



OAKES PUBLIC SCHOOL:

FACILITY ASSESSMENT RESULTS

Board Meeting
July 6, 2023

Experienced Team



Lori Christensen, PE
ICS Account Executive



Mark Ondracek
ICS Project Development



Kirk Ham
ICS Educational Consultant





/ COMMUNITY & STAKEHOLDER INPUT

Stakeholder Listening Sessions

/ SPACE NEEDS

Demographics

/ EDUCATION NEEDS

Educational Adequacy & Technology



/ FACILITY NEEDS

Facility Assessment



Facility Assessment Results



ASHRAE: LIFE EXPECTANCY CHART

ASHRAE Equipment Life Expectancy chart

ASHRAE is the industry organization that sets the standards and guidelines for most all HVAC-R equipment. For additional info about ASHRAE the website is www.ashrae.org.

Median Life Expectancy

Equipment Item	Median Years	Equipment Item	Median Years	Equipment Item	Median Years
Air conditioners		Air terminals		Air-cooled condensers	20
Window unit	10	Diffusers, grilles, and registers	27	Evaporative condensers	20
Residential single or Split Package	15	Induction and fan coil units	20	Insulation	
Commercial through-the wall	15	VAV and double-duct boxes	20	Molded Blanket	20
Water-cooled package	15	Air washers	17		24
Heat Pumps		Ductwork	30	Pumps	
Residential air-to-air	15	Dampers	20	Base-mounted	20
Commercial air-to-air	15	Fans		Pipe-mounted	10
Commercial water-to-air	19	Centrifugal	25	Sump and well	10
Roof-top air conditioners		Axial	20	Condensate 15	
Single-zone	15	Propeller	15	Reciprocating engines	20
Multi-zone	15	Ventilating roof-mounted	20	Steam turbines	30
Boilers, hot water (steam)		Coils		Electric motors	18
Steel water-tube	24 (30)	DX, water, or steam	20	Motor starters	17
Steel fire-tube	25 (25)	Electric	15	Electric transformers	30
Cast iron	35 (30)	Heat Exchangers		Controls	
Electric	15	Shell-and-tube	24	Pneumatic	20
Burners	21	Reciprocating compressors	20	Electric	16
Furnaces		Packaged chillers		Electronic	15
Gas- or oil-fired	18	Reciprocating	20	Valve actuators	
Unit heaters		Centrifugal	23	Hydraulic	15
Gas or electric	13	Absorption	23	Pneumatic	20
Hot water or steam	20	Cooling towers		Self-contained	10
Radiant Heaters		Galvanized metal	20		
Electric	10	Wood	20		
Hot water or steam	25	Ceramic	34		

How are budgets developed



- Not bids or contractor estimates
- Based on the team's project history of recently bid projects of similar scope
 - Typically, utilizing the average of the bids. Low bid creates risk of contractor not having all items included or “buying” the job to keep work.
- Utilize industry standard databases
- Budgets are inclusive of:
 - Contractor costs
 - Inflation
 - Contingency
 - Testing/Survey/Commissioning/Permitting, etc.
 - Fees

HS/ES Building Age and Square Footage

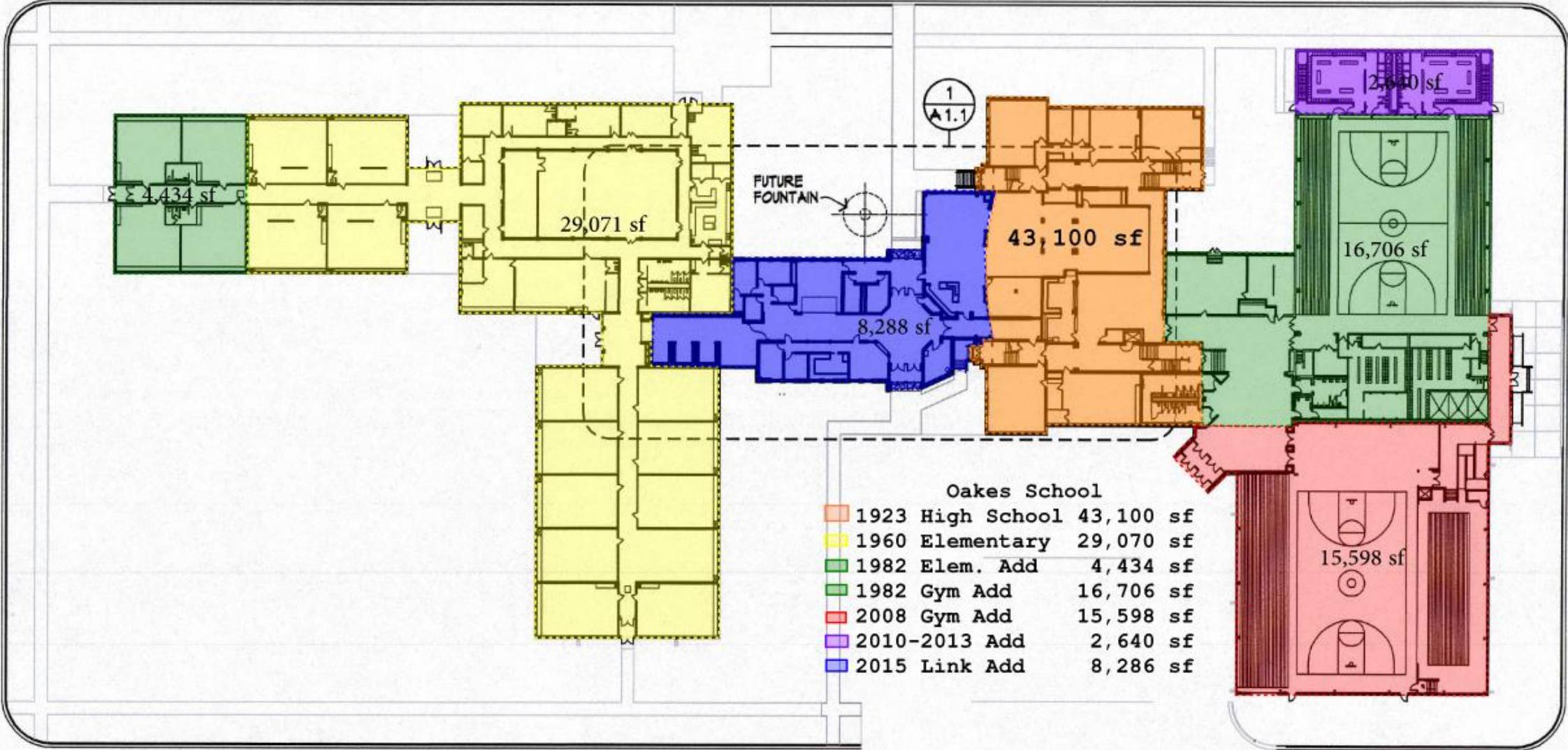


88TH STREET SE

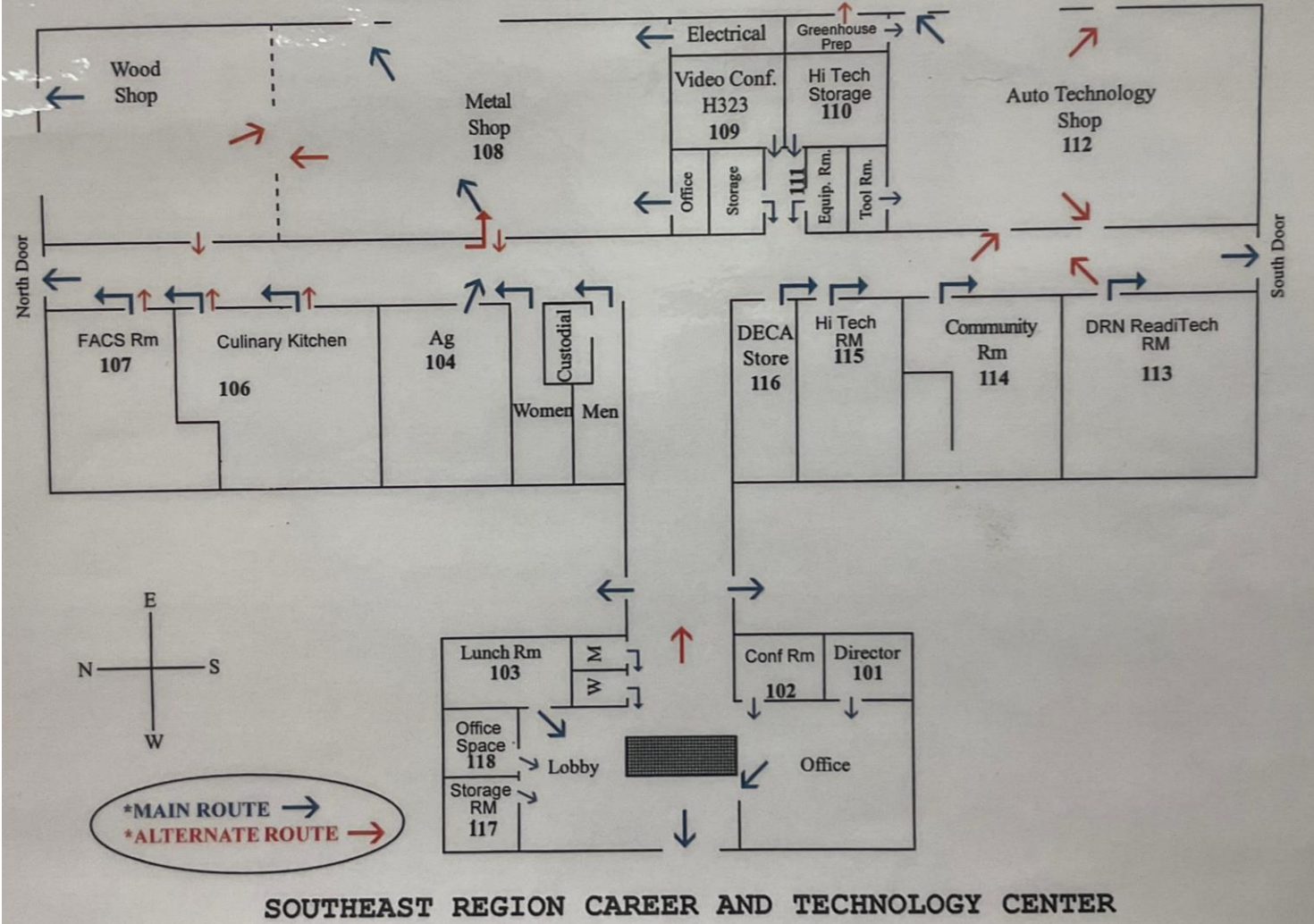
7TH STREET S

9TH STREET S

IVY AVENUE

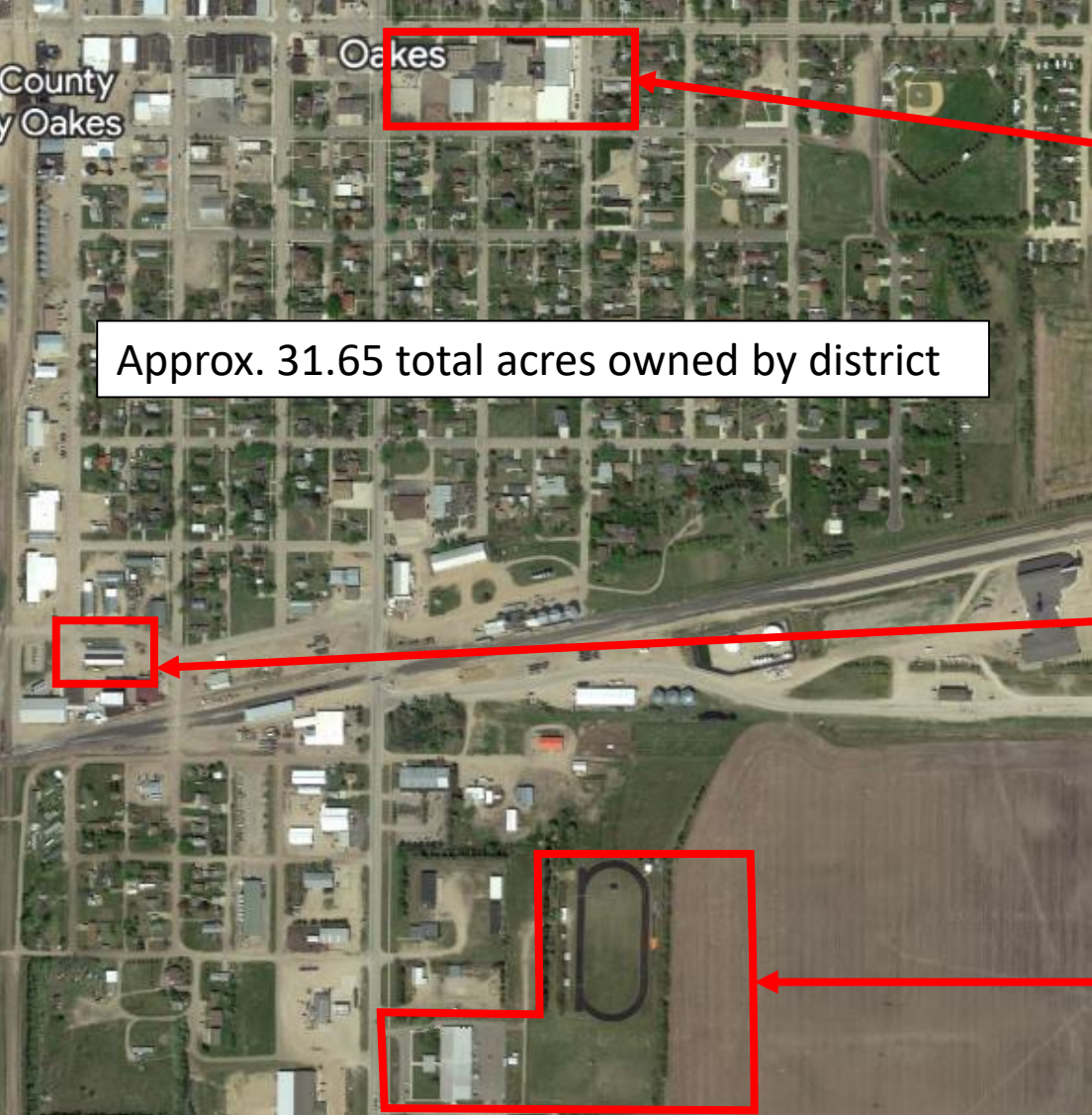


VOTECH Building Age and Square Footage

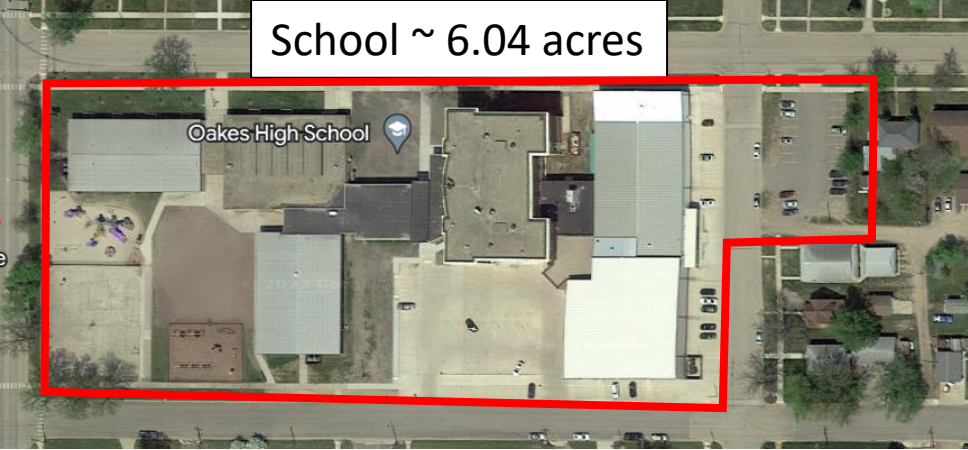


Approximately: 33,700 SF

Site Layout and Size



Approx. 31.65 total acres owned by district



School ~ 6.04 acres



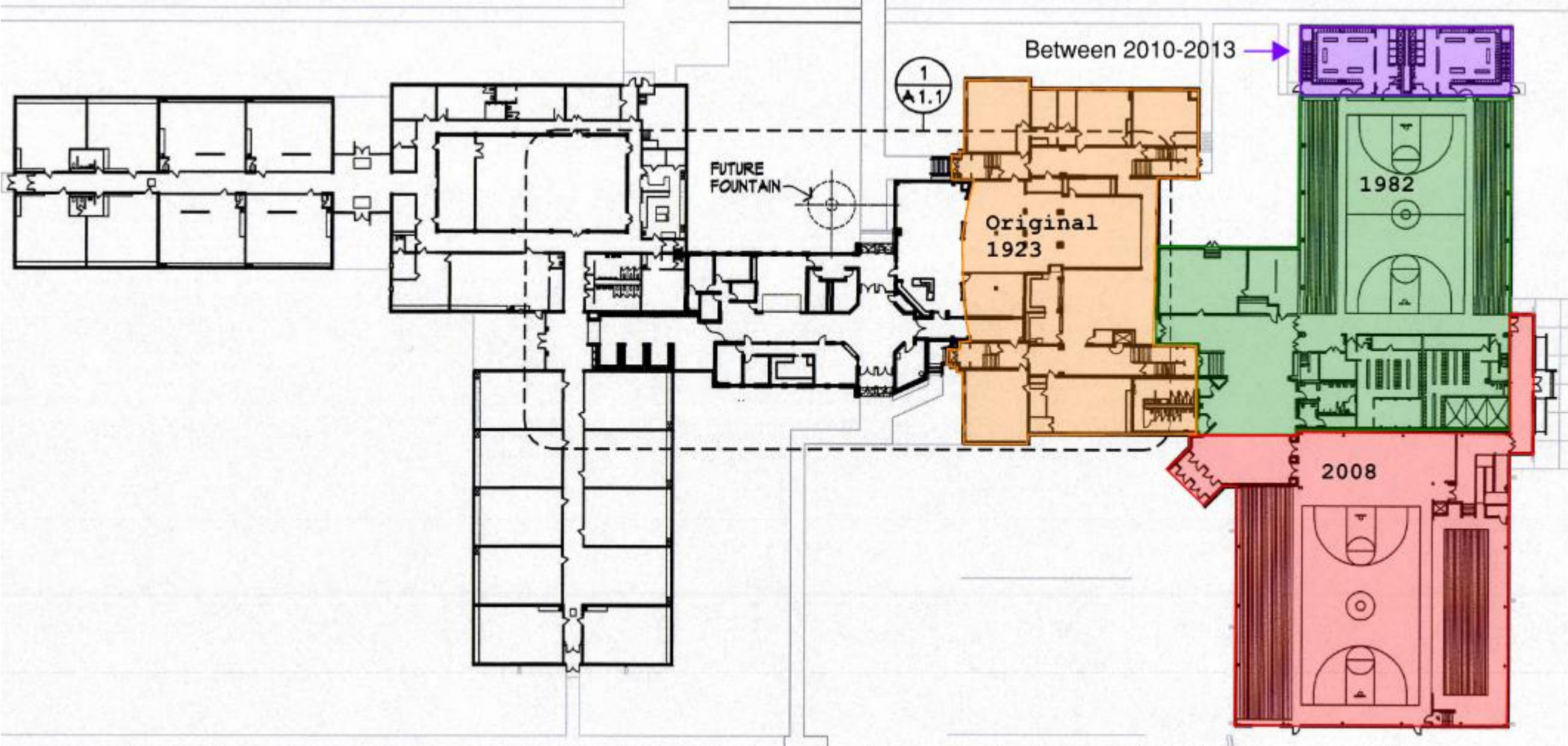
Bus Garage ~ .81 acres



VOTECH and Track ~ 24.8 acres

Transportation Department

High School Facility Assessment Results



Existing Condition:

- Two pipe hot water and chilled water system with multiple fan coil units serving each zone
- Chiller system is beyond its life expectancy and is currently not working
- Boiler system has an electric hot water boiler with a fuel oil boiler back-up. Existing electric boiler installed in 2006 is undersized. Fuel oil boiler is beyond its life expectancy
- Air handler units (2) in 1982 Gym are beyond their life expectancy
- Fan coil units in classrooms are beyond their life expectancy
- Make-up air unit serving fan coil units is beyond its life expectancy
- Temperature control system is inefficient and a combination of pneumatic controls and digital controls
- No fire protection in classroom areas.



HS HVAC System / IAQ





Proposed Solution:

- Remove existing HVAC system in HS classrooms and gymnasiums.
- Install new ducted ventilation systems to provide code compliant ventilation with hot water heat and chilled water cooling.
- Replace boiler and chiller systems with new, right sized, four pipe system. Equipment, pumps, controls and piping would be replaced with new.
- Replace pneumatic control system with new direct digital control system
- Existing ceiling would be removed and replace
- Existing lights would be either reinstalled or replaced with new
- Fire Protection would be installed throughout HS classroom area
- Electrical panels and service would be updated as needed

Budget Estimate: = \$11,906,500

HS Plumbing System – Domestic Water Piping



Existing Condition:

- Existing domestic water piping distribution system and sanitary sewer piping is original.
- Piping is beyond its life expectancy and should be replaced with new

Proposed Solution:

- Replace existing domestic water piping and sewer piping above grade in 1923 portion of the building with new.
- Wall and ceiling removal and patching would be required to access piping.

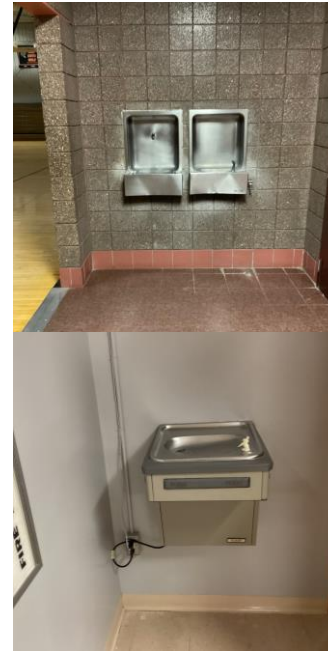
Budget Estimate = \$594,800

HS Plumbing System – ADA Compliance



Existing Condition:

- Student restrooms on 3rd floor are not ADA compliant
- Staff restrooms are located in stairwells and are not ADA compliant
- Men's and Women's locker room toilets between gyms is not ADA compliant.
- Drinking fountains are not ADA compliant in HS classroom areas



Proposed Solution:

- Renovate 3rd floor restrooms to be ADA compliant
- Relocate existing staff restrooms to an ADA compliant location
- Renovate restrooms in locker rooms to be ADA compliant
- Install ADA drinking fountains with bottle fillers



HS Plumbing System – ADA Compliance



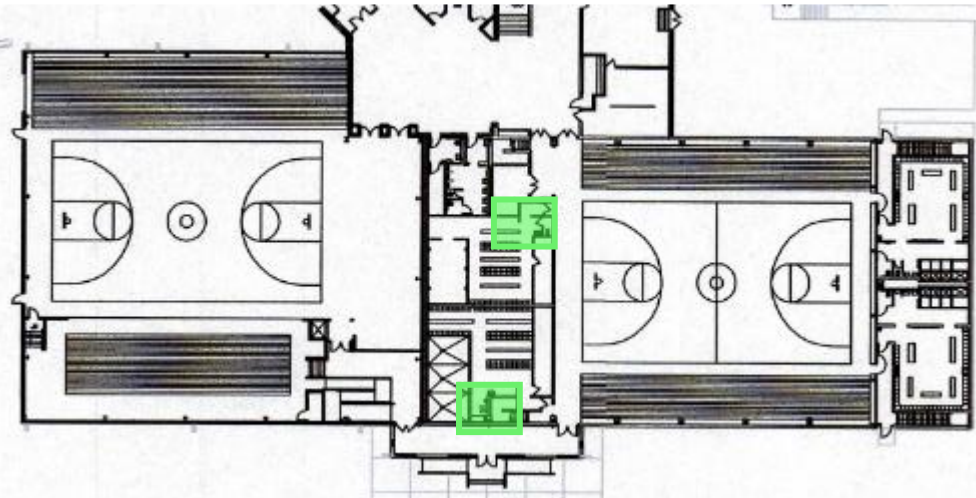
Budget Estimate =

Student Restrooms: \$362,300

Staff Restrooms: \$414,000 (new location)

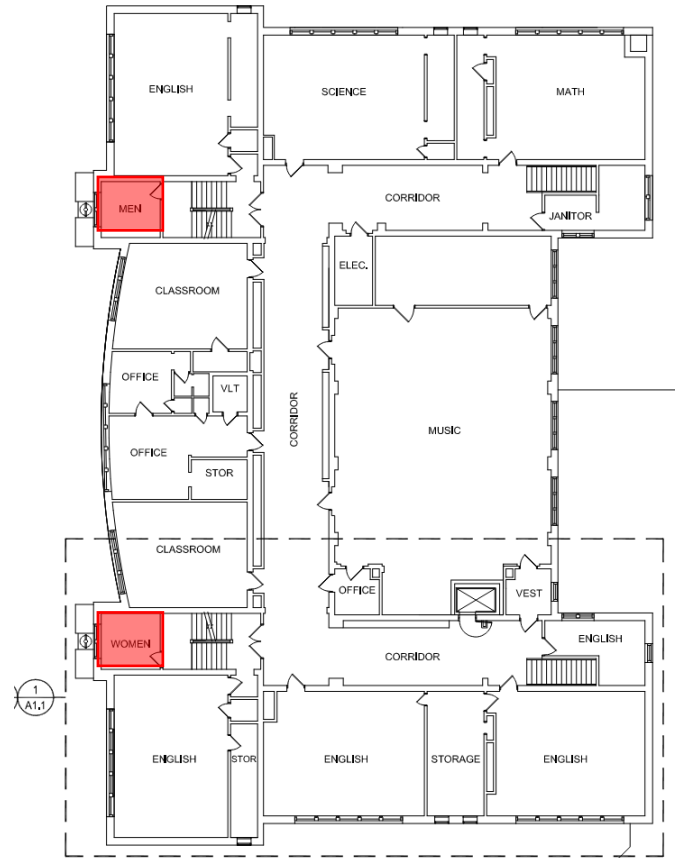
Locker Rooms: \$106,300

Drinking Fountains: \$13,800



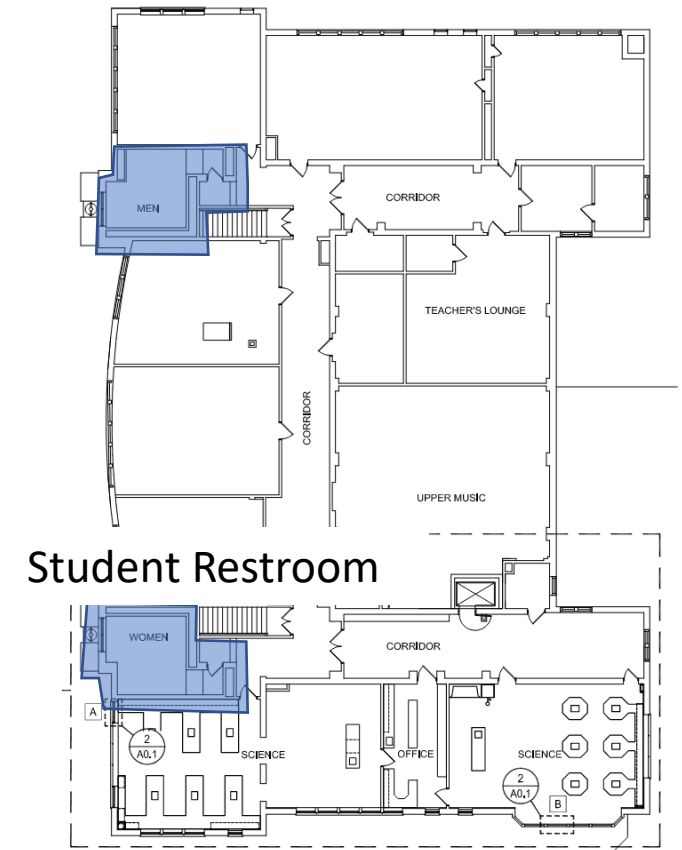
HS 1st Floor

Locker Room Restrooms



HS 2nd Floor

Existing Staff Restroom



HS 3rd Floor

Student Restroom

HS Plumbing Systems – Locker room showers



Existing Condition:

- Currently gang style shower areas for both Men's and Women's locker rooms

Proposed Solution:

- Remodel to individual stalls
- Based on existing square footage

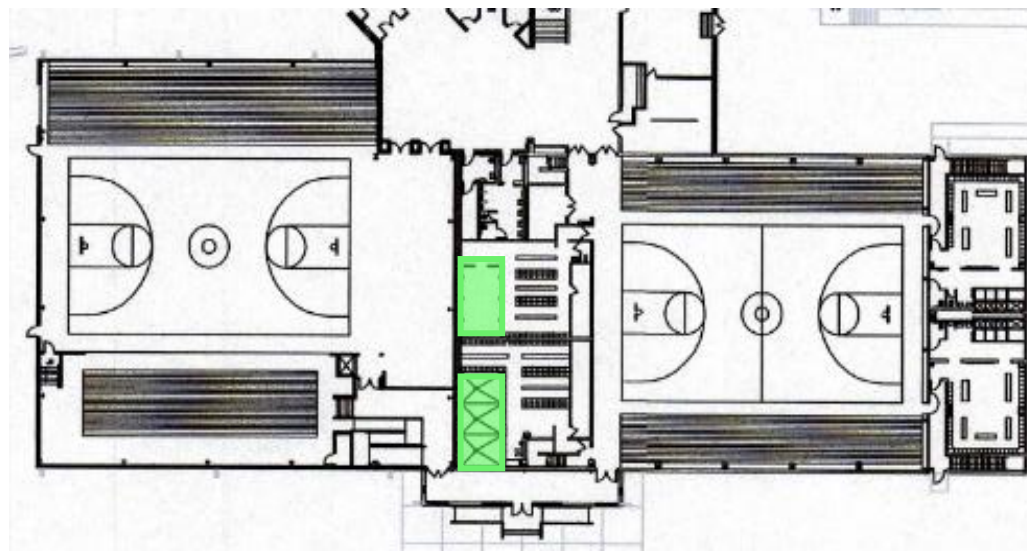
Budget Estimate = \$331,200



Existing Mens



Existing Womens



Potential Solution

Example

HS Interior Surfaces – Flooring



Existing Condition:

- Carpet: 2,800 SF in poor condition
- VCT Tile: 9,800 SF in poor condition

Proposed Solution:

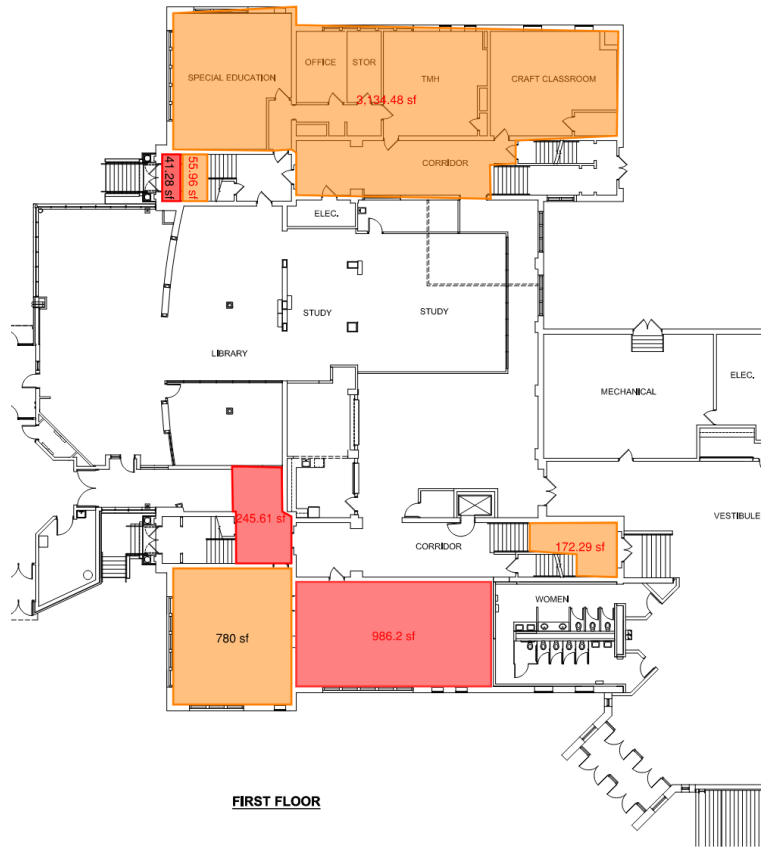
- Replace carpet with carpet squares
- Replace VCT tiles with new VCT tiles



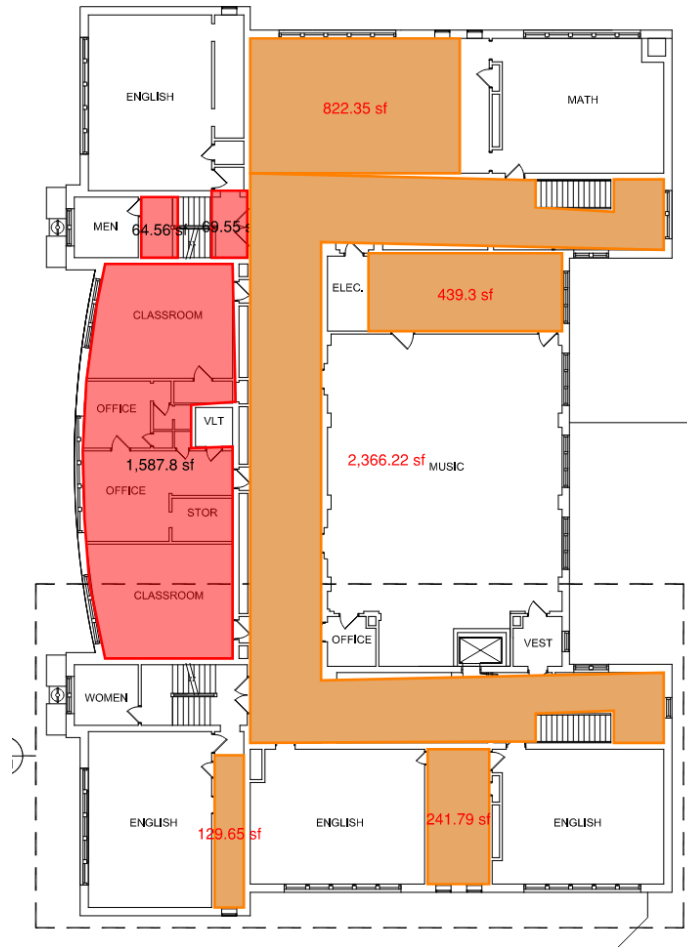
HS Interior Surfaces – Flooring

Budget Estimate: = \$111,700

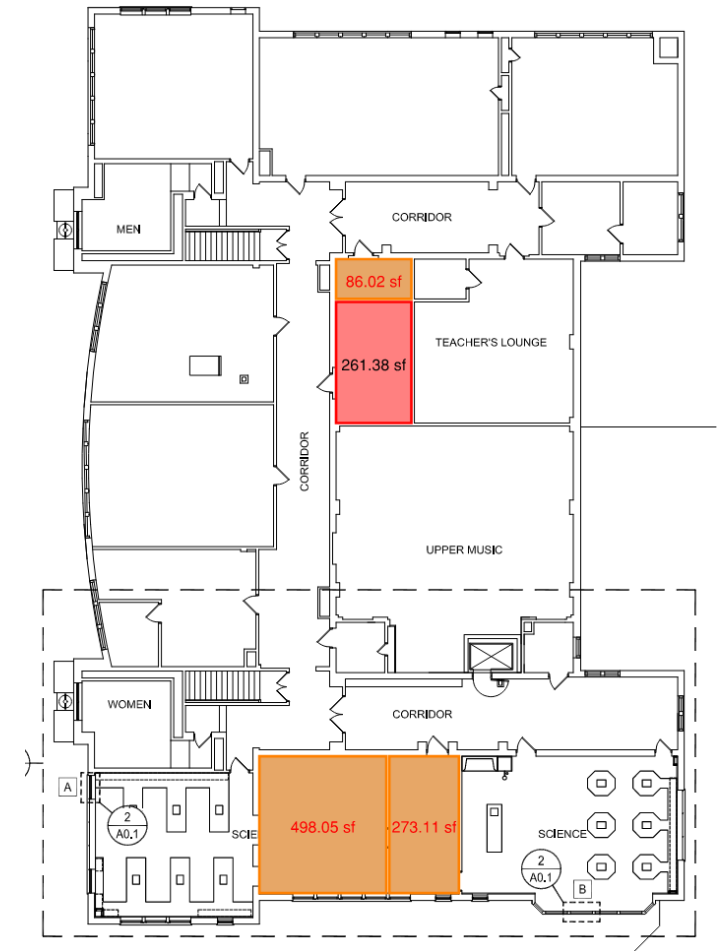
■ Carpet
 ■ VCT Tile



HS 1st Floor



HS 2nd Floor



HS 3rd Floor

HS Interior Surfaces – Casework



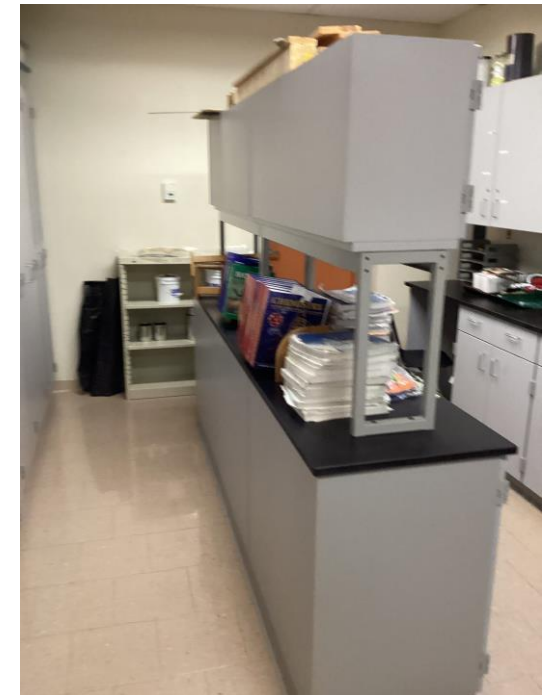
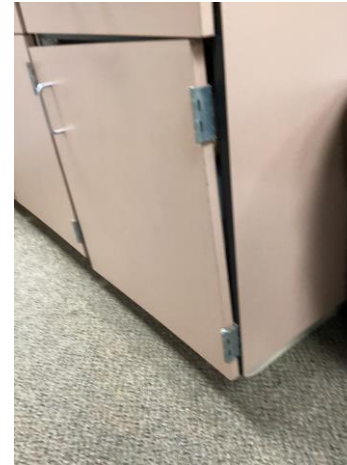
Existing Condition:

- High school counters/ cabinetry are aged and should plan for replacement
- Casework has chips and hinges pulled loose

Proposed Solution:

- Replace existing upper and lower cabinets, counters and sinks in existing locations
- Does not include lab counters or sinks in science area renovations

Budget Estimate = \$369,700



HS Building Hardware and Equipment – Student Lockers



Existing Condition:

- Lockers are small and not usable

Proposed Solution:

- Replace student lockers in High school with size appropriate lockers

Budget Estimate = \$139,400



HS Interior Surfaces –Ceilings



Existing Condition:

- Many 2x4 ACT ceiling tiles are drooping or broken
- 20,200 sq ft of ACT ceiling in poor condition

Proposed Solution:

- Replace ACT with 2x2 ACT ceiling tile and grid
- Install new HVAC diffusers and adjust electrical as needed
- Existing lights would be reinstalled

Budget Estimate = \$334,500



HS Building Hardware and Equipment – Interior Doors



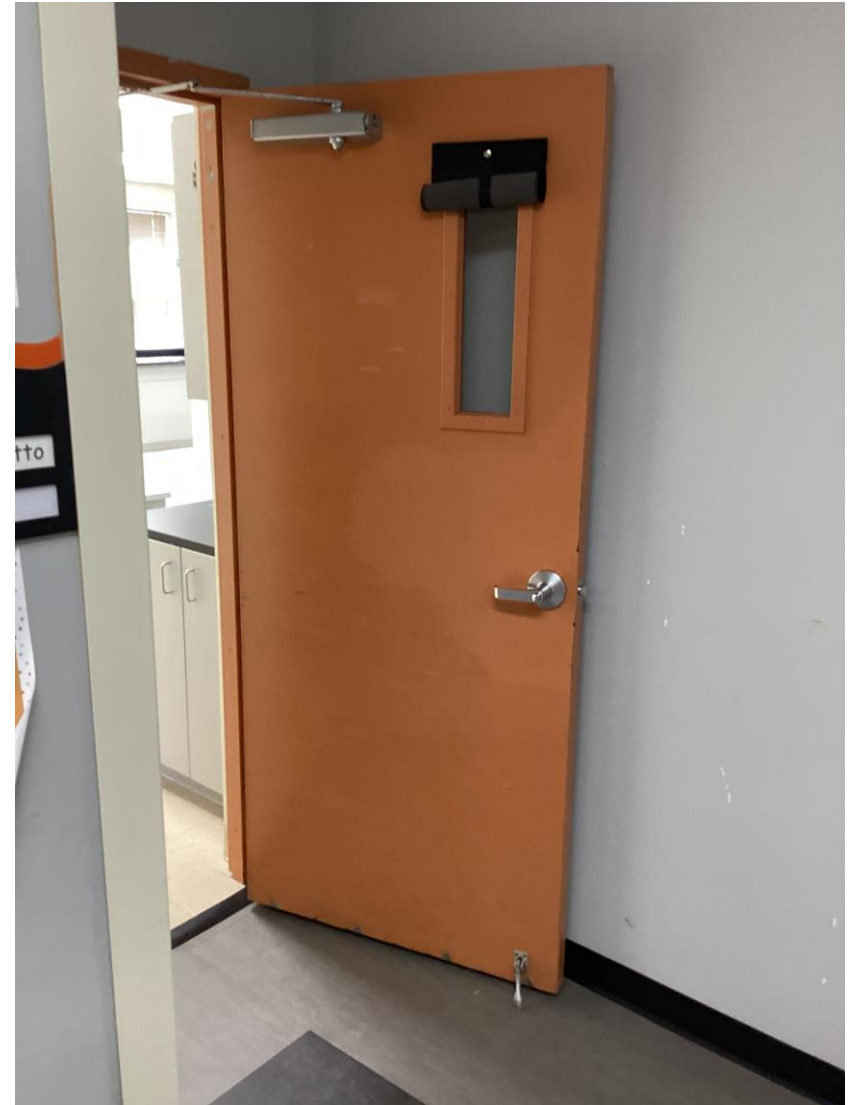
Existing Condition:

- Classroom doors in poor condition
- Door hardware outdated

Proposed Solution:

- Replace doors and frames with new door and frame (56 total)
- Update hardware on doors

Budget Estimate = \$251,600



Existing Condition:

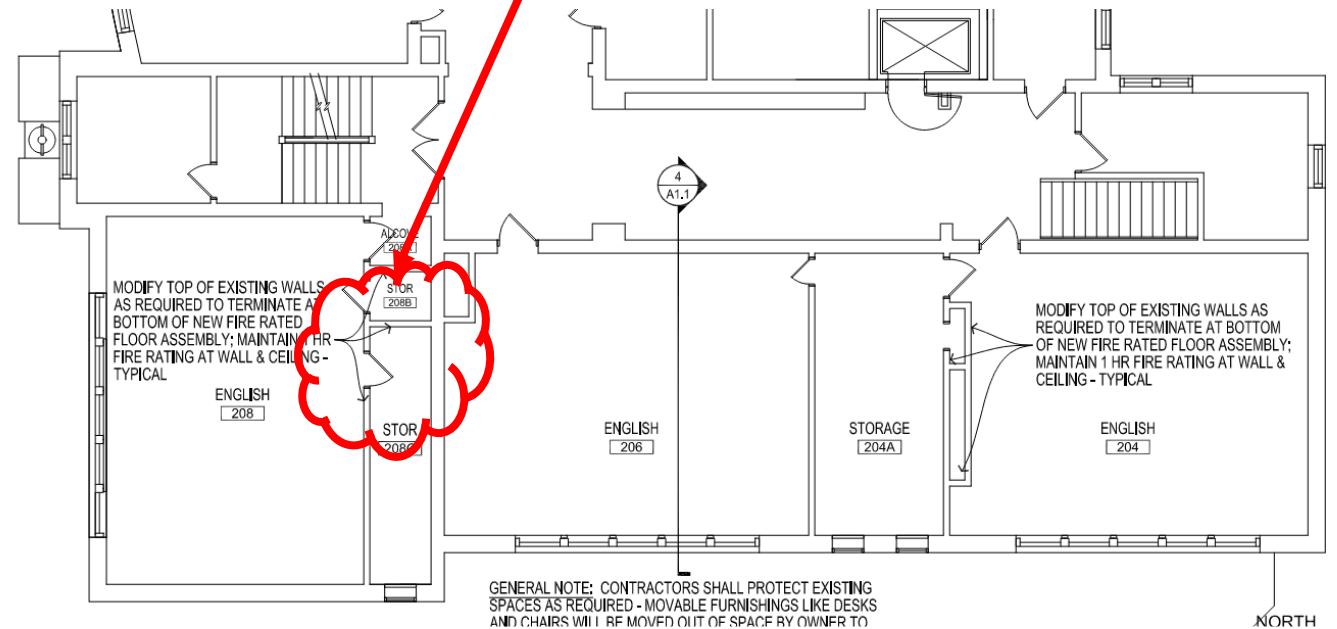
- Storage room wall below 3rd floor science room is cracked and appears to be bowing

Proposed Solution:

- Investigate and repair wall during current science room flooring improvement project

Budget Estimate :

- Price Request from current science project contractors



HS Electrical – Needs



Existing Condition:

- Manual light switches, no occupancy sensors or automatic lighting controls for North gym
- Manual light switches, no occupancy sensors or automatic lighting controls in classrooms
- Retrofitted LED lights throughout

Proposed Solution:

- Provide lighting controls for North gym and classrooms
- Existing lights to remain

Budget Estimate = \$209,900



HS Building Hardware and Equipment –North Gym Bleachers



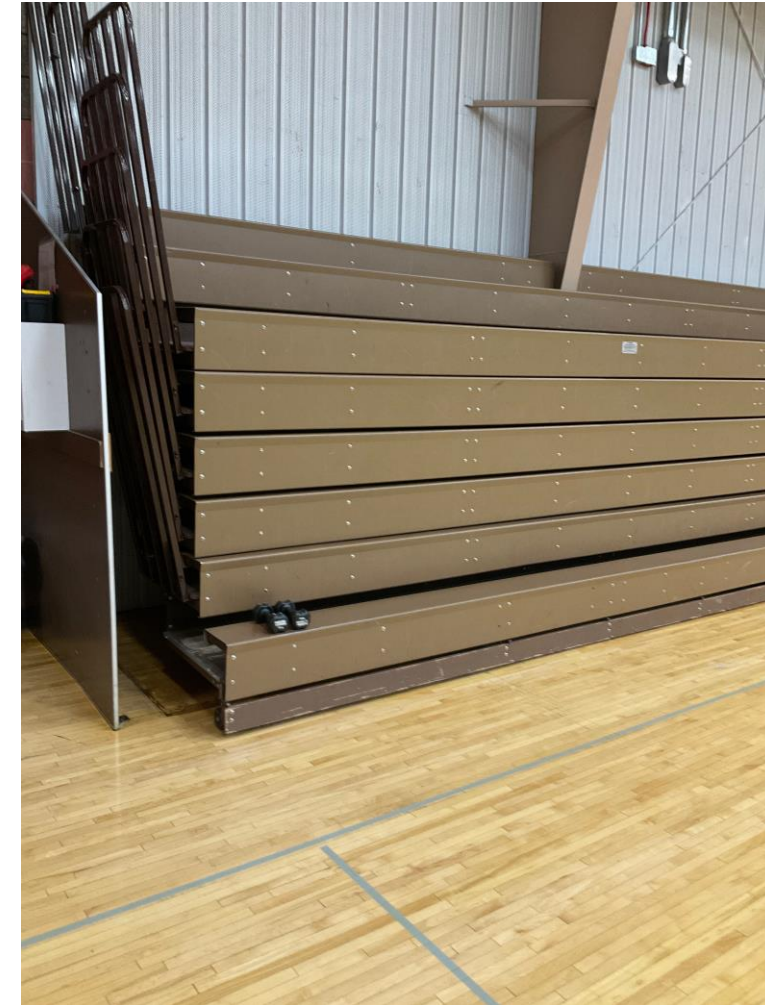
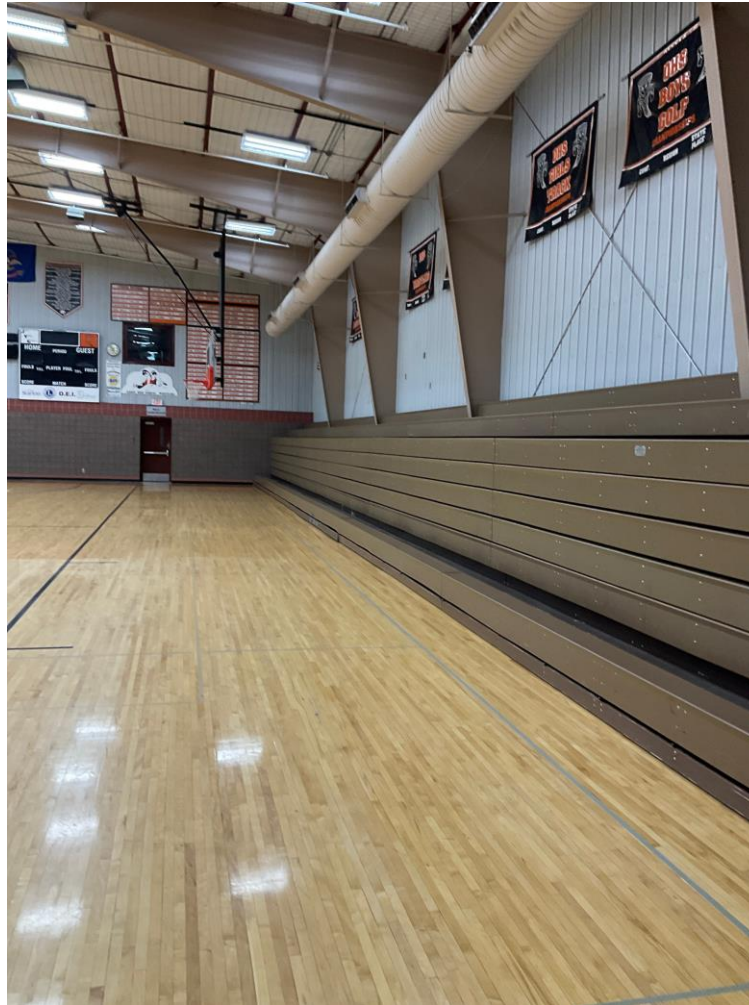
Existing Condition:

- Wood bleachers are old and in need of replacement

Proposed Solution:

- Replace bleachers with new motorized bleacher system

Budget Estimate = \$129,200



HS Building Envelope - Windows



Existing Condition:

- Windows are in poor condition and are in need replacing
 - Some windows do not stay open and are dangerous
 - Windows are inefficient
 - Some windows have been infilled with metal paneling



Proposed Solution:

- Replace windows and metal infill with new energy efficient double pane windows (non-operable windows)

Budget Estimate = \$950,400



HS Building Envelope - Tuckpointing



Existing Condition:

- Tuckpointing needs throughout
- Deteriorated caulking around windows and at expansion joints
- Damaged bricks

Proposed Solution:

- Perform tuckpointing, replace damaged bricks and replace caulking at expansion joints and around windows

Budget Estimate: = \$341,600



HS Building Envelope –Exterior Doors



Existing Condition:

- Door 12 and 13 are in poor condition and should be replaced

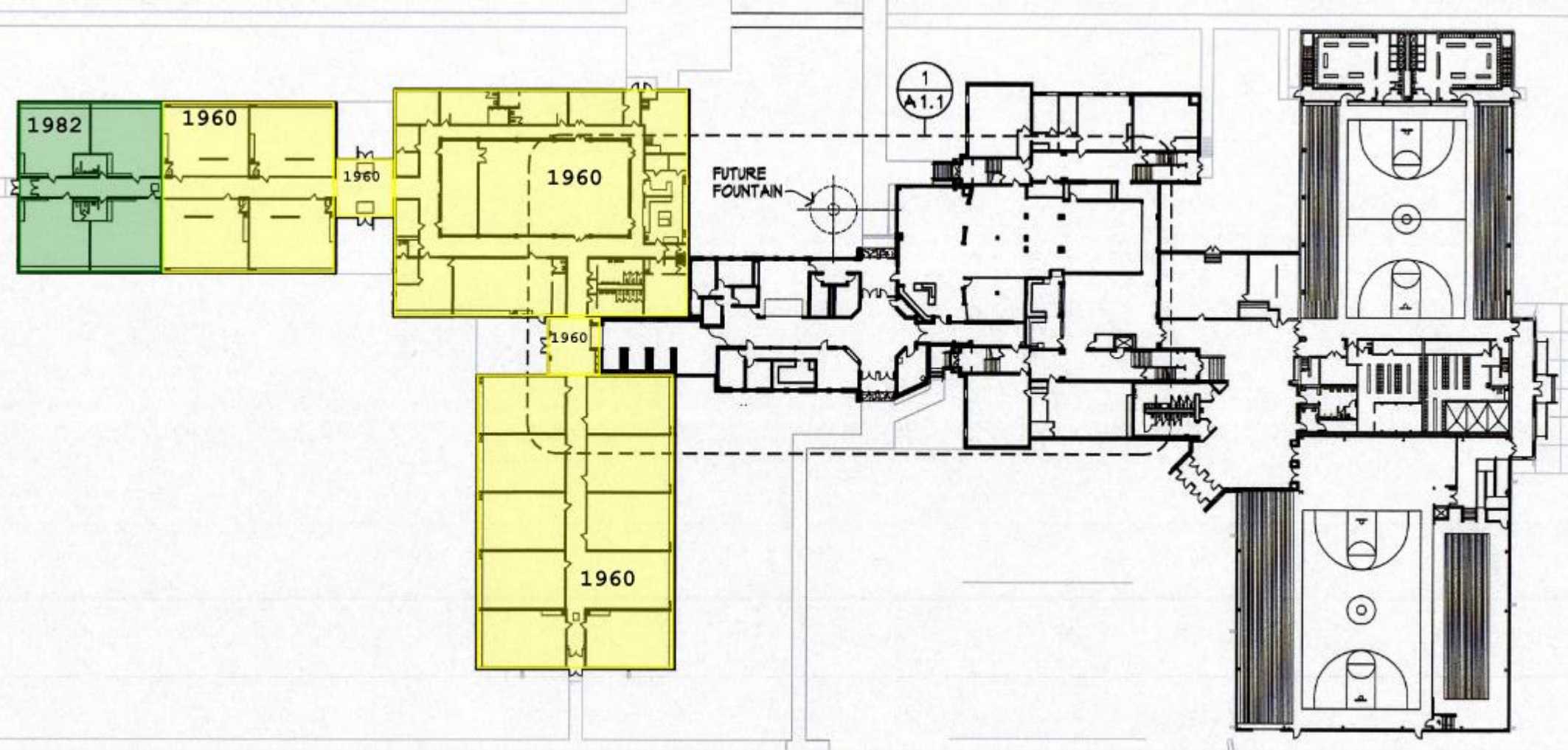
Proposed Solution:

- Replace the doors with new exterior metal doors and hardware

Budget Estimate = \$17,700



Elementary School Facility Assessment Results



Existing Condition:

- Unit ventilators provide heating and ventilation in classrooms. These units are beyond their life expectancy, inefficient and do not provide adequate ventilation to meet today's codes.
- Baseboard radiant heat is provided in some areas.
- Ductless mini split system with several outdoor condensing units provide cooling. These units are reaching their life expectancy and should be replaced with a more efficient system.
- Boiler system has an electric hot water boiler with a fuel oil boiler back-up. Existing electric boiler is in good working order. Fuel oil boiler is beyond its life expectancy.
- Individual thermostats provide temperature control, one for heating and one for cooling. Majority of control system is pneumatic and inefficient.
- No fire protection.



ES HVAC System / IAQ





Proposed Solution:

- Remove existing unit ventilators and ductless split system units
- Install new ducted ventilation systems to provide code compliant ventilation with hot water heat and cooling.
- Fuel oil boiler system equipment, pumps, controls and piping would be replaced with new. (existing electric boiler may be reused if sized accurately)
- Replace pneumatic control system with new direct digital control system
- Updated systems would update ceiling and lights
- Fire Protection would be installed throughout ES classroom area
- Electrical panels and service would be updated as needed

Budget Estimate: = \$5,660,100

ES Plumbing System - ADA Restroom Compliance



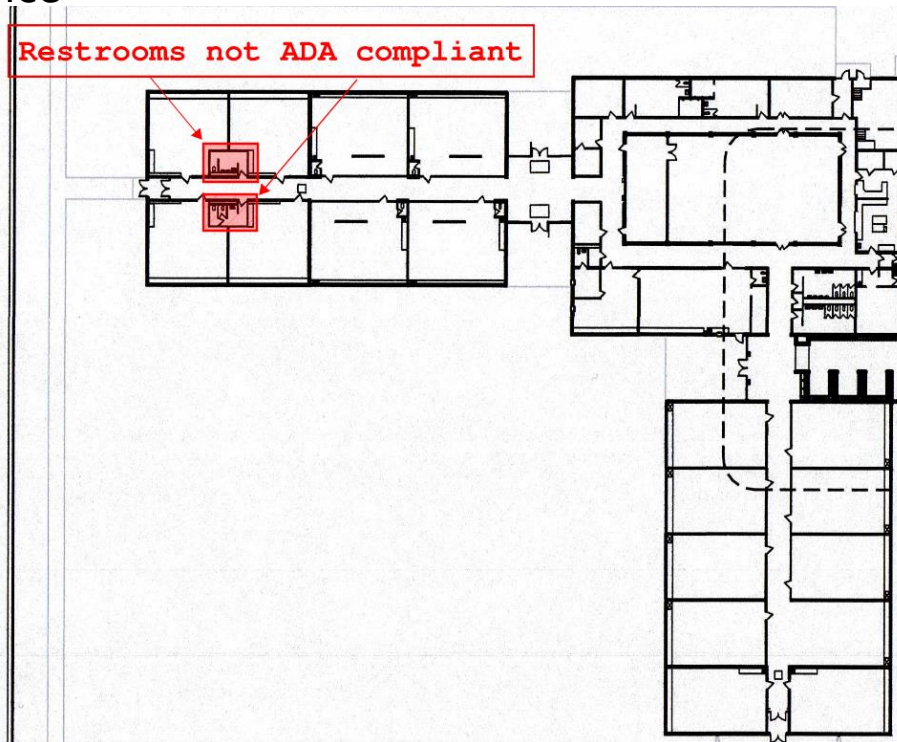
Existing Condition:

- Restrooms by west wing classrooms not ADA compliant

Proposed Solution:

- Renovate restrooms for ADA compliance

Budget Estimate = \$151,100



ES Interior Surfaces – Flooring



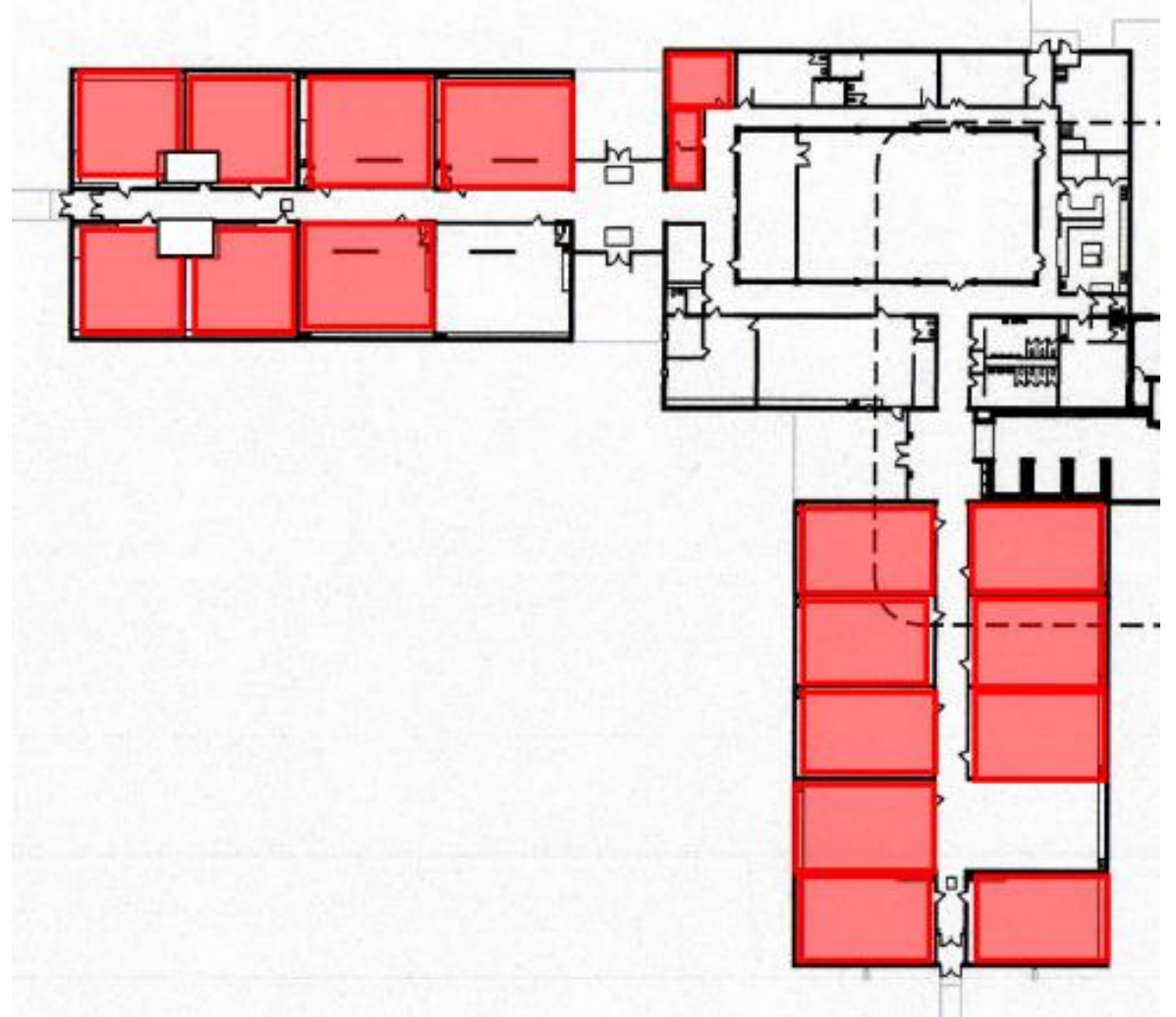
Existing Condition:

- Carpet: 14,330 SF in poor or critical condition

Proposed Solution:

- Replace carpet with carpet squares

Budget Estimate: = \$158,200



ES Building Hardware and Equipment – Classroom Doors



Existing Condition:

- Classroom doors in poor condition
- Door hardware outdated

Proposed Solution:

- Replace doors and frames with new door and frame (44 total)
- Update hardware on doors

Budget Estimate = \$198,900



ES Interior Surfaces – Casework and Sink Replacement



Existing Condition:

- Elementary counters and cabinetry in classrooms are aged
- Sinks not ADA compliant
- Classroom sinks have individual water heaters in cabinets below. Multiple small water heaters require more maintenance and are not as efficient as a central water heater.

Proposed Solution:

- Replace existing counters and cabinets with new
- Replace existing classroom sinks with ADA compliant sinks
- Reinstall existing individual water heaters at this time. Reconsider tying sinks into a central water heater if ceiling are being replaced for HVAC improvements.

Budget Estimate = \$267,700



ES Interior Surfaces – Ceilings



Existing Condition:

- Wood ceiling in cafeteria area shows some water damage.

Proposed Solution:

- Refinish wood ceilings and beams in cafeteria

Budget Estimate = \$34,500



ES Electrical – Needs



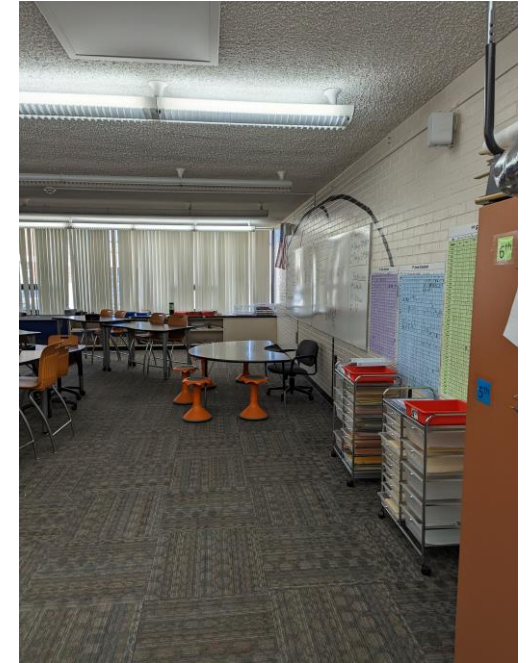
Existing Condition:

- Manual light switches, no occupancy sensors or automatic lighting controls in classrooms
- Retrofitted LED lights throughout

Proposed Solution:

- Install automatic lighting controls for classrooms
- Existing lights to remain

Budget Estimate = \$138,700



ES Interior surfaces - Cracking



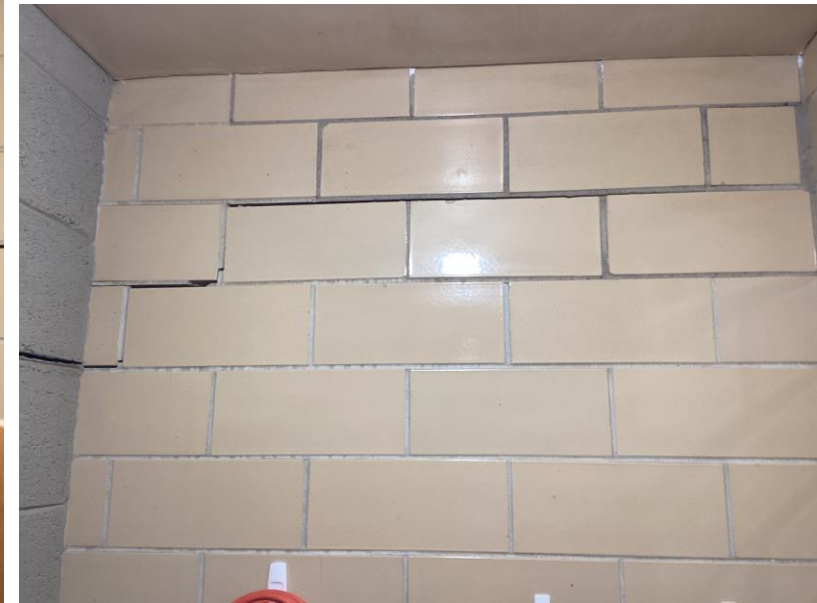
Existing Condition:

- Broken mortar joints near walk in freezer and cooler room
- Broken mortar joints in a janitorial closet

Proposed Solution:

- Repair caulking in both locations

Budget Estimate = \$9,900



ES Building Envelope - Tuckpointing



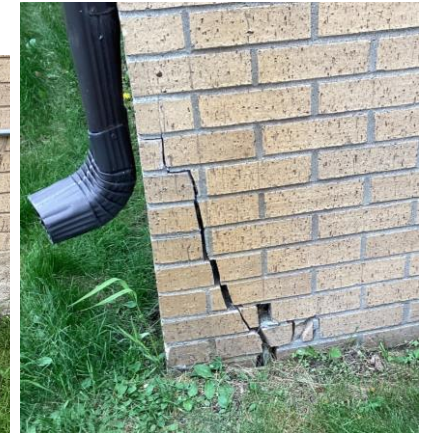
Existing Condition:

- Tuckpointing needs throughout
- Deteriorated caulking around windows and expansion joints
- Damaged bricks

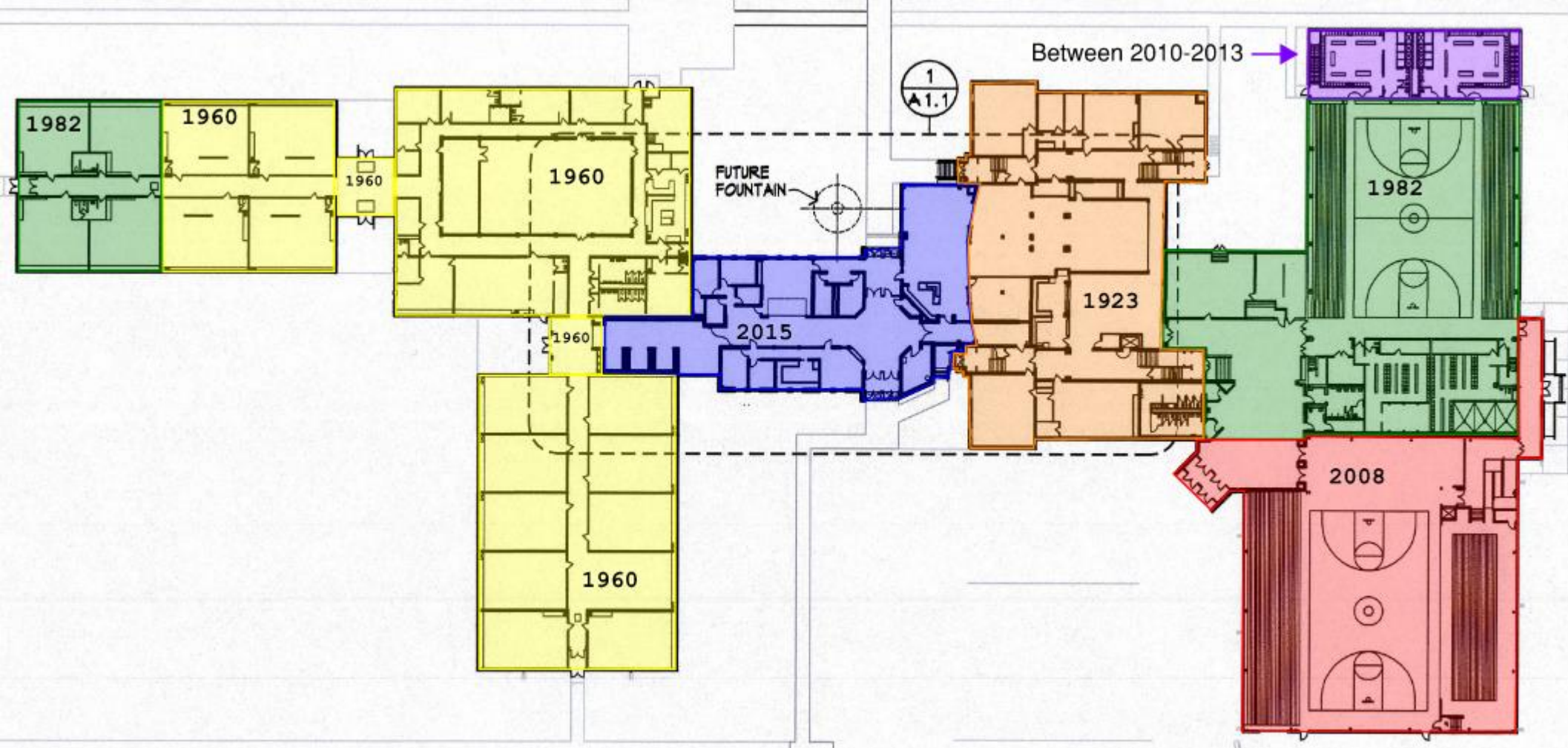
Proposed Solution:

- Perform tuckpointing, replace damaged bricks and replace caulking at expansion joints and around windows

Budget Estimate: = \$216,700



District Wide Facility Assessment Results

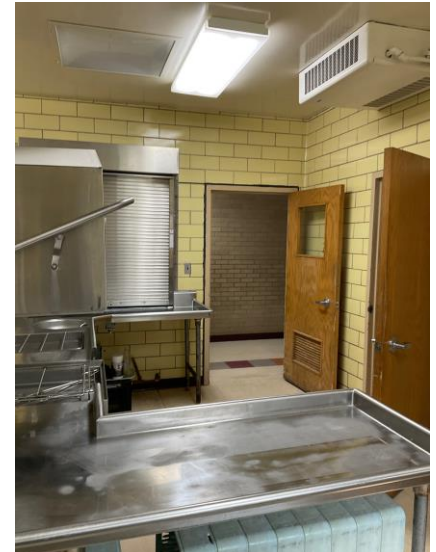
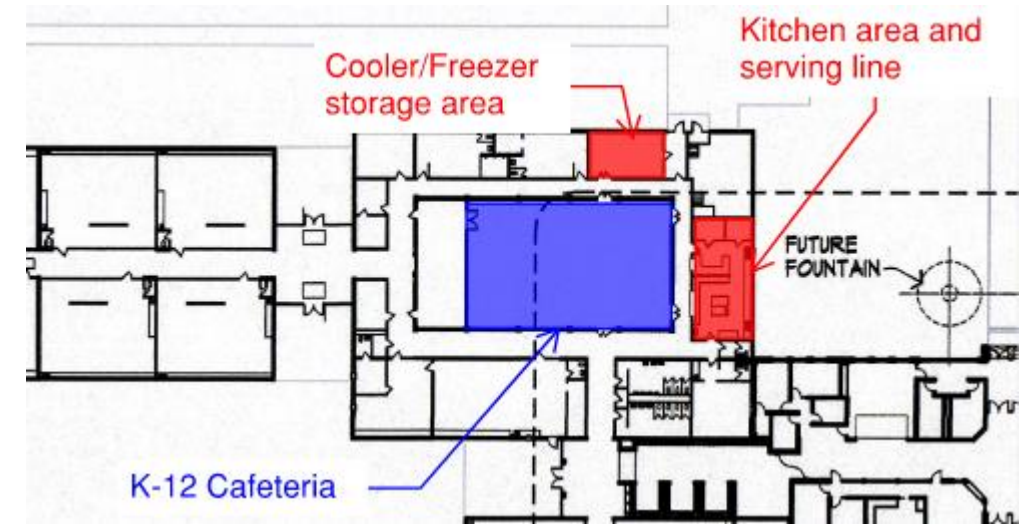


District Wide - Kitchen Renovation and Expansion



Existing Condition:

- Kitchen is undersized and interior finishes need replacement
- Kitchen is lacking a make up air system
- Freezer/Cooler is near end-of-life expectancy and storage area is undersized
- Freezer in kitchen prep area is original and in need of replacement
- Serving line is crowded and separate from cafeteria



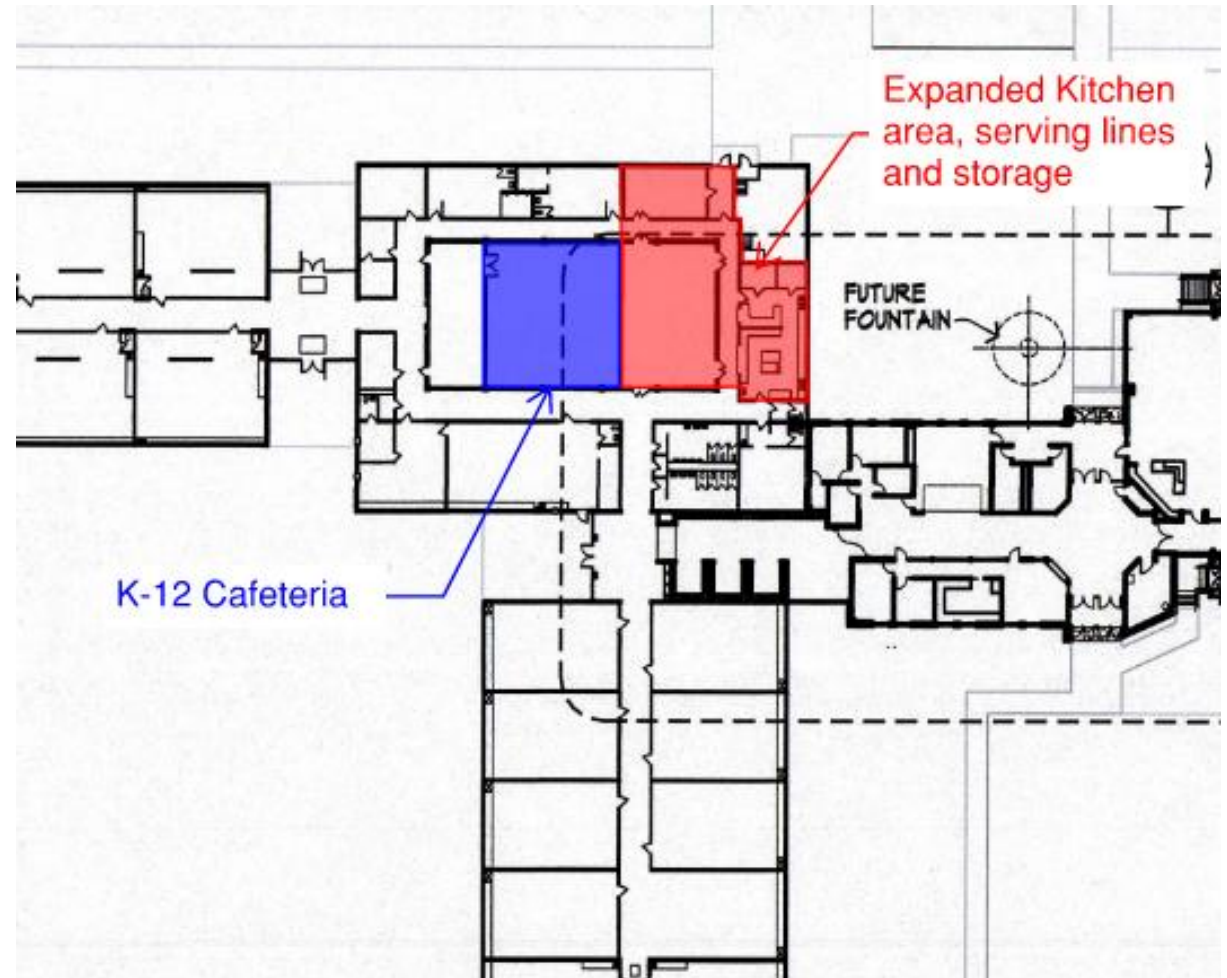
District Wide - Kitchen Renovation and Expansion



Proposed Solution:

- Remodel and expand kitchen area
- Open wall into cafeteria and create new serving lines with separate dishwashing line
- Provide new kitchen equipment
- Install new cooler/freezers and expand storage area

Budget Estimate = \$2,931,100



District Wide – Clocks and Public Announcement System



Existing Condition:

- Clock system is outdated and of different ages and condition throughout building
- Lacking a PA system for entire building

Proposed Solution:

- Install a uniform clock system for throughout building
- Install a new PA system that would serve the entire building

Budget Estimate =

New PA System = \$162,800

New Clocks = \$163,300



District Wide Site Projects – Bus Garage



Existing Condition:

- Old ag building that was converted into the bus garage
- Inefficient building
- Building layout and structure make bus access into building challenging

Proposed Solution:

- Replace with a new building that meets the district needs
- Two heated work bays
- Cold storage building for 12 buses

Budget Estimate = \$1,887,800



District wide Site Projects – Track concession stand



Existing Condition:

- Existing concession stand is 900 SF
- Building is in poor condition
- Bathrooms are separate and don't work well

Proposed Solution:

- Build a new concession stand with attached bathrooms
- Include utilities and concrete apron

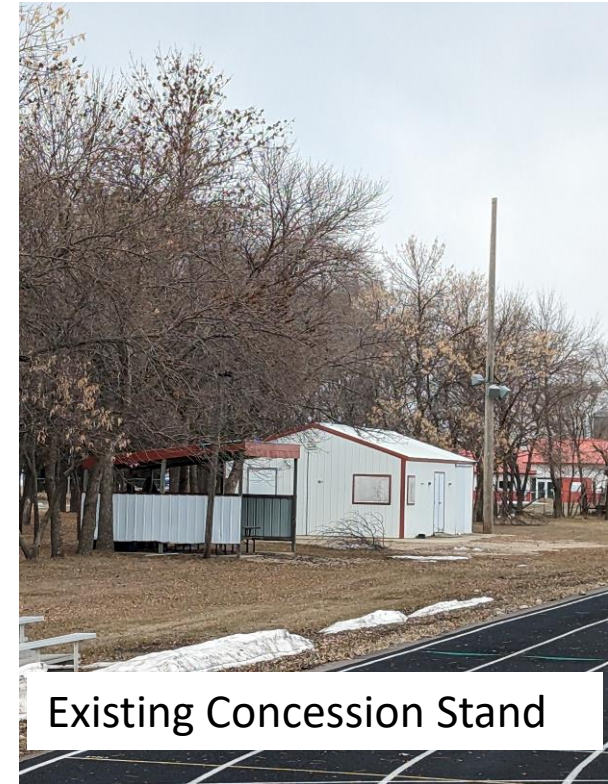
Budget Estimate = \$282,900



Existing Concession Stand



Example of potential new building



Existing Concession Stand

District wide Site Projects – Sidewalks



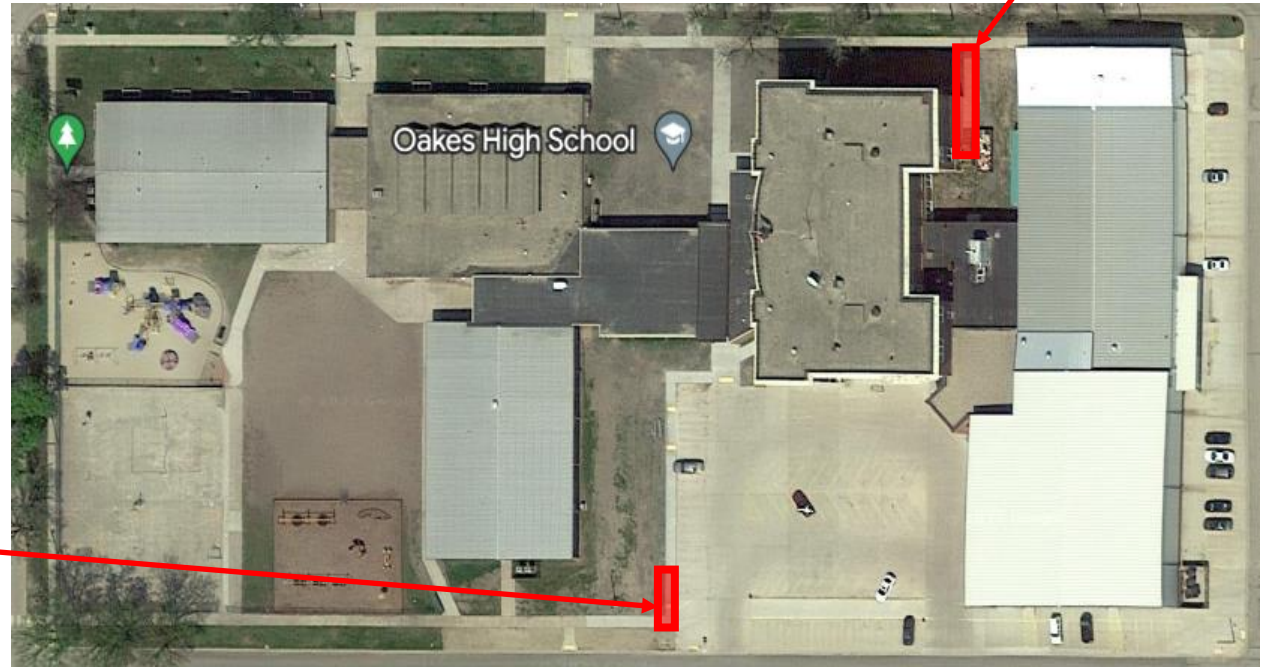
Existing Condition:

- Areas of the sidewalk are deteriorated
- Walk areas are cracked and pitted

Proposed Solution:

- Remove and replace most critical areas for safety.

Budget Estimate = \$10,600



Site Projects – District wide – Parking lots



Existing Condition:

- Asphalt parking lot is need of resurfacing
- South parking lot is concrete and is showing excessive pitting in areas

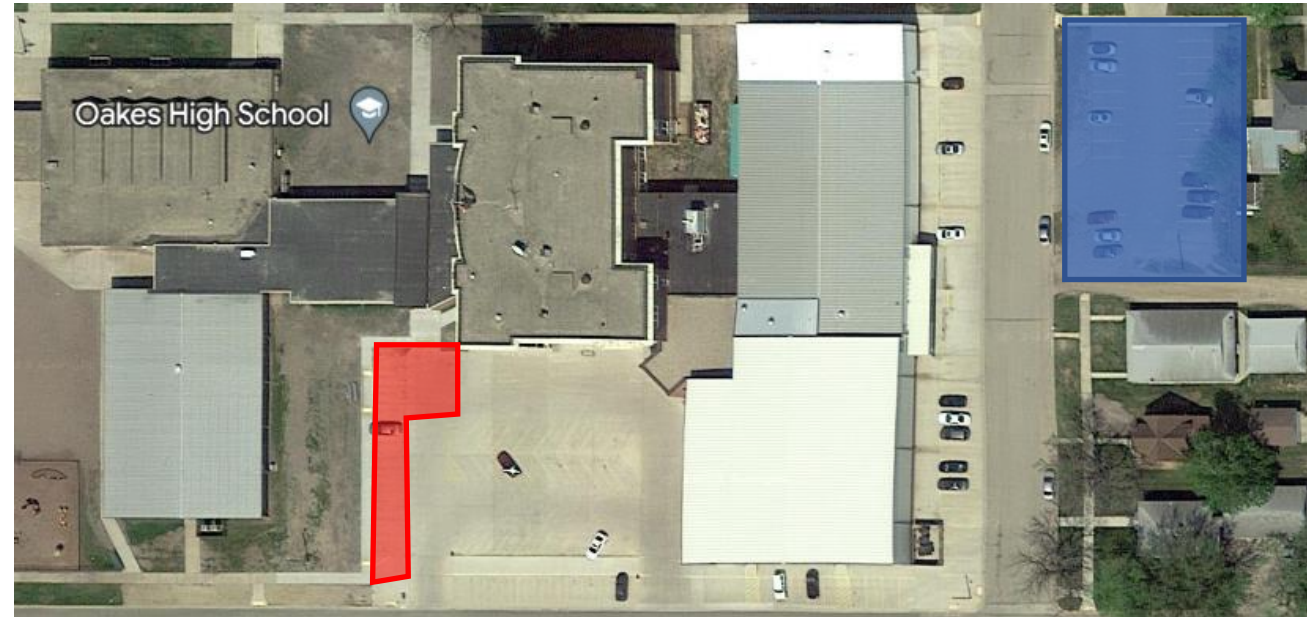
Proposed Solution:

- Mill and overlay existing asphalt parking lot
- Replace most critical concrete before further deterioration

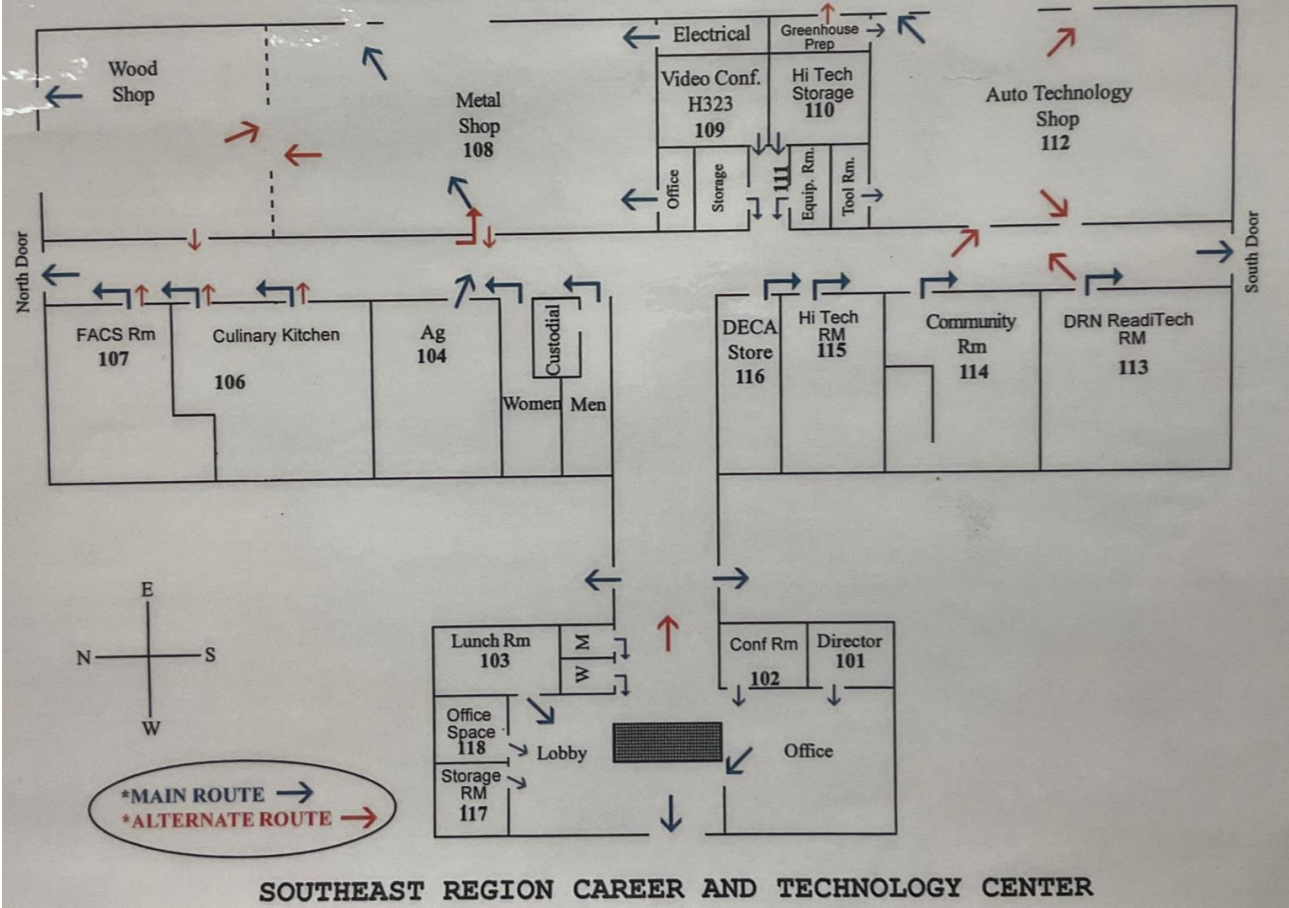
Budget Estimate

Asphalt parking lot = \$37,700

Concrete parking lot = \$48,000



VOTECH – Assessment Results



VOTECH – Plumbing – Bathroom Needs



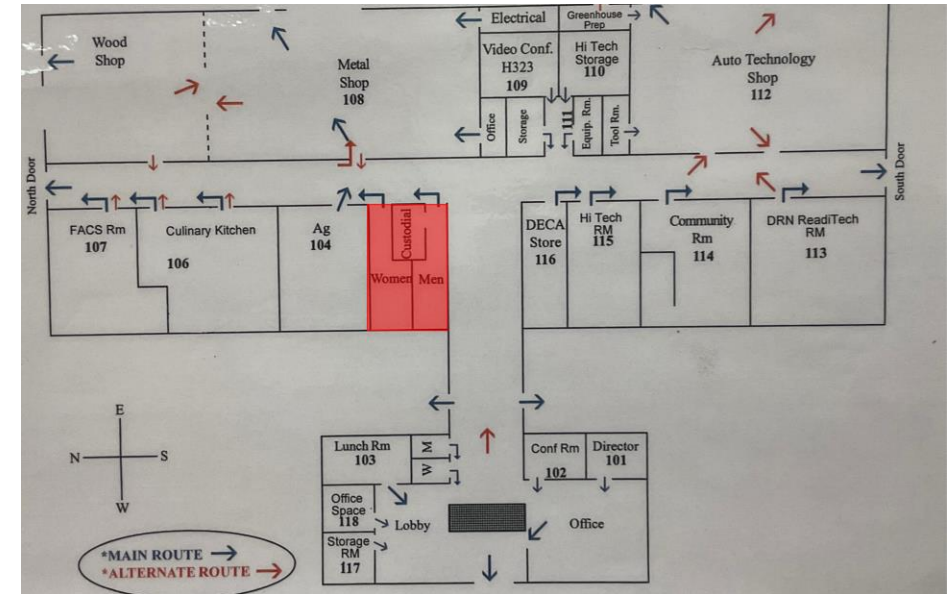
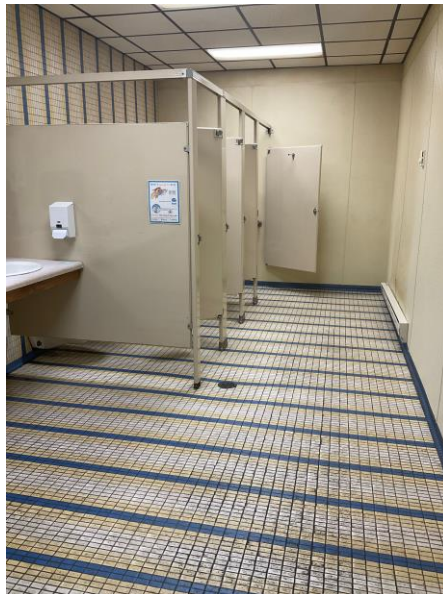
Existing Condition:

- Men's and Women's restrooms are in poor condition and in need of replacement

Proposed Solution:

- Renovate existing bathrooms into gender neutral bathrooms stall

Budget Estimate = \$553,300



Oakes Public School – Budget Summary



HIGH SCHOOL		
	Interior Improvement Needs	
x	HS HVAC/IAQ Improvements	\$11,906,500
x	HS Domestic Water piping replacement	\$594,800
x	HS 3rd Floor Bathroom ADA Compliance	\$362,300
x	HS Staff Restroom ADA Compliance	\$414,000
x	HS Locker room ADA Compliance	\$106,300
x	HS Drinking fountain ADA Compliance	\$13,800
x	HS Individual Showers	\$331,200
x	HS Flooring Replacement	\$111,700
x	HS Casework Replacement	\$369,700
x	HS Student Locker Replacement	\$139,400
x	HS ceiling replacement	\$334,500
x	HS Interior door replacement	\$251,600
x	HS Electrical improvements - Lighting Controls	\$209,900
x	HS Bleachers	\$129,200
	Building Envelope Needs	
x	HS Window Replacement	\$950,400
x	HS Tuckpointing	\$341,600
x	HS Exterior Doors 12 & 13	\$17,700
		\$0

ELEMENTARY SCHOOL		
	Interior Improvement Needs	
x	ES HVAC Improvements	\$5,660,100
x	ES Plumbing Systems - ADA compliant restrooms	\$151,100
x	ES Flooring Replacement	\$158,200
x	ES Interior door replacement	\$198,900
x	ES Casework and Sink Replacement	\$267,700
x	ES Cafeteria Wood Ceiling Refinishing	\$34,500
x	ES Lighting Controls	\$138,700
x	ES Cracked mortar(2 locations)	\$9,900
	Building Envelope Needs	
x	ES Tuckpointing(Maintenance)	\$216,700
		\$0
DISTRICT WIDE IMPROVEMENTS		
	Interior Improvement Needs	
x	Kitchen Renovation	\$2,931,100
x	District Wide PA System Upgrades	\$162,800
x	District Wide Clock System Replacement	\$163,300
	Site Improvement Needs	
x	New Bus Garage	\$1,887,800
x	Track Concession Stand	\$282,900
x	Sidewalk Repairs	\$10,600
x	South parking lot concrete replacement	\$48,300
x	Asphalt parking lot resurfacing	\$37,700
VOTECH IMPROVEMENTS		
	Interior Improvement Needs	
x	Men's and Women's Bathroom Remodel	\$553,300
		\$0

Planning Process Outcome

CATEGORY	Elem	High School
1 Classroom Size and Suitability	G	R
2 Cafeteria/Kitchen/Serving	R	R
3 Security and Supervision	R	R
4 Main Office/Nurse/Support Services	G	G
5/6 Science & Art Class/labs	NA	R
7 Music Classrooms/Practice Areas/Etc.	R	Y
8 Staff Lounge/Collaborative Planning Areas	Y	G
9 Student Commons/Break-Out Areas	R	R
10 Physical Education/Athletics/Locker Rooms	G	Y
11 Site Suitability: Fields/Green Space/ Storage Etc.	R	R
12 Parking/Bus Drop-Off: Staff/Students/Parents	Y	Y
13 Technology	G	G
14 Library/Media Center: Location/Size/Layout	G	G
15 Special Education/Support Services	Y	Y
16 Auditoriums/Performing Arts Spaces	NA	Y
17 Career and Technical Education	NA	G
18 Hallways/Lockers/Washrooms/Maintenance space	Y	R

INTERNAL STAKEHOLDERS	EXTERNAL STAKEHOLDERS
Kitchen size/outdated equipment	↔ Bigger and updated kitchen
Parking	↔ Parking
Track facility issues	↔ Track facilities
Sewar system/plumbing issues	↔ Plumbing updates/elementary septic
3rd floor of high school	↔ Science rooms
Windows	↔ Windows
HVAC/temperature control	↔ Mechanical integrity
Additional educational spaces/teacher workroom space	↔ Shortage of special services space
Finish upgrades and maintenance	↔ General maintenance
East entrance overhang	↔ Aging facility at high school
Storage	↔ Building envelope
Bus barn issues	↔ Future security needs
Classroom space concerns	

Grade	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
K	26	29	33	32	35	38	36	37	35	36	35
1	34	25	28	32	31	34	37	35	36	34	35
2	39	33	25	27	31	30	33	36	34	35	33
3	49	39	33	25	27	31	30	33	36	34	35
4	26	48	38	32	24	26	30	29	32	35	33
5	29	26	48	38	32	24	26	30	29	32	35
6	42	29	26	48	38	32	24	26	30	29	32
7	35	42	30	27	48	38	33	25	27	31	30
8	46	35	42	30	27	49	38	33	25	27	31
9	34	46	35	42	30	27	49	38	33	25	27
10	47	33	45	34	41	29	27	48	37	32	25
11	33	47	33	45	34	41	29	27	48	37	32
12	39	32	45	32	43	33	39	28	26	46	35
Total	479	464	461	444	441	432	431	425	428	433	418
K – 6	245	229	231	234	218	215	216	226	232	235	238
7 – 12	234	235	230	210	223	217	215	199	196	198	180

HIGH SCHOOL		
Interior Improvement Needs		
x	HS HVAC/IAQ Improvements	\$11,906,500
x	HS Domestic Water piping replacement	\$594,800
x	HS 3rd Floor Bathroom ADA Compliance	\$362,300
x	HS Staff Restroom ADA Compliance	\$414,000
x	HS Locker room ADA Compliance	\$106,300
x	HS Drinking fountain ADA Compliance	\$13,800
x	HS Individual Showers	\$331,200
x	HS Flooring Replacement	\$111,700
x	HS Casework Replacement	\$369,700
x	HS Student Locker Replacement	\$139,400
x	HS ceiling replacement	\$334,500
x	HS Interior door replacement	\$251,600
x	HS Electrical improvements - Lighting Controls	\$209,900
x	HS Bleachers	\$129,200
Building Envelope Needs		
x	HS Window Replacement	\$950,400
x	HS Tuckpointing	\$341,600
x	HS Exterior Doors 12 & 13	\$17,700
		\$0

Next Steps

- July 6th Board Meeting
 - Facility Assessment Results
- July 20th Board Meeting
 - Revisit chiller plan moving forward
- August 16th
 - 2:30 Present assessment results to staff
 - 5:30 Present assessment results to community members
- July/August Board Retreat
 - Start Solutioning
 - Financial Solutions
 - Needs prioritization





Q&A

