



**Spaulding High School
Central Vermont Career Center
Barre City Elementary and Middle School
Barre Town Middle and Elementary School**

Chris Hennessey, M.Ed.
Superintendent of Schools

A rock solid education for a lifetime of discovery

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MEMORANDUM

TO: **Barre Unified Union School District Facilities and Transportation Committee**
Giuliano Cecchinelli II - Chair, Terry Reil - V. Chair, Tim Boltin, Andy
McMichael, Mary Jane Ainsworth

DATE: October 4, 2022

RE: Barre Unified Union School District Facilities and Transportation Committee Meeting
Tuesday, October 11, 2022 @ 6:00 p.m.
In-Person: Spaulding High School Library, 155 Ayers St., Barre
Remote: Meeting ID: meet.google.com/yva-xigt-dmj
Phone Number: [\(US\)+1 240-292-8164](tel:12402928164) PIN: 644 880 341#

Please Note: If you attend the meeting remotely you must state your name for the record to satisfy the Open Meeting Law

AGENDA

1. Call to Order
2. Additions/Changes to Agenda
3. Public Comment
4. Review/Approval of Meeting Minutes
 - 4.1. Meeting Minutes September 12, 2022
5. New Business
 - 5.1. SHS Athletic Fields & Track/Auditorium Upgrades/Storm Water Mitigation
 - 5.2. Spaulding Educational Alternatives (SEA) - Sidewalks
 - 5.3. Budget Priorities
6. Old Business
 - 6.1. HVAC Project Update
7. Other Business
8. Items for Future Agenda
9. Next Meeting Date: November 14, 2022 at 6:00 pm, SHS Library and via Google Meet
10. Adjournment

Parking Lot of Future Items

- A. Visionary Needs/Wish List by Building (Requested: 09/2022 by T.Reil)
- B. Procedures/Checklist for use of Contractors (Requested: 09/2022 by T.Reil)

BOARD/COMMITTEE MEETING NORMS

- Keep the best interest of the school and children in mind, while balancing the needs of the taxpayers
- Make decisions based on clear information
- Honor the board's decisions
- Keep meetings short and on time
- Stick to the agenda
- Keep remarks short and to the point
- Everyone gets a chance to talk before people take a second turn
- Respect others and their ideas

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BARRE UNIFIED UNION SCHOOL DISTRICT FACILITIES AND TRANSPORTATION COMMITTEE MEETING Spaulding High School Library and Via Video Conference – Google Meet September 12, 2022 - 6:00 p.m.

MINUTES

COMMITTEE MEMBERS PRESENT:

Giuliano Cecchinelli, II, Chair – (BC)
Terry Reil, Vice Chair - (BT)
Mary Jane Ainsworth (BT Community Member)
Tim Boltin - (BC)
Andrew McMichael (BC Community Member)

COMMITTEE MEMBERS ABSENT:

Vacant Position

OTHER BOARD MEMBERS PRESENT:

Nancy Leclerc
Sonya Spaulding

ADMINISTRATORS PRESENT:

Chris Hennessey, Superintendent
Luke Aither, SHS Co-Principal
Jamie Evans, Facilities Director

GUESTS PRESENT:

Mike Davey (EEI) Josh Howard

1. Call to Order

The Chair, Mr. Cecchinelli, called the Monday, September 12, 2022 BUUSD Facilities and Transportation Committee meeting to order at 6:01 p.m., which was held in the Spaulding High School Library and via video conference.

2. Additions and/or Deletions to the Agenda

Add 5.1 SHS Athletic Fields and Auditorium Projects

3. Public Comment

None.

4. Approval of Minutes

4.1 Approval of Minutes – July 25, 2022 BUUSD Facilities and Transportation Committee Meeting

On a motion by Mr. Reil, seconded by Mrs. Ainsworth, the Committee unanimously voted to approve the Minutes of the July 25, 2022 and August 1, 2022 BUUSD Facilities and Transportation Committee meetings.

4.2 Approval of Minutes – August 1, 2022 BUUSD Facilities and Transportation Committee Meeting

Approved under Agenda Item 4.1.

5. New Business

5.1 SHS Athletic Fields and Auditorium Projects

Mr. Cecchinelli would like to hold brief discussion on these projects, to gather some additional information so they can be added to a future Agenda should the Committee wish to move forward. Mr. Aither spoke with Derek Cipriano, SHS Athletic and Activities Director and has asked that he be prepared to speak at the October meeting. Mr. Cipriano has been performing an ‘audit’ of athletic facility’s needs. Regarding Auditorium renovations, Mr. Evans advised that a volunteer, Patricia Meriam conducted a lengthy study (approximately 8 years ago) and prepared a report including various budget numbers. Given the length of time since the study, it is anticipated that budget numbers will need to be revised. Mr. Aither advised that a few small auditorium updates have been completed but there is still much to do. Code related to seating has changed and it is anticipated that approximately 20% of seating will be lost using today’s standards (Code). Mr. Cecchinelli would also like the Committee to discuss expectations, anticipating that some smaller items can be selected to get things moving forward. Mr. Cecchinelli advised that it has been approximately 10 years since athletic field upgrades were discussed and other than new lighting, there has been no movement, and he believes this is unacceptable.

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Mr. Evans noted that funding will be a large topic of discussion (including donations). Mr. Reil suggested that the Storm Water Mitigation project also be incorporated into athletic field renovation discussions, as there is most likely an impact to the fields. Mr. Aither advised that he did ask Mr. Cipriano to provide a list of quick/easy updates, as well as more visionary projects. Mr. Evans advised that he has conceptual drawings for the athletic fields as well as the report from Patricia Meriam and he can distribute copies of these prior to the next meeting. Mrs. Ainsworth suggested that Mr. Cipriano give a presentation to the Board. The Committee agreed to add these projects to the October Agenda.

6. Old Business

6.1 HVAC Project Update

A letter to Jamie Evans from Energy Efficient Investments, Inc., dated 09/08/22 was distributed.

Mike Davey addressed the Committee and provided an update on the HVAC Project. EEI has selected new air handling units (currently being sized by the electrical and mechanical engineers), and the mechanical engineer should have duct work drawings completed by the middle of September. It is anticipated that by the end of September, a complete package (mechanical, structural and electrical prints) will be available for the Committee's review. At that point, EEI can send the package to the AOE for their review. After AOE review, the various components can be bid out to local contractors. Pricing will be finalized and hopefully, a contract can be approved by the Board before the end of the year. If all goes according to this plan, construction can begin before the end of 2022. In addition to the AOE, all information will be sent to the Vermont State Fire Marshall's Office (including sprinkler drawings, which have been updated to reflect new Code).

Mr. Davey provided an overview of the lighting upgrades proposed in the distributed letter. Current lighting needs to be taken down to install duct work, so that would be a good time to replace lighting. Mr. Davey advised that installation of LED lighting is proposed under a lease option. Lighting is motion activated and dimmable. Savings on electric usage will cover the cost for the lighting upgrade. Mr. Davey has included two lighting options (the Career Center portion of the building and the remaining portion of SHS). If purchased through a lease option (for 15 years) there should be little or no budgetary impact. Other options include making a down payment and financing over fewer years, or financing for fewer years without a down payment (which would result in some budget impact). Mr. Davey can provide detailed financial information at Thursday's Finance Committee meeting. Some districts opt not to fund the entire amount and lease for a shorter term. Mr. Davey advised that Efficiency Vermont is offering a \$100,000 rebate and is pushing to have the project started by the end of 2022 and completed by the end of 2023. Board approval in October is optimal to assure the project can get started before the end of the year. Mr. Davey advised that work would most likely be started in areas that do not require duct work and Mr. Davey believes it would be unlikely that Efficiency Vermont would penalize the District if completion ran a little late due to the other work being performed. Mr. Davey advised regarding how proposed lighting savings was calculated. Mr. Evans recommends that lighting upgrades be completed throughout the entire building (both of the proposed projects). Brief discussion was held regarding discussion that will need to be held by the Finance Committee. Mr. Davey advised that the projected lifespan of LED lights in classrooms is approximately 20 years. Brief discussion was held regarding the need for the Finance Committee to also review these projects. Mrs. Perreault is aware of the project proposal and can provide additional information (related to financing) at the Finance Committee meeting. Brief discussion was held regarding the timing of Facilities and Finance Committee meetings, and it was suggested that perhaps monthly Finance meetings be held prior to Facilities Committee meetings.

On a motion by Mr. Reil, seconded by Mrs. Ainsworth, the Committee unanimously voted to recommend that the Board review for consideration, the lighting proposal submitted by EEI.

6.2 Summer Projects Update

Mr. Evans provided a recap of summer work/projects. In addition to routine cleaning and maintenance the following projects were completed or are near completion;

SHS: Replacement of flooring in 6 classrooms and some hallways, renovation to two 'single user' restrooms, creation of one single user ADA compliant restroom (near the lobby area), and replacement of the 'far exterior doors' to the main entrance.

BCEMS: Replacement of flooring in 4 classrooms, boiler room work (replacement of piping and victualic fittings), and renovation of a couple of restrooms.

BTMES: Replacement of flooring in approximately 12 classrooms, and completion of a large amount of roofing. All roofing is now completed and is covered by a 20 year warranty.

Central Office: Paved the parking lot.

SEA: No major projects were necessary.

It was noted that BCEMS roofing could not be performed due to unavailability of supplies. It is anticipated that BCEMS roofing work will be completed next year.

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7. Other Business

It was suggested that Maintenance personnel and Administrators create a 'visionary' list of projects they would like to see in the future. Changes/improvements may tie to the Strategic Plan, e.g. Student Engagement - more outdoor classroom areas.

Mr. Cecchinelli suggested that perhaps this sort of list could be worked on using a rotation similar to the rotation previously used for safety grant monies. Mr. Hennessey will send a 'kick-off' email to Administrators regarding the creation of a 'Visionary List'.

Brief discussion was held regarding transportation for SHS students and included confirmation that there is not enough student interest and that there is a shortage of buses and bus drivers. SHS will be conducting research regarding reasons for absenteeism and if the reasons are transportation related, something of a smaller scale will be considered.

Brief discussion was held regarding the possibility of swapping the order of Committee meetings (Finance prior to Facilities each month). Discussion of this matter may be addressed with the Board.

Brief discussion was held regarding the need for any policies or procedures (a check list of sorts) that might be necessary relating to outside contractors working in the District.

8. Items to be Placed on Future Agendas

October:

- SHS Athletic Fields and Auditorium Upgrades – Preliminary Discussion - (including Storm Water Mitigation)
- Budget Priorities
- HVAC Update

Add to Parking Lot:

- Visionary Needs and Wish Lists by Building – Requested by TR – Added September 2022
- Procedures/Check List for use of Contractors – Requested by TR – Added September 2022

Remove from Parking Lot:

- Bus Survey for SHS Families – not enough interest from families
- Athletic Entrance at SHS (this will be incorporated with Athletic Field Upgrades)

9. Next Meeting Date

Due to the Columbus Day holiday, the Committee agreed to cancel the Monday 10/10/22 meeting.

The next meeting is Tuesday, October 11, 2022 at 6:00 p.m., at the Spaulding High School Library and via video conference.

10. Adjournment

On a motion by Mr. Reil, seconded by Mr. Boltin, the Committee unanimously voted to adjourn at 7:15 p.m.

Respectfully submitted,

Andrea Poulin

Spaulding High School
Athletic Field Complex
Expansion & Renovation



DuBois
& King inc.
April 2012

SHS Auditorium Renovation Report, by Patricia L. Meriam , Ageless Preservations
 Report to the Facility Committee of the SHS Board
 Revised April 19, 2016

"The Spaulding High School community's mission is to provide a safe, supportive, and motivating environment to promote the best current methods of teaching and learning."

Theater arts provide one of the most comprehensive opportunities for teaching and learning skills that are needed in the "real world". They include presenting yourself with confidence, building and carpentry, painting and faux painting, set design, electrical and sound engineering, sewing, costume design and construction, writing, public speaking, project management, team building for a group of students which traditionally does not get involved with sports, and a variety of management, organizational, and safety skills.

So our quest as SHS advisors is to give our students the best opportunity for "current methods". We want those interested in the theatrical arts to leave here with job skills so they can work in professional theaters and have a wonderful foundation for advanced learning. For those not pursuing the theatrical arts, their experience at SHS will give them life skills in self presentation, technical awareness, and skills in construction, design, and management.

We are fortunate to have The Barre Opera House within walking distance of the SHS. The BOH is a state of the art theater, willing to partner with the SHS in professional training and internships. The BOH needs skilled stage crew which is in short supply. The SHS could invest in entry level systems which would serve production needs, yet get students started on handling professional systems.

If the community is going to invest in an entry level professional auditorium, then it should also consider the investment of an accredited drama teacher. The SHS should have a sound rental policy and a staff/administrator point person to follow policy and procedure. Staff/administrator should also manage and oversee the rental and use of expensive equipment. There must be staff/administration skilled to use the theater and to protect its assets.

Overview

There are several systems within a theater, all of which need to be upgraded at Spaulding. I suggest we get estimates on all the items within each system, and then triage them. I recommend working with a project manager, to finalize the equipment, and then plan work phases. I have provided initial estimates. Low number is a my ballpark for the least we can do and still be respectable.. High number is the estimate for "state of the art" as quoted by Dark Star.

Those systems include:

Lighting system; \$48,000-\$100,000

new console board, \$7800

DMX Control \$11,000

new LEDs, \$25,000-\$78,000

Electrical upgrades: DMX cable, more outlets

Sound system: \$14,000-\$92,000

New Console-\$6,000

Wireless mics -\$5,000-\$15,000

Intercom system: \$3,200

new speakers-\$5,000-\$60,000

Rigging system - \$65,000

2 additional battens, 3 winches to raise and lower them. Dead hung (pipes don't move up or down) vs live line. Winches to move pipes \$15k-\$25K each. SHS has 5 current battens: 4 on stage, one in house. Recommended 6 batten, 4 on stage, 2 in house. House battens should be on winches at least. Need to add additional pipe to hold Cyc, and a hoist pully to roll it up and store it overhead.

Curtain system, \$21,360

New curtains, all to be replaced: \$18,000.

Add Cyc curtain pipe.\$750

42' bi-parting traveler rod for mid stage \$1,675.00

Front of House: \$163,500

new seating \$125,000,

acoustical study \$3500 (?)

new finishes (paint, carpet, booth changes.) \$35,000

(Acoustics are affected by shape of walls, covering on walls, floors, and seats. Shape and location and finish of sound booth also a factor in acoustics.)

Sprinkler system upgrade should be done AFTER acoustical changes, and new lighting pipes and winches are installed. (not included in my estimates)

Storage -need space and a system of organization for building supplies, props, and costumes. I suggest working with an architect and perhaps the Barre Tech Center to create racks. "Rebuild", a division of Resource, may provide free construction labor .

Electrical -\$3,000-\$10,000. Need additional DMS outlets and system to replace extension cords.

SHS has 2 breaker boxes with total of 48 circuits, 24 in each unit. Dark Star's estimates included some hookup costs but we should budget for more electrical expenses.

The renovation could be in the ball park of \$250,000-\$600,000

Consultants: \$25,000-\$100,000

There are a number of professionals we should consult, which in the long run will save money by helping make good decisions. This should be considered in the upfront costs.

-Project Consultant specific to theater (team leader), and or Construction Project Manager a

combination of which could coordinate all consultants and activities. Individual(s) needs to work with SHS committee and school board. Would complete research with consultants to make final recommendations to SHS on scope of work. Work with SHS on budget, and plan work phases.

Consultant could oversee PM on preparation of RFPs, send out the RFPs, develop a scheduled timeline for work, PM would contract and manage the renovation. Hiring a consultant as your point person along

- a batten with 16 lights, all of which stage crew cannot access. These lights are currently set and focused manually by SHS maintenance (Don Lessard) who comes in sometimes especially for this purpose.
- 16 = 13 Ellipsoidal reflector spots (ERS) (which use 6 dimmers) , (1) 6" Fresnel, (1) 4" Fresnel, (1) pin spot.
- On each side of stage on the wall is a vertical pipe for spots, also called "booms" . Accessed by ladder.
- Pipes are hung on chains from the ceiling. Support system for dead hung pipes should be examined. It is probably not to code and may not be safe.-Need engineer.
- remove drop ceiling over stage.
- working stage fluorescents are dangerously close to top of curtains.
- Inadequate electrical outlets and supply.** Fuses frequently blow.
- Not enough outlets or electrical supply for orchestra pit (music lights, and electrical instruments, microphones)
- Lights are doubled up on a source, due to lack of live lines, creating "two-fers". Each light then is reduced in intensity.
- Lighting console** is two generations old (a 4896 Express by ETC). Lighting data can no longer be saved per show because it uses a floppy drive! New consoles save to a hard drive and/or thumb drive. Current console is not sufficient to handle LEDs. All new lights should be LEDs.
- Speaker system** needs upgrade. Each side wall of house has a speaker screen. Long out of use, these screens also have vertical louvers. They are accessed from a trap in wall via the "pie rooms". We should explore if these can have new speakers placed in them. (acoustical study)
- To each side wall a speaker platform has been added with a speaker on it. These speakers are mounted incorrectly by 90 degrees. Current fix is a quick and easy rotation. (Long woofer should be on top of round)
- Not sufficient front of house lighting** to reach the back of the stage. -suggest adding another batten farther back of the house, about the middle of seating.
- Putting in a **winch system** with live lines will be pricey \$15-25,000 per winch/pipe
- Sound system, and **intercom** system not reliable.
- Sound booth** shape may need changes -wait for acoustical study. At the least it needs a soft covering so sound does not reflect back toward stage (which causes sound nodes and dead spots where nothing can be heard.)
- Sound booth roof serves as platform for running "follow" spot lights. has no safety ladder or railing.
- Insufficient storage for props, building equipment, and costumes
- Curtain system** needs to be updated.
 - The curtain have been there since 1964. The main traveler was replaced in 1991.
 - Need pipe to hang the Cyc (Cyclorama, white curtain at the very back of stage used mostly for dramatic back lighting.).
 - Cyc is currently stored in a box which is not good for its longevity or condition. It needs air circulation.
 - need to move a pipe-Cyc light pipe, which will light the Cyc, is currently in front (on the wrong side) of the back traveler. Need a rigging system to roll it up over head.

with a Project Manager may be your most efficient course of action. PMs fee are in the range of 25% of total project cost.

-**Consultant for the stage** will include lighting, sound, electrical, and curtain systems, and stage floor refinish to ensure coordinated use. There are companies, like Dark Star and Acentach, that consult and supply for all three systems, but they are likely to steer you toward purchases an independent manager would not.

-**Acoustical engineer** to do a study of auditorium sound distribution and give us recommendations on improvement. \$3500

-**Architect** to coordinate design recommendations.

-**Structural Engineer**-to evaluate support system for rigging. Feasibility of a catwalk.

-**Electrical Engineer**: evaluate electric supply and design line layout and wiring access.

SHS Auditorium History

The school was built in 1964. The Auditorium was renovated in 1990-91. That renovation involved removal of asbestos ceiling tiles and was closed for a year while that was completed. An acoustical study was done at the time. The shaped concrete walls are original to the 1964 construction. The "sound booth" was added in 1991. A new drop down ceiling was installed about a foot below (?) the original with new acoustical tiles. Recessed lighting was added in the ceiling (three spots nearest to stage). No access to FOH lights was created, and they must be reached by scaffolding or ladder. The need for new electrical supply to the auditorium was consider in 1991 but not done because of cost. Ilene Gillander, former drama teacher, reports that a new supply line was estimated to have come from the kitchen and involve digging up the hallway to run the line.

Paint color was Persian Gulf blue on walls and carpets in honor of Gulf War Vets.

An iron brace was added in the stage right loft to support rigging.

Two rows of seats removed in front of house to allow for orchestra. Parts were stored in stage left pie room, upper floor. Concrete back partial walls were removed for wheel chair seating.

Pie rooms have been used for theater storage.

Wrestling room has historically been used as dressing rooms.

Current issues :

(Identified by meetings with lighting professional, teachers, drama teachers, and students):

-SHS currently uses some very **old lights** which draw a tremendous amount of energy, but also produce heat. The LED technology draws less energy, but the lights and bulbs are expensive, and their maintenance is low.

-No appropriate student **access to lights** for adjustment.

-**No live pipe** lines (battens). Students access stage lines by ladder, and are not permitted to access FOH battens. Lighting positions are done by SHS staff. Setting lights is a major part of theater training.

-Front of house stage lights, all of which have to be reached by ladder, consist of:

- 3 spots in the ceiling which are useless because they are too close to the stage.

-Side box booms need LEDS, PM to assess if makes sense to add ladder for access, if so it will need a safety line, called a "full arrest".

Each pipe should have at least 4 LED, 4 color RBGA (red, blue, green, amber) lights. "State of the art" would be to have 7 RGB color lights, and to have up to 6 fixtures on each pipe.

New LEDS :

Cyc lights 4-8, \$5,000-\$10,000

Spots (Ellipsoidals) 12-14 \$10,000-\$25,000

Wash units 3-17, \$3000-\$21,500

Rehearsal lights, 9, \$4500-\$9,000

A new STRONG follow spot is needed.

New lighting console and control. \$18,800

lighting board dates to 2002. at least 2 new generations since

-Want to be able to program light plots. More sophisticated the more expensive.

-2 plots with moving lights

-1 set wash white

New Electric Console Board, ETC "Ion 1000", or ETC "Element", recommended, \$7800

-Multi-submaster, smart pads

-Simplest for HS students to learn on, yet will have everything they need to be introduced to for growing into a more sophisticated system elsewhere (Opera House)

-Lighting plots can be saved to a thumb drive.

-ETC runs tutorials on equipment use, 1-2yr warranty and phone support included in the price should have 512 channels. Annual training for new students and administrative overseer recommended

-Moving lights (so can adjust spots remotely) use up channels.

DMX controls-\$11,000

Electrical \$3,000-\$10,000

- Dimmer banks need regular maintenance and cleaning:

Take out filter in door panel. Wash with hose.

Pull out each dimmer tray and blow air through it.

Blow air into and through dimmer box in the direction air flows through them.

-Electrical panels gather dust because they are electro-static. Saw dust, regular dust, airborne sprays will be drawn into them. Cleaning should be at least once to twice a year.

-Extension cords and creative wiring seem to rule the day. There is a lot out of code (however don't expect to ever be fully "in code" it just doesn't happen in a theater.) An electrician, or electrical engineer, should be consulted by the lighting designer and/ or project manager to identify additional outlets and systems to provide a safer system which is code compliant.

-Dimmer trays are double. So each box has 12 trays and 24 circuits.

-LED should never go directly to a dimmer circuit, they must pass through a "constant current module", this is the DMX control system, which regulates the power to the lighting console.

- Missing mid traveler. We have a traveler rod for it, but do not think it is in good shape (replacement \$1600).
- Main traveler, red velvet, has multiple tears and is in worn and very dirty.
- Legs, (black side curtains which shield views to side stage) are 50 years old, ripped, full of holes and dirty.
- There is **no "crossover"** an alley behind the last curtain behind which actors can secretly move from one side of the stage to the other.
- Stage floor is rough and splintering**, which is especially problematic for dance performances. Needs to be resurfaced. A roll out "Marley Dance Floor" should be purchased.
- students would like to know** more about the theater systems so they can decide what to explore.
 - Fall and spring training as part of drama club routine
- There are **634 wooden seats** in the house. Cloth seats are more comfortable but also better for acoustics because when unfilled they reflect sound as if a body was in the seat.
- No sprinkler system, no smoke detectors?
- Set pieces are stored in overhead loft stage right; dangerous, with poor accessibility. Need screen over pipe railing to prevent objects from falling on stage below. Needs to be repurposed and access for only high level stage crew.

Lighting: \$40,000-\$100,000

Dark Star quote for over 60+ LEDs. We could get away with 32.

Pipes (battens) are numbered from main curtain to back of stage.

- 1st electric- lights down stage to mid stage, and back lights the apron.
- 2nd electric- spots mid stage, back lights down stage
- 3rd electric- lights upstage (back of stage) and back lights mid-stage
- 4th electric - lights the Cyc. back lights upstage.

Would add a 5th pipe to the stag to hang Cyc curtain \$750

- 2 pipes between the front and mid travelers, 2 between mid traveler and Cyc. A pipe for the Cyc.
- Cyc lights (4-8) - 4 color LED RGBA, remove R40s (\$5,000-\$10,000)
- A catwalk over stage for safe and easy access to lighting change. Advantage of catwalk is lights can be focused and adjusted in place in coordination with actors on stage. Need structural assessment and theater designer.
- Alternate, add winches depending on budget. At least a winch on 1st or 2nd electric, winches on FOH pipes.

Front of house stage lights

- Remove and save the ceiling spots. replace ceiling tiles.
- On FOH pipe, remove 16 current lights and replace with at least (8) 4 color LEDs.
- Add a pipe at mid house -this would light chorus and "orchestra pit area" as well as the stage apron (part of stage in front of main traveler).
- Put both house pipes on a motorized winch -approx. \$25K each.
 - need electrical source and room for cable windup.
- Alternate is a catwalk over mid house.

winches need 30 amp 3 phase connection

ABS vs locking brakes to control raising and lowering of lines.

Catwalk: A safe walkway above the stage from where students can change lights and reposition lights.

Battens still need to electrical connectors added to them. Currently use extension cords which is nowhere near code.

Pulley system to raise and lower Cyc.

Curtains \$21,360

Main Valance: \$1680 - single panel

ADD/ALT: Custom lettering panel: \$315 (per letter?)

Main Curtain: \$2725 each (2 needed, \$5450)

Borders: valences above each traveler, \$1105 each (3 needed, \$3315)

Legs: \$800 each (6 needed, \$4800)

US Traveler: \$1450 each (4 needed, \$5800)

-All curtains need to be replaced \$21,360 (with the exception of the Cyc which is new)

-Curtain material used to have to be treated to be flame retardant (they were immersed in a salt solution of some kind.) However, the firemen's unions have been protesting that the chemicals used for fireproofing are actually more toxic and dangerous -so code is changing on this. The best thing is to purchase a curtain that is made of flame resistant material which does not need treatment. This is the new recommendation. (Fireproofing curtains costs about \$7000 every five years.)

-SHS stage should have 4 curtains.

3 travelers: Backstage, mid stage, front or main curtain (with its border curtain/valence), plus a Cyclorama (Cyc)

-New main traveler estimated at only \$5,450 at a midgrade velvet. Valence another \$1680 plus application of SHS logo (\$315 per letter). This is with a midgrade fabric at 100% fullness with box pleats.

-Additionally we have 6 "legs" which are the short black curtains on either side of the stage which hide actors in the "wings" as they enter and shield views to back stage. \$800 each

-Each set of legs has a border curtain above it. \$1105 each, \$3315 total.

-May need to replace mid-stage traveler rod \$1675

-Cyc pipe \$750

-Note, fluorescent lighting too close to curtain -fire hazard, also causes deterioration of fabric.

Front of House: \$163,000+

-Acoustical study to determine new finishes and/or structural changes \$3500

I recommend working with Ben Markhan of Acentech. Their service would consist of:

-a one hour meeting with the primary users, and decisions makers.

-measurements and technical readings

-measurements taken during a performance

- SHS has two DMX (Digital Multiplex) outlets.
- Fuses frequently blow, so better supply is needed.
- Stage work lights, or rehearsal lights, are on tube florescent. These are hung from the ceiling too close to the curtains. Florescent light accelerates the deterioration of fabric and you can see how the top of these curtains are faded and thinned. The top of a curtain is what attaches it to the traveler so you don't want that part of the curtain weakened. \$10,000
 - These Fluorescents should be replaced by LEDs and/or moved.

Sound System: \$14,000-\$92,000

Console in Sound Booth:

It is an Allen Heath GL2400 with 24 channels.

It is a decent analogue board with 24 inputs, usable but very outdated. (BOH uses a digital sound board)

- Need wireless 8-12 wireless mics which would be worn by the principles in a show. \$5,000-\$20,000
 - Head mics, which place the microphone on the forehead, give the best sound and are most hidden are highest priced and cannot be shared between actors. "State of the art".
 - Face mics, which come around to the mouth on one side, can be switched out
 - Lavalier (lav) mics, which attach to clothing, give unreliable sound if the head is not straight forward (which it would not be unless standing at a podium, so not good for performances)
 - A combination of these three types would be recommended for cost considerations.
- New speaker system around auditorium \$15,000-\$65,000
 - Investigate whether old speaker booth and screened area at front of house on side walls, can be used again. This would give speakers a built in, out of sight, position.
- New intercom system between sound/light booth and stage manager -wireless. \$3500
- Acoustical study to determine new finishes and/or structural changes \$3500
- Sound/lighting booth has glass windows and smooth surface which reflect sound and thus interfere with sound waves coming from the stage.
- Sound technician needs to hear what audience hears, so, sound console should be moved out of booth, perhaps to back row of seats-acoustical study should recommend location for sound consul in the house. A bank of removable seats can be put in mid house for performances where sound engineer wants a more accurate location for regulating sound.
- Current speakers on either side of the stage are mounted incorrectly by 90 degrees. Temp fix is to rotate them! (s/b long woofer on top, round on bottom)

Rigging: \$65,000

Dead hung vs live line. Have 6 dead hung battens.:

Need two additional pipes: one in middle of FOH, other to hang Cyc

Winches:

- Change 3 to live line with winches.
- 2 live in FOH, 1st electric live
- winch = \$15,000-\$25,000 each. one winch needed for each line. 6 lines

-they will stay into the evening for a live performance to take more measurements
-Acoustic report will define problem areas and make recommendations for physical corrections-
Acentech would have another meeting with SHS primary users to discuss audio visual needs. They would then create a proposal for technical equipment and installation. (Not sure if there will be a charge for second meeting)

-(Potential) Acoustical changes +

- paint walls vs soft covering

- carpeting vs finished floor

- changes to shape and or finish of walls and ceiling

- sound/lighting booth

 - structural and finish changes.

 - add ladder to roof for "follow spot" control

 - add door underneath to increase storage

 - glass windows in booth reflect sound. Remove or change

 - move sound console to be within seating area. A bank of removable seats is recommended which allows for flexibility.

-New seats \$125,000, -replace 634 seats with upholstered seats. This will improve comfort and acoustics. Approximately \$200 per seat. PM may be able to purchase new seats on the used market.

- cloth seats take more maintenance and cleaning.

-Add ladder to FOH box booms?

-New finishes: All carpeting will need to be to code: fire, allergy, and moth resistant.

Storage/supplies: \$6,000

Need costume racks on rollers, hangers, clothing steamer

- costumes are flammable and may have to be stored in a sprinkler closed area.

- storage options for costumes might include a motorized rotating "dry cleaner" type rack.

Photographed inventory of costumes

Shoe and accessory shelving and designated area.

Stage and set storage, and racks: Building materials, flats, tools, lighting racks, paint

(build storage under the lighting booth?)-storage shed on campus dedicated to Drama Club.

Changing room (for quick off stage costume flips), a collapsible curtained booth would work.

Coffee pot, saw horses, drillers

Need a labeler

Laptop dedicated to plotting light cues.

Need a binder which lists directions and protocols for:

- Sound, lighting, costume sign out, rules of behavior, resources and links,

- binder with lighting cut sheets

Dedicated scaffolding on stage used both by crew and to create sets and to be used as part of sets.

Recommend using SR loft for storage of lighting equipment. Would need stationary pipes to hang unused lights.

Piano: \$20,000-\$80,000

Need New Grand piano , rolling frame for it, and box storage

Safety, costs to be safe: \$25,000-\$200,000

Safe access to to all lighting: stage, FOH and side lighting box booms.

Fire safety inspection

Regular dusting to include vaccuming top of curtains.

Cleaning, removal of flammable dust, from dimmer banks and curtains

Student usher training.

Rental must include ushers trained in evacuation plan.

New outlets on stage so don't have extension cords.

New increased electrical supply so are not over taxing outlets and fixtures.

Non flammable curtains to replace current frayed ones.

Dust is flammable, so budget needs to include dry cleaning of curtains every 5 years.

Training for students:

- theater, stage, and technical terminology.
- introduction to technical systems.
- behavior etiquette for crew and actors.
- usher training for emergency exit, door opening, etc.

Stage lumber should not be stored in SR loft. Too easy for misc pieces to fall below.

Humidifier unit for piano longevity

Winch system to replace use of ladders or catwalk. \$65,000

Sprinkler system installation, need temporary smoke detectors.

Construction, MISC \$10,000-\$15,000

New stage floor vs refinish, new skin \$6,000

A removable rubber dance floor called a "Marley Dance Floor" \$3500

Need wall outlets! On stage and in orchestra pit

A reception booth on wheels, for taking tickets (could be built in cooperation with Tech Ctr.)

Need to increase storage space, use more efficiently what you have, and/or find additional space nearby and dedicate it to Drama Club use.

Stairs to stage should have a removable railing. The railing blocks views.

A box lift to SR loft, with pulley system to safely move items up and down.

Maintenance, budget items:

Lighting: bulb changes, storage for older and or specialized fixtures, dimmer boxes to be cleaned 1 to 2 times a year. Filter replacement as necessary.

Curtains: to be sent out for dry cleaning at least every 5 years.

Costume: cost of cleaning should be a budget item.

Piano tuning 2x year, purchase humidifier. Clean and maintain humidifier filters

Stage floor should be sanded and repainted with ONLY a **flat black** as needed. 1-2 years.

Janitorial staff should be contracted to clean the auditorium before and after performances.

-This cost should be factored into any rental agreement.

-Gum removal, and annual cloth seat cleaning to be factored into cost.

Theft and security should be considered. Equipment needs to be secured in place where possible.

Project manager to-do:

-Inventory of supplies: Battens, pipe clamps, lights we can save, hardware, etc.

-Hire consultants, define professional team. Complete research to define scope of needs

-Define all system needs in two scenarios 1) The best possible for "State of Arts" 2) minimum required to be a respectable teaching facility.

For: Lighting, audio, curtain, rigging, electrical, and storage

-Work with SHS administration to define scope of work, phases, and budget

-Prepare bid documents

-Manage the construction and installation

Potential Phases, Project Management:

Phase I (Fast, cheap, big impact) \$25,000

-get acoustical study, \$3,500

-remove drop down ceiling over stage.

-meet with structural engineer for rigging changes

-meet with all consultants to determine scope of needs.

-review storage needs. Get racks, find more space, organize \$5,000

-address most safety issues with the exception of new sprinkler system

-purchase supply and storage needs as requested by Drama Club: labeler, laptop etc. \$3,000

-rotate speakers at FOH! so they work correctly

-get wireless mics, \$5,000

-intercom system \$3,200 (so sound both can communicate with stage manager)

-clean dimmer boxes, vacuum sound booth

-start student training on ushering, terminology, and system review.

-refinish stage floor

Phase II (more expense but big impact for fund raising) \$200-350,000

-conduct needed structural changes over stage

-electrical upgrades \$5-20,000

-install winches or catwalk \$50,000

-rehang battens, add Cyc batten

-install new working stage lights

-install mid traveler rod

-purchase and install new curtains \$21,000

-replace lighting console and DMX control, \$18,900

-make initial purchase of bare bones LEDs \$15,000

-new house speaker system \$15,000-\$65,000

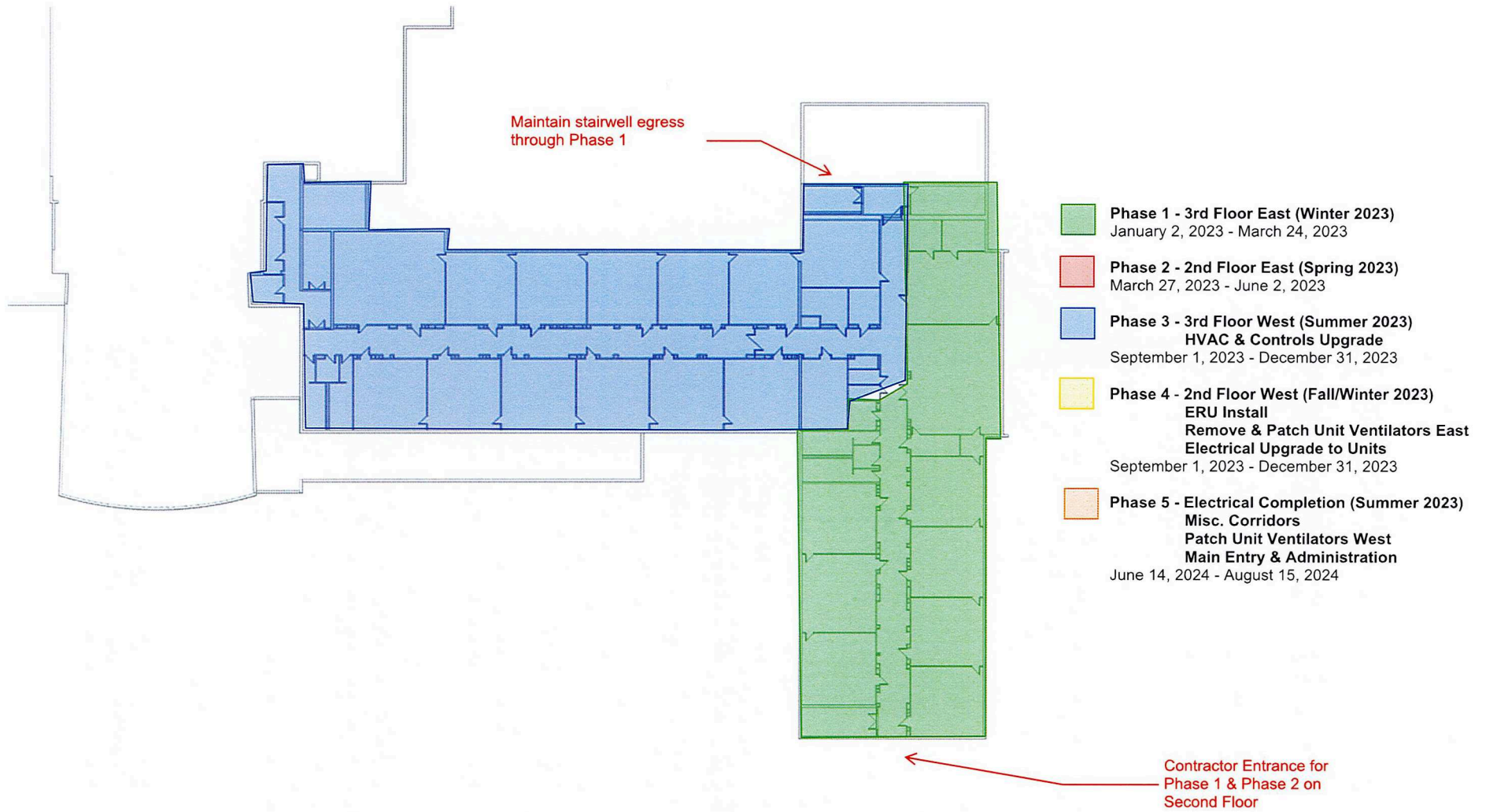
Phase III (expensive and involved) \$210,000-\$350,000

- do acoustical corrections and refinish FOH
- install sprinkler system
- seat replacement \$125,000
- buy remaining LEDs \$15,000
- new grand piano, rolling frame, and storage box \$50,000

Spaulding High School Ventilation Upgrade



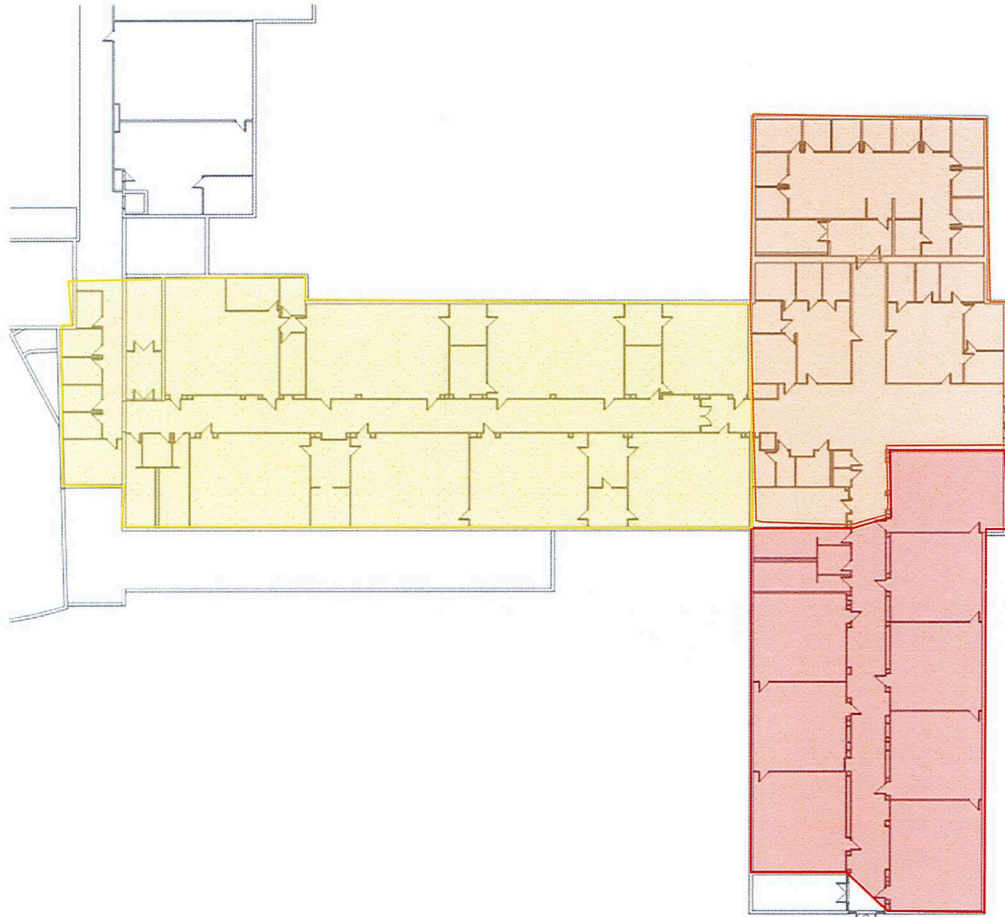
Third Floor



Spaulding High School Ventilation Upgrade



Second Floor



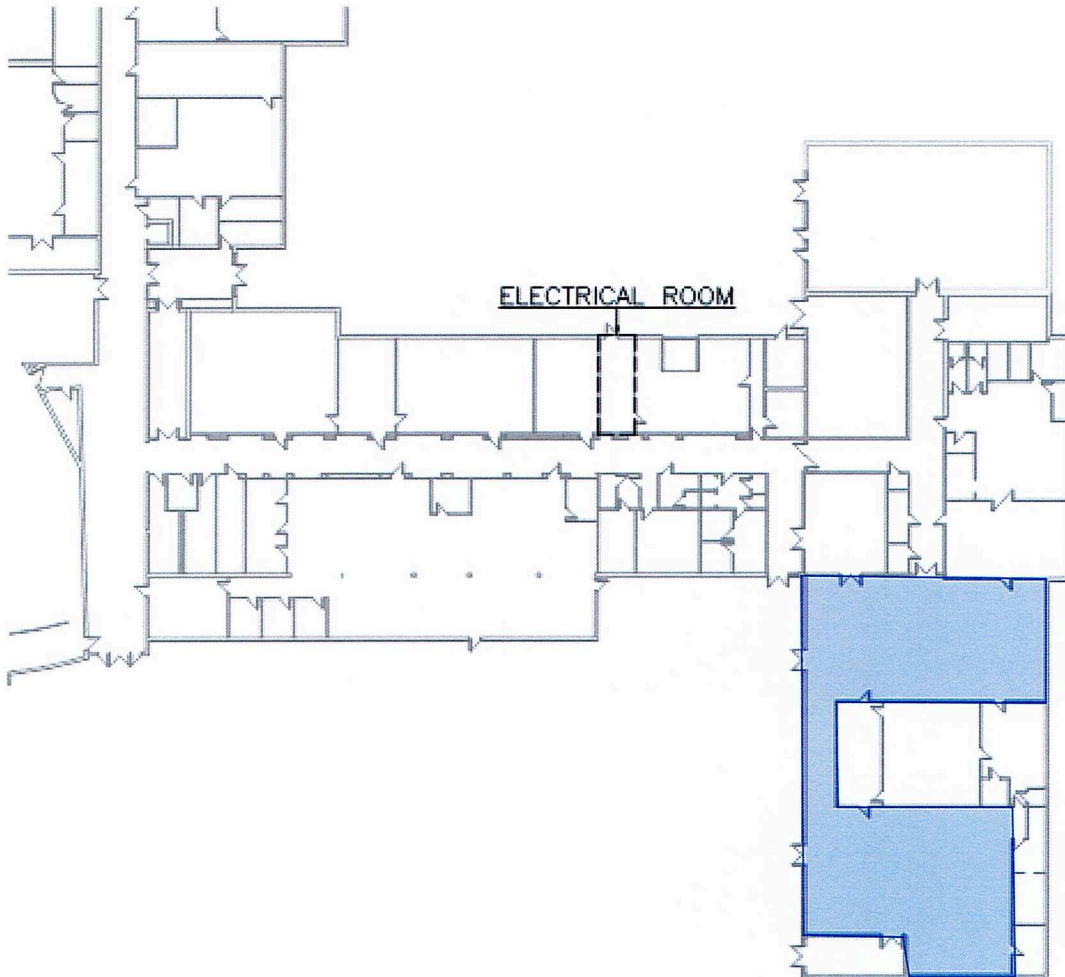
- Phase 1 - 3rd Floor East (Winter 2023)**
January 2, 2023 - March 24, 2023
- Phase 2 - 2nd Floor East (Spring 2023)**
March 27, 2023 - June 2, 2023
- Phase 3 - 3rd Floor West (Summer 2023)**
HVAC & Controls Upgrade
September 1, 2023 - December 31, 2023
- Phase 4 - 2nd Floor West (Fall/Winter 2023)**
ERU Install
Remove & Patch Unit Ventilators East
Electrical Upgrade to Units
September 1, 2023 - December 31, 2023
- Phase 5 - Electrical Completion (Summer 2024)**
Misc. Corridors
Patch Unit Ventilators West
Main Entry & Administration
June 14, 2024 - August 15, 2024

Contractor Entrance for
Phase 1 & Phase 2

Spaulding High School Ventilation Upgrade



First Floor



-  **Phase 1 - 3rd Floor East (Winter 2023)**
January 2, 2023 - March 24, 2023
-  **Phase 2 - 2nd Floor East (Spring 2023)**
March 27, 2023 - June 2, 2023
-  **Phase 3 - 3rd Floor West (Summer 2023)**
HVAC & Controls Upgrade
September 1, 2023 - December 31, 2023
-  **Phase 4 - 2nd Floor West (Fall/Winter 2023)**
ERU Install
Remove & Patch Unit Ventilators East
Electrical Upgrade to Units
September 1, 2023 - December 31, 2023
-  **Phase 5 - Electrical Completion (Summer 2024)**
Misc. Corridors
Patch Unit Ventilators West
Main Entry & Administration
June 14, 2024 - August 15, 2024