July 12, 2019

Jason Parker
City Administrator - City of Dalton
300 W. Waugh Street
P.O. Box 1205
Dalton, GA 30722

RE: John Davis Recreation Center: Architectural, Structural, Electrical & HVAC Report

Mr. Parker,

Thank you for the opportunity to assist you in the evaluation of the John Davis Recreation Center located at 904 Civic Drive in Dalton Georgia. It is our understanding that the City wishes to expand the program space that is currently housed in the facility. The purpose of this report is to share our observations and offer recommendations for the best solution to provide these additional spaces on the existing property known as the James Brown Park. This report includes those observations and recommendations along with reports from Structural, Mechanical and Electrical Engineers.

Attached to this document, please find the reports from the Structural, Mechanical and Electrical Engineers along with their observations and recommendations. The evaluation of the existing building structure has been provided by William J. Peltier of William J. Peltier and Associates, the mechanical and plumbing report has been provided by Jim Matheson of Matheson-Ball and Associates, and the evaluation of the electrical systems has been prepared by Paul Tankersley of Tankersley Jackson and Associates Inc,.

A summary of the budget estimates is included at the end of this section.

Purpose:

The following observations were made to determine the long-term usefulness of the existing building to satisfy the current program needs. The observations and recommendation contained in this section cover the Architectural items such as the building envelope, life safety, ADA accessibility, square footage and other building codes as adopted by the State of Georgia and the City of Dalton for complete building renovations.

Current Program Needs:

In order to determine the best solution for meeting the current needs of the Recreation Center, we met with members of the Dalton Parks and Recreation Department (DRPD). The following represents the needs identified in those discussions.

- Two Gymnasiums with fixed bleacher seating for 300-400 persons each
- Walking track around the gymnasiums
- Large meeting space to serve approximately 200 persons that can be sub divided into 4-6 spaces
- 12 office spaces to meet current needs with additional space to grow
- Recreation Commission Meeting Room – Seating for 20 minimum
- Office restrooms
- Kitchen/Breakroom off Meeting Rooms
- Computer Room
- Weightlifting / Cardio Room for 40 people
- Aerobics / Zumba Room for 40 people
- Concession Stand
- Large Toilet Banks with walk in plumbing chase
- Support Spaces
- Large Storage Areas
- Parking

A preliminary estimate of 43,000 square feet has been determined to meet these needs. All of these spaces are to be heated and cooled.

Evaluation of Existing Buildings:

Per your request, our team visited the John Davis Recreation Center on May 29, 2019 and met with personnel from the City of Dalton and the Dalton Parks and Recreation Department.

It is our understanding that the existing facility was constructed in three phases. The first, built around 1957 (labeled as Building “A” on the attachment No.1). The spaces in this area include a large meeting room, a small meeting room, restrooms, storage closets and other electrical/mechanical spaces. Also constructed at this time are the pool locker rooms, pool equipment rooms and other storage spaces. The next portion of the facility was built in 1963 (Building “B”). This building includes a gymnasium, storage rooms and additional restrooms. The latest addition to the facility was constructed in 1986 (Building “C”). This building includes the main entrance, DPRD administration offices and a large meeting space on the second floor.

Building A: 1957

As with most buildings constructed during this time period, the building occupants relied on natural ventilation to provide comfort during the warmer months. The building's exterior envelope (walls, roof and concrete slab) were not designed to address the change in temperature and humidity between the interior and exterior of an air-conditioned building.

A building envelope that is constructed to meet current building codes will include barriers to keep air, water and water vapor from entering the occupied spaces. It also includes components to prevent condensation from being trapped within the wall cavity that can result in mold and damage to the building structure. This condensation results from hot humid air coming into contact with the cool surfaces within the wall cavity of an air-conditioned building. This is similar to what happens to a cold can or bottle if taken outside in the summer. A water resistive barrier must be included in the wall cavity to direct this moisture back to the exterior.

The absence of an air barrier can also allow hot humid air to enter the building and condensate on any cool surface within the building. This is usually most evident on air diffusers or other cool surfaces. We observed multiple stained ceiling tiles throughout the building. It is our understanding that the roof was replaced in the last two years so it is likely that these stains are a result of water condensing on ductwork and dripping onto the tile. (Please see Exhibit P1&P2).

Exhibit P1

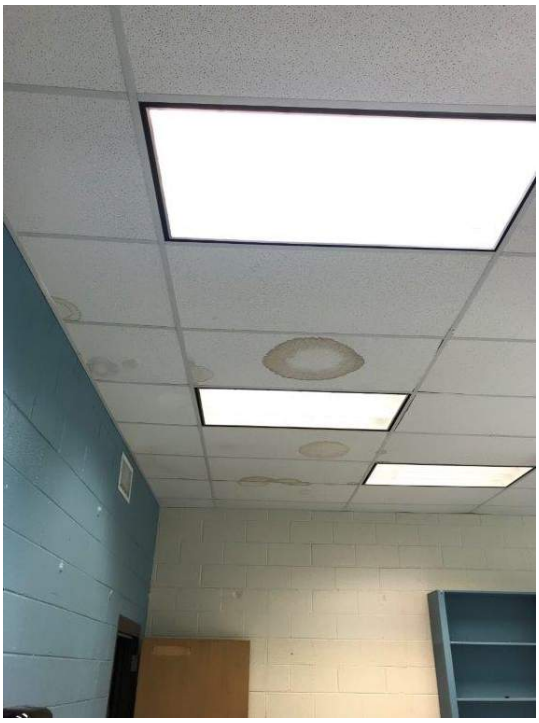


Exhibit P2

Based on our observations, the exterior walls of Building “A” do not include air, water or vapor barriers. Evidence of this can be seen in the on the interior surface of the concrete block walls. Paint is peeling from the surface of the walls due to condensation within the block. Also, per our discussions with maintenance personnel, we understand that the drywall has been replaced along many of these walls as a result of moisture issues. (Please see Exhibit P3&P4).

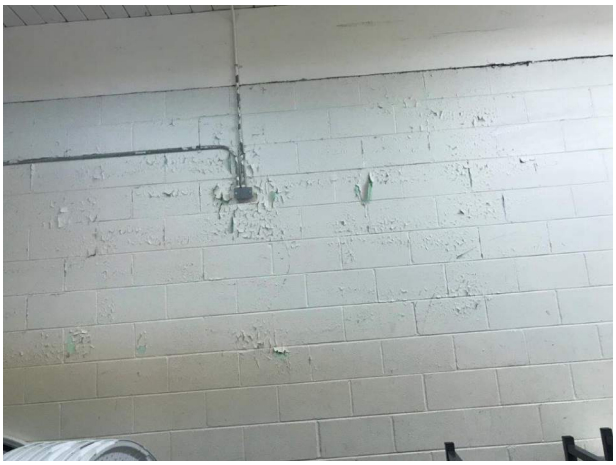


Exhibit P3

Exhibit P4

One of the most costly issues when renovating a building is complying with the current ADA standards. This building is accessed by the public and needs to be accessible to everyone. Currently, the restrooms do not meet the approach and/or clearance requirements of the code. Also, due to the age of the waste piping and fixtures, a complete replacement of the restrooms is recommended. (please reference the plumbing report). Other accessibility issues include door hardware, countertop heights and reach requirements for electrical devices. (Please see Exhibit P5,P6 & P7).

Exhibit P5

Exhibit P6

Exhibit P7

Building “A” also includes the pool locker rooms and equipment room. Significant moisture issues and termite damage was observed. It is our understanding that this area needs to be maintained until the pool is eventually replaced. Replacement of the roof structure and decking will be required in several areas. Please see the structural engineer’s report for further discussion. (Please see Exhibit P8, P9, P10 &P11).

Exhibit P8

Exhibit P9

Exhibit P10

Exhibit P11

The original construction of Building “A” did not include insulation in the walls and roof. Some insulation has been added to the exterior walls of the meeting rooms. This should help slow the transfer of heat energy in these spaces, however, some of the walls are not insulated. Also, the insulation placed on the ceiling tile is not allowed by code. New insulation will be required to meet the current requirements of the Energy Code. The window frames and glazing do not meet current requirements for shading and heat gain or thermal transfer. These will need to be replaced. (Please see Exhibit P12 & P13).

Exhibit P12

Exhibit P13

Building B: 1963

Much like Building “A”, the majority of Building “B” was not designed to receive air conditioning. The gymnasium is currently ventilated with fans and louvers. It is constructed with single width concrete masonry units, faced with brick. The mortar in the brick is failing in multiple areas. This is likely due to failure of the reinforcement in the walls. Further investigation will be required to determine the cause and repairs necessary. At a minimum, repointing of the masonry will be required. This building will also require new insulation, and an air, water, vapor barrier. (Please see Exhibit P14, P15, P16 & P17). Please refer to the Structural, Mechanical, plumbing and Electrical reports for additional information.

Exhibit P14

Exhibit P15

Exhibit P16

Exhibit P17

Building C: 1986

Building "C" is approximately 33 years old. It is in need of general renovations including finishes, lights, ceilings, door hardware, accessible restrooms, windows, and roofing. It is our understanding that flooding periodically occurs on the first floor. A curb has been poured to help address this issue however, the curb has restricted egress from one of the building exits. (Please see Exhibit P18 & P19).

Exhibit P18

Exhibit P19

Conclusions and recommendations:

Buildings A&B

Adding insulation and an air, water and vaper barrier to an existing building is difficult. There are ways to "patch" the building with coatings that require reapplication and maintenance, however, a long-term solution usually requires removal of significant portions of the building and installation of new wall / roof assemblies. Both Buildings A&B utilize loadbearing concrete masonry walls. These cannot be removed and replaced. Based on the observations included in the structural report, the wall reinforcement that ties the brick to the concrete block has failed over most of Building "B". The best long-term fix is the complete removal and replacement of the brick. After removal of the brick, a vaper barrier could be applied to the exterior surface of the block. New brick ties could be installed along with rigid insulation prior to the installation of new brick. Due to the increased thickness of the wall, a new concrete brick ledge will likely be required along the building foundation. The replacement of the brick could continue around the perimeter of Building A. This work, along with the replacement of the roof, windows, door hardware, lighting, electrical, HVAC and complete renovations of the interior spaces will quickly approach the cost of new construction.

Programming issues: Gymnasium – The footprint of the existing gymnasium is not adequate to fulfill the new program needs. The goal of the new layout is to provide two gymnasiums placed back to back under one common roof with seating and a walking track. Maintaining the existing gym will not allow for seating or a common walking track. Also, the existing building is sandwiched between the pool to the north and the recently renovated playground to the south. The only area available for an addition of a new gymnasium is to the east. This area would be isolated from the existing building footprint.

Building C

The cost to completely renovate a typical building constructed after 1985 is approximately 65-75% of the cost of new construction. It is our understanding that the HVAC units have been replaced recently, however, the ductwork and controls would need to be reworked to meet the current program needs. This building could be renovated to include some of the program needs, however, the available space around this building does not allow for a good design solution to meet the remaining needs without the removal of the playground to the south.

Cost / Budget Estimate:

Please note: Even with substantial renovations, many of the original building components will remain in place and will continue to age over the life of the building. A renovated building will require more maintenance and more frequent renovations in the future. Also, unforeseen conditions are always encountered when renovating older buildings. Therefore, a minimum 10-15% contingency should be included in the budget. For the purpose of this budget, any of the existing buildings that remain will be brought up to new construction standards as closely as possible.

Based on our observations, we do not recommend the continued use of Buildings A&B. After speaking with a local contractor, the scope of work required to renovate these buildings would be very close to the cost of new construction. Also, the additional cost of the concealed or unknown conditions could increase the budget beyond the cost to replace the buildings.

Budget Study 1: Complete renovation of the existing Building "C" with additions to fulfill the program needs.

Due to site constraints, this study includes the removal and replacement of the recently renovated playground to the south. It is our understanding that the renovations alone cost approximately $300,000. The replacement cost of this playground is estimated to be $500,000.

Budget summary:	Demolition of Buildings A&B -	$105,000
	Renovations of Building C -	$850,000 *plus contingency
	Replacement of Playground-	$500,000
	New Construction-	$6,475,000
	Total for Building-	$7,930,000
	Additional Parking / Sitework-	$850,000
	Construction Total-	$8,780,000

Please note: This approach would require temporary office space for those currently utilizing the existing building. A 14-16 month construction schedule should be expected.

Budget Study 2: New freestanding Recreation Center within James Brown Park.

Budget summary:	Demolition of Buildings A, B&C -	$125,000
	New Construction-	$7,525,000
	Total for Building-	$7,650,000
	Additional Parking / Sitework-	$850,000
	Construction Total-	$8,500,000

Please note: This budget does not include the replacement of the existing maintenance building or replacement of the adjacent playground. Careful study and site planning will be required to keep these functions intact in the final design.

This budget is intended to compare construction costs only. It does not include testing, surveys, furnishing, design fees or other costs that should be included in an overall project budget.

These budget estimates should be considered preliminary at this time. A thorough site study, along with a schematic building design will be required to arrive at a more detailed budget.

Again, thank you for the opportunity to work with you in evaluating the John Davis Recreation Building. We hope that you find this information beneficial. Please do not hesitate to contact us if you have any questions or need any additional information.

Respectfully submitted,

Kenneth R. Harless AIA
Principal
KRH Architects, Inc.

WILLIAM J. PELTIER
AND ASSOCIATES

July 10, 2019

Mr. Kenneth Harless, AIA
KRH Architects
855 Abutment Rd.
Suite 4
Dalton, GA 30721

RE: Report of Structural Evaluation of Existing Building at 904 Civic Drive in Dalton, Georgia

Mr. Harless,

At the request of your office, William J. Peltier and Associates, Inc. (WJPA) has completed its structural evaluation of the existing structure located at 904 Civic Drive in Dalton, Georgia. It is our understanding that City of Dalton is evaluating the merits of renovating the existing buildings as compared to replacing the entire buildings.

Representatives from WJPA visited the project site on May 29, 2019. We arrived at the project site at approximately 10:00 AM and met with Mr. Harless and Mr. Josh Scott from KRH Architects. WJPA left the project site at approximately 12:00 PM. The purpose of this report is to summarize WJPA observation and the structural implications related to the potential renovation and expansion to the existing facilities.

The existing building consists of three (3) main structures: Building A, Building B, and Building C. Building A was the original building on the site and serves as lobby, assembly, restrooms and pool equipment rooms. It is our understanding that Building A was constructed circa 1957. Building B was an addition that was subsequently added to the Building A and was constructed circa 1963. Building B serves as gymnasium and equipment storage. Building C was the most recent addition to the building and was constructed circa 1986. Building C serves as office and assembly. Please see Figure 1 for more information.

Building A Structural Observations

Building A is one-story building and has a footprint of approximately 7,000 square feet (SF). Building A consists of load bearing concrete masonry unit (CMU) walls supporting timber roof framing. At the South end of the Building A, the roof framing consists of 20" deep glulam beams spaced at approximately 12'-0" on-center (OC) spanning North-to-South with approximately 3" timber decking. At the North end of the Building A (pool area), the roof framing consists of 10 ½" deep timber joists spaced at approximately 10'-0" OC spanning East-to-West with timber decking. The lateral system of the Building A is comprised of CMU load bearing walls. Please see Photograph A and B for representative photographs of the Building A.

WJPA observed several cracks on the CMU wall at the North end of Building A. Please see Photographs C-E for more information. WJPA also observed significant deflection and cracking on the timber decking. Considering the extent of the damage, it is likely that sections of the roof decking will need to be replaced. Please see Photographs F and G. WJPA noticed the door frame at the pool mechanical room was rusted. WJPA suspected the rust was caused by the exposure to water and caused the CMU wall to protrude out, as shown in Photograph E. WJPA also observed termite tubes hanging from the ceiling at several areas. Please see Photograph J for more information. WJPA did not observe any additional structural issues on Building A.

Building B Structural Observations

Building B was an addition that was subsequently added to the Building A. Building B consists of two levels: first-floor and partial second-floor level. The first-floor square footage is approximately 8,400 SF and the partial second-floor footage is approximately 1,400 SF. In addition to this, Building B also has a storage area at the North end of the Building B that is approximately 800 SF.

Building B consists of load bearing CMU walls to support the second-floor framing and roof framing. The second-floor framing consists of 12" deep steel joist spaced at 24" OC spanning North-to-South with 9/16" metal decking and concrete topping. The roof framing above the gym area consists of 40" deep steel joist spaced at approximately 6'-8" OC spanning North-to-South with roof metal decking. The lateral system of Building B is comprised of CMU load bearing walls. Please see Photograph K for a representative photograph of the Building B.

The roof framing above storage area consists of two (2) different systems. The roof framing above storage room #1 located at East end of Building B consists of 10 ½" deep timber joist spaced at approximately 10'-0" OC with timber decking. The roof framing above storage room #2, located next to storage room #1, consists of covered joist with through bolted 2x wood members on both sides and timber decking. Please see Photographs L and M for representative photographs of the storage rooms.

WJPA observed vertical wall cracks on the CMU wall at storage room #1. WJPA also observed several horizontal cracks on brick veneer located at the East end and South end of Building B. WJPA suspected the horizontal cracks were caused by the expansion of the rusted steel shelf angle and steel wire reinforcing. Please see Photograph N to R for more information. WJPA did not observe any additional structural issues on Building B.

Building C Structural Observations

Building C was the most recent addition to the building. Building C is two-story, approximately square in plan, and has a first-floor footprint of approximately 3,100 SF and a second-floor footprint of approximately 3,100 SF. In addition to this, Building C also has a "connector" building connecting the Building B second-floor level to the Building C second-floor level. The "connector" building has a first-floor footprint of approximately 500 SF and second-floor footprint of approximately 500 SF.

Building C consists of exterior and interior steel columns supporting the floor structure. The steel columns are generally spaced in an approximate 20'-0" x 16'-0" bay spacing. The floor framing consists of W12 steel girder spanning East-to-West and 10" deep joist spanning North-to-South with 9/16" metal decking and concrete topping. The interior girders are supported on top of the interior columns and the interior columns stop at the second floor. The roof framing consists of 26" deep steel joist spanning North-to-South and supported by exterior girder and columns. The lateral system of Building C was not observable to the naked eye. WJPA suspected the lateral system of the Building C is comprised of light gauge shear walls or structural steel braced frames. Please see Photographs S and T for representative photographs of the Building C.

WJPA did not observe any structural deficiencies in the existing building. WJPA is not generally concerned about the structural performance of this structure due to relatively young age of the structure.

Conclusion of Structural Observations

It is our understanding that certain portion of the Building A (pool area) may remain depending on the owner's decision to expand or rebuild the facilities. Should the owner choose to expand the facilities, WJPA recommend sealing all CMU cracks, replace the cracked timber decking as required, and repair cracked brick mortar joints. Due to the age of the building, any repair budget should allow for unforeseen contingencies that may be discovered during the repair.

The evaluations and observations contained in this report are limited to the field of structural engineering. Consideration in renovating the existing building may be limited by other non-structural factors, including (but not limited to) mechanical, plumbing, or electrical deficiencies.

Thank you for the opportunity to serve you on this project. Please do not hesitate to call our office with any questions or concerns.

Sincerely,

WILLIAM J. PELTIER AND ASSOCIATES, INC.

William (Bill) Peltier, PE, SE
Principal
William J. Peltier and Associates, Inc.

Arman Yosal, E.I.T.
Structural Project Manager

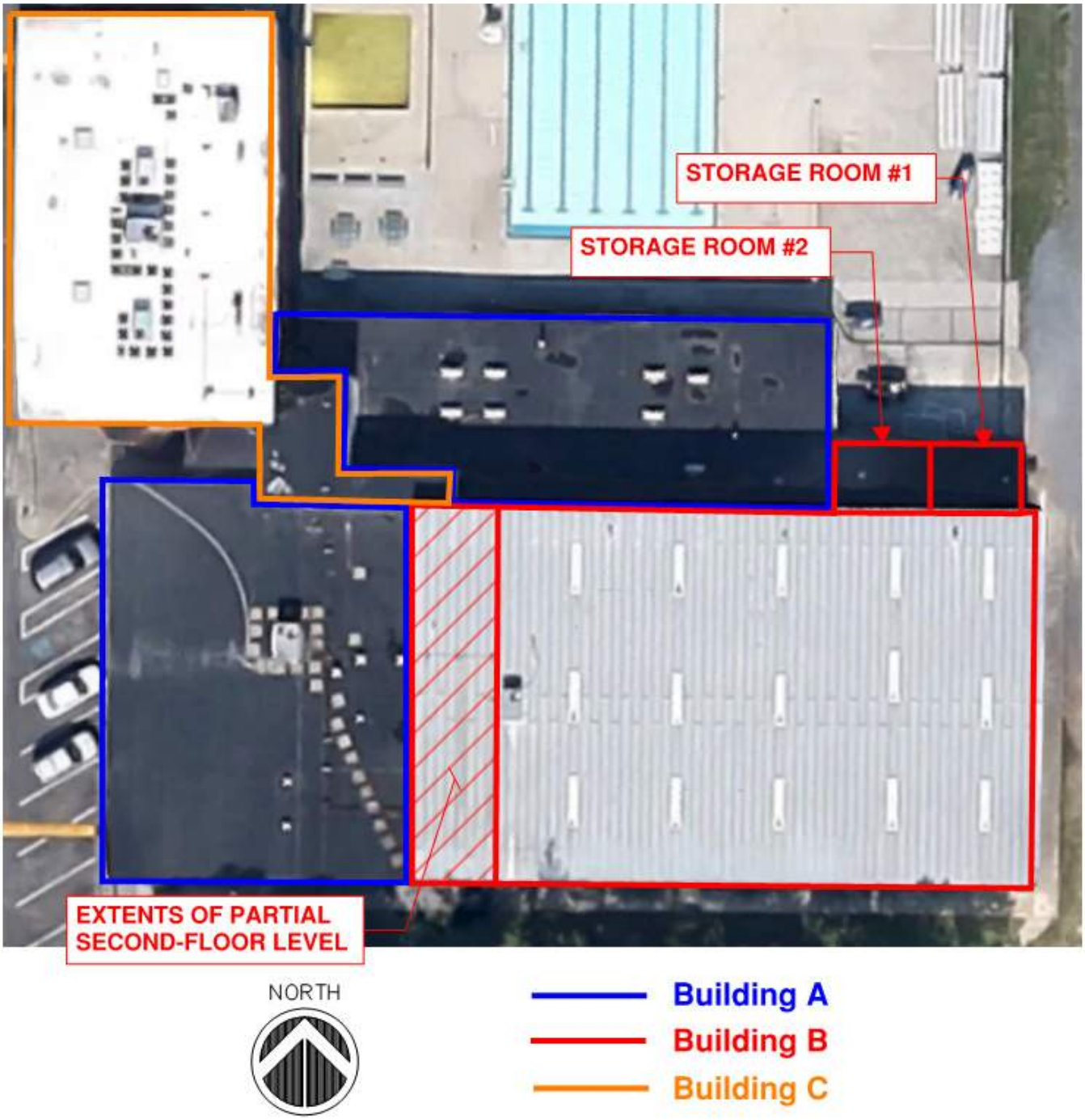
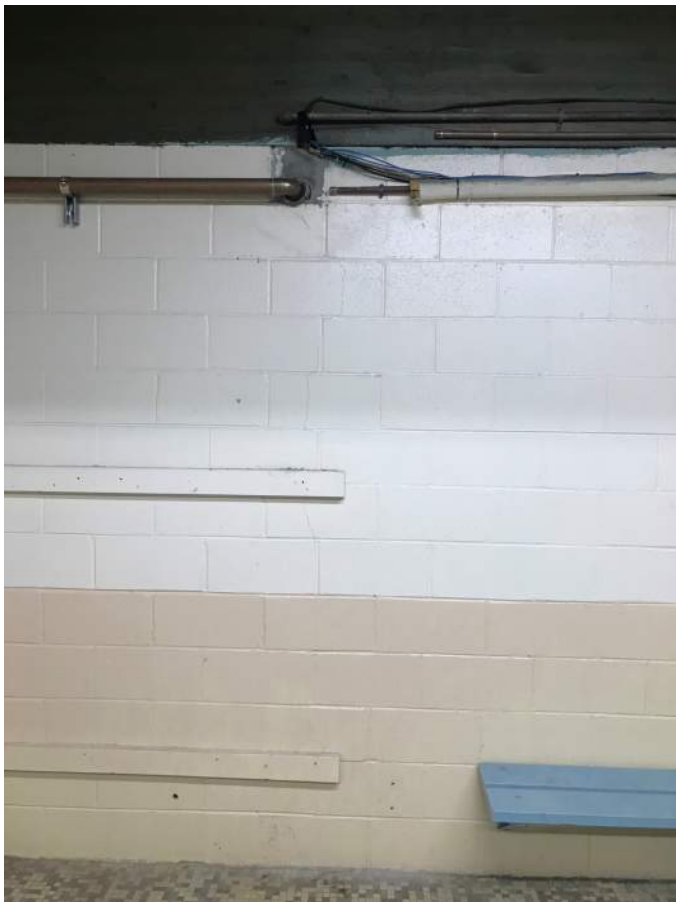


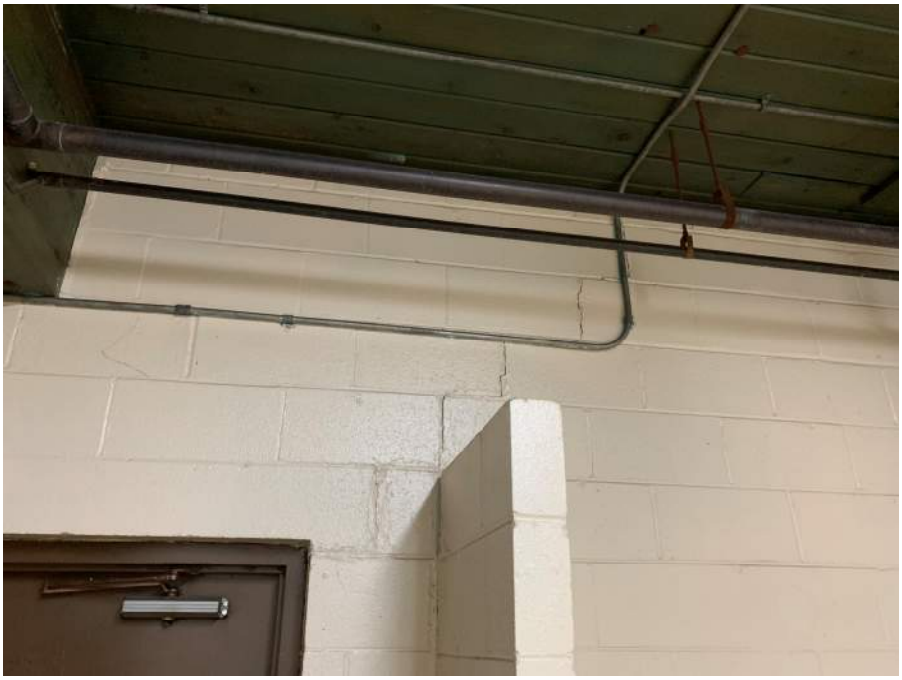
Figure 1:
Site Plan

Photograph A:
Building A (South End) Roof Framing (Looking South)

Photograph B:
Building A Roof Framing Over Pool Area (Looking North)



Photograph C:
Cracks on Building A Men's Restroom CMU Wall #1



Photograph D:
Cracks on Building A Men's Restroom CMU Wall #2

Photograph E:
Cracks on Building A Pool Mechanical Area (Looking North)

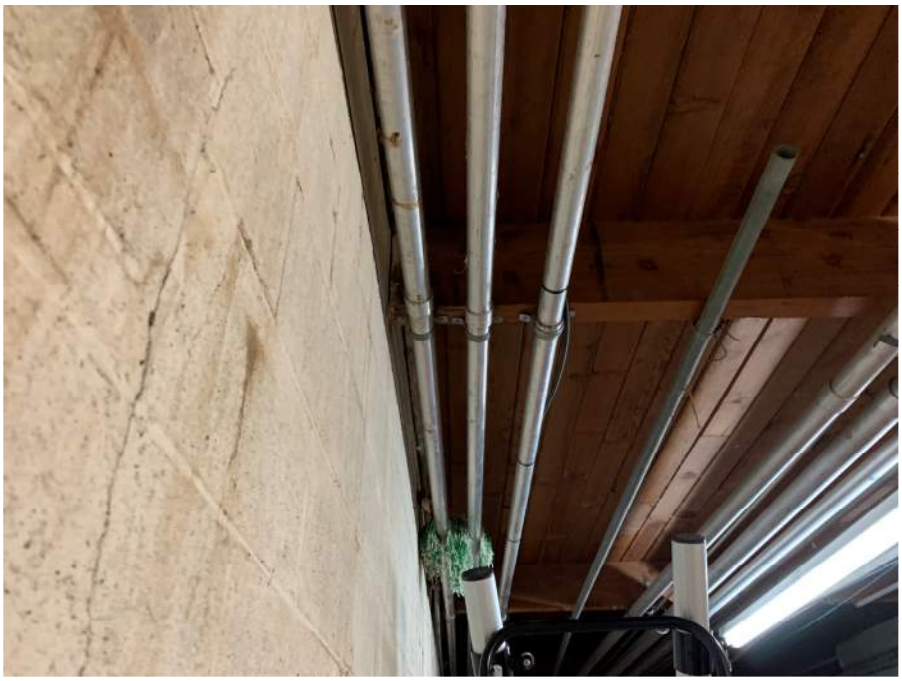
Photograph F:
Cracks on Building A Men's Restroom Timber Decking

Photograph G:
Significant Deflection on Building A Timber Decking Over Pool Mechanical Room (Looking South)

Photograph H:
Building A Rusted Door Frame

Photograph J:
Building A Termite Infestation

Photograph K:
Building B Roof Framing Over Gym Area (Looking North)

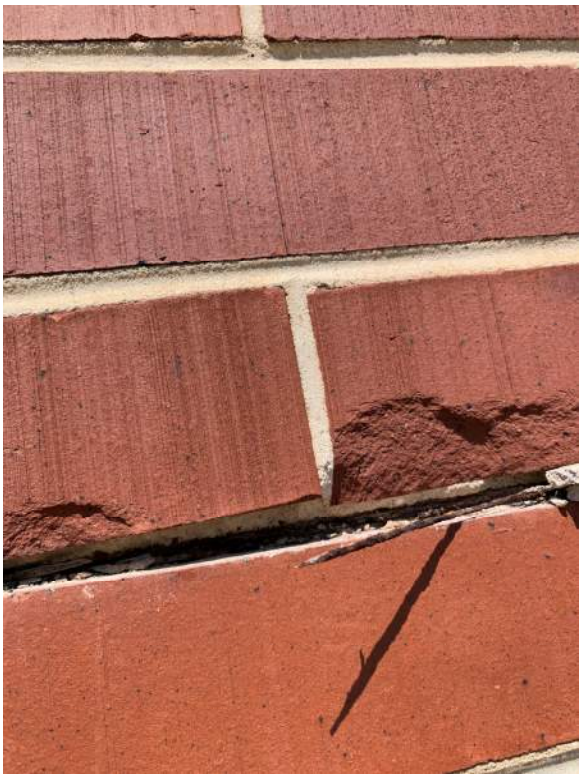


Photograph L:
Building B Roof Framing Over Storage Room #1 (Looking East)

Photograph M:
Building B Roof Framing Over Storage Room #2 (Looking North)

Photograph N:
Cracks on Storage Room #1 CMU Wall (Looking South)

Photograph P:
Rusted Steel Shelf Angle (Looking West)



Photograph Q:
Rusted Steel Wire Reinforcing (Looking North)

Photograph R:
Cracks on Building B Brick Veneer (Looking North)

Photograph S:
Building C Floor Framing

Photograph T:
Building C Roof Framing

BUILDING HVAC & PLUMBING SURVEY

John H. Davis Recreation Building

Dalton, Georgia

SUBMITTED BY:

Matheson-Ball & Associates, Inc.

James E. Matheson, P.E.

July 9, 2019

EXECUTIVE SUMMARY

A survey of the HVAC and Plumbing systems in the existing Office/Gymnasium building at 904 Civic Drive, Dalton, Georgia 30721 on May 29, 2019. The survey consisted of visual observation only. Equipment was not opened, and no tests were conducted.

HVAC

The majority of air-conditioning equipment for the facility was manufactured in 2011 and is functional. However, large areas of the building, like the office areas, are served with single zone systems with only one thermostat. This results in a compromise with interior temperatures for different spaces served by the same unit.

The ventilation and heating systems for the gymnasium are old and in need of updating.

Several exhaust systems are provided for the toilet and storage areas of the building. These are old and in need of updating.

Plumbing

The majority of plumbing fixtures and piping are original and in need of repair or replacement. The current plumbing fixtures outdated, do not conform to current water saving standards, and do not provide ADA access.

The condition of the existing underground sanitary piping is of particular concern, based upon conversations with the maintenance personnel.

The domestic water piping within the building is in fair condition with increasing repairs expected if remedial work is not performed.

BUILDING SURVEY & ANALYSIS

HVAC & Plumbing

JAMES H. DAVIS RECREATION BUILDING

DALTON, GEORGIA

Existing Conditions

HVAC

Administration Area:

The administration area is a 2-story building, and is newest portion of the overall complex. The lower level contains the administration offices and is conditioned by a nominal 7.5 ton split system air-conditioner with roof mounted condensing unit. The interior fan-coil unit is located in a second floor mechanical room with ductwork extending down into the space above the ceiling of the first floor. A gas-fired duct heater provides the heating for this system and is located in the supply ductwork just below the roof deck. The entire administration area is controlled by a single thermostat, and does not provide for individual control of the perimeter office spaces. The equipment appears to have been manufactured in 2011.

The second floor contains a multipurpose room which is currently conditioned by a single nominal 12.5 ton gas/electric rooftop unit. This unit was manufactured in 2011.

Two abandoned single package all electric rooftop units still exist on the roof above the multi-purpose room. They originally conditioned the multi-purpose room, but they are no longer operative. They appear to be over 15 years in age.

Original Building Area:

The lower level contains a large assembly room used for assembly and dance. Support areas adjacent include a meeting room, kitchen, storage and toilet facilities. This area is conditioned by a single nominal 12.5 ton gas/electric rooftop unit manufactured in 2016. It is the most recent HVAC equipment installed on the site.

The upper level connecting corridor between the multi-purpose room and the second level of the gym is conditioned by a motel style unit located high in an exterior wall and discharging into to corridor. This unit was manufactured in 2001,

The second floor of the gymnasium building is conditioned by a single package gas/electric rooftop unit with a nominal capacity of 5 tons. The unit conditioned the entire floor and has only one thermostat for the 3 occupied spaces. This unit was manufactured in 2011.

Gymnasium:

The gymnasium is currently only heated and ventilated. No cooling is provided.

Heating for the gym is provided by 3 gas-fired unit heaters. Two of the units are much older than the third, and they are in poor condition with damaged cabinets and louvers. The third unit has been installed recently.

Ventilation is provided for the gym by two high wall mount propeller exhaust fans at the west end of the playing court and two large intake louver/damper assemblies mounted at the floor level along the exterior east end of the gym.

A small window type air-conditioning unit is also installed for the equipment storage area of the gymnasium. The back side of this unit is located in the pool equipment room.

Several gas-fired unit heaters are also installed for the locker/toilet/concession areas of the building.

Assorted roof mounted and in-lined exhaust fans are installed to ventilate the locker/storage/equipment rooms. Most are in poor condition.

Several electric wall mounted heaters are installed for the gym toilet areas.

Plumbing

The vast majority of the plumbing fixtures appear to be original, or replaced many years ago. They are not the current low flow, water conservation design.

The overall condition of the plumbing systems is considered poor.

Several fixtures are currently inoperative, and many are in need of repair. All are in need of upgrade. They are old and difficult to maintain and clean.

Fixture locations and clearances do not comply with ADA standards.

The water heaters are in fair to poor condition.

Excessive water hammer is present within the building during low flow usage.

Conversations with the maintenance staff indicate that repair of underground sanitary piping is difficult due to the level of corrosion present for the buried piping.

Repairs to the current incoming water service were also needed recently due to repair underground piping.

Analysis

HVAC

The majority of the current HVAC equipment is approximately 8 years old. While not at its end of life expectancy, the existing equipment lacks the ability to provide good comfort conditions due to the large areas of single control. The entire facility only has 4 main zones of control.

These zones of control are as follows:

1- Upper level Multi-purpose Room - Single room control is not a problem here, since the space is only one space.
2- Lower Level Administration Area – Multiple exterior offices are present with a large core area. A single thermostat in one office controls all the areas
3- Upper level gym offices – Three spaces are present with only one thermostat.
4- Lower level of original building – One thermostat is provided for exercise, meeting, toilet, kitchen and lobby areas.

The other two small single package A/C units installed for the upper level corridor and equipment storage room are in need of immediate replacement.

The gymnasium is not air-conditioned and the existing heating/ventilation equipment is in poor condition. Installation of roof equipment to condition the gym will be difficult due to the light construction of the structural components. The only unit currently on this roof is the nominal 5 ton unit for the upper level offices.

Assuming an estimated cooling requirement of 30 tons for this area, would mean the installation of six five ton rooftop units. Support for and access to these units would be questionable. Installation of pad mounted units may be required with exterior ductwork into the gym may need to be considered if cooling is desired.

Improvement of the building insulation values may also be required prior to cooling the existing building. Minimum insulation values are required by code and for operational energy efficiency. Vapor barriers for the exterior surfaces may also be needed to prevent condensation within the wall structure.

Improvements for proper ventilation/heating of the surrounding support areas is needed. The ventilation of the locker/toilets/equipment and concession areas are insufficient.

The concession area has numerous heat producing items, but there is no heat removal hoods or adequate exhaust fans.

None of the current rooftop units appear to contain a de-humidifcation mode of operation. When the exterior weather conditions have excessive humidity levels and moderate temperature, the building can experience elevated interior humidity conditionts.

Plumbing

The existing plumbing systems are in poor condition, from fixtures to piping. The components are either outdated or inoperative in many cases.

Of particular concern is the problems experienced with underground piping. Failure to address this condition may result in reoccurring loss of normal building operations while awaiting emergency repair measures.

An overall retro-fit is needed in conjunction with modifications for ADA compliance and general user operation.

Recommendations:

HVAC:

The upper level multi-purpose area can remain as currently conditioned. The addition of automated controls with unoccupied setback features for energy savings should be considered.

The lower level administration offices should be retro-fitted with a new HVAC system providing individual controls for separate areas of occupancy. A variable refrigerant flow system (VRF) is recommended if budgeting allows. A new ventilation air unit for introduction of fresh air will be required with the use of a VRF system. The current equipment location and ductwork serving the lower level may be suitable for the ventilation system.

The existing nominal 7.5 ton split system serving the lower administration area may be re-purposed for cooling a portion of the existing gym or gym support areas.

The lower level lobby, assembly, meeting, and kitchen areas of the original building shall also be retro-fitted with a VRF system for comfort and energy savings. The new 12.5 ton single package unit should be repurposed for conditioning portions of the existing gym and gym support areas.

The current upper gymnasium offices may remain as currently conditioned if limited use is anticipated, and moderate variances in space temperatures can be tolerated.

The upper level gym corridor and elevator lobby shall be conditioned with new ductless split system to replace the current thru-wall motel type unit.

The current concession area shall be provided with heat removal hoods and exhaust. The cooking activities in this area should be evaluated and equipment centralized where possible to reduce the needed ventilation measures.

The possible extent of cooling and conditioning for the gym and gym support areas is largely dependent upon the building insulation and vapor barriers measures which can be added to the building envelope.

In lieu of cooling to comfort conditions, tempering of the space may be possible, provided care is taken to keep indoor temperatures above the level where condensation is formed within building components. This is definitely not a desired course of action since the safe indoor temperatures vary with weather conditions and the relative humidity, and the occupants may attempt to operate the systems outside the safe range for immediate comfort gains. However, tempered conditions would typically be in the 80-85 degree range.

Plumbing

A full and complete replacement of the plumbing systems within the facility is warranted due to the current conditions observed. Modification of fixture types and locations are needed to comply with current standards and occupant needs.

An underground video inspection of all buried sanitary piping should be performed if retainage of the current piping is necessary.

Photos

Original Multipurpose Rooftop Unit - Abandoned

Replacement Multipurpose Rooftop Unit

Condensing Unit for Administration Area

Upper Corridor Motel Style Unit

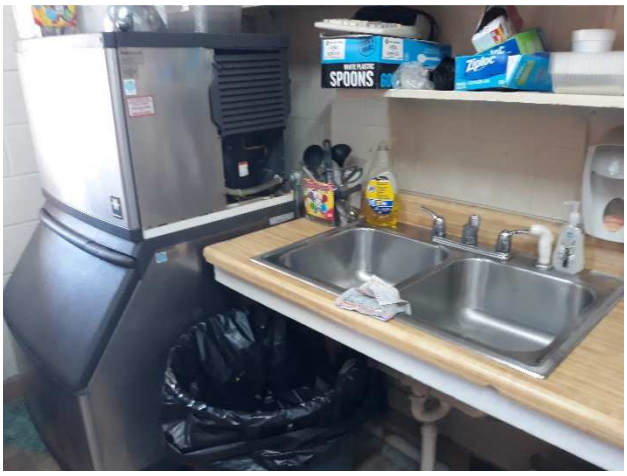
Upper Office Area Rooftop Unit

Typical Unit Heater for Gym

Gymnasium Ventilation Intake Louvers

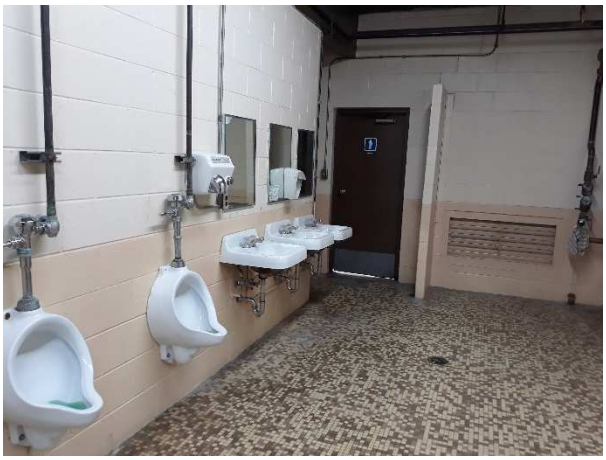
Pool Equipment Area – Window Unit from Storage

Rooftop Unit for Original Building



Concession Area

Typical Toilets – Original Building



Typical Toilets – Pool Locker Room

Lavatories – Pool Locker Room

Locker Room Piping indicating corrosion

Kitchen Area of Original Building

Workroom Sink

Pool Water Heater for Showers

Pool Heater

BUILDING ELECTRICAL SURVEY

John H. Davis Recreation Building
Dalton, Georgia

SUBMITTED BY:
TANKERSLEY JACKSON & ASSOCIATES, INC.

July 10, 2019

EXECUTIVE SUMMARY

A survey of the electrical systems in the existing Office/Gymnasium building at 904 Civic Drive, Dalton, Georgia 30721 on May 29, 2019. The survey consisted of visual observation only. Equipment was not opened, and no tests were conducted.

The electrical systems in the building appear to be fully functional, and, with a few exceptions, adequate to serve the facility in its current use. Any substantial renovation/addition would most likely require the existing service and distribution to be replaced.

While the lighting systems are passable, they are outdated, and do not use current energy efficient technology. Several areas need additional emergency battery pack lighting for egress. There are also no lighting controls to meet current energy code requirements.

The building is not equipped with a building-wide fire detection and alarm system.

OBSERVATIONS

Electrical Distribution System

The electrical service to the building is 240Delta-volts, 3-phase 4 wire connection. The service enters the building in the main electrical storage room on the backside of the gym, terminating in a 1000-amp switchboard. The equipment is manufactured by ITE. The switchboard distributes power to 240-volt three phase three wire panels for HVAC equipment and elevator loads. It also distributes power to 240-volt single phase three wire panels for receptacle and lighting loads in the building. The switchboard is grounded to an exterior ground rod and to the closest water pipe. Switchboard should be grounded to the main incoming water line.

Panel "RCL2" (240-volt single phase three wire panel) and Panel "RCM2" (240-volt three phase three wire panel) are located on the second floor at the roof access room. Both panels are showing signs of rust on the panel covers and the distribution breakers. The panels are manufactured by ITE. The existing Water Heater, hoses and flexible conduit need to be reworked to maintain the required working space in front of the existing panels. There are several open junction boxes in this space with exposed wiring. Several conduit supports are broken and need to be replaced.

Panel "RCL1" (240-volt single phase three wire panel) and Panel "RCM1" (240-volt three phase three wire panel) are located on the first-floor storage room. The conduits run into Panel "RCM1" are showing signs of rust.

The break room has a range with exhaust hood in place. The hood does not have a fire suppression system and the range is not shunt trip protected. The light switch for this room is broken and needs to be replaced. The microwave outlet above the counter needs to be replaced with a GFI protected device.

The pool shower/toilets have exposed fluorescent (not waterproof) fixtures. The receptacles near the sinks are not GFI protected. These fixtures should be replaced to deter electrical shock hazards. Conduit in the shower areas have been damaged due to vandalism. Replace damage conduit that was used as "chin-up bars".

The concession room has several receptacles near the sink that are not GFI protected. Recommend that all cooking circuits in this space be GFI protected.

The pool equipment room electrical distribution equipment and raceways are rusting and corroding due to the chemicals in this space. The electrical equipment is not rated for this condition. The electrical systems in this space need to be replaced.

There was exposed wire on the building exterior at the basketball court pole lights.

Lighting System

The general light fixtures in the building are recessed fluorescent parabolic and lens type fixtures. Most fixtures are using the old T12 lamps.

Surface mounted strips are used in locker/storage with exposed ceiling areas.

The second-floor large meeting room uses surface mounted 2'x4' light fixtures. Several lamps were not working in these light fixtures.

The gymnasium is served from HID High Bay fixtures. Several of the existing ballast were "humming" possibly due to the fixture age.

Fluorescent lighting fixtures in the building have not been upgraded to energy efficient lamps.

Incandescent fixtures are used at the Gym exterior doors. Pole mounted "Acorn" type site fixtures are along the playground and front areas of the building.

Emergency lighting in the majority of the building is provided by battery packs with lamp heads. The quantity and locations of battery packs does not meet the requirements for minimal emergency egress lighting.

Low Voltage Systems

The gym has one pull station at an exit that is not operational. No working fire alarm system was found during this site visit. No smoke detectors were installed in the elevator lobbies.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KEEP
THIS
ROOM
CLEAN


MAIN
DANGER
TURN OFF POWER
WARNING
HEAT