REVISED AND UPDATED NOVEMBER 2018

TIMPVIEW HIGH SCHOOL EVALUATION

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BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

The following report is the architectural evaluation of Timpview High School for Provo School District. The evaluation took place in November 2012.

This report describes the current conditions of the building and its different components, as well as recommending possible updates based on these current conditions.

In an effort to provide the School Board with a clear understanding of the condition of the school, we have a rating system used to add clarity to the information provided. This system rates the conditions of the school from 1 to 5.

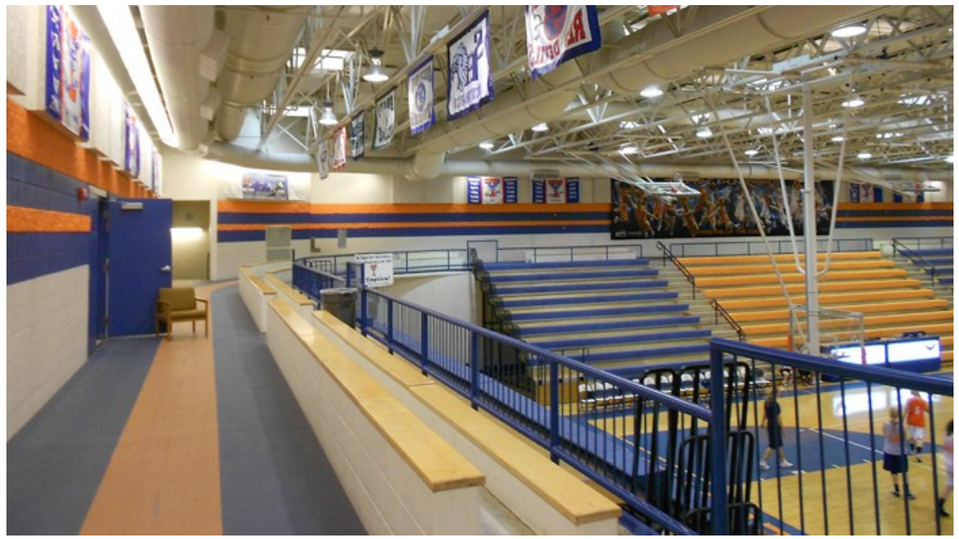
RATING SYSTEM

RATING	EXPLANATION
1	Indicates an immediate need for replacement
2	Indicates poor condition; a replacement is needed within the near future
3	Indicates good or average condition
4	Indicates above average condition; has reached midlife within building's life cycle
5	Indicates excellent condition; usually within five years of installation

The Timpview High School was built in 1975 and has been added onto approximately five times to date.

There has been a shop addition, a classroom addition, a wrestling room addition, the addition of the Thunder Dome, as well as the most recent addition of the weight room.

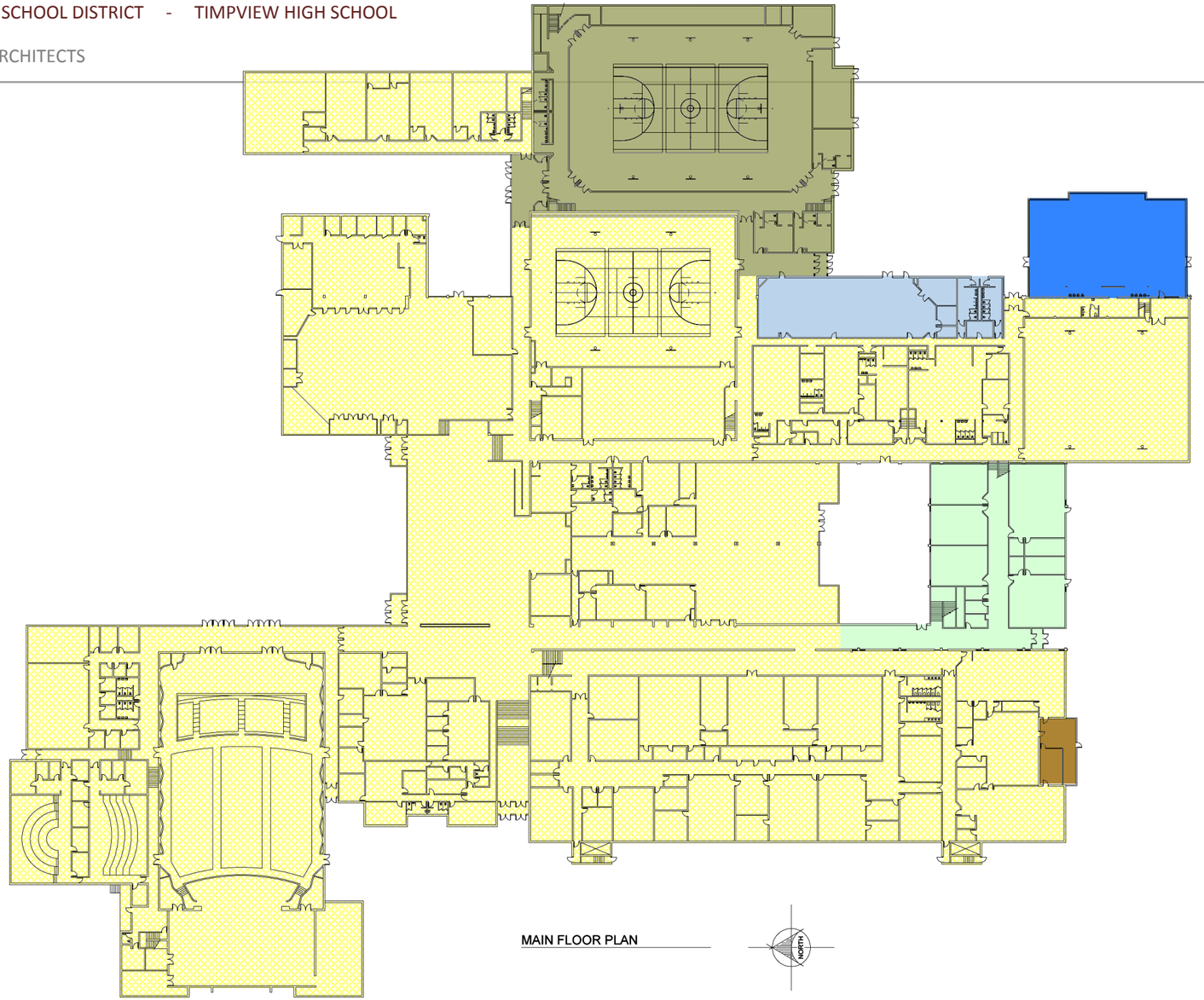
There has also been improvements to the ball fields including a coach's building adjacent to the football fields.



BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS



MAIN FLOOR PLAN

TIMPVIEW HIGH SCHOOL

Timpview High School was constructed in 1975. There have been other additions and renovations throughout the years (see list below).

The original construction of the building consists of reinforced masonry with double tee and open web joist roof structure.

Existing Building Data	
Main Building (Main Level)	248,274 Sq. Ft.
Main Building (Upper Level)	131,260 Sq. Ft.
Basement under stage	8,768 Sq. Ft.
3rd Floor above shops	4,957 Sq. Ft.
Coaches Field Offices	??? Sq. Ft.
Total Square Footage:	**393,259 Sq. Ft.**

Current Student Enrollment 1954 students

1975 - Main Building Original construction
1982 - Vocational shops addition
1990 - Wrestling room Addition
1991 - Classroom Addition
1997 - Vocational shops addition
1999 - Thunder dome Gym Addition
2004 - Catering Addition
2009 - Coaches Field offices
2011 - Weight Room Addition

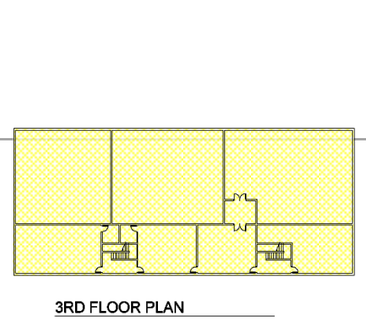
BUILDING AREA DIAGRAM

1975 | 1982 Addition | 1990 Addition | 1991 Addition | 1997 Addition | 1999 Addition | 2004 Addition | 2009 Addition | 2011 Addition

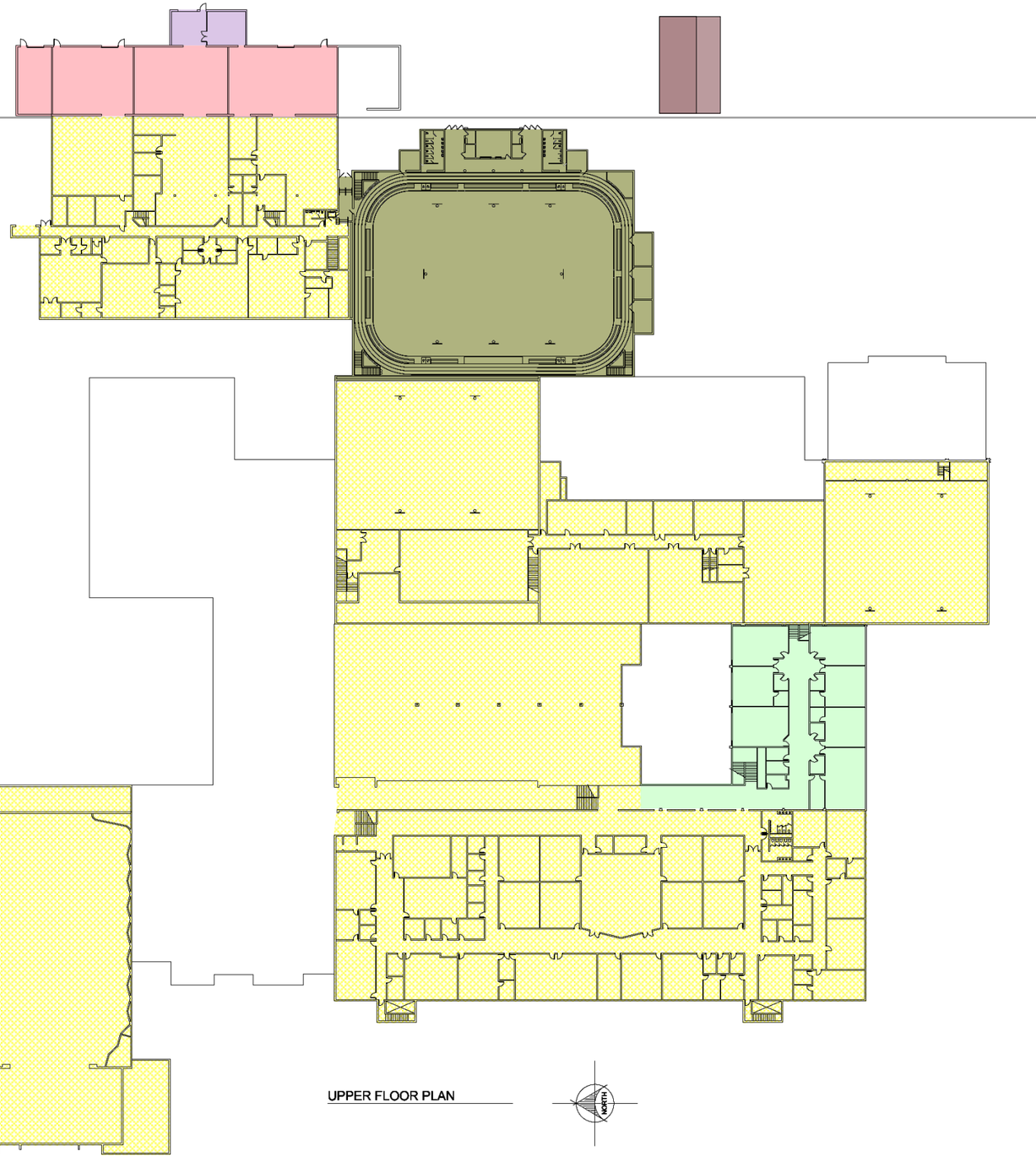
BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

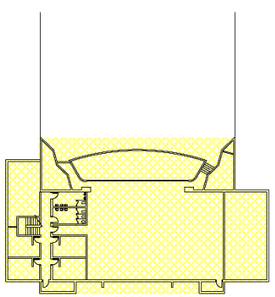
KMA ARCHITECTS



3RD FLOOR PLAN



UPPER FLOOR PLAN



BASEMENT FLOOR PLAN

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

ROOFING INFORMATION - Roofing areas.

RECOMMENDED REPLACEMENT SPAN

- The Roofing areas comprise of five different areas including the original ballast roof over the North and south gyms and Dance rooms. The newest roof would be the membrane over the 2011 weight room addition.

ROOF ACCESS

- There are Five roof hatch access point on the roof with ample ladders that provide access to all the roof surfaces. Some of the ladders on the original 1975 building are in need of repair to secure them to the walls.

ROOF CONDITION

- The condition of the roof is overall in average condition. There are a few ponding issues and some roof drainage issues. The ballast roof area is the area in need of replacement.

PROBLEM AREAS

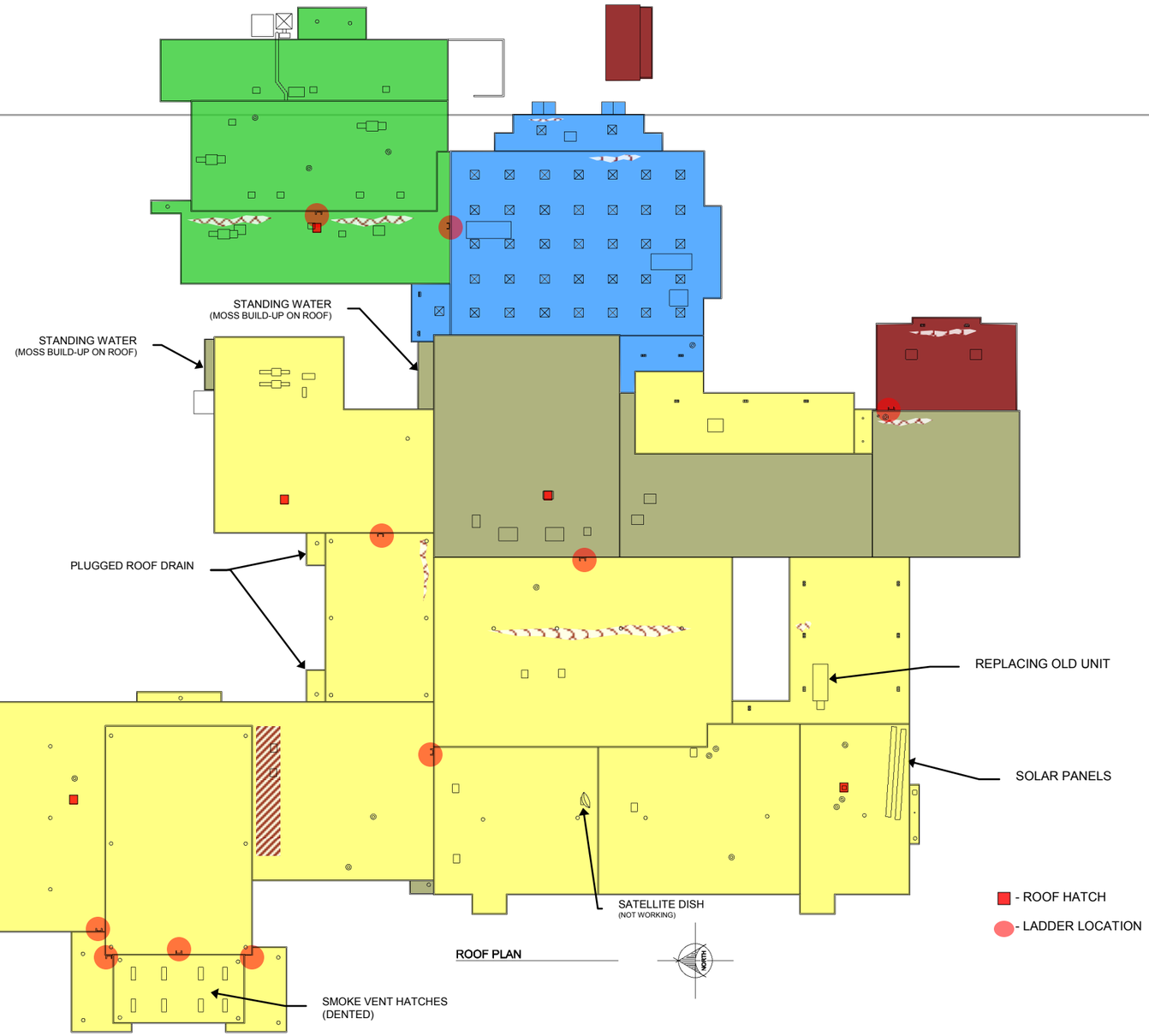
- There are several roof drains that are plugged and causing standing water on the roof.
- There are some small roof areas that have standing water and have grown dirt and moss. These areas would need to be cleaned off and re-roofed.
- There is a satellite dish on the roof that is not working.

UPDATE 2018

- The rock ballast roof is the original roofing on the school and is in need of replacement.
- Some of the skylights are leaking.
- Some of the roof drains are plugging and in need of repair.
- Overall roof condition is below average because of the multiple types of roofing on the building.
- Roof insulation could be upgraded.

ROOFING
~~3~~

Updated Rating
1.7



ROOFING YEAR DIAGRAM

Original Ballast Roof
0-5 yr. Replacement

1991 Membrane Roof
0-10 yr. Replacement

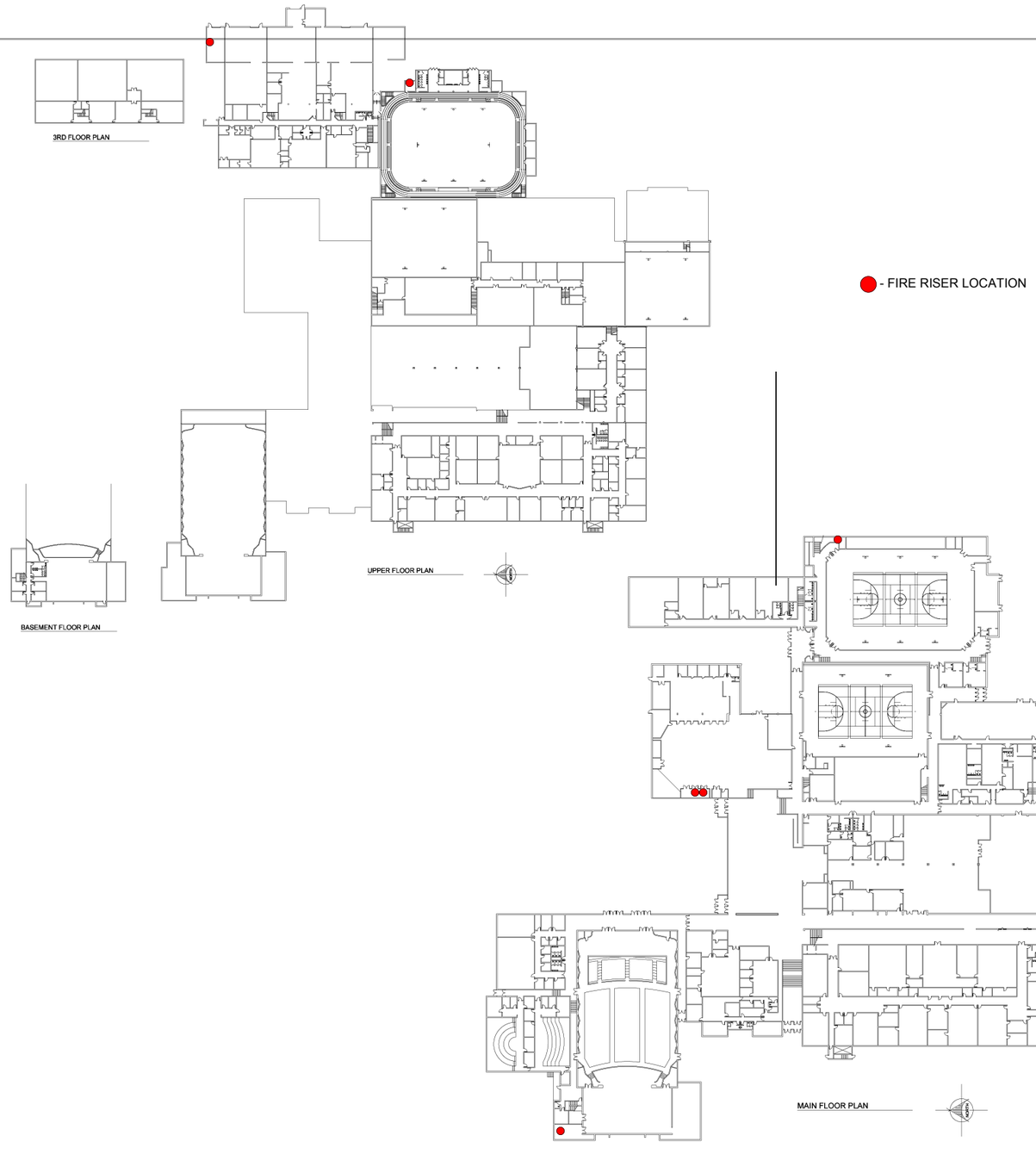
1997 Membrane Roof
5-10 yr. Replacement

1999 Membrane Roof
5-10 yr. Replacement

2011 Membrane Roof
20+ yr. Replacement

Coated Roofing
0-5 yr. Replacement

Ponding Puddle



FIRE PROTECTION INFORMATION -

FIRE RISER LOCATION AND COVERAGE AREAS

FIRE SPRINKLED AREAS

- The entire school is fully covered by Fire sprinklers. Every area and addition is covered.

FIRE RISER LOCATIONS

- There are several fire risers in this school (Approx. 7 Risers) that are all functioning. The locations are shown on the adjacent plan. (See plan)

UPDATE 2018

- Fire Sprinkler system is older and has exceeded it's 40 year life span per State Marshall's guidelines.

FIRE PROTECTION

~~3~~

Updated Rating
0.75

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

GENERAL INFORMATION - BUILDING ACCESS AND CIRCULATION

ADA ACCESSIBILITY

- The general accessibility of the school is somewhat limited in the fact that the school is sited on a hill. The access is adequate, however, the main entrance is inaccessible directly because of the staircase.

STAIRS, RAMPS, ELEVATORS, etc.

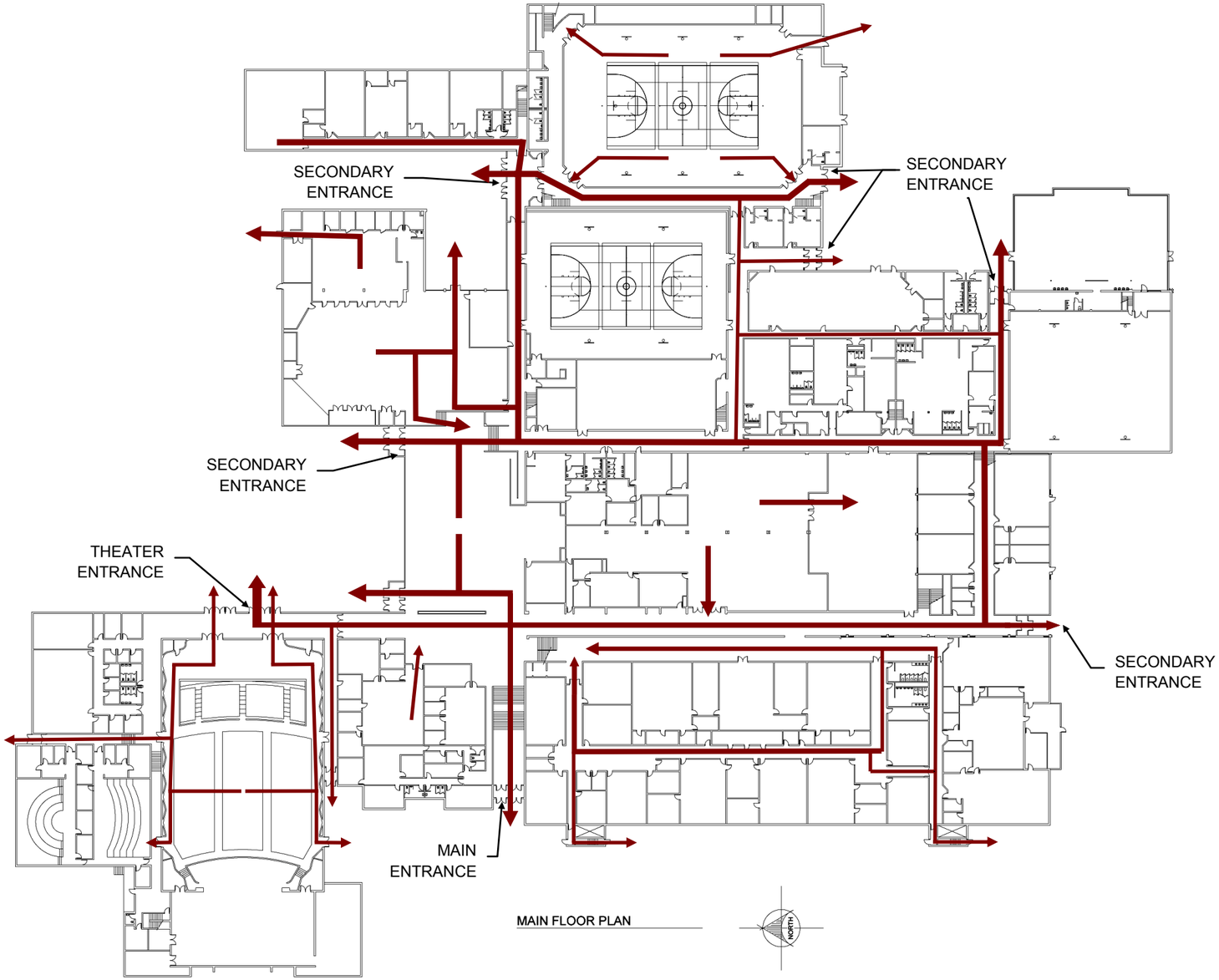
- Stairs are all in good condition with minor cosmetic issues. The hand rails and guard rails are sufficient.
- The ramps are in good condition and meet code. There are some floor areas at the entrance at the front of the auditorium with inaccessible or too steep of floor slopes at the doors.
- There are minor elevators and lifts employed around the campus that all seem to be in working order.

CORRIDOR CIRCULATION

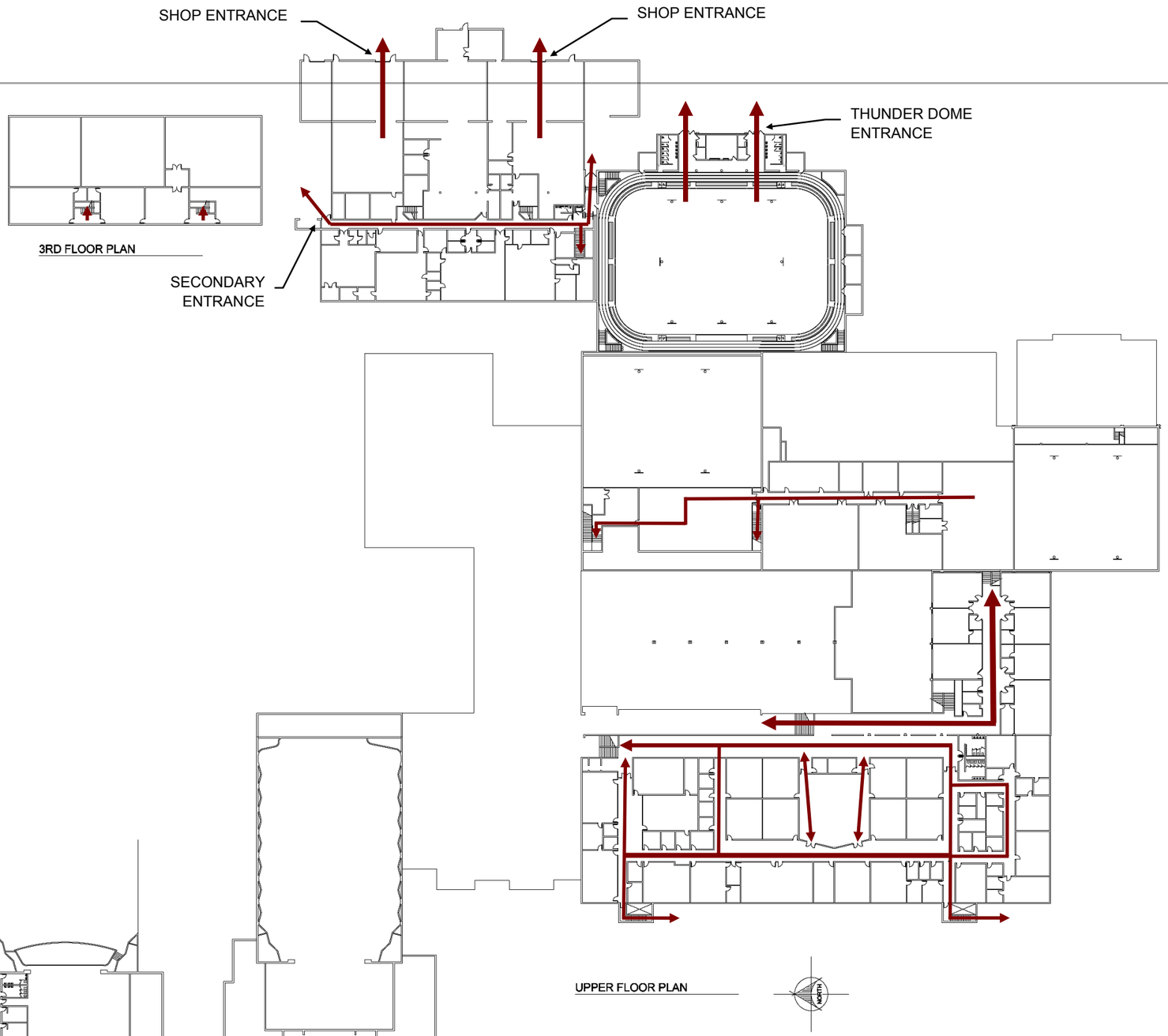
- The circulation throughout the building appears to be adequate. Most of the corridors are 8’-0” wide or larger, with the exception of the single loaded corridor that provides access to the locker rooms and upstairs dance room. These corridors are narrow.

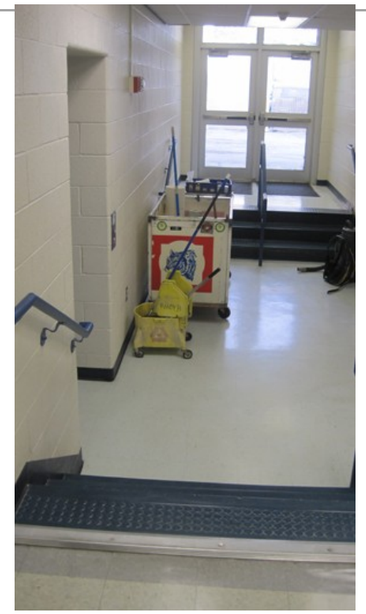
EGRESS

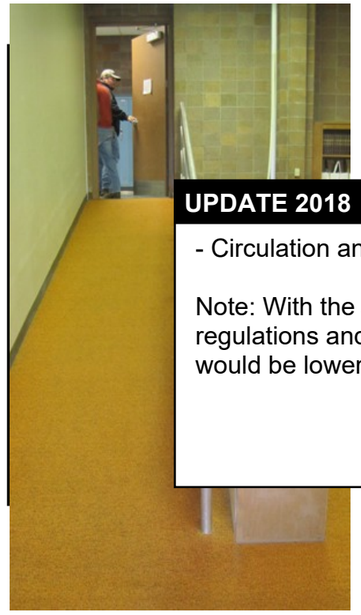
- There are sufficient exits on the campus that provide egress of students. However, ADA egress may be difficult due to the slope and multi-story building on the site.



MAIN FLOOR PLAN







UPDATE 2018

- Circulation and egress have not improved.

Note: With the advent of the new secure campus regulations and updates, the circulation rating would be lower.

CIRCULATION

~~2.5~~

Updated Rating
2

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

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BUILDING SECURITY

SURVELANCE CAMERAS

- The school campus has been equipped with new security cameras as of 2013. The cameras have been installed in the following areas around campus shown on the adjacent plan.

SECURITY OFFICE

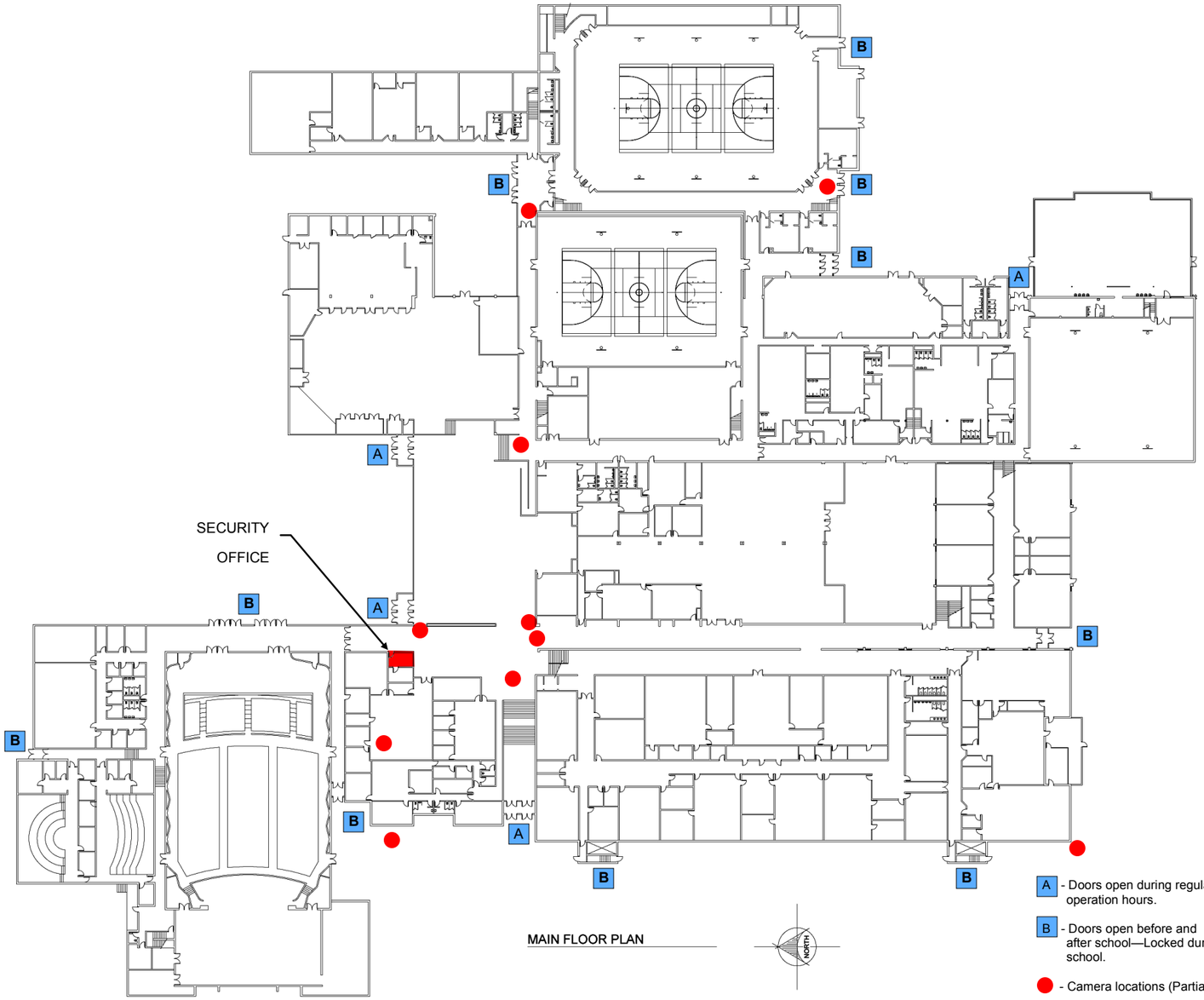
- The School has designated the following office as the security office of the school, see the adjacent plan. This office will be equipped with the surveillance monitors and will be the HQ for the on-site officer.

LOCKDOWN

- The school has a plan in place for a Code Red Lockdown procedure that will employ the use of the intercom and instructions have been given to the students, staff, and the on-site officer as to what needs to happen.

ACCESS

- This school is an open campus that at least 20% of the entrance doors are open during school hours. The main entrance is always open as well as the north entries to the commons. The east door adjacent to the new weight room is unlocked at certain times for classes during the day.
- Please see the adjacent plan for camera locations and lockdown access.

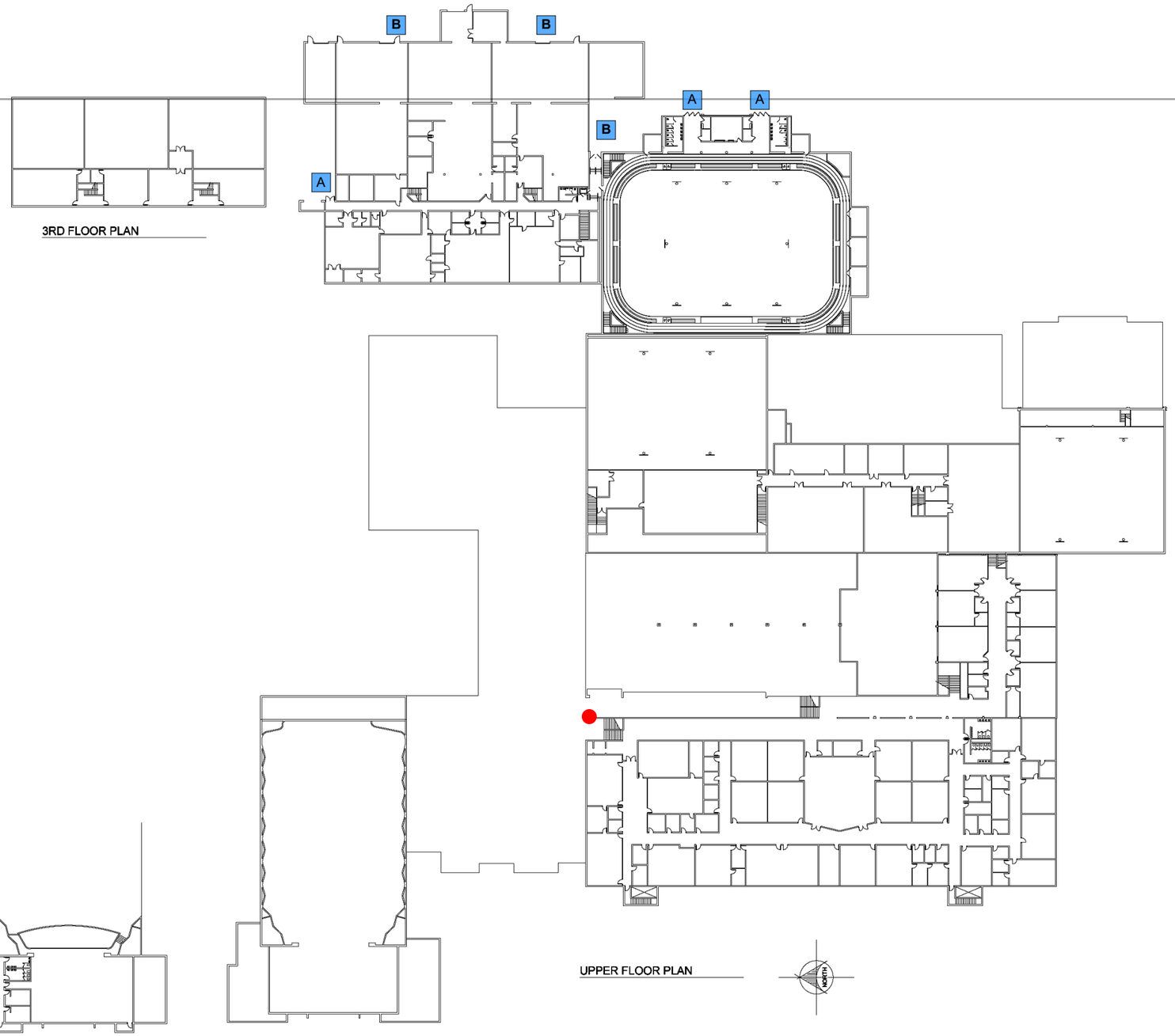


MAIN FLOOR PLAN

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS



UPDATE 2018

- With the updated interest in school security the rating decreases because of the poor location of the main office, the non-secure entries and the amount of non-secure entries across the entire school campus.
- Efforts should be made to secure this campus with lockable doors on a schedule to limit the amount of people entering in the campus at multiple locations.

SECURITY

~~2.5~~

Updated Rating
1

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

DIVISION 2 - SITE AND UTILITIES

CIRCULATION/ SAFETY

- The circulation appears to relatively well. A dedicated bus drop-off zone is located to the North of the auditorium. There are three dedicated drop-off zones for parents located to the West of the main entrance. Two of the zones do require the students to cross the parking lot to get to the loading area.

ASPHALT / CONCRETE

- The asphalt parking areas for the most part are in decent condition.
- The main student parking area (north lot) asphalt does show some moderate cracking, however most of the other asphalt has minor cracking. All paint stripping should be lengthened to the standard 20'-0" deep stalls when it gets repainted.
- The faculty parking area (northwest lot) asphalt is in good condition.
- The drop-off / parking area (west lot) asphalt has some minor cracking.
- The driving range asphalt is in good condition.

SPRINKLING SYSTEMS

- The sprinklers appear to be in good condition. However looking at aerial photographs of the site many areas appear to be dry or not evenly covered. Water times may have also been stepped down to prevent water from affecting the building foundations (contributing to leaking).

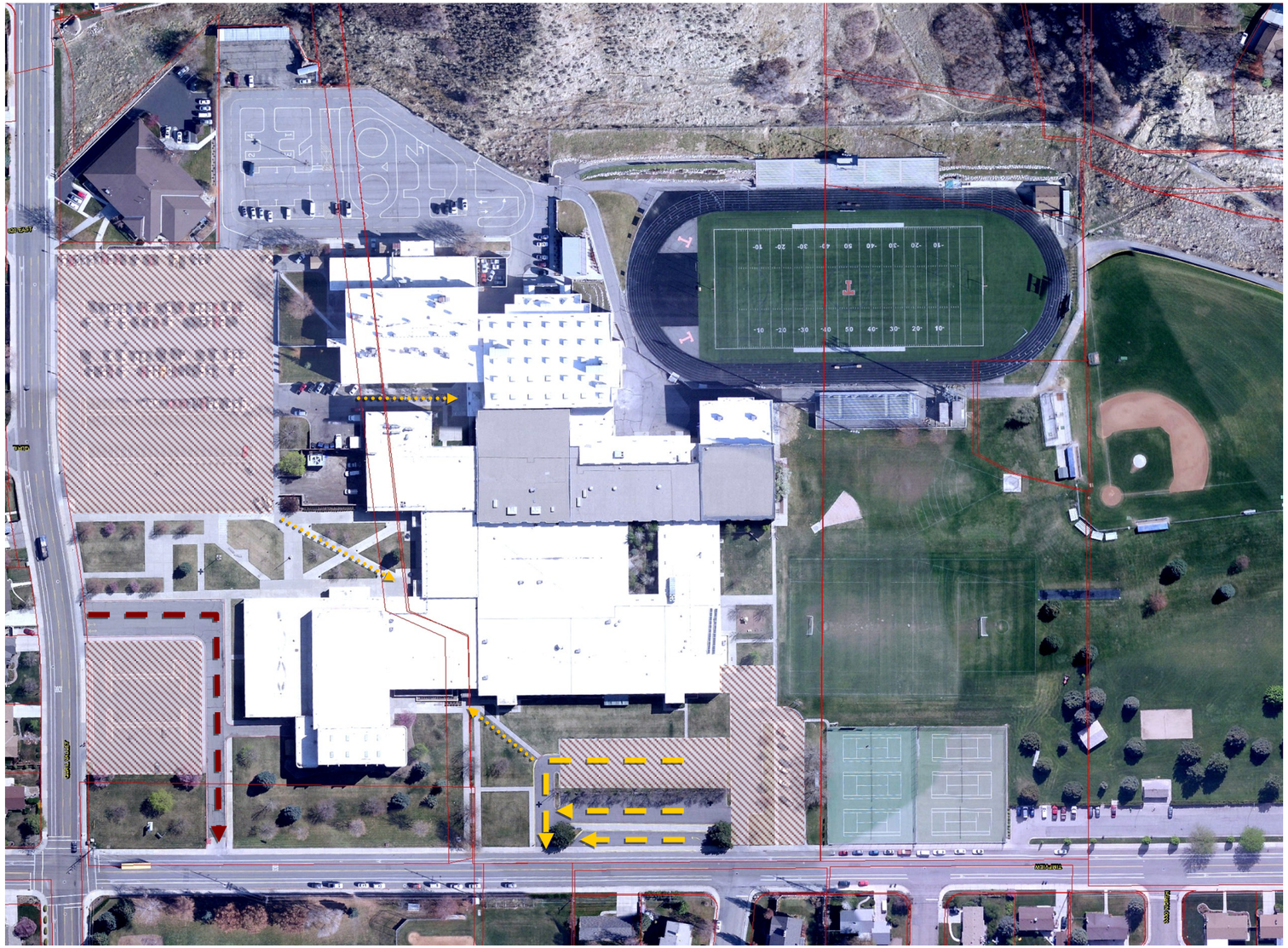
FENCES AND GATES

- Most of the fences and gates around the property are in decent condition. Very few gates need to be adjusted or replaced.

PARKING

- **Parking Stalls** – There are three large parking areas which appear to handle the faculty/staff and student needs. However the main student parking lot has a very steep grade across it's entirety. Snow removal and ice control is very difficult at these grades but must be effectively cleaned for safety.

- **ADA accessibility** – There appears to be ADA access routes only from the student parking lot. The other two parking areas do not appear to have ADA access routes.



SITE LEGEND

PARKING | BUS DROP-OFF | PARENT DROP-OFF | ENTRANCE/EGRESS | -

DIVISION 2 - SITE AND UTILITIES (continued…)

SPORTS FIELDS

- **Football** – The existing football is an artificial turf field. The turf has been down for many years and should be replaced soon. It should be noted that there may be a greater crown in the field than is typically installed with artificial turf.
- **Track** – The existing 8 lane track located around the artificial turf football field. The track has some cracking and deterioration around the edges.
- **Softball** – This field was is located across the street to the west of the school. It appears to be in good condition.
- **Baseball**– This field was built in the last few years appears to be in great condition.
- **Tennis** – The existing tennis courts appear to be in decent condition.

UTILITIES

- **Drainage** –
  - **Main student parking area -** appears to drain properly, additional drain boxes would help alleviate puddles at the low end. Some curb and gutter repair would also help direct the water better
  - **Faculty parking area -** appears to drain properly
  - **Drop-off / parking area -** appears to drain properly
  - **Driving range -** appears to drain properly, however additional measures should be taken to prevent the run-off from affecting the school below.
  - **Baseball / Softball -** appears to drain properly
  - **Softball -** appears to drain properly
  - **Practice field -** appears to drain properly
- **Compounds** – There is an automotive class storage compound located to the south of the shops. It is completely full, it should be cleaned up a bit. There is also a mechanical compound located south of the student parking lot. There is a very steep drive entering the areas and may be hazardous to use during poor weather.
- **Underground Utilities** – There may be some problems with the drainage system that takes care of the east side of the building. No other problems were noted.

UPDATE 2018

- With the updated interest in Site and campus security the rating decreases because of the poor visibility of areas across the entire school campus.

DIVISION 2
~~2.5~~
Updated Rating 1.5

DIVISION 3 - CONCRETE

CAST-IN-PLACE CONCRETE

- The concrete floors appear to be in good condition, though evidence of some stress cracks in the concrete were found. These are minor. It is recommended that the floors be patched, repaired, and resealed or repainted.

TILT-UP CONCRETE

- The double T roof structure seems to be in good condition visually. The spray fire coating on the double Ts in the north and south gymnasiums are very poor and some of the fire proofing has fallen off and onto the gym floor causing a hazard to the student and public. See structural evaluation for further information.

UPDATE 2018

- The concrete is only 6 years older.
- more of the fire proofing has fallen of the concrete double t's in the gyms.

Figure 1.

DIVISION 4 - MASONRY

CONCRETE MASONRY UNITS

- The concrete block on the interior is overall in good condition.

BRICK

- The exterior face brick is in good condition. There are some areas to be pointed up and grouted. There are a few areas that have holes in the brick and are in need of cleaning. There are some stress cracks in some of the corners with exposed rebar. See structural evaluation for further information.

MORTAR CEMENT

- The mortar is in good condition. It is recommended that it be patched, repaired, and pointed-up.

UPDATE 2018

- Cracks in the masonry pointed out in the previous evaluation have grown over the last 6 years.

- Overall the masonry is average but some areas are a concern. See structural update.

Figure 2.

DIVISION 3	DIVISION 4
~~3~~	~~2.7~~
Updated Rating 2.5	Updated Rating 2

Figure 1.

Figure 2.

DIVISION 5 - METAL

METAL STAIRS/ FABRICATION

- There are a couple different conditions and materials for the stairs on this project.
- Steel pan filled with concrete. These appear to be in good condition. The concrete could be cleaned and sealed and the metal could be repainted.
- Terrazzo stair treads all seem to be in good condition with the expected amount of wear on the stair.

RAILINGS

- The railing at the stairs and balcony are in good condition. The hardwood and infill panels are in good condition. There is one area that it is recommended to add a fill piece to remedy a safety concern.

UPDATE 2018

- Metal stairs, railings and other areas have not changed. They are 6 years older.

DIVISION 6 - WOOD AND PLASTICS

CABINETS

- The cabinets are old and showing signs of their age and use. They could be replaced, though not required.
- The cabinets in the science classrooms and labs are in very poor condition and should be upgraded and replaced.
- The cabinetry in the pottery studio and classroom are in very poor condition and cleaned and replaced.

CABINET HARDWARE AND LOCKS

- The locks appear to be in fair condition. They should be replaced with the updated cabinets.

COUNTERTOPS

- The countertops should be replaced when cabinets are updated.

UPDATE 2018

- Cabinetry and mill work is older and in bad repair across the school. Upgrades are in need.
- Counter tops should be replaced with cabinets.

DIVISION 5	DIVISION 6
~~3~~	~~2.2~~
Updated Rating 2.75	Updated Rating 1.6

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

WATERPROOFING/ WATER REPELLENTS

- The foundation appears to be properly sealed but due to the age of the original building the waterproofing could be at the end of its life. Some leaks were discovered in the basement storage area and some areas in the site behind the large retaining walls. The existing face brick needs to be sealed.

BUILDING INSULATION - (WALL)

- The building was built in 1975 with adequate insulation.

BUILDING INSULATION - (ROOF)

- The building was built in 1975 with adequate roof insulation.

TAR / GRAVEL ROOFING

- The current ballast roof remains over some of the 1975 building. There are a few plugged drains, but no sign of leaks.

METAL FLASHING AND TRIM

- The metal is in good condition. The existing metal should be painted.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (continued…)

ROOF PENETRATIONS

- Despite a few plugged drains, all the roof penetrations look good.

CAULKING / JOINT SEALANTS

- There are areas where mortar cracks should be sealed in the masonry.

UPDATE 2018

- The rock ballast roof is the original roofing on the school and is in need of replacement.
- Some of the skylights are leaking.
- Some of the roof drains are plugging and in need of repair.
- Overall roof condition is below average because of the multiple types of roofing on the building.
- Roof insulation could be upgraded.

DIVISION 7
~~2.4~~
Updated Rating 1.7

DIVISION 8 - DOORS AND FRAMES

STEEL DOORS AND FRAMES

- The steel doors and frames are in good shape but need to be sanded, painted, and have the existing hardware removed and replaced.

WOOD DOORS

- The existing wood doors are in operable condition, but could use some cosmetic attention..

ACCESS DOORS AND FRAMES

- The Access doors all appear to be in good working condition. They need to be cleaned, prepped, and painted.

ENTRANCES

- The aluminum entries are in good condition and functioning, but it is recommended that they be replaced with to bring them up to new energy codes.

DOOR HARDWARE

- The majority of the door hardware is in good condition, but could be removed and replaced. New closers, kick plates, strikes, lock sets, and seals. The existing hardware is rusting and are in poor condition. Some of the metal door frames will need to be replaced because of water damage.

GLASS / GLAZING

- See comments in the entrances section.

UPDATE 2018

- Doors and frames have remained the same in the past 6 years.
- Same needs should be addressed, re-furbish or replace unfit doors and windows.

DIVISION 8

~~2.4~~

Updated Rating
2.07

Figure 1.

Figure 2.

Figure 1.

Figure 2.

DIVISION 9 - FINISHES

GYPSUM BOARD

- The gypsum board overall is in good condition. There are ceilings in the locker and shower rooms that nee to be either removed or patched, re-paired, and repainted.

CERAMIC TILE

- The ceramic tile, both the floor and walls, is in overall good condition in the newer additions.
- The original building has restrooms tile and locker room tile that is in fair condition and may need to be repaired or replaced.

ACOUSTICAL PANEL CEILINGS

- The acoustical tile is in fair to good condition. In some areas, there is tile that needs to be replaced from water or other damage. It appears that the suspended ceiling system needs to be brought up to the current seismic codes.

PAINTING AND JOINT SEALANTS

- The painting is showing damage and age. It is recommended that it be up-dated throughout the building.
- The education wing areas in the

FIRE PROOFING

- The fire proofing is falling off in the practice gymnasiums. It has also turned black where supply ducts have spit out black dust.

DIVISION 9 - FINISHES (continued…)

HARDWOOD FLOOR

- The wood floors in the racquetball courts appear to be good condition. They should be cleaned, sanded, and re-finished.

RESILIENT FLOOR TILE (V.C.T.)

- It was noted that the V.C.T. flooring is in okay condition.

CARPETING

- The carpeting though out the building is in fair condition. It shows signs of wear and stains. Optional replacement.
- The epoxy poured, painted with Fleck floors, like those found in the Commons area, are in okay condition and not coming up, but aesthetically look terrible.

Figure 1.

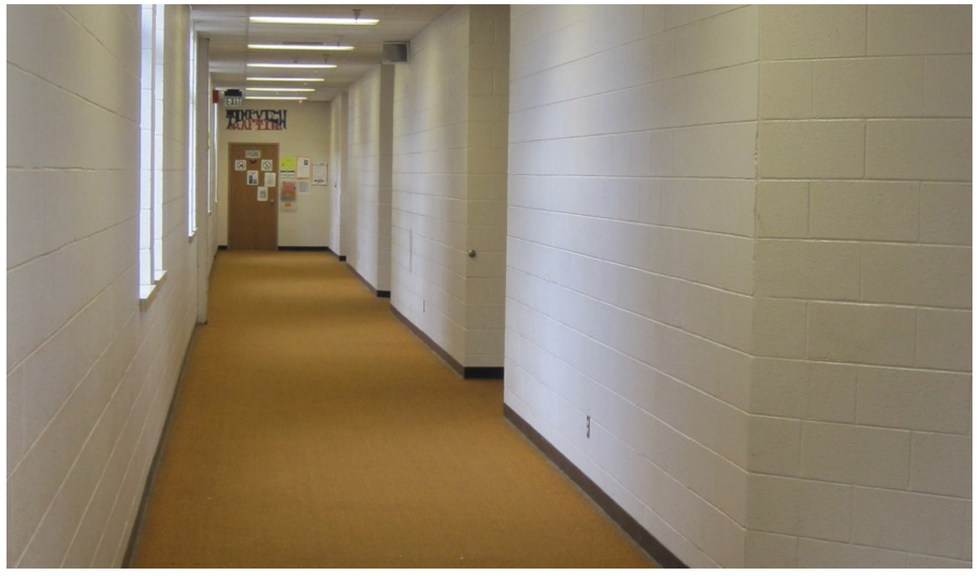


Figure 2.

UPDATE 2018

- The finishes have ages and have has some updating to them such as new paint, new carpet and flooring, in certain areas of need.
- Across the school, except for the newer additions, the finishes are in need of updating or replacement.

DIVISION 9

~~2.6~~

Updated Rating
1.9

Figure 1.

Figure 2.

DIVISION 10 - SPECIALTIES

VISUAL DISPLAY SURFACES

- The display surfaces appear to be in good condition. They could be replaced as required or at time of remodel.

TOILET COMPARTMENTS

- The toilet compartments are generally in good condition, but vary in different areas of the building.

LOUVERS / VENTS

- The louvers and vents appear to be in good working order. They do need to be cleaned and painted.

SIGNS

- The signs through out the building appear to be in good condition.

LOCKERS

- The lockers are in good condition.

FIRE PROTECTION SPECIALTIES (Extinguishers, etc.)

- The fire protection system all seem to be in good working condition.

TOILET AND BATH ACCESSORIES

- The existing restrooms need to have grab bars installed and brought up to ADA requirements. The mirrors, soap and towel dispensers seem to be in good condition.

UPDATE 2018

- Visual display boards have been updated over the past few years.
- Toilet compartments need to be updated. Conditions vary across the school
- Lockers are in fair to poor condition.
- Toilet and bath accessories are in need of repair.

DIVISION 10
~~2.4~~

Updated Rating
1.9

DIVISION 11 - EQUIPMENT

STAGE CURTAINS

- The curtains are in good condition.

PROJECTION SCREENS

- The projection screens are in good, working condition.

FOOD SERVICE EQUIPMENT

- The food service equipment varied throughout, but in general, seemed to be in good condition.

GYMNASIUM EQUIPMENT

- The gymnasium equipment is in good condition, with the exception of the south practice gym and wrestling room under the dance room, which is in poor shape

Figure 1.

Figure 2.

UPDATE 2018

- The equipment has aged but in working condition.
- The theater equipment is in need of repair or replacement.
- The gym equipment has aged but in working condition.

DIVISION 11
~~2.8~~

Updated Rating
1.75

Figure 1.

UPDATE 2018

- The auditorium seating is original to building and should be looked at to replace.
- Floor mats and walk-off entry mats are in need of replacement.

Figure 2.

UPDATE 2018

- Fire Sprinkler system is older and has exceeded it's 40 year life span per State Marshall's guidelines.

DIVISION 12 - FURNISHINGS

FLOOR MATS

- The floor mats at the main entrance is showing wear and high traffic. Should be replace. Floor mats throughout the school vary, but the ones in the 1975 area of the building definitely need to be replaced.

FIXED AUDIENCE SEATING

- The fixed audience seating is original to the building, but in good condition.

DIVISION 13 - SPECIAL CONSTRUCTION

FIRE SPRINKLING SYSTEM

- The fire sprinkling system is in good condition.

FIRE RISER

- The fire riser is in good condition.

DIVISION 12	DIVISION 13
~~2.9~~	~~3~~
Updated Rating 2.13	Updated Rating 0.75

6. ASBESTOS REMOVAL (MAIN FLOOR)

A. Asbestos

According to the Asbestos report provided by the school district from R&R Environmental, the following areas have been found and noted on the adjacent plans showing the following:

1- ACM 12” Floor tile, Lt. Grey w/ Tan and cream streaks, and dark gray mist.

2- ACM 12” Floor tile, Tan w/ white and brown flecks, sparse pattern.

3- ACM Linoleum backing, under orange, olive, and cream mosaic linoleum.

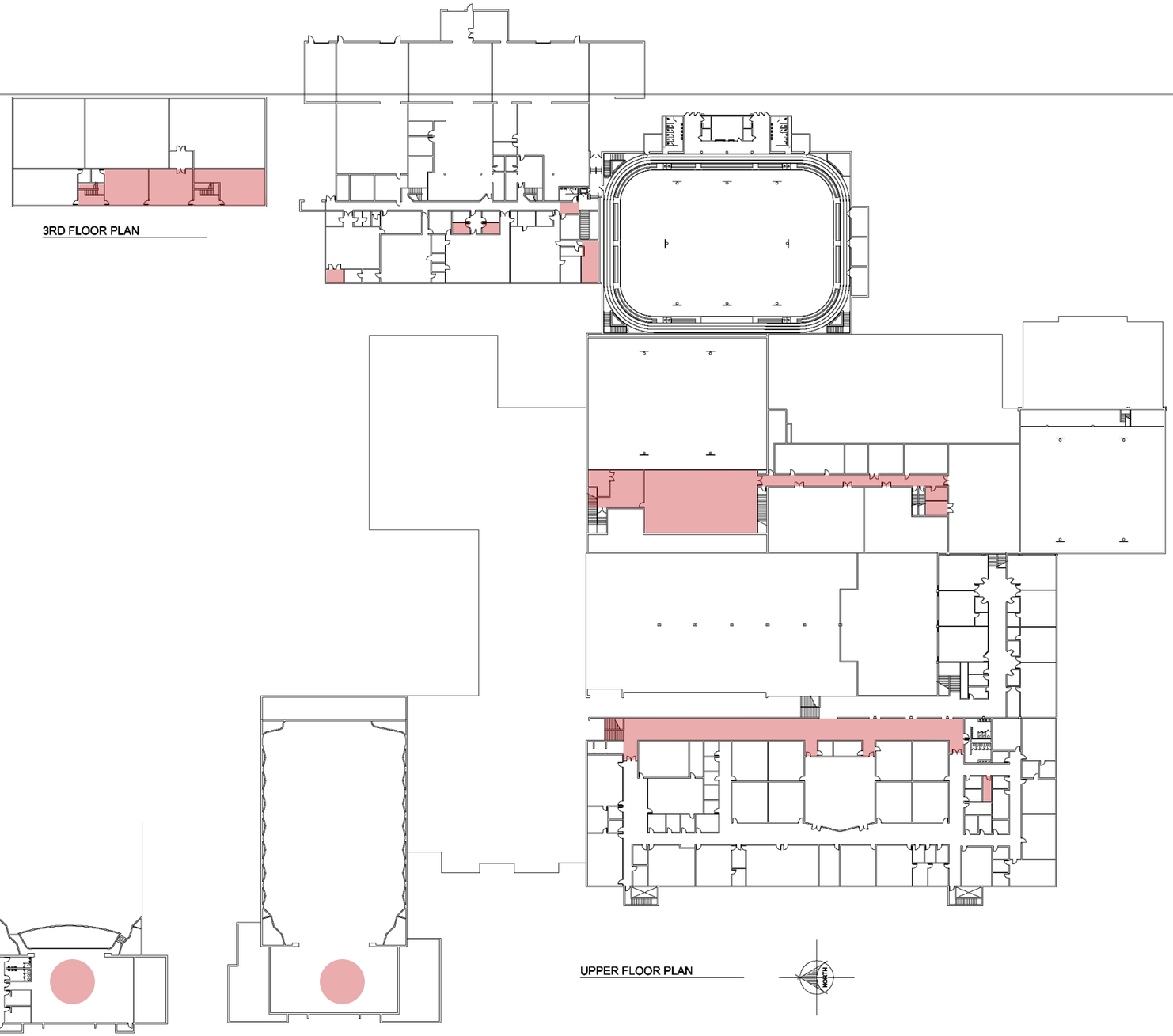
4– ACM Sinks.

5– Transite Tables/counter tops.

6– Transite vent hood.

7– ACM-Wired light fixtures (stored or otherwise)

Note: For full asbestos report, contact the school district



6. ASBESTOS REMOVAL (UPPER FLOOR)

A. Asbestos

According to the Asbestos report provided by the school district from R&R Environmental, the following areas have been found and noted on the adjacent plans showing the following:

1- ACM 12” Floor tile, Lt. Grey w/ Tan and cream streaks, and dark gray mist.

2- ACM 12” Floor tile, Tan w/ white and brown flecks, sparse pattern.

3- ACM Linoleum backing, under orange, olive, and cream mosaic linoleum.

4– ACM Sinks.

5– Transite Tables/counter tops.

6– Transite vent hood.

7– ACM-Wired light fixtures (stored or otherwise)

Note: For full asbestos report, contact the school district

UPDATE 2018

- No additional asbestos has been removed or mitigated since the 2012 evaluation.

ASBESTOS RATING

~~2.5~~

Updated Rating
2

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

LIFE SAFETY EVALUATION

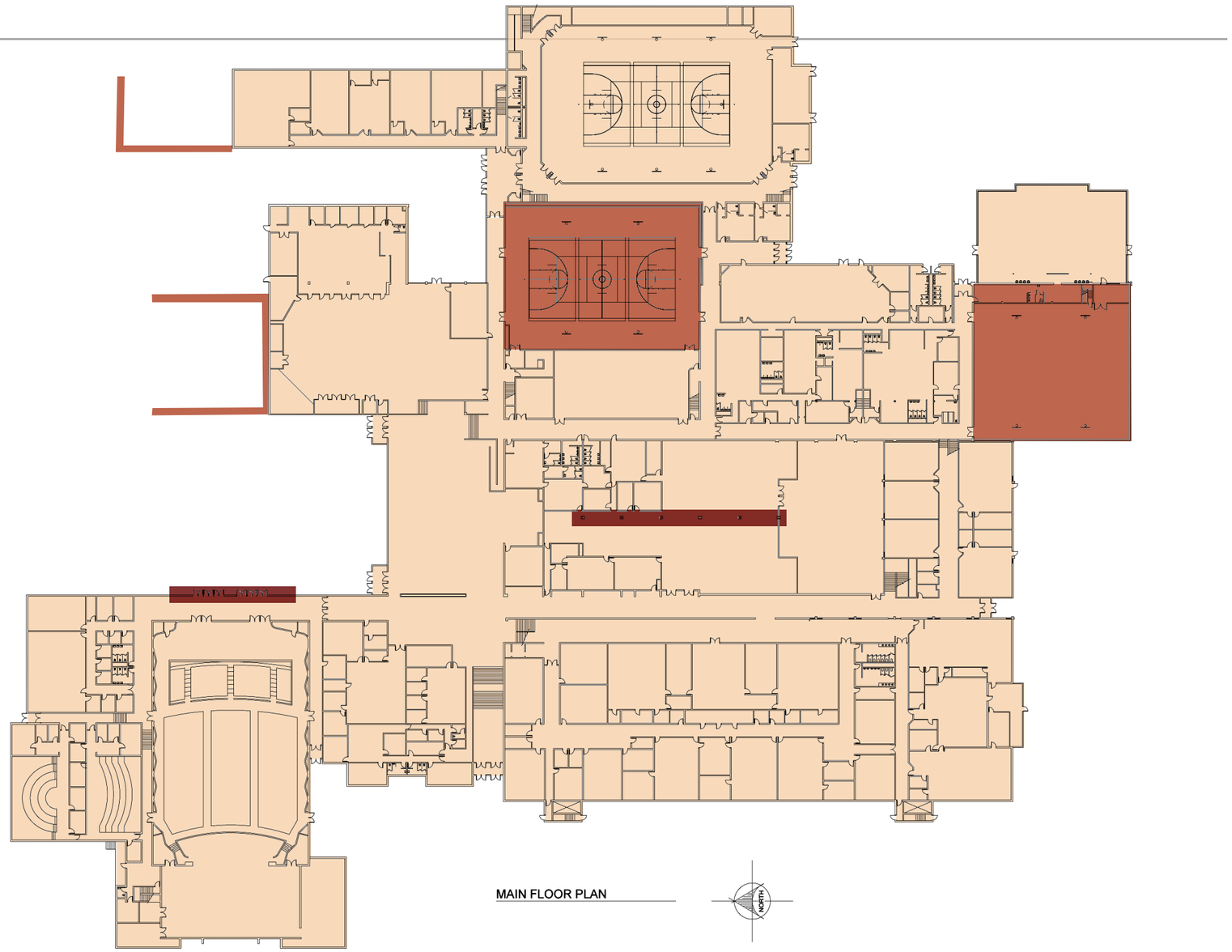
(SEISMIC, AND SAFETY)

CATEGORIES THAT RATED 1.0 or 2.0:

1. Seismic Hazards – Slender Columns.
2. Misc. – Settlement.
3. Misc. – Gym Roof Tees.
4. Misc. – Loading Dock Retaining.
5. Misc. – Exterior Block Deterioration.

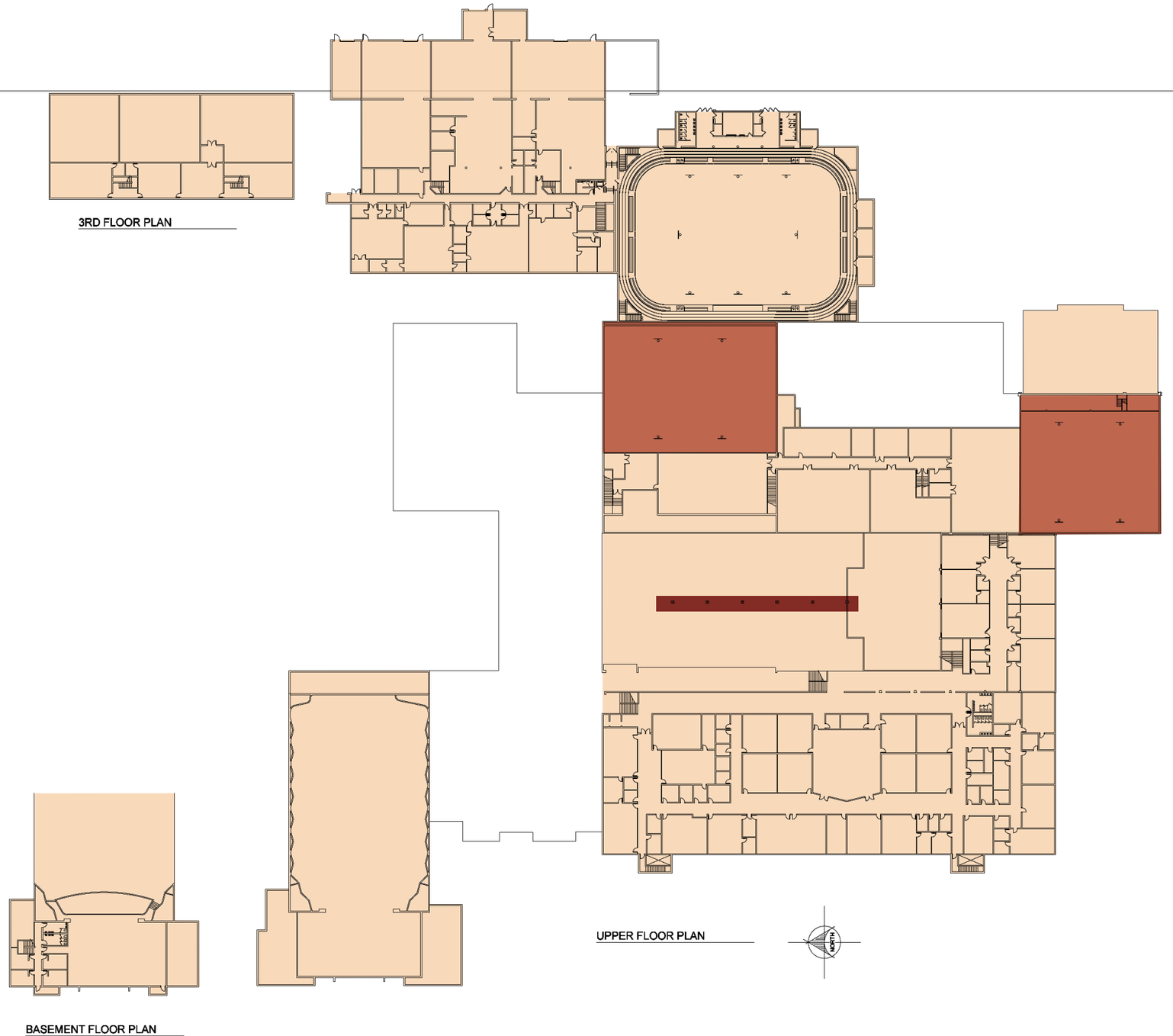
Note: For full Structural report, See the structural and seismic section in this evaluation.

- Fully Fire Sprinkled
- New Fire Alarm System
- Recently Installed 50+ Cameras.



SEISMIC RATING DIAGRAM

Seismic Rating “1”	Seismic Rating “2”	Seismic Rating “3”	Seismic Rating “4”	Seismic Rating “5”
2% of building sq. ft.	8% of building sq. ft.		90% of building sq. ft.	



3RD FLOOR PLAN

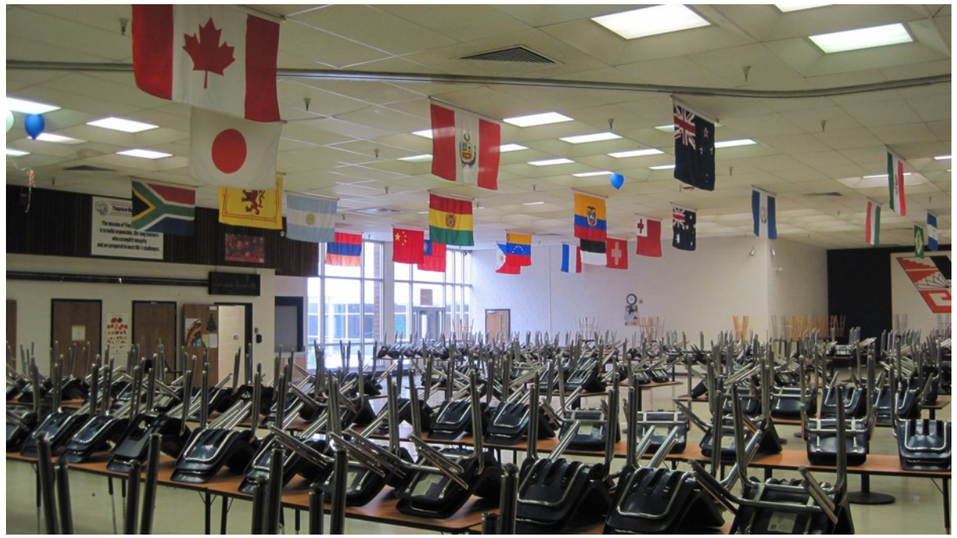
UPPER FLOOR PLAN

BASEMENT FLOOR PLAN

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS



KEY NOTES:

A - ADA accessibility to entrances and other parts of the building insufficient because of elevation changes on site.
B - The use of lifts and small elevators are not sufficient.
C - Some corridors are very small and create narrow paths that could be problematic.
D - Egress is a problem for ADA routes.
E - Poor location, lacks visual control.
F - Some leaking through concrete wall in basement under stage.
G - Steep student parking lot.
H -
I - Brick veneer cracking and damage at some exterior corners and in location at foods dept.

J - See roof plan.
K - Entire building to be re-caulked and sealed.
L - Metal roofing at Coaches Building Only.
M - See structural pages for further information.
N - See mechanical pages for further information.
O - See electrical pages for further information.

BUILDING EVALUATION

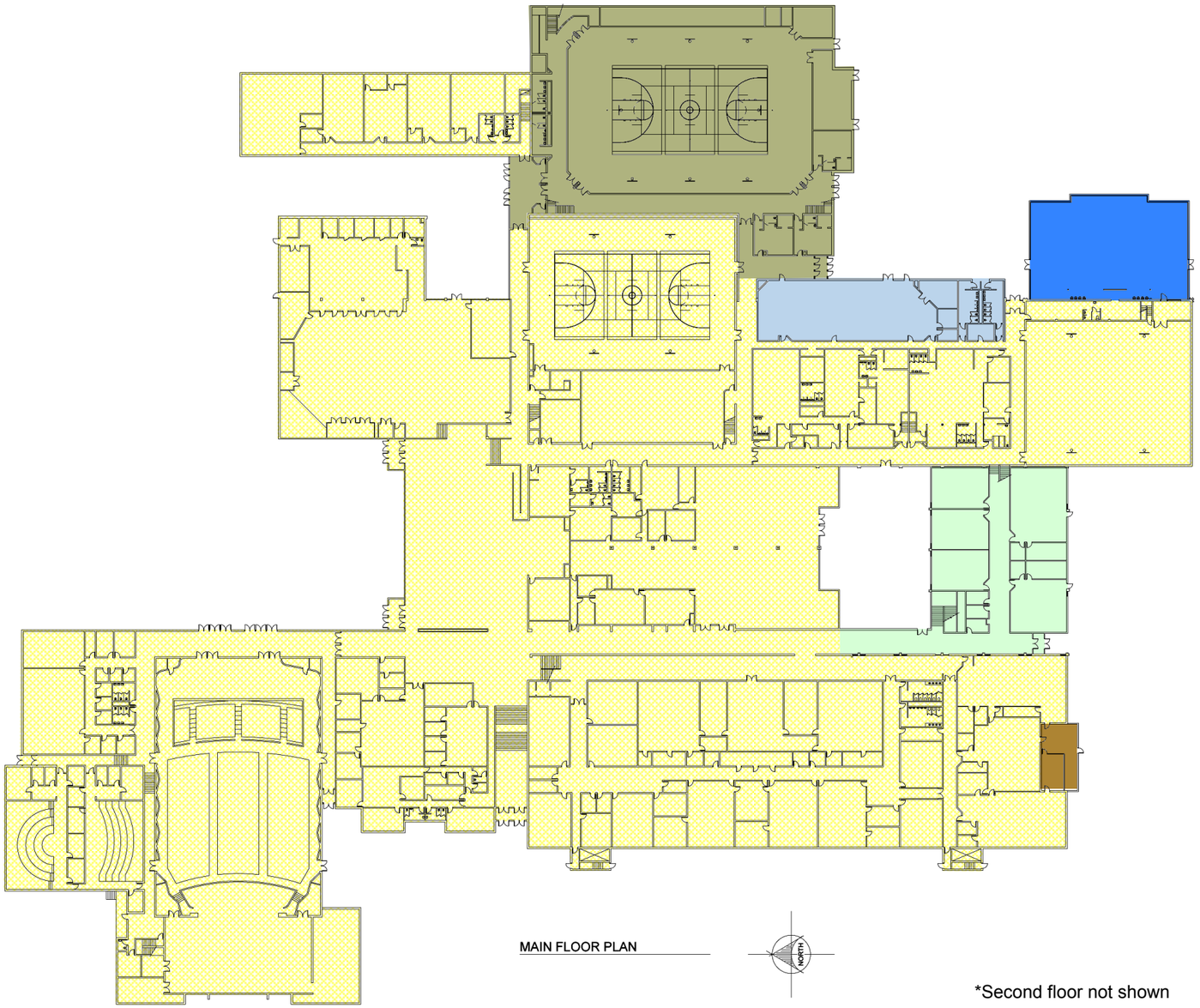
PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

SUMMARY OF LOW RATED CATAGORIES SUMMARY OF CATAGORIES

(RATING 2.00 OR LESS)

- ADA Accessibility to building with ramps and site conditions.
- Administration area is in a poor location and lacks visual control.
- Site conditions including ADA accessibility, site drainage, and fences and gates.
- Cabinets, hardware, and counter tops. Most are damaged, or outdated.
- Roofing is in fair condition
- Waterproofing. Foundation and retaining walls are leaking in both site retaining walls and foundation walls in the basements.
- Windows and doors in the older portions of the building need upgraded or replaced.
- Floor finishes. VCT, Ceramic tile, and carpeting all in need of replacing.
- Lockers in need of replacing/upgrading.
- Food service equipment in need of upgrading.
- Structural. Slender columns on the entry of the auditorium and in the media center need to be seismically upgraded. Also, some minor cosmetic cracks would need to be fixed.
- Mechanical system except for the cooling system need to be upgraded.
- Plumbing fixtures, piping, and domestic hot water need to be upgraded.
- Controls need to be upgraded.
- Electrical system
  - The Fire alarm needs to be upgraded.
  - The intercom system needs to be upgraded.



MAIN FLOOR PLAN

NORTH

*Second floor not shown

Summary of Timpview High School

- 90% of mechanical system is in poor condition, approximately 15-18% of the mechanical system will be upgraded in 2013.
- Plumbing fixtures, piping, and domestic hot water need to be upgraded.
- Controls need to be upgraded.
- Electrical system
  - The Fire alarm needs to be upgraded.
  - The intercom system needs to be upgraded.
- Structural. Slender columns on the entry of the auditorium and in the media center need to be seismically upgraded. Also, some minor cosmetic cracks would need to be fixed.
- ADA Accessibility to building with ramps and site conditions.
- Site conditions including ADA accessibility, site drainage, and fences and gates.
- 75% of the roofing needs to be replaced in the next 5-10 years.
- Waterproofing. Foundation and retaining walls are leaking in both site retaining walls and foundation walls in the basements.
- Windows and doors in the older portions of the building need replacement.
- Floor finishes. VCT, Ceramic tile, and carpeting all in need of replacing.
- Lockers need upgrading.
- Cabinets, hardware, and counter tops. Most are damaged, or outdated.

BUILDING AREA DIAGRAM

1975 | 1982 Addition | 1990 Addition | 1991 Addition | 1997 Addition | 1999 Addition | 2004 Addition | 2009 Addition | 2011 Addition

See the following page for SUMMARY OF CATAGORIES - UPDATE 2018

BUILDING EVALUATION

PROVO SCHOOL DISTRICT - TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

SUMMARY OF CATAGORIES - UPDATE 2018

- With the updated interest in school security the rating decreases because of the poor location of the main office, the non-secure entries and the amount of non-secure entries across the entire school campus.

- Efforts should be made to secure this campus with lockable doors on a schedule to limit the amount of people entering in the campus at multiple locations.

- The rock ballast roof is the original roofing on the school and is in need of replacement.

- Some of the skylights are leaking.

- Some of the roof drains are plugging and in need of repair.

- Overall roof condition is below average because of the multiple types of roofing on the building.

- Roof insulation could be upgraded.

- Fire Sprinkler system is older and has exceeded it's 40 year life span per State Marshall's guidelines.

- With the updated interest in Site and campus security the rating decreases because of the poor visibility of areas across the entire school campus.

- The concrete is only 6 years older.
- more of the fire proofing has fallen of the concrete double t's in the gyms.

- Cracks in the masonry pointed out in the previous evaluation have grown over the last 6 years.

- Overall the masonry is average but some areas are a concern. See structural update.

- Metal stairs, railings and other areas have not changed. They are 6 years older.

- Cabinetry and mill work is older and in bad repair across the school. Upgrades are in need.

- Counter tops should be replaced with cabinets.

- Doors and frames have remained the same in the past 6 years.

- Same needs should be addressed, re-furbish or replace unfit doors and windows.

- The finishes have ages and have has some updating to them such as new paint, new carpet and flooring, in certain areas of need.

- Across the school, except for the newer additions, the finishes are in need of updating or replacement.

- Visual display boards have been updated over the past few years.

- Toilet compartments need to be updated. Conditions vary across the school

- Lockers are in fair to poor condition.

- Toilet and bath accessories are in need of repair.

- The equipment has aged but in working condition.

- The theater equipment is in need of repair or replacement.

- The gym equipment has aged but in working condition.

- The auditorium seating is original to building and should be looked at to replace.

- Floor mats and walk-off entry mats are in need of replacement.

- The equipment has aged but in working condition.

- The theater equipment is in need of repair or replacement.

- The gym equipment has aged but in working condition.

EVALUATION SUMMARY CHART

CATEGORY	RATING		SUB-CATEGORY	NOTES
Building Access & Circulation	2.00	1.50	ADA accessibility - building	A
		2.00	Stairs, ramps, elevators, etc.	B
		2.50	Corridor circulation	C
		2.00	Egress	D
Life Safety & Security	1.00	0.50	Administration	E
		1.50	General security	
		1.00	Classroom security	
Division 2 - Site and Utilities	2.00	1.50	Circulation / Safety	F
		3.00	Playgrounds / Playfields	G
		2.00	Utilities	
		2.00	Asphalt / Concrete	
		2.50	Sprinkling system	
		1.50	Fences and gates	
		2.00	Parking	H
		2.00	Drop-offs	
		1.00	ADA accessibility - site	
		0.00	Drainage	
		2.00	Compounds	
		2.50	Utilities	I
Division 3 - Concrete	2.50	2.50	Cast-in-place	
		-	Architectural precast	
Division 4 - Masonry	2.00	2.00	Concrete masonry units	J
		2.00	Brick	K
		2.00	Mortar cement	
Division 5 - Metals	2.75	3.00	Structural steel framing	
		2.75	Metal stairs / Fabrications	
		2.50	Railings	
Division 6 - Wood & Plastics	1.60	1.50	Cabinets	
		1.50	Cabinet hardware and locks	
		1.50	Countertops	
		2.00	Window stools	
		1.50	Interior architectural woodwork	
Division 7 - Thermal & Moisture Protection	1.70	1.50	Waterproofing / repellants	
		-	Building insulation - wall	
		-	Building insulation - roof	
		-	Metal roofing	
		2.00	Membrane roofing	L
		2.00	Metal flashing and trim	
		2.00	Roof penetrations	
		1.00	Caulking / joint sealants	M
Division 8 - Doors & Frames	2.07	2.50	Steel doors and frames	
		2.00	Wood doors	
		-	Access doors and frames	
		2.50	Overhead coiling doors	N
		2.50	Entrances	
		1.50	Windows	
		2.00	Door hardware	
		1.50	Glass/ glazing	
Division 9 - Finishes	1.90	2.50	Gypsum wall board	
		-	Wall covering	
		-	Wall carpet	
		2.50	Acoustical panel ceilings	
		2.75	Acoustical tectum panels	
		2.50	Painting and joint sealants	
		-	Pre-finished int. panel (FRP)	
		2.00	Resilient floor tile (VCT)	
		2.00	Carpeting	
		2.00	Ceramic tile	
		2.75	Hardwood floor	
Division 10 - Specialties	1.90	4.00	Visual display surfaces	
		1.50	Toilet compartments	
		-	Louvers / vents	
		1.50	Signs	
		1.00	Lockers	
		-	Fire protection specialties	
		1.50	Toilet bath accessories	
Division 11 - Equipment	1.75	1.00	Stage curtains	
		1.50	Projection screens	
		2.00	Food service equipment	
		2.50	Gymnasium equipment	
Division 12 - Furnishings	2.13	2.50	Floor mats	
		2.50	Window blinds	
		2.00	Fixed audience seating	
		1.50	Bleachers	
Division 13 - Special Construction	0.75	0.50	Fire sprinkling system	
		1.25	Fire alarm system	
		0.50	Fire riser	
Asbestos	2.00	2.00	Asbestos	
ARCHITECTURAL TOTAL	1.87			
STRUCTURAL				
Structural Systems	1.68	2.50	1975 Walls	M
		2.25	1975 Roof & Floor	M
		1.00	1975 Seismic Hazards	M
		1.00	1975 Misc.	M
	4.00	4.00	1982-2011 Walls	M
		4.00	1982-2011 Roof & Floor	M
		4.00	1982-2011 Seismic Hazards	M
		4.00	1982-2011 Misc.	M
STRUCTURAL TOTAL	2.84			
MECHANICAL & PLUMBING				
HVAC Systems	1.83	2.00	Heating	N
		2.00	Cooling	N
		1.50	Air distribution	N
Plumbing Systems	1.61	0.05	Piping	N
		2.50	Roof drain system	N
		1.50	Fixtures	N
		1.00	Domestic water heating	N
		3.00	Natural gas systems	N
Kitchen System	1.50	1.50	Kitchen systems	N
Control Systems	1.00	1.00	Existing system	N
MECHANICAL TOTAL	1.49			
ELECTRICAL				
Division 26 - Electrical Systems	2.43	2.50	Site and security lighting	O
		a-2 b-3	Switchgear & panel boards	O
		a-2 b-3	Interior lighting	O
		2.50	Exit signs	O
		2.50	Emergency egress lighting	O
		2.00	Theatrical dimming system	O
Division 27 - Communications	2.50	3.00	Structured cabling	O
		2.00	Intercom system	O
		2.50	Auditorium sound system	O
Division 28 – Electronic Safety and Security	2.08	1.25	Fire alarm system	O
		2.50	Intrusion detection system	O
		2.50	Video surveillance system	O
ELECTRICAL TOTAL	2.34			

EVALUATION SUMMARY

POSITIVE EVALUATIONS

1. Newer overall school (built in 1975+) with some very recent additions/remodels.
2. Fully Fire Sprinkled.
3. Newly installed surveillance cameras.
4. The shop areas are in good condition and very well maintained.
5. The auditorium is in fair condition and well maintained.

NEGATIVE EVALUATIONS

1. Some visual stress cracking on the exterior of original building.
2. The science labs and classrooms are in poor condition and very cluttered.
3. The ceramics and pottery classroom is in poor condition and is very dirty from use.
4. The overall grounds are not ADA friendly due to the terraced layout of the campus.
5. Student parking lot is very steep.

The school evaluation is complete with this report.

If there are any other questions or clarifications about this evaluation report, please call Kevin Madson at KMA Architects, Inc. (801) 377-5062.

Rating System	
Rating	Explanation
1	Indicates an immediate need for replacement
2	Indicates poor condition; a replacement is needed within the near future
3	Indicates good or average condition
4	Indicates above average condition; has reached midlife within building's life cycle
5	Indicates excellent condition; usually within five years of installation

DYNAMIC STRUCTURES

1887 North 1120 West, Provo, Utah 84604 – (ph) 801.356.1140

November 28, 2018

Wes Christensen
KMA Architects

Re: Timpview High School
Structural Evalulation Update

The following key points provide an update on the structural conditions of Timpview High School between now and when we last made an assessment at the end of 2012.

1. One of the key areas of concern noted in the 2012 assessment is the existence of concrete double tees framing the roof over the south gym and framing the floors in some of the classroom wings. The double tees are not adequately connected to the bearing walls. During a seismic event, the probability is high that the heavy double tees will shift off the walls. This type of collapse would likely cause fatalities if the building were occupied during the seismic event.

2. The other major structural item is building settlement. We have visited the school a number of times over the last six years to observe and comment on damage caused by settlement. The settlement appears to accelerate during the spring when a significant amount of water is coming off the mountain and percolating through the soils.
    a. It is our opinion that the continuing problem of concrete spalling from the bottom of the double tees framing the south gym roof is a result of settlement causing a twisting action in the gym.
    b. In April of 2017, a significant piece of masonry was pushed off the top of a column in the media center which broke through the ceiling. It was apparent that this was caused by settlement observed in the adjacent courtyard.
    c. We have observed accelerated settlement in the concrete mechanical tunnels as a result of flooding.
    d. In April of 2017, we observed loose masonry pieces in the upper corner of the gym. The loose pieces were removed before they could fall to the floor. The loose masonry is a result of settlement.

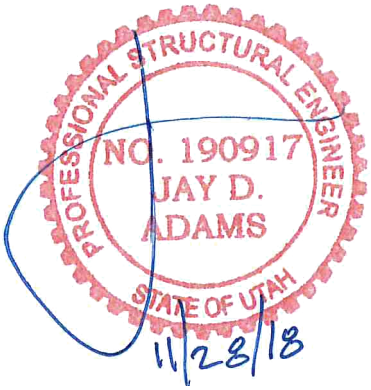
e. During our visits, we have noted significant settling in and around the interior courtyard which is causing damage to concrete stairs and walks.
f. In April of 2017 we observed that the west classroom wing had moved west away from the south gym by a couple of inches due to settlement.
g. During a visit we noted settlement cracks in the masonry walls and headers near the newly remodeled staff room that are a result of settlement.

3. One of the primary concerns with the amount of settlement that is occurring is having portions of concrete and masonry break loose from the structure as has occurred. So far, no one has been injured but until the causes for settlement are remediated or the building is replaced, the likelihood of falling hazards happening in the future is high. It is a game of roulette as to whether or not a student or faculty member is eventually injured.

We hope this summary will provide helpful information that may be used in planning for the future life and eventual replacement of the building.

Respectfully,

Jay D. Adams, SE



Dynamic Structures, Inc.

MECHANICAL EVALUATION

DIVISION 23 - MECHANICAL

HVAC

HEATING

- The (2) original Cleaver Brooks hot water boilers are located in the boiler room on the north side of the school.
- West boiler was repaired in late 2012.
- Boiler controls were updated in 2014.
- Heating pumps were replaced in 2014.
- Building air handlers are provided with hot water coils with coil pumps. Air handling units are original to the school.
- General building:
    - AH-4, 5, 6 & 7 are located in a mezzanine fan room above the wresting area. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
    - AH-11, 12, & 13 are multi-zone units and are located in the south end of the mezzanine fan room above the wrestling room. Units are single speed. No VFD's are provided for fan motors.

Figure 1. Existing Heating Boiler

Figure 2. AHU Coil Piping & Coil Pump

Figure 3. Existing HW/CW Control Station AHU

Figure 4. 1991 Classroom Addition Gas/DX RTU

Figure 5. Gymnasium HW/CW Rooftop Unit

DIVISION 23 – MECHANICAL (continued…)

HVAC (continued…)

- Auditorium:
  - (2) single zone AFF central station air handlers AH-2 & AH-3 provide heat to this area. Units were installed in 1979. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
- Administration area:
  - (2) multi-zone AFF central station air handlers AH-1 & AH-4 provide heat to this area. Units were installed in 1979. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
- Science wing: (lower level)
  - (2) multi-zone AFF central station air handlers AH-5 & AH-7 provide heat to this area. Units were installed in 1979. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
- 1991 south classroom addition:
  - 2-story addition is heated from a single gas/DX rooftop unit. Unit & associated building controls were replaced in 2013.
- Dining area:
  - Dining is served from a single zone central station air handler located in the basement area. Fin tube radiation provided supplemental heat at the perimeter of the area. Unit controls are not functioning, resulting in overheating of space.
- Kitchen Area:
  - Kitchen is heated by means of a packaged gas/DX unit.
- Varsity boys locker room:
  - Area is served from a multi-zone unit.
- South gym:
  - AHU-9 serving gym is a heating only unit.
- Basketball arena:
  - Arena is heated from a single zone semi-custom hot water/chilled water rooftop unit.
  - Supplemental heat is provided at the entries from hot water convectors.

DIVISION 23 – MECHANICAL (continued…)

HVAC (continued…)

- Industrial arts and drafting areas:
  - Classrooms are heated from packaged gas/DX rooftop units installed in 1998.
- Metal & wood shop:
  - Packaged gas/DX rooftop unit at classrooms were installed in 1996.
  - Metal and Woods classrooms share HVAC zoning.
  - Gas fired unit heaters heat the shop area.
- Auto shop:
  - Packaged gas/DX rooftop unit at classrooms were installed in 1996.
  - Gas fired unit heaters heat the shop area.
- Greenhouse:
  - Greenhouse is heated by gas fired unit heaters.

Figure 6. Typical Gas/DX RTU

Figure 7. Shop Gas Unit Heater

Figure 9. Greenhouse U.H. & Vent Fan

Figure 9. New Water Cooled Chiller (2012)

Figure 10. New Chilled Water Pumps (2012)

Figure 11. New Cooling Tower (2012)

Figure 12. Existing Control Station Air Handler with CW Coil

DIVISION 23 – MECHANICAL (continued…)

HVAC (continued…)

COOLING

- The existing water cooled chiller and associated cooling tower were replaced in 2012.
- (2) new Carrier 325 ton 23XRVvariable speed chillers were installed in 2012.
- New Bell & Gossett chilled water pumps were installed in 2012.
- New BAC, 2000 GPM cooling tower was installed in 2012. Tower fan is operated from a VFD located in the boiler room.
- New Bell & Gossett condenser water pumps were installed in 2012.
- Building air handlers are provided with chilled water coils. Units are original to the school.
    - Units are single speed. No VFD's are provided.
    - AH-4, 5, 6 & 7 are located in a mezzanine fan room above the wresting area. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
    - AH-11, 12, & 13 are multi-zone units and are located in the south end of the mezzanine fan room above the wrestling room.

DIVISION 23 – MECHANICAL (continued…)

HVAC (continued…)

COOLING (continued)

- Auditorium:
  - (2) single zone AFF central station air handlers AH-2 & AH-3 provide cooling to this area. Units were installed in 1979. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
- Administration area:
  - (2) multi-zone AFF central station air handlers AH-1 & AH-4 provide cooling to this area. Units were installed in 1979.
  - Supplemental cooling was added to AH-4 in 2011 by means of a heat exchanger in the mezzanine fan room, and a DX condensing unit located on the low south roof. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
- Science wing: (lower level)
  - (2) multi-zone AFF central station air handlers AH-5 & AH-7 cool this area. Units were installed in 1979. Dampers & Fan motors were replaced in 2014. VFD's were provided for new supply & return fan motors. Associated controls were updated in 2014.
- 1991 south classroom addition:
  - 2-story addition is cooled from a single gas/DX rooftop unit. Unit & associated building controls were replaced in 2013.
- Dining area:
  - Dining is served from a single zone central station air handler located in the basement area.
- Varsity boys locker room:
  - Area is served from a multi-zone unit.
- South gym:
  - AHU-9 serving gym is a heating only unit. No cooling is provided.
- Basketball arena:
  - Arena is cooled from a single zone semi-custom hot water/chilled water rooftop unit. Unit is original to addition.

Figure 13. Administration Area Heat Exchanger

Figure 14. 1991 Addition Gas/DX Rooftop Unit

Figure 15. Industrial Arts Area Packaged Rooftops

Figure 16. Greenhouse Evaporative Cooler

Figure 17. Existing Central Station Air Handler

Figure 18. Return Fan Control in Mezzanine Fan Room

DIVISION 23 – MECHANICAL (continued…)

HVAC (continued…)

COOLING (continued…)

- Industrial arts and drafting areas:
  - Classrooms are cooled from packaged gas/DX rooftop units installed in 1998.
- Metal & wood shop:
  - Packaged gas/DX rooftop units at classrooms were installed in 1996.
  - Metal & woods classrooms share HVAC zoning.
- Auto shop:
  - Packaged gas/DX rooftop unit at classrooms were installed in 1996.
  - Auto classroom share HVAC zoning with metal & woods.
- Greenhouse:
  - Greenhouse is cooled by an evaporative cooler.

AIR DISTRIBUTION

- Central station HW/CW air handlers are located in mezzanine mechanical rooms. Units are at the end of their useful life and should be considered for replacement.
- Air is distributed to rooms via VAV re-heat boxes. Units are at the end of their useful life and should be considered for replacement.
- System is provided with in-line return fans. Fans and wall prop fans are located in difficult areas for service. Fans are at the end of their useful life and should be considered for replacement. Motors were replaced in 2013.
- Medium pressure supply ductwork is galvanized steel throughout the school.
- Duct board was observed at lower science and English areas. Duct board at low pressure duct systems may be installed throughout the original portions of the building. Considerable leakage has been observed throughout the building duct systems.

DIVISION 23 – MECHANICAL (continued…)

HVAC (continued…)

COOLING (continued…)

EXHAUST SYSTEMS

- General toilet room exhaust fans are roof mounted and original to the school.
- Exhaust fans on the east portion of the school were replaced in 2013.
- Locker room exhaust systems at original building do not appear to be adequate.
- Shop welding, paint, and CO2 exhaust systems are original to the building and are beyond their useful life.
- Fume hoods are provided at the science areas, but do not appear to be in use.
- Shop hoods are original to building. Welding hood has recently been re-ducted.
- Shop paint booths are original to building.
- Welding booths and exhaust are original to building.
- Wood shop dust collection system is original to building. System is beyond its useful life and should be considered for replacement.

FIGURE 19. Typical Toilet Room Roof Exhaust Fan

FIGURE 20. Shop Area Utility Exhaust Fan

Figure 21. Science Room Fume Hood

Figure 22. Shop Hood

Figure 23. Shop Paint Booth

Figure 24. Sawdust Collector

Figure 25. Galvanized Waters at Pipe Chase

Figure 26. Typical Science Room Sink

Figure 27. Pottery Area Sink and Clay Trap

Figure 28. Typical Wall Mounted Water Closet

DIVISION 23 – MECHANICAL (continued…)

PLUMBING

PIPING

- Heating and chilled water piping is black steel with grooved fittings. Piping is original to the building, and is in fair condition.
  - Chilled water and condenser water piping at boiler room was replaced as a part of the 2012 chiller/tower replacement.
- Domestic water piping is galvanized steel. Piping system is experiencing leaks, and evidence of rust in system is apparent at some areas of the school.
- Waste and vent piping is cast iron. Some areas have galvanized vent piping.
- Gas piping is black steel and galvanized.
- Compressed air piping is black steel.

ROOF DRAIN SYSTEM

- Roof drain piping is cast iron. Drains are cast iron.
- Not all areas of the roof are provided with secondary roof drains.

FIXTURES

- Most plumbing fixtures are original to the building.
- There are a considerable number of fixtures that are not ADA compliant.
- Classroom sinks:
  - Science area sinks are acid resistant poly sinks. There does not appear to be any vacuum breakers installed at the faucets in the science area.
    - Gas and air outlets at science areas do not appear to be in use.
    - No acid waste or vent piping installed at science areas.
  - Home economics sinks are 2-compartment stainless steel.
  - Pottery area sinks are in need of replacement. Would recommend upgrading the clay trap at the main pottery sink.
  - Dark room sinks are stainless steel and poly type sinks. Sinks should be considered for replacement as required for program.
- Water closets:
  - Main toilet room water closets are wall mounted with manual flush valves.
  - Individual toilet room water closets are floor mounted with manual flush valves.

DIVISION 23 – MECHANICAL (continued…)

PLUMBING (continued…)

FIXTURES (continued…)

- Urinals:
  - Urinals are wall mounted with manual flush valves.
- Lavatories:
  - Lavatories are wall mounted with manual faucets. Most lavatories are not ADA compliant.
  - Some counter mounted lavatories are installed at the auditorium dressing areas.
- Drinking fountains:
  - Fountains are refrigerated stainless steel.
  - China non-refrigerated fountains are installed at the varsity locker rooms.
- Miscellaneous:
  - All toilet rooms are provided with floor drains.
  - Some toilet rooms are provided with hose bibbs.
  - Many hose bibbs throughout the school are not provided with vacuum breakers, which is a code violation. PSD should consider adding vacuum breakers at hose bibbs. Most violations occur at the boy's athletics training area, greenhouse, and the kitchen.

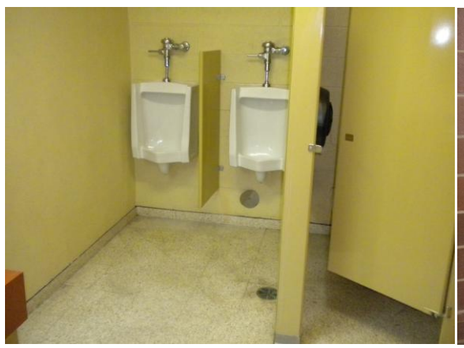


Figure 29. Typical Urinal

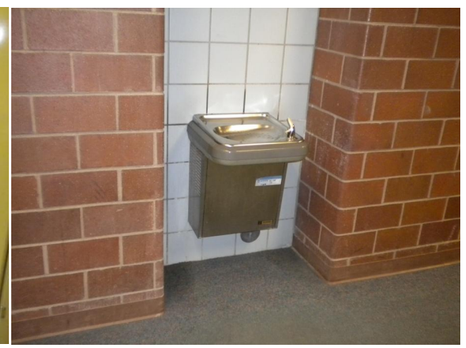


Figure 30. Typical Lavatory at Toilet Rooms

Figure 31. Refrigerated Drinking Fountain

Figure 33. Domestic Water Connection to Hose With No Vacuum Breaker

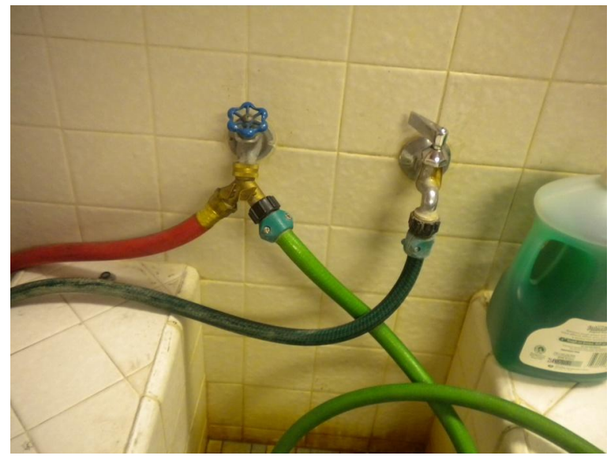


Figure 32. Code Violation at Athletic Training Room "No Vacuum Breakers"

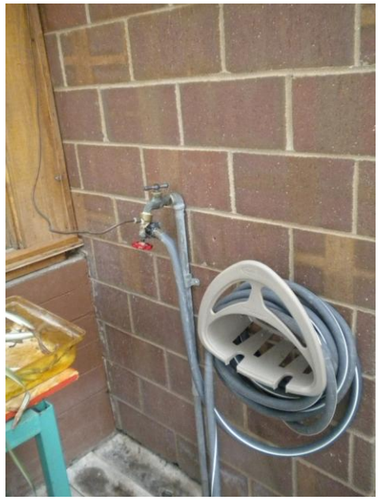


Figure 34. Hose Bibb With No Vacuum Breakers

Figure 35. Laars Domestic Water Heater

Figure 37. Kitchen Cook Hood

Figure 36. Typical Gas Piping Installation on Roof

Figure 38. Kitchen Hood Make-Up Air/Exhaust System

DIVISION 23 – MECHANICAL (continued…)

PLUMBING (continued…)

FIXTURES (continued…)

DOMESTIC WATER HEATING

- Main building water heater is a Laars, Mighty Therm heater with storage tank. Re-circulating pumps are operational but are at the end of their useful lives.

NATURAL GAS SYSTEM

- Natural gas meter is located to the north of the boiler room.
- Gas piping is black steel inside the building, and galvanized on the roof.
- Gas piping to the packaged rooftop units is galvanized, and is run on the roof. Piping is supported on the roof with wood blocks.

KITCHEN SYSTEM

- The majority of the kitchen mechanical and plumbing systems are original to the school.
- Cooking and dishwasher hoods and roof exhaust fans are original to the building, Systems are past their useful life and should be considered for replacement.
- It appears the current use of the equipment at the main cook hoods has been modified over the years. Hood design should be modified to meet current code and program requirements.
- Individual Duo-Aire units provide make-up air and exhaust for each of the (3) cook hoods and the dishwasher hood. Units are beyond their useful life and should be considered for replacement.
- The main class I hood is provided with a wet chemical suppression system, but no automatic gas valve was observed.
- Automatic gas valve at the class II hood was not observed in the kitchen area.

DIVISION 23 – MECHANICAL (continued…)

KITCHEN SYSTEM (continued…)

- A wall type prop fan provides ventilation at the dishwasher area.
- Domestic cold and hot water lines are galvanized.
- Water filters have been installed on cold waters at the kitchen equipment and sinks.
- No vacuum breakers at sink faucets and hose bibbs in the kitchen area. This is a violation of current code requirements.
- Kitchen is equipped with garbage disposers.
- No grease interceptor is provided at the kitchen area.
- Waste piping from the kitchen has just been repaired due to rusted pipe. Piping was observed to have a considerable amount of grease build-up.

CONTROL SYSTEM

- Existing control system is the original pneumatic system.
  - Portions of the building controls were updated in 2013, as a part of the ATC upgrade
  - The majority of the remaining pneumatic controls are not functioning correctly.
  - Damper and valve failures at the air handlers is evident.
  - PSD has connected approximately 50% of the building HVAC equipment to the District wide Alerton Control system.

FIRE PROTECTION SYSTEMS

- Existing fire protection system is a wet type system, & original to the building.
- Piping systems are at the end of their useful life, and have exceeded the accepted 40 year lifespan allowed by the State Fire Marshals guidelines.
  - Piping systems would require replacement to meet current guidelines of the State Fire Marshal.
- Fire risers met original code requirements at time of installation, but would require upgrades to meet current code requirements, and requirements of the State Fire Marshals guidelines.
- Fire heads are at the end of their useful life, and have exceeded the accepted 40 year lifespan allowed by the State Fire Marshals guidelines.

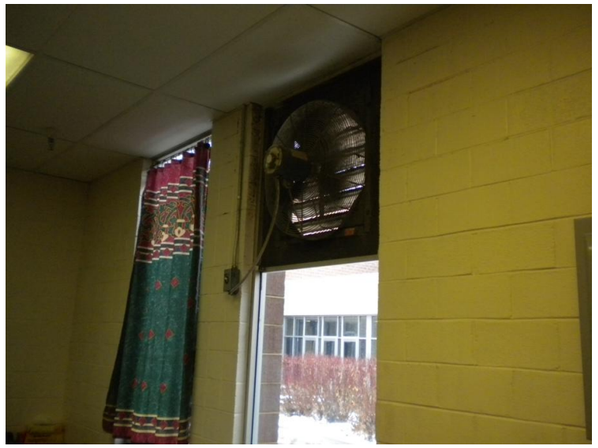


Figure 39. Prop Fan at Kitchen Dishwasher Area

Figure 40. Kitchen Water Filters

Figure 41. Hose Bibbs at Kitchen with No Vacuum Breaker Code Violation

Figure 42. Kitchen Disposer

SCHOOL EVALUATION

PROVO SCHOOL DISTRICT – TIMPVIEW HIGH SCHOOL

KMA ARCHITECTS

SUMMARY

HVAC Systems:

- Existing multi-zone air handlers are beyond their useful life.
- Existing boiler system is beyond its useful life. System is inefficient, and does not meet current requirements of the 2015 Energy Code.
- Chilled water system installed in 2012 is in good condition.
- Air distribution duct systems are leaking and adding the inefficiency of the heating and cooling systems.

Plumbing Systems:

- Galvanized domestic water piping systems is failing, resulting in numerous leaks and sending rust throughout the system.
- Roof drain system is operable, but many areas do not have secondary roof drains as required for current code compliance.
- Plumbing fixtures are in fair condition, but flush valves may be considered for replacement to a lower gpf to conserve water.
- Domestic water heating system, although well maintained should be considered for replacement for a more energy efficient system.
- Natural gas system is original to building and is generally in acceptable condition.

Kitchen Systems:

- Kitchen HVAC & Exhaust systems are well beyond their useful life. Systems should be considered for replacement to more energy efficient systems, as well as updated to current use requirements of kitchen.
- Kitchen plumbing systems should be considered for replacement due to piping leaks, etc.

Automatic Control Systems:

- Existing pneumatic control system has numerous leaks in system, oil migration throughout the tubing, as well as not-functional components.
- Some areas have been updated, but generally control system is inefficient and should be replaced to improve building comfort and energy efficiency.

Fire Protection Systems:

- Existing fire protection systems have exceeding the recommended lifespan per State Fire Marshals recommendations.
- Existing fire heads are leaking in areas. Accidental discharge of heads has occurred in some areas, resulting in building damage.

RATINGS

Mechanical and Plumbing		
HVAC Systems	2	Heating
	2	Cooling
	1.5	Air Distribution
Plumbing Systems	.05	Piping Systems
	2.5	Roof Drain System
	1.5	Fixtures
	1	Domestic Water Heating
	3	Natural Gas Systems
Kitchen Systems	1.5	Kitchen Systems
Automatic Control Systems	1	Existing System
	2	Upgraded Areas
Fire Protection Systems	.05	Existing Piping & Risers
	.05	Existing Fire Heads

ROYAL ENGINEERING

Timpview HS Electrical Evaluation

November 28, 2018

LIGHTING

- 1974, 1991 Areas
  - Lighting throughout corridors, common areas and classrooms consists of recessed “troffer” fixtures with prismatic lenses. Fixtures employ T8 lamps and electronic ballasts.
- 1999, 2011 Areas
  - Lighting throughout corridors, common areas and classrooms consists of recessed “troffer” fixtures with prismatic lenses. Fixtures employ T8 lamps and electronic ballasts.
- The gymnasium lighting consists of high-bay, fluorescent (T5HO) lighting updated in 2013.
- The lighting levels in the corridors are adequate. Recommend updating light fixtures to LED.
- The lighting levels in the classrooms are adequate. Recommend updating light fixtures to LED.
- Parking lot lighting is adequate
- Exterior building lighting is adequate
- Exit signs are located as required by contemporary codes and are in good condition.
- Interior emergency egress lighting is in good condition and adequate for safe conveyance to exterior exits.
- Exterior emergency egress lighting is nonexistent.

POWER

- Main Distribution Panel is 480 volts, 4000 amps, 3-phase, Westinghouse (fused). The panel is nearing the end of its useful life cycle. Westinghouse equipment is no longer manufactured so replacement parts are difficult to obtain.
- Sub Distribution Panels:
  - 1974 Area: several sub distribution panels are located throughout the school. All are Westinghouse equipment and nearing the end of their useful life cycle. Very little spare breaker capacity is available for future circuits.
  - 1999 Area: the gymnasium addition appears to be fed from its own separate transformer. The distribution panel is 480 volts, 600 amps, 3-phase and manufactured by Siemens. The panel is in good condition but has limited spare breaker capacity for future loads.
- Branch Panels
  - The majority of the branch panels are Westinghouse 1974 vintage. They are in fairly good shape for their age, but breaker trip functionality is questionable. There is some unused breaker space in various panels for additional circuits.
  - Several panels have been added for the 1991, 1999 and 2011 additions. The manufacturers are primarily Square D and Siemens. The panels are all in good condition and have adequate unused breaker space for additional circuits.
  - Some branch panels are located in areas where they are in violation of clearance requirements mandated in NEC 110.16.
- Classroom receptacles are positioned in convenient locations and are of sufficient quantity to accommodate ordinary classroom use.

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STRUCTURED CABLING, JACKS AND PATCH PANELS

- Data jacks located where needed.
- Cabling is in good condition and meets performance requirements.
- Termination equipment is in good condition with capacity for additional data drops.

INTERCOM & CLOCK SYSTEM

- Adequate speaker coverage in corridors.
- Intercom head end (Rauland Telecenter) has exceeded its useful life cycle.
- Most of the synchronized clocks have been replaced with battery powered, satellite-synchronized clocks because the wired system is no longer functional.

SOUND SYSTEMS

- Auditorium sound equipment is in fair condition and has adequate functionality for a high school. Speaker coverage is adequate.
- Gymnasium sound system is in fair condition. Speaker coverage is adequate.

FIRE ALARM SYSTEM

- Pull stations at boiler room, front office and kitchen per International Fire Code.
- Smoke detectors in corridors at required spacing.
- Horn/strobes in classrooms and common areas per International Fire Code. Industrial arts area will require horn/strobes in shops and classrooms.

VIDEO SURVEILLANCE, ACCESS CONTROL, AND INTRUSION DETECTION SYSTEMS

- Surveillance cameras and DVR equipment is in good condition.
- Intrusion detection system present in the building (DSC).
- No access control system.

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