HABEEB & ASSOCIATES
ARCHITECTS

MASCONOMET REGIONAL SCHOOL DISTRICT
CAPITAL ASSET ASSESSMENT

20 Endicott Road
Boxford, MA 01921

Prepared for:
Masconomet Regional School District
20 Endicott Road
Boxford, MA 01921

January 31, 2017
JN 1607.00

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Habeeb & Associates Architects was retained to prepare a *Capital Asset Assessment* for the Masconomet Regional School District ("the facility"). The purpose of the assessment is to develop a budget for current and future repairs and upgrades. Identified repairs and upgrades will improve the overall physical condition of the building and site and should result in an extension of the facility's useful life. This assessment provides an overall evaluation of the facility's systems and is not intended to identify the status of individual system components. This report is *not* intended to identify work which is routinely performed as maintenance. Some work items, however, though inexpensive on their own, can be combined with similar work items within the facility to make for a more substantial project. It should also be noted that although we have attempted to be thorough in our descriptions and estimated construction costs, we have not designed or engineered the work described in this report. Many of the work items described will require subsequent Architectural and Engineering Services to thoroughly design the work in preparation for bidding by contractors.

Work items listed are provided as a guide to develop repair and renovation projects with preliminary cost estimates. We have also tried to achieve a level funding for renovations and repairs over a ten-year period to help with the District's budgeting. The actual scope of a project could include a combination of work items, i.e. new ceilings and new lighting. Some of these project scope links have been noted to make a more complete project. Due to the costs and difficulty associated with organizing and executing any construction project. It may be more efficient in some cases to cluster several smaller projects into the scope for one larger project. This could involve replacing some systems or system components prior to the end of their useful life expectancy if the soft costs (as explained on page 15) and additional maintenance costs associated with completing them later in a separate project exceed the costs saved by allowing the system to attain or exceed its life expectancy. The costs shown in the tables do not reflect any savings to the Town achieved by receiving grant money or special funding which might be procured in the process of vetting these scope items.

Habeeb & Associates conducted on-site field visits in July and August of 2016. Garcia Galuska Desousa, Inc. also conducted on site field visits for mechanical, electrical, plumbing and fire protection during this period. Field visits were visual in nature and did not include destructive or intrusive testing. We also reviewed construction documents where available and discussed building and site conditions with the school's Director of Operations.

Reference materials provided by the District include:

- Construction Documents for the Masconomet Regional School prepared by Architectural Resources of Cambridge dated 26 October 1999.
- Roof Repair Proposal by Feeley, McAnespie, Inc. dated May 12, 2016.
- Rapid Building Assessment Report by First Fuel dated October 31, 2011.
- MassSave Incentive Program Scoping report by TNZ dated November 19, 2015.
- Capital Asset and Property Improvement Plan by Masconomet regional School District dated January 2017
- Information Technology Assessment by Whalley Computer Associates dated June 16, 2016 and Core IT Analysis by RISC Networks dated July, 2016.

FLOOR PLANS AND BUILDING DATA

Floor and site plans are included at the end of the report to provide basic information about the existing building and grounds. Also provided are current floor plans to assist the reader in understanding the scale and layout of the building. The plans were reproduced from various documents provided to us by the District and may not reflect the current layout or space allocation in all cases.

BUILDING DATA

Building Address:	20 Endicott Road Boxford, Massachusetts 01983
Assessed Value:	Boxford: $72,017,200 (FY16 Assessment) Topsfield: $455,000 (FY16 preliminary Assessment)
School Superintendent:	Dr. Kevin Lyons

SITE AREA:

Site Area (Boxford)	2,552,520 SF (71.7 Acres)
Site Area (Topsfield)	9,26,521 SF (21.27 Acres)

BUILDING HISTORIES:

Middle School Building:	1958, renovated in 2001
High School and Additions:	2001
Waste Water Treatment Plant	2001
Administration Building	1972

CODE CLASSIFICATION:

Middle / High School Building:

Occupancy:	E – Educational, A – Assembly
Construction Type:	2B, Steel Framed, Unprotected

Waste Water Treatment Plant:

Occupancy:	F – 2 Industrial
Construction Type: Unprotected	3B, Exterior Bearing wall, Steel Framed,

Administration Building:

Occupancy:	B – Business
Construction Type:	5B, Wood Framed, Un-protected

BUILDING AREAS:

Middle School / High School Building

First Floor:	219,500 SF
Second Floor:	104,409 SF
Third Floor	47,420 SF
Total Building Area:	371,329 SF

Waste Water Treatment Plant:	4,300 SF

Administration Building:

First Floor	2,567 SF
Basement:	2,437 SF

SITE COMPONENTS:

Parking / Driveways:	Bituminous paving with concrete and bituminous curbing.
Walkways:	Bituminous paving; concrete paving at entries and accessible ramps.
Lighting:	Exterior pole mounted lights at parking lot and drop-off circle with building mounted fixtures.
Storm Drainage:	Internal roof leaders at building. Surface run-off from paved areas and roof leaders discharge to on site storm water retention and infiltration basins.
Sanitary System:	On-site Sewage Treatment including Grease Trap.

Middle School / High School Building:

ARCHITECTURAL COMPONENTS:

Foundation:	Reinforced cast in place (CIP) concrete.
Super Structure:	Steel framing.
Floor Structure:	Reinforced CIP concrete slab on grade. Upper floors are composite metal deck and concrete
Roof Structure:	Steel framing and metal or tectum deck.
Exterior Walls:	Steel stud or concrete masonry (CMU) back-up with batt insulation and vapor barrier on warm side of insulation. Exterior cladding is brick, metal panel or CMU.
Roofing:	EPDM and PVC membrane, Lead coated copper.
Window Systems:	Aluminum frames w/ insulated glazing.
Exterior Doors:	Aluminum and hollow metal doors and frames with glazing.
Interior Doors:	Wood door with natural finish and painted hollow metal doors, hollow metal frames.
Stairs:	Steel pan with concrete infill.
Interior Walls:	Various types including metal studs with gypsum wall board (GWB) and concrete masonry units (CMU)
Wall Finishes:	Painted GWB and CMU. Natural finished wood wainscoting.
Floor Finishes:	Predominantly carpet and vinyl composition tile (VCT) in Classrooms, VCT in Halls. Ceramic tile and epoxy in restrooms and locker rooms. Exposed concrete in mechanical and storage rooms. Carpet in library, offices and auditorium. Quarry tile in food service. Wood in gymnasium, Synthetic in fieldhouse.
Ceiling Finishes:	Suspended acoustical ceiling tile (SACT), painted GWB, tectum panels, wood and exposed metal deck.
Conveying Systems:	(2) Accessible elevators.

Middle School / High School Building:

MECHANICAL / ELECTRICAL COMPONENTS:

Water Service:	Municipal.
Domestic Hot Water:	Dual oil fired domestic hot water heater storage tanks.
Fire Suppression:	Throughout facility.
Heating Systems:	Gas fired boilers and circulation pumps in MEP Room. Main heating and Ventilation equipment located in Mechanical rooms or roof. Unit ventilators and unit heaters serve perimeter rooms.
Cooling Systems:	Mechanical cooling systems, operable windows for natural ventilation.
Electric Service:	HS: 2000A, 277/480 Volt, 3 Phase. MS: 2500A, 277/480 Volt, 3 Phase.

Waste Water Treatment Plant:

Foundation:	Reinforced cast in place (CIP) concrete.
Super Structure:	Reinforced concrete masonry.
Floor Structure:	Reinforced CIP concrete slab on grade.
Roof Structure:	Steel framing and metal deck.
Exterior Walls:	Concrete masonry unit (CMU) back-up with batt insulation and vapor barrier on warm side of insulation. Exterior cladding is brick.
Roofing:	EPDM and lead coated copper.
Exterior Doors:	Hollow metal doors and frames with insulated glazing.
Interior Doors:	Hollow metal doors and frames.
Stairs:	Galvanized steel grating.
Interior Walls:	Concrete masonry units.
Wall Finishes:	Painted.
Floor Finishes:	Exposed concrete and VCT.
Ceiling Finishes:	Exposed metal deck, SACT.

MECHANICAL / ELECTRICAL COMPONENTS:

Water Service:	Municipal.
Domestic Hot Water:	Electric hot water heater.
Fire Suppression:	Throughout facility.
Heating Systems:	Roof mounted Exhaust Fans with duct distribution systems within the building for general exhaust of odors and fumes. Roof mounted air handling unit provide tempered ventilation to occupied spaces. Gas fired horizontal unit heaters for spatial heating.
Cooling Systems:	No mechanical cooling systems.
Electric Service:	400 amp, 277/480 Volt, 3 phase, 4 wire.

Administration Building:

Foundation:	Reinforced cast in place concrete
Super Structure:	Wood framing
Floor Structure:	Reinforced CIP concrete slab on grade. Wood framed first floor.
Roof Structure:	Wood joists.
Exterior Walls:	Wood stud back-up with batt insulation and vapor barrier on warm side of insulation. Exterior cladding is brick.
Roofing:	Fiberglass shingles and Aluminum flashings.
Exterior Doors:	Aluminum entry at first floor. Hollow Metal doors and frames at basement.
Interior Doors:	Hollow core wood doors and wood frames.
Stairs:	Wood with Vinyl tread.
Interior Walls:	GWB on wood stud.
Wall Finishes:	Painted.
Floor Finishes:	Carpet/VCT/ exposed concrete.
Ceiling Finishes:	SACT.

MECHANICAL / ELECTRICAL COMPONENTS:

Water Service:	Municipal.
Domestic Hot Water:	Electric hot water heater.
Fire Suppression:	None.
Heating Systems:	Indoor air handler with electric heating coils and exterior condenser and supplemental terminal electric unit heaters.
Cooling Systems:	Indoor air handler with exterior condenser and dehumidifier in basement.
Electric Service:	200 amp, 120/240 Volt, single phase, 3 wire.

ACCESSIBILITY

It is important to note that there are projects with a scope of work and associated construction cost estimates that may trigger additional accessibility renovations. Typically, all new work must meet accessibility regulations. In addition, any work over $100,000 either done alone or in combination with other projects within a three-year period will also require renovations for an accessible entrance, drinking fountain, and toilet facilities. In addition, work that exceeds 30% of the full and fair cash value of the building will require complete building renovations for accessibility. We have included the applicable excerpts of the Commonwealth of Massachusetts accessibility regulations (CMR) below.

521 CMR Massachusetts Architectural Access Board.

Section 3.3 Existing Buildings

All additions to, reconstruction, remodeling, and alterations or repairs of existing public buildings or facilities, which require a building permit or which are so defined by a state or local inspector, shall be governed by all applicable subsections in 521 CMR 3.00: JURISDICTION.

3.3.1 If the work being performed amounts to less than 30% of the full and fair cash value of the building and

a. if the work costs less than $100,000, then only the work being performed is required to comply with 521 CMR

or

b. if the work costs $100,000 or more, then the work being performed is required to comply with 521 CMR. In addition, an accessible public entrance and an accessible toilet room, telephone, drinking fountain (if toilets, telephones and drinking fountains are provided) shall also be provided in compliance with 521 CMR.

Exception: Whether performed alone or in combination with each other, the following types of alterations are not subject to 521 CMR 3 unless the cost of the work exceeds $500,000 or unless work is being performed on the entrance or toilet. (When performing exempted work, a memo stating the exempted work and its costs must be filed with the permit application or a separate building permit must be obtained.)

[…]

b. Alteration work which is limited solely to electrical mechanical, or plumbing systems; to abatement of hazardous materials; or retrofit of automatic sprinklers and does not involve the alteration of any elements or spaces required to be accessible under 521 CMR. Where electrical outlets and controls are altered, they must comply with 521 CMR.

c. Roof repair or replacement, window repair or replacement, repointing and masonry repair work.

d. Work relating to septic system repairs, (including Title V, 310 CMR 15.00, improvements) site utilities and landscaping.

3.3.2 If the work performed, including the exempted work, amounts to 30% or more of the full and fair cash value (see 521 CMR 5.00) of the building the entire building is required to comply with 521 CMR.

a. Where the cost of constructing an addition to a building amounts to 30% or more of the full and fair cash value of the existing building, both the addition and the existing building must be fully accessible.

[…]

3.3.4 No alteration shall be undertaken which decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction.

3.5 Work Performed Over Time

When the work performed on a building is divided into separate phases or projects or is under separate building permits, the total cost of such work in any 36-month period shall be added together in applying 521 CMR 3.3, Existing Buildings.

The Masconomet Regional School District facilities are in good condition overall, given the age and use of the structures. The facilities have been well maintained and it is evident that proper maintenance and upkeep of the facilities has occurred.

Many building components degrade with age regardless of upkeep due to weather, sunlight and wear from use. These components include roofing systems, floor finishes, mechanical, plumbing and electrical systems. Other systems are made obsolete by advances in technology. Maintenance becomes more difficult due to lack of availability of parts and trained service technicians. Energy efficiencies offered by improved systems and the pay back on utility costs make other system upgrades economically feasible.

Life expectancy is shown within the enclosed tables, for the various materials and equipment present in the facility equipment. Life expectancies reflect industry standards and do not always reflect the current condition of the equipment if it has been maintained and serviced properly. A piece of equipment with a zero life expectancy may still be in working order and serviceable for the foreseeable future.

FUNDING PRIORITIES

On the following pages, the recommendations of the Capital Asset Assessment are summarized by Funding Priority. Within each Funding Priority, similar or related items are grouped to provide an overview of the recommendations and the associated expenditures needed. The explanation of the criteria used to develop the individual item costs are provided in the introduction to the Capital Asset Assessment on page 13.

The Funding Priority Values of the work are expressed in current dollars and include a premium of 35% for soft costs including architects and engineering fees, surveys, testing, expenses and contingencies. Inflation at 3% per year is included at the end of each Funding Priority.

Priority 1 – Currently Critical (immediate)

Priority 2 – Necessary/Not Yet Critical (years 1-5)

Priority 3 – Recommended (years 6-10)

Priority 4 – Long Term Item (10+ years)

In addition, Long Term consideration for addition of exterior facilities and replacement of the Administration building are included in section M. Long Term New Construction Capital Improvement of the Capital Asset Assessment.

Priority 1:

Description	Report Items	Total Costs
Site:		
1. Repairs to concrete and bituminous sidewalks, bituminous paving, tennis court and track surfaces to eliminate possible tripping hazards.	A.1.1, A.2.1, A.3.1, A.4.1, B.2.1, B.5.1, F.19.1	$17,298
High School and Middle School HVAC Systems:		
1. Investigation of gas piping sizing to prevent tripping and firing issues.	G.1.1	$10,125
2. Sizing of gas piping to HVAC units.	G.4.1, I.10.1	$87,750
High School and Middle School Fire Protection Systems:		
1. Removal of abandoned pre-action systems at elevator shafts at middle and high school.	H.5.1, H.6.1	$20,250
2. Repair double check valve.	H.1.1	$675
3. Installation of sprinkler head escutcheons and protection.	H.9.1, H.10.1	$2,700
High School and Middle School Safety & Security:		
1. CCTV camera system.	J.1.1	$1,012,500
2. Replace clock/intercom system with VOIP.	J.2.2, J.2.3	$675,000
High School and Middle School Electrical Systems:		
3. Add new feeder to library and separate loads.	K.2.1	$40,500
4. Replace fire alarm panels.	K.10.1	$87,750
Administration Building:		
1. Accessible doors and hardware.	F.10.1, F.10.2	$11,340
2. Creation of second means of egress from basement to eliminate exit through storage room.	F.20.1	$17,810
3. Add elevator/lift: The basement is not accessible.	F.17.1	$87,750
4. Restroom: Toilet rooms are aged and not accessible.	F.15.1	$22,950
5. 5' sign posts for accessible spaces	F.18.1	$324
		$2,094,722

TOTAL (no inflation)

Priority 2:

Description	Report Items	Total Costs
Site:		
1. Repairs to concrete and bituminous sidewalks, loading dock bituminous paving, tennis courts, and track surfaces.	A.1.2, A5.1, A.7.1, B.2.2, B.5.2, E.16.1	$312,849
2. Repairs to fencing.	B.3.1	$34,020
3. Repairs to playing fields.	B.12.1, B.13.2, B.15.1	$17,820
4. Site lighting timer upgrades.	K.1.1	$33,750
High School and Middle School - Architectural Exterior:		
1. Re-roofing and insulation, new flashings.	C.1.1, C.3.1	$6,095,250
2. Exterior wall systems at kitchen and weight room.	C7.1, C8.1, C16.1	$233,550
3. Exterior doors, windows and entries.	C.10.1, C.11.1, C.12, C.13.1, C.14.1	$178,384
High School and Middle School - Architectural Interior:		
1. Interior finishes.	D.4.1, D.6.1, D.8.1, D.13.1, D.14.1, D.15.1	$126,226
2. Toilet partitions, casework refinishing, counters.	D.20.1, D.23.1, D.24.1	$34,560
3. Bleachers and auditorium seating.	D.26.1, D.27.1, D.28.1	$876,150
1.		
High School and Middle School HVAC Systems:		
1. New classroom heating, cooling, ventilating and piping.	G.3.1	$810,000
2. New Middle School boilers.	G.2.1	$135,000
3. Cafeteria duct distribution system.	G.7.1	$337,500
4. Fieldhouse air distribution.	G.5.1	$8,100
5. Repairs to grilles.	G.8.1	$2,025
6. Replace automatic temperature controls.	G.12.1	$2,160,000
High School and Middle School Safety & Security:		
1. New security intrusion alarm and access control.	J.1.2, J.1.3	$1,147,500

Description	Report Items	Total Costs
High School and Middle School Electrical Systems:		
1. New fire alarm systems.	K.10.2, K.11.1	$1,075,950
2. Lighting protection.	K.12.1	$54,000
Waste Water Treatment Plant:		
1. Re-roofing and insulation, new flashings.	E.1.1, E.2.1	$124,808
2. Exterior doors and entries.	E.4.1, E.6.1	$47,655
3. Interior equipment.	E.15.1	$972
4. Fire protection systems upgrades.	H.14.1	$16,875
5. Security upgrades to match school.	J.3.1	$46,440
6. Fire alarm systems upgrades.	K.20.1	$29,025
Administration Building:		
1. Re-roofing and insulation, new flashings.	F.3.1, F.4.1	$7,876
2. Exterior masonry repairs.	F.5.1	$1,350
3. Interior repairs.	F.9.1, F.12.1, F.13.1	$24,208
4. New HVAC systems.	G.14.1	$202,500
5. Security and telecom upgrades to match school (see below).	J.4.1, J.5.1	$40,500
6. Fire alarm upgrades.	K.28.1	$23,625
Subtotal		$14,238,468
Inflation @ 3% per annum		$1,281,462
TOTAL (with inflation to year 3)		**$15,519,930**

Priority 3:

Description	Report Items	Total Costs
Site:		
1. Resealing of bituminous sidewalks & paving.	A.3.2, A4.2	$271,350
2. Repairs to fencing.	B.6.1	$24,300
3. Irrigation to playing fields.	B.1.1, B.7.1	$107,325
High School and Middle School Architectural Exterior:		
1. Replacement of exterior glass block at gymnasium.	C.9.1	$233,280
High School and Middle School Architectural Interior:		
1. Interior finishes.	D.7.1, D.9.1	$9,990
2. New flooring.	D.11.1, D.12.1, D.15.2, D.16.1	$2,299,118
3. New hardware at classroom doors.	D.17.1, D17.2	$179,881
4. Locker room locker and benches.	D.22.1	$202,703
5. New wayfinding signage.	D.30.1	$54,000
High School and Middle School Safety & Security:		
1. New data systems throughout school.	J.2.1	$1,686,150
High School and Middle School Electrical Systems:		
1. Replace lighting fixtures throughout with LED fixtures.	K.6.1	$3,434,400
2. New lighting controls systems.	K.7.1	$657,450
High School and Middle School HVAC Systems:		
1. Kitchen make up air.	G.6.1	$87,750
2. Auditorium stage heating and cooling.	G.9.1	$148,500
3. Replace belts, lubricate rotors and shafts.	G10.1	$45,900
Waste Water Treatment Plant:		
1. New LED lighting and controls.	K.16.1, K.17.1	$75,465
2. HVAC maintenance.	G.13.1	$2,700

Description	Report Items	Total Costs
Administration Building:		
1. Exterior roofing and flashings.	F.1.1, F.2.1	$55,447
2. Exterior siding, windows and vestibule doors.	F.6.1, F.7.1, F.8.1	$12,960
3. New water heater.	I.17.1	$10,800
4. New LED lighting and controls.	K.24.1, K.25.1	$37,125
Subtotal		$9,636,964
Inflation @ 3% per annum		$2,120,051
TOTAL (with inflation to year 7)		**$11,756,645**

Priority 4:

Description	Report Items	Total Costs
Site:		
1. Mill and repave parking lots and drives.	A.4.3	$1,262,250
2. Remove islands.	A.6.1	$87,598
3. Repaint handrails.	A.8.1	$1,350
4. Irrigation to playing fields.	B.8.1	$60,750
5. Dugout improvements.	B.13.1	$2,025
High School and Middle School Architectural Exterior:		
1. Entrance mats.	C.17.1	$10,530
2. Caulking repairs.	C.15.1	$13,500
High School and Middle School Architectural Interior:		
1. New lighting catwalk at auditorium.	D.29.1	$675,000
2. Updated finishes.	D3.1, D5.1	$221,400
High School and Middle School Electrical Systems:		
1. Panel board and breaker inspection and replacement.	K.3.1, K4.1	$16,200
High School and Middle School Plumbing Systems:		
1. New drinking fountains.	I.4.1, I.9.1	$81,000
2. Resize water heaters.	I.7.1	$20,250
High School and Middle School HVAC Systems:		
1. Piping System maintenance and treatment.	G.11.1	$2,025
Waste Water Treatment Building:		
1. Panel, distribution and wiring maintenance and repair.	K.12.1, K.13.1, K.14.1	$16,200
Administration Building:		
1. Branch circuiting upgrades.	K.23.1	$16,875
2. Plumbing fixture upgrades.	I.16.1, I.20.1	$17,213
Subtotal		$2,504,166
Inflation @ 3% per annum		$860,431
TOTAL (with inflation to year 10)		**$3,364,597**

WORK CATEGORY SPREADSHEETS

The *Capital Asset Assessment* is broken down into work categories with a General Summary provided at the beginning. The general summary is discussed below. The most common specific evaluation areas of each are as follows:

A. Site Improvements
- Drives, Walks and Site improvements
- Accessible Parking and Entrance Approach

B. Athletic Fields
- Athletic Fields and Track
- Tennis Courts
- Baseball and Softball Diamonds

C. Middle School/High School Building - Architectural Exterior
- Roofs
- Exterior Walls
- Windows, Exterior Entrances and Doors
- Accessible Egress and Ingress

D. Middle School/High School Building - Architectural Interior
- Ceiling and Wall Finishes
- Interior Doors, Exitways
- Equipment
- Accessibility for the Disabled

E. Waste Water Treatment Plant - Architectural
- Building Envelope
- Exterior Openings
- Interior Finishes
- Equipment

F. Administration Building - Architectural
- Building Envelope
- Exterior Openings
- Interior Finishes
- Interior Doors and Exitways

G. HVAC (All Buildings)
- Heat Generation
- Cooling System
- Piping for HVAC Systems
- Temperature Controls
- Ventilation

H. Fire Protection (All Buildings)
- Fire protection service
- Fire Protection distribution systems

I. Plumbing (All Buildings)
- Domestic Hot Water Generation
- Cold Water Services
- Gas Services
- Piping for Plumbing Systems
- Plumbing Fixtures

J. Safety &Security (All Buildings)
- Communications Systems
- Computer Network
- Security & Notification Systems

K. Electrical (All Buildings)
- Main Services and Distribution
- Emergency Power and Lighting
- Fire Alarm Systems
- Lighting Systems
- Convenience Power
- Site Lighting

L. Energy Efficiency
- Exterior Envelope
- HAVC and Electrical Systems

M. Long Term New Construction Capital Improvement

The following is a list and brief description of the column and row headings of the *Capital Asset Assessment*. The costs are given as current cost; inflation is address in the General Summary.

Description
The *Descriptions* are the work items identified during our inspection. They usually consist of the building component and its deficiencies; and a recommendation for correcting the deficiency with a statement justifying the benefit of the improvement.

Life Expectancy Beyond 2016
The *Life Expectancy* is the expected life of equipment or systems based on industry standards, traditional warrantees and field observations. A well maintained system or equipment may extend beyond the expected life, but obsolete parts and qualified technicians, may make continued maintenance infeasible.

Class
The assessment identifies projects with a recommended priority class. We have established three classes of priorities and each item assessed was assigned a priority class. Descriptions of each priority class are as follows:

Class 1: Projects which are recommended for the continued operation of the building and to protect the asset. These projects include repair and replacement of failed building systems and items, which may pose a risk of injury to occupants. For example, roof and wall leaks may cause continued deterioration to building components if not repaired. **Class I items identified as follows (I*) represent items which pose an immediate risk of injury to occupants or a potential catastrophic building failure. Such items should be corrected immediately.**

Class 2: Projects which are recommended to extend the life of the building systems or bring building systems up to current standards. These include projects for components or systems which are nearing their expected life span or are subject to failure. These projects also include upgrades for thermal and energy efficiency, life safety systems and accessibility improvements.

Class 3: Projects which are recommended to improve the general appearance of the facilities and address items that over time will deteriorate with extended life. (i.e. landscaping and painting).

Quantity
The number of items: (For example, if the work item is for "unit ventilators replacement" the building in question may have a *Quantity* of 60 unit ventilators to be replaced).

Unit
The *Units* are identified by a two-letter code. The unit codes are as follows:

	SF – Square Foot.	SY – Square Yard.
	LF – Linear Foot.	LS – Lump Sum.
	EA – Each.	NA – No Action.

Unit Cost
The *Unit Cost* is the cost of one *Quantity* of a work item. Unit costs are preliminary construction cost estimates only and are generally based on the following references: *Means Square Foot Cost Data; Means Construction Costs Data*; in house cost data; professional experience; and information provided by various contractors and suppliers.

Total
The *Total* column is determined by the following equation:
QUANTITY x UNIT = TOTAL

Total w/ Soft Costs
This assessment provides estimated construction costs associated with *Soft Costs*. *Soft Costs* generally include a contingency, (typically 10% to 15%) for unforeseen conditions; indirect administrative expenses such as legal costs, printing and advertising (typically 5% to 10%); and architectural and engineering costs (typically 10% to 15%) for a total soft cost estimate. We used a *Soft Cost* of 35% of the *total* cost in this assessment. The *Total w/ Soft Costs* is determined by the following equation: TOTAL x 1.35 = TOTAL W/ SOFT COST. Some projects may require higher or lower *Soft Costs* depending on the type and extent of project selected. Work items listed are provided as a guide to develop repair and renovation projects with estimated construction costs. The actual scope of a project could include a combination of work items, i.e. new ceilings with new lighting. Some other projects may require finishes, such as painting, which may not necessarily be broken out for that project.

Work items listed are provided as a guide to develop repair and renovation projects with preliminary cost estimates. The actual scope of a project could include a combination of work items, i.e. new ceilings and new lighting. Some of these project links have been noted to make a more complete project. Due to the costs and difficulty associated with organizing and executing any construction project, it may be more efficient in some cases to cluster several smaller projects into one larger project. This could involve replacing some systems or system components prior to the end of their useful life expectancy if the soft costs and additional maintenance costs associated with completing them later in a separate project exceed the costs saved by the system attaining or exceeding its life expectancy. Some other projects may require finishes, such as painting, which may not necessarily be broken out for that project. We have also tried to achieve a level funding for renovations and repairs over a ten-year period to help with the District's budgeting.

Funding Priorities
This assessment identifies projects with a recommended Priority. Values of the work are expressed in current dollars. Priorities closely mirror Class as described above, but there are some exceptions. Descriptions of each priority are as follows:

Priority 1 – Currently Critical (Immediate)

- Correct a cited safety hazard.
- Stop accelerated deterioration.

Priority 2 – Necessary/Not Yet Critical (years 1-5)

- Predictable deterioration.
- Associated damage or higher costs if deferred further.

Priority 3 – Recommended (years 6-10)

- Sensible improvements to existing conditions that are not required for the basic function of the facility.
- Overall usability improvement.
- Long term maintenance cost reduction.

Priority 4 – Long Term Item (10+ years)

- No action required at this time. However, if a substantial renovation or a substantial building addition is performed in the future, building codes may require this corrective work in addition to the work planned.

GENERAL SUMMARY

The following is a list and brief description of the column and row headings of the *General Summary*.

Totals Column
The *Totals* column is the sum of the Priorities columns *1, 2, 3, and 4* for each work item. The *Totals* column also shares the sum of the *Total* row and *Total Inflated* rows at the lower right corner.

Total Row
The *Total* row is the sum of the Priorities columns *1, 2, 3, and 4* for each category. The *Total* row and *Total Inflated* rows are totaled at the lower right corner.

Total Inflated Row
The *Total Inflated* row is the sum of the Priorities columns *1, 2, 3, and 4* for all work items multiplied by a coefficient of 3% to determine the inflated cost at a rate of 3% and compounded annually.

Priority 1 is shown in current costs for work to be performed within a one-year period (no inflation).

Priority 2 is shown with an inflation factor for work to be performed within a five-year period (3 year's inflation).

Priority 3 is shown with an inflation factor for work to be performed within a ten (10) period (7 year's inflation).

Priority 4 is shown with an inflation factor for work to be performed beyond a ten-year period (10 year's inflation).

The *Total* row and *Total Inflated* rows are totaled at the lower right corner.

The *General Summary* (page 17) recaps the *Total* row from the bottom of each category for the subject facility, separated into priorities. This is intended to make it easier for the reader to review and compare the overall costs for each of the categories together with the priorities for the subject facility.

The *General Summary* is directly linked to the *total row for each work category*. Any changes made to the cost figures in the body of the report will automatically be reflected on this page.

Energy Efficiency and Long Term Categories are shown below the TOTALS as implementation of items in these categories will reduce or eliminate expenditures in categories A through K. For example, if a Long-Term decision is made to replace the Administration building with a new structure at an expected cost of $2,909,250, the costs associated with non-immediate code upgrades and repairs to the facility would result in savings from the other sections of the tables.

This would result in reductions to the costs included in the Totals on the *General Summary* of:

Priority	Construction Cost	Inflation	Total
Priority 1	$140,174	$0	$140,174
Priority 2	$300,059	$27,034	$327,093
Priority 3	$116,332	$25,593	$141,925
Priority 4	$40,163	$18,655	$58,818
Net Reduction			**$668,010**

The items included in each funding priority above are those noted for Administration Building on pages 7-12. The specific items and costs associated with Energy Efficiencies and Long Term Capital Improvement Projects are identified in section L and M of the *Capital Asset Assessment.*

GENERAL SUMMARY

CATEGORY	FUNDING PRIORITY				Total
	Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years	
A. SITE IMPROVEMENTS	$10,548	$28,215	$271,350	$1,351,198	$1,661,311
B. ATHLETIC FIELDS	$5,940	$336,150	$131,625	$62,775	$536,490
C. HIGH SCHOOL/ MIDDLE SCHOOL - ARCHITECTURAL EXTERIOR	$0	$6,507,184	$233,280	$24,030	$6,764,494
D. HIGH SCHOOL/ MIDDLE SCHOOL - ARCHITECTURAL INTERIOR	$0	$1,036,936	$2,745,692	$896,400	$4,679,028
E. WASTE WATER TREATMENT PLANT- ARCHITECTURAL	$0	$173,759	$0	$0	$173,759
F. ADMINISTRATION BUILDING - ARCHITECTURAL	$140,984	$33,434	$68,407	$0	$242,825
G. HVAC - ALL BUILDINGS	$64,125	$3,655,125	$284,850	$2,025	$4,006,125
H. FIRE PROTECTION - ALL BUILDINGS	$23,625	$16,875	$0	$0	$40,500
I. PLUMBING - ALL BUILDINGS	$33,750	$0	$10,800	$118,463	$163,013
J. SAFETY & SECURITY - ALL BUILDINGS	$1,687,500	$1,234,440	$1,686,150	$0	$4,608,090
K. ELECTRICAL - ALL BUILDINGS	$128,250	$1,216,350	$4,204,440	$49,275	$5,598,315
Total:	$2,094,722	$14,238,468	$9,636,594	$2,504,166	$28,473,950
Total Inflated @ 3% Compounded Annually	$2,094,722	$15,519,930	$11,756,645	$3,364,597	$32,735,894

Totals for each funding priority include Soft Costs (35%): Contingency, Administration and A/E Fees, see page 15.

L. ENERGY EFFICIENCY*	$0	$7,407,450	$0		$7,407,450
M. LONG TERM NEW CONSTRUCTION CAPITAL IMPROVEMENT*	$0	$2,909,250	$0		$2,909,250

*Categories L & M include proposed work to replace existing capital assets with more economical or functional systems. The costs included in Categories L&M will reduce or eliminate some costs for repair or replacement of existing Capital Assets included in categories A through K. See pages 45 & 46 for additional information.

A. SITE IMPROVEMENTS

DESCRIPTION	Photo Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
A.1 Concrete flatwork (sidewalks): The exterior paving near the entries to building are cast in place concrete. Minor problems with spalling, pitting and deteriorated joints have occured throughout due to age and wear. Previous patching attempts have been made, but continue to fail.	A1	5										
A1.1 Patch and repair with concrete repair products.			1*	135	SY	$5.20	$702	$948	$948			
A1.2 Remove and replace full sections of concrete.			2	135	SY	$60.00	$8,100	$10,935		$10,935		
A.2 Concrete accessible curb cuts: The curb cuts ramps are in poor condition at all entries, with cracked and spalled joints presenting a tripping hazard.	A2	5										
A2.1 Replace with ADA compliant ramps with tactile warning strips (not a MAAB requirement).			1*	3	EA	$1,000.00	$3,000	$4,050	$4,050			
A.3 Sidewalks: The sidewalks throughout the site are bituminous paving. Minor cracking and deterioration are present, including differential settlement with concrete at entries. The cracks and deterioration present a tripping hazard.	A2	30										
A3.1 Patching and resealing of impacted areas.			1*				$1,500	$2,025	$1,500			
A3.2 Resealing and restriping with pavement.			2	3,000	SY	$4.00	$12,000	$16,200			$16,200	
A.4 Parking lot paving: Paving is bituminous and is aged, but intact. No signs of excessive wear or deformation from overloading. Cracking noted throughout requiring patching.	A3	20										
A4.1 Patching and resealing of impacted areas.			2	1	LS	$3,000.00	$3,000	$4,050	$4,050			
A4.2 Resealing and restriping.			2	42,000	SY	$4.50	$189,000	$255,150			$255,150	
A4.3 Mill and repave all parking lots and drives			3	550	spaces	$1,700.00	$935,000	$1,262,250				$1,262,250
A.5 Parking Lot Curbing: Extruded or Precast sections used throughout adjacent to sidewalks and islands. Minor damage throughout by snowplows and vehicular contact, most occurring at and of islands or at curves.	A4	5										
A5.1 Replacement of damaged sections with granite or new PCC curbing.			2	300	LF	$35.00	$10,500	$14,175		$14,175		
A.6 Parking Lot Islands: Portions at curbs Islands are subject to damage from snow plows and impact plowing.	A5	20										
A.6.1 Remove ends of Islands as part of repaving/upgrades to circulation.			3	1,700	SY	$38.00	$64,600	$87,598				$87,598
A.7 Loading Dock: The Concrete loading dock & stair have failures at edges and stair rail posts. Other stairs at site have some nosing deterioration.	A6/A7	5										
A.7.1 Patch and repair concrete. Repaint handrails.			2	1	LS	$2,300.00	$2,300	$3,105		$3,105		
A.8 Exterior Handrails: At locations other than the loading dock, the handrails are in good condition and are galvanized. Repainting is for cosmetic purposes.		30										
A8.1 Repaint.			3	1	LS	$1,000.00	$1,000	$1,350				$1,350
TOTAL									**$10,548**	**$28,215**	**$271,350**	**$1,351,198**

B. ATHLETIC FIELDS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
B.1 Football Field (field 2): Football Field is natural grass and in good condition. Irrigations systems does not extend to football field.	B1	20+										
B1.1 Extend Irrigation to Football Field.			3	3,000	SY	$15.00	$45,000	$60,750			$60,750	
B.2 Track Surface: 6 lane all-weather rubberized track surface. Minimal damage to track surface at various locations, could pose tripping hazard. Some edge damage and wear. It is recommended that track surface be refinished every 7-8 years.	B2	5										
B.2.1 Repair track surface.			1*	1	LS	$3,500.00	$3,500	$4,725	$4,725			
B.2.2 Resurface track and other rubberized surfaces.			2	3,600	SY	$51.00	$183,600	$247,860		$247,860		
B.3 Track Fencing: Chain link fence surround is rusting with some damaged sections.	B3	7										
B.3.1 Replace fencing.			1	1,800	LF	$14.00	$25,200	$34,020		$34,020		
B.4 Aluminum bleachers / Concession stand / Announcer's booth: The aluminum bleachers, platforms and structure are in good condition. No defects noted.	0	IND	2									
B.5 Tennis Courts: Hard courts, some cracking to pavement. Nets in fair condition. No apparent structural defects. Gate hardware needs repair. Aluminum benches need minor repair.	B5	10										
B.5.1 Repair cracks and divots in pavement. Repair gate hardware.			1*	1	LS	$900.00	$900	$1,215	$1,215			
B.5.2 Resurface tennis courts.			1	3	EA	$9,000.00	$27,000	$36,450		$36,450		
B.6 Tennis Courts Fencing: Chain link fence surround is rusting but in fair condition. No apparent structural defects. Gate hardware needs repair.	B6	10										
B.6.1 Replace Fencing.			3	600	LF	$30.00	$18,000	$24,300			$24,300	
B.7 Field 1: Grass field, Lacrosse/Soccer. Good condition, not irrigated.		20										
B.7.1 Extend Irrigation to Field.			3	2,300	SY	$15.00	$34,500	$46,575			$46,575	
B.8 Field 4: Softball: Dirt infield. Galvanized chain-link fencing. Not irrigated.		20										
B.8.1 Extend Irrigation to Field.			3	1	LS	$45,000.00	$45,000	$60,750				$60,750
B.9 Fields 5: Grass field; football practice and track events; irrigate.d		20	NA									
B.10 Fields 6: Grass Fields; Lacrosse/soccer, irrigated.		20	NA									
B.11 Fields 7 & 8: Grass field, Soccer, irrigated.		20	NA									
B.12 Field 9 & 11: Baseball, grass infield. Evidence of standing water at infield. Drainage - water ponding at infield dirt. Galvanized fence backstops.	B9	20										
B.12.1 Regrade infield.			3	1	LS	$4,000.00	$4,000	$5,400		$5,400		
B.13 Field 9 & 11: Baseball dugouts. CMU walls and wood framed roofs with roll roofing.	B8	3					$0	$0				
B.13.1 Add concrete "walk-off pads" at dugouts.			3	250	SF	$6.00	$1,500	$2,025				$2,025
B.13.2 Reroof dugouts with PVC.			2	400	SF	$13.00	$5,200	$7,020		$7,020		

B. ATHLETIC FIELDS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
B.14 Batting & Discus cage: Good condition.	B10	IND										
B.15 Field 10, 12 & 13: Baseball. Drainage - water ponding at infield dirt.	B11	5	3									
B.15.1 Regrade infield.				1	LS	$4,000.00	$4,000	$5,400		$5,400		
TOTAL									**$5,940**	**$336,150**	**$131,625**	**$62,775**

C. HIGH SCHOOL AND MIDDLE SCHOOL - ARCHITECTURAL EXTERIOR

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
C.1 EPDM Roof: The majority of the roof is fully adhered black EDPM membrane. Roofing survey provided by the school includes areas of loose membrane and wet insulation. Wet insulation will lead to damage to roof deck materials. The roof is approximately 15 years old and nearing its life expectancy of 20 years. The minimum insulation thickness is noted as 3" in the construction documents, with an estimated R-value of 18-20. the current code calls for a R-25 values. The black roofing is also contributing to the heat gain at the 3rd floor of the high school. See notes at C.3 Metal gravel stop and flashings.	C1	5										
C.1.1 Replace EDPM roof, insulation and flashings with new PVC roofing.			1	210,000	SF	$20.00	$4,200,000	$5,670,000		$5,670,000		
C.2 Metal Roof: LCC roof at stair towers and entries. No reported leaks. Minor water damage evident at underside of entry canopies. Life span of metal roofing is 45-50 years. Construction documents indicate 1" of rigid insulation and 2" of acoustical insulation in roof assembly, which does not meet current code. Heating of stairways is contributing to air quality issues on third floor of high school.		20+	NA									
Continue routine maintenance.												
C.3 Metal gravel stop and flashings: The LCC flashings and gravel stop are in good condition and less than 1/2 of their life expectancy. Gravel stop is integral to roof edge and may require at least partial replacement with roof removal and increase in insulation thickness due to damage during roof removal.	C3	20+										
C.3.1 Partial replacement during re-roofing.			1	210,000	SF	$1.50	$315,000	$425,250		$425,250		
C.4 Arched PVC Roof: Arched roofing at weight room, white PVC roofing, 6 years old, 20 year expected life. No reports or evidence of current leaks.	C4	15	NA									
C.5 Exterior Cladding- Brick Masonry: Floors 1 and 2 of the High and Middle schools are clad in "Jumbo" sized brick masonry. No evidence of spalling, broken or damaged brick, minimal fluorescence. No evidence of improper flashings or improperly installed lintels.	C5	IND	NA									
C.6 Exterior Cladding- Aluminum Metal Panel: Floor 3 of the High School is clad with prefinished aluminum panel. No discoloration or substantial weathering of panels or joint failure detected.		30+	NA									
C.7 Exterior Cladding - Concrete Masonry Units: Rear of building 1968 construction. CMU exterior walls. Cracking, patching and peeling paint. Dependent on location. Interior finishes vary. Lacking in insulation/temperature control to prevent migration of water vapor from interior spaces to exterior, causing delamination of paint	C6	5										
C.7.1 Provide new exterior finish including insulation systems.			2	4,500	SF	$22.00	$99,000	$133,650		$133,650		
C.8 Exterior Cladding - Vertical metal siding at Weight room: The exposure to south and west leads to high temperature differences and expansion and contraction of the surfaces over the course of the day and leading to paint failures. Repainting without extensive preparation of existing surfaces including expansion control will result in continued failures.	C7	3										
C.8.1 Replace with new factory finished panels.			2	3,000	SF	$22.00	$66,000	$89,100		$89,100		

C. HIGH SCHOOL AND MIDDLE SCHOOL - ARCHITECTURAL EXTERIOR

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
C.9 Exterior Glass Block - Glass block is used at the clearstory of the gymnasium and is in good condition. No joint failures were noted. Glass block has an R value of 1.5-1.75 and does not provide the environmental controls of other wall or window systems (R-value of 2.2 of higher) and results in added temperature control of the space.	C8	20+										
C.9.1 Long term consideration of replacement with wall and window systems.			2	2,400	SF	$72.00	$172,800	$233,280			$233,280	
C.10 Exterior Insulated Aluminum Windows: No problems noted, minor cracked glazing at one location. Window at 3rd floor of high school may be replaced with more energy efficient windows to aid in reducing heat gain.	C5	20+										
C.10.1 Insect & Bird screens at operable windows.			1	506	EA	$56.00	$28,336	$38,254		$38,254		
C.11 Aluminum storefront at classrooms: Good condition, pitting, delamination of finish near weep holes.	C9	20+										
C.11.1 Refinish Weep Holes.			1	1	LS	$3,600.00	$3,600	$4,860		$4,860		
C.12 Exterior Aluminum entrances: Good condition, some minor weather stripping issues, joint failures and hardware repairs required.	C10	20+										
C.12.1 Repair weatherstripping and joinst and hardware.			1	1	LS	$2,000.00	$2,000	$2,700		$2,700		
C.13 Exterior hollow metal doors: The doors and frames are generally in fair to poor condition. Missing or damaged weather stripping, thresholds, hardware, doors and frames, and joints noted. Transom and lite glazing not insulated and damaged/failure of units noted.	C11	5										
C.13.1 Replace damaged hollow metal doors and frames.			1	13	EA	$6,400.00	$83,200	$112,320		$112,320		
C.14 Overhead Doors: the overhead doors at the rear of the school are aged and showing signs of wear and damage.	C11	5										
C.14.1 Replace overhead doors.			2	2	EA	$7,500.00	$15,000	$20,250		$20,250		
C.15 Caulking: Minor delamination noted throughout, at window openings. If left untreated will begin to show signs of aging. Discoloration in caulk appears to indicate that some repointing has occurred in the past.		5										
C.15.1 Repair joints on an as- needed basis.			2	1	LS	$10,000.00	$10,000	$13,500				$13,500
C.16 Steel Arch bases: There are limited exterior surfaces at the school which require on-going maintenance. The steel arches at the weight room are exposed at the base and are anchored to concrete buttresses. The exposed steel is in need of repainting and the concrete is in need of repair to prevent further deterioration.	C12	1										
C.16.1 Properly prepare steel and repaint. Repair concrete buttresses including treatment of exposed rebar and repair of concrete.			1	1	LS	$8,000.00	$8,000	$10,800		$10,800		
C.17 Entrance Mats: Entrance mats are aged and worn.	C10	3										
C.17.1 Replace entrance mats at all entries.			3	300	SF	$26.00	$7,800	$10,530				$10,530
TOTAL									**$0**	**$6,507,184**	**$233,280**	**$24,030**

D. HIGH SCHOOL AND MIDDLE SCHOOL - ARCHITECTURAL INTERIOR

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
D.1 Ceilings - Suspended Acoustical Tile (SACT) SACT is used throughout the school building in classrooms, corridors, offices, etc. and is generally in good condition.	D1	20+	NA									
D.2 Ceilings - Gypsum Wall Board (GWB): GWB is used throughout the school in classrooms, corridors, offices, etc. and is generally in good condition.	D1	20+	NA									
D.3 Ceilings - Acoustical Metal: Acoustical metal panel is used at the stairs and field house and is generally in good condition.	D2	20+	NA									
D.3.1 Paint as part of general maintenance upkeep				27,000	sf	$2.00	$54,000	$72,900				$72,900
D.4 Ceilings - Exposed Metal Composite Deck: Exposed deck is used throughout the school in storage, mechanical and auxiliary spaces and is in good condition. Fire proofing at rated rooms is intact, some patching needed.	D2	20+										
D.4.1 Patch fire proofing at selected locations.			2	1	LS	$2,000.00	$2,000	$2,700		$2,700		
D.5 Ceilings - Tectum: Exposed Tectum deck is used throughout the 1958 school building in spaces throughout the original building and is generally in good condition.	D4	20+	NA									
D.5.1 Paint as part of general maintenance upkeep				55,000	sf	$2.00	$110,000	$148,500				$148,500
D.6 Ceilings - Wood: Exposed wood deck is used in the weight room and is in fair condition. Visible delamination of paint.	0	ES										
D.6.1 Paint as part of general maintenance upkeep			2	6,600	SF	$1.95	$12,870	$17,375		$17,375		
D.7 Partitions - Ceramic Tile (CT): CT is used in toilet rooms and locker rooms and is generally in good condition. Some damaged tiles due to removal of fixtures and accessories.	D6	20	NA									
D.7.1 Repair CT partition walls as required.				1	LS	$5,000.00	$5,000	$6,750			$6,750	
D.8 Partitions - Wood Wainscot: Wood wainscot is used throughout the school and is in good condition. There is wear along the base board from student traffic and cleaning and minor damages to edges and corners at a few locations.	D15	20+										
D.8.1 Refinish wood baseboard throughout and repair edges.			2	1	LS	$3,000.00	$3,000	$4,050		$4,050		
D.9 Partitions - Wood at gymnasium: Wood flooring to match the gym floor is used as to +/- 8'-0" a.f.f in the gymnasium and is in good condition. Signs of wear due to use and age.	D7	ES										
D.9.1 Refinish wood with gymnasium floor.			2	1,600	SF	$1.50	$2,400	$3,240			$3,240	
D.10 Flooring - Concrete: Exposed Concrete is used throughout school mechanical, storage and other auxiliary spaces.		IND	NA									
D.11 Rubber Tile (RT): Rubber tile is used in the stairways and is in fair condition. Tile shows signs of wear and potential Loss of traction/non-slip.	D9	10										
D.11.1 Replace flooring at landings and treads.			2	5,500	SF	$22.00	$121,000	$163,350			$163,350	
D.12 Epoxy Flooring: Epoxy flooring is used throughout the school in toilet rooms and locker rooms. Shows some locations have shown signs of cracking and past repairs. Toilet rooms floors are being replaced with ceramic tile due to maintenance and upkeep issues.	D10	10										
D.12.1 Replace epoxy flooring.			2	7,800	SF	$10.50	$81,900	$110,565			$110,565	
D.13 Carpet: Carpet is used in throughout in the library, auditorium, computer rooms and offices. The condition of carpeting varies dependent on location with the library showing age, other rooms are in good condition.	D11	10										
D.13.1 Replace library and auditorium. Monitor and replace other flooring over long term.			2	1,100	SY	$47.00	$51,700	$69,795		$69,795		

D. HIGH SCHOOL AND MIDDLE SCHOOL - ARCHITECTURAL INTERIOR

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
D.14 Wood Stage Flooring: The stage flooring is in good condition with no damage to the wood flooring material noted. The painted finish is in fair condition and the floor is in need of sanding and repainting.	D12	20+										
D.14.1 Refinish Stage Floor.			2	800	SF	$2.50	$2,000	$2,700		$2,700		
D.15 Wood Gymnasium Flooring: The gym flooring is in good condition with no structural damage noted. Due to use, wood flooring does require refinishing typically every 7-10 years.	D13	15										
D.15.1 Refinish Gym Floor.			2	8,772	SF	$2.50	$21,930	$29,606		$29,606		
D.15.2 Replace Gym Floor.			3	8,772	SF	$12.50	$109,650	$148,028			$148,028	
D.16 Synthetic Flooring: The field house synthetic flooring is in fair condition with potential age issues flooring is in good conditon, but due to use does require refinishing typically every 7-10 years.	D14	10										
D.16.1 Replace Synthetic Flooring.			2	30,900	SF	$45.00	$1,390,500	$1,877,175			$1,877,175	
D.17 Doors- Wood: Wood doors are used throughout the interior for classroom, offices and other spaces and are in good condition. Some minor wear on the corridor side of classrooms and other spaces due to use and lack of mop/kick plates. Classroom function locks do not provide option of locking from interior.	D16	20+										
D.17.1 Refinish doors /kickplates.			2	235	EA	$67.00	$15,745	$21,256			$21,256	
D.17.2 Replace Locksets.			2	235	EA	$500.00	$117,500	$158,625			$158,625	
D.18 Doors - Hollow metal: Hollow metal doors are used for stairway and fire separation doors and are in good condition. Door are tpyically provided with panic hardware. Some minor wear due to use, but no failures noted.		5	3									
D.18.1 Repaint on an as-needed basis.												
D.19 Metal handrails and guardrails at stairways are in need of repainting for aesthetic purposes. There is no potential damage associated with not repainting.	D16	20+	3									
D.19.1 Repaint on an as-needed basis.												
D.20 Toilet Room Partitions: Toilet room partitions are typically in good or fair condition. Limited toilet room partitions and doors throughout require replacement due to damage and corrosion.	D17	5										
D.20.1 Replace partitions.			2	12	EA	$200.00	$2,400	$3,240		$3,240		
D.21 Lockers: Corridor lockers are in good condition. Due to use, on going maintenance should be assumed and eventual replacement required.		20	2									
D.22 Locker room Lockers and benches: lockers and benches are in fair condition. Due to use, on going maintenance should be assumed and eventual replacement required.	D10	5										
D.22.1 Replace lockers.			2	550	EA	$273.00	$150,150	$202,703			$202,703	
D.23 Casework: Typically case work in most spaces is in good condition. Some locations, most notably the art spaces and theatre room show extensive wear to the finishes surfaces.	D18	5										
D.23.1 Refinish casework in art rooms and other spaces.			1	600	LF	$36.00	$21,600	$29,160		$29,160		
D.24 Counters: Counters in hallway outside of cafeteria are plastic laminate and showing signs of wear.		10										
D.24.1 Remove and replace.			2	1	LS	$1,600.00	$1,600	$2,160		$2,160		
D.25 Elevators: Elevators are code compliant and in good condition.		20+	NA									
D.26 Bleachers -Field House: Bleachers at Field Hourse are damaged and difficult to operate.	D19	5										
D.26.1 Replace Bleachers.			2	1	LS	$300,000.00	$300,000	$405,000		$405,000		

D. HIGH SCHOOL AND MIDDLE SCHOOL - ARCHITECTURAL INTERIOR

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
D.27 Bleachers Gymnasium: Bleachers at Gymnasum are manually operated, aged and difficult to operate.												
D.27.1 Replace Bleachers.			1	1	LS	$175,000.00	$175,000	$236,250		$236,250		
D.28 Auditorium Seating: Auditorium seating is fabric and padded and in good conditon.	D20	10										
D.28.1 Reupholster seating.			2	600	EA	$290.00	$174,000	$234,900		$234,900		
D.29 Auditorium Catwalk: No catwalk for lighting is providied.		NA										
D.29.1 Install lighting catwalk.			3	1	LS	$500,000.00	$500,000	$675,000				$675,000
D.30 Wayfinding/Signage:		NA										
D.30.1 New wayfinding throughout buildings and site.			3	1	LS	$40,000.00	$40,000	$54,000			$54,000	
TOTAL									**$0**	**$1,036,936**	**$2,745,692**	**$896,400**

E. WASTE WATER TREATMENT PLANT - ARCHITECTURAL

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
E.1 Roof: Black EPDM fully adhered membrane. No reported leaks, no ponding evident. Nearing life expectancy.	E1	5										
E.1.1 Replace with new white, 60 mil membrane roofing and code compliant insulation.			1	4,300	SF	$20.00	$86,000	$116,100		$116,100		
E.2 Flashings and Gravel Stops: Lead coated copper in good condition.		20										
E.2.1 Replace with roofing.			1	4,300	SF	$1.50	$6,450	$8,708		$8,708		
E.3 Exterior Walls: masonry (brick) clad.	E1	20+	NA									
E.4 Exterior Openings - Doors: Hollow metal doors and frame with wire glazed insulated transoms and vision panels.	E2	10										
E4.1 Minor adjustments to hardware, prep and paint.			2	2	EA	$6,400.00	$12,800	$17,280		$17,280		
E.5 Exterior Openings - Louvers Aluminum louvers. Stormproofed with bird screens. No damage noted, no water penetration evident on interior.	E2	20+	NA									
E.6 Exterior Openings - Overhead Doors: Insulated aluminum panel overhead doors. Doors are damaged from contact with vehicles.	0	3										
E.6.1 Replace overhead doors.			1	3	EA	$7,500.00	$22,500	$30,375		$30,375		
E.7 Exterior Openings - Sealants and Caulking: Minor delamination at perimeter caulking at door and louver frames.		20+	NA									
E.8 Interior Walls - Concrete Masonry: No damage noted, clean / repaint.	E4	20+	NA									
E.9 Interior Doors: Hollow metal doors and frame with wire glazed vision panels.		20+	NA									
E.9.1 Adjustments to hardware, hinges, prep and repaint.												
E.10 Interiors Flooring- VCT: Minor water damage at hallway and from contact with door.	E3	20	NA									
E.11 Interiors Flooring -Concrete: Sealed concrete floors in garage bay and equipment rooms. No damage noted	E4	20+	NA									
E.12 Interiors Flooring- Stairs and Landings: Stair treads and Landings are galvanized metal grating. Paint has worn off, but does not pose structural or safety issue.		20+	NA									
E.13 Interior Ceilings - Suspended Acoustical ceiling tile: SACT at hallway & breakroom are in good condition, signs of aging.	E3	10	NA									
E.14 Interior Ceilings - Exposed Deck and Framing: Painted exposed metal deck and structural framing show no signs of water penetration or damage or wear.		20+	NA									
E.15 Casework at Laboratory and Office: Wood casework with wood fronts. Some minor damage to pulls, aging of finishes.	E3	5										
E.15.1 Refinish wood fronts to prevent further damage, and repair hardware.			1	20	LF	$36.00	$720	$972		$972		
E.16 Exterior Concrete flatwork: Sidewalks around building are concrete. Minor problems throughout due to age, spalling of concrete.	E1	5										
E.16.1 Remove and replace damaged sections of concrete.			3	40	SF	$6.00	$240	$324		$324		
TOTAL									**$0**	**$173,759**	**$0**	**$0**

F. ADMINISTRATION BUILDING - ARCHITECTURAL

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Constrcution Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
F.1 Roof: Asphalt shingles on 1:4 pitched roof, evidence of past leaks or water damage at suspended acoustical ceiling tile at interior, but no current leaks reported. Ridge vent is provided.	F1	10										
F.1.1 Replace roofing.			2	2,567	SF	$15.00	$38,505	$51,982			$51,982	
F.2 Flashings and Gutters: Flashings, gutters and downspouts are pre-finished white aluminum.		10										
F.2.1 Replace with roofing.			2	2,567	SF	$1.00	$2,567	$3,465			$3,465	
F.3 Eaves, Fascia, Rakes and Trim: PVC wood trim and soffits.	F2	5										
F.3.1 Add soffit venting.			2	1	LS	$700.00	$700	$945		$945		
F.4 Roof Venting: No soffit venting is provided. A ridge vent is provided. Observed insulation above ceilings is not consistently installed above acoustical ceiling ductwork, etc.	F2	5										
F.4.1 Remove ceiling and reinstall insulation and Vapor barrier.			2	2,567	SF	$2.00	$5,134	$6,931		$6,931		
F.5 Exterior Walls - Brick: Standard units on wood framing back up. Minor cracking of motor joints noted at corners and sill joint to concrete foundation. Some foundation spalling resulting from differential movement.	F3	20+										
F.5.1 Repair joint, repair spalling.			3	1	LS	$1,000.00	$1,000	$1,350		$1,350		
F.6 Exterior Walls: Shed attachment, painted CMU.	0	20+										
F.6.1 Repair or clad in vinyl.			3	1	LS	$400.00	$400	$540			$540	
F.7 Exterior Openings - Doors: Hollow metal doors and frame at basement, aluminum door at first floor.		10										
F.7.1 Replace front door, add vestibule.			3	1	LS	$5,000.00	$5,000	$6,750			$6,750	
F.8 Aluminum Clad Windows: Aged, double hung units.		10										
F.8.1 Replace with new double hung insulated unit windows.			3	12	EA	$350.00	$4,200	$5,670			$5,670	
F.9 Interior Walls -GWB: Aged, minor damage from use and wear.	F4	5										
F.9.1 Patch and Repaint			2	3,567	SF	$1.10	$3,924	$5,297		$5,297		
F.10 Interior Doors: Hollow Core Wood doors and frame.		5										
F.10.1 Adjustments to door sizes, hardware, hinges, prep and repaint.			1	12	EA	$100.00	$1,200	$1,620	$1,620			
F.10.2 Add accessible doors, frames and locksets			1*	12	EA	$600.00	$7,200	$9,720	$9,720			
F.11 Interiors Flooring- VCT: Used at basement, good condition		20	NA									
F.12 Interiors Flooring -CARPET: Aged from use and wear.		ES										
F.12.1 Replace carpet			2	256	SY	$47.00	$12,009	$16,211		$16,211		
F.13 Interiors Flooring- Stairs and Landings: Stair treads and Landings are VCT and wood.		10										
F.13.1 Install rubber tile			2	100	SF	$20.00	$2,000	$2,700		$2,700		
F.14 Interior Ceilings - Suspended Acoustical Ceilings Tile: SACT in fair condition, signs of aging.		10	3									
F.15 Restroom: Toilet room is aged and not accessible. Partition modifications required to provide accessible restroom.		LS										
F.15.1 Provide Accessible restroom.			1	1	LS	$17,000.00	$17,000	$22,950	$22,950			
F.16 Casework: Wood Casework in basement is in good condition.		15	3									
F.17 Elevator/Egress: The basement is not accessible. The second means of egress is through a storage room.		NA										
F.17.1 Add Lift/Elevator.			1	1	LS	$65,000.00	$65,000	$87,750	$87,750			

F. ADMINISTRATION BUILDING - ARCHITECTURAL

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Constrcution Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
F.18 Accessible Parking: The accessible parking located to the west of the building is in fair condition. There is some degredation of the edges of the pavement. Parking signage is not installed on 5' posts as required by code.	F6	5										
F.18.1 Add 5' sign posts.			1*	40	SF	$6.00	$240	$324	$324			
F.19 Exterior sidewalks: Sidewalks are concrete paver and bituminous. The access to the accessible parking is damaged.	F7	5										
F.19.1 Remove and replace bituminous sidewalk.			1	60	SF	$10.00	$600	$810	$810			
F.20 Second Means of Egress: Basement second floor means of egress is through storage room. First floor second means of egress is not to grade.	F7	5										
F.20.1 Add egress corridor at basement, add level landing at exterior of doors.			1*	600	SF	$22.00	$13,200	$17,820	$17,810			
TOTAL									**$140,984**	**$33,434**	**$68,407**	**$0**

G. MECHANICAL (HVAC) - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
HIGH SCHOOL/ MIDDLE SCHOOL												
G.1 High School Boiler Heating Plant: The High School heating plant consists of (2) gas fired hot water Weil-Mclain cast iron sectional boilers; each having an output capacity of 4,640 MBH. This boiler plant feeds 200 degree hot water to the high school building through the use of (2) 20 HP base-mounted pumps that operate in a Primary/Stand-by fashion. Breeching associated with each boiler consists of a double wall positive pressure system which combines into a common header and is routed up through the roof two stories above within a masonry stack. Combustion air for boilers is provided through high wall mounted louvers which are ducted to wire mesh screens approximately 12" a.f.f.; The combustion air ducts are each equipped with dampers that are interlocked with the boilers. Hot water vertical unit heaters are utilized for spatial heating requirements. The boiler plant is tied into a pneumatic control network system of the Siemens manufacturer. Graphical representation is provided, which indicates boiler operation, hot water supply temperature, and general alarms.	G1/G2	20										
G.1.1 The maintenance staff mentioned that Boiler 1 consistently has ignition/firing issues. We recommend that gas piping sizes serving the boiler plant be reviewed & replaced as necessary to ensure full capacity to the boiler plant.			1	1	LS	$7,500.00	$7,500	$10,125	$10,125			
G.2 Middle School Boiler Heating Plant: The Middle School heating plant consists of (2) gas fired hot water cast iron boilers, with a total plant output of approximately 8000 MBH. This boiler plant feeds 200 degree hot water to the middle school building through the use of (2) 20 HP base-mounted pumps that operate in a Primary/Stand-by fashion. Breeching associated with each boiler consists of a double wall positive pressure system which combines into a common header and is routed up through the roof two stories above within a masonry stack. Combustion air for boilers is provided through high wall mounted louvers which are ducted to wire mesh screens approximately 12" a.f.f.; The combustion air ducts are each equipped with dampers that are interlocked with the boilers. Hot water vertical unit heaters are utilized for spatial heating requirements. The boiler plant is tied into a pneumatic control network system of the Siemens manufacture. Graphical representation is provided which indicates boiler operation, hot water supply temperature, and general alarms.	G3	0										
G.2.1 The middle school boilers are original to the building and have surpassed their expected service life span. All connected HW components & piping were installed in 2001 and appear to be in good condition. The boilers should be replaced with high efficiency condensing boilers as an energy conservation measure.			2	1	LS	$100,000.00	$100,000	$135,000		$135,000		
G.3 Middle School & High School Classroom Heating & Ventilation: All typical classrooms are provided with heating & ventilation by a perimeter wall-mounted Unit Ventilator while pressure within each space is maintained by a general roof exhaust fan that is ducted to ceiling registers in each classroom. A pneumatic thermostat in each classroom controls the unit ventilators hot water coil open & closed to maintain the space heating set point. The third floor high school science classrooms are provided with heating & ventilation by roof-mounted HV's ducted to ceiling supply & return grilles. Each HV provides for multiple spaces including classrooms and their supporting spaces based on a single pneumatic zone temperature sensor. It has been reported that many of the third floor classrooms can reach over 100 degrees at the start & end of the school season.	G4/G5	5										

G. MECHANICAL (HVAC) - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
G.3.1 The Classroom Unit Ventilators are approaching their expected service life & although they appear to be in fair condition, replacement should be considered in the near future. Currently, none of the typical classrooms have cooling or dehumidification; this should be considered to improve the learning environment. Refer to Option L.3 for Long Term Energy Improvements for addition of cooling.			2	600	EA	$1,000.00	$600,000	$810,000		$810,000		
G.4 Middle School & High school Admin Areas, Media Centers, & Computer Classrooms: All of the administration spaces within the school building are provided with heating, cooling and ventilation from various packaged rooftop units & air-handling units with split DX cooling sections & hot water coils. Individual space temperature control is achieved through duct-mounted variable air volume terminal units with hot-water reheat coils. Supplemental heating is provided to spaces with exterior exposures by perimeter hot water fin-tube radiation. It was noted that AHU-3, which serves the high school's computer classrooms, Library, writing and presentation areas often goes into alarm for a freezestat condition. This condition is likely due to poor damper control.		5										
G4.1 The entire Building gas piping system should be reviewed for proper sizing & be replaced as required to provide the necessary gas pressure to all building components. Additionally, see Automatic temperature controls below.			1	1	LS	$40,000.00	$40,000	$54,000	$54,000			
G.5 Field House: The field house is provided with heating & ventilation through (3) single-zone constant volume gas-fired rooftop units & (2) horizontal indoor heating & ventilation units with hot water coils. Horizontal propeller-style hot water unit heaters are utilized for supplemental heating in the Wrestling/Gymnastics area. No cooling is provided in this area and poor duct distribution was observed when considering air distribution & throw.	G8	0										
G.5.1 It is recommended that a duct distribution system be added to each of the H&V's, as they are currently blowing horizontally above the space and at a wall resulting in poor air distribution.			2	1	LS	$6,000.00	$6,000	$8,100		$8,100		
G.6 Kitchen: The Kitchen is provided with an upblast Kitchen hood Exhaust Fan & Range Hood combination which appears to be accurately sized for the cooking application. However, make-up air for the kitchen range hood seems to be provided inadequately from the RTU serving the Servery & adjacent Cafeteria spaces. This condition is not code compliant and should be addressed immediately.		10										
G.6.1 It is recommended that a dedicated make-up air unit be installed & interlocked with the kitchen range hood exhaust fan to maintain a neutral or slightly negative pressure within the space & avoid encouraging infiltration from the outdoors.			2	1	LS	$65,000.00	$65,000	$87,750			$87,750	
G.7 Middle & High School Cafeterias: The Middle School Cafeteria is provided with heating & ventilation by (2) single zone constant volume gas-fired rooftop units ducted to high-space supply grilles & low-wall return grilles. The High school Cafeteria & Staff Dining areas are provided with Heating & Ventilation by (4) Vertical Unit Ventilators & (3) roof-mounted exhaust fans.	G9	5										
G.7.1 It is recommended that the middle school cafeteria be provided with a new duct-distribution system for greater area coverage of tempered ventilation air. We would also recommend replacing the (4) UV's serving the High School Cafeteria and Staff dining areas with (2) Rooftop units for greater zone temperature control & area coverage of tempered ventilation air.			2	1	LS	$250,000.00	$250,000	$337,500		$337,500		

G. MECHANICAL (HVAC) - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
G.8 Gymnasium: The Gymnasium is provided with heating & ventilation from (2) ducted H&V units located within a high mechanical space adjacent to the gym space. The H&V's include hot water coils and are ducted to fresh air Intake louvers, high-space radial supply grilles, & low-wall return air grilles.	G10	5										
G.8.1 It was noted that low-wall return & exhaust grilles have seen significant abuse and need to be replaced to maintain their desired performance capabilities.	G11		2	1	LS	$1,500.00	$1,500	$2,025		$2,025		
G.9 Auditorium: The Auditorium & Stage areas are provided with heating, cooling, and ventilation from an indoor air handling unit with split DX cooling section & hot water coils. Supply Air is delivered to the space from ceiling diffusers in the auditorium space and returned to low-wall return grilles beneath the stage area. Supplemental fin-tube radiation can be found at the rear of the stage as well.	G12	0										
G.9.1 It is recommended that a dedicated system be provided to the stage for cooling, heating & ventilating purposes, as the current system is inadequate for occupants of the stage			2	1	LS	$110,000.00	$110,000	$148,500			$148,500	
G.10 Exhaust Systems: Overall the exhaust systems within the campus buildings are roof-mounted mushroom style fans. Many of them appeared to be reaching the end of their expected service life and should be replaced. Exhaust fan locations should be verified with current code requirements to ensure proper placement of fan does not introduce odors or noxious fumes into fresh air intakes.	G13	5										
G.10.1 It is recommended that all the belts be changed and motor bearings and shafts be lubricated. Replace as needed.			1	1	LS	$34,000.00	$34,000	$45,900			$45,900	
G.11 Piping System: The entire school is currently served by hot water routed through insulated schedule 40 black steel. Most all of the insulation appeared to be in good condition, where visible.	G14	10										
G.11.1 It is recommended that chemical treatment of the piping system occur on a yearly basis as part of a maintenance plan or contract.			2	1	LS	$1,500.00	$1,500	$2,025				$2,025
G.12 Automatic Temperature Controls: All of the building HVAC system components utilize pneumatic controls that communicate back to and integrate with a central direct digital control system. Compressors with refrigerant air dry systems are installed in each of the (2) mechanical rooms and provide compressed air to individual components throughout the building. It has been reported that temperature control is less than satisfactory in all of the building's zones. Class-room temperature control appears to be local only, with the exception of occupied/ unoccupied zone scheduling from the BMS. One main workstation provides web access, graphical representation and limited control utilizing a Tridum Niagra Platform. This DOC system is not a complete building management system and provides only occupancy zone scheduling & monitoring of select major pieces of HVAC equipment only. All of the terminal unit & zone controls are of the Johnson Metasys System type while the rooftop units appear to control themselves and communicate back to the Johnson Metasys System before being integrated with he central DOC control system. Currently the pneumatic & direct digital control systems work in conjunction with one another to provide inadequate temperature control.	G15/G16/G17	5										

G. MECHANICAL (HVAC) - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
G.12.1 The Pneumatic system is obsolete and is not reliable or dependable. It is recommended that all of the pneumatic systems be removed and the DOC system be expanded to incorporate full campus control. Provide new DDC controls for all equipment such as fin tube, unit heaters, Unit Ventilators, AHU, RTU, pumps, heat exchangers, etc. Provide wall-mounted thermostats for each space for individual occupant control. Expand the current graphics to include all equipment and provide equipment alarms, trending data, optimized start for energy savings, outdoor temperature reset and damper and valve positioning feed back.			1	1	LS	$1,600,000.00	$1,600,000	$2,160,000		$2,160,000		
WASTE WATER TREATMENT BUILDING												
G.13 Waste Water Treatment Building: The waste water treatment plant is provided with gas-fired horizontal unit heaters for space heating, roof-mounted exhaust fans for removal of noxious fumes & contaminated air, and a roof-mounted air handling unit for ventilation in occupiable spaces throughout the building. All of the building HVAC systems appear to be adequate for the space.	G6	5										
G.13.1 It is recommended that all the fan & air-handling unit belts be changed and motor bearings and shafts be lubricated.			1	1	LS	$2,000.00	$2,000	$2,700			$2,700	

G. MECHANICAL (HVAC) - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
ADMINISTRATION BUILDING												
G.14 Administration Building: The Administration Building is provided with an indoor Air handling unit which provides tempered ventilation to the main level. The indoor air handler has a gas-fired furnace vented to the outdoors and a split DX cooling section with a grade-mounted condenser. A grade-mounted air handling unit provides ventilation air to the basement area which is heated by a 7KW duct-mounted electric heating coil. Supplemental electrical terminal unit heaters are found throughout the building & a local dehumidifier is being used in the basement area. Janitorial closets and bathrooms are provided with local ceiling-mounted exhaust fans ducted to the outdoors. The Building's staff members mentioned that they are often uncomfortable and the building's heating & cooling components are inadequate.	G7	0										
G.14.1 All installed HVAC equipment was installed in 1972, with a gas-fired, forced air/ AC unitadded in 2006, and has exceeded it's expected service life; we would recommend installing a ducted central ventilation system, including either a roof-mounted or indoor-mounted air handler, to provide ventilation & temperature control to each space.			2	1	LS	$150,000.00	$150,000	$202,500		$202,500		
TOTAL									**$64,125**	**$3,655,125**	**$284,850**	**$2,025**

H. FIRE PROTECTION - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Cost	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
HIGH SCHOOL/MIDDLE SCHOOL												
H.1 Cross Connection Prevention - High School: High School Building is protected with a combined standpipe/sprinkler system. Fire service is 8" inch size. Service is protected by an Ames 2000 double check valve assembly. The high school and middle school services appear to be interconnected. The OS&Y gate valve on the discharge side of the backflow preventer is leaking.	H1	25										
H.1.1 Leaking OS&Y gate valve at double check valve assembly should be repaired. Continue to maintain system inspections and testing per NFPA.			1	1	LS	$500.00	$500	$675	$675			
H.2 Cross Connection Prevention - Middle School: Middle School Building is protected with a combined standpipe/sprinkler system. Fire service entering the Mechanical Room is 8" inch size. The service supplies four separate alarm valves. The system supplies the Auditorium, Cafeteria, Field House and Middle School classrooms. **Continue to maintain system inspections and testing per NFPA 25.**		25	N/A									
H.3 Type of Sprinkler System - High School: System is a wet type system. There is a single 8-inch alarm valve. Distribution main is 6-inch in size. Piping is black steel with a combination of threaded and mechanical couplings and fittings. **Maintain system inspections and testing per NFPA.**		35	NA									
H.4 Type of Sprinkler System - Middle School: System is wet type with a total of four alarm check valve assemblies. The auditorium, cafeteria, and field house each have a 6- inch alarm valve. The middle school classroom wing is fed with an 8-inch alarm valve. Piping is black steel with a combination of threaded and mechanical couplings and fittings **Maintain system inspections and testing per NFPA 25.**		35	NA									
H.5 Special Systems - High School: The is an abandoned pre-action system which is suspected to supply abandoned sprinkler for the elevator shaft.	H5	N/A										
H.5.1 Remove abandoned pre-action system valve and related piping.			1	1	LS	$7,500.00	$7,500	$10,125	$10,125			
H.6 Special Systems - Middle School: The is an abandoned pre-action system which is suspected to supply abandoned sprinkler for the elevator shaft. Kitchen Hood is protected with a chemical suppression system.		N/A										
H.6.1 Remove abandoned pre-action system valve and related piping.			1	1	LS	$7,500.00	$7,500	$10,125	$10,125			
H.7 Misc. Fire Protection - High School System has a 4-inch Storz fire department connection for sprinkler system. Fire department valves, located in cabinets, are installed in all stairwells.	H6	10	NA									
H.8 Misc. Fire Protection - Middle School: System has a 4-inch Storz fire department connection for sprinkler system. Fire department valves, located in cabinets, are installed in all stairwells.	H7	35	NA									
H.9 Sprinklers - High School: Sprinklers are quick response type. In general sprinklers are semi-recessed pendants in ceiling areas. Fully concealed sprinklers are provided in low gyp ceiling areas. Upright sprinklers are provided in all areas where ceiling do not exist. There are random locations where sprinklers are missing escutcheons and concealed cover plates.	H8	35										
H.9.1 Install escutcheons and replace cover plates on all sprinklers. Test sprinkler control valve assembly per NFPA 25.			1	1	LS	$1,000.00	$1,000	$1,350	$1,350			

H. FIRE PROTECTION - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Cost	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
H.10 Sprinklers - Middle School: Sprinklers are quick response type. In general sprinklers are semi-recessed pendants in ceiling areas. Fully concealed sprinklers are provided in low gyp ceiling areas. Upright sprinklers are provided in all areas where ceiling do not exist. There are random locations where sprinklers are missing escutcheons and concealed cover plates.	H9	35										
H.10.1 Install escutcheons and replace cover plates on all sprinklers.			1	1	LS	$1,000.00	$1,000	$1,350	$1,350			
WASTEWATER TREATMENT BUILDING												
H.11 Cross Connection Prevention -Wastewater Treatment Bldg.: The building is protected with an automatic sprinkler system. The fire service is 4-inch in size. Service is protected by a 4" Ames 2000 backflow preventer and supplies a dry pre-action valve. The service has a wall mounted indicator valve. **Continue to maintain system inspections and testing per NFPA 25.**	H3	25	N/A									
H.12 Type of Sprinkler System -Wastewater Treatment Bldg.: Building is protected with automatic an automatic dry pre-action system. Fire main is 4" in size. Piping is black steel with a combination of threaded and coupling joints and fittings depending on piping.	H4	35	NA									
H.13 Misc. Fire Protection - Wastewater Treatment Bldg.: System has a 4-inch Storz fire department connection for sprinkler system.		60	NA									
H.14 Sprinklers - Wastewater Treatment Bldg.: Sprinklers are quick response type. Sprinklers are semi-recessed pendants in ceiling areas. Upright sprinklers are provided in all areas where ceilings do not exist. There are some locations where pendent sprinklers are missing escutcheons. Also some sprinklers are showing signs of corrosion due to the treatment process.		35										
H.14.1 Install escutcheons on all sprinklers Replace sprinklers in treatment area with non-corrosive type heads.			1	1	LS	$12,500.00	$12,500	$16,875		$16,875		
ADMINISTRATION BUILDING												
H.15 Administration Bldg.: The building is not protected with an automatic sprinkler system and is not required to be protected.		NA										
TOTAL									**$23,625**	**$16,875**	**$0**	**$0**

I. PLUMBING - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Cost	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
HIGH SCHOOL/MIDDLE SCHOOL												
I.1 Cold Water System - High School: Domestic water service enters the Mechanical Room. Service is 4-inch in size and includes a 3-inch compound water meter. There is a reduced backflow preventer for make-up water. Piping is copper tubing with sweat joints. Piping is insulated.	H10	35	NA									
I.2 Hot Water System - High School: Hot water for the building is generated by two tank-type, gas fired water heaters. The heaters each have an input of 399,000 BTUH and 125 gallons of water storage. There is a thermostatic mixing valve and expansion tank. The hot water system is recirculated.	H13	35 (Piping) 10 (heaters)	N/A									
I.3 Drainage and Vent Systems - High School: Drainage piping where visible is service weight cast iron. Piping is in good condition. No evidence of damaged piping. Roof drains appear to be in good condition. Science classroom special waste and vent piping is acid resistant polyethylene with fused or mechanical joints. Science waste is discharged to a tight tank.		60	N/A									
I.4 Plumbing Fixtures - High School: Fixtures appear to have been replaced throughout the building. Water closets are wall hung, exposed manual flush valves, 1.6 gallons per flush. Urinals are wall hung, with manual flush valves, 1.0 gallons per flush. Lavatories are wall hung, with metering faucets. Counter sinks are self rimming stainless steel with deck mounted faucet, lever handles and swing spout. Janitor sinks are molded stone, with a wall mounted faucet, pail hook and spout with vacuum breaker. Water coolers are stainless steel, recessed mounted coolers, with push operators. Science classroom sinks are chemical resistant resin type with gooseneck faucets equipped with vacuum breakers. Accessible sinks in Science classrooms are stainless steel counter mounted with deck gooseneck faucet	H19/H20/ H21/H23	35										
I.4.1 Replace existing drinking fountains with extra durable fixtures.			3	1	LS	30,000	$30,000	$40,500				$40,500
I.5 Natural Gas - High School : The high school building is serviced with natural gas. Gas meter is located on exterior of building adjacent to the Mechanical Room. Gas supplies heating boilers, water heaters, and Science classrooms. Piping is black steel with welded and threaded joints depending upon pipe size. Each Science classroom has a master gas shutoff valve located in a recessed cabinet	H32/H33	35	N/A									
MIDDLE SCHOOL												
I.6 Cold Water System - Middle School: Domestic water service is provided form the High School as noted in item XZ.XX above. Piping is copper tubing with sweat joints. Piping is insulated.												

I. PLUMBING - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Cost	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
I.7 Hot Water System - Middle School: Hot water for the building is generated by a gas fired water heater. The water heater supplies an instantaneous indirect water heater which has a storage volume of 110 gallons. There is a thermostatic mixing valve and expansion tank. The hot water is recirculated. There is also a large tank type water heater located in the room. The water heater has a natural gas input of 1,600,000 BTUH and a storage volume of 900 gallons. The water heater is currently shut off and does not supply hot water to the Middle School. Heater is grossly oversized for the application.	H14	35 (Piping)										
I.7.1 Dispose of oversized water heater. Recommend installation of second water heater for redundancy.			3	1	LS	15,000	$15,000	$20,250				$20,250
I.8 Drainage and Vent System - Middle School: Drainage piping where visible is service weight cast iron. Piping is in good condition. No evidence of damaged piping. Roof drains appear to be in good condition. Science classroom special waste and vent piping is acid resistant polyethylene with fused or mechanical joints. Science waste is discharged to a tight tank.		60	NA									
I.9 Plumbing Fixtures - Middle School Fixtures appear to have been replaced throughout the building. Water closets are wall hung, exposed manual flush valves, 1.6 gallons per flush. Urinals are wall hung, with manual flush valves, 1.0 gallons per flush. Lavatories are wall hung, with metering faucets. Counter sinks are self rimming stainless steel with deck mounted faucet, lever handles and swing spout. Janitor sinks are molded stone, with a wall mounted faucet, pail hook and spout with vacuum breaker. Water coolers are stainless steel, recessed mounted coolers, with push operators. Science classroom sinks are chemical resistant resin type with gooseneck faucets equipped with vacuum breakers. Accessible sinks in Science classrooms are stainless steel counter mounted with deck gooseneck faucet.	H23/H24/H25	35										
I.9.1 Replace existing drinking fountains with extra durable fixtures.			3	1	LS	30,000	$30,000	$40,500				$40,500
I.10 Natural Gas - Middle School: The middle school building is serviced with natural gas. Gas meter is located on exterior of building adjacent to the Mechanical Room. Gas supplies heating boilers, water heater, kitchen and Science classrooms. Piping is black steel with welded and threaded joints depending upon pipe size. Each Science classroom has a master gas shutoff valve located in a recessed cabinet.	H34	35										
I.10.1 Review existing gas pipe sizing to rooftop units. Pipe sizing may need to be increased to resolve low fire issue.			1	1	LS	25,000	$25,000	$33,750	$33,750			
WASTE WATER TREATMENT BUILDING												
I.11 Cold Water System - Wastewater Treatment Bldg.: Domestic water service enters sprinkler closet. Service appears to be 1-1/2 inch in size and includes a 1-inch meter. There is a reduced backflow preventer for make-up water to treatment area process equipment and hose bibs. Piping is copper tubing with sweat joints. Piping is insulated.	H11	35	NA									
I.12 Hot Water System - Wastewater Treatment Building: Hot water for the building is generated by a tank type electric water heater. Water heater is suspended above ceiling in bathroom.		35 (Piping) 10 (heaters)	N/A									

I. PLUMBING - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Cost	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
I.13 Plumbing Fixtures - Wastewater Treatment Bldg. Building has one bathroom. Water closet is wall hung vitreous china. Lavatory is wall hung vitreous china with a metering faucet. Staff sink is counter mounted with deck mounted gooseneck faucet.	H26/H27/H28	35	N/A									
I.14 Drainage and Vent System Wastewater Treatment Bldg.: Drainage piping where visible is service weight cast iron. Piping is in good condition. No evidence of damaged piping. Roof drain piping appears to be in good condition. Garage area floor drains appear to discharge to an exterior tight tank.	H16	60	N/A									
I.15 Natural Gas - Wastewater Treatment Bldg. The building is serviced with natural gas. Gas meter is located on exterior of building. Gas supplies building unit heaters. Piping is black steel with we threaded joints.	H35	35	NA									
ADMINISTRATION BUILDING												
I.16 Cold Water System - Administration Bldg.: Domestic water service enters the Basement mechanical closet. The service is 1-inch in size and includes a 5/8-inch water meter. Distribution main is 1-inch. Piping is copper tubing with sweat joints. Piping is not insulated.	H12	35										
I.16.1 Insulate water piping.			2	1	LS	750	$750	$1,013				$1,013
I.17 Hot Water System - Administration Building: Hot water for the building is generated by a tank type electric water heater. Water heater is located in Basement mechanical closet. Water heater has an upper and lower 4.5 kW heating elements. There is no mixing valve or expansion tank on the system.	H15	35 (Piping) 0 (heaters)										
I.17.1 Replace existing water heater with high efficiency natural gas unit. Provide mixing valve and expansion tank on the system.			3	1	LS	8,000	$8,000	$10,800			$10,800	
I.18 Drainage and Vent System Wastewater Treatment Bldg.: Drainage piping where visible is service weight cast iron. Piping is in good condition. No evidence of damaged piping. Roof drain piping appears to be in good condition. Garage area floor drains appear to discharge to an exterior tight tank.	H16	60	N/A									
I.19 Sanitary Waste and Vent System - Administration Building: Drainage piping where visible is service weight cast iron. Piping is in good condition. Basement sink is piped in PVC. Basement sink has a point-of-use pump to lift since waste to ceiling level. Main building drain exits building above the Basement slab. There is no floor drain located adjacent to the water heater in the mechanical closet.	H17/H18	60	NA									
I.19.1 Replace PVC piping with copper to meet current code. Provide drain pan or floor drain at water heater.												
I.20 Plumbing Fixtures Administration Building: Water closets are wall hung, exposed manual flush valves. Urinal is wall hung, with manual flush valve, 1.0 gallons per flush. Lavatories are wall hung, with 4" centerset faucets with cross handles. Staff sinks is self rimming with 8" deck mount faucet and swing spout.	H29/H30/H31	35										
I.20.1 Replace fixtures.			3	1	LS	12,000	$12,000	$16,200				$16,200
I.21 Natural Gas - Administration Bldg.: The building is serviced with natural gas. Gas meter is located on exterior of building. Gas supplies a HVAC air handling unit located in the attic. Piping is black steel with we threaded joints.		35	NA									
TOTAL									**$33,750**	**$0**	**$10,800**	**$118,463**

J. SAFETY AND SECURITY - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Cost	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
HIGH SCHOOL/MIDDLE SCHOOL												
J.1 Security System High School: There is a CCTV system present along with Intrusion System and access control. The coverage for CCTV includes main entrance, corridors and building. perimeter. Access control system is at building entrance doors.	I25	5										
J.1.1 CCTV System Cameras and Storage Servers.			1	1	LS	$750,000.00	$750,000.00	$1,012,500	$1,012,500			
J.1.2 Intrusion.			2	1	LS	$250,000.00	$250,000.00	$337,500		$337,500		
J.1.3 Access Control (Replacement of PTZ Cameras has a unit price of $5,500 each).			2	1	LS	$600,000.00	$600,000.00	$810,000		$810,000		
J.2 Data System Throughout School: The data cabling has been updated at several stages. The system appears to have been updated to serve various needs. There are IDF closets throughout the facility. There is wireless access throughout the school. Interactive white boards are present in all classrooms.	I29	5										
J.2.1 The data system should be updated as a continuing operations program. It appears that is presently in a continuous updating stage. The wireless access points should be provided with (2) CAT 6A Cables.			2	1	LS	$1,249,000.00	$1,249,000	$1,686,150			$1,686,150	
J.2.2 VOIP system should be installed to replace the present system with existing infrastructure (new core switch & 24 kW UPS).			1	1	LS	$300,000.00	$300,000	$405,000	$405,000			
J.2.3 Paging system and new wireless clocks.			1	1	LS	$200,000.00	$200,000	$270,000	$270,000			
WASTEWATER TREATMENT PLANT												
J.3 Waste Water Treatment Plant Security System: There is a Hirsch access control system present. Access Control System is at building entrance doors	I27	5										
J.3.1 The security system should be updated to include an integration of intrusion CCTV and access control and be IP.			2	1	LS	$34,400.00	$34,400	$46,440		$46,440		
ADMINISTRATION BUILDING												
J.4 Admin Building Security System: There is an Intrusion Alarm System presently.	I26	5	2	1	LS	$20,000.00	$20,000	$27,000		$27,000		
J.4.1 The security system should be updated to include an integration of intrusion CCTV and access control and be IP.												
J.5 Admin Building/WWTP Telephone System (VOIP): Install new VOIP telephone.		5	2	1	LS	$10,000.00	$10,000	$13,500		$13,500		
J.5.1 Recommend same telephone system to match new at MS/HS.												
TOTAL									$1,687,500	$1,234,440	$1,686,150	$0

K. ELECTRICAL - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
SITE												
K.1 Exterior Lighting: The site lighting has been upgraded to LED type with protocell control.	I14	5										
K.1.1 Recommend removing existing time clock and installing bus schedule control.			2	1	LS	$25,000.00	$25,000	$33,750		$33,750		
HIGH SCHOOL/MIDDLE SCHOOL												
K.2 Electrical Service High School Building: The high school building is served by a 2000A, 277 /480 Volt, 3 Phase Switchboard located in the main elec room. The equipment is manufactured by Siemens and is in good condition. It was reported that a feeder breaker serving the library has tripped on several occasions.	I1	25										
K.2.1 The circuit breaker serving library should be tested for overload. Recommend separating loads and adding new feeder to library. Visual inspection of circuit breakers required.			1	1	LS	$30,000.00	$30,000	$40,500	$40,500			
K.3 Electrical Service Middle School Building: The middle school building is served by a 2500A, 277 /480 Volt, 3 Phase Switchboard located in the main elec room. The equipment is manufactured by Siemens and is in good condition. It was reported that a feeder breaker serving the library has tripped on several occasions.		25										
K.3.1 The service is only at 40% life, only visual inspection of breakers required.			3	1	LS	$4,000.00	$4,000	$5,400				$5,400
K.4 MS/HS Distribution System: There are remote panels and feeders that were replaced as part of the renovation. The panelboards are in good condition. The distribution system appears to be in good condition.	I5	25										
K4.1 All panelboards and feeders are at 40% life. Equipment should be visually inspected.			3	1	LS	$8,000.00	$8,000	$10,800				$10,800
K.5 MS/HS Branch Circuits: The branch circuits appear to be in fair condition throughout. The wiring includes conduit and M/C cable. **No immediate deficiencies cited.**												
K.6 MS/ HS Interior Lighting High School: Interior lighting throughout generally has T8 fluorescent lamps and electronic ballasts. The general assessment of the fixtures is that they are in fair condition.	I10	15 / Ballasts 0										
K.6.1 Replacement of fixtures should be done as an energy conservation measure.			3	1	LS	$2,544,000.00	$2,544,000	$3,434,400			$3,434,400	
K.7 MS/HS Interior Lighting Controls: The existing automatic lighting controls consists of motion sensors which have failed.		5										
K.7.1 Recommend installing schedule control from BMS. In addition, new occupancy sensors should be installed in all classrooms, offices, and corridors. A Bacnet gateway to be provided for interface to BMS.			3	1	LS	$487,000.00	$487,000	$657,450			$657,450	

K. ELECTRICAL - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
K.8 Emergency Power High School Building: The High School Building is served by a 150KW generator located adjacent to electric room. The generator serves emergency lighting throughout.. The automatic transfer switch is located in the emergency electric room and is code compliant. **On going maintenance.**	I15	ES	3									
K.9 Emergency Power Middle School Building: The Middle School Building is served by a 255KW generator located adjacent to electric room. The generator serves emergency lighting throughout.. The automatic transfer switch is located in the emergency electric room and is code compliant. **On going maintenance.**	I16	15	3									
K.10 Life Safety(Fire Alarm) Middle/ High School: The facilities have Edwards's EST Addressable Fire Alarm Panels. The coverage of devices appear adequate. The system has ADA strobes in classrooms, but no horns. The system has reached its useful life and is reported by staff as problematic.	I22	5										
K.10.1 Replace fire alarm panels.			1	1	LS	$65,000.00	$65,000	$87,750	$87,750			
K.10.2 Replace entire fire alarm system including speaker/strobe.			2	1	LS	$795,000.00	$795,000	$1,073,250		$1,073,250		
K.11 MS/ HS Life Safety (Lighting): The school is served by the two emergency generator for emergency lighting and exit signs. The system appears to have sufficient capacity to serve loads other than life safety. The lighting is normal/emergency configuration in which light fixtures are used for the same purpose (it is code compliant). Exit signs appears to be adequate and weill maintained.	I19	15										
K.11.1 We would recommend a test of the system at night time for coverage. During the walkthrough, the coverage did appear adequate.			2	1	LS	$2,000.00	$2,000	$2,700		$2,700		
K.12 MS/HS Lightning Preventor: Highly recommend.		50										
K.12.1 Install Lightning Preventor System.			**2**	1	LS	$40,000.00	$40,000	$54,000		$54,000		
WASTE WATER TREATMENT BUILDING												
K.13 Waste Water Treatment Plant Electrical Service: The existing service is rated at 400 amp, 277/480 Volt, 3 phase, 4 wire and is in good condition.	I4	25										
K.13.1 The service is only at 40% life, only visual inspection of breakers required.			3	1	LS	$2,000.00	$2,000	$2,700				$2,700
K.14 Waste Water Treatment Plant Distribution System: The panelboards are located in Elec. Room in basement. Surge protection is present. Equipment is in fair condition.	I7	25										
K.14.1 All panelboards and feeders are at 40% life. Equipment should be visually inspected.			3	1	LS	$5,000.00	$5,000	$6,750				$6,750
K.15 Waste Water Treatment Plant Branch Circuits: Branch circuit wiring is in conduit. There is some corrosion on metal conduits.	I9	35										
K.15.1 Repair/paint conduits showing rust.			3	1	LS	$5,000.00	$5,000	$6,750				$6,750
K.16 Waste Water Treatment Plant Interior Lighting: Lighting consists of wraparound fluorescent fixtures. The fixtures have T8 lamps.	I12	15 / Ballasts 0										
K.16.1 Recommend replacement with new LED vapor tight industrial fixtures.			3	1	LS	$43,000.00	$43,000	$58,050			$58,050	

K. ELECTRICAL - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
K.17 Waste Water Treatment Plant Interior Lighting Controls: Only manual switches are present for lighting controls.		5										
K.17.1 Recommend occupancy sensors and daylight dimming in all occupied spaces.			3	1	LS	$12,900.00	$12,900	$17,415			$17,415	
K.18 Waste Water Treatment Plant Life Safety (Lighting): The Facility is backed by generator for the majority of functions. The system is code compliant. **Ongoing maintenance.**	I21	15	3									
K.19 Waste Water Treatment Plant Emergency Power: The generator is 135KW located in dedicated room. The generator has a diesel base mounted tank. All in good condition. **Ongoing maintenance**.	I18	15	3									
K.20 Waste Water Treatment Plant Life Safety (Fire Alarm): There is a manual fire present. The system is obsolete.	I24	5										
K.20.1 Replace system. The life expectancy of fire alarm systems is 20 years.			2	1	LS	$21,500.00	$21,500	$29,025		$29,025		
ADMINISTRATION BUILDING												
K.21 Administration Building Electrical Service: The existing service is 200 amp, 120/240 volt, single phase, 3 wire. It is fed from the treatment plant. Equipment is manufactured by Cuttler Hammer. **Recommend changing service if required for new HVAC equipment**	I3	25	3									
K.22 Admin Building Distribution System: The panelboards are located in Elec. Room in basement. Surge protection is present. Equipment is in fair condition. **All panelboards and feeders are at 40% life. Equipment should be visually inspected.**		25	3									
K.23 Admin Building Branch Circuits: Romex is used throughout for branch circuits. The wiring is residential and should be upgraded to "MC" cable as part of the renovation. It is however code compliant.	I8	35										
K.23.1 Wiring should only be replaced as part of renovation.			3	1	LS	$12,500.00	$12,500	$16,875				$16,875
K.24 Interior Lighting Administration Buildings: Lighting fixtures are 2'x4' acrylic lens troffers. Fixtures have T8 lamps.												
K24.1 Replacement of fixtures should be done as an energy conservation measure and safety of occupants. New fixtures should be recessed LED light panels with dimming drivers for daylight control.			3	1	LS	$20,000.00	$20,000	$27,000			$27,000	
K.25 Admin Building Interior Lighting Controls: Only manual switches are present for lighting controls.		5										
K.25.1 Recommend occupancy sensors and daylight dimming in all occupied spaces.			3	1	LS	$7,500.00	$7,500	$10,125			$10,125	
K.26 Admin Building Emergency Power: None present. Battery units are used for emergency lighting. **Replace battery units every 7-10 years or on-going maintenance.**	I17	0	1									
K.27 Admin Building Life Safety (Lighting): The Administration Building has battery powered emergency lighting which is code compliant. **Ongoing maintenance**	I20	15	2									

K. ELECTRICAL - ALL BUILDINGS

DESCRIPTION	Photograph Reference	Life Expectancy beyond 2016	Class	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	FUNDING PRIORITY			
									Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
K.28 Admin Building Life Safety (Fire Alarm): The building has an EST fire alarm system. The system is fully automatic as there are no sprinklers in building.	I23	5										
K.28.1 The life expectancy of fire alarm systems is 20 years.		5	1	1	LS	$17,500.00	$17,500	$23,625		$23,625		
TOTAL									**$128,250**	**$1,216,350**	**$4,204,440**	**$49,275**

L. ENERGY EFFICIENCY

DESCRIPTION	Items deleted from the other sections of the Capital Asset Assessment	Estimated Construction Cost	Estimated COST with Soft Costs (35% premium)	Potential Annual Energy Consumption Savings	Estimated Annual Cost Savings
L.1 Improvements Aligning with Roof Replacement: This report indicates that the school's existing roof should be replaced within the next 5 years; upon replacing the roof, the following measures **L.2 & L.3** should also be considered, as they will affect the roof installation as well.	Pr. 2- C.1.1, C.3.1	$4,515,000	$6,095,250		$297,000
L.2 Photovoltaic Panels: Install a 400 KW Photovoltaic system on roof. A Roof Staging system could be utilized to distribute the additional weight to the buildings existing columns if it is determined that the new roof would not withstand the load. (Staging not included in Estimated costs)	No deleted items. This improvement is in addition to all other recommendations in this report.	$2,000,000	$2,700,000	0%	$197,000
L.3 Rooftop Units for Classrooms: Remove all existing classroom Unit Ventilators and provide new rooftop air handling units consisting of gas-fired heating and direct expansion cooling systems ducted to serve each classroom with heating, ventilation and air conditioning. Each classroom would utilize a variable air volume box with hot water reheat coils located in the supply duct to assist in maintaining comfortable conditions within the associated room. ASHRAE 55 standard for thermal comfort recommends maintaining dry bulb temperatures within the range of 67F to 82F and the Humidity Ratio below .012 lbs. of water per lb. of dry air. Currently, the classrooms do not have the capability to maintain these conditions. (Estimated cost savings based on the proposed system above versus the existing Unit Ventilator System with the addition of cooling capabilities).	Pr. 2- G.3.1 - $810,000	$1,400,000	$1,890,000	20%	$100,000
L.4 Lighting Controls: Install Lighting Schedule control from BMS. In addition, new occupancy sensors should be installed in all classrooms, offices, and corridors. A Bacnet gateway to be provided for interface to the Building Management System.	This improvement is also listed as item K.7.1 on page 41 of this report.	$487,000	$657,450	30%	$32,000
L.5 Direct Digital Control Building Management System: The existing DDC system should be expanded to incorporate full campus control. Provide new DDC controls for all equipment such as fin tube, unit heaters, unit ventilators, AHU's, RTU's, pumps, heat exchangers, etc. Provide wall-mounted thermostats for each space for individual occupant control. Expand the current graphics to include all equipment and provide equipment alarms, trending data, optimized start for energy savings, outdoor temperature reset and damper and valve positioning feedback.	This improvement is also listed as item K.7.1 on page 41 of this report.	$1,600,000	$2,160,000	40%	$300,000
TOTAL		**$5,487,000**	**$7,407,450**		

THE ENERGY EFFICIENCY TABLE IS RECOMMENDED AS AN ENERGY EFFICIENCY PROJECT. THE PROJECT SHOULD BE DONE IN WHOLE OR IN PARTS CONSISTING OF L.1, L.3, OR L.4 OR L.1, L.2, L.3, AND L.5.

M. LONG TERM NEW CONSTRUCTION CAPITAL IMPROVEMENT

DESCRIPTION	Items deleted from the other sections of the Capital Asset Assessment	Qty	Unit	Unit Cost	Construction Costs	ESTIMATED COST with Soft Costs (35% premium)	Priority 1 1 year	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 10+ years
M.1 Skylights: The roof could be cut for skylights if desired. Cost would be dependent on the quantity and type. It would also affect HVAC loading. LED lighting is proposed in the Electrical (K) and Energy Efficiency (L) sections as a more cost effective option.	No deleted items. This improvement is in addition to all other recommendations in this report.									
M.2 Exterior Restrooms: Addition of exterior toilet rooms for Athletic Events. Ths would allow school to remain closed during outside events to prevent damage to school faiclties and reduce security concerns.	No deleted items.This improvement is in addition to all other recommendations in this report.	500	SF	$405.00	$202,500	$273,375		$273,375		
M.3 New Central Business Office: New two-story, accessible 5,500 sf building with program for centralized administrative and meeting space. This would allow for consolidation of Administrative program spaces, freeing space within the existing school building for educational use and remove accessibility barrier and code issues at the present facility. This option would result in reduction of costs in categories A-K of $668,010 for a net cost of $1,967,865. Upgrading the existing facility will require either temporary relocation of staff or phasing to allow the continued operation of the facility during renovations. In addition to the potential costs savings associated with renovating the facility, the reuse of the facility will make use of existing infrastructure and site conditions, limiting potential disruptions to the School and playing fields.	Pr. 1 - F.10.1, F.15.1, F.17.1, F.18.1, F.20.1, Pr. 2 - F.3.1, F.4.1, , F.5.1 , F.9.1, F.12.1, F.13.1, G.14.1, I.5.1, I.6.1, K.28.1 Pr. 3 - F.1.1, F.2.1, F.6.1, F.7.1, F.8.1, F.15.1 , I.17.1, K.24.1, K.25.1 Pr. 4 - K.23.1 , I.16.1, I.20.1	5,500	SF	$355.00	$1,952,500	$2,635,875		$2,635,875		
TOTAL								**$2,909,250**		

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Photo 1 - Aerial View of Site

Photo A1 - Concrete Walks

Photo A2 - Accessible Curb Cuts/Bituminous Walks

Photo A3 - Parking Lot Paving

Photo A4 - Parking Lot Curbing

Photo A5 - Parking Lot Island

Photo A6 - Loading Dock

Photo A7- Loading Dock Stair

Photo B1 - Football Field and Track

Photo B2 - Track surface damage

Photo B3 - Track Fencing

Photo B4 - Bleachers

Photo B5 - Tennis Courts

Photo B6 - Tennis Court Fencing

Photo B7 - Softball Field

Photo B8 - Dugout

Photo B9 - Baseball Infield

Photo B10 - Batting Cage

Photo B11 - Baseball Infield

Photo C1 - EDPM Roof

Photo C2 - Lead Coated Copper (Metal) Roofing

Photo C3 - Metal Gravel Stop

Photo C4 - PVC Roof

Photo C5 - Typical Exterior

Photo C6 - CMU at Exterior

Photo C7 - Metal Wall Panel

Photo C8 - Glass Block @ Gymnasium

Photo C9 - Aluminum Storefront

Photo C10 - Entrances

Photo C11 - Exterior Overhead and Hollow Metal Doors

Photo C12 - Steel Arch Base

Photo D1 - Interior

Photo D2 - Acoustical Metal Deck

Photo D3 - Exposed Metal Deck

Photo D4 - Tectum Deck

Photo D5 - Exposed Wood Deck

Photo D6 - Ceramic Tile Wall and Floor

Photo D7 - Wood Strip Cladding

Photo D8 - VCT

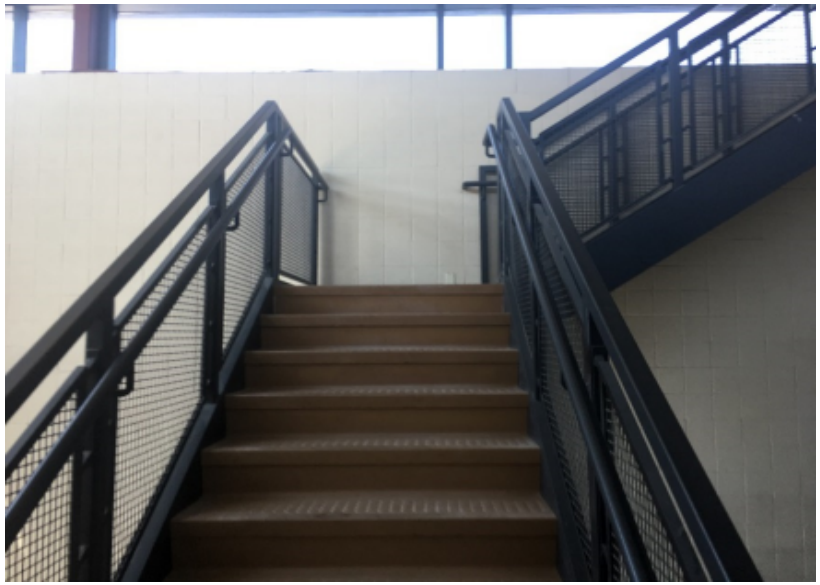

Photo D9 - Rubber Tile

Photo D10 - Locker Rooms / Epoxy Flooring

Photo D11 - Auditorium Carpet

Photo D12 - Stage Flooring

Photo D13 - Gymnasium Wood Flooring

Photo D14 - Synthetic Gym Flooring

Photo D15 - Wood Wainscot

Photo D16 - Metal Handrails

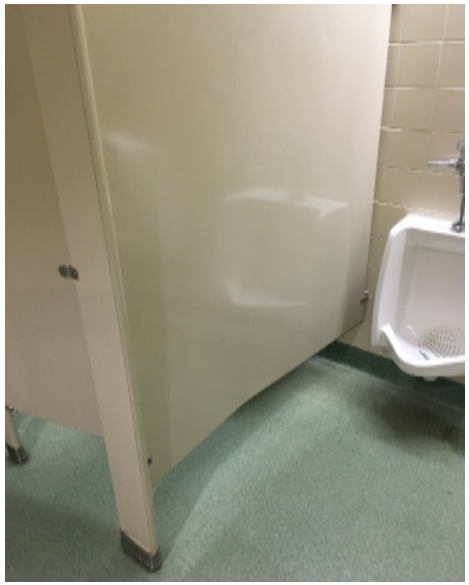

Photo D17 - Toilet Partitions

Photo D18 - Casework

Photo D19 - Bleachers

Photo D20 - Auditorium Seating

Photo E1 - Sewage Treatment

Photo E2 - Exterior Openings

Photo E3 - Interior

Photo E4 - Treatment Equipment

Photo F1 - Central Business Office

Photo F2 - Exterior Openings

Photo F3 - Windows

Photo F4 - Interior

Photo F5 - Windows

Photo F6 - Accessible Parking

Photo F7 - Sidewalks

Photo G1 - High School Boiler Plant

Photo G2 - High School Boiler Plant

Photo G3 - Middle School Boiler Plant

Photo G4 - Unit Ventilator

Photo G5 - Thermostat

Photo G6 - Waste Water Treatment Plant

Photo G7 - Administration Air Handling Unit

Photo G8 - Field House RTUs

Photo G9 - Cafeteria Unit Ventilators

Photo G10 - Gymnasium

Photo G11 - Gymnasium Grilles

Photo G12 - Auditorium

Photo G12 - Stage

Photo G13 - Exhaust Fans

Photo G14 - Piping Systems

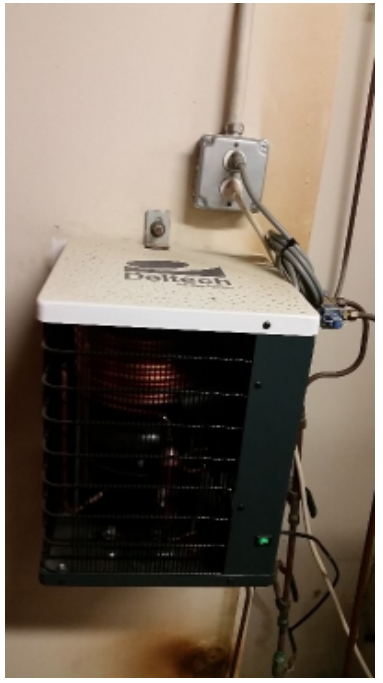

Photo G15 - Automatic Temperature Controls

Photo G16 - Automatic Temperature Controls

Photo G17 - Automatic Temperature Controls

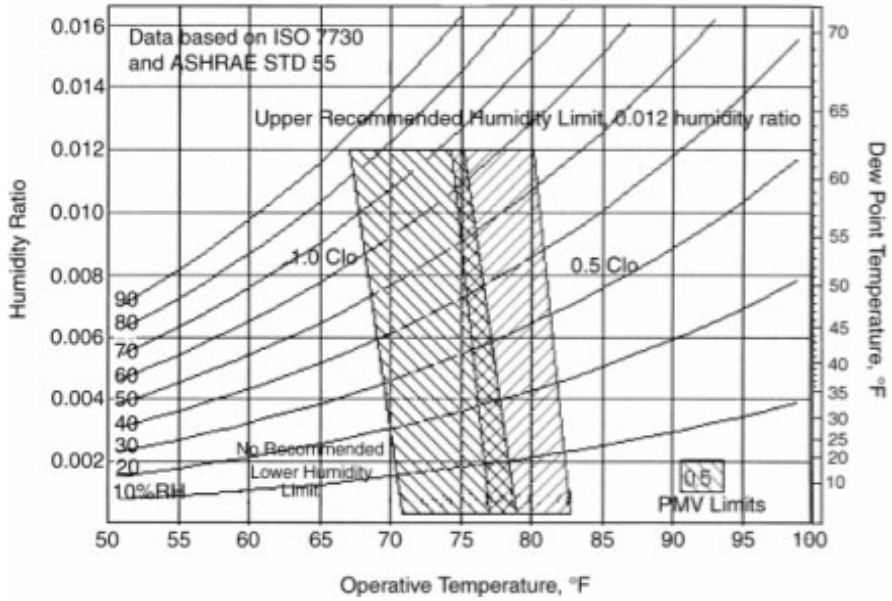

Photo G18 - ASHRAE 55

Photo H1 - High School OS&Y Gate

Photo H2 - MS Service

Photo H3 - Waste Water Treatment Service

Photo H4 - Wastewater Treatment Building Pre-Action System

Photo H5 - Abandoned Pre-Action System at High School

Photo H6 - HS FD Connection

Photo H7 - MS FD Connection Cabinet

Photo H8 - Missing Escutcheons

Photo H9 - MS Missing Escutcheons

Photo H10 - High School Domestic Service

Photo H11 - Waste Water Treatment Domestic Service

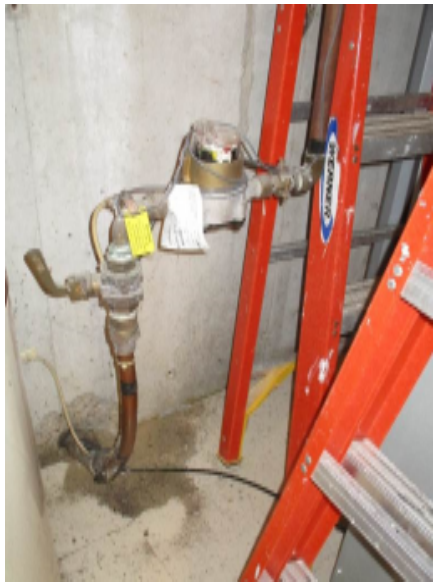

Photo H12 - Domestic Service to Administration Building

Photo H13 - Hot Water Service High School

Photo H14 - Hot Water Service Middle School

Photo H15 - Hot Water Service Administration Building

Photo H16 - Waste & Vent - Waste Water Treatment Building

Photo H17 - Waste & Vent - Administration Building

Photo H18 - Waste & Vent - Administration Building

Photo H19 - Plumbing Fixtures High School

Photo H20 - Plumbing Fixtures High School

Photo H21 - Plumbing Fixtures High School

Photo H22 - Plumbing Fixtures High School

Photo H23 - Plumbing Fixtures Middle School

Photo H24 - Plumbing Fixtures Middle School

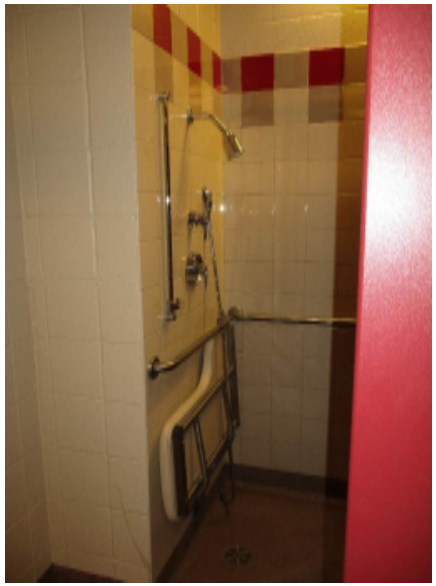

Photo H25 - Plumbing Fixtures Middle School

Photo H26 - Plumbing Fixtures Waste Water Treatment Bldg.

Photo H27 - Plumbing Fixtures Waste Water Treatment Bldg.

Photo H28 - Plumbing Fixtures Waste Water Treatment Bldg.

Photo H29 - Plumbing Fixtures Administration Bldg.

Photo H30 - Plumbing Fixtures Administration Bldg.

Photo H31 - Plumbing Fixtures Administration Bldg.

Photo H32 - Gas Service High School

Photo H33 - Gas Service - Shutoff at Science CR

Photo H34 - Middle School Gas Service

Photo H35 - Waste Water Treatment Gas Service

Photo H36 - Administration Building Gas Service

Photo I1 - High School Electrical Service

Photo I2 - Middle School Switchgear

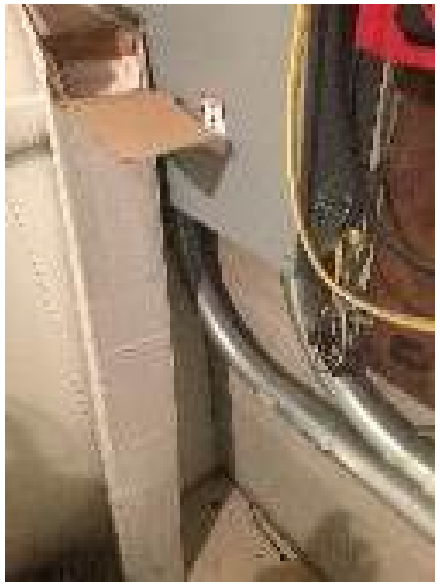

Photo I3 - Administration Building Electrical Service

Photo I4 - Waste Water Treatment Building Electrical Service

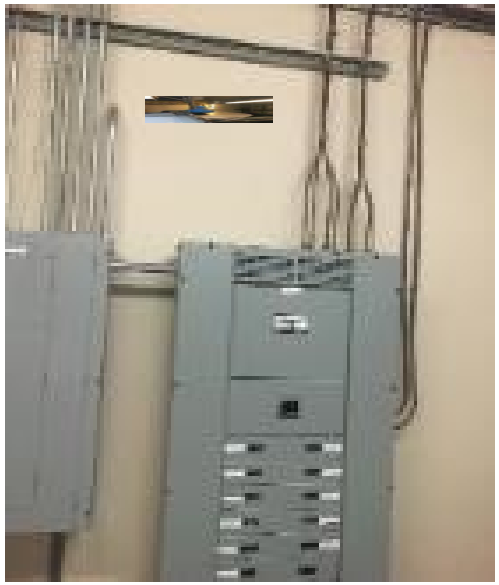

Photo I5 - High/Middle School Distribution

Photo I6 - Administration Building Distribution

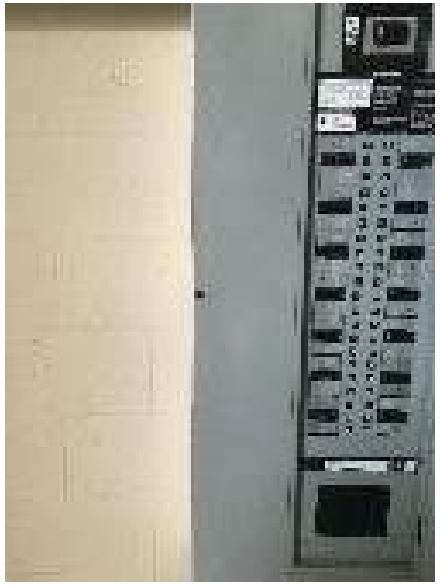

Photo I7 - Waste Water Treatment Building Distribution

Photo I8 - Administration Building Branch Wiring

Photo I9 - Waste Water Treatment Building Branch Wiring

Photo I10 - MS/HS Lighting

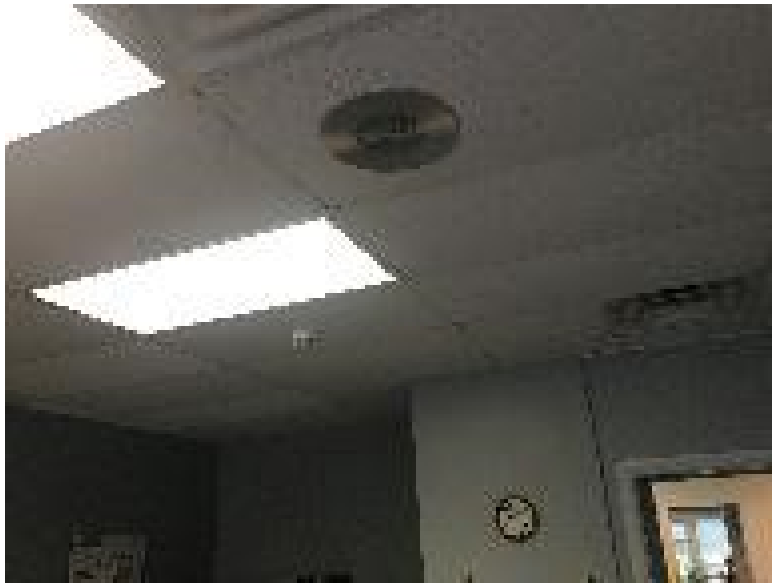

Photo I11 - Administration Building Lighting

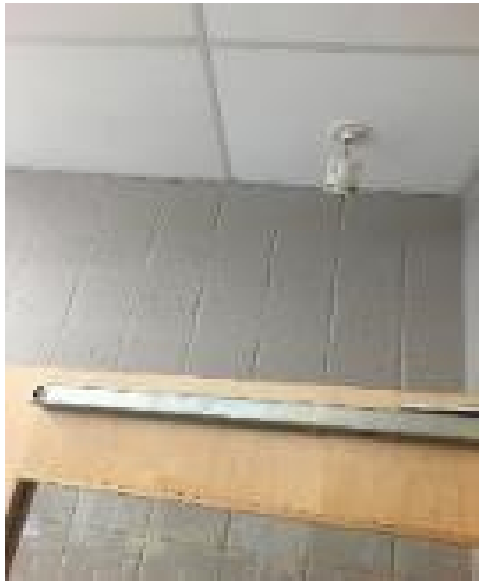

Photo I13 - HS/MS Lighting Control

Photo I14 - Exterior Lighting Poles

Photo I15 - High School Emergency Power

Photo I16 - Middle School Emergency Power

Photo I17 - Administration Building Emergency Power

Photo I18 - Waste Water Treatment Emergency Power

Photo I19 - MS/HS Life Safety Lighting

Photo I20 - Admin. Building Life Safety Lighting

Photo I21 - Waste Water Treatment Plant Safety Lighting

Photo I22 - MS/HS Life Safety Fire Alarm

Photo I23 - Admin. Building Life Safety Fire Alarm

Photo I24 - Waste Water Treatment Building Life Safety Fire Alarm

Photo I25 - MS/HS Security System

Photo I26 - Admin Building Security System

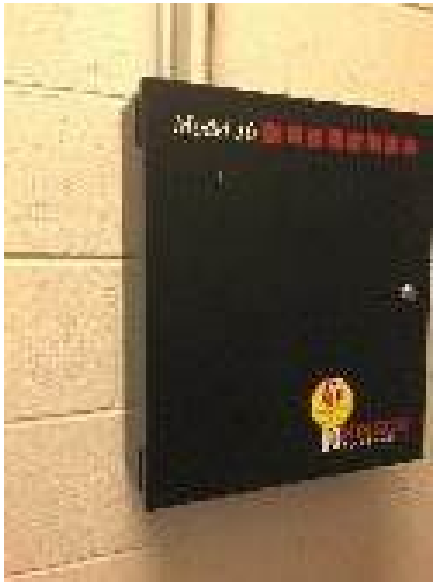

Photo I27 - Waste Water Treatment Security System

Photo I28 - MS/HS Clock/ Communications System

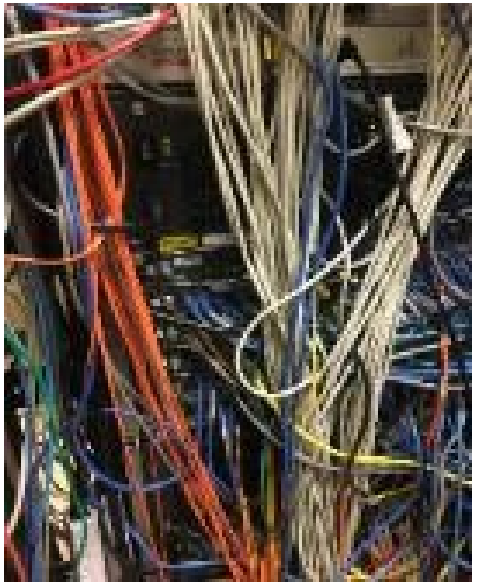

Photo I29 - MS/HS Clock/ Communications System

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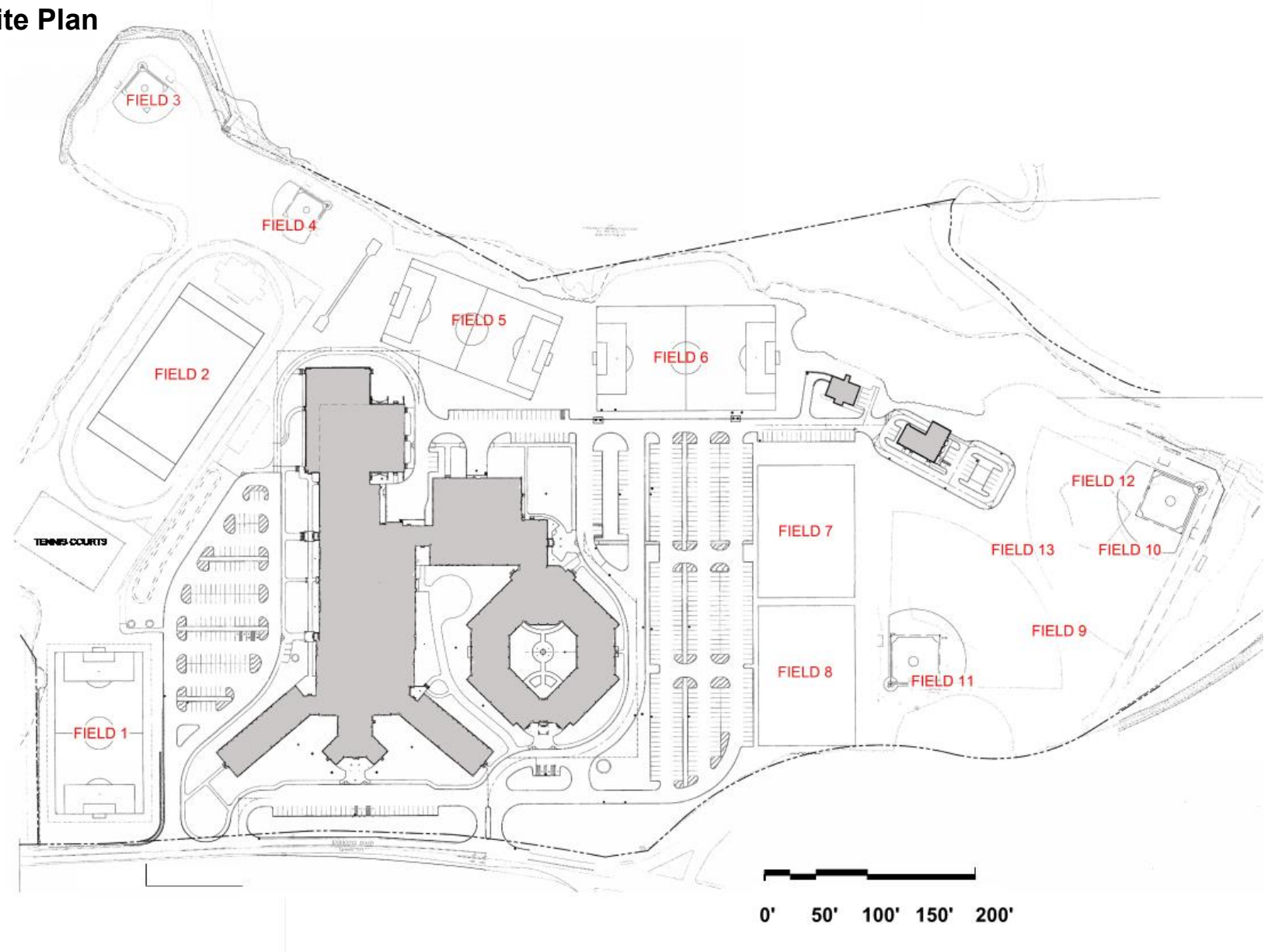
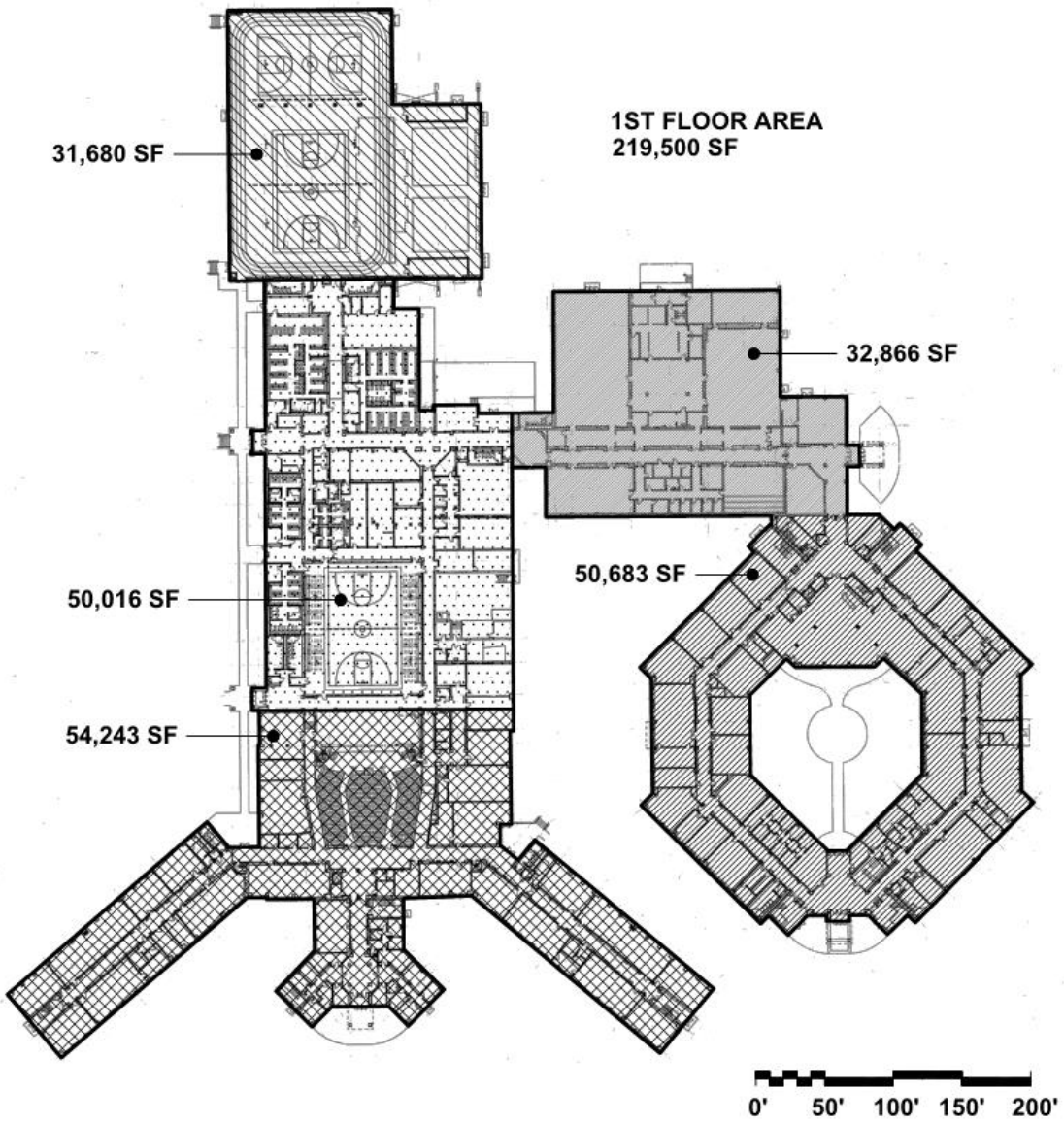
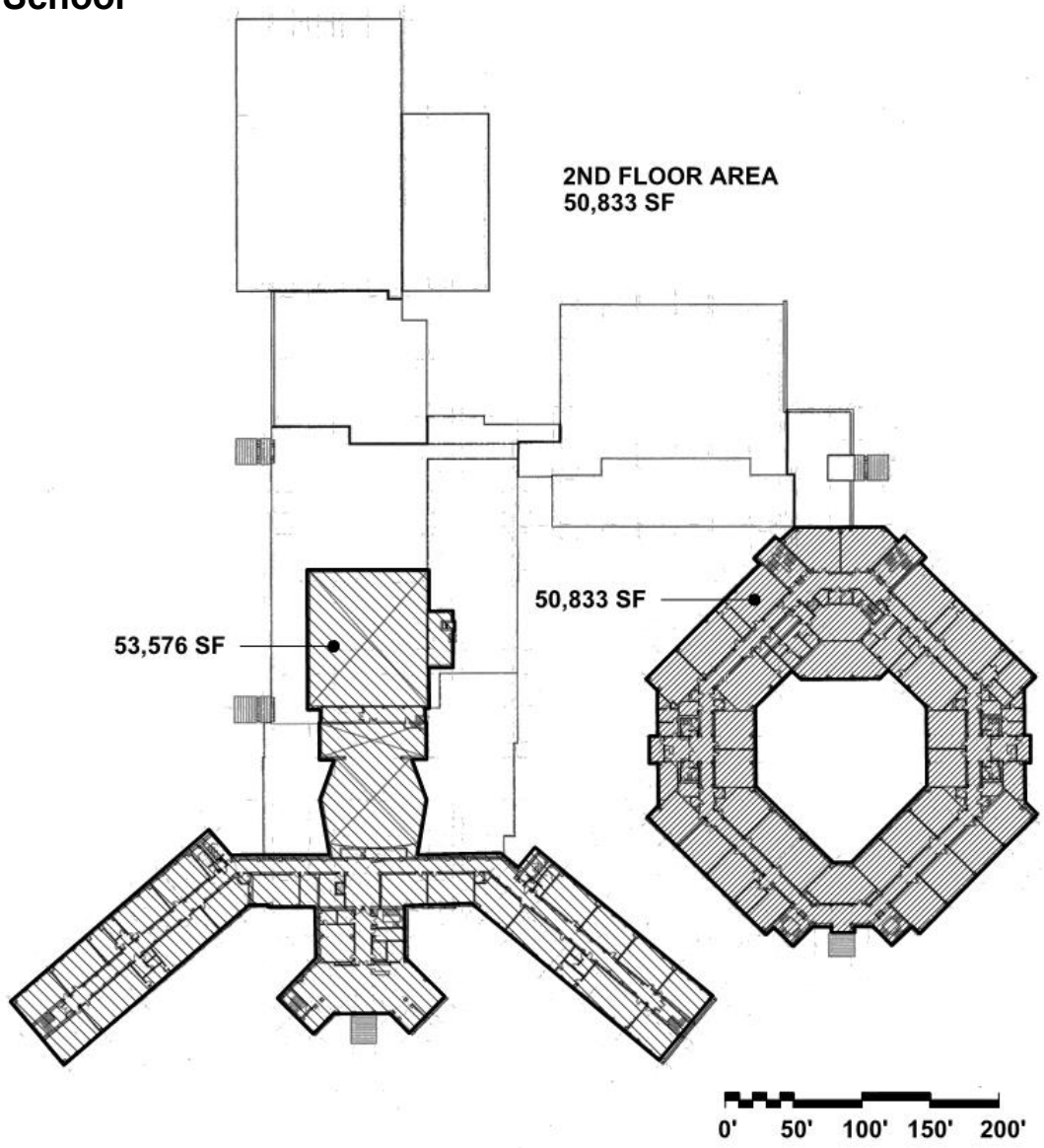
Site Plan


FIELD 3
FIELD 4
FIELD 5
FIELD 6
FIELD 2
TENNIS COURTS
FIELD 7
FIELD 8
FIELD 1
FIELD 11
FIELD 12
FIELD 13
FIELD 10
FIELD 9
0'
50'
100'
150'
200'

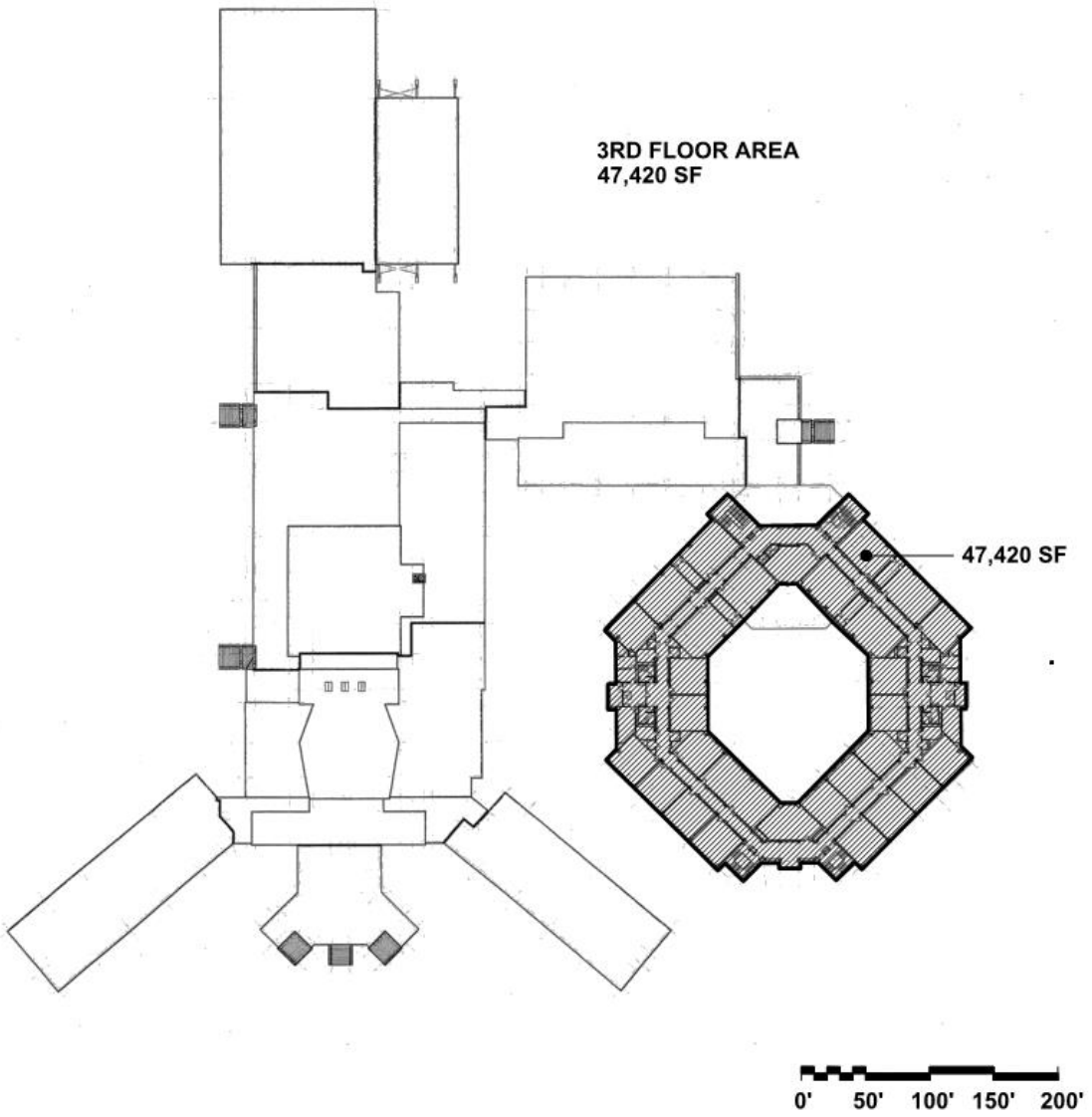
Middle School / High School
First Floor Plan



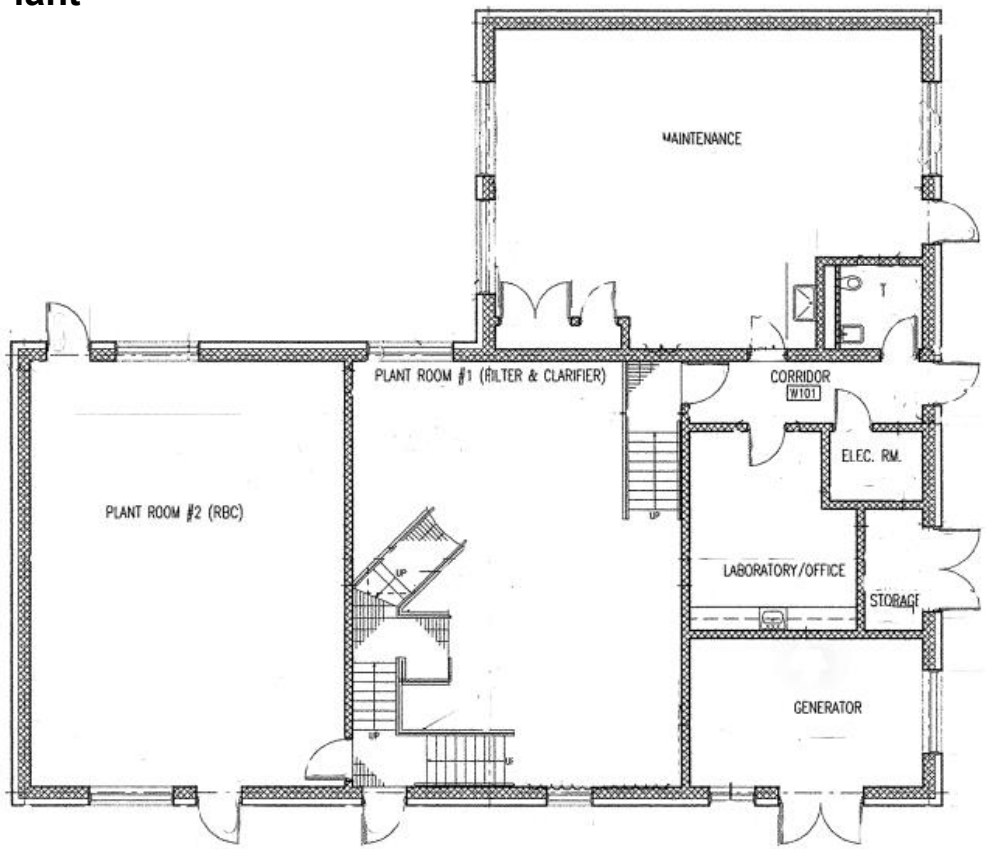
Middle School / High School
Second Floor Plan



Middle School / High School
Third Floor Plan

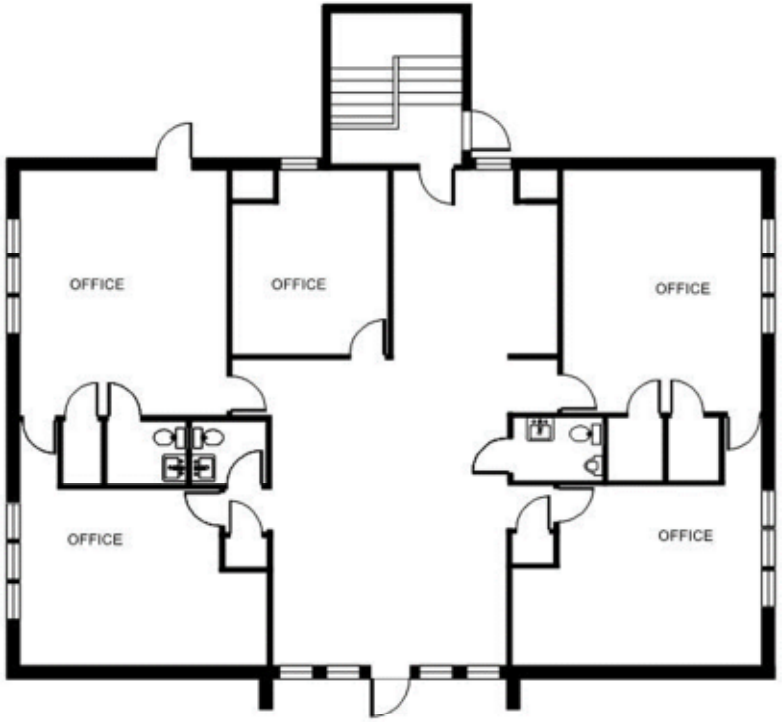


Regional School
Waste Water Treatment Plant



Regional School
Administration Building Plan

BASEMENT



FIRST FLOOR