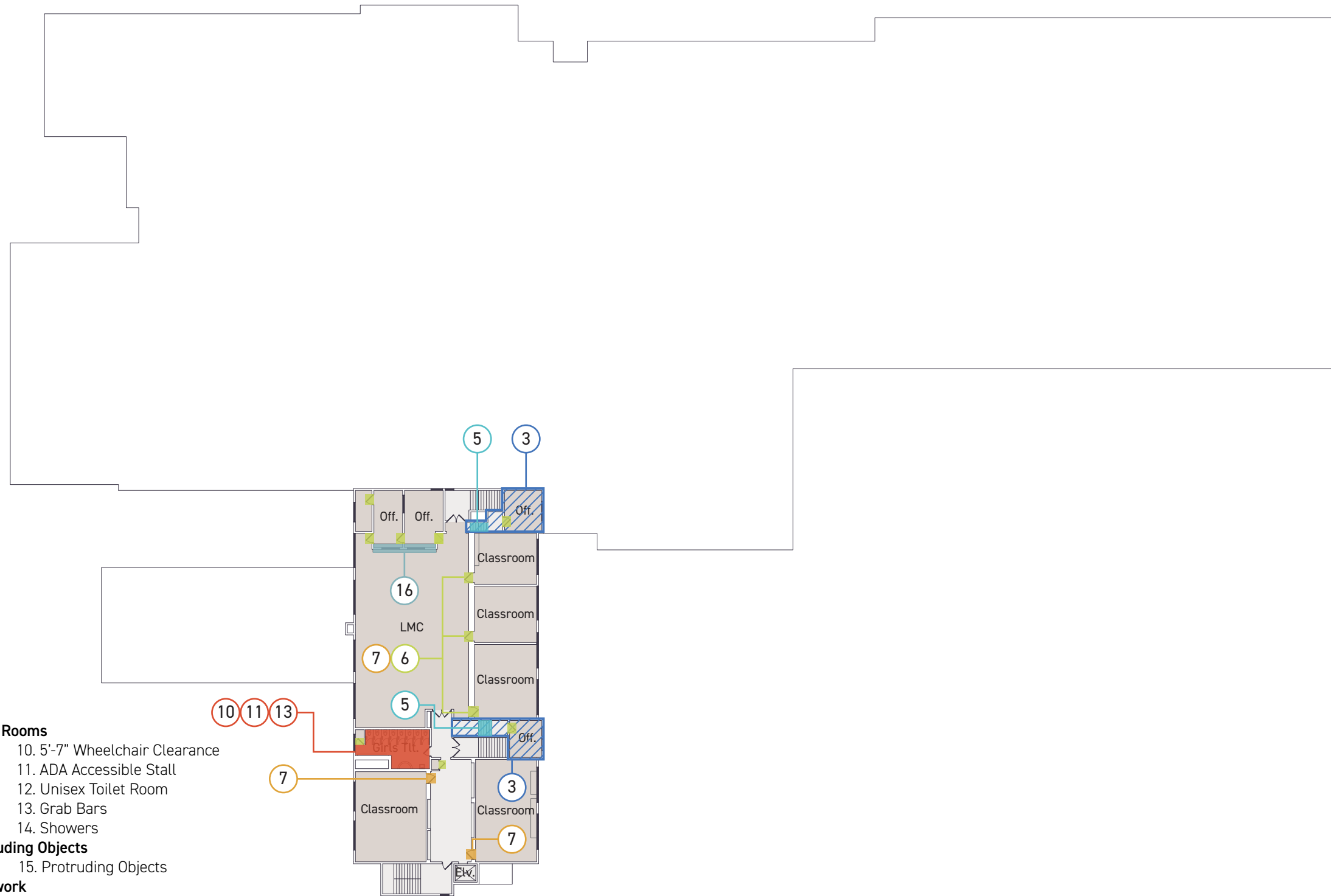
Protruding Objects

- 15. Protruding Objects

Casework

- 16. Transaction Counter
- 17. Workstation Counters
- 18. Counters with Sinks





Color Key

Inaccessible Routes of Travel

- 1. Ramps
- 2. Lifts
- 3. Elevators

Railings

- 4. Ramps
- 5. Stairs

Door Hardware

- 6. Door Hardware

Door Clearances

- 7. Push / Pull
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Toilet Rooms

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- 11. ADA Accessible Stall
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- 13. Grab Bars
- 14. Showers

Protruding Objects

- 15. Protruding Objects

Casework

- 16. Transaction Counter
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- 18. Counters with Sinks



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02

Original Date
of Construction

1999

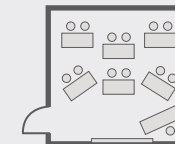
As of 2023: 24 years old

Square Footage

103,960
Sq. Ft.



Average Core Classroom
Size Comparison



953 sq. ft.

Recommended Size

1st - 12th: 900 sq. ft.
Kindergarten: 1200 sq. ft.

crivitz middle and high school

SUMMARY

Crivitz Middle and High School provides a comprehensive program for 7th-12th grade students.

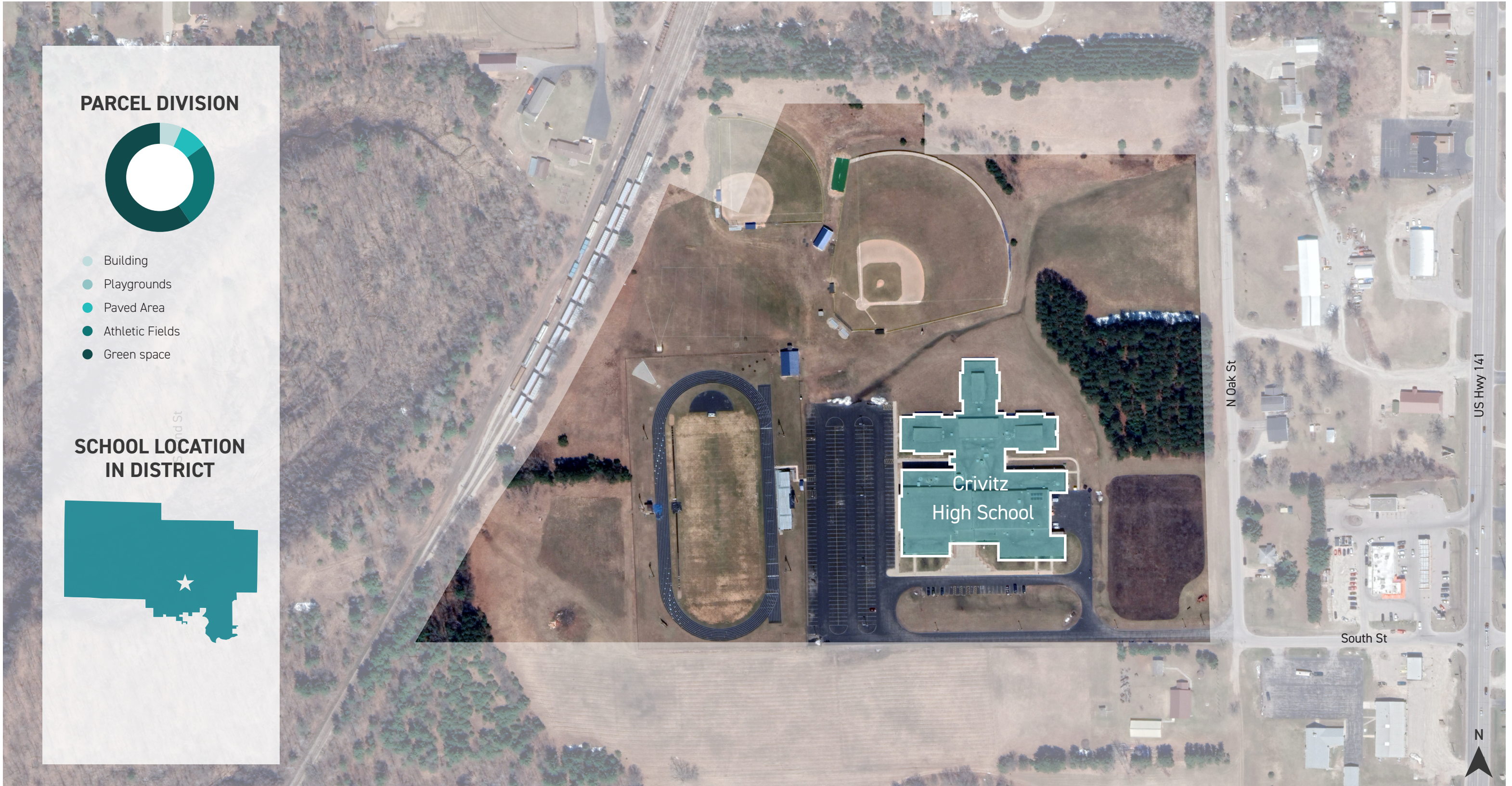
Address: 400 South St, Crivitz, WI 54114

Grades Served: 7th-12th Grades

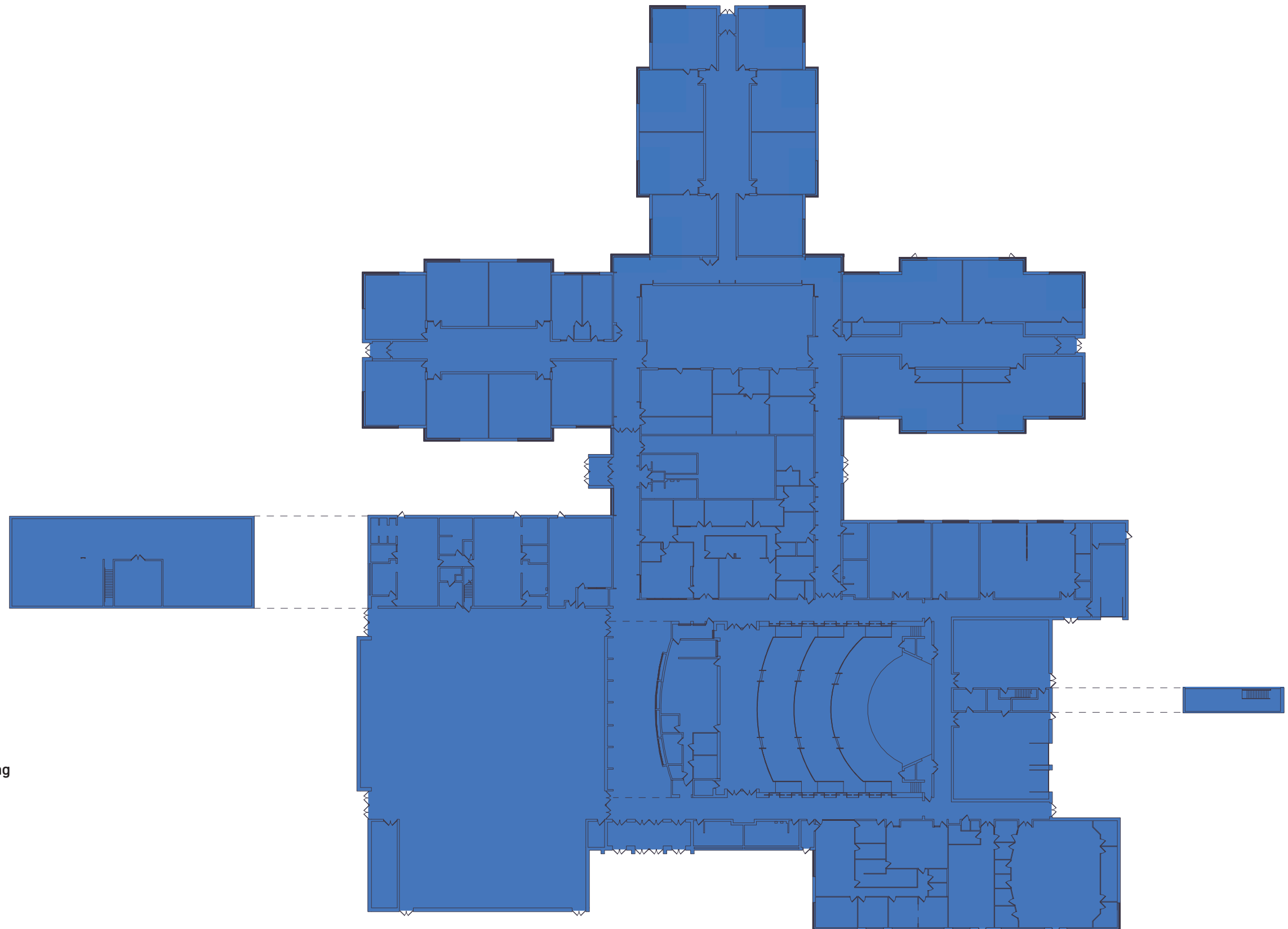
Site Size: 38.8 acres

Parking: 301 stalls

crivitz middle and high school site map



crivitz middle and high school building evolution



■ 1999 - Original Building

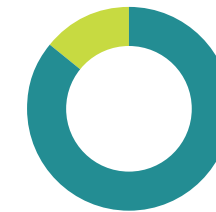




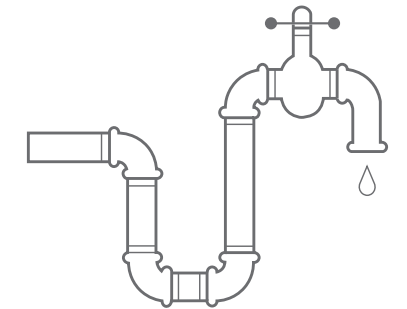
crivitz middle and high school building systems summary

- **Good Condition**
 No visible damage, wear or need for repair; no replacement needed.
- **Fair Condition**
 Some visible damage, wear or need for repair; no immediate replacement required.
- **Poor Condition**
 Substantial visible damage, wear or need for repair, or identified as containing potential asbestos; most pressing replacement needed.

Plumbing Condition Overview



Replace Water Service



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PLUMBING

Domestic Water System	■	
Water Service	●	Possible upgrade if sprinkler added.
Water Distribution Piping	●	
Water Softening System	○	
Fire Sprinkler System	○	There is no automatic fire sprinkler system in the building.
Sanitary System	■	
Sanitary Waste System	●	Piping is vintage to the facility.
Sanitary Drain, Waste + Vent Piping	●	Piping is vintage to the facility.
Acid Waste Piping + Basin	●	
Interceptors	●	
Storm System	■	
Storm System	●	
Storm Waste Piping	○	
Sump Pump	●	
Natural Gas System	■	

* See appendix for full engineer reports + additional information.

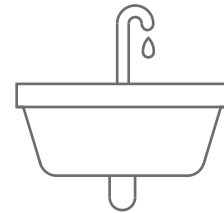
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Plumbing Condition Overview



Add Plaster Traps to Art Room Sinks



PLUMBING

Plumbing Equipment	■
Water Heater	●
Circulator Pump	○
Hot Water System	○
Plumbing Fixtures	■
Water Closets	●
Urinals	●
Lavatories	●
Drinking Fountains	●
Classroom Sinks	●
General Sinks	●
Art Room Sinks	●
Emergency Eyewash Stations	●

* See appendix for full engineer reports + additional information.

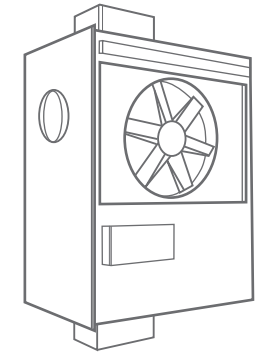
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Mechanical Condition Overview



Replace Air Conditioning System



MECHANICAL

Heating	■
Boiler Plant	● Boiler installed in 2023.
Pumps	● Pumps installed in 2023.
Ventilation + A/C Systems	■
Air Handling Units	● Systems are at mid-life of their expected 35 year service life.
Air Conditioning Systems	● The air cooled condensing units serve the two office area air handling units and are at the end of their expected 20 year service life.
Control Systems	■ The BAS system is in good condition. The original controls have been almost completely replaced.

* See appendix for full engineer reports + additional information.

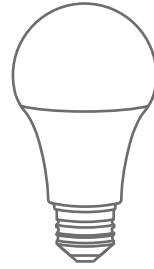
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Electrical Condition Overview



Add LED Light Fixtures



ELECTRICAL

Electrical Service	■	
Utility Service	●	One electrical service believed to be of adequate service size for school.
Switchboard	●	Original board in good condition.
Panelboards	■	Good Condition with more room available.
Light Fixtures + Controls	■	
Interior Lighting	●	All lights are old style fluorescent.
Corridor Lighting	●	All lights are old style fluorescent.
Lighting Controls	●	Most contain low voltage relay-controlled switching.
Exterior Lighting	●	Some newer retrofit LED.
Wiring Devices	■	Consistent with building age.
Clock System	■	
Data / Telephone	■	

* See appendix for full engineer reports + additional information.

crivitz middle and high school building systems summary

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Some visible damage, wear or need for repair; no immediate replacement required.
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Life Safety Condition Overview



Add LED Egress Lighting



LIFE SAFETY

Emergency Generator	■	Currently one transfer switch and panel service life and non-life safety loads. Current codes require non-safety loads to be seperated.
Emergency Egress Lighting	■	Replace as needed.
Fire Alarm System	■	Existing system 20 years old
Public Address System	■	
Access Control	■	
Security System	□	

* See appendix for full engineer reports + additional information.

crivitz middle and high school interior analysis

KEY TAKEAWAYS

- There are instances of laminate casework in poor condition due to an exposed edge with no finish.
- Majority of concrete blocks are in fair condition. There are two instances of concrete block walls in poor condition due to cracking.
- Vinyl base located in the northeast storage room of the multi-purpose room is in poor condition due to peeling.
- There are instances of wood doors with hollow metal frames in poor condition due to closing improperly and striking the outside of the door jamb.

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WALLS

- W1 Concrete Block
- W2 Gypsum
- W3 Tile
- W4 Brick
- W5 Vinyl Base
- W6 Tile Base
- W7 Metal Base
- W8 Epoxy Base

DOORS

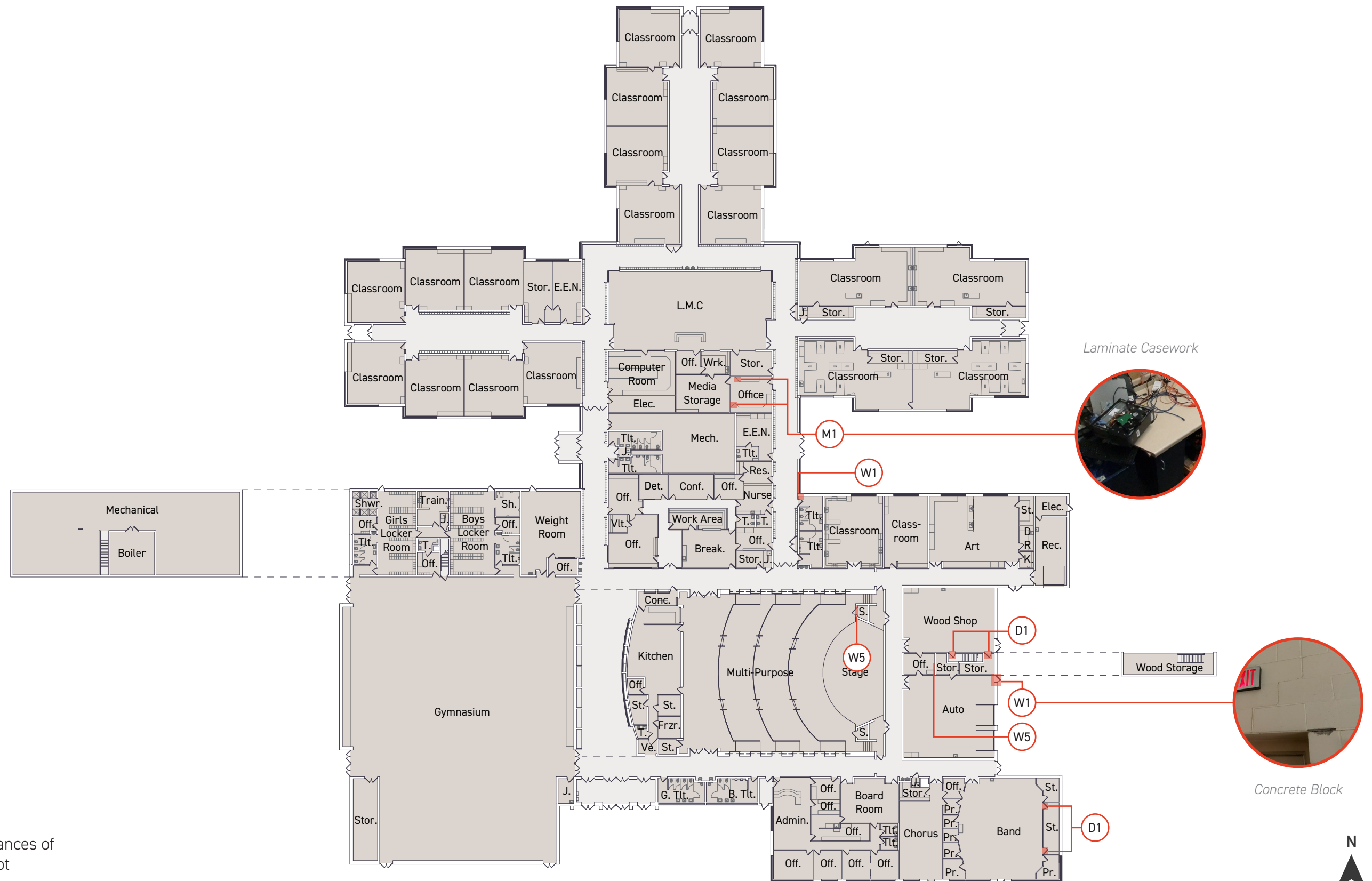
- D1 Wood Door w/ Hollow Metal Frame
- D2 Hollow Metal Door w/ Hollow Metal Frame
- D3 Wood Door w/ Hollow Metal Storefront
- D4 Wood Pocket Door w/ Wood Frame

OPENINGS

- O1 Aluminum Overhead Coiling Window
- O2 Laminate Interior Window Sill
- O3 Hollow Metal Framed Interior Window

MISCELLANEOUS

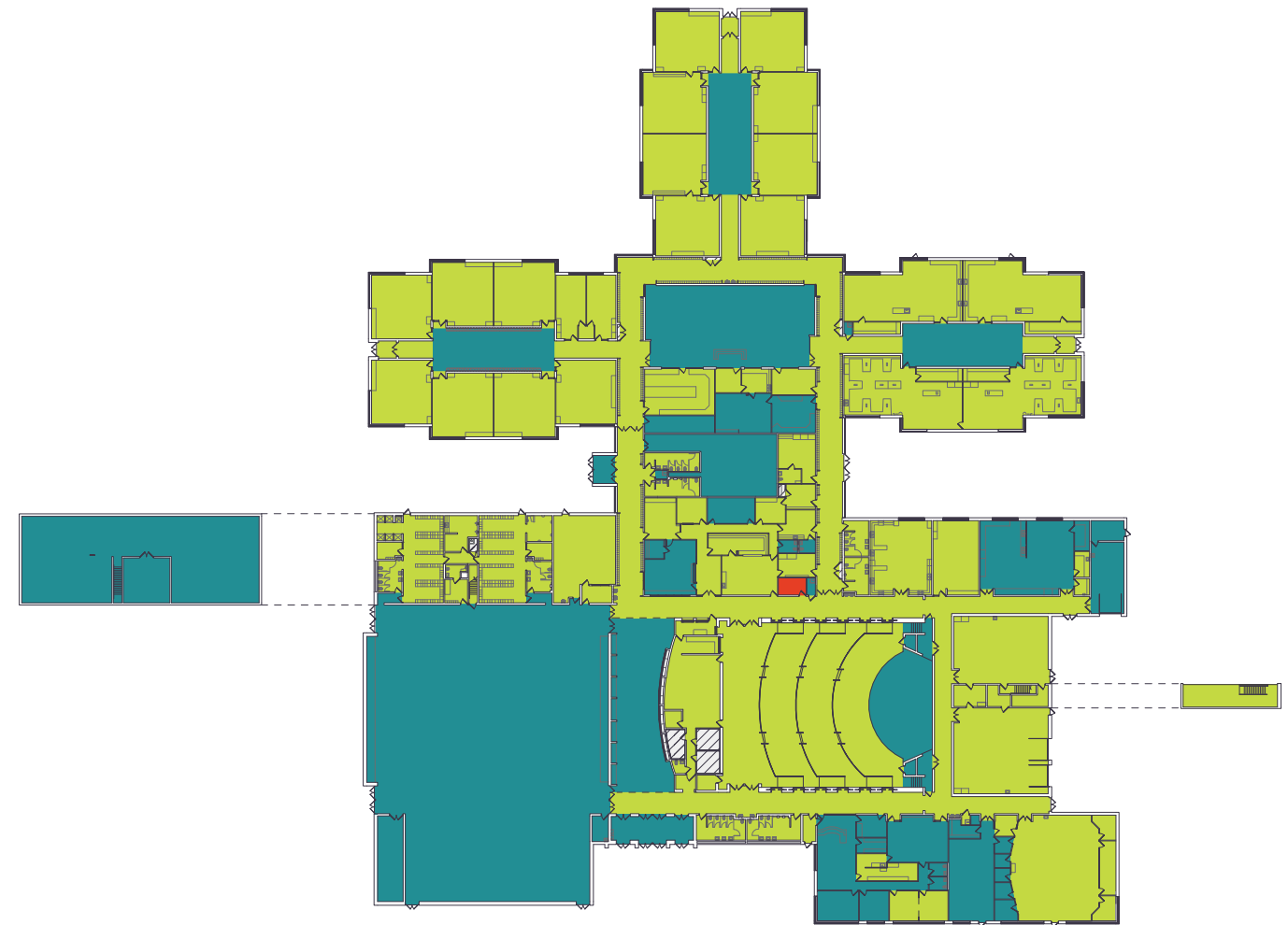
- M1 Laminate Casework
- M2 Wooden shelves
- M3 Metal Lockers
- M4 Metal Shelves
- M5 Bleachers
- M6 Composite Toilet Partitions
- M7 Glass Display Cases
- M8 Metal Railings



***Note:** The diagram above reflects instances of materials in poor condition, but does not reflect the material's overall condition.

crivitz middle and high school ceiling analysis

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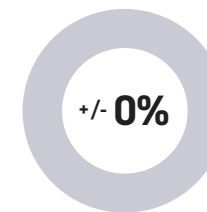


First Floor

KEY TAKEAWAYS

- Majority of the acoustical ceiling tile (ACT) is in fair condition due to minor instances of staining.
- Acoustical ceiling tile (ACT) located in storage room north of the multi-purpose room is in poor condition due to staining.
- Majority of the exposed metal deck throughout the building is in good condition.

HIGHLIGHT



of ceilings were identified as potentially containing asbestos

OVERALL CEILING CONDITION



- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage

crivitz middle and high school ceiling identification

first floor

Materials Key

- Acoustical Ceiling Tile
- Gypsum
- Concrete
- Exposed Metal Deck
- No Data



Potential of Asbestos Containing Materials

Asbestos is a material that was used in the construction industry, most commonly between 1960 - 1990. **There was no asbestos testing performed for this assessment.** Observations and assumptions were made based on common older building materials that typically have been identified as containing asbestos.

crivitz middle and high school flooring analysis

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First Floor

KEY TAKEAWAYS

- The vinyl composite tile (VCT) floor in the art room is in poor condition due to large gaps between tiles, chipping, and peeling.
- There is an instance of carpet in poor condition due to excessive wear.
- Majority of vinyl composite tile (VCT) is in fair condition due to minor scratching and wear.

HIGHLIGHT



of floors were identified as potentially containing asbestos

OVERALL FLOORING CONDITION



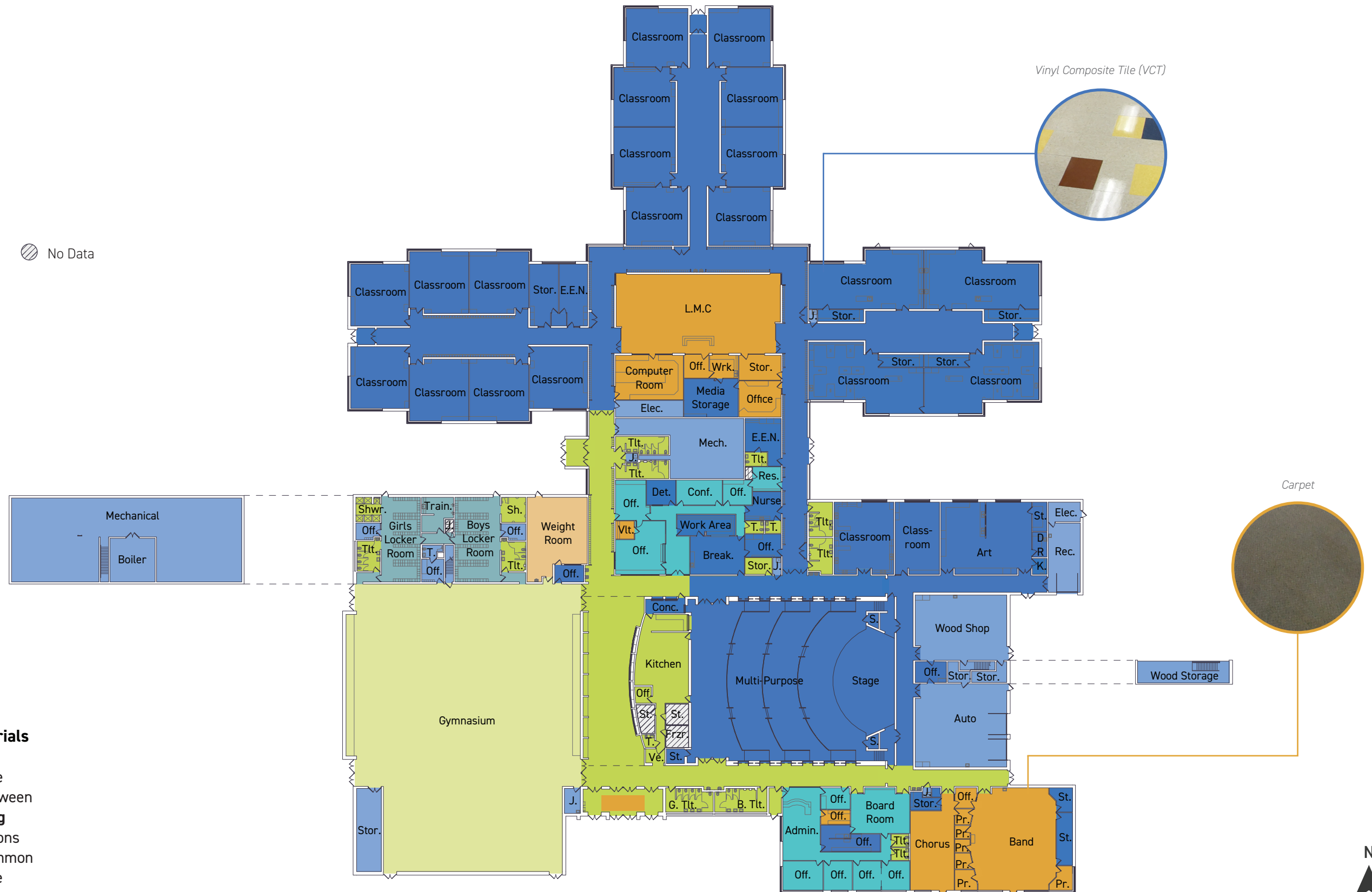
- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage

crivitz middle and high school flooring identification

first floor

Materials Key

- Vinyl Composite Tile
- Concrete
- ⊘ No Data
- Carpet Tile
- Epoxy
- Tile
- Wood
- Carpet
- Rubber



Potential of Asbestos Containing Materials

Asbestos is a material that was used in the construction industry, most commonly between 1960 - 1990. **There was no asbestos testing performed for this assessment.** Observations and assumptions were made based on common older building materials that typically have been identified as containing asbestos.

crivitz middle and high school exterior analysis

OVERALL CONDITION RATING & KEY TAKEAWAYS

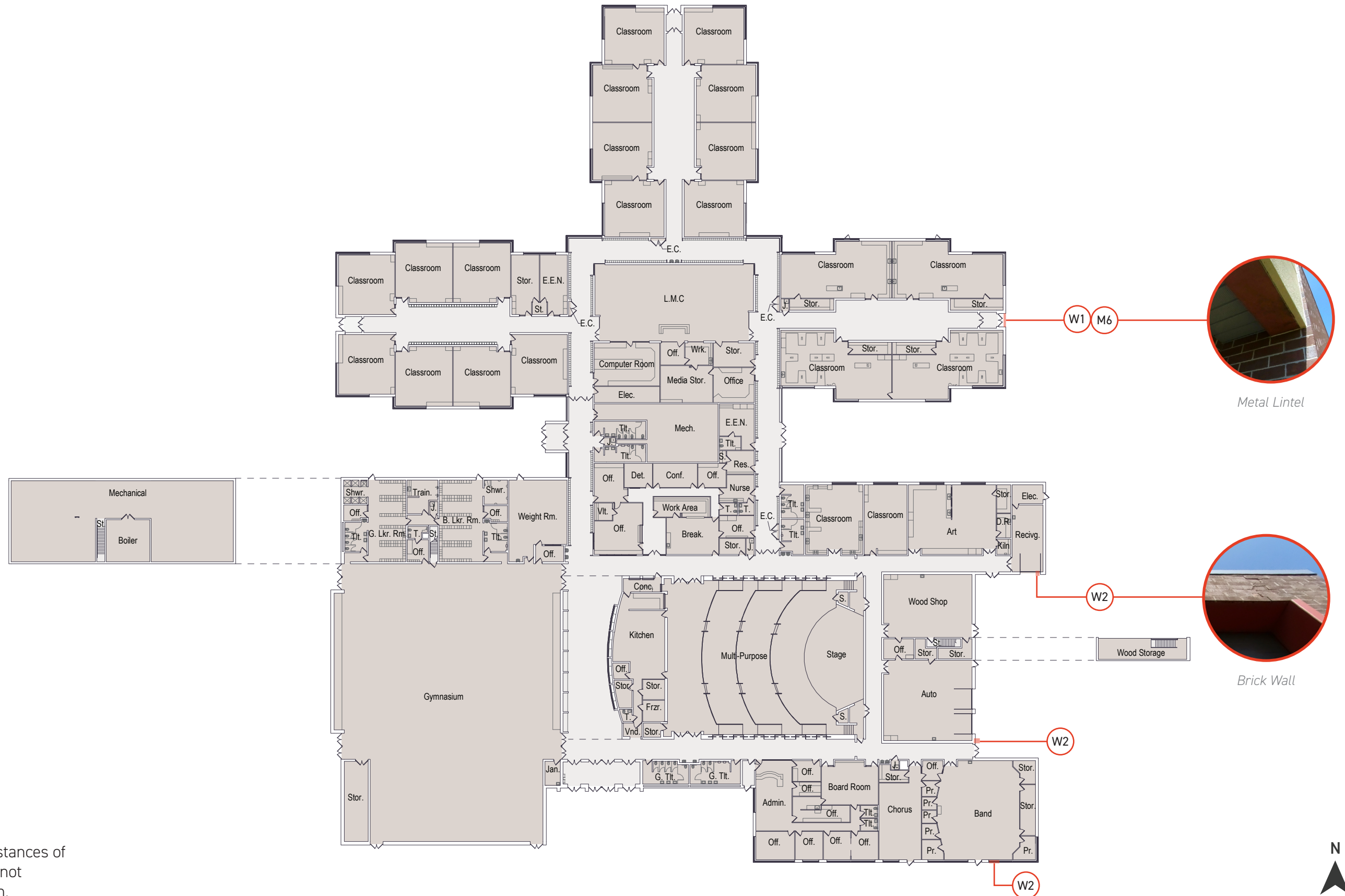
- Majority of the concrete panels are in fair condition due to staining.
- Majority of the metal lintels located above the doors have mild rust starting to form.
- Overall the brick is in fair condition with some isolated incidents of cracking or chipping.

WALLS

- W1 E.I.F.S.
- W2 Brick

MISCELLANEOUS

- M1 Metal Soffit
- M2 Concrete Post
- M3 Metal Coping
- M4 Metal Lintel
- M5 Concrete Sill



***Note:** The diagram above reflects instances of materials in poor condition, but does not reflect the material's overall condition.

crivitz middle and high school exterior door analysis

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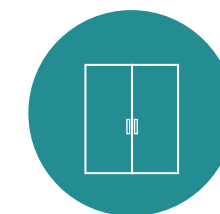
No. Door Type / Door Frame

A Aluminum / Aluminum	O Aluminum / Aluminum
B Aluminum / Aluminum	P Aluminum / Aluminum
C Aluminum / Aluminum	Q Aluminum / Aluminum
D Hollow Metal / Hollow Metal	R Aluminum / Aluminum
E Hollow Metal / Hollow Metal	S Aluminum / Aluminum
F Hollow Metal / Hollow Metal	T Aluminum / Aluminum
G Hollow Metal / Hollow Metal	U Hollow Metal / Hollow Metal
H Rolling Metal	V Hollow Metal / Hollow Metal
I Rolling Metal	W Hollow Metal / Hollow Metal
J Hollow Metal / Hollow Metal	X Hollow Metal / Hollow Metal
K Hollow Metal / Hollow Metal	Y Hollow Metal / Hollow Metal
L Hollow Metal / Hollow Metal	Z Hollow Metal / Hollow Metal
M Rolling Metal	ZZ Hollow Metal / Hollow Metal
N Aluminum / Aluminum	

KEY TAKEAWAYS

- Majority of the hollow metal doors are in fair condition due to minor denting and paint chipping.
- Majority of aluminum doors with aluminum frames are in good condition with no visible wear.
- Door J is in poor condition due to visible rust, peeling finish, and bent drip cap.

MOST COMMON EXTERIOR DOOR

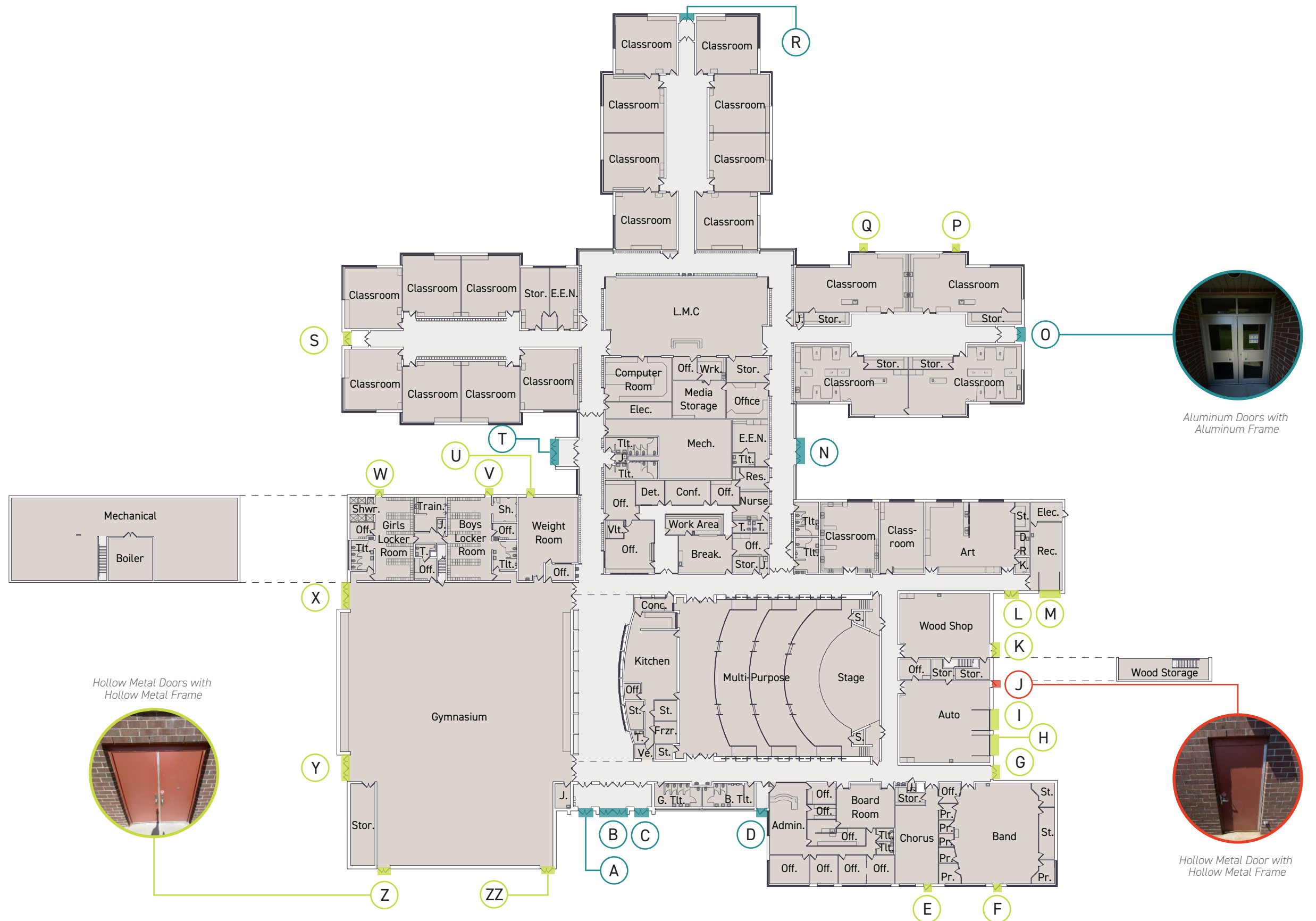


Hollow Metal Door(s) w/
Hollow Metal Frame(s)

OVERALL EXTERIOR DOOR CONDITION



- Good | No visible damage
- Fair | Some visible damage
- Poor | Substantial visible damage



crivitz middle and high school exterior window analysis

No. Frame Type / Glass Type

B101	Aluminum / Double Pane	C203	Aluminum / Glass Block	D111	Aluminum / Double Pane
B102	Aluminum / Double Pane	C204	Aluminum / Glass Block	D112	Aluminum / Double Pane
B103	Aluminum / Double Pane	C205	Aluminum / Glass Block	D113	Aluminum / Double Pane
B104	Aluminum / Double Pane	C206	Aluminum / Glass Block	D114	Aluminum / Double Pane
B105	Aluminum / Double Pane	D101	Aluminum / Double Pane	D201	Aluminum / Glass Block
B106	Aluminum / Double Pane	D102	Aluminum / Double Pane	D202	Aluminum / Glass Block
B107	Aluminum / Double Pane	D103	Aluminum / Double Pane	D203	Aluminum / Glass Block
C101	Aluminum / Double Pane	D104	Aluminum / Double Pane	D204	Aluminum / Glass Block
C102	Aluminum / Double Pane	D105	Aluminum / Double Pane	D205	Aluminum / Glass Block
C103	Aluminum / Double Pane	D106	Aluminum / Double Pane	D206	Aluminum / Glass Block
C104	Aluminum / Double Pane	D107	Aluminum / Double Pane	D207	Aluminum / Glass Block
C105	Aluminum / Double Pane	D108	Aluminum / Double Pane	D208	Aluminum / Glass Block
C201	Aluminum / Glass Block	D109	Aluminum / Double Pane	D209	Aluminum / Glass Block
C202	Aluminum / Glass Block	D110	Aluminum / Double Pane		

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KEY TAKEAWAYS

- Majority of the aluminum framed windows with double pane glass are in fair condition due to minor staining.
- The condition of the glass block clerestory windows throughout the school is unknown.

MOST COMMON EXTERIOR WINDOW



Aluminum with Double Pane Glass

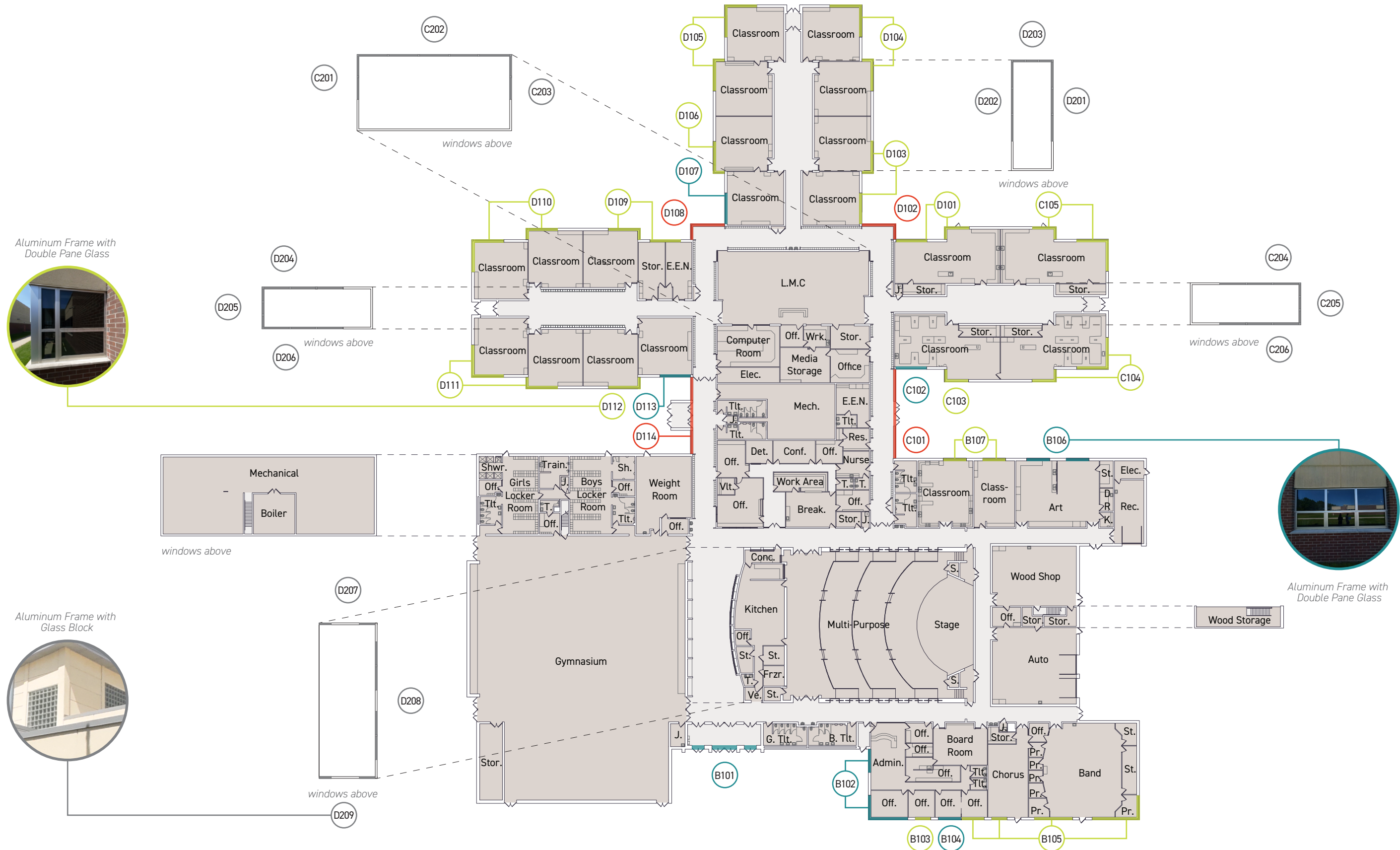
OVERALL EXTERIOR WINDOW CONDITION



- No visible damage
- Some visible damage
- Substantial visible damage
- Condition unknown

crivitz middle and high school exterior window analysis

first floor

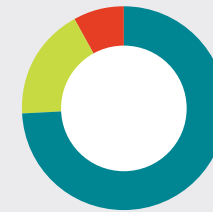


crivitz middle and high school roof analysis

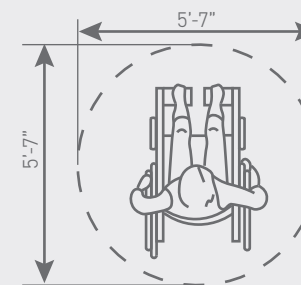


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Overall Condition Rating:

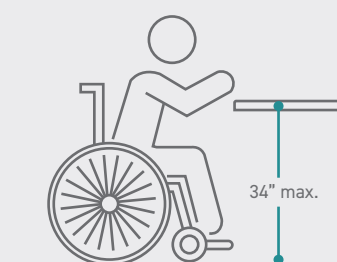


Most Concerning Item That Does Not Meet Code Requirements:



Not providing at least 5'-7" clearance space for a wheelchair to turn around.

Most Frequently Occurring Item That Does Not Meet Code Requirements:



Countertops have a 34" maximum height about the floor

GENERAL ASSESSMENT OF ADA CONDITIONS

■ Building Entrance Accessibility

■ ADA Parking Stalls

■ Accessible Routes of Travel

- Ramps
- Lifts
- Elevators

■ Railings

- Ramp Railings
- Stair Railings

■ Door Hardware

■ Door Clearances

- Push / Pull
- Thresholds
- Maneuvering

■ Toilet Rooms

- 5'-7" Wheelchair Clearance
- ADA Accessible Stall
- Unisex Toilet Room
- Grab Bars
- Showers

■ Protruding Objects

■ Drinking Fountains

■ Casework

- Transaction Counters
- Workstations Counters
- Counters with Sinks



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appendix

REFERENCE PAGES

The following pages are examples of images used as a reference to determine whether a material / object is in good, fair, or poor condition.

The images used in the appendix are **not** specific to the school district identified in this study. The images shown on the following pages have been chosen from a variety of past studies to better help represent a range of materials / objects in good, fair, and poor conditions.

building interior

GOOD

No visible damage, wear or need for repair; no replacement required.

FAIR

Some visible damage, wear or need for repair; no immediate replacement required.

POOR

Substantial visible damage, wear or need for repair, or identified as containing potential asbestos; most pressing replacement needed.

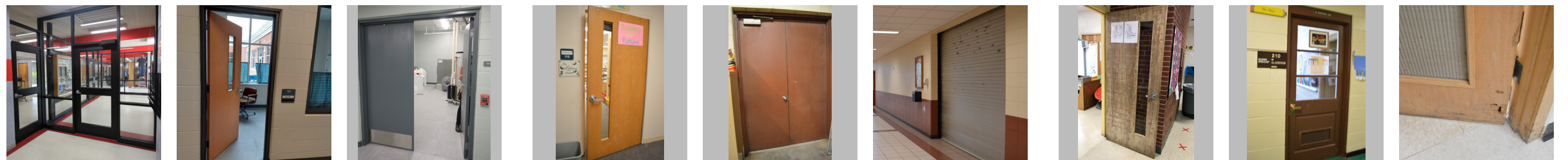
INTERIOR WALLS (interior walls, partition walls, acoustical wall panels)



WINDOW INTERIOR & INTERIOR OPENINGS (interior side of exterior windows, interior storefront, borrowed lites, transaction windows, interior window sills)



INTERIOR DOORS (classroom doors, storage doors, rolling/coiling doors)



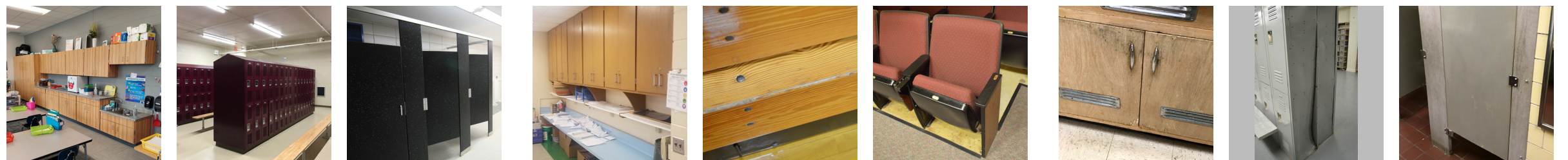
CEILING (ceilings, clouds, ceiling-applied acoustical panels)



FLOORING (flooring, base, stair treads)



MISCELLANEOUS (casework, fixed furniture/tables/seating, curtains, railings)



building exterior /envelope

GOOD

No visible damage, wear or need for repair; no replacement required.

FAIR

Some visible damage, wear or need for repair; no immediate replacement required.

POOR

Substantial visible damage, wear or need for repair, or identified as containing potential asbestos; most pressing replacement needed.

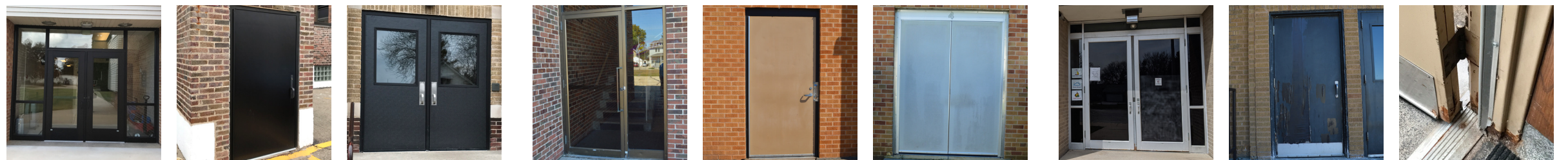
EXTERIOR WALLS (exterior walls, foundation walls, wall paneling, wall accents)



WINDOWS & STOREFRONT (windows, storefront, transaction windows, window sills, window screens, window security screens)



EXTERIOR DOORS (exterior doors, storefront, storage doors, rolling/coiling doors)



ROOF (roof*, roof edge, roof soffit)

*typically included with documentation or summarization of a third party report, but not included in assessment.



MISCELLANEOUS (exterior railing, grilles/vents, building-mounted accessories)



site development

GOOD

No visible damage, wear or need for repair; no replacement required.

FAIR

Some visible damage, wear or need for repair; no immediate replacement required.

POOR

Substantial visible damage, wear or need for repair, or identified as containing potential asbestos; most pressing replacement needed.

ASPHALT/PAVING

(hard surface areas, hard surface play areas, parking lots, drop-off/pick-up lanes, driveways, walking paths, tennis courts)



SITE CONCRETE

(sidewalks, stairs, ramps, stoops, retaining walls)



GREENSPACE

(greenspace, athletic fields, practice fields, gardens)



PLAYGROUND

(playground equipment, basketball hoops, playground surface and border)



MISCELLANEOUS

(fencing, gates, flag poles, bollards, bike racks, school signage, benches, picnic tables)



appendix

ENGINEERING REPORTS

The following pages include the original plumbing, mechanical, electrical, and life safety reports provided by consulting engineers.

HVAC System Review:

The following report is the result of a site visit by Craig Nessman of MSA Professional Services, Inc. that occurred on September 1, 2023. Site observations and interviews with staff were all used in the preparation of this report.

The original building was constructed in 1925, with additions in 1938, 1956, and 1970.

Existing Data

- A. The school building is served by a hot water heating system consisting of two (2) 1,900 MBH input boilers, both installed in 2006. There are (2) sets of system pumps; one set serves the original portions of the building, the other serves the 1976 addition. Pumps are controlled by a VFD.
- B. The air handling unit serving the small gym is a heating only, constant volume unit. The exact year is unknown, but this unit appears to have been installed prior to the 1956 addition.
- C. The air handling units serving the 1976 addition are hot water units that are original to the building. Only the unit serving the office contains air conditioning. Units are constant volume, except for the multi-zone unit serving the center classrooms.
- D. The air-cooled condensing unit serving the office area is a roof mounted unit that is original to the 1976 addition.
- E. The air handling unit serving the main gym is a heating only, constant volume system. This unit was installed in 2006.
- F. The stage was converted to classroom spaces. This area is served by two (2) Trane packaged rooftop units that were installed around 2015. This system has packaged cooling, gas heat, and zone dampers for space temperature control. This system also serves the basement locker room area, however; this area is abandoned, and the system only maintains minimum temperatures in the basement.
- G. Most of the classrooms are served by Daikin unit ventilators. These units were installed in 2016. The units installed on the first floor are heating only, the units installed on the second and third floors of the original building contain DX cooling coils intended for future connection. Only the unit serving the Computer Lab has air conditioning, served by a 3.5-ton roof mounted condensing unit.
- H. There are (2) data rooms that have dedicated Fujitsu mini-split cooling units. The unit serving the data room in the original building is from 2005. The unit serving the data room in the 1976 building was recently replaced.
- I. The Maintenance Garage is served by two (2) gas fired unit heaters that were installed in 2015. The abandoned steam unit heaters remain in place.
- J. The building is controlled by a Siemens Disego digital control system that was installed around 2005.

Observations

- A. The hot water heating system is in good condition. However, the boilers are approaching the end of the expected 20-year service life.



- B. The original building was served by steam boilers. The steam system is no longer in use, although some abandoned steam equipment remains.
- C. The air handling units serving the small gym and the 1976 addition have well exceeded their expected 30-year life span.
- D. The packaged rooftop units serving the old stage area are approximately 8 years old and are in good condition. The life expectancy for these units is approximately 20 years.
- E. The air handling unit serving the main gym is 17 years old and in good condition. The life expectancy for indoor air handling units is 30-35 years.
- F. The unit ventilators are 7 years old and in good condition. The life expectancy for unit ventilators is 20-25 years.
- G. The air-cooled condensing unit serving the office air handling system is 55 years old and well exceeded its expected 20-year life span.
- H. The mini split air conditioning units serving the data rooms are in good condition. The unit in the original building is at the end of its expected 15–20-year life expectancy.

Recommendations

- A. Plans should be made for the replacement of the air handling units that serve the small gym and the 1976 addition. The air-cooled condensing unit serving the office space should be replaced along with the air handling unit. When these unit replacements are made, the digital controls should also be updated.
- B. The hot water boilers are 17 years old. Plans should be made to replace these boilers in the next 3-5 years.

Electrical System Review:

The following report is the result of a site visit by Curt Krupp of MSA Professional Services, Inc. that occurred on September 1, 2023. Site observations, existing plan review and interviews with staff were all used in the preparation of this report.

The original building was constructed in 1925, with additions in 1938, 1956, and 1970.

Main Electrical Service

Observations

- A. The elementary building is fed with one main electric service. The service is an ITE type switchboard. The gear is older than 50 years. This service is a 120/208 volt, 3-phase, 4-wire, 2000 amp and is fed from a pad mounted utility transformer in a fenced enclosure on the South side of the building. The C/T is located next to the transformer.
- B. The main on the switchgear is an old style main fusible switch.
- C. The peak demand on the service was not known at the time of the walk through, but based on the size and building square footage, we believe the service size is adequate for this facility.
- D. The main electric service does not have a surge protective device.
- E. The serving utility is WPS.

Recommendations

- A. Based on the service equipment age and condition, we recommend the replacement of the service switchboard with new. This will ensure reliability of equipment and the breakers will trip upon fault.
- B. If a large building addition is added or construction is located over the service location, a new larger service or relocation may be required.
- C. Consider adding a surge protective device at the electric service location. This will provide protection from incoming surges such as lightning.
- D. If it is determined to keep the service in place and not replace it, we would recommend a high voltage maintenance company clean and test all breakers to ensure they properly operate on a fault condition.

Panelboards

Observations

- A. A variety of panelboards throughout this facility are present with many of them exceeding their useful lifespan. Many of the existing panelboards throughout the older portion of the building consist of old Kinney and Square D panelboards and loadcenters. These panelboards and loadcenters are over 50 years old and have minimal space for additional breakers. These panelboards have reached the end of their useful life.
- B. The district installed new data cabling in the mid 1990's. At that time newer panels were installed to accommodate new power drops in classrooms.
- C. Panelboards throughout the building do not have Arc Flash Warning Labels indicating available fault current at each panelboard.
- D. A majority of the panelboards throughout the building have hand-written circuit directories.

Recommendations



- A. The old Square D and Kinney type panelboards and loadcenters are very old, have reached the end of their useful life and should be replaced based on their age and condition.
- B. The newer panelboards are in good working condition installed with the data upgrade in the 1990's. In general these panels have room for additional breakers and can remain. Add to the existing panelboards as necessary.
- C. Complete an Arc Flash Study of the existing electrical system and add arc flash labels to all electrical panelboards. This will increase the safety of personnel maintaining or operating equipment along with occupants in the vicinity of the equipment.
- D. Provide type-written directories and engraved panelboard labeling for all electrical panelboards throughout the building to prevent loss of information.
- E. Replace any feeders that are cloth covered, add ground wires to feeders and secondary circuits, provide separate neutral wires for each circuit.

Generator

Observations

- A. No generator exists at this facility

Recommendations

- A. A possible addition is to add an emergency generator and power all life safety loads and non-essential loads such as intercom, phone, and data network.

Interior and Exterior Lighting

Observations

- A. All light fixtures throughout the building are old style fluorescent
- A. Exterior parking lot lighting appeared to be utility owned and leased back by the school and are LED. Building mounted fixtures were not LED with exception of one at SW entrance
- B. Classrooms contain zoned switching and manual lever switches.

Recommendations

- A. Replace all fluorescent and exterior fixtures with new LED.

Emergency Lighting

Observations

- A. Emergency lighting and exit lighting is accomplished through battery backup bug-eye type fixtures as well as emergency lighting fed from the generator.
- B. We did not verify full egress compliance during our walk through but assume some areas could use upgraded egress lighting to comply with current codes.

Recommendations

- A. Most were old style and some tested during walk thru did not operate when on battery power
- B. Add interior and exterior egress lighting to emergency generator or provide additional battery backup egress lighting to comply with current codes.

Wiring Devices



Observations

- A. The receptacles and switches are commercial grade 15 and 20 amp with a mix of plastic and stainless steel plates. The devices vary in age and condition and for the most part show signs of general wear and tear.
- B. Upon opening various junction boxes, cloth covered branch circuit wiring and feeder wiring was present in the old portion of the building

Recommendations

- A. Replace wiring devices and plates that are damaged.
- B. Add additional receptacles and circuits as necessary.
- C. We recommend the replacement of the old cloth branch circuit wiring and feeders as it is susceptible to damage from rodents, bugs, etc. Replacing the old cloth wiring will minimize the risk of exposed wiring throughout the facility.
- D. We did not verify shared neutral loads on any existing circuits; this should be done by a qualified electrician prior to adding any additional devices. We would recommend a separate neutral be installed on any shared neutral loads or add multipole breakers to bring the circuiting up to code.
- E. We did not verify if circuits contained independent grounding conductors. This should be done by a qualified electrical contractor or at a minimum verify grounding continuity in all circuits. It was common in schools in Wisconsin to use the conduit as a grounding system on some older facilities. Over time the conduit may have disconnected causing ungrounded circuit conditions. We always recommend a separate grounding conductor be installed in every conduit.

Wiring Devices

Observations

- A. The receptacles and switches are commercial grade 20 amp. The devices for the most part show signs of general wear and use

Recommendations

- A. Replace wiring devices and plates that are damaged.
- B. Add additional receptacles and circuits as necessary.

Fire Alarm System

Observations

- A. The fire alarm is a Simplex. The 3 story building was upgraded to an addressable system. The remainder of the 1969 facility is served by an old 120v system. Staff indicated the existing fire alarm system is operational.
- B. There are pull stations by some exterior doors.
- C. Open cubbies are installed and no smoke detectors in the corridors

Recommendations

- A. Although the fire alarm system is operational, it is more than 30 years old in a majority of the facility and has reached the end of its life expectancy. We recommend replacing the existing addressable system head end and all devices to a new, code approved voice addressable fire alarm system with all new voice annunciated devices throughout the entire facility.
- B. We noted deficiencies with the 3 story newer fire alarm system as it relates to current codes.



Clock System

Observations

- A. The existing clock system consists of a variety of battery, 120v, old system clocks. The owner indicated they install new battery powered synchronized clock as the old ones fail.

Recommendations

- A. The existing clock system head end is very old. Consider replacing the existing clock system head end with a new GPS clock system with all new battery powered clocks throughout the building.

Public Address System

Observations

- A. The intercom system consists of amplifiers and zone paging. The main rack houses the amps and programming devices. The system is connected to the phone system to allow for paging
- B. Numerous types of speakers are located throughout the facility of different ages and types. Most of the system components and wiring are original to the existing construction
- C. Paging appeared to be lacking in areas.
- D. We noted call in devices in classrooms

Recommendations

- A. Replace this system in its entirety. Provide new analog speakers, wiring and an IP based head end system.

Data

Observations

- A. Two data racks feed all the data drops and installed as part of a teach wiring project in the mid 1990's. Most of the drops are Cat 5 type, we did note some newer Cat 6 cabling installed in some areas. The building is fed with fiber from the HS facility.
- B. Fiber connects both data racks
- C. The building has wireless access points but not full coverage.

Recommendations

- A. Additional CAT6 cable can be added to rooms as needed.

Keyless Entry System

Observations

- A. There is a security door access control system in the facility that serves 6 exterior doors around the perimeter of the facility. The system was installed by Martin Security. Owner indicated it is operating properly
- B. A separate security system with motion detectors is installed and maintained by LaForce. This is an arm/disarm system and is currently in use.

Recommendations



- A. Extend as required

CCTV System

Observations

- A. There is an existing GeoVision IP based closed circuit system in the building.
- B. There appears to be adequate coverage through both the interior and exterior of the facility.

Recommendations

- A. Add additional IP cameras as required.

Plumbing System Review:

The following report is the result of a site visit by MSA Professional Services, Inc. that occurred on September 1, 2023. Site observations, existing plan review and interviews with staff were all used in the preparation of this report.

The original building was constructed in 1925, with additions in 1938, 1956, and 1970.

Domestic Water Piping System

Observations

- A. The building is supplied by the local municipal water utility. The service is a 4" ductile iron water pipe with a 3" water meter. The majority of the system piping material is galvanized with some areas consisting of type L copper. The water piping after the main service entrance was converted to 3" copper routed to and after the water meter. The isolations valves consist of gate valves and ball valves. The system consists of cold water, hot water supply and hot water return. Majority of the piping is uninsulated. The system pressure is 40-60 psig. The hot water delivery time to the most remote fixture is over 30 seconds. There were signs of leaking in the water distribution piping in many areas. The majority of the piping was vintage to the original building construction. The overall system is in poor condition.
- B. The site has an irrigation pump located near the water meter in the lower level

Recommendations

- A. All piping should be replaced with new copper piping and ball valves. Any future renovations or additions, should account for the resizing of the domestic water pipe mains in order to provide adequate pressure and flow to any new and existing fixtures. Current plumbing and energy codes required faster hot water delivery time to all fixtures. This will extend the domestic hot water piping system closer to all hand washing type fixtures and increase the size of the pipe main and circulation pump.
- B. Provide insulation on all domestic water piping.
- C. Provide backflow protection on kitchen equipment.

Fire Suppression Piping System

Observations

- A. There is no automatic fire sprinkler system in the building.

Recommendations

- A. Existing water service is not capable of supporting a whole building automatic fire sprinkler system. A new properly sized water service will be required to support a whole building automatic fire sprinkler system.

Sanitary Drain, Waste and Vent Piping System

Observations

- A. The building system discharges to the municipal sewer. Some of the floor areas that are prone to spills have floor drains. The main system piping material is Cast Iron & some PVC piping.

The kitchen area fixtures, and equipment are not served by a grease interceptor. No issues reported with system

Recommendations

- A. Provide drain piping with jetting cleaning maintenance once a year.
- B. Install a grease interceptor for kitchen waste piping.
- C. Camera video inspection of all underground piping shall be acquired to determine system quality and proper flow. Replace any problem areas with PVC piping.

Storm and Clear Water Drain, Waste and Vent Piping System

Observations

- A. The roof is served by interior roof drains. The owner noted some drains are leaking and they repair them as they are noticed

Recommendations

- A. None at this time.

Natural Gas Piping System

Observations

- A. The building is supplied by the local gas utility. The system serves the HVAC, plumbing and kitchen equipment. Main system pressure is 2-5psi with a 7"-14" w.c. pressure regulator serving the equipment. The system piping material is black iron steel. The isolations valves are ball valves

Recommendations

- A. None at this time.

Plumbing Equipment

Observations

- A. Water Softener – Two self-contained Hobart units supply hot water to kitchen only. One old softener in boiler room no longer operates and was not removed
- B. Water Heater – Two, Cyclone condensing AO Smith 150,000 btu units with modulating burners are located in boiler room. They are 100 Gallon, Natural Gas units with no expansion tank, temperature is 120 degrees. An old expansion tank and old water heating boiler are present in the boiler room but no longer operational.
- C. Circulating Pump –temperature is 120degrees. Fair Condition.
- D. Thermostatic Mixing Valve – n/a

Recommendations

- A. Provide a point of use thermostatic mixing valve for all hot water supplied plumbing fixtures to protect the end user from hot water scolding.



Plumbing Fixtures

Observations

- A. Water Closets –Varying types of fixtures are present thru out the building. Floor mount bowl type with brass chrome plated manual lever flush valve. Wall and floor mounted flush valve. Vitreous china.
- B. Lavatories –. Varying types of fixtures are present thru out the building. Wall mounted and integral basin Vitreous china. We observed blade fixtures, metered push type and some battery censored units
- C. Urinals – Vitreous china floor mount basin with brass chrome plated sensor battery, timed units and manual flush valve.
- D. Kitchen Sinks – Stainless steel floor mount basin with brass chrome plated manual lever faucets.
- E. General Sinks – Varying types of fixtures are present thru out the building. Stainless steel drop-in basin with manual lever faucets.
- F. Classroom Sinks – Stainless steel and porcelain drop-in basin with brass chrome plated manual lever faucets.
- G. Service Sinks – PVC molded and terrazzo floor mount and wall mount basin with brass chrome plated manual lever faucets and vacuum breaker spouts. Art service sinks do not have plaster traps.
- H. Showers – Stainless steel single and multiply use brass manual lever showers valves.
- I. Electric Water Cooler – Single use with and without bottle filling station. Stainless steel and old style porcelain wall mounted with and without coolers

Recommendations

- A. Upgrade all plumbing fixtures to ADA compliant, wall mounted with sensor operated flush valves and faucets.
- B. Provide plaster traps in art room sinks
- C. Provide backflow water prevention for service sinks and kitchen

Plumbing System Review:

The following report is the result of a site visit by MSA Professional Services, Inc. that occurred on September 1, 2023. Site observations, existing plan review and interviews with staff were all used in the preparation of this report.

The original building was built in 2000.

Domestic Water Piping System

Observations

- A. The building is supplied by the municipal water utility. It has one 4" water service with a 4" water meter. The majority of the system piping material is type L copper; The isolations valves consist of gate valves and ball valves. The system consists of cold water, hot water supply and hot water return. Majority of the piping is insulated. The system pressure is 40-60 psig. The hot water delivery time to the most remote fixture is under 30 seconds. There were no signs of leaking in the water distribution piping. The majority of the piping was vintage to the original building construction.

Recommendations

- A. None at this time

Fire Suppression Piping System

Observations

- A. There is no automatic fire sprinkler system in the building.

Recommendations

- A. None at this time

Sanitary Drain, Waste and Vent Piping System

Observations

- A. The building system discharges to the municipal sewer. Some of the floor areas that are prone to spills have floor drains. The main system piping material is PVC piping. The kitchen area fixtures, and equipment are served by a grease interceptor. No issues reported with system.

Recommendations

- A. Provide drain piping with jetting cleaning maintenance once a year.
- B. Camera video inspection of all underground piping shall be acquired to determine system quality and proper flow. Replace any problem areas with PVC piping.

Storm and Clear Water Drain, Waste and Vent Piping System

Observations

- A. The roof is served by interior roof drains.

Recommendations

- A. None at this time.



Natural Gas Piping System

Observations

- A. The building is supplied by the local gas utility. The system serves the HVAC, plumbing and kitchen equipment. Main system pressure is 2-5psi with a 7"-14" w.c. pressure regulator serving the equipment. The system piping material is black iron steel. The isolations valves are ball valves
- B. Owner noted no master gas shut off for science room natural gas piping

Recommendations

- A. Provide solenoid controlled natural gas emergency shut off push button in Science areas

Plumbing Equipment

Observations

- A. Water Softener – One self-contained Hobart unit supplies hot water to kitchen Dishwasher only. One softener for the remainder of the building is located near the main water service in the receiving room.
- B. Water Heater – Two, Cyclone condensing AO Smith 200,000 btu units with modulating burners are located in boiler room. They are 100 Gallon, Natural Gas units with no expansion tank, temperature is 120 degrees. A hot water storage tank located near the water heater is no longer in use.
- C. Circulating Pump is present –temperature is 140degrees.

Recommendations

- A. None at this time

Plumbing Fixtures

Observations

- A. Water Closets –Floor mount flush valve. Vitreous china. Manual controls
- B. Lavatories –. Varying types of fixtures are present thru out the building. Mostly wall mount and Vitreous china. Manual operated handles
- C. Urinals – Vitreous china floor mount basin with brass chrome plated with manual flush valve.
- D. Kitchen Sinks – Stainless steel floor mount basin with brass chrome plated manual lever faucets.
- E. Kitchen had ANSUL hood system
- F. General Sinks – Varying types of fixtures are present thru out the building. Stainless steel drop-in basin with manual lever faucets.
- G. Classroom Sinks – Stainless steel and porcelain drop-in basin with brass chrome plated manual lever faucets. Science sinks are very small and do not serve science areas well.
- H. Service Sinks – PVC molded floor mount and wall mount basin with brass chrome plated manual lever faucets and vacuum breaker spouts. Art service sinks do not have plaster traps.
- I. Showers – Stainless steel single and multiply use brass manual lever showers valves.
- J. Electric Water Cooler – Single use with and with and without bottle filling station. Stainless steel wall mounted with coolers
- K. Eye Wash and Showers were present in science rooms and in good condition
- L. Science room has a functioning acid neutralization basin
- M. Auto shop has catch basin
- N. FACE rooms have disposals

Recommendations

- A. Provide plaster traps in art room sinks

HVAC System Review:

The following report is the result of a site visit by Craig Nessman of MSA Professional Services, Inc. that occurred on September 1, 2023. Site observations and interviews with staff were all used in the preparation of this report.

The building was constructed in 2000.

Existing Data

- A. The school building is served by a hybrid hot water heating system consisting of two (2) 2,000 MBH input PK Modu-fire non-condensing boilers and one (1) 2,000 MBH input PK Mach condensing boiler. This system is new for the start of the 2023 heating season – construction of this work was still in progress at the time of the site visit. New hot water pumps were also installed, with a primary/secondary piping arrangement.
- B. The classroom spaces are served by VAV air handling systems with hot water heat. There is no air conditioning in these units, though the main classroom air handling units have a blank section for installation of a future cooling coil. These systems are original to the building.
- C. The offices spaces are served by VAV air handling systems with hot water heat and DX cooling. The associated air-cooled condensing units are mounted on the roof. These systems are original to the building.
- D. The original building had all pneumatic controls. Most of these controls have been removed and replaced with a new Siemens digital control system.

Observations

- A. The hot water boiler plant is brand new. The life expectancy for these boilers is approximately 20 years.
- B. The air handling units are all original to the building and are in good condition. These units are at mid-life of their expected 35-year service life.
- C. The air-cooled condensing units that serve the office area systems are original to the building and in fair condition. These units are at the end of their expected 20-year service life.

Recommendations

- A. Plans should be made for the replacement of the office area condensing units. Consideration should be given to the long-term air-conditioning plans and goals for the entire facility prior to replacing these units. Options for facility wide air conditioning would include:
 - 1. Adding new DX systems to some, or all, of the existing air handling units
 - 2. Adding a new central chilled water system.
- B. Plans should be made for the replacement of the remaining pneumatic controls.



Electrical System Review:

The following report is the result of a site visit by MSA Professional Services, Inc. that occurred on September 1, 2023. Site observations, existing plan review and interviews with staff were all used in the preparation of this report.

The original building was constructed in 2000

Main Electrical Service

Observations

- A. The High School building is fed with one electric service. The service is a SQ D type QED switchboard and installed as part of the original building construction. This service is a 120/208 volt, 3-phase, 4-wire, 3000 amp and is fed from a 300kva pad mounted utility transformer on the East side of the building. The C/T is located near the transformer mounted on the building wall.
- B. The main service panel is in good condition and has space for additional loads, it is located directly opposite the CT enclosure on the east side of the building in a separate electrical room.
- C. The peak demand on the service was not known at the time of the walk through, but based on the size and building square footage, we believe the service size is adequate for this facility.
- D. The serving utility is WPS.

Recommendations

- A. If a large building addition is constructed or construction is located over the service location, a new larger service or relocation may be required.
- B. Consider testing and cleaning the main service gear by a qualified high voltage maintenance company to ensure system is clean and breakers tested to open upon a fault condition.

Panelboards

Observations

- A. The panelboards in the facility are in good condition and can remain.
- B. Panelboards throughout the building do not have Arc Flash Warning Labels indicating available fault current at each panelboard.

Recommendations

- A. The newer Square D NQOD type panelboards are in good working condition, in general have room for additional breakers and can remain. Add to the existing panelboards as necessary.
- B. Complete an Arc Flash Study of the existing electrical system and add arc flash labels to all electrical panelboards. This will increase the safety of personnel maintaining or operating equipment along with occupants in the vicinity of the equipment.

Generator

Observations

- A. An exterior 100 kw natural gas Kohler generator is installed on the East side of the facility in a weatherproof enclosure
- B. One transfer switch and emergency panel serve EM lighting, exits, fire alarm and non-life safety loads. Non Life safety loads are not allowed per the current codes and must be separated

Recommendations



- A. To accommodate the separation add an additional non-life safety branch to the generator and separate non-life safety and life safety loads per code

Interior and Exterior Lighting

Observations

- A. All light fixtures throughout the building are old style fluorescent
- A. Exterior parking lot lighting appeared to be replaced with retrofit LED lamps
- B. Classrooms contain low voltage relay-controlled switching

Recommendations

- A. Replace all fluorescent and exterior fixtures with new LED.
- B. Replace low voltage switching with new 0-10v LED dimmer switching

Emergency Lighting

Observations

- A. Emergency lighting and exit lighting is accomplished through generator backup
- B. We did not verify full egress compliance during our walk through but assume some areas could use upgraded egress lighting to comply with current codes.

Recommendations

- A. Add interior and exterior egress lighting to upgrade to current codes

Wiring Devices

Observations

- A. The receptacles and switches are commercial grade 20 amp. The devices for the most part show signs of general wear and use

Recommendations

- A. Replace wiring devices and plates that are damaged.
- B. Add additional receptacles and circuits as necessary.

Fire Alarm System

Observations

- A. The fire alarm is an EST addressable system. The system head end is newer than the original building construction. This system was code compliant at time of install and grandfathered into current code
- B. The system has a cell and IP dialer
- C. There are pull stations by exterior doors and horn strobe units in public areas of the facility. Classrooms only have strobes
- D. The annunciation devices are original to the system installation with the building construction

Recommendations

- A. Extend as required



Clock System

Observations

- A. The existing clock system consists of a synchronized American Time clocks

Recommendations

- A. Extend as required

Public Address System

Observations

- A. The intercom system consists of amplifiers and zone paging serviced by Camera Corner. The main rack houses the amps and program devices. The system is connected the phone system to allow for paging
- B. A Sync IQ controls bells

Recommendations

- A. As this system ages consider an IP head end replacement.

Data

Observations

- A. Two data racks feed all the data drops in the facility. Most of the drops are Cat 5 type, we did note some newer Cat 6 cabling installed in some areas. The building is fed with fiber and connected to the Elementary School
- B. Fiber connects both data racks with Single Mode fiber
- C. The building has wireless access points but not full coverage.

Recommendations

- A. Additional CAT6 cable can be added to rooms as needed.
- B. Expand the racks and data rooms as needed.

Keyless Entry System

Observations

- A. There is a security door access control system in the facility that serves 6 exterior doors around the perimeter of the facility. The system was installed and maintained by Martin Security. Owner indicated it is operating properly
- B. A separate security system with motion detectors is installed and maintained by LaForce. This is an arm/disarm system and is currently in use.

Recommendations

- A. Extend as required

CCTV System

Observations



- A. There is an existing GeoVision IP based closed circuit system in the building.
- B. There appears to be adequate coverage through both the interior and exterior of the facility.

Recommendations

- A. Add additional IP cameras as required.