




SHAWNEE MISSION HORIZONS HIGH SCHOOL

# **FACILITY EVALUATION**





# OVERALL SUMMARY

ACI Boland Architects along with RTM visited each of the schools over a several week process. Each school was evaluated and scored using the A4LE School Facility Appraisal document included in this report. The school's principal and maintenance personnel were present at the building walk-throughs to offer insight into positives and negatives of each building.

The overall assessment scores are indicated as follows:

- **East High School** **145 points**
- **South High School** **149 points**
- **Indian Hills Middle School** **133 points**
- **Indian Woods Middle School** **139 points**
- **Hocker Grove Middle School** **142 points**
- **Horizons High School** **169 points**

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# SUMMARY

Built in 2001 on the former site of Hickory Grove Elementary, Horizons High School is a 2-story building built on a sloping site that serves 175 students in grades 9 through 12. School hours are from 8:40 a.m. to 3:00 p.m. The building is approximately 63,236 SF with 19 classrooms, a media center, gymnasium with bleachers, cafeteria, art, music, and maker space. The building is also home to a daycare for newborns up to 3 years old to assist students and staff with child care.

The building is constructed with block masonry and a brick facade. The roof is a low slope system with internal drains made up of a modified bituminous membrane. The site has parking in front of the building and on a lower level on the east side. There is a grass play field for recreation but is not designed for structured activities. There is also a greenhouse on site that is utilized by the district as well as high school students.



# APPRAISAL

# GUIDE FOR SCHOOL FACILITY APPRAISAL

# INSTRUMENT FOR Horizons High School

## APPRAISAL

## Directions for Appraising Facilities

## Elementary School Appraisal

Prior to evaluating a building, the appraiser should become familiar with the educational program provided within the existing school facility. It is essential to determine other pertinent factors about the facility, which will provide background information sufficient to insure a thorough and accurate appraisal. Particularly helpful are the building's architectural plans, specifications and layout, if these are available. If possible, the school plant should be appraised at a time when school is in session, so that the actual use of the building is more apparent.

Although the Appraisal Guide is designed for individual appraiser use, ideally the school facility should be evaluated at the same time by three to five appraisers. The ratings of each of the appraisers should then be used to arrive at a consensus for each item. The final rating is the result of careful review of the individual scores.

The instrument uses an additive scoring method, with each item having a maximum number of allowable points. A total of 1,000 points is distributed among these six major categories:

<b><u>Section</u></b>	<b><u>Maximum Points</u></b>
1.0 The School Site	100
2.0 Structural and Mechanical Features	200
3.0 Plant Maintainability	100
4.0 School Building Safety and Security	200
5.0 Educational Adequacy	200
6.0 Environment for Education	200

### Prior to Appraisal

Step 1

Review the educational program; identify the number of faculty members and students; and examine the floor and plot plans carefully.

## Overview of the Building and Grounds

### Step II

Upon approach to the site, look for traffic patterns, school safety signs, neighborhood environment, etc. Begin the appraisal by taking a preliminary tour of the entire building noting both exterior and interior features. Information obtained prior to arrival at the campus recorded in the Building Data Record should be verified. The appraisal weights should not be determined during this initial walk through. The appraisal is better accomplished as separate individual steps in the process.

### Assignment of Scores

Step III

After the completion of the preliminary inspection, go through the entire instrument section by section. The appraisal will be more accurate if each item is carefully considered, while it is appropriately observed. **Do not try to evaluate from memory** - use actual observation when making the appraisal decision.

*Items that are needed/required, but are non-existent, should be given a 0 score. If an item is not needed and is non-existent, full credit should be allowed.*

Note the Table of Weights for assistance in determining the score to be given each item. Each item should first be considered in the following terms: Non-Existent, Very Inadequate, Poor, Borderline, Satisfactory and Excellent. The weight (score) should then be assigned for that item. Place score in space provided in the Points Allotted column, total the score for each Section and insert in the space provided. The Section totals should then be tabulated and indicated in the Points Assigned column of the Appraisal Summary. Use the space provided in the Justification for Allocation of Points to provide notes justifying the scores at the extreme ends of the scale (e.g., very inadequate or excellent).



Building Data Record

Name of Appriaser:

Duane Cash

Date of Appraisal:

June 13, 2019

Building Name:

Shawnee Mission Horizons High School

Street Address:

5900 Lamar Ave

City, State, Zip Code:

Mission, KS 66201

Telephone Number(s):

School District:

Shawnee Mission School District

Setting:

☐ Urban

☒ Suburban

☐ Small City

☐ Rural

Site Acreage:

4.59

Building Square Footage

63,236 SF

Grades Housed:

9 - 12 + Post

Student Capacity

210 aprox.

# of Teaching Stations:

# of Floors

2

Student Enrollment:

175

As of:

6/13/19

Dates of Construction:

Built in 2001

Energy Source:

☐ Fuel Oil

☒ Gas

☒ Electric

☐ Solar

Air Conditioning:

☒ Roof Top

☐ Window Units

☒ Central

☐ Room Units

Heating:

☒ Central

☒ Roof Top

☐ Individual Unit

☐ Forced Air

☐ Steam

☐ Hot Water

Types of Construction

Exterior Surfacing

Floor Construction

☒ Load Bearing Masonry

☒ Brick

☐ Wood Joists

☐ Steel Frame

☐ Stucco

☒ Steel Frame

☒ Concrete Frame

☐ Metal

☐ Slab on Grade

☐ Wood

☐ Wood

☐ Structural Slab

☐ Other

☐ Other

☐ Other

APPRAISAL GUIDE FOR SCHOOL FACILITIES

Table of Weights and Categories	Maximum Points Allotted	Non-Existent	Very Inadequate 1 - 29%	Poor 30 - 49%	Borderline 50 - 69%	Satisfactory 70 - 89%	Excellent 90 - 100%
	5	0	1	2	3	4	5
	10	0	2	4	6	8	10
	15	0	3	6	9	12	15
	20	0	4	8	12	16	20
	25	0	5	10	15	20	25

Appraisal Summary	Section	Possible Points	Total Earned	Percent	Rating By Category
	1.0 The School Site	100	55	55%	
	2.0 Structural and Mechanical	200	175	88%	
	3.0 Plant Maintainability	100	82	82%	
	4.0 School Building Safety & Security	200	181	91%	
	5.0 Educational Adequacy	200	178.0	89%	
	6.0 Environment for Education	200	169	85%	
	TOTAL	1,000	840	84%	



1.0	The School Site	100 Points
1.1	Site is <b>large enough</b> to meet present and future educational needs as defined by state and local requirements.	<div><div>25</div><div>15</div></div>
1.2	Site is <b>easily accessible</b> and conveniently located for the present and future population.	<div><div>20</div><div>20</div></div>
1.3	<b>Location</b> is removed from undesirable business, industry, traffic and natural hazards.	<div><div>10</div><div>2</div></div>
1.4	Site is <b>well landscaped and developed</b> to meet educational needs.	<div><div>10</div><div>4</div></div>
1.5	Well equipped <b>athletic areas</b> are adequate with sufficient solid-surface parking.	<div><div>10</div><div>2</div></div>
1.6	<b>Topography</b> is varied enough to provide desirable appearance and without steep inclines.	<div><div>5</div><div>2</div></div>
1.7	Site has stable, well drained <b>soil free of erosion</b> .	<div><div>5</div><div>4</div></div>
1.8	Site is suitable for <b>special instructional needs</b> , e.g. outdoor learning.	<div><div>5</div><div>2</div></div>
1.9	<b>Pedestrian services</b> including adequate sidewalks with designated crosswalks, curb cuts and correct slopes.	<div><div>5</div><div>2</div></div>
1.10	Sufficient <b>on-site, solid surface parking</b> is provided for faculty, students, staff and community.	<div><div>5</div><div>2</div></div>
Total - The School Site		<div><div>100</div><div>55</div></div>

Table of  
Weights  
and  
Categories

Maximum Points Allotted	Non- Existent	Very Inadequate 1 - 29%	Poor 30 - 49%	Borderline 50 - 69%	Satisfactory 70 - 89%	Excellent 90 - 100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.0	Structural and Mechanical Features	200 Points
<b>Structural</b>		
2.1	Structure meets all <b>barrier-free</b> requirements both externally and internally.	<div><div>15</div><div>10</div></div>
2.2	<b>Roofs</b> appear sound, have positive drainage, and are weather-tight.	<div><div>15</div><div>13</div></div>
2.3	<b>Foundations</b> are strong and stable with no observable cracks.	<div><div>10</div><div>10</div></div>
2.4	<b>Exterior and interior walls</b> have sufficient expansion joints and are free of deterioration.	<div><div>10</div><div>9</div></div>
2.5	<b>Entrances and exits</b> are located so as to permit efficient student traffic flow.	<div><div>10</div><div>7</div></div>
2.6	<b>Building "envelope"</b> generally provides for energy conservation (See criteria).	<div><div>10</div><div>7</div></div>
2.7	Structure is <b>free of friable asbestos</b> and <b>toxic materials</b> .	<div><div>10</div><div>10</div></div>
2.8	Interior walls permit sufficient <b>flexibility</b> for a variety of class sizes.	<div><div>10</div><div>5</div></div>

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10	0	2	4	6	8	10
15	0	3	6	9	12	15

**Mechanical/Electrical**



2.9	Adequate light sources are well maintained, properly placed and are not subject to overheating.	<div><div>15</div><div>12</div></div>
2.10	Internal water supply is adequate with sufficient pressure to meet health and safety requirements.	<div><div>15</div><div>15</div></div>
2.11	Each teaching/learning area has adequate convenient wall outlets, phone and computer cabling for technology applications.	<div><div>15</div><div>15</div></div>
2.12	Electrical controls are safely protected with disconnect switches easily accessible.	<div><div>10</div><div>9</div></div>
2.13	Drinking fountains are adequate in number and placement, and are properly maintained including provisions for the disabled.	<div><div>10</div><div>8</div></div>
2.14	Number and size of restrooms meet requirements.	<div><div>10</div><div>10</div></div>
2.15	Drainage systems are properly maintained and meet requirements.	<div><div>10</div><div>10</div></div>
2.16	Fire alarms, smoke detectors and sprinkler systems are properly maintained and meet requirements.	<div><div>10</div><div>10</div></div>
2.17	Intercommunication system consists of a central unit that allows dependable two-way communication between the office and instructional areas.	<div><div>10</div><div>10</div></div>
2.18	Exterior water supply is sufficient and available for normal usage.	<div><div>5</div><div>5</div></div>
Total - Structural and Mechanical Features		<div><div>200</div><div>175</div></div>

Table of Weights and Categories

Maximum Points Allotted	Non-Existent	Very Inadequate 1 - 29%	Poor 30 - 49%	Borderline 50 - 69%	Satisfactory 70 - 89%	Excellent 90 - 100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15

3.0	Plant Maintainability	100 Points
3.1	Exterior windows, doors and walls are of material and finish requiring minimum maintenance.	<div><div>15</div><div>13</div></div>
3.2	Floor surfaces throughout the building require minimum care.	<div><div>15</div><div>7</div></div>
3.3	Ceilings and walls throughout the building, including service areas, are easily cleaned and resistant to stain.	<div><div>10</div><div>7</div></div>
3.4	Built-in equipment is designed and constructed for ease of maintenance.	<div><div>10</div><div>8</div></div>
3.5	Finishes and hardware, with a compatible keying system, are of durable quality.	<div><div>10</div><div>10</div></div>
3.6	Restroom fixtures are wall mounted and of quality finish.	<div><div>10</div><div>10</div></div>
3.7	Adequate custodial storage space with water and drain is accessible throughout the building.	<div><div>10</div><div>9</div></div>
3.8	Adequate electrical outlets and power, to permit routine cleaning, are available in every area.	<div><div>10</div><div>9</div></div>
3.9	Outdoor light fixtures, electric outlets, equipment, and other fixtures are accessible for repair and replacement.	<div><div>10</div><div>9</div></div>
Total - Plant Maintainability		<div><div>100</div><div>82</div></div>

Table of Weights and Categories

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10	0	2	4	6	8	10
15	0	3	6	9	12	15



4.0 Building Safety and Security

200 Points

Site Safety

4.1	Student loading areas are segregated from other vehicular traffic and pedestrian walkways.	15	10
4.2	Walkways, both on and offsite, are available for safety of pedestrians.	10	7
4.3	Access streets have sufficient signals and signs to permit safe entrance to and exit from school area.	5	2
4.4	Vehicular entrances and exits permit safe traffic flow.	5	2
4.5	Athletic field equipment is properly located and is free from hazard.	5	1

Building Safety

4.6	The heating unit(s) is located away from student occupied areas.	20	20
4.7	Multi-story buildings have at least two stairways for student egress.	15	15
4.8	Exterior doors open outward and are equipped with panic hardware.	10	10
4.9	Emergency lighting is provided throughout the building with exit signs on separate electrical circuits.	10	10
4.10	Classroom doors are recessed and open outward.	10	10
4.11	Building security systems are provided to assure uninterrupted operation of the educational program.	10	10

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10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20

Building Safety (cont.)

4.12	Flooring (including ramps and stairways) is maintained in a nonslip condition.	5	4
4.13	Stairs (interior and exterior) meet standards (maximum 7" rise to 11" tread) and steps range in number from 3 - 16.	5	5
4.14	Glass is properly located and protected with wire or safety material to prevent accidental student injury.	5	5
4.15	Fixed projections in the traffic areas do not extend more than 8" from the corridor wall.	5	5
4.16	Traffic areas terminate at an exit or a stairway leading to an egress.	5	5

Emergency Safety

4.17	Adequate fire safety equipment is properly located.	15	15
4.18	There are at least two independent exits from any point in the building.	15	15
4.19	Fire-resistant materials are used throughout the structure.	15	15
4.20	Automatic and manual emergency alarm system with a distinctive sound and flashing light is provided.	15	15

Total - Building Safety and Security

200	181
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5	0	1	2	3	4	5
15	0	3	6	9	12	15



5.0 Educational Adequacy

200 Points

Academic Learning Space

5.1	Size of academic learning areas meets desirable standards.	<div><div>10</div><div>9.0</div></div>
5.2	Classroom space permits arrangements for small group activity.	<div><div>10</div><div>8.0</div></div>
5.3	Location of academic learning areas is near related educational activities and away from disruptive noises.	<div><div>10</div><div>10.0</div></div>
5.4	Personal space in the classroom away from group instruction allows privacy time for individual students.	<div><div>5</div><div>4.0</div></div>
5.5	Storage for student materials is adequate.	<div><div>5</div><div>5.0</div></div>
5.6	Storage for teacher materials is adequate.	<div><div>5</div><div>5.0</div></div>

Specialized Learning Space

5.7	Size of specialized learning area(s) meets standards.	<div><div>15</div><div>15.0</div></div>
5.8	Design of specialized learning area(s) is compatible with instructional need.	<div><div>10</div><div>10.0</div></div>
5.9	Library/Resource/Media Center provides appropriate and attractive space.	<div><div>15</div><div>11.0</div></div>
5.10	Gymnasium and outdoor facilities adequately serve physical education instruction.	<div><div>15</div><div>12.0</div></div>
5.11	Science program is provided sufficient space and equipment.	<div><div>10</div><div>9.0</div></div>
5.12	Music Program is provided adequate sound-treated space.	<div><div>10</div><div>9.0</div></div>

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10	0	2	4	6	8	10
15	0	3	6	9	12	15
25	0	5	10	15	20	25

Specialized Learning Space (cont.)

5.13	Space for art is appropriate for instruction, supplies and equipment.	<div><div>10</div><div>9.0</div></div>
5.14	Space for technology education permits use of state-of-the-art equipment.	<div><div>10</div><div>8.0</div></div>
5.15	Space for small groups and remedial instruction is provided adjacent to classrooms.	<div><div>5</div><div>4.0</div></div>
5.16	Storage for student and teacher material is adequate.	<div><div>5</div><div>4.0</div></div>

Support Space

5.17	Teacher's lounge and work areas support teachers as professionals.	<div><div>10</div><div>10.0</div></div>
5.18	Cafeteria/Kitchen is attractive with sufficient space for seating/dining, delivery, storage and food preparation.	<div><div>10</div><div>10.0</div></div>
5.19	Administrative offices are consistent in appearance and function with the maturity of the students served.	<div><div>10</div><div>10.0</div></div>
5.20	Counselor's office insures privacy and sufficient storage.	<div><div>5</div><div>4.0</div></div>
5.21	Clinic is near administrative offices and is equipped to meet requirements.	<div><div>5</div><div>4.0</div></div>
5.22	Suitable reception space is available for students, teachers and visitors.	<div><div>5</div><div>4.0</div></div>
5.23	Administrative personnel are provided sufficient work space and privacy.	<div><div>5</div><div>4.0</div></div>

Total - Educational Adequacy

200	178.0
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5	0	1	2	3	4	5
10	0	2	4	6	8	10



6.0 Environment for Education

200 Points

Exterior Environment

6.1	Overall <b>design is aesthetically pleasing</b> and appropriate for the age of students.	<div><div>15</div><div>13</div></div>
6.2	Site and buildings are well landscaped.	<div><div>10</div><div>10</div></div>
6.3	<b>Exterior noise and surrounding environment</b> do not disrupt learning.	<div><div>10</div><div>10</div></div>
6.4	<b>Entrances and walkways are sheltered</b> from sun and inclement weather.	<div><div>10</div><div>8</div></div>
6.5	<b>Building materials</b> provide attractive color and texture.	<div><div>5</div><div>5</div></div>

Interior Environment

6.6	<b>Color schemes, building materials and decor</b> provide an impetus to learning.	<div><div>20</div><div>15</div></div>
6.7	<b>Year around comfortable temperature and humidity</b> are provided throughout the building.	<div><div>15</div><div>12</div></div>
6.8	<b>Ventilating system</b> provides adequate quiet circulation of clean air and meets 15cfm VBC requirement.	<div><div>15</div><div>10</div></div>
6.9	<b>Lighting system</b> provides proper intensity, diffusion and distribution of illumination.	<div><div>15</div><div>10</div></div>
6.10	<b>Sufficient drinking fountains and restroom facilities</b> are conveniently located.	<div><div>15</div><div>13</div></div>
6.11	<b>Communication among students</b> is enhanced by commons area.	<div><div>10</div><div>10</div></div>

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5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20

Interior Environment (cont.)

6.12	<b>Traffic flow</b> is aided by appropriate foyers and corridors.	<div><div>10</div><div>10</div></div>
6.13	<b>Areas for students to interact</b> are suitable to the age group.	<div><div>10</div><div>10</div></div>
6.14	<b>Large group areas</b> are designed for effective management of students.	<div><div>10</div><div>10</div></div>
6.15	<b>Acoustical treatment</b> of ceilings, walls and floors provides effective sound control.	<div><div>10</div><div>8</div></div>
6.16	<b>Window design</b> contributes to a pleasant environment.	<div><div>10</div><div>8</div></div>
6.17	<b>Furniture and equipment</b> provide a pleasing atmosphere.	<div><div>10</div><div>7</div></div>

Total - Environment for Education

200	169
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Table of  
Weights  
and  
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10	0	2	4	6	8	10



Justification for Allocation of Points

BUILDING NAME AND LEVEL:

Horizons High School Grades 9 -12

Indicate the justification for the appraisal decision in the space provided.

BUILDING FEATURES THAT CLEARLY EXCEED CRITERIA:

- 1. Classroom size are more than adequate for the number of students served.
- 2. Building is below capacity.
- 3. Building is generally in good condition.
- 4. Large gymnasium.
- 5.

BUILDING FEATURES THAT ARE NON-EXISTENT OR VERY INADEQUATE:

- 1. Collaboration Spaces for project-based learning.
- 2. Flexible furniture that should allow students to learn at their pace.
- 3. Security at lower doors.
- 4. Site is small, limiting outdoor activities.
- 5. Early Childhood program needs to be consolidated with a direct secure entrance.
- 6.
- 7.

Date of Appraisal:

June 13,2019

Name of School:

Horizons High School

Name of Appraisers:

Duane Cash

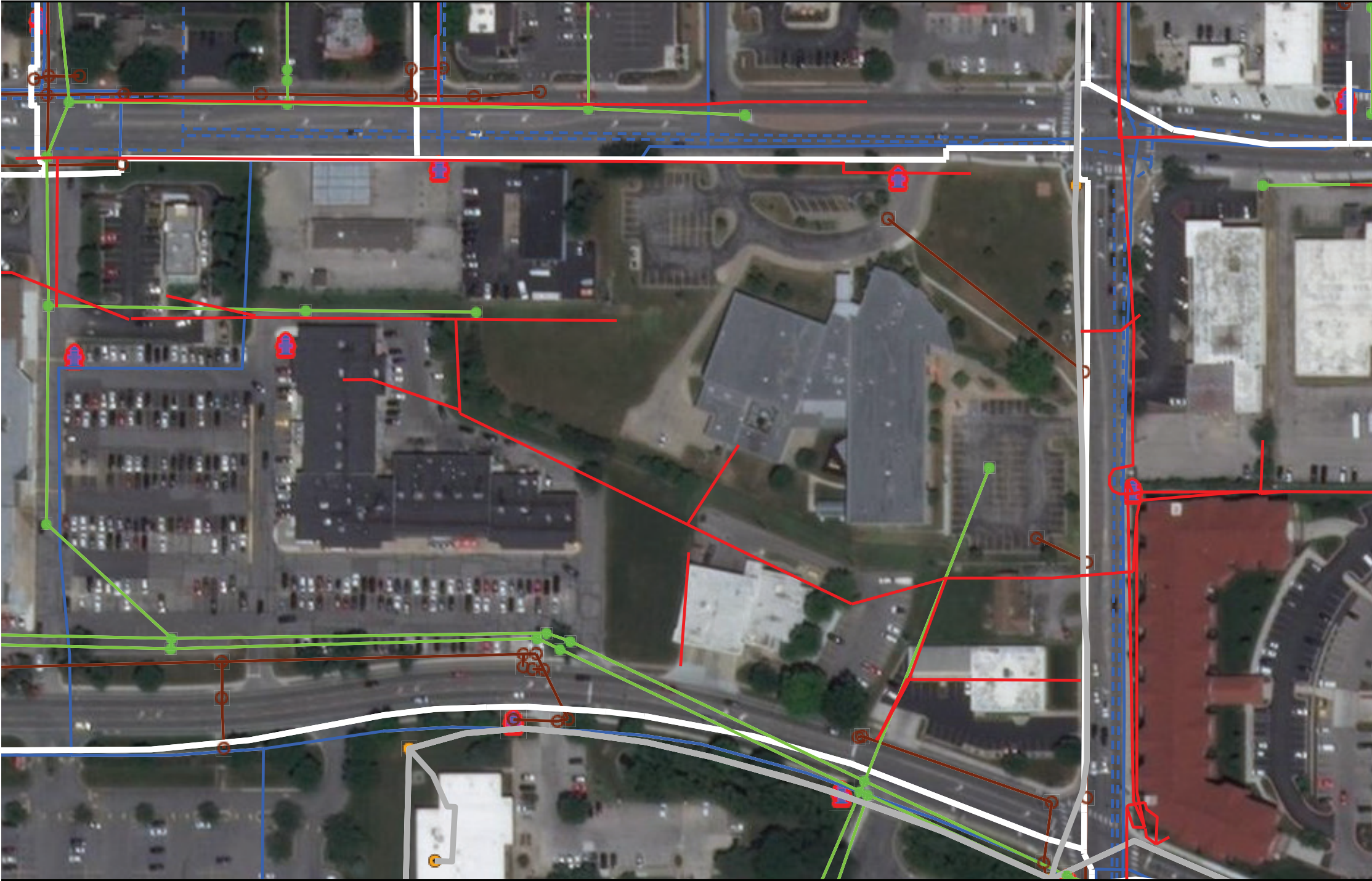




SITE PLAN

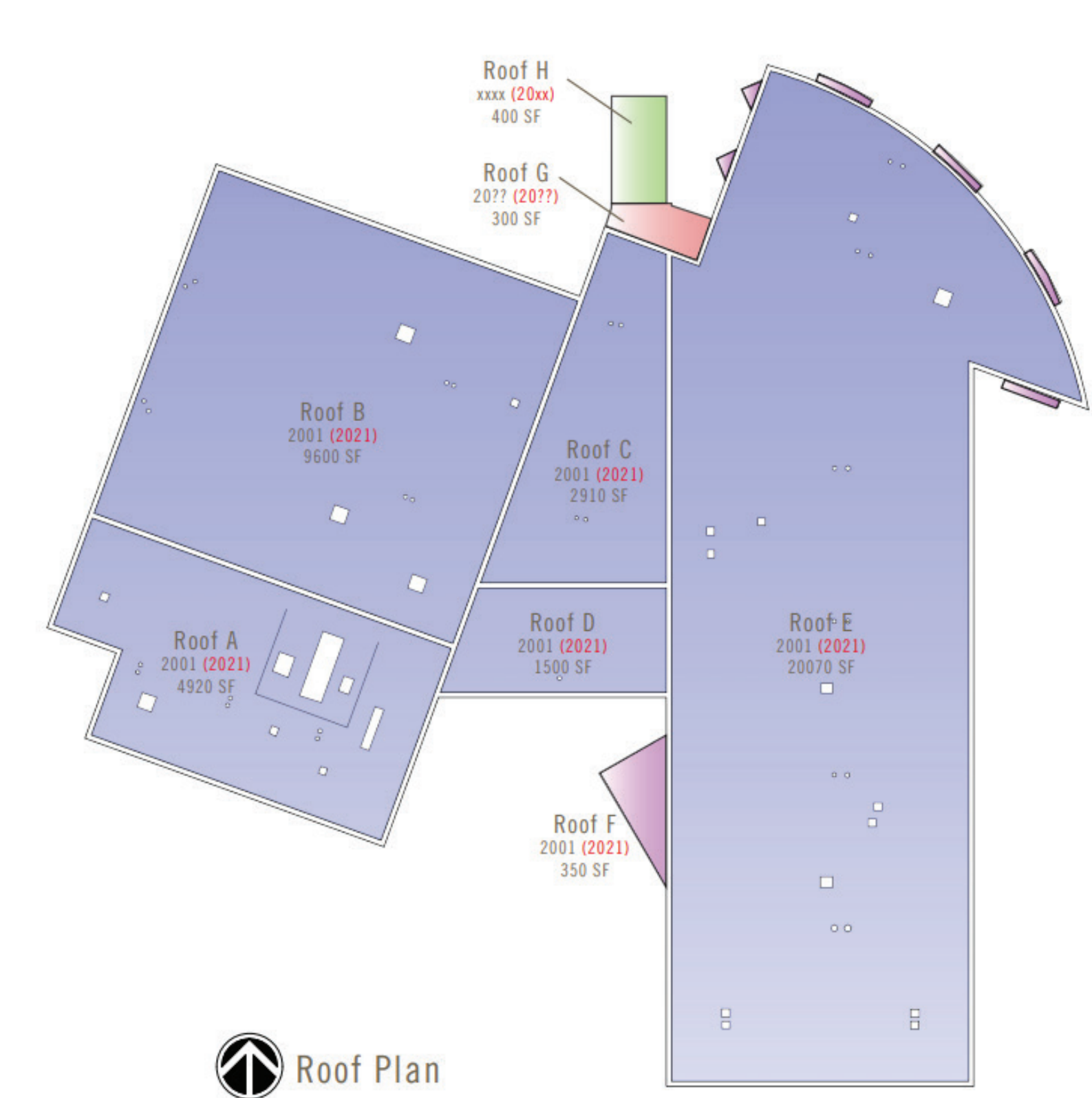


SITE UTILITIES





ROOF ASSESSMENT



- Roof Areas**
- Canopy Roof H  
SBS Mod. Bit. Membrane  
2011-2013 (Missing)
  - Roofs A,B,C,D,E  
Tamko 103FR / 394 sq.  
April 2001 (20 year) 2021
  - Roofs G  
Tamko 103FR  
2011-2013 (Missing)
  - Roofs F  
Standing Seam Metal Roof  
2001 (20 year) 2021





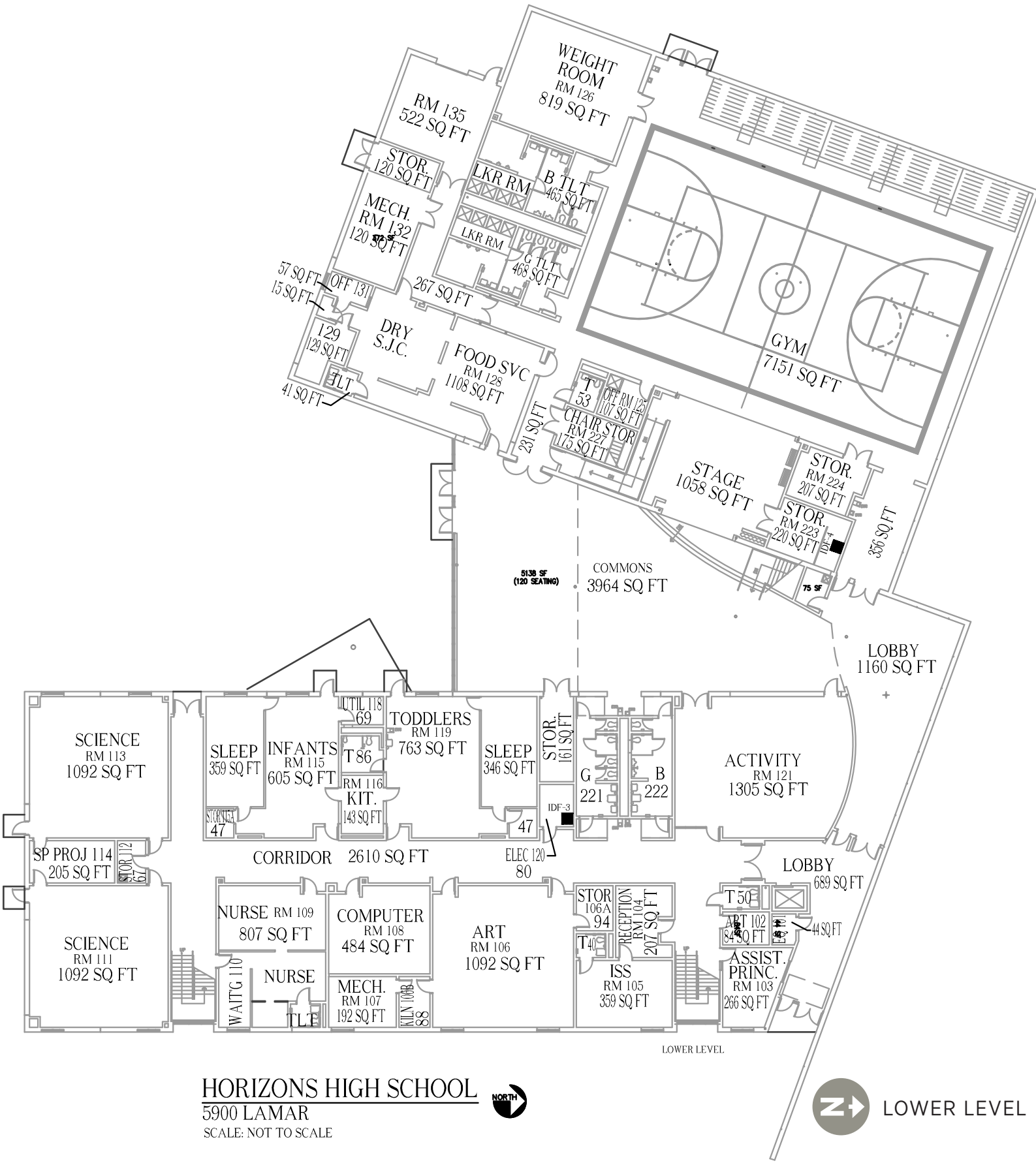
FLOOR PLAN

 FIRST FLOOR





FLOOR PLAN



HORIZONS HIGH SCHOOL  
5900 LAMAR  
SCALE: NOT TO SCALE





# ARCHITECTURAL NARRATIVE

Principal: Dr. Paul B Colwell | 63,236 SF | 4.59 acres | 2 story | 2001 building

## General

- The building was constructed in 2001.
- There are 175 students in the 9-12 program and 25 children in the daycare program.

## Building

- Building is a front to back, split level, 2-story building.
- Building lacks collaboration space or commons.
- Lower level classroom wing seems disconnected from the rest of the building.
- Lower level entrance is not supervised and students have been known to let people in.
- No direct entrance to the day care, causing staff members to leave children in order to let parents in.

## Classrooms

- Classrooms are of typical size and are adequate in nature.
- No classes bigger than 15 students.

## Performing and Fine Arts

- Combo Music Room.
- Drama Classroom - stage that isn't utilized.
- Large art classroom with kiln room.

## Gymnasium/Athletics

- The basketball gymnasium is full size and has bleacher seating for about 850.
- No gender neutral locker rooms.

## Cafeteria/Kitchen

- The kitchen and scramble are in good shape and adequately equipped.

## Counselor/Nurse/Admin

- Secure vestibule was added but with poor visual connection.

## Special Classrooms/Media/Library

- The Media Center is adequately sized.
- Student recreation area is used frequently.

## Circulation/Lockers/Commons

- Common space on lower level acts as cafeteria and audience space for stage.
- FACS - is large and adequately outfitted.

## Site

- There is a 50 yard x 75 yard grass play area.
- Back hill is steep and dangerous to mow. Fence is at the top of the hill.
- Buses drop off at front circle.
- Parent drop off and parking is on lower level.

## Wishes & Wants

- Flexible furniture that allows easy configuration for different learning styles.
- Daycare needs to be consolidated with a dedicated direct entrance.
- Pass through toilet on lower level is used as a corridor causing supervision issues and students dumping food in bathroom.
- Lower level entrance needs to be addressed for better security and oversight.
- Parking can be an issue for large events like graduation.
- Curbs and sidewalks in the front of the building are in need of repair.
- ADA access from lower parking lot to main entrance.
- Plantings on steep hill that don't require mowing.
- Cooling tower is difficult to keep running.
- No bottle filler drinking fountains.
- Ongoing leaks at window projections.
- Lighting needs to be upgraded.



# FACILITY OBSERVATIONS

## Architectural Observations



Projection windows have been a constant leaking issue.



Common space is below the front entrance level. Stage is rarely used. Bright and open space.



Toilet fixtures and partitions are in good shape and well maintained.



Computer lab is dark and lacks a sense of place, updated furniture and layout would improve the space.



Classroom is adequately sized and has a variety of types of furniture.





Separation in the floor tiles in this location may indicate movement in the structure or an expansion joint.



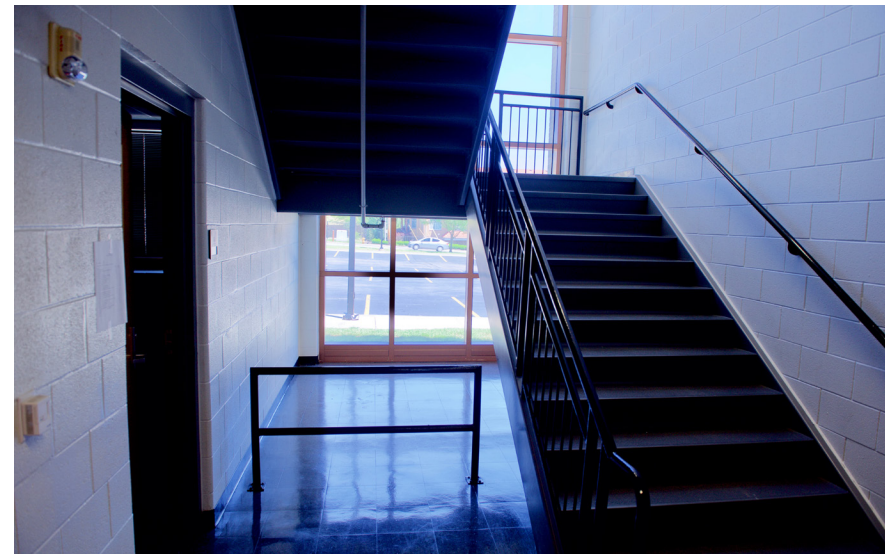
Separation in the floor tiles in this location may indicate movement in the structure or an expansion joint.



FACS Classroom is large and well lit. ADA station is provided.



Early Childhood needs a secure direct entrance.



Stair design doesn't allow for access to the east parking lot.





Science rooms are adequately sized and equipped.



Early Childhood play area is across the corridor from the classroom and is open to the main common space.



Early Childhood cribs are behind a half height wall for privacy but allows for observation.



Other side of early childhood crib room with feeding chairs.



Art room is adequately sized and equipped.



Mechanical system is in good shape but cooling tower has issues with shutting down that should be addressed.





Hot water tanks may be nearing end of life.



Art Room Kiln room is properly ventilated and adequately sized.



Electrical and Data share same room, no security for data.



Data Rack and Phone patch board.

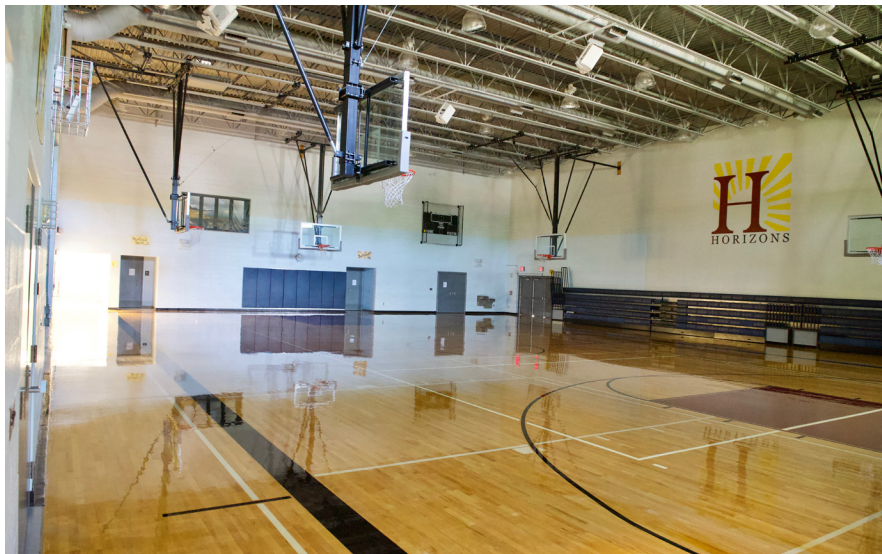




Wifi Network goes off line and has blind spots in the building.



Student Recreation room is in good shape and size.



Gymnasium is adequately sized and in good shape. Bleachers are large enough for events being held. Floor was recently refinished.



East parking lot (student & early childhood) entrance is not well monitored and students open the doors for visitors or other students.



Commons space with little used stage and unneeded balcony from the teachers lounge.





Doors from stage to cafeteria are rarely used.



Kitchen floor is in good shape, but controls joints do telegraph through and should be monitored for potential failure in the future.



Kitchen and scramble are adequately sized and equipped.



Play area for students, no backstop or other defined playing fields.



Steep slope beyond fence is difficult to mow and maintain.



Steep slope beyond fence is difficult to mow and maintain.





West service drive, Building exterior in good condition.



Janitorial storage and receiving is a little tight.



Early childhood playground is protected from the general public's view but does impact the space available for high school students outside of the commons.



Greenhouse is rarely used and the controls need to be updated.



Some staining of the cast stone on the north elevation of the greenhouse.



Some staining at the lowest brick along the sidewalk outside the common space.



# MEP NARRATIVE

## General Project Information

Owner:	Shawnee Mission School District
School Name:	Horizons High School
Project Address 1:	5900 Lamar Ave.
City:	Mission
	State: KS
	Floor Area: 63,236 SF
Building Stories:	2
Building Use Type:	High School
Code Occupancy Group:	E Occupancy

## Team Contact Information

Contact Name:	Keith Hammerschmidt
Contact Company:	RTM Associates
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Contact Fax:	913-825-6697
Contact Email:	khammerschmidt@rtmassociates.com

# MEP NARRATIVE

## General

- Corridors and classrooms included accessible lay-in ceilings.
- The building is equipped with a fire sprinkler system.
- Observations regarding code deficiencies are in reference to the current 2012 IBC code series adopted by local jurisdictions. Should local jurisdictions adopt codes newer than the 2012 IBC, additional updates may be required to building systems. Items of note include:
- 2015 IBC requires a full FEMA storm shelter which would require backup generator power, ventilation and restrooms.
- 2015 IBC added requirements for carbon monoxide detection in select classrooms served by fuel fired equipment.

## Mechanical

### System Descriptions

- The majority of the building is served with a boilers and a cooling tower and internal air handlers.
- Majority of the equipment looks to be original and is 18 years old, some equipment may be nearing end of life in the next decade.

### Controls Systems

- A full BMS control system is currently installed to serve all HVAC equipment.

### Additional Updates required to bring systems up to current codes:

- Provide minimum ventilation per current ssswwd to each classroom.
- Energy recovery will be required when minimum ventilation rates are brought up to code.

### Additional Updates required to bring systems up to current SMSD Standards:

- HVAC equipment efficiencies shall be increased.
- Each classroom shall be provided with its own thermostat.

## Plumbing Systems

### Hot Water

- Domestic hot water system consists of multiple gas-fired water heaters distributed around the building. Majority of water heaters are appear to be original equipment.

### Water Supply

- Water pressure appeared to be sufficient.

### Roof Drains

- Majority of roof drains are piped to storm sewer system.

### Additional Updates required to bring systems up to current codes:

- All hand washing sinks will need to have thermostat mixing valves installed to limit maximum water hot water temperature to 110°F.
- Hot water piping shall be insulated per energy code.

### Additional Updates required to bring systems up to current SMSD Standards:

- Replace all faucets and flush valves with Toto sensor devices.
- Hot water recirculation line shall tie into hot water line with-in 3 feet of every hand washing sink.

## Electrical Systems

### Lighting

- Exterior illumination at front drop-off area of the building did appear sufficient.
- Interior illumination was uniform with light fixtures in good condition. However many classrooms only had one level of lighting control in the space, on or off.

### Special Systems (Fire Alarm, Intercom, Data Systems)

- Fire Alarm system was an analog system and would not support a new mass notification system. An entirely new fire alarm system and infrastructure may be required to bring the system up to current codes. Corridors had smoke detectors installed throughout.
- Intercom system appeared functional and sufficient.
- Data systems appeared functional and sufficient.

### Additional Updates required to bring systems up to current SMSD Standards:

#### Electrical

- Energy Metering added to all electrical equipment.
- Additional receptacles added throughout classrooms.

#### Lighting

- New LED light fixtures installed in all areas, interior and exterior
- Dimming Controls added in classrooms.

#### Fire Alarm

- Complete Replacement of all devices and control panels to support a mass notification system.
- Additional Smoke Detection may be required.

#### Intercom system

- New Valcom Intercom System

#### Data systems

- Dedicated IT closets for Data Racks and data associated equipment.



# FACILITY OBSERVATIONS

## MEP Observations



Electrical service is adequately sized and in good condition.



Electrical service is adequately sized and in good condition.



Boilers are in decent shape but may be nearing end of life in the next decade.



Cooling tower tank has a leak.



# CONCEPT ESTIMATE

## Horizons High School Needs & Probable Costs



TOTAL CONSTRUCTION COSTS	
Total Costs	\$3,778,263
Inflation 2019 to 2020 6%	\$226,696
TOTAL COSTS YEAR 2020	\$4,004,958

PROJECT NEEDS	SQUARE FOOT	COST/SF	HARD CONSTRUCTION COSTS	SOFT COSTS 25%	TOTAL PROJECT COSTS
Daycare Consolidation and Dedicated Entrance.	2,000	\$200	\$400,000	\$100,000	\$500,000
Secure Lower Entrance			\$80,000	\$20,000	\$100,000
Flexible Furniture			\$500,000	\$125,000	\$625,000
Exterior Site, Plantings on Hill, ADA Access From Lower Parking and Curb & Sidewalk Repairs			\$250,000	\$62,500	\$312,500
Mechanical Upgrades & Cooling Tower Repair.			\$350,000	\$87,500	\$437,500
Gender Neutral Toilets	750	\$375	\$281,250	\$70,313	\$351,563
Toilet Updates	1,500	\$350	\$525,000	\$131,250	\$656,250
LED Lights	63,236	\$10	\$632,360	\$158,090	\$790,450
Bottle Filler Drinking Fountains			\$4,000	\$1,000	\$5,000
TOTAL EXPENSES					\$3,778,263

