

## Capital Improvement Projects (CIP) FY2020 - FY2024

### **Project Description**

1. DIST Classroom Computerization/Upgrade  
The technology department will continue its efforts to be in compliance with the obsolescence plan established in the District Technology Plan. We will work to replace outdated hardware, enhance servers and network infrastructure to improve overall efficiency and ensure all users continue to be able to access and utilize necessary network resources. To accomplish this, we will divide our requested \$200,000 into two key areas:
  - Equipment - This is in accordance with our five year obsolescence plan for computers as stipulated in our District Technology Plan. It will also allow the district to purchase interactive panels in replacement of boards throughout the district.
  - Infrastructure - Funding for infrastructure will ensure ongoing access to key district resources, enhance management of our wireless network, and develop an onsite disaster recovery plan (in conjunction with the Town of Coventry).With increasing reliance on computer based network resources, the above purchases are necessary to maintain to critical resources used by students and staff throughout the district in their daily operations.
2. DIST Furniture/Equipment Replacement.  
Purchase of furniture/equipment to replace old, broken or damaged furniture/equipment. The district plan is to replace furniture in 2 to 3 classrooms per school each year. With this current plan it will take on average 15 years to replace each classroom district wide. Once this is complete it will be time to start the cycle over.
3. DIST Utility Vehicle  
The vehicle would be outfitted with snow removal equipment to reduce the overtime costs of snow removal and reduce the risk of injuries from snow removal slips and falls. Other than snow removal the vehicle would be used as a service vehicle for the complex and could be used to replace the golf cart for athletics. The purchase of this vehicle would also reduce the need to replace aging snow equipment at the schools
4. CHS Kitchen Freezer.  
Foods Service and Facilities departments have been working on tracking kitchen equipment end of life and repair cost with the use of School Dude. With this information equipment that needs to be replaced will be based on age and cost of repair. At this time we are looking to replace the 1988 freezer at CHS. The freezer has been written up on the health inspector's inspection for moisture on the ceiling and floor and the unit has been freezing up and shutting down because of the condenser and fans age.
5. WH Maintenance Truck  
Request of an additional four wheel drive vehicle to the maintenance department for safety and to services the district better. Last year's winter showed the need to have a four wheel drive vehicle to get around the district during inclement weather to service the district heat plants to ensure that the building were safe. The vehicle will also provide a safe way to transport items such as the lift, supplies, and trash around the district. This will reduce the need for rentals and the need to replace the trailer.
6. CHS Resurface the track.  
According to the American Sports Builders Association a track should be resurfaced every 8 to 10 years depending on use and maintenance. The track was last resurfaced in 2012 and currently has cracks in multiple spots that are in need of repair.
7. DIST Carpet Replacement  
Replacement of carpet based on the highest priority of failing carpet first. According to the Carpet and Rug Institute Carpet that is properly selected, installed and maintained lasts up to 10 years or longer. Most carpets in the district are older than 16 years. This work is proposed over two years and will include large space such as Media center, Auditorium, etc. that labor and time intensive.

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8. DIST Security Upgrades.  
Security of the schools is an ongoing effort that the district has been working with local and state agencies to provide the safest learning environment we can. The district has taken advantage of the State grant program to offset cost to the district. To continue to provide a safe learning environment we are looking to fund the following upgrades. This cost would cover the District share if we receive round 4 of the Security grant. If the District does not receive the grant the full cost of the project (\$515,000) will be moved to the Bond.
- Additional access controls upgrades district wide both exterior and interior doors. This would give better monitoring of visitors and allow the Police department the ability to view the door cameras along with remote access if needed.
  - Window safety film installed district wide on all exterior windows. This film stops access through windows even after being shot or hit with an object.
  - Inclosing the gym/café at CGS to allow the area to be put in lockdown. Currently the back of the area is open to the hall allowing anyone in the hall access to the gym. Replacement of the fire alarm and burglar alarm panels with one panel that also acts as a lockdown and emergency PA system.
9. DIST Network Refresh  
Technology is integrated into all district functions and we need to ensure that the network is able to support and grow in alignment with new and emerging IT trends and requirements. Over time, the demands on the network have changed and will continue to change as the ways the district implements technology evolve. This funding will help us ensure all networking, cabling, switches and wireless infrastructure will continue to support daily practice and ensure ongoing productivity. Ongoing evaluation of networking technologies will be factored in to purchasing of any new equipment.
10. CHS Cafeteria Reconfiguration.  
This project would open up the café to allow the school to service the students better and increase traffic flow allowing the students more choices and time.
11. DIST Phase 2 Natural gas conversion  
This phase would convert or replace equipment at CHS and CNH. The equipment would include kitchen equipment at CHS and CNH. Some of the equipment that is at or near end of life will be replaced with energy efficient equipment.
12. GHR Exterior Work  
This work included would be the repair and/or replacement of the exterior steps in the front and back of the building. Repairs and/or replacement of damaged sidewalks around the school
13. DIST Network Connection to Locations Outside of Complex  
Explore and implement networking options to supplant the current Spectrum dark fiber connection (if deemed necessary or fiscally advantageous). (CGS, GHR, Patriot's Park, Coventry Academy and Senior Center)
14. CHS Band Room Compressor replacement  
The compressor in this system was installed in 1999 and has a life expectancy of 15 years. The system was also damaged in the winter of 2015 when the snow load broke the piping. The piping was repaired but the compressors where not replaced. We had the same problem with the Media center compressors and where replaced this summer.
15. DIST Van Replacement  
The van that we would replace in the 2010 maintenance van that will be 11 years old at this time.

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16. DIST Sand and refinish hardwood floors.  
A typical MFMA maintenance schedule calls for an annual finish recoat and a complete resurfacing every 8-10 years, depending on facility use. This would the floors in good shape and extend the life of the floor. Currently the floors have been refinished in Hurlock 2015, CHS old gym 2017, CNH 2016, CGS 2018, GHR Gym 2012, GHR Café 2018. The goal is to get the floors on a 8 year cycle so every 4 years we refinish a group of them.
17. DIST PSSS Van Replacement  
This would replace the 2010 handicap van used to transport students. The van would be 10 years old at the time. Over the last year the van has been in the shop for repair four times for different issues.
18. DIST AC Replacement  
This project would replace multiple ductless split units district wide that where installed 2000 and have a life expectancy of 15 years. With the newer systems it would save the district money in maintenance and electrical cost.
19. DIST Custodial Equipment Replacement  
Replace battery powered floor equipment at GHR currently beyond life expectancy.  
Replace battery powered floor equipment at CGS currently beyond life expectancy.  
This equipment is strategic in maintaining common area floors with minimal labor
20. DIST Rooftop A/C Units  
This project would replace rooftop units DIST wide that may not be done under the building committee because of the age of the unit.
21. CHS/CNH Water Filtration Replacement  
The water filtration and softener will be at end of life in 2020 and is recommended that it is replaced. This system treats the water for the High school, Capt. Nathan Hale, and the Town Hall.
22. DIST Fire Proof File Cabinets  
This would replace the current standard filing cabinets that are used to store the district personal and financial records. The current filing cabinets do not safeguard the districts information from fire or water damage this would allow us to protect the districts vital information
23. CHS/CNH Install AC units in the LGI and Lecture Hall  
Currently the LGI and Lecture hall are being used not only for a classroom but is used for staff meetings, training as well as outside group use.
24. DIST Crack Seal all School parking lots.  
Pricing for the crack sealing is \$1 per square yard. The total for the district is 28,600 square yards. This would include CNH, CHS, preschool, and Complex parking areas. This would not include CGS and GHR as they are in the CIP to be replaced and would not require crack sealing.
25. CHS Resurface tennis courts.  
According to the American Sports Builders Association a tennis court should be resurfaced every 8 to 10 years depending on use and maintenance.
26. CHS Lecture Hall seat/tablet replacement.  
The Lecture Hall seating/writing tablet system is fragile, requiring ongoing repairs as tablets break off almost as quickly as we can repair them. If we are to preserve the purpose of this venue, we will need to replace this equipment to a more durable system. Parts have not been available for the existing system for some time, with specialized fabrication as our only repair alternative.

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### School Building Committee

27. CNH Replace HEEC RTU with Natural Gas  
Replace the electric RTU from 1988 with natural gas units. The life expectancy on the RTU is 20 years. This would save the district energy cost and also repair cost.
28. CGS/GHR Boiler Replacement  
Replace the aging boilers with new oil fired boilers and adding VFDs to the system pumps. This would also include redesigning the loop to help prevent cracking section due to cold loop temperatures.
29. DIST Underground Fuel Storage Tank (UST) Replacement.  
UST were installed at each school site in 1988, the tanks must be replaced no later than 30 years after installation. This proposal is to hire a design professional to prepare Bid Specifications and Construction Documents. Actual removal replacement to occur is summer of 2016 or 2017.
30. CHS/CNH Fire Door Modification  
Fix a code violation in the complex by installing 2hr rated fire tunnels where the complex and science wings connect the original High School and Captain Nathan Hale School.
31. CHS Install VFD's  
Install VFDs and occupancy controls & optimize control sequences for AHU's serving 2 gyms. The gyms are served by constant volume AHU's. Variable frequency drives (VFD's) would allow the fan motors to adjust to seasonal and/or temperature requirements. The occupancy sensors would allow the spaces to set back when empty. More sophisticated control strategies such as control ventilation, dual enthalpy economizer cycles, etc. would also be implemented. \$900-1,800 oil savings/yr.; \$4,800-5,800 electric savings/yr.
32. CHS Replace original Classroom unit ventilators.  
The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
33. CNH Replace original Classroom unit ventilators.  
The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
34. CHS/CNH Exhaust and Fresh air system  
Install a system that would supply tempered fresh air while exhausting the building. The system would work with the new classroom heat to satisfy the space when occupied.
35. CHS/CNH VFD's & Occupancy controls for Auditorium, Stage, Band/Choral.  
These spaces are served by constant volume AHU's. VFD's would allow the fan motors to adjust to seasonal and/or temperature requirements. The occupancy sensors would allow the spaces to set back when empty. More sophisticated control strategies such as demand control ventilation, dual enthalpy economizer cycles, etc. would also be implemented.
36. CHS Administration are perimeter heat  
Install individual control valves on perimeter radiation for Administration area. The administration area is served by an AHU that has two reheat coils serving approximately 8 different spaces. There is also perimeter heat that is uncontrolled. Installing control valves for the perimeter heat in each space would prevent the spaces from overheating.

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37. CHS Add dedicated heat/make-up air unit for the kitchen.  
The make-up air and heat source for the kitchen hood exhaust is from the cafeteria. This is only possible if the doors between the server and the cafeteria are open and the kitchen exhaust fan is operating. If these two conditions are not met, then the kitchen has no heat source. It has been reported that water pipes in the kitchen have previously frozen.
38. CHS Vinyl Composition Tile (VCT) Floor replacement/asbestos abatement.  
The cafeteria VCT and that of 13 classrooms was installed over asbestos-containing tile and/or mastic in year 2000. Cafeteria VCT is rapidly failing due to adhesion and blistering issues relating to the underlying Vinyl Asbestos Tile (VAT). Some blistering has appeared on classroom VCT. Replacement of all of these areas at the same time makes sense because of the need for an Asbestos Abatement Project to replace the VCT. This project is eligible for school construction grant.
39. CHS/CNH Electric Sub Metering  
Install mobile remote monitoring devices on large energy items throughout the school. This would allow us to monitor equipment for changes in energy use catching issues before it cost the district extra in energy and repair costs.
40. CNH Replace GYM AHU  
Replace aging AHU with an energy efficient unit that has VFD. This would save the district not only energy costs but also repair costs
41. CHS/CNH Lightning Protection.  
The high school, middle school, emergency generator and associated buildings have sustained damage from lightning and/or electrical surge events on a continuing basis. We have lost circuit boards in electronic devices in the school, and controls and circuit boards on the generator that serves the high school community shelter. These interruptions in service have been both costly and disruptive. The project includes a complete system of lightning protection in accordance with Underwriters Laboratories Inc., Lightning Protection Institute and the National Electrical Code. Air terminals, ground electrodes, conductors, connectors and fasteners used to ground to water system, power ground, plumbing/heating systems, AC units, antennas and all equipment per code standards, will be installed for the purpose of preventing or lessening the damage due to lightning strikes.
42. DIST Portable Generator/ATS installation.  
The town is considering use of a portable generator that could be transported from between buildings to keep pipes from freezing, food from spoiling and other building issues if power were to be lost with sub-freezing temperatures. This project is for installation of the connections and safeguards necessary to accommodate this program.
43. CGS Replace original Classroom unit ventilators.  
The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
44. CGS Exhaust and Fresh air system  
Install a system that would supply tempered fresh air while exhausting the building. The system would work with the new classroom heat to satisfy the space when occupied.

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45. CGS      Replace Gym AHU  
Replace aging AHU with an energy efficient unit that has VFD. This would save the district not only energy costs but also repair costs
46. GHR      Replace original Classroom unit ventilators.  
The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
47. GHR      Exhaust and Fresh air system.  
Install a system that would supply tempered fresh air while exhausting the building. The system would work with the new classroom heat to satisfy the space when occupied.
48. GHR      Replace Café AHU  
Replace aging AHU with an energy efficient unit that has VFD. This would save the district not only energy costs but also repair costs
49. GHR      Install hydronic perimeter heating system for the Media Center.  
The original perimeter heating system for the media center was replaced with electric resistance heating elements. Converting to hydronic and connecting to the boiler plant would allow the space to be heated by a cheaper fuel.

## Larger Projects for Long Term Planning and Bonding

50. CHS      Relocate High School Weight room  
During the NEASC visit it was pointed out that the current weight room does not meet the need of the school. The space is too small and there are issues with HVAC. The best option would be to relocate the weight room to a new location.
51. CGS      Parking Lot Replacement  
The current parking lots are over 17 years old and beyond repair due to large cracks and sections where the asphalt is breaking apart. This project would remove the old asphalt, curbing, and storm drains and will include the upper and lower lots as well as the front turn around. The pricing may be lower if we can do the project with one of the Towns road projects. Estimated price does not include the reconfiguring of the parking lot.
52. GHR      Parking Lot Replacement  
The current parking lots are over 17 years old and beyond repair due to large cracks and sections where the asphalt is breaking apart. This project would remove the old asphalt, curbing, and storm drains and will include the upper and lower lots. The pricing may be lower if we can do the project with one of the Towns road projects. Estimated price does not include the reconfiguring of the parking lot.
53. CHS/GHR      Roof replacement  
This project would replace the current flat roof over the high school and complex. The roof was installed in 1999 during the renovation and has been leaking the last couple years. At GHR it would replace the roof over the 5<sup>th</sup> grade wing that was installed in 1999. This project is reimbursable from the state.

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- 54. DIST Window Replacement.  
Replace windows at all four schools with energy efficient windows. This is an estimated cost do to the complexity of the project it would have to be engineered.
- 55. GHR Roof Replacement  
The roof was installed in 2011 and would reach the 20 year mark in 2031. This project would include the original section of GHR and GYM. The 5<sup>th</sup> grade wing is scheduled to be replaced in 2020.
- 56. CNH Roof Replacement  
The roof was installed in 2011 and would reach the 20 year mark in 2031. This project would include all of the CNH roof up to the complex.
- 57. CGS Roof Replacement  
The roof was installed in 2011 and would reach the 20 year mark in 2031. This project would cover the complete roof at CGS.

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