REQUEST FOR BOARD ACTION

HENDERSON COUNTY BOARD OF COMMISSIONERS

MEETING DATE: March 16, 2016

SUBJECT: Hendersonville High School Report

PRESENTER: Brian Walker, Vannoy Construction

ATTACHMENTS: Yes

1) Property Condition Assessment

2) Power-Point presentation

SUMMARY OF REQUEST:

At the request of the Board of Commissioners Vannoy Construction completed the attached assessment concerning construction options for Hendersonville High School. Vannoy Construction will present the Hendersonville High School Report for review.

BOARD ACTION REQUESTED:

No action requested.

Suggested Motion(s):

No suggested motion.





Property Condition Assessment

Inspection Address: Hendersonville High School

Existing Stillwell Building (Circa 1924)

1 Bearcat Blvd

Hendersonville, North Carolina 28791

Inspection Dates: 1/22/2016 thru 3/3/2016

Prepared For: Mr. Steve Wyatt

Henderson County - County Manager

1 Historic Courthouse Square

Hendersonville, North Carolina 28792

Conducted By: Vannoy Construction Co., Inc.

230 Hilliard Avenue. Unit 01

Asheville, North Carolina 28801

Prepared By: Jim Young

Brian Walker, LEED AP

Mike Kesterson, LEED AP

Report Date: March 11, 2016

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Table of Contents:

Statement of Qualifications

Section 1.0 Summary

Section 2.0 Introduction

Section 3.0 Building and Property Reporting

- 3.1 Site and property
- 3.2 Structural elements
- 3.3 Roofing system
- 3.4 Exterior openings, walls and veneer
- 3.5 Interior
- 3.6 Hydraulic elevator
- 3.7 Plumbing systems
- 3.8 Mechanical systems
- 3.9 Electrical systems
- 3.10 Environmental impact

Section 4.0 Building and Property Assessment

- 4.1 Property Conditions Checklist
- 4.2 Cost Estimate to Remedy Deficiencies

Section 5.0 Recommended Next Steps

Section 6.0 Closing Comments

Appendix A - CD containing 1990 Phase 1 Renovation Drawings

Statement of Qualifications:

Based in Western North Carolina and with over 64 years of commercial construction experience, Vannoy Construction Co., Inc. has become one of the most successful and regarded construction firms in the Southeast. Vannoy offers clients a broad base of construction resources and services ranging from construction management and general contracting, to design-build and site development. Our project management and supervision staff have acquired over 300 combined years of practice in the field and skillfully managed over 1,000 projects to date. We may be a sizable company now in comparison to our beginnings, however, we take success in stride and remain personally involved on each and every project. Our capacity, in combination with our experience, ensures we possess the proper tools, knowledge and determination to get the job done right. Our company was built by handshakes and integrity; and to this day continues to thrive on that foundation concentrating on honesty, trust, and quality.

<u>Supplemental Information:</u>

Bank of America Retail Condition Initiative Program (RCI)

Retail Condition Initiative or (RCI) is a program focused on improving existing Bank of America retail banking centers. It is a need driven program based on annual site surveys which review approximately two dozen site condition attributes at each location. Vannoy Construction has served as a project partner for the past four years with initial focus on the Roof and HVAC components which later expanded to include parking lot, curb & gutter, concrete sidewalk, elevations and overall property assessments. Over the last six years, Vannoy Construction has assessed (690) locations across the east coast (ranging from Maine to Florida. In conjunction with the bank's team, we work with prequalified subcontractors to evaluate each location for its respective attribute and develop a detailed site assessment determining the most cost effective scope of work for our client. The assessment focuses on both the condition and functionality of the existing system(s), the value of assets in place, performance of the banking center and the short and long term needs of the facility. In addition to the site assessment we also work with environmental consultants to determine the need for an environmental assessment of the facility and property and if warranted, implement proper procedures. Upon completion of each assessment, a budget is in turn developed capturing the scope of work, construction service costs and upon approval executed per an agreed upon schedule – concentrating on minimal disruptions to the facility.



Section 1.0 Summary

SUMMARY OF REPAIRS

1.1 Summary of Interior Demolition and Renovation

The following summarizes the recommendations made in this report addressing the selective demolition and renovation of the existing circa 1924 Stillwell building interior.

- Remediating water infiltration/ present leak conditions (general)
- Remove and replace all interior non-load bearing walls as required
- Remove and replace all interior finishes including but not limited to flooring, ceilings, wall finishes, cabinetry, casework, tack & marker boards, doors and hardware.
- Replace and install all new mechanical system components including all equipment
- Replace and install all new electrical system components and lighting fixtures
- Replace and install all new plumbing system components and plumbing fixtures
- Install new stand-alone addressable fire alarm system
- Install new data, security and AV systems
- Install new wet fire protection system tied to new addressable fire alarm system
- Replace existing gas piping serving HVAC equipment
- Replace existing DDC HVAC control systems
- Addressing/ correcting code violations as discovered to the best of Vannoy Construction's expertise (see future sections for suggested investigation by design professional):
 - o Install GFCI receptacles at all wet areas/ bathrooms
 - o Install new addressable fire alarm system
 - o Install new emergency circuits and interior lighting as part of new electrical system
 - Update emergency exterior egress lighting to NEC code
 - o Building disconnects to be centrally located per NEC code
 - Bring building into compliance with building code
 - Bring building into compliance with new energy code
 - Bring building into ADA code compliance
- Install new handrails to meet code requirements
- Rework Auditorium balcony as required to meet building code and ADA code standards
- Environmental impact issues as listed

1.2 Summary of Exterior Demolition and Renovation

The following summarizes the recommendations made in this report addressing the selective demolition and renovation of the existing circa 1924 Stillwell building exterior.

- Remediation of below-grade water intrusion on the West Elevation
- Brick and stone veneer repairs, tuck pointing of mortar joints, caulking, cleaning and sealing of
 exterior masonry & stone veneer to enhance aesthetics and stop ongoing moisture intrusion into
 the building and building crawl spaces.
- Install exterior doors, frames & hardware to meet new energy code requirements
- Install new exterior windows to meet new energy code requirements
- New roofing systems on all roofs to meet new energy code requirements.
- New exterior handrails at building exits as required
- New louvers and vents as required
- Remove existing unenclosed steel exterior emergency exit stairs and provide two new masonry stairwells complete with new stairs and finishes to meet code requirements





North Courtyard East Classroom Wing

North Courtyard West Classroom Wing

- Install new wall and soffit lighting (exterior elevations of building)
- Exterior painting of all paintable building requirements
- Replace existing caulking/ joint sealants throughout exterior elevations
- Reapply soil and building treatment to mitigate insect infestation

1.3 Summary of Repair Considerations During Renovations

The following summarizes the recommendations made in this report that are unpredictable by nature and somewhat of a judgement call. These items are included in this report below and the anticipated scope of work is based on the recommendations below. If due to budget or other concerns some items listed below could be re-inspected by licensed engineers or qualified consultants for their recommendations at the appropriate time.

- Remediation associated with structural components of the building. Due to limited access full
 inspection of structural components of the building was not possible during the inspection period.
 While the structure appeared to be in good condition from Vannoy's limited observations, it is
 recommended to have a structural inspection by a licensed structural engineer.
- Use of existing MEP chases thru structural floor and roof assemblies for installation of new MEP work is presumed. If modifications to existing chases or closure of existing chases is required it will need to be included in the design and based on the new design layout. (See attached drawings & CD)
- Fire sprinkler system currently the building does not contain a fire suppression system. A new fire suppression system is anticipated and included in this report and recommended scope of work. Coordination issues related to adding this system may impact ceiling heights associated with a new design.
- Hydraulic elevator although the elevator is in "working" condition it is our recommendation that a
 new replacement elevator and elevator equipment be included in the new design. A new elevator
 installed in the existing shaft utilizing the existing elevator machine room is included in the
 anticipated scope of work. The possible need for a gurney compliant elevator needs to be
 considered. This would possibly require modifications to the existing shaft or relocation of the
 elevator to a newly constructed location

- Plumbing due to the age of the building, as part of the new plumbing system the condition of the
 existing underground ductile iron piping located in the crawl space was inspected and it was
 concluded that all waste piping needs to be replaced to connection point(s) outside of the building
 footprint
- Electrical As part of the new electrical system the existing Siemens 208Y/120 VAC 3000 AMP MDP Panel and associated circuit panels and breakers were inspected. Although in "working" condition due to the age of the equipment manufactured and installed in 1990 concerns with the ability to carry the new building service requirements, failure rate of 25 year old components and the lack of a warranty on critical electrical system components it was concluded that this equipment needs to be replaced as part of the new electrical system
- HVAC As part of the new HVAC system the use of existing hydronic piping main was discussed.
 But due to concerns relating to damage to the new equipment and piping related to utilizing existing piping installed in 1990 that may or may not be contaminated it was concluded the risk was too great and new hydronic piping needs to be included as part of the new HVAC system.
- HVAC As part of the new HVAC system the use of the existing McQuay chiller manufactured and installed in 1990 was briefly discussed but due to the condition and age of the chiller a new more efficient chiller needs to be included as part of the new HVAC system



Chiller Installed in 1990 in Working but Very Poor Condition

 HVAC Controls – The utilization of the existing HVAC controls system circa 1990 was also briefly discussed but due to the age and the anticipated desires or needs of the user a new more

- advanced system resulting in more efficiency needs to be included as part of the new HVAC system
- The amount of tuck pointing of exterior brick veneer is a judgement call unless you tuck point 100% of the mortar joints. With a 100% tuck point mismatched mortar can be largely avoided and there would be no need for a waterproofing sealer. Additionally, with a partial tuck point additional investigation of areas not to be tuck pointed would need to be completed and the risk of moisture intrusion would increase. The life of the original mortar also needs to be taken into account as well if a 100% tuck point is not done.
- Additionally, as requested no site related costs are included in this report or scope of work.
 However we recommend a \$200,000 allowance for rework of the site located west of the existing
 building to mitigate current moisture intrusion into the crawl space and Auditorium area. This
 includes removal & replacement of sidewalks where necessary, rework & improvements to
 existing storm drainage, necessary grading to create positive drainage away from the existing
 building and reseeding & landscaping as required. This allowance could be deleted if this work is
 covered in the site work scope of work.

Section 2.0 Introduction

As per the request of Henderson County and in accordance with our proposal dated December 29, 2015, a series of visual inspections was preformed of the property. We utilized mechanical, electrical and plumbing contractors to visually inspect these systems where possible to assist us in our evaluation of possible use of existing components. Additionally, we also utilized a demolition contactor and two exterior masonry renovation contractors to assist us in our evaluation. Our inspections were limited to identifying the existing conditions of the following readily visible building components:

- Site and general property
- Structure
- Exterior components
- Interior components
- Roofing
- Elevator
- Plumbing systems
- Mechanical systems
- Electrical systems
- Environmental impact

This report provides recommendations, preliminary cost estimates and priorities for a selective demolition and complete renovation of the building. Costs are provided for recommendations and are intended to provide an order of magnitude along with probable cost expectations. This report is intended for the exclusive use of our client, use of the information contained within the report by any other party is not intended and, therefore, we accept no responsibility for such use.

Inspection Authorization and Scope

This report is a professional opinion purely based on the accessible features of the building not the design and/or design analysis. Evaluation consisted of current physical condition of the building, performance and evidence of distress. It should be understood that there are limitations to such an inspection meaning inferences are often drawn which cannot be confirmed by direct observation throughout any inspection. Therefore, it should be understood that we can reduce the number of unforeseen repairs; however, cannot eliminate all unforseens, nor can a warranty be offered or implied.

Building Description

The building is +/- 66,000 square feet with a full height partial basement area underneath the east wing adjacent to the football field and a large concrete boiler room located north of the first floor corridor at the centerline of the building opposite of the Auditorium under the first floor. The remaining "footprint of the building is unfinished crawlspace with a dirt floor.

The main classroom building is constructed utilizing load bearing 18" to 20" thick exterior brick walls with interior concrete columns and concrete beams at each level generally located on each side of the main corridor which is located along the centerline of the buildings length. The majority of the floor and roof systems are constructed of terracotta tiles with reinforced monolithic "beams" and concrete topping slab.

The restroom areas on each level and roof above the third floor corridor have monolithic concrete slabs with concrete floor beams.





The 885 seat auditorium structure utilizes load bearing exterior brick masonry walls in conjunction with three large girder roof joist and W8 beams running perpendicular to these joist supporting a concrete roof. The auditorium has a seating balcony on the south, east and west sides with an elevated concrete stage on the north. The balcony is supported by steel beams and sloping bars joist on which the stepped wooden balcony floor structure is located.

There were partial renovations completed between 1990 and 1993 in three phases. According to the construction plans we were given these renovations generally included new window units, new HVAC system components & hydronic piping and new electrical MDP and feeder panels, new light fixtures along with some minor floor plan modifications.

Construction Documents

Sets of plans form the 1990 – 1993 Phase 1, 2 & 3 renovations consisting of partial architectural, plumbing, mechanical and electrical drawings were provided by the owner for review prepared by Padgett & Freeman Architects PA and additional sheets of drawings were attained from Padgett & Freeman Architects. One Phase 1 set containing Sheets A1–A9, M1 –M5, ES1-ES2 and E1-E4 dated 2/19/1990 were used to overlay our structural inspection findings on the floor plans. (See attached drawings & CD). Additional drawings from Phase 2 dated 2/05/1991 provided partial exterior elevations and new window types which were utilized. Phase 3 Part 1 & part 2 drawings (dated 2/20/1993) did not pertain to the classroom building being assessed.

Section 3.0 Building and Property Reporting

3.1 – Site and Property

General:

As requested by the owner this assessment only includes the circa 1924 Stillwell building but
during the assessment inspections it was noted that the site area west of the main building and
Auditorium was a possible source of significant moisture intrusion into the west wall of the
Auditorium and crawl space under the west wing of the building which appears to be a significant
source of the water intrusion into the boiler room area around the elevator machine room. Due to
this areas direct impact on some of the buildings moisture intrusion problems we recommend a
site allowance of \$200,000 as previously outlined for corrective action.







Possible Surface Water infiltration Points – West Side of Building

Observations and Discussion:

Site Allowance Items:

- The west Auditorium wall & west classroom wall will need to be excavated and have a
 waterproofing system installed on the exterior side with a foundation drain to extract any
 water reaching this area into the storm system.
- Steps down to storefront entrance to Auditorium on the West elevation create a bathtub.
 Cracks in concrete and interfaces with adjoining materials need to be sealed. Drain needs to be cleaned out and new cover installed.
- Portions of the existing concrete sidewalks will need to be removed then replaced to allow for modifications to the existing storm system in this area to add additional drainage features and pick up the new foundation drain.
- The storm water management in this area is handled via surface drainage over the grass areas into two existing catch basins. The current system may be deemed in working order however concern is over longevity as well as location of basins given the current grades is an issue.







Southwest Courtyard Area

This area of the site needs to be regraded to create positive drainage away from the entire west side of main building. It appears that water is entering the crawl space thru foundation vents that are partially below grade allowing rainwater direct access to the crawl space. On the west side of the auditorium the exterior grade is up to 16" above the finish floor elevation. Due to the surrounding set site elevations such as the street, sidewalks adjacent to the street and main entry doors it is not feasible to totally correct this negative floor elevation situation but positive surface drainage away from the building (as well as below-grade waterproofing and foundation drainage) needs to be established to reduce the amount of water migrating to the exterior wall.







West Area Foundation Drains -West Classroom Wing

Recommendations, Costs and Priorities:

It is recommended to carry a \$200,000 Allowance as noted in Section 4.2 Cost Estimate

3.2 - Structural elements

General:

 The building is +/- 66,000 square feet with a full height partial basement area underneath the east wing adjacent to the football field and a large concrete boiler room located north of the first floor corridor at the centerline of the building opposite of the Auditorium under the first floor. The remaining "footprint of the building is unfinished crawlspace with a dirt floor.

Foundations/ Walls:

• The main classroom building is constructed utilizing load bearing 18" to 20" thick exterior brick foundation walls with interior concrete columns and concrete beams generally located on each side of the main corridor which is located along the centerline of the buildings length.

Floors:

 The majority of the floor systems are constructed of terracotta tiles with reinforced monolithic "beams" and concrete topping slab. The restroom areas on each level have monolithic concrete slabs with concrete floor beams

Roof:

- The majority of the structural roof system is constructed of terracotta tiles with reinforced monolithic "beams" and concrete topping slab like the floors. The restroom areas on each level and roof above the third floor corridor have monolithic concrete slabs with concrete floor beams.
- The Auditorium roof is concrete supported by steel structural members.

Observations and Discussion:

- Overall, the structural components visually inspected were found in generally satisfactory condition however we would highly recommend further investigation by a licensed structural engineer at the appropriate time.
 - oThe north courtyard unenclosed steel emergency stairs for floors 2 & 3 are in poor condition due to rust and need to be removed and replaced as part of the renovation. We would recommend new structures enclosing new emergency exit stairs at these locations.
 - Water infiltration to crawl space and foundation area along with water intrusion thru the exterior walls due to holes & cracks in the aging mortar joints was also noted.
 - Areas of concrete structure under Auditorium in crawl space showed signs of spalling. It is recommended to patch these areas.



Concrete Spalling Under Auditorium Stage in Crawl Space

Recommendations, Costs and Priorities:

Above observations are addressed in Section 4.1 Cost Estimate.

Limitations:

 The evaluation of the building's structure was limited due to interior finishes – majority of assessment based upon visual inspections and educated assumptions based on the findings.

3.3 - Roofing system

Existing Conditions:

- The existing roof appears to be a hot applied lap asphalt roll roofing system that has been in place for some time.
 - The existing R value could not be ascertained through visual inspection without some destructive inspection which was not possible due to the building being in use and the risk of water damage.
 - The roof area has multiple issues associated with a roof system although no current leaks have been reported
 - o The roof is in fair to poor condition
 - There are numerous patches present on the roof





Drainage:

• The roof drainage is managed via interior collection system (no guttering, downspouts, etc) – there are several drains on the roof.

Observations and Discussion:

- Based upon the current condition of the entire roofing system consisting of but not limited to: membrane, flashing, copings and drains – it is our recommendation the entire roofing system be replaced. To meet the new energy code and due to the condition and type of roof system a new roofing system will also be beneficial in terms of energy consumption.
- Several overflow scuppers were observed not protruding out past the face of the exterior wall.
 The scuppers need to be replaced so that water is directed out past the exterior wall.



Overflow Scupper Not Protruding Past Exterior Wall

Recommendations, Costs and Priorities:

- Above observations are addressed in Section 4.1 Cost Estimate.
- It is our recommendation that the entire roofing system be replaced with a built up TPO or EPDM system, along with demolition of existing Flashings copings and drains, re-curbing and flashing roof top equipment a new coping system will also need to be installed. With the existing drainage pattern of the existing system the perimeter coping system may possibly have to be raised to accommodate the additional new layers of insulation required by the new energy code. Due to the aesthetics of the existing building it would be better during demolition and remodeling to change the drainage pattern to avoid this issue.

3.4 – Exterior openings, walls and veneer

General:

Exterior wall construction consists of load bearing brick masonry. The foundation is 20" thick at all
areas observed op to the first floor finish floor and the 18" up to the roof structure with a brick
parapet wall above that elevation.

Doors/ Windows:

- Exterior doors are hollow metal in material and casings. The exterior windows were replaced during the Phase 2 renovation in 1992. The windows appear to be generally double hung vinyl clad insulated windows.
 - The existing R-value is unknown and may not meet new energy code requirements
 - The window caulking on the exterior is failing in numerous locations

Observations and Discussion:

• The exterior of the building is historically significant but in poor condition. Besides the general appearance of the brick veneer mortar joints, points of water infiltration both in respect to exterior and interior conditions are apparent throughout the structure. It is our recommendation the entire existing brick veneer be 100% tuck pointed to stop the water infiltration and to improve the aesthetics of the building. We recommend exterior veneer be inspected by a qualified exterior envelope/historical restoration consultant.





Exterior Window Sill and Mortar Conditions

- Numerous window and door openings in the north court yard area have been closed up with brick. Some of the installation is poor and some areas the brick and/or mortar does not match well. In one location we were able to partially view a closed window opening from the inside. There didn't appear to be proper backup for the closure veneer. We recommend during demolition all closed window and door openings to remain closed be inspected by a licensed structural engineer or qualified exterior envelope/historical restoration consultant.
- There are areas in different locations where the brick or stone components have been damaged and will need to be repaired or replaced.
- It is our recommendation all existing joint sealants be further investigated and removed/ reinstalled where applicable. It is evident water is infiltrating into the building envelope.
- Existing hollow metal doors replacement door hardware and doors is recommended. Exterior door frame replacement only where required is recommended due to possible damage to masonry and cost considerations.
- All penetrations through the exterior wall need to be re-sealed.



Penetrations Needing Sealed

Recommendations, Costs and Priorities:

• Above observations are addressed in Section 4.1 Cost Estimate.

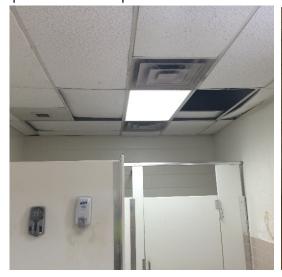
Limitations:

The evaluation of the building's exterior envelope was limited to visual observations. It is
recommended that an exterior envelope/historical restoration consultant be contracted to perform
destructive investigation and testing (preferably during the summer when the building is not
occupied).

3.5 - Interior

General:

• The majority of existing interior finishes are in need of attention either due to cosmetic imperfections and/or performance and material longevity.





Ceilings:

- Acoustical ceiling grid and tiles installed throughout the majority of space
- Stained acoustical ceiling tiles present throughout entire building caused by water infiltration/ leaks/ condensation of MEP infrastructure.
- The high auditorium Ceilings are gypsum board on suspended wood framing





Auditorium Roof Structure with Wood Framed Ceiling Below





Auditorium Balcony Wood framing on steel structure

- Most interior walls are terracotta blocks with painted plaster finish
- Some minor walls added over the years and during the 1990-1993 renovations
- The exterior walls will need to be tested and evaluated to ascertain what type and thickness of insulation will be required depending on the dew point location within the exterior walls. The new energy code will dictate what R-value will be required and the testing will determine what type insulation is required to avoid changing dew point location and creating new problems.

Finishes:

Existing floor covering generally is VCT tiles in the corridors and carpet over concrete topping or a
wood floor on sleeper system in areas noted as recessed floor areas (See attached drawings
containing Sheets A1–A9, M1 –M5, ES1-ES2 and E1-E4 dated 2/19/1990 which were used to
overlay our inspection findings on recessed floor areas on the floor plans).





Restroom Floor & Wall Tile

Color Variance in Patched Wall Tile

The existing restrooms are hard tile and will be removed.

Observations and Discussion:

- All interior finishes are to be removed and replaced.
- Interior partitions The vast majority of all interior walls are non-load bearing and will be removed and replaced.
- Ceilings Water stains are present throughout existing facility and based upon visual inspection the cause of leaks seem to result from (a) water infiltration, (b) roof leaks and/or (c) condensation from overhead piping. All ceilings are to be removed under the selective demolition scope.
- Resilient flooring and base All resilient flooring and base are to be removed and new flooring installed.
- Carpet flooring All carpet flooring and base are to be removed and new flooring installed.
- Doors and hardware All doors, frames & hardware are to be removed and new doors, frames & hardware installed.
- Existing casework All casework is to be removed and new casework installed.
- Bathrooms of the bathrooms inspected a small minority meet current ADA requirements with respect to 5'-0" area of egress. All designated bath areas must be updated to meet local and national governing guidelines. All bathroom finishes and fixtures are to be removed and new finishes and fixtures installed.

- Auditorium seating needs replacing and reconfigured to meet ADA and egress requirements, both on the main level, as well as the balcony level. This will result in a reduction of seats.
- Auditorium balcony needs a new, raised handrail to meet current code.





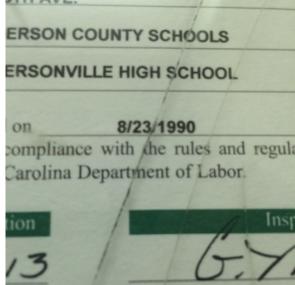
Auditorium Seating Needing Replaced and Reconfigured

Recommendations, Costs and Priorities:

Above observations are addressed in Section 4.1 Cost Estimate.

3.6 - Hydraulic elevator





Manufacturers Identification Plate

Date of First Inspection

General:

 The 2100 lb. elevator manufactured by ASK Elevators appears to be in functioning condition; however, due to the age of this elevator installed in 1990 we would recommend possible replacement due to the extent of the renovation. At the appropriate time we also recommend a reputable elevator manufacturer (preferably the elevator manufacturer with the maintenance contract) review the condition of the elevator and the expected lifecycle of this equipment. A new elevator & elevator equipment is included in the cost estimate. If replacement is not desired we offer the following options:

Observations and Discussion:

- Suggest replacing interior panels based on use and present aesthetics
- JRV recommends removing and replacing flooring with resilient tile.
- Although unlikely, depending on the usage of the building a gurney compliant elevator could
 possibly be required. This would require extensive construction to widen the existing elevator
 shaft. NCDOL and the local AHJ can make that decision.





Elevator Cab Finishes

Recommendations, Costs and Priorities

 Replacing the existing elevator within the existing elevator shaft is included in Section 4.1 Cost Estimate.

3.7 - Plumbing systems





Crawl Space Water Piping

Crawl Space Cast-Iron Sewer Piping

General:

- Domestic water supply enters the building and secondary piping is routed to serve each individual space
- The visible waste piping is a combination of cast iron and PVC
- The water piping is predominantly copper.
- The locations of the restrooms and other wet areas may change with the renovation layout.
- Majority of water heaters were found to be in satisfactory condition but aging.
- The location of the main water line to the property was not determined/ located.
- Existing MEP chase locations may change depending on the new layout of the floor plans

Observations and Discussion:

- Age is the major deficiency noted in the plumbing system during the assessment. The plumbing system is generally in good working order but due to the age of the cast iron waste piping and fixtures we have included a new plumbing system complete to the exterior of the building.
- Possible changes to restroom and other wet area locations and modifications to existing chase locations also is a determining factor to replacing the entire plumbing system.
- A significant amount of the existing pipe insulation is damaged especially in the chases.

Recommendations, Costs and Priorities:

 Complete demolition of existing system and installation of new is included in Section 4.1 Cost Estimate.

3.8 – Mechanical systems





General:

- The building is currently served by a combination of gas fired boilers for heat and a large chiller for cooling. The hydronic four pipe system, interior fan coil units and chiller were installed during the Phase 1 remodeling in 1990.
- The existing boilers appear to substantially older.
- HVAC assessment based on site visitation and visually inspecting all aspects of the systems. No
 physical testing was conducted nor receipt/ review of service records of the facility.

Observations and Discussion:

Although the current system components are operable, compared to today's standards they are
highly inefficient with respect to energy consumption. It is suspected that the building's
maintenance costs are very high. A planned replacement will provide better reliability, energy
consumption and costs, improved working environment and overall comfort. Therefore we
recommend a total HVAC system replacement and have included such in our cost estimate.

Recommendations, Costs and Priorities:

• Complete demolition of existing system and installation of new is included in Section 4.1 Cost Estimate.









3.9 - Electrical systems

General:

- Fire Alarm System Currently there is a Fire Alarm System in this building. It does not appear to be addressable and it would not meet current code requirements once a full protection fire sprinkler system is installed.
- Security System The status of any security system is unknown at this time but security cameras were noted at exterior locations outside the building. It is also unknown if they are in working order.
- Emergency Lighting Emergency lights and exit lights appear to be operational but are in excess of 25 years old. We recommend replacing them with new L.E.D lights which have extraordinary lamp life.

- Emergency Egress Lighting NEC code requires all exterior egress doors to have an emergency battery backup egress light. We recommend adding new emergency egress lights to all code required locations.
- Exterior Wall Pack Lighting We recommend new exterior building lighting along with some new lighting locations to improve life safety once students, visitors or school staff members exit the building in periods of darkness.
- TVSS Surge Suppression This building appears to have no Transient Voltage Surge Suppression
 on the main electrical system. When the building was built and renovated, it was not needed.
 Today, with the amount of computers and voltage sensitive equipment, it is a must for protection.
 We recommend adding TVSS to all electrical services in the building.
- Fire Caulking During our inspection, we noticed several openings in fire rated walls that are in need of repair. This is a must for maintaining fire separation in such rated walls. If there happens to be a fire, one of the first things insurance companies look for is damage caused by insufficient fire rated walls.
- Building Electrical Main Service Currently the building has an existing Siemens 208Y/120 VAC 3000 AMP MDP Panel and associated circuit panels and breakers. Although in "working" condition due to the age of the equipment manufactured and installed in 1990 concerns with the ability to carry the new building service requirements, failure rate of 25 year old components and the lack of a warranty on critical electrical system components it was concluded that this equipment needs to be replaced as part of the new electrical system



Circuit Panels in Boiler Room





Main Distribution Panel (MDP) in Boiler Rm

Circuit Panels in Boiler Room

- Interior Lighting Upgrade All lighting in the building is outdated florescent or incandescent fixtures. We recommend replacing all existing florescent and incandescent lighting with new energy efficient electronic lighting.
- Fire Suppression System No existing Fire Sprinkler system exists in the building. Code will
 require a full coverage suppression system. We recommend a wet sprinkler system and have
 included the cost in our cost estimate.

Observations and Discussion:

- An entirely new electrical system meeting current code requirements is recommended due to the age and inefficiency of the equipment and fixtures and due to the extent of the renovation. The cost for this is included in our cost estimate.
- A new stand-alone addressable fire alarm system meeting current code requirements for a full sprinkler protected building is recommended and included in our cost estimate.

Recommendations, Costs and Priorities:

 The above observations are addressed in Section 4.1 Cost Estimate, including a complete demolition of existing system and installation of new.

3.10 - Environmental impact

General: Following are items that need to be further investigated that were not encountered during our inspection process.

- Asbestos was not encountered and appears to have been removed during previous renovations especially during the 1990 to 1993 renovations. Although not encountered many areas were not visually accessible during our inspection process and there could be latent asbestos exceeding the legal limits located in confined spaces or under floor coverings. Due to the extent of the proposed renovation there is a likelihood that some unabated asbestos could be encountered.
- Paint or other products was not tested for lead content and may have been removed during previous renovations especially during the 1990 to 1993 renovations. Although no paint or other products were tested for unacceptable levels of lead there is some likelihood that some lead paint or other products requiring lead abatement could be encountered.
- Mold was not encountered during our visual inspections.

Observations and Discussion:

- If an asbestos & lead survey has not been completed as part or after the 1990-1993 renovations
 we would highly recommend one be completed at the appropriate time during preconstruction
 period for bidding purposes. In the absence of a survey identifying all know asbestos or lead we
 would recommend and have included a \$50,000 allowance for asbestos & lead abatement.
- We recommend a qualified environmental firm inspect the existing building for existing mold conditions at the appropriate time during preconstruction period. No mold was encountered during our visual inspections but the existence or lack of mold requiring mitigation needs to be confirmed.

Recommendations, Costs and Priorities:

Section 4.1 Cost Estimate includes a \$50,000 Allowance for the above.

Limitations:

It is recommended to contract a qualified testing agency to perform a hazardous material survey.

Section 4.0 Building and Property Assessment

4.1 – Property Conditions Assessment Checklist:

V/	ANNOY			H Hendersonville S High School					
		Property Cor	ditions A	ssessment Checklist					
roper ddres				FOR OFFICE USE ONLY					
spec ate o		aroiiria 20791							
СРОП	110.1. UNIV 21007-10								
Α	Construction Type			Description					
1 2 3 4 5	Type I, Fire Resistive Type II, Noncombustible Type III, Masonry Walls, Wood Joist Roof Type IV, Heavy Timber Type V, Wood Frame	□ N/A □ N/A □ N/A □ N/A □ N/A	☐ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	No Construction type to be confirmed with A/E and local agencies No No No No					
В	Occupancy Classification			Description					
1	Specific use	✓ N/A	Yes	□ No					
2	Number of stories	□ N/A	✓ Yes	□ No (3) - does not include basement/ crawlspace					
3	Number of sublevels	□ N/A	✓ Yes	□ No Half basement/ crawlspace					
4	Area in total square footage (SF)	□ N/A	✓ Yes	□ № 66,000 square feet					
5	Mixed occupancy? If yes, specify	□ N/A	Yes	✓ No					
6 7	Area separation Construction separation	□ N/A □ N/A	✓ Yes ✓ Yes	_ ,					
8	Occupancy separation	□ N/A	✓ Yes						
9	Structural frame protection	□ N/A	✓ Yes						
10	Roof covering	□ N/A	✓ Yes						
11	Exterior wall construction	□ N/A	✓ Yes	· · ·					
12	Interior wall construction	□ N/A	✓ Yes	·					
13	Vertical shafts	□ N/A	✓ Yes	□ No Hydraulic elevator shaft and MEP chases					
14	Interior finish	□ N/A	✓ Yes	No Wall coverings, carpet and resilient flooring with base					
15	Fire protection maintenance provider	□ N/A	Yes						
С	Fire Extinguishers			Description					
1	Fire extinguishers present	☐ N/A	✓ Yes	□ No FEC's present - review code compliance					
2	Inspected/ tested monthly	□ N/A	Yes	✓ No					
3	Inspected/ tested annually	□ N/A	√ Yes	No FEC's inspected during site tour, inspected annually					
D	Fire Sprinkler Systems			Description					
1	Testing periodicity	✓ N/A	Yes	□ No Presence of fire suppression system in building					
2	Date of last inspection/ testing	✓ N/A	Yes	□ No					
3	Hydraulic design information sign/ plate present?	✓ N/A	Yes	□ No					
E	Standpipe and Hoses	Description							
1	Inspection periodicity	☑ N/A	Yes	□ No Refer to subsection D (Fire Sprinkler Systems)					
2	Date of last inspection/ testing	✓ N/A	Yes Yes	□ No					
F	Fire Alarm System			Condition Description/ Suggested Action					
F.1	Fire alarm system present? If yes,	□ N/A	✓ Yes	No Current system is not stand alone					
1.1 1.2	Manual Automatic	✓ N/A N/A	☐ Yes ☑ Yes	No Not Applicable No Satisfactory ▼ Not Applicable Short-Term Repair					
1.2	Voice	□ N/A ☑ N/A	Yes Yes	No Satisfactory Short-Term Repair No Not Applicable ▼ Immediate Repair					
1.0	Annunciated	☑ N/A ☑ N/A	Yes	No Not Applicable Immediate Repair In No Not Applicable Immediate Repair					
1.4			_	No Not Applicable ▼ Immediate Repair					
1.4 1.5	Testing Periodicity	☐ N/A	Yes Yes	□ No Testing periodicity of current system is unknown at this time					

2.4 Smoke detectors	Not Applicable Short-Term Repair unknown at this time
2.4 Smoke detectors	Short-Term Repair unknown at this time
2.5 Inspected/ tested?	unknown at this time
2.6 Date of last service	
F.3 General 3.1 Type of system: wet or dry 3.2 Fire pump and exterior FDC V N/A Yes No No fire sprinkler system installed in cur	time
3.1 Type of system: wet or dry 3.2 Fire pump and exterior FDC □ N/A □ Yes □ No No fire sprinkler system installed in cur □ N/A □ Yes □ No Not Applicable □ Not Not Not Not Applicable □ Not	
3.2 Fire pump and exterior FDC ✓ N/A Yes No Not Applicable No Not Applicable	
	Not Applicable T
3.3 Classification of hazard	Not Applicable
G Life Safety Components Condition Description/ St	ggested Action
G.1 Emergency power available? If yes,	
1.1 Type	
1.2 Locations	
1.3 Test frequency	
1.4 Test log up to date ✓ N/A Yes No	
1.5 Date of last service	
1.6 Service/ maintenance provider	
G.2 Exit illumination present? If yes,	
	mmediate Repair
	mmediate Repair
	Not Applicable
G.3 Fire doors present? If yes,	Tot replication
	Not Applicable
	Not Applicable
	Not Applicable
	Not Applicable Total Applicable
	Not Applicable
	Not Applicable
	Not Applicable
	Not Applicable
G.4 Corridors	vot Applicable
4.1 Corridor width	hy other
4.2 Corridor height	
4.3 Fire rating	
4.4 Dead ends	•
4.5 In compliance \(\sqrt{N/A} \) \(\sqrt{Yes} \) No Corridor conformance to be confirmed	
G.5 Stairs and Ramps	by out of
	No Repair Needed
	No Repair Needed No Repair Needed T
	No Repair Needed To Repair Needed
	No Repair Needed To Repair Needed
	Not Applicable
	No Repair Needed
	No Repair Needed
	Short-Term Repair Not Applicable
5.10 Barrier at exit discharge	Not Applicable ▼
H Elevators Condition Description/ Sc	uggested Action
1 Elevator fire recall system	•
2 Elevators tested annually □ N/A ☑ Yes □ No	
3 Elevator maintenance provider □ N/A □ Yes □ No	
4 Elevator type, number and age	
,, , , , , , , , , , , , , , , , , , ,	
5 Type of control system N/A Yes No	•
,, · · · · · · · · · · · · · · · · · ·	
5 Type of control system NA Yes No	
5 Type of control system	
5 Type of control system	uggested Action
5 Type of control system	
5 Type of control system	Short-Term Repair ▼
5 Type of control system	

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6 7	Incoct intoctation?	□ N/A	✓ Yes		Not Applicable	_	Net Applicable	
•	Insect infestation? Condition of windows/ openings	□ N/A	Yes	∐ No	Not Applicable Satisfactory	•	Not Applicable Short-Term Repair	
	Condition of Windows, openings	L 11/A			Satisfactory		Short-Term Repair	
N	Plumbing	Condition Description/ Suggested Action						
1	Source of potable water	☐ N/A	☐ Yes		Potable water served b	•	ipality	
2	Type of supply and drainage piping material	☐ N/A	Yes Yes		Cast iron and PVC pipi	ng		
3	Presence of sewage ejector pump	☐ N/A	Yes	✓ No		•		
4	Discharge source of sanitary sewer	☐ N/A	Yes Yes	☐ No	Sanitary sewer dischar	ge via local m	nunicipality infrastructure	
5	Description of domestic hot water	☐ N/A	Yes	☐ No	Domestic hot water (wa	ater heaters)	for each tenant/ bldg. space)
6	Evidence of leaks, galvanic action, pipe condition	☐ N/A	✓ Yes	☐ No		•	Immediate Repair	
7	Presence of plastic supply piping	☐ N/A	Yes	☐ No		•		
8	Reported failures of replacement of piping	☐ N/A	Yes	✓ No		•		
9	Status of plumbing fixture operations	☐ N/A	Yes Yes	☐ No	Satisfactory	•	Short-Term Repair	
10	Adequacy of domestic hot water	☐ N/A	Yes	☐ No	Satisfactory	•	Short-Term Repair	
11	Reports or evidence of sewage backup	☐ N/A	Yes Yes	✓ No		•		
0	Mechanical				Condition	Description/	Suggested Action	
1	Describe system, HVAC equipment	□ N/A	Yes	☐ No				
2	Describe distribution and metering	□ N/A	Yes	☐ No				
3	Approx remaining useful life of system	□ N/A	Yes	☐ No				
4	RTU condensate drains discharge on roof?	□ N/A	✓ Yes	☐ No	Poor	•	Immediate Repair	
5	RTU's properly curbed and flashed	□ N/A	Yes	☑ No	Poor	-	Immediate Repair	
6	Adequacy of boiler/ furnace	☑ N/A	Yes	☐ No	Not Applicable	•	Not Applicable	
7	Boiler/ mechanical room fire hazards	☑ N/A	Yes	□ No	Not Applicable	•	Not Applicable	
8	Boiler water treatment, if applicable	☑ N/A	Yes	☐ No	Not Applicable	•	Not Applicable	
P	Electrical				Condition	Description/	Suggested Action	
<u>г</u> 1	Size of total service (amps and volts)	✓ N/A	Yes	☐ No	Condition	Description	Suggested Action	
2	Circuit breakers or fuse overload protection	□ N/A	☑ Yes	□ No		•		
3	Branch distribution wiring	☑ N/A	Yes	□ No		·		
4	Adequacy and safety of entire system	☑ N/A	Yes	□ No	Poor	•	Immediate Denair	
5	Condition of conductor insulation	☑ N/A ☑ N/A	Yes	□ No	POOF	•	Immediate Repair	
6		□ N/A	Yes	☑ No	Deer		Immediate Densis	
7	Electrical room/ closet firestopping Presence of GFI receptacles	□ N/A	Yes	✓ No	Poor	•	Immediate Repair	
8	Status of light fixtures	□ N/A	Yes	□ No	Poor Satisfactory	•	Immediate Repair Short-Term Repair	
_					- ""			
Q	Security						Suggested Action	
_		□ N/A	✓ Yes	□ No	Satisfactory	•	Immediate Repair	
1	Site lighting		✓ Yes	☐ No	Satisfactory	•	Immediate Repair	
2	Exterior building lighting	□ N/A						
2	Exterior building lighting Building entrance	□ N/A	✓ Yes	☐ No	Satisfactory	•	Short-Term Repair	
2 3 4	Exterior building lighting Building entrance Secondary entrances	□ N/A ☑ N/A	Yes	☐ No	Not Applicable	•	Not Applicable	
2 3 4 5	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms	N/A ✓ N/A ✓ N/A	Yes Yes	☐ No	Not Applicable Not Applicable	•	Not Applicable Not Applicable	
2 3 4 5	Exterior building lighting Building entrance Secondary entrances	□ N/A ☑ N/A	Yes	☐ No	Not Applicable	•	Not Applicable	
2 3 4 5 6	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance	N/A √ N/A √ N/A N/A	Yes Yes Yes	No No No	Not Applicable Not Applicable Poor Condition	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action	
2 3 4 5 6	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces	N/A √ N/A √ N/A N/A	Yes Yes Yes	No No No	Not Applicable Not Applicable Poor Condition Satisfactory	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed	
2 3 4 5 6 R 1 2	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces ADA compliant entrance into building	N/A N/A	Yes Yes Yes Yes Yes Yes	No No No No No	Not Applicable Not Applicable Poor Condition Satisfactory Satisfactory	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed No Repair Needed	
2 3 4 5 6 R 1 2 3	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces ADA compliant entrance into building ADA compliant corridors and turning radii	N/A	Yes Yes	No No No No No No	Not Applicable Not Applicable Poor Condition Satisfactory Satisfactory Poor	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed No Repair Needed Immediate Repair	
2 3 4 5 6 R 1 2 3 4	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces ADA compliant entrance into building ADA compliant corridors and turning radii ADA compliant baths (5'-0" turning radius)	N/A N/A	 Yes Yes Yes Yes Yes Yes Yes Yes Yes 	No No No No No No No No	Not Applicable Not Applicable Poor Condition Satisfactory Satisfactory Poor Poor	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed No Repair Needed Immediate Repair Immediate Repair	
2 3 4 5 6 R 1 2 3 4 5	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces ADA compliant entrance into building ADA compliant corridors and turning radii ADA compliant baths (5'-0" turning radius) Assigned handicap bath stalls	N/A N/A	 Yes Yes Yes Yes Yes Yes Yes Yes Yes 	No No No No No No No No	Not Applicable Not Applicable Poor Condition Satisfactory Satisfactory Poor Poor	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed No Repair Needed Immediate Repair Immediate Repair	
2	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces ADA compliant entrance into building ADA compliant corridors and turning radii ADA compliant baths (5'-0" turning radius) Assigned handicap bath stalls ADA complaint fixtures/ accessories	N/A N/A	 Yes Yes Yes Yes Yes Yes Yes Yes Yes 	No No No No No No No No	Not Applicable Not Applicable Poor Condition Satisfactory Satisfactory Poor Poor Poor	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed No Repair Needed Immediate Repair Immediate Repair Immediate Repair	
2 3 4 5 6 R 1 2 3 4 5 5	Exterior building lighting Building entrance Secondary entrances Audio/ visual intercoms Adequacy of current security system/ efforts ADA Compliance Assigned handicap parking spaces ADA compliant entrance into building ADA compliant corridors and turning radii ADA compliant baths (5'-0" turning radius) Assigned handicap bath stalls	N/A N/A	Yes Yes	No	Not Applicable Not Applicable Poor Condition Satisfactory Satisfactory Poor Poor	Description/	Not Applicable Not Applicable Short-Term Repair Suggested Action No Repair Needed No Repair Needed Immediate Repair Immediate Repair	

Section 4.2 – Cost Estimate to Remedy Deficiencies

As requested JRVs intent was to provide two cost estimates for two different uses while maintaining the renovated Auditorium as an Auditorium for use as a school Auditorium or a public venue Auditorium respectively. One estimate for a future classroom building with the building remaining as part of Hendersonville High School and another for public office or administration space.

After reviewing the cost for general component differences between uses and conferring with some design specialists it became apparent that there would not be a significant overall cost difference between the two possible uses. Below are some very general component comparisons:

- **Life safety & ADA Requirements** -The cost associated with a school would be more due to more restrictive fire barrier and ADA requirements associated with a larger student population.
- **Technologies** The cost associated with a school would be more due to more technology requirements associated with a larger student population.
- Plumbing The cost associated with a school would be more due to the overall number of plumbing fixture requirements associated with a larger student population
- **Fire Sprinkler** The cost associated with a school would be more due to more restrictive fire protection system requirements
- **Fire Alarm** The cost associated with a school would be more due to more restrictive fire alarm system requirements
- Mechanical The cost associated with office or administration would be more due to increased number of lighting fixtures association with smaller office spaces and possible individual tenant utility metering requirements or individual mechanical systems
- Electrical The cost associated with office or administration would be more due to increased number of lighting fixtures association with smaller office spaces and possible individual tenant utility metering requirements
- Interior floor plan & finishes The cost associated with office or administration would be significantly more due to a significant increase in partition walls and associated room finishes and additional door and interior window openings due to much smaller spaces.

Since overall the cost is generally the same for the two uses only one cost estimate representing the overall cost estimates for both general use scenarios is provided below.

It needs to be noted with only a conceptual design of the entire Hendersonville High School Campus and no conceptual floor plans to base pricing on only general cost tendencies can be analyzed. The reasoning behind these tendencies will vary slightly as design progresses but will not change the overall pricing tendency and analysis can become very complicated.

Please also note that due to the constraints of the building footprint (widths and lengths) and column locations, design programming and efficiency will be impacted. It is recommended to consult a design professional for a more detailed analysis of this impact (ie – fewer classrooms, narrower classrooms, etc.).





Hendersonville High School
Building Renovation
Cost Assessment/ Conceptual Estimate
Hendersonville, North Carolina

 Contact:
 Mike Kesterson

 Date:
 3/11/2016

 Total SF:
 66,000

				COST
	WORK TRADE:		TOTAL:	PER SF:
1	SITE DEVELOPMENT	\$	-	\$ -
2	PHASING/ LOGISTICS	\$	138,984	\$ 2.11
3	SELECTIVE DEMOLITION	\$	426,147	\$ 6.46
4	CONCRETE	\$	169,109	\$ 2.56
5	MASONRY	\$	579,662	\$ 8.78
6	STRUCTURAL STEEL	\$	33,000	\$ 0.50
7	ROUGH CARPENTRY	\$	41,043	\$ 0.62
8	GENERAL REQUIREMENTS	\$	261,128	\$ 3.96
9	FINISH CARPENTRY, MILLWORK, & CASEWORK	\$	596,000	\$ 9.03
10	ROOFING	\$	447,000	\$ 6.77
11	SPRAY FIREPROOFING	\$	-	\$ -
12	CAULKING, WATERPROOFING, FIRESTOPPING	\$	96,484	\$ 1.46
13	DOORS, FRAMES, & HARDWARE	\$	341,010	\$ 5.17
14	GLASS & GLAZING SYSTEMS	\$	430,236	\$ 6.52
15	DRYWALL ASSEMBLIES	\$	897,235	\$ 13.59
16	CEILING TREATMENTS	\$	267,960	\$ 4.06
17	FLOORING & ACCESSORIES	\$	584,727	\$ 8.86
18	PAINTING	\$	157,737	\$ 2.39
19	SPECIALTIES	\$	357,275	\$ 5.41
20	EQUIPMENT & FURNISHINGS	\$	401,900	\$ 6.09
21	WINDOW TREATMENTS	\$	-	\$ -
22	CONVEYING SYSTEMS	\$	125,000	\$ 1.89
23	FIRE SPRINKLERS	\$	295,700	\$ 4.48
24	PLUMBING SYSTEMS	\$	560,215	\$ 8.49
25	HVAC & MECHANICAL SYSTEMS	\$	1,787,657	\$ 27.09
26	ELECTRICAL SYSTEMS	\$	1,780,680	\$ 26.98
27	EXTERIOR STAIRWELL REPLACEMENT	\$	241,360	\$ 3.66
28	BUILDING PERMIT FEES	\$	44,069	\$ 0.67
	SUBTOTAL	\$	11,061,319	\$ 167.60
29	GENERAL CONDITIONS	\$	894,885	\$ 13.56
30	PROJECT INSURANCES	\$	151,844	\$ 2.30
31	SUBCONTRACTOR DEFAULT BONDS	\$	137,716	\$ 2.09
32	PERFORMANCE & PAYMENT BOND	\$	116,335	\$ 1.76
	SUBTOTAL	\$	12,362,097	\$ 187.30
33	CMAR FEE	\$	494,484	\$ 7.49
34	CONTINGENCY	\vdash		
	Estimate contingency	\$	553,066	\$ 8.38

TOTAL - CONCEPTUAL ESTIMATE \$ 13,409,647 \$

Alternate #01 - Suggested Site Drainage Remediation

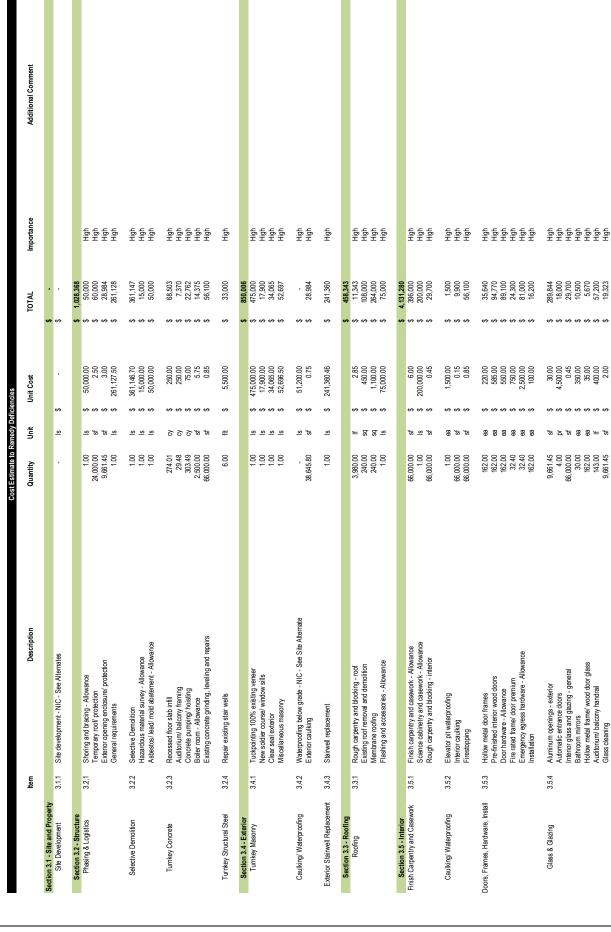
\$200,000

203.18

^{*} Excludes Escalation Contingency



Cost Assessment/ Conceptual Estimate Hendersonville, North Carolina Hendersonville High School **Building Renovation**





569,525 89,925 177,485 60,300

95.00 30.00 55.00 25.00

5,995.00 2,997.50 3,227.00 2,412.00

Interior partitions Rated partitions - 50% Furring channel Auditorium^l balcony framing

3.5.5

Metal Studs, Drywall, Insulation

Auditorium/ balcony handrail Glass cleaning

High High	High High High High High	High			High	High	High								
215,985 51,975	158,400 29,700 32,967 273,900 36,960 52,800	157,737	66,250 21,000 5,625 125,000 40,000 40,000 59,400 151,900 250,000	125,000	125,000	295,700 260,700	35,000	360,215 85,140 85,140 27,060 15,000 84,150 15,000 3,500 19,425 19,425 18,000	1,787,657	414,857 462,000 214,500 155,100 128,700 330,000 82,500	1,780,680	198,000 396,000 28,380 106,920 124,080 363,000 313,500 118,800	2,392,398	44,069 151,844 116,335 137,716	894,885 494,484 13,409,647
6 6	<i>\$</i> \$ \$ \$ \$ \$ \$ \$	₩	\$\$	4	€9	69	<i></i>	。	59	ଡ ଡ ଡ ଡ ଡ ଡ ଡ	₩	ଊ ଊ ଊ ଊ ଊ ଊ ଊ ଊ	69 6	• ••••	φφ φ
3.85 5.25	12.00 15.00 3.33 5.00 0.70	157,737.00	1,250.00 175.00 375.00 125,000.00 40,000.00 90.00 175.00 250,000.00		125,000.00	3.95	35,000.00	0.76 129 0.33 0.41 150,000.00 4,500.00 5,000.00 1,75.00 50,000.00		2,200,000 7,000 3,255 2,35 1,95 5,00		3.00 6.00 0.43 1.62 1.88 1.75 1.80	553 065 03	44,069.00 44,069.00 151,843.78 116,334.75 137,715.62	894,884.64 494,483.90
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56,100.00 9,900.00	13,200.00 1,980.00 9,900.00 54,780.00 52,800.00 66,000.00	1.00	53.00 120.00 15.00 1.00 1.00 660.00 868.00 1.00		1.00	00:000:00	1:00	66,000,00 66,000,00 66,000,00 66,000,00 66,000,00 7,00		188.57 66,000.00 66,000.00 66,000.00 66,000.00 66,000.00		66,000,00 66,000,00 66,000,00 66,000,00 66,000,00 66,000,00 66,000,00 66,000,00	100	00.1.00.1.00.1.00.1.	1.00
Acoustical cellings Gypsum board cellings (15%)	Tile - floors Tile - wet walls Canget tile Luxuryinyt tile Resilient rubber base Floor patch and repair	Painting and coatings	Toliet partitions/ screens Tolet bath accessories Fire extriguishers and cabinets Metal coxers - Allowance Markerboards - Allowance Signage - Allowance Corner guards - Allowance Audonium sealing - Allowance Stage curtain, lighting, AVV - Allowance		Hydraulic elevator - Allowance	Fire sprinkler system	Fire pumpi jackey pump - Allowance	Supply piping Waste piping Want piping Vent piping Insulation, fittings, couplings Boiler replacement Plumbing fixtures Water colers Water colers Water baster Flevator sump pump Plumbing fixture rough in Science disserooming ase piping Roof drain piping		Equipment Ductwork Piping Instalation Supply diffuser, return and exhaust registers Mechanical controls Test and balancing		Electrical distribution/ panelboard equipment Light fixtures Data receptacles Power receptacles Power receptacles Controls Security system Fire alam system Conduit and wiring	Eelimata (Antiivaanu	Suiding Permit Inspections Building Permit Inspections Project Insurances Performance and Payment Bond Subcontractor Default Insurance	CMAR General Conditions Construction Manager - Fees Cost Estimate to Remedy Deficiencies - TOTAL
3.5.6	3.5.7	3.5.8	3.5.9		3.6.1	3.7.1		188							
Ceiling Treatments	Flooring	Painting and Coatings	Accessories & Specialties	Section 3.6 Elevator	Existing elevator	Section 3.7 Fire Sprinkler Fire Sprinkler Systems	Cootion 29 Dirmbing	Section 3.8 Plumbing Plumbing Systems	Section 3.9 Mechanical		Section 3.10 Electrical		Section 3.11 General	Permit, Inspections, Insurances	CMAR General Conditions & Fee

Section 5.0 Recommended Next Steps

This report provides the findings from Vannoy Construction's thorough investigation and observation of the 1924 Stillwell Building. However, this investigation was performed with very minor destructive investigation and is limited to Vannoy Construction's General Contracting and Restoration expertise (ie – Vannoy Construction does not possess design and 3rd party testing expertise).

It is recommended for Henderson County to engage the following additional services:

- Exterior wall destructive investigation and testing by a qualified consultant.
- Exterior wall energy testing by a qualified consultant.
- Life safety code analysis by a licensed designer to confirm any deficiencies not already discovered by Vannoy Construction's investigation.
- Design programming by a licensed designer to reveal more detailed limitations of the building's footprint and column locations.
- Structural analysis by a licensed engineer to confirm existing design is sufficient for current building code requirements and/or meets exception qualifications.
- Hazardous material survey from a licensed professional.

Section 6.0 Closing Comments

This report provides an overview of the condition of major components in the building – please refer to all attachments for more detailed accounts where applicable.

The purpose of the inspection and report are to provide the client with a better understanding of the conditions of the property which existed at the time of the inspection only. The report is a guide to help the client make their own evaluation of the overall condition of the property and is not intended to reflect the value of the premises, nor make any representation as to the advisability of renovation. The report expresses the opinions of the inspector, based upon visual impressions of the conditions that existed at the time of the inspection only. The inspection and report are not intended to be technically exhaustive, or to imply that every component was inspected, or that every possible defect was discovered. A very serious, educated, and professional effort was made to discover all defects and issues that could have an impact on the habitability and/or future use of the property. No disassembly of equipment, opening of walls, moving of insulation, furniture, appliances or stored items, or excavation was performed. All components and conditions which by the nature of their location are concealed, camouflaged or difficult to inspect are excluded from the report.

Systems and conditions which are not within the scope of the inspection include, but are not limited to: formaldehyde, lead paints, asbestos, toxic or flammable materials, Radon gas, mold/ fungus, pest infestation, playground equipment, septic systems, internal or underground plumbing, zoning ordinances, intercoms, security systems, heat sensors, cosmetics, environmental hazards and building code violations – unless specifically noted within the report.

The inspection report should not be construed as a compliance inspection of any governmental or non-governmental codes or regulations. The report is not intended to be a warranty or guarantee of the present or future adequacy or performance of the structure, its systems, or their component parts. This report does not constitute any express or implied warranty of merchantability or fitness for use regarding the condition of the property and it should not be relied upon as such. Any opinions expressed regarding adequacy, capacity, or expected life of components are general estimates based on information about similar components and occasional wide variations are to be expected between such estimates and actual experience.

If you should have any questions or comments pertaining to this matter please contact us.

END OF REPORT

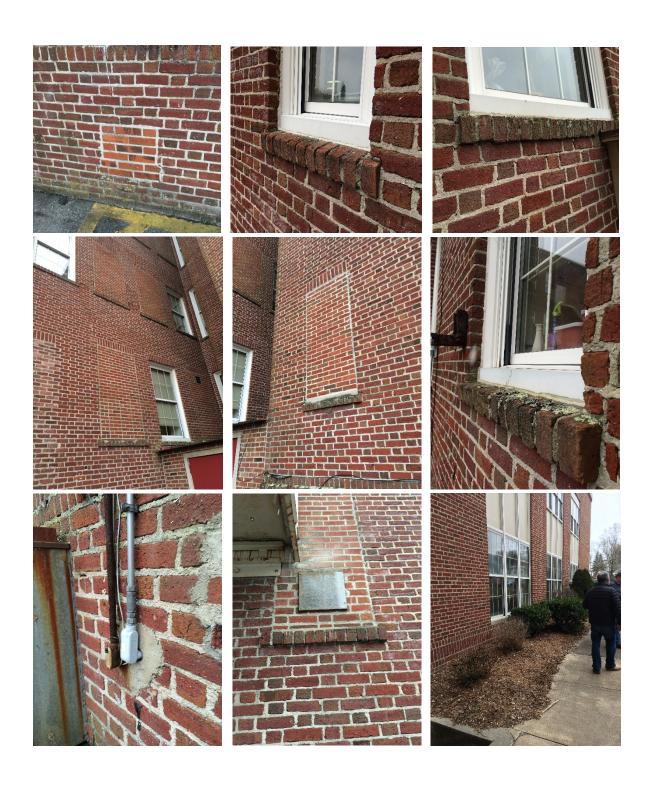
Picture Gallery by Area or System

Structural Components



Exterior Brick Veneer









Exterior Unenclosed Steel Exit Stairs







Foundation Crawl Space









Water Intrusion

























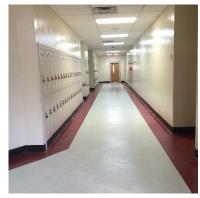




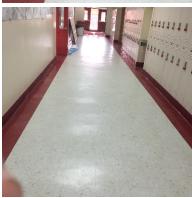


Interior Finishes Corridors









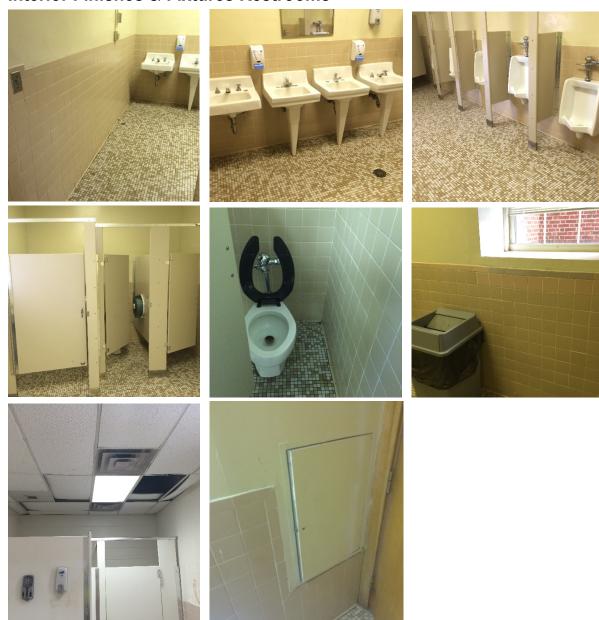






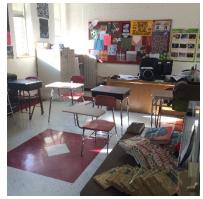


Interior Finishes & Fixtures Restrooms



Interior Finishes Classrooms









Auditorium













Mechanical Units & Equipment









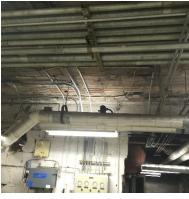












Electrical















Elevator



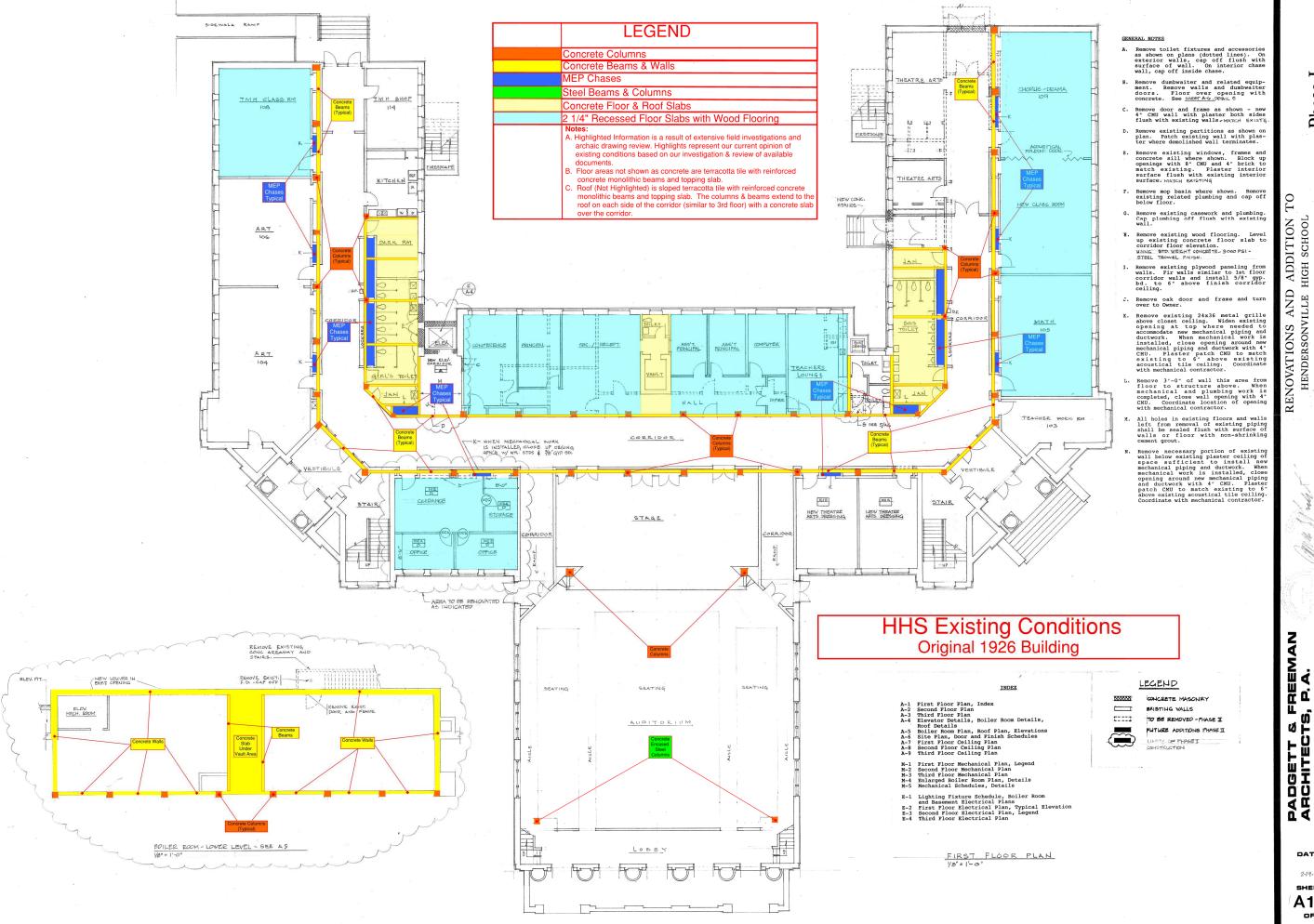












Phase

FREEMAN 3, P.A.

PADGETT & FF ARCHITECTS, 1

DATE

2-19-90 SHEET

A1 OF

- Remove existing windows, frames and concrete sill where shown. Block up openings with 8° CMU and 4° brick to match existing. Plaster interior surface flush with existing interior surface MATCH EXISTING

- over to Owner.

 Remove existing 24×36 metal grille above closet ceiling. Widen existing opening at top where needed to accommodate new mechanical piping and ductwork. When mechanical work is installed, close opening around new mechanical piping and ductwork with 4° CRU all plaster patch CRU clisting acoustical tile ceiling. Coordinate with mechanical contractor.
- Remove 3'-0' of wall this area from floor to structure above. When mechanical and plumbing work is completed, close wall opening with 4' CMU. Coordinate location of opening with mechanical contractor.
- M. All holes in existing floors and walls left from removal of existing piping shall be sealed flush with surface of walls or floor with non-shrinking cement grout.
- Remove necessary portion of existing wall below existing plaster ceiling of space sufficient to install new mechanical piping and ductwork. When mechanical work is installed, close opening around new mechanical piping and ductwork with 4° CMU. Plaster patch CMU to match existing to 6° above existing acoustical tile ceiling. Coordinate with mechanical contractor.

PADGETT & FREEMAN ARCHITECTS, P.A.

ο Ż

DATE

2-19-90 SHEET A 2

OF

Phase

T0

NORTH CAROLINA

ADDITION 7 HIGH SCHOOL

RENOVATIONS AND HENDERSONVILLE

HENDERSONVILLE,

CONCRETE MASONRY

TO BE REMOVED - PHASE II FUTURE ADDITIONS PHASE II LIMITS OF PHASE I CONSTRUCTION

EXISTING WALLS

T::::



Phase

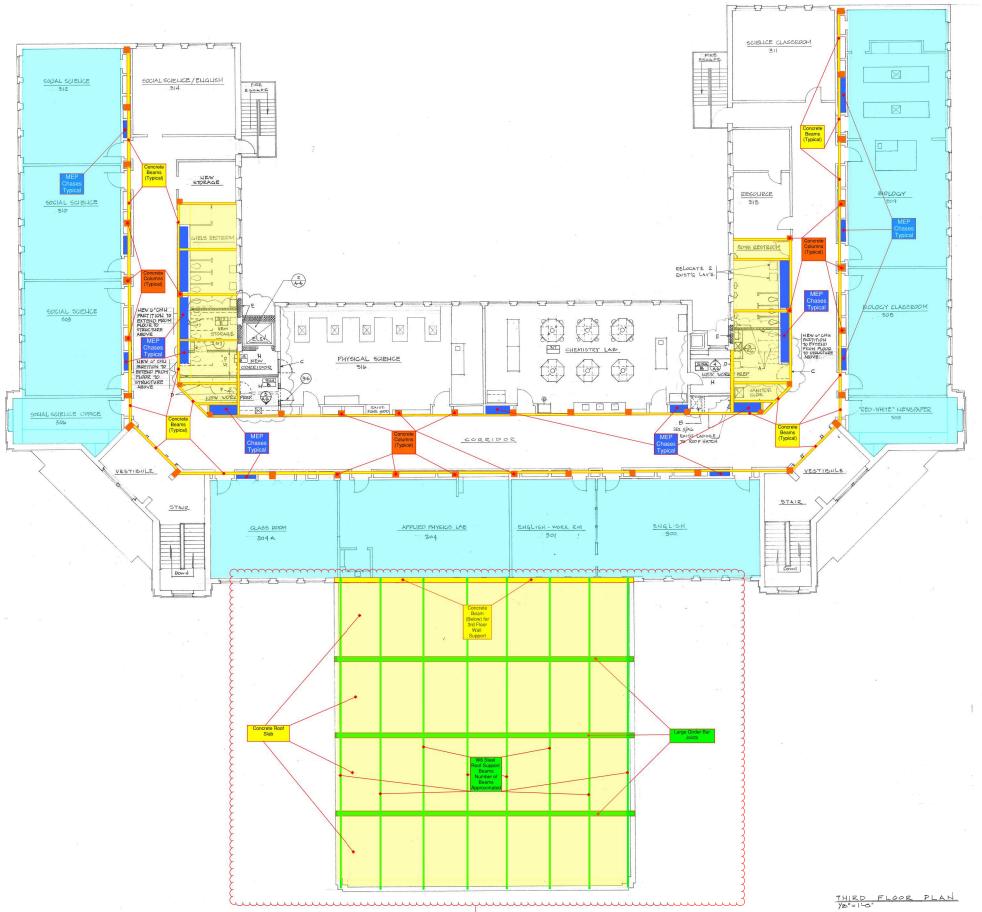
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RENOVATIONS AND ADDITION HENDERSONVILLE HIGH SCHOOL

REEMAN P. A. PADGETT & F ARCHITECTS,

DATE

SHEET **A** 3 OF



Auditorium Roof System











ASSESSMENT PROCESS



- Site and Property
- Structural Elements
- Roofing and Exterior Wall
- Interiors and Environmental Impact
- Life Safety
- Elevator
- Mechanical, Electrical and Plumbing





Property Condition Assessment

Inspection Address: Hendersonville High School

Existing Stillwell Building (Circa 1924)

1 Bearcat Blvd

Hendersonville, North Carolina 28791

Inspection Dates: 1/22/2016 thru 3/3/2016

Prepared For: Mr. Steve Wyatt

Henderson County - County Manager

1 Historic Courthouse Square

Hendersonville, North Carolina 28792

Conducted By: Vannoy Construction Co., Inc.

230 Hilliard Avenue, Unit 01 Asheville, North Carolina 28801

Asheville, North Carolina

Prepared By: Jim Young

Brian Walker, LEED AP Mike Kesterson, LEED AP

Report Date: March 11, 2016

This confidential report was prepared for the exclusive use and review of the recipient; duplication or publication of this report either in its entirety or portions thereof will not be allowed without the full consent of Vannov Construction Co... Inc.

^{*}Assessment is based on observations with limited destructive investigation and Vannoy Construction's expertise in General Contracting and Restoration.

SITE AND PROPERTY



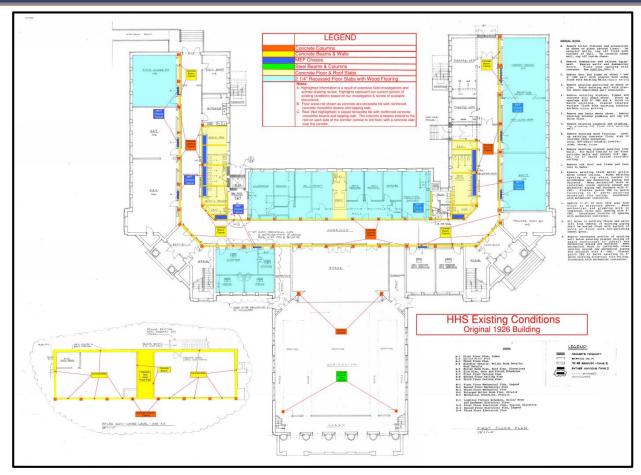






STRUCTURAL ELEMENTS





STRUCTURAL ELEMENTS









ROOFING AND EXTERIOR WALL















INTERIORS AND ELEVATOR











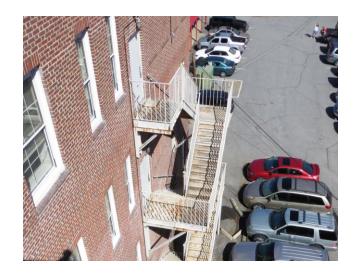




Hendersonville High School

LIFE SAFETY/ADA









MECHANICAL, ELECTRICAL AND PLUMBING















ADDITIONAL ASSESSMENT RECOMMENDATIONS



- > EXTERIOR WALL CONSULTANT
- > ENERGY CONSULTANT
- > LIFE SAFETY CODE ANALYSIS
- > ENVIRONMENTAL STUDY
- > STRUCTURAL ANALYSIS
- > DESIGN PROGRAMMING



COST ESTIMATE BASED ON CURRENT ASSESSMENT



1 SITE DEVELOPMENT 2 PHASING/ LOGISTICS 3 SELECTIVE DEMOLITION 5 138,984 \$ 2.11 4 CONCRETE 5 169,109 \$ 2.56 5 MASONRY 5 579,662 \$ 8.78 6 STRUCTURAL STEEL 5 33,000 \$ 0.50 7 ROUGH CARPENTRY 5 41,043 \$ 0.62 8 GENERAL REQUIREMENTS 5 261,128 \$ 3.96 9 FINISH CARPENTRY, MILLWORK, & CASEWORK 5 596,000 \$ 9.03 10 ROOFING 5 447,000 \$ 6.77 11 SPRAY FIREPROOFING 5 447,000 \$ 6.77 11 SPRAY FIREPROOFING 5 447,000 \$ 6.77 12 CAULKING, WATERPROOFING, FIRESTOPPING 5 441,010 \$ 5.17 13 DOORS, FRAMES, & HARDWARE 5 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS 5 897,235 \$ 13.59 15 DRYWALL ASSEMBLIES 5 897,235 \$ 13.59 16 CEILING TREATMENTS 5 267,960 \$ 4.06 17 FLOORING & ACCESSORIES 5 584,727 \$ 8.86 18 PAINTING 5 157,737 \$ 2.39 19 SPECIALTIES 5 157,737 \$ 2.39 10 SPECIALTIES 5 157,830 \$ 3.66 10 SPECIALTIES 5 157,830		WORK TRADE:		TOTAL:		COST PER SF:
3 SELECTIVE DEMOLITION \$ 426,147 \$ 6.46	1	SITE DEVELOPMENT	\$	-	\$	-
4 CONCRETE \$ 169,109 \$ 2.56 5 MASONRY \$ 5 579,662 \$ 8.78 6 STRUCTURAL STEEL \$ 33,000 \$ 0.50 7 ROUGH CARPENTRY \$ 41,043 \$ 0.62 8 GENERAL REQUIREMENTS \$ 261,128 \$ 3.96 9 FINISH CARPENTRY, MILLWORK, & CASEWORK \$ 596,000 \$ 9.03 10 ROOFING \$ 447,000 \$ 6.77 11 SPRAY FIREPROOFING \$ 447,000 \$ 6.77 11 SPRAY FIREPROOFING \$ 96,484 \$ 1.46 13 DOORS, FRAMES, & HARDWARE \$ 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILIOR TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ 5 25,00 \$ 1.89 22 GONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 5 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 1,787,657 \$ 2.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,787,657 \$ 2.49 26 ELECTRICAL SYSTEMS \$ 1,787,657 \$ 2.09 27 EXTERIOR STAIRWELL REPLACEMENT \$ 1,787,657 \$ 2.09 28 BUILDING PERMIT FEES \$ 1,787,657 \$ 2.09 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCE \$ 116,6335 \$ 1.76 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 31 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY	2	PHASING/ LOGISTICS	\$	138,984	\$	2.11
5 MASONRY \$ 579,662 \$ 8.78 6 STRUCTURAL STEEL \$ 33,000 \$ 0.50 7 ROUGH CARPENTRY \$ 41,043 \$ 0.62 8 GENERAL REQUIREMENTS \$ 261,128 \$ 3.96 9 FINISH CARPENTRY, MILLWORK, & CASEWORK \$ 596,000 \$ 9.03 10 ROOFING \$ 447,000 \$ 6.77 11 SPRAY FIREPROOFING \$ 447,000 \$ 6.77 12 CAULKING, WATERPROOFING, FIRESTOPPING \$ 96,484 \$ 1.46 13 DOORS, FRAMES, & HARDWARE \$ 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 357,275 \$ 5.41 21 WINDOW TREATMENTS \$ 25,000 \$ 6.09 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 125,000	3	SELECTIVE DEMOLITION	\$	426,147	\$	6.46
6 STRUCTURAL STEEL \$ 33,000 \$ 0.50 7 ROUGH CARPENTRY \$ 41,043 \$ 0.62 8 GENERAL REQUIREMENTS \$ 261,128 \$ 3.96 9 FINISH CARPENTRY, MILLWORK, & CASEWORK \$ 596,000 \$ 9.03 10 ROOFING \$ 447,000 \$ 6.77 11 SPRAY FIREPROOFING \$ 447,000 \$ 6.77 11 SPRAY FIREPROOFING, FIRESTOPPING \$ 96,484 \$ 1.46 13 DOORS, FRAMES, & HARDWARE \$ 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 17 FLOORING & S 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ \$ 255,000 \$ 1.89 22 CONVEYING SYSTEMS \$ \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ \$ 1,780,7657 \$ 27.09 26 ELECTRICAL SYSTEMS \$ \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ \$ 1,780,680 \$ 26.98 28 BUILDING PREMIT FEES \$ 440,99 \$ 0.67 5 SUBTOTAL \$ 11,061,319 \$ 167.60 5 SUBTOTAL \$ 11,061,319 \$ 167.60 5 SUBTOTAL \$ 13,746 \$ 2.09 31 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY	4	CONCRETE	\$	169,109	\$	2.56
7 ROUGH CARPENTRY 8 GENERAL REQUIREMENTS 9 FINISH CARPENTRY, MILLWORK, & CASEWORK 5 S96,000 \$ 9.03 10 ROOFING 5 447,000 \$ 6.77 11 SPRAY FIREPROOFING 5 447,000 \$ 6.77 11 SPRAY FIREPROOFING 5 96,484 \$ 1.46 13 DOORS, FRAMES, & HARDWARE 13 DOORS, FRAMES, & HARDWARE 14 GLASS & GLAZING SYSTEMS 15 RYWALL ASSEMBLIES 15 DRYWALL ASSEMBLIES 16 CEILING TREATMENTS 17 FLOORING & ACCESSORIES 18 PAINTING 17 FLOORING & ACCESSORIES 18 PAINTING 19 SPECIALTIES 19 SPECIALTIES 19 SPECIALTIES 20 EQUIPMENT & FURNISHINGS 21 WINDOW TREATMENTS 22 CONVEYING SYSTEMS 23 FIRE SPRINKLERS 24 PLUMBING SYSTEMS 25 S60,215 \$ 8.49 26 ELECTRICAL SYSTEMS 26 S60,215 \$ 8.49 27 EXTERIOR STAIRWELL REPLACEMENT 28 BUILDING PERMIT FEES 39 LAGS 30 FRESPRINKLERS 4 S13,606 \$ 3.66 28 BUILDING PERMIT FEES 4 S14,660 \$ 0.679 5 SUBTOTAL 6 SUBTOTAL 7 SUBTOTA	5	MASONRY	\$	579,662	\$	8.78
8 GENERAL REQUIREMENTS \$ 261,128 \$ 3.96 9 FINISH CARPENTRY, MILLWORK, & CASEWORK \$ 596,000 \$ 9.03 10 ROOFING \$ 447,000 \$ 6.77 11 SPRAY FIREPROOFING \$ 447,000 \$ 6.77 12 CAULKING, WATERPROOFING, FIRESTOPPING \$ 96,484 \$ 1.46 13 DOORS, FRAMES, & HARDWARE \$ 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ 125,000 \$ 1.89 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 17,87,657 \$ 27.09 25 HVAC & MECHANICAL SYSTEMS \$ 1,787,657 \$ 27.09 26 ELECTRICAL SYSTEMS \$ 1,787,657 \$ 27.09 27 EXTERIOR STAIRWELL REPLACEMENT \$ 1,787,657 \$ 27.09 28 BUILDING PRIMIT FEES \$ 1,786,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEM	6	STRUCTURAL STEEL	\$	33,000	\$	0.50
9 FINISH CARPENTRY, MILLWORK, & CASEWORK	7	ROUGH CARPENTRY	\$	41,043	\$	0.62
10 ROOFING	8	GENERAL REQUIREMENTS	\$	261,128	\$	3.96
11 SPRAY FIREPROOFING \$ \$ \$ \$ \$ \$ \$ \$ \$	9	FINISH CARPENTRY, MILLWORK, & CASEWORK	\$	596,000	\$	9.03
12 CAULKING, WATERPROOFING, FIRESTOPPING \$ 96,484 \$ 1.46 13 DOORS, FRAMES, & HARDWARE \$ 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 HOORING & ACCESSORIES \$ 584,727 \$ 8.66 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ 2.25,000 \$ 1.89 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 1,780,680 \$ 26.98 28 BUILDINO PERMIT FEES \$ 44,069 \$ 0.67 </td <td>10</td> <td>ROOFING</td> <td>\$</td> <td>447,000</td> <td>\$</td> <td>6.77</td>	10	ROOFING	\$	447,000	\$	6.77
13 DOORS, FRAMES, & HARDWARE \$ 341,010 \$ 5.17 14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ - \$ - \$ - \$ 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HAVAC & MECHANICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 30 PROJECT INSURANCES \$ 115,644 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 33 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY	11	SPRAY FIREPROOFING	\$	-	\$	-
14 GLASS & GLAZING SYSTEMS \$ 430,236 \$ 6.52 15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ 125,000 \$ 1.89 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,787,657 \$ 27.09 26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 SUBTOTAL \$ 11,061,319 \$ 167,60 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 137,716 \$ 2.09 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187,30 33 CMAR FEE \$ 494,484 \$ 7,49	12	CAULKING, WATERPROOFING, FIRESTOPPING	\$	96,484	\$	1.46
15 DRYWALL ASSEMBLIES \$ 897,235 \$ 13.59 16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ - \$ - \$ 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 500,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 570,015 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 20 SUBTOTAL \$ 11,061,319 \$ 167.60 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 151,741 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 34 CONTINGENCY \$ 494,484 \$ 7.49 34 CONTINGENCY	13	DOORS, FRAMES, & HARDWARE	\$	341,010	\$	5.17
16 CEILING TREATMENTS \$ 267,960 \$ 4.06 17 FLOORING & ACCESSORIES \$ 584,727 \$ 8.86 18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ 125,000 \$ 1.89 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 11,061,319 \$ 167.60 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49	14	GLASS & GLAZING SYSTEMS	\$	430,236	\$	6.52
17 FLOORING & ACCESSORIES \$ \$84,727 \$ \$8.86 18 PAINTING \$ \$ \$157,737 \$ 2.39 19 SPECIALTIES \$ \$357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ - \$ - \$ 22 CONVEYING SYSTEMS \$ \$125,000 \$ 1.89 23 FIRE SPRINKLERS \$ \$295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ \$560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ \$560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ \$1,787,657 \$ \$27.09 26 ELECTRICAL SYSTEMS \$ \$1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ \$241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ \$44,069 \$ 0.67 30 PROJECT INSURANCES \$ \$11,061,319 \$ \$167,60 29 GENERAL CONDITIONS \$ \$894,885 \$ \$1.356 30 PROJECT INSURANCES \$ \$151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ \$137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ \$116,335 \$ 1.76 33 CMAR FEE \$ \$494,484 \$ 7.49 34 CONTINGENCY	15	DRYWALL ASSEMBLIES	\$	897,235	\$	13.59
18 PAINTING \$ 157,737 \$ 2.39 19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ - \$ - 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,787,657 \$ 27.09 26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 441,660 \$ 0.67 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 3 BUBLOING PERMIT FEES \$ 44,069 \$ 0.67 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 11,061,319 \$ 167.60 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 5 UBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49	16	CEILING TREATMENTS	\$	267,960	\$	4.06
19 SPECIALTIES \$ 357,275 \$ 5.41 20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09 21 WINDOW TREATMENTS \$ - \$ - \$ - \$ 22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89 23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 560,215 \$ 8.49 26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 440,69 \$ 0.67 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 31 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY	17	FLOORING & ACCESSORIES	\$	584,727	\$	8.86
20 EQUIPMENT & FURNISHINGS \$ 401,900 \$ 6.09	18	PAINTING	\$	157,737	\$	2.39
21 WINDOW TREATMENTS \$ - \$ -	19	SPECIALTIES	\$	357,275	\$	5.41
22 CONVEYING SYSTEMS \$ 125,000 \$ 1.89	20	EQUIPMENT & FURNISHINGS	\$	401,900	\$	6.09
23 FIRE SPRINKLERS \$ 295,700 \$ 4.48 24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HAVAC & MECHANICAL SYSTEMS \$ 1,780,680 \$ 26.98 26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 30 GENERAL CONDITIONS \$ 11,061,319 \$ 167.60 31 GENERAL CONDITIONS \$ 894,885 \$ 13.56 32 PROJECT INSURANCES \$ 151,844 \$ 2.30 33 UBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 34 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 35 SUBTOTAL \$ 12,362,097 \$ 187.30 36 CMAR FEE \$ 494,484 \$ 7.49 37 CONTINGENCY	21	WINDOW TREATMENTS	\$	-	\$	-
24 PLUMBING SYSTEMS \$ 560,215 \$ 8.49 25 HVAC & MECHANICAL SYSTEMS \$ 1,787,657 \$ 27.09 26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 SUBTOTAL \$ 11,061,319 \$ 167.60 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49	22	CONVEYING SYSTEMS	\$	125,000	\$	1.89
25 HVAC & MECHANICAL SYSTEMS \$ 1,787,657 \$ 27.09 26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26.98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67 3 SUBTOTAL \$ 11,061,319 \$ 167.60 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 34 SUBTOTAL \$ 494,484 \$ 7.49 35 CMAR FEE \$ 494,484 \$ 7.49 36 CONTINGENCY	23	FIRE SPRINKLERS	\$	295,700	\$	4.48
26 ELECTRICAL SYSTEMS \$ 1,780,680 \$ 26,98 27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66 28 BUILDINO FERMIT FEES \$ 44,069 \$ 0.67 SUBTOTAL \$ 11,061,319 \$ 167.60 29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY \$ CONTINGENCY	24	PLUMBING SYSTEMS	\$	560,215	\$	8.49
27 EXTERIOR STAIRWELL REPLACEMENT \$ 241,360 \$ 3.66	25	HVAC & MECHANICAL SYSTEMS	\$	1,787,657	\$	27.09
28 BUILDING PERMIT FEES \$ 44,069 \$ 0.67	26	ELECTRICAL SYSTEMS	\$	1,780,680	\$	26.98
SUBTOTAL \$ 11,061,319 \$ 167.60	27	EXTERIOR STAIRWELL REPLACEMENT	\$	241,360	\$	3.66
29 GENERAL CONDITIONS \$ 894,885 \$ 13.56 30 PROJECT INSURANCES \$ 151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187,30 33 CMAR FEE \$ 494,484 \$ 7,49 34 CONTINGENCY \$ 17,500 35 CONTINGENCY \$ 187,30 36 CONTINGENCY \$ 187,30 37 CONTINGENCY \$ 187,30 38 CONTINGENCY \$ 187,30 39 CONTINGENCY \$ 187,30 30 CONTINGENCY \$ 187,30 31 CONTINGENCY \$ 187,30 32 CONTINGENCY \$ 187,30 34 CONTINGENCY \$ 187,30 35 CONTINGENCY \$ 187,30 36 CONTINGENCY \$ 187,30 37 CONTINGENCY \$ 187,30 38 CONTINGENCY \$ 187,30 39 CONTINGENCY \$ 187,30 40 CONTINGENCY \$ 187,30 50 CONTINGENCY \$ 187	28	BUILDING PERMIT FEES	\$	44,069	\$	0.67
30 PROJECT INSURANCES \$ 151,844 \$ 2.30 31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY		SUBTOTAL	\$	11,061,319	\$	167.60
31 SUBCONTRACTOR DEFAULT BONDS \$ 137,716 \$ 2.09 32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 SUBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY	29	GENERAL CONDITIONS	\$	894,885	\$	13.56
32 PERFORMANCE & PAYMENT BOND \$ 116,335 \$ 1.76 \$ SUBTOTAL \$ 12,362,097 \$ 187.30 \$ 32 CMAR FEE \$ 494,484 \$ 7.49 \$ 34 CONTINGENCY \$ 5 12,362,097 \$ 34 \$ 35	30	PROJECT INSURANCES	\$			2.30
SUBTOTAL \$ 12,362,097 \$ 187.30 33 CMAR FEE \$ 494,484 \$ 7.49 34 CONTINGENCY	31	SUBCONTRACTOR DEFAULT BONDS		137,716		2.09
33 CMAR FEE	32	PERFORMANCE & PAYMENT BOND	\$	116,335	\$	1.76
34 CONTINGENCY		SUBTOTAL	\$	12,362,097	\$	187.30
	33	CMAR FEE	\$	494,484	\$	7.49
	34	CONTINGENCY	F		F	
			\$	553,066	\$	8.38

TOTAL - CONCEPTUAL ESTIMATE	\$ 13,409,647	\$ 203.18

Alternate #01 - Suggested Site Drainage Remediation

\$200,000

^{*} Excludes Escalation Contingency



Honor • Humility • Hospitality • Hustle



Hendersonville High School