



FLOYD COUNTY BOARD OF EDUCATION
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442 KY RT 550
Eastern, KY 41622
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www.floyd.kyschools.us

William Newsome, Jr., Board Chair - District 3
Linda C. Gearheart, Vice-Chair - District 1
Dr. Chandra Varia, Member- District 2
Keith Smallwood, Member - District 4
Steve Slone, Member - District 5

Consent Agenda Item (Action Item): Consider/Approve proposal for Shrout Tate Wilson Mechanical and Electrical Engineers for Duff Allen Central Elementary School Renovation project.

Applicable State or Regulations: Capital Construction Process 702 KAR 4:180

Fiscal/Budgetary Impact: The initial BG-1 cost is \$10,975,500 from SFCC offer of assistance.

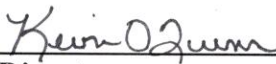
History/Background: The board of education is currently engaged in the renovation project of Duff Allen Central Elementary. The board selected Codell Construction for the CM and Summit Architects for the architect project. The initial BG-1 was approved in March 2024. The proposal presented would include work and replacement of the following systems:

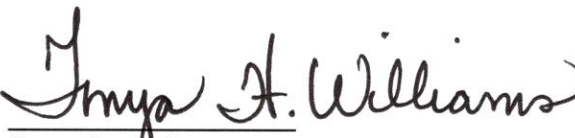
- *Pumps
- *Water source heat pumps
- *Energy recovery units
- *Kitchen exhaust fans
- *Boilers
- *Roof Top Units
- *DCC Control System

Recommended Action: To Consider/Approve Shrout Tate Wilson Mechanical and Electrical Engineers for Duff Allen Central Elementary School Renovation project.

Contact Person(s):

Kevin O'Quinn, Facilities Director
606-874-9569


Director


Superintendent

Date: October 9, 2025



**SHROUT
TATE
WILSON** MECHANICAL AND
ELECTRICAL ENGINEERS

Commissioned
2.7 Million ^{sq}ft
of Building Space

Commissioning Services

Performed by Professional Engineers -
Technical experts with the muscle to
identify and resolve complicated
system issues successfully.

Over **70**
projects
Completed

April 25, 2025

Floyd County Public Schools
442 KY RT. 550
Eastern, KY 41622

Re: Duff-Allen Central Elementary Commissioning

Floyd County Public Schools,

For 40 years STW has provided top tier design services for Kentucky and the surrounding states. During this time, we have seen an ever-increasing need for a way to ensure that the finished product does not fall victim to the ever-increasing complexity of the project. The introduction of Commissioning sought to resolve some of these issues, but even still we noticed our client's disappointment with what Commissioning accomplished.

We sought to bring the best of both worlds together. Commissioning but better. We are more than JUST Commissioning Agents, more than checklists and paperwork. We are Design Engineers, Control Specialists, Electricians, and Test and Balance Technicians. Our philosophy is focused on quick and efficient resolutions. It's not just writing items on a list, it's solving issues. We get our hands dirty because we know that's what is needed to get the job done. It's giving owners an experience where they are confident in their facilities and ability to perform as they were intended to.

We started our commissioning division to do just this. I can't thank you enough for the opportunity to be able to provide this service to you at Duff-Allen Elementary. Inside this proposal, you'll find more information about our story, our staff, our qualifications, and our project approach.

Duff-Allen Central Elementary Commissioning Lump Sum Cost: \$36,400.00

Systems to be Commissioned:

- Pumps
- Water Source Heat Pumps
- Energy Recovery Units
- Kitchen Exhaust Fan/MAU
- Boilers
- Roof Top Units
- DDC Control System

Thank you again for this consideration. Quick efficient communication is imperative for a successful team. Should you have any questions about us please feel free to email or call my personal cell phone number listed at the bottom of this letter.



**SHROUT
TATE
WILSON**
MECHANICAL AND
ELECTRICAL ENGINEERS

Lexington • Louisville • Charleston

Respectfully,

A handwritten signature in black ink, appearing to read "Trent", written over a large, faint, light-colored gear watermark that spans the center of the page.

Trent M. Turner, PE, CxA, BCxP, LEED AP O+M
Commissioning Authority
Trent.Turner@stweng.com
(502) 321-7283

A handwritten signature in black ink, appearing to read "RWh", written over a large, faint, light-colored gear watermark that spans the center of the page.

Ralph Lee Whitley, PE, CxA, LEED AP, CEM
Principal
Ralph.Whitley@stweng.com

LEXINGTON | 628 Winchester Road
Lexington, KY 40505
(859) 277-8177

LOUISVILLE | 1330 Bardstown Road
Louisville, KY 40204
(502) 829-3001

CHARLESTON | 4289 Spruill Avenue, Suite 101
North Charleston, SC 29405
(843) 790-7080



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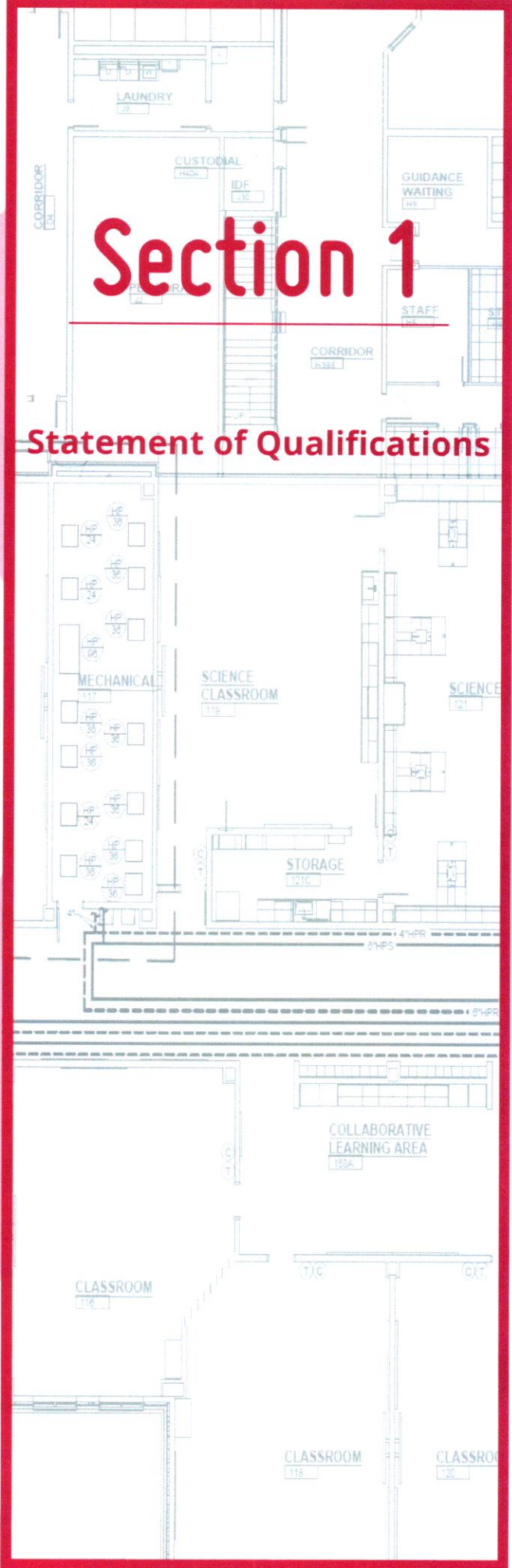
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Section 1

Statement of Qualifications



SECTION 1

DOCUMENT: STATEMENT OF QUALIFICATIONS

Statement of Qualifications

Shrout Tate Wilson Engineers (STW) is a solution oriented, innovative, people-first engineering and commissioning firm specializing in energy-efficient mechanical and electrical systems.

Our projects focus on the places where people learn, play, live, work, worship, eat, heal, and connect.

We currently work with over 175 clients including architectural partners and building owners serviced by our offices in Lexington, Louisville and Charleston, South Carolina.

Our areas of expertise include classical and progressive MEP systems, distillation engineering and commissioning of mechanical and electrical systems.

We live at the forefront of the sustainability movement by designing the first LEED Platinum building in the state of Kentucky.

We continue this practice today with (7) seven Net Zero Achievable buildings and progressive designs that implement photovoltaics, geothermal HVAC, peak shaving battery storage systems, and user friendly control strategies that optimize energy performance.

Since 1981, Shrout Tate Wilson has been involved in ELECTIVELY commissioning the most functionally complex and high risk designs that our firm has produced. Ranging from critical healthcare installations to innovative HVAC and Electrical systems. In 2020, STW formally opened a Commissioning Division in response to the request from our clients to commission their projects and solve problems that others could not.

Commissioning has given us the chance to have a true hand in the implementation of what we create behind the desk. Our design expertise, combined with the diverse field experience of our staff, allows us to bring Commissioning to the next level. We believe Commissioning is not about finding problems but solving them. We take true responsibility in ensuring that at the end of the day, you feel comfortable and confident in your facility.

2.7 MILLION
SF COMMISSIONED

56 Team Members
10 Professional Engineers
10 LEED AP's
6 CxAs

7 NET ZERO ACHIEVABLE PROJECTS
77 ENERGY STAR PROJECTS

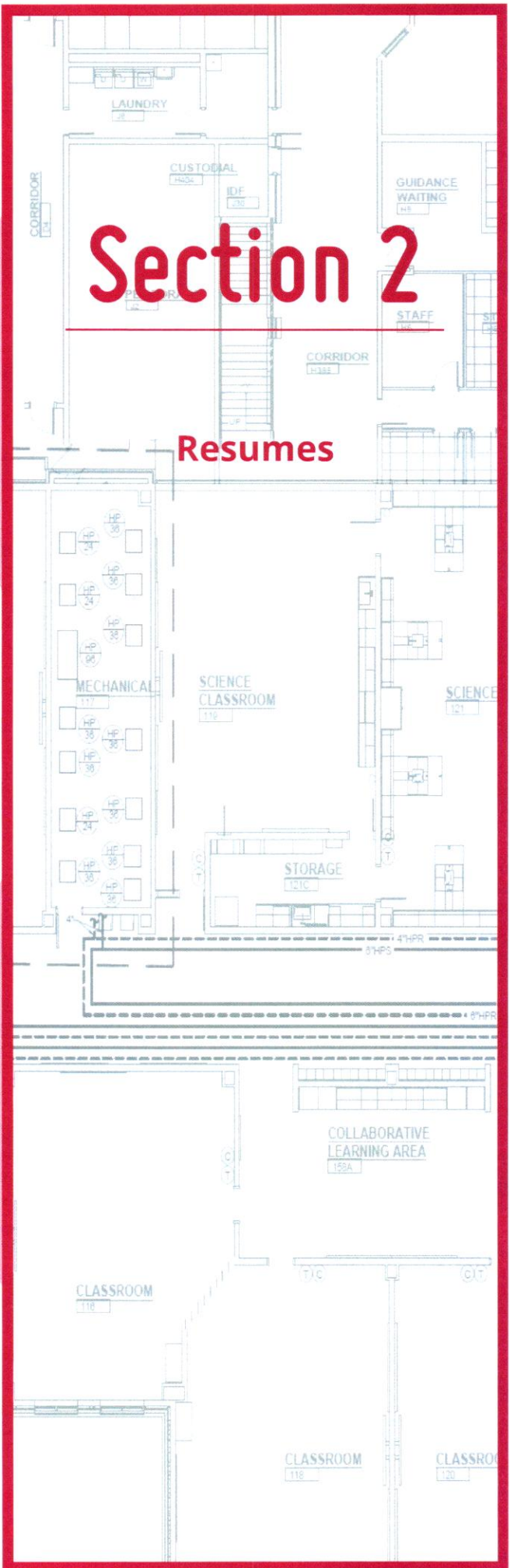
FOUNDED 1981



STW Principals: Robbie Bottoms, James Troutman, Tyler Wilson, Ralph Whitley, Nick Morgan, Whitley Casey

Section 2

Resumes

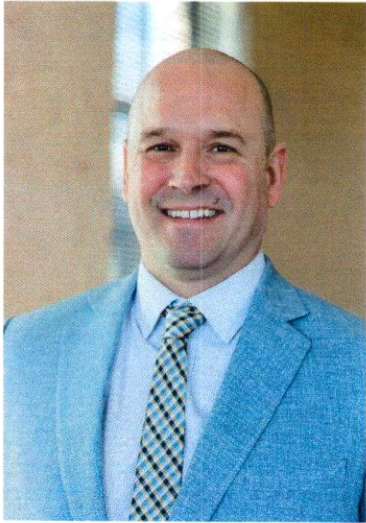


SECTION 2

DOCUMENT: RESUMES

RALPH L. WHITLEY, P.E., LEED AP, CEM, CxA

Principal-in-Charge



Related Experience

- Mason County Middle School - Maysville, KY
- Allen County High School Renovation - Scottsville, KY
- ARH Hazard Central Chiller Plant Renovation - Hazard, KY
- ARH Tug Valley Central Chiller Plant Renovation - Hazard, KY
- Transylvania University Student Center, Lexington, KY
- ARH Hazard Joe Craft Tower - Hazard, KY
- ARH Middlesboro Cath Lab - Middlesboro, KY
- ARH Whitesburg Residency Renovation - Whitesburg, KY

Professional Experience

Shrout Tate Wilson Consulting Engineers

2010-Present

Responsible for the design, specification, estimation, and construction administration of the plumbing, fire suppression, and mechanical departments at Shrout Tate Wilson as well as participating in business development and Commissioning. System designs include: VAV Air Handling Unit systems, Operating Room HVAC, Central Chilled Water systems, Central Boiler systems, Central Geothermal systems, Central Geothermal Modular Heat pumps with Variable Primary Flow, Chilled Beam Design, Energy Recovery Units, Hybrid Geothermal, Solar Hot Water Heating, and Geothermal Domestic Water.

Green Mechanical Construction Inc.

2006-2010

Responsible for preparing proposal drawings for general contractor review and final cost projections to the owner. Designed commercial and industrial HVAC and plumbing systems in accordance with scope of the proposal drawings. Industrial systems include chilled water, cooling towers, compressed air, process distribution, welding gas dust collection, Class 5 clean room design, heat reclaim, make-up air, large volume air conditioning, geothermal heat pumps, lift stations, machine room exhaust, energy recovery systems, kitchen exhaust. Coordinated design meetings. Responsible for supporting project managers with technical issues during construction.

Education

Bachelor of Science in Mechanical Engineering, May 2001

University of Kentucky College of Engineering

Bachelor of Science in Physics, May 2001

University of Kentucky

Registrations

- PE (Professional Engineer) KY Registration # 24966
- LEED (Leadership in Energy and Environmental Design) Accredited Professional
- CEM (Certified Energy Manager)
- CxA (Certified Commissioning Authority)

Professional Affiliations

- ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers)
- Kentucky Society of Professional Engineers
- National Society of Professional Engineers
- National Fire Protection Association
- US Green Building Council Member

Community Involvement

- Rotary Club Member since 2014
- Lexington Montessori School Board 2013-2015
- Leadership Lexington Class of 2016

SECTION 2

DOCUMENT: RESUMES

WHITLEY C. CASEY, P.E, LEED AP, CEM, CxA, L.S.I.T. *Electrical Engineer*



Professional Experience

Shrout Tate Wilson Consulting Engineers

2003-Present

Mr. Casey leads STW's team for the firm's most challenging projects. His responsibilities also include the design of lighting, power distribution, emergency power systems, fire alarm, sound/intercom, telephone/data and control systems for our Healthcare, P-12 and Post-Secondary Education, Municipal, Commercial and Historic projects. Whitley Casey is an authority in the functionality of electrical systems, lighting controls, and electrical theory.

Education

Bachelor of Science in Electrical Engineering, Minor in Mathematics,
Graduated Magna Cum Laude, May 2003
University of Kentucky College of Engineering

Primary Areas of Experience

- Lighting Design and Controls
- Energy Conservation
- Fire Alarm Systems
- Communication Systems
- Power and Distribution
- Special Systems
- Computer Network Systems
- Theatrical Systems
- Professional Sound Systems

Registrations

- PE (Professional Engineer) KY Registration # 25711
- PE (Professional Engineer) SC Registration # 39046
- LEED (Leadership in Energy and Environmental Design) Accredited Professional
- CEM (Certified Energy Manager)
- CxA (Certified Commissioning Authority)
- L.S.I.T. (Land Surveyor in Training)

Professional Affiliations

- US Green Building Council Member
- Kentucky Society of Professional Engineers
- National Society of Professional Engineers
- Association of Energy Engineers

Community Involvement

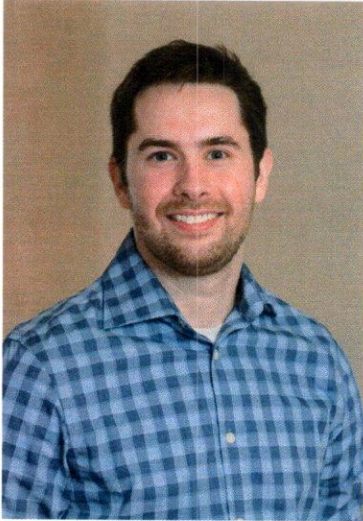
- One to One Reading Program at William Wells Brown Elementary

Related Experience

- Mason County Middle School - Maysville, KY
- The MET Mixed Use Development - Lexington, KY
- Raven Run Nature Sanctuary - Lexington, KY
- Asbury Aldersgate Residence Hall - Wilmore, KY
- Eastern Kentucky University New Dining Facility - Richmond, KY
- Kentucky State University Hathaway Hall Renovation - Frankfort, KY
- ARH Hazard Medical Center Patient Tower Expansion and Central Plant Upgrade - Hazard, KY

TRENT TURNER, P.E., BCxP, CxA, LEED AP O+M

Commissioning Authority



Professional Experience

Shrout Tate Wilson Consulting Engineers

2020-Present

Lead commissioning services provided by STW. Assist design team with late project issue diagnostic and resolution. Responsible for documentation creation, coordinating meetings and progress reports, performing system verification and functional performance testing, organizing owner training, and various other commissioning services.

Performance Commissioning Agency

2016-2020

Responsible for leading commissioning services for various commercial, industrial, and private facilities across the state. Coordinated commissioning team meetings. Supported owners through training and operation of new facilities. Organized, developed, and performed testing for HVAC, Lighting, and domestic water systems. Helped resolve and diagnose acceptance phase issues for laboratories, hospitals, classrooms, distilleries, showrooms, factories, government facilities, etc.

Education

Bachelor of Science in Mechanical Engineering, Graduated Magna Cum Laude, May 2016
University of Kentucky College of Engineering

Registrations

- PE (Professional Engineer) KY Registration # 35839
- Building Science Thermologist # 18004 (Kentucky Thermal Institute)
- BCxP (Building Commissioning Professional) by ASHRAE
- CxA (Certified Commissioning Authority) by ACG
- LEED (Leadership in Energy and Environmental Design) Accredited Professional O+M

Professional Affiliations

- OSHA 10 Certified
- ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers)

Related Experience

- Mason County Middle School - Maysville, KY
- Brown-Forman Howard Building - Louisville, KY
- Buffalo Trace Bottling - Frankfort, KY
- Clay County High School Renovation - Manchester, KY
- Collins Lane Elementary - Frankfort, KY
- Galen College of Nursing - Louisville, KY
- Knox County Detention Center - Barbourville, KY
- Perry County Hall of Justice Renovation - Hazard, KY
- Waterfront Botanical Gardens - Louisville, KY

ETHAN KELLY, E.I.T., CxA

Commissioning Authority



Professional Experience

Shrout Tate Wilson Consulting Engineers

2017-Present

Performs Commissioning Services provided by STW. Assist design team with late project issue diagnostic and resolution. Responsible for documentation creation, coordinating meetings and progress reports, performing system verification and functional performance testing, organizing owner training, and various other commissioning services.

Education

Bachelor of Science in Mechanical Engineering, December 2016
University of Kentucky

Registrations

- CxA (Certified Commissioning Authority) by ACG
- Engineer in Training (E.I.T.) #15481

Related Experience

- Mason County Middle School - Maysville, KY
- Fayette County Public Schools Career & Technical Education Facility - Lexington, KY
- Menifee County High School - Frenchburg, KY
- South Green Elementary School - Glasgow, KY
- Appalachian Regional Healthcare Operating Room Renovation - South Williamson, KY
- Appalachian Regional Healthcare Hazard Operating Room Renovation - Prestonburg, KY
- Newport Primary School Renovation - Newport, KY

MICHAEL WARREN, *Construction Administration*



Professional Experience

Shrout Tate Wilson Consulting Engineers

2019-Present

Michael joined the STW team in February of 2019 working in Construction Administration after 14 years of performing Test and Balance as a certified Test and Balance Engineer. Michael also has 6 years working as a Certified Commissioning Authority. He has worked in healthcare facilities, data centers, office buildings, science labs, and many schools throughout the state of Kentucky.

Michael's primary role as a Construction Administrator is essentially an extension of the firm's MEP designers to the field. During the construction process, Michael works closely with Owner's, Architects, and Contractors to maintain construction quality and conformance to specifications. His excellent communication skills and problem solving approach helps to keep projects on schedule and always progressing forward. Michael's background in Commissioning and Test & Balance provides a wealth of knowledge and expertise when it's necessary to troubleshoot and commission Shrout Tate Wilson's most complex and progressive designs.

Related Experience

- Mason County Middle School - Maysville, KY
- Bryan Station High School - Lexington, KY
- Pleasure Ridge Park High School - Louisville KY
- Sandersville Elementary - Lexington, KY
- University of Kentucky College of Pharmacy - Lexington, KY
- King's Daughters' Hospital - Madison, IN
- Knox Central High School - Knox County, KY
- Ft. Knox High School - Ft. Knox, KY
- University of Kentucky Academic Science Building - Lexington, KY

Thermal Balance

2004-2019

Prior to working at STW, Michael spent 14 years performing Test and Balance services as a certified Test and Balance Engineer (TBE) and 6 years working as a certified Commissioning Authority (CxA). Michael led Balancing and Commissioning projects for healthcare facilities, data centers, office buildings, laboratories, schools, industrial facilities, and government projects across the state of Kentucky. His time as a Commissioning Authority and Balance Engineer gave him an in-depth understanding of mechanical systems, as well as the skills necessary to effectively coordinate today's most time sensitive, complex construction projects.

Education

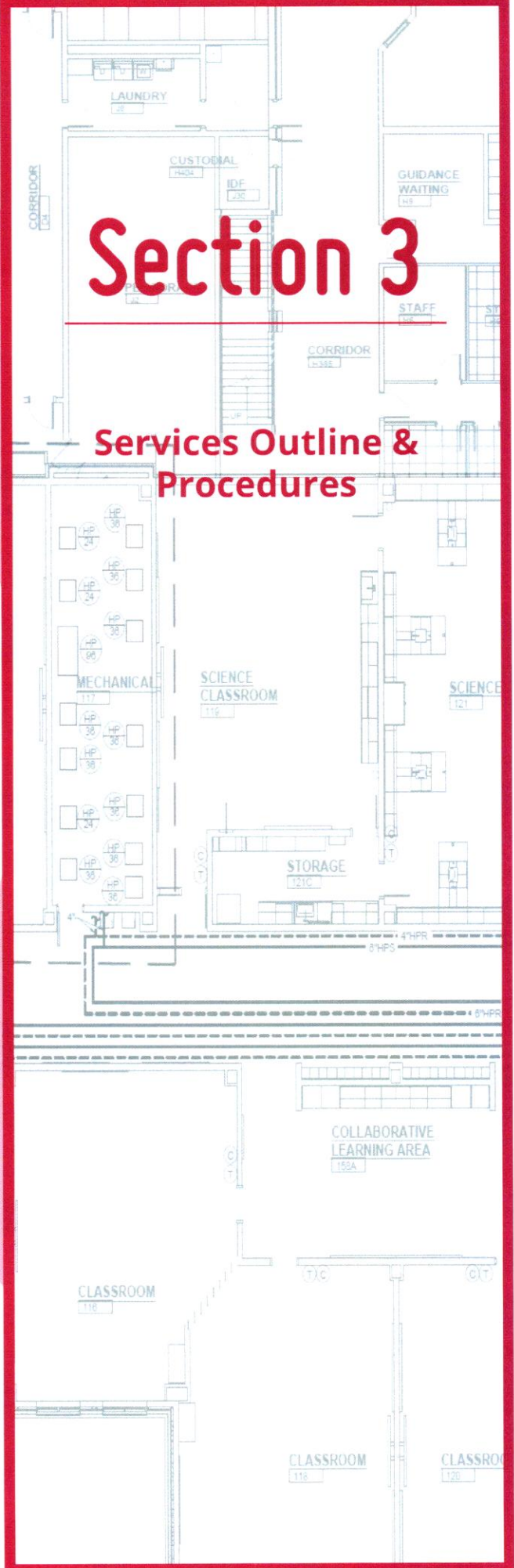
Lexington Catholic High School Class of 1996
University of Kentucky (attended for 2 years)

Registrations

- TBE (Test & Balance Engineer)
- CxA (Certified Commissioning Authority)

Section 3

Services Outline & Procedures

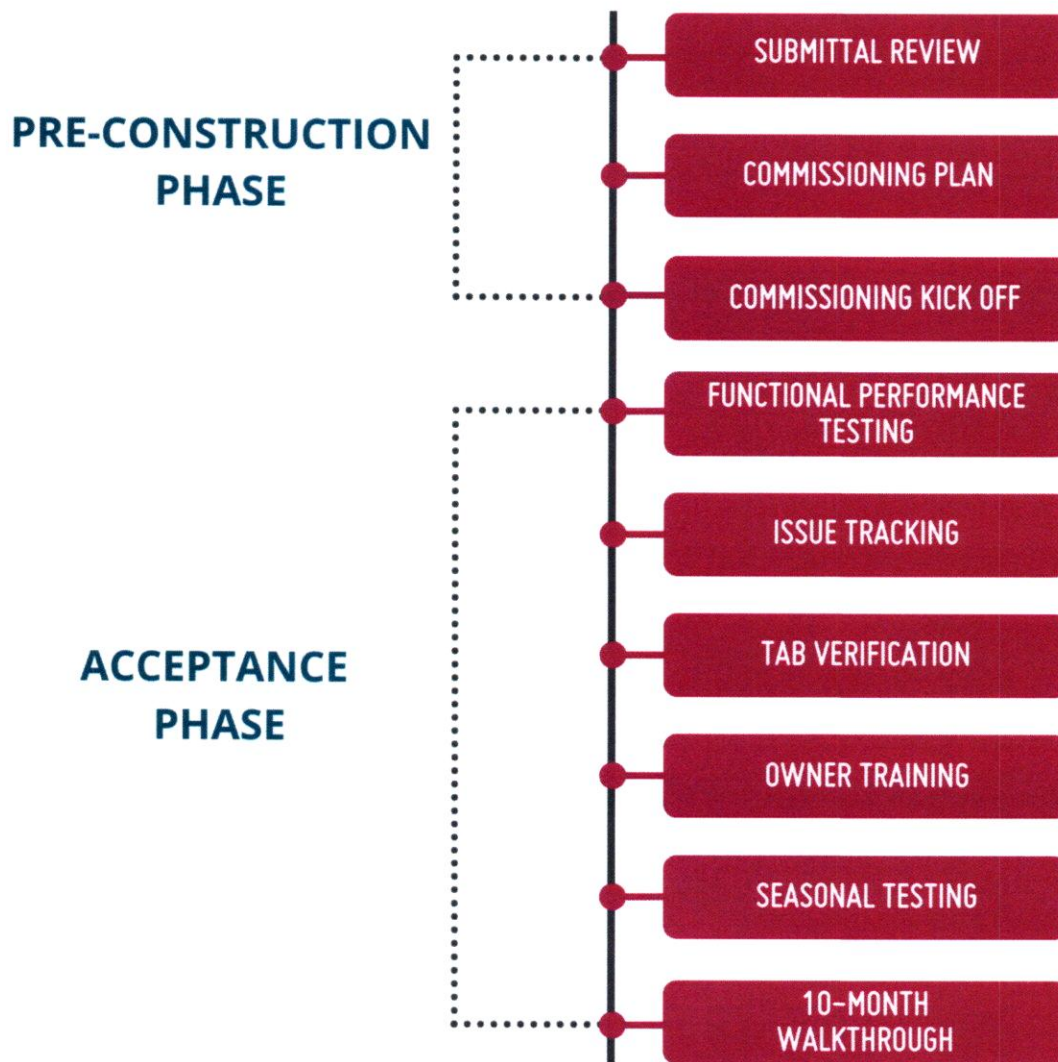


SECTION 3

DOCUMENT: SERVICE OUTLINE & PROCEDURES

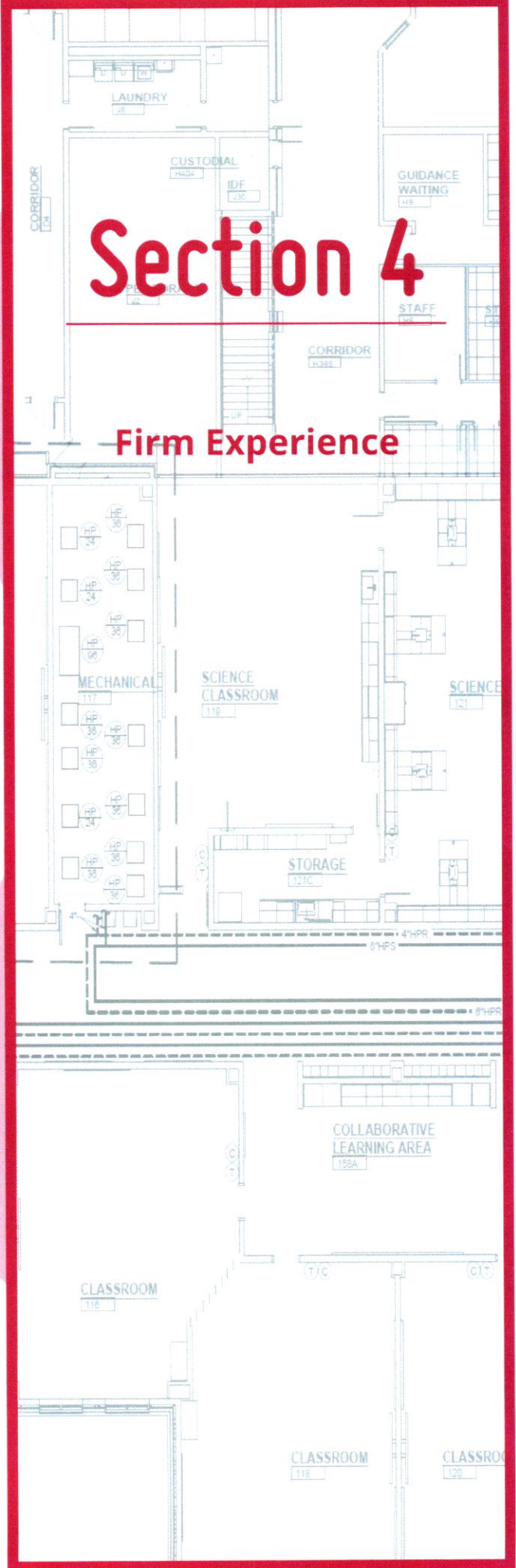
Project Approach

From start to finish, STW operates on the idea that the Commissioning agent should do more than just write issues onto a piece of paper. From the beginning, we are working side by side with the Design Team to find ways to improve the usability and ease of maintenance for the project. During construction, we are consistently looking to identify minor problems before they grow into major ones. Once the project is near completion, we are not only finding the hidden issues that would not have been found without testing, but working directly with the team to determine effective resolutions and get them implemented as efficiently as possible.



Section 4

Firm Experience



SECTION 4

DOCUMENT: FIRM EXPERIENCE

RECENT COMMISSIONING EXPERIENCE

RETRO-COMMISSIONING

Danville Country Club
Norton Hospital Lithotripsy
ARH Tug Valley Emergency Room
ARH Hazard Pharmacy
ARH Whitesburg
Chef Space Community Center
Lewis County Courthouse
Makers Mark Fermenter Ventilation
ARH Reference Lab
ARH Cancer Center
ARH Tug Valley Chilled/Hot Water Plant
Cummins Facility South Carolina
Robertson K-12 School
Perry County High School

FUNDAMENTAL / CONSTRUCTION PHASE COMMISSIONING

ARH Highlands Operating Rooms
ARH Tug Valley Operating Rooms
South Green Elementary
Mason County Middle School
Brown Forman Shipping 2 & 3
Shearer Elementary
East Oldham Middle School
Scott County High School
Columns Office Building
Fayette CTE Renovation
Oldham Public Library
Allen Elementary School
Knox Co Middle School
Menifee High School
Burnside Elementary School
Adams Middle School
Knox County Middle School
Knox Lynn Camp Elementary



Hazard ARH Joe Craft Tower



Transylvania University Campus Center

SECTION 4

DOCUMENT: FIRM EXPERIENCE

PROJECT: ARH JOE CRAFT TOWER EXPANSION

ARH Joe Craft Tower Expansion

Owner:

Appalachian Regional Healthcare

Contact:

Kelly Justice
(606) 625-6137

Building Type:

Healthcare

Building Location:

Hazard, Kentucky

Total Construction Cost:

\$47,000,000

Building Size:

100,000 Square Feet

Date Completed:

May 2014

Scope:

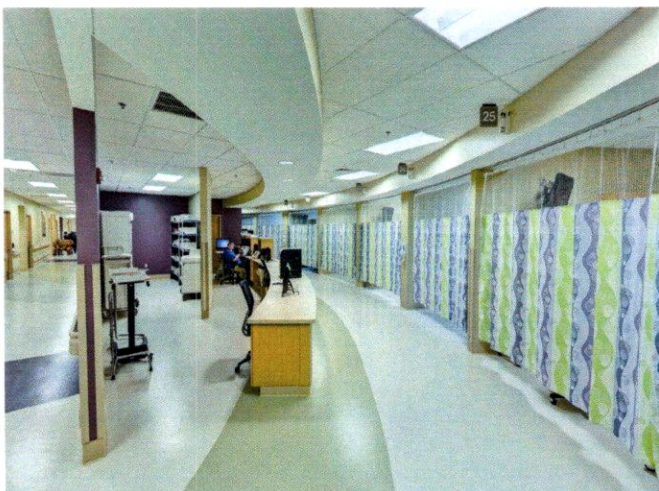
Design & Fundamental Commissioning



The \$47 million expansion to Appalachian Regional Healthcare facilities offers residents of Perry and surrounding counties access to the largest medical center in Southeast Kentucky.

STW completed the full design, construction administration, and controls commissioning for the 100,000 square foot addition and an upgraded Central Chiller Plant. The new addition includes a new Emergency Department, a Critical Care Unit with 16 beds, and a 34-bed acute care cardiac nursing unit. A roof mounted helipad allows critical transportation directly to the hospital for the region.

System types included (3) three central VAV air handling units, VAV boxes, (2) two magnetic bearing chillers, (2) two cooling towers, (17) seventeen building pumps, a heat recovery chiller, (2) boilers, domestic hot water systems, lighting, nurse call, medical gas, emergency power distribution (life safety, critical, equipment), and (2) two diesel generators. The mechanical, electrical, plumbing, and low voltage design have demonstrated full functionality and with no down time, user complaints, or integration issues.



"A little more than a year ago, we completed construction of a 100,000 sq. ft., three story tower addition to our Hazard ARH Regional Medical Center in Hazard, Kentucky....The upgrades to the existing plant have resulted in our achieving flat energy costs in spite of significant rate increases. The mechanical, electrical, plumbing and low voltage designs in the new tower have demonstrated full functionality and we have encountered no down time, user complaints or integration issues. From my perspective, this is a significant statement, as healthcare is extremely regulated and functionally complex."

*Trena Hall
Former Director of Corporate Projects
Appalachian Regional Healthcare*

SECTION 4

DOCUMENT FIRM EXPERIENCE

PROJECT ALLEN COUNTY HIGH SCHOOL

Allen County High School

Owner:

Allen County School District

Contact:

Craig Aossey, AIA
(502) 875-2290

Building Type:

K12

Building Location:

Scottsville, Kentucky

Total Construction Cost:

\$13,555,000

Building Size:

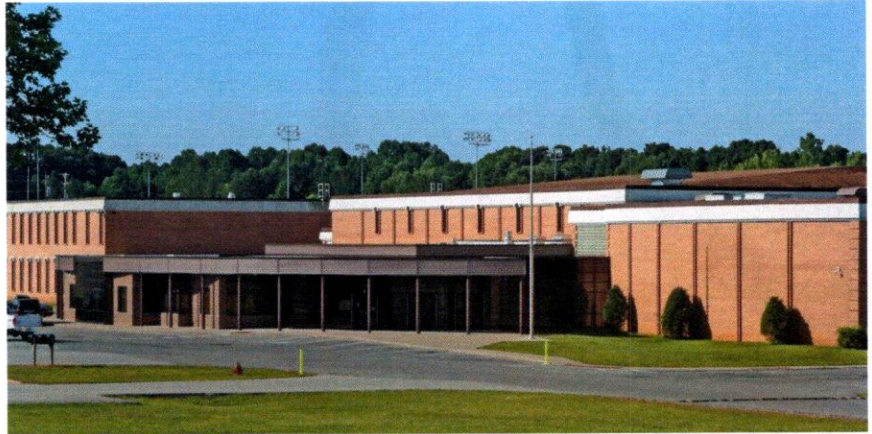
175,990 Square Feet

Date Completed:

August 2012

Scope:

Design & Fundamental Commissioning



Shrout Tate Wilson (STW) Engineers provided mechanical and electrical engineering and commissioning services for the renovation and additions to the existing Allen County High School in Scottsville, Kentucky. This project consisted of a complete renovation of the existing 161,000 square foot high school building and the addition of a 12,500 square foot band room, a new media center, and a new administration area.

STW was responsible for the design of all mechanical, electrical, and plumbing systems. Electrical systems included switchboards and panelboards, general building lighting, emergency and egress lighting, power and technology wiring, fire alarm, intercom, telecommunication, and lighting controls. The HVAC system at Allen County is the first chilled beam project to be designed in the state of Kentucky. Distribution air is provided to active chilled beams via dual wheel energy recovery units with 4 Angstrom enthalpy wheels. A central geothermal system provides simultaneous hot and chilled water to support the air handlers and the chilled beams in the building.

Shrout Tate Wilson commissioned the control systems for the central geothermal heat pumps, chilled beams, pumps, and energy recovery units for this facility. It is the 2nd chilled beam project to be designed and constructed in the state of Kentucky.

SECTION 4

DOCUMENT FIRM EXPERIENCE

PROJECT TRANSYLVANIA UNIVERSITY CAMPUS CENTER

TRANSYLVANIA UNIVERSITY STUDENT CENTER

Owner:

Transylvania University

Contact:

Marc Matthews
(859) 233-8100

Building Type:

Higher Education

Building Location:

Lexington, Kentucky

Total Construction Cost:

\$32,000,000

Building Size:

81,500 Square Feet

Date Completed:

November 2020

Scope:

Fundamental Commissioning



In partnership with a national architect, STW completed the design, construction administration, and phasing plan for a \$32,000,000 renovation and expansion of Transylvania University's Student Center. The existing facility was built in 1982 and features a gymnasium, natatorium, racquetball courts, common study areas, meeting rooms, a dining hall, kitchen and several office and conference areas.

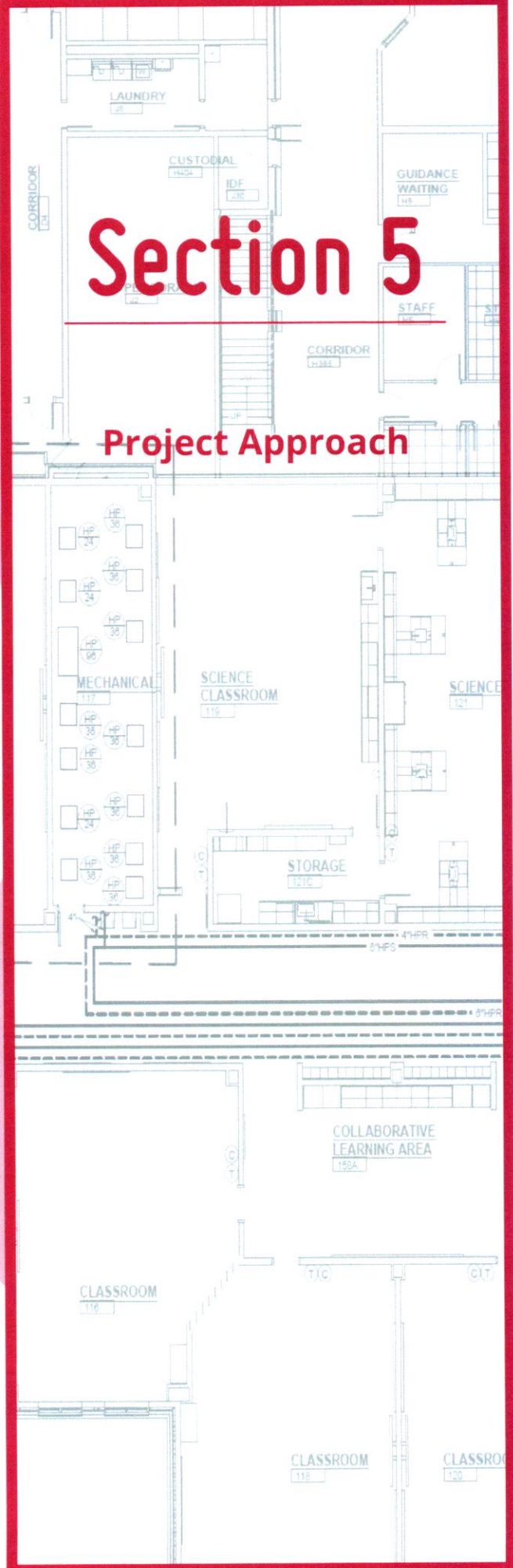
The new Campus Center includes a 61,500 square foot expansion for student life and a new dining facility plus a 20,000 square foot renovation of the existing building. The University's goal was to provide an updated dining, recreational, and communal experience for students. To achieve this, the Campus Center will feature a bookstore, bike repair shop, pool, fitness center, game room, flexible event space, a 400 person dining facility, group study areas, a health services component and several conversation areas.

During design, STW developed a phasing plan for power services to allow existing components of the building to stay active until final power could be connected. Final system types included a packaged VAV with hot water reheat, LED lighting, Access Control, IT, data networks, video surveillance, and a voice evacuation fire alarm system.

Shrout Tate Wilson performed full commissioning services for the lighting and HVAC controls for the Transylvania Student Center. The Owner took occupancy in 2020.

Section 5

Project Approach



SECTION 5

DOCUMENT: PROJECT APPROACH

Pre-Construction Phase

Submittal Review

Proper Test and Balance is a vital to a healthy working system. Shrout Tate Wilson Consulting Engineers (STW) has former balancers on staff to systematically evaluate each report. STW also uses our in-house test and balance equipment to diagnose various issues without the necessity of a traditional TAB contractor.

Commissioning Kick Off

The Commissioning Kick Off Meeting serves as an introduction of the Commissioning Team and outlines future expectations. This meeting answers questions from the design team or contractors and outlines the plan for the rest of the project.

Commissioning Plan

The Commissioning Plan is an overview of the entire Commissioning process. This document will serve as a source of information and expectations throughout the project. This document is delivered to all parties at the Commissioning Kick Off Meeting and can be used as a resource for questions at any time.

Acceptance Phase

Functional Performance Testing

The Commissioning Authority will create functional performance tests to evaluate all facility systems that are to be commissioned. These tests are created to ensure compliance with the design intent and the owners project requirements. Functional Tests will be made available to the Commissioning Team before scheduled testing. This provides time for the contractors and other team members to comment on these tests, or for the owner's representative to determine which tests he/she may want to witness. Once equipment is deemed ready, the Commissioning Authority will schedule functional testing on the equipment/system. This schedule will be distributed to the Commissioning Team. The Commissioning Authority will document all testing applicable conditions and record equipment/system performance. Should there be a failure during testing, the Commissioning Authority will document the issue found in an Issue Log and distribute it to the Commissioning Team.



SECTION 5

DOCUMENT: PROJECT APPROACH

Acceptance Phase (Cont.)

Issue Tracking

Once Issues are found through site visit inspections or failed functional tests, they will be documented into an Issue Log and distributed to the Commissioning Team. On this Issue Log, there will be a detailed description of the issue noticed, as well as a recommendation to address the issue (if applicable). Contractors that need to be involved in the resolution process will also be listed. It is the duty of each contractor listed to comment on each issue and re-distribute the Issue Log back to the Commissioning Team so that everyone is aware of the timeline to resolving the issue. These Issue Logs will be continuously updated and combined with Issue Logs from the Design Team so that there is a single list for all outstanding issues. This will allow contractors to prioritize the most critical issues and keep redundant issues from appearing.

TAB Verification

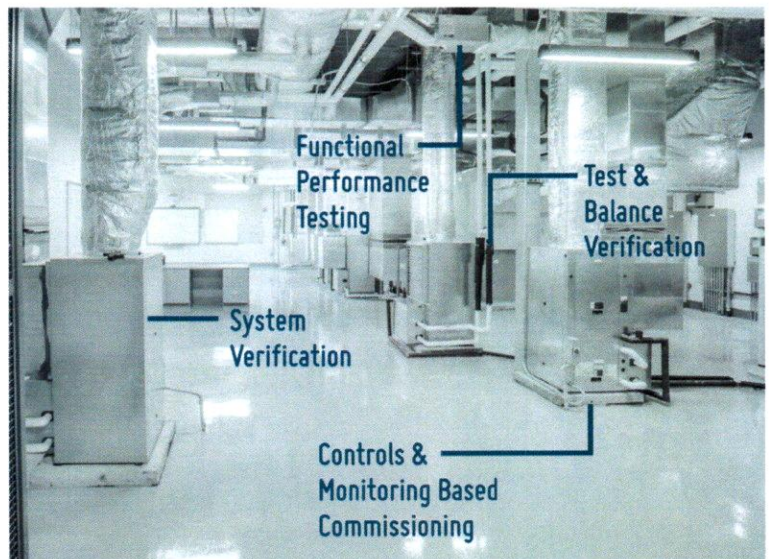
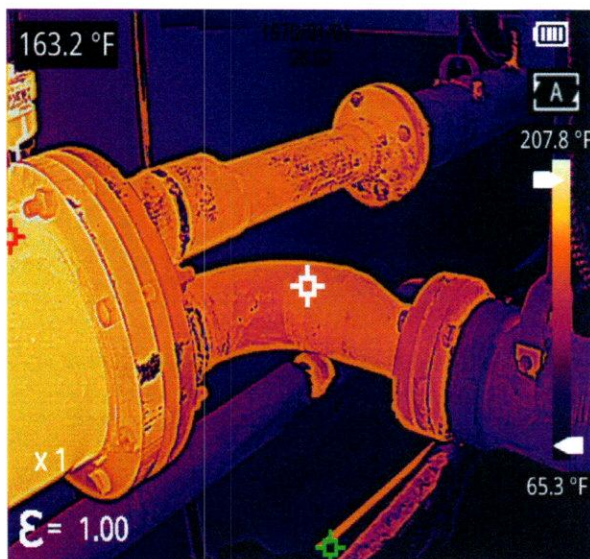
An HVAC system cannot function properly without a proper balance. ShROUT Tate Wilson Consulting Engineers (STW) has the experience and equipment to verify TAB reports without the need of additional trips by TAB contractors. This process expedites the time for approval, particularly during the crunch period at the end of a project.

Owner Training

Effectiveness relies on the proper training of personnel. Because Owner Training is commonly overlooked, the Commissioning Authority (CxA) will be present to answer questions and evaluate the effectiveness of the training. The CxA will ensure the training meets all the requirements outlined in the project specifications. Additionally, the CxA will also provide his own brief overview of the facility and its systems to the owner's representatives at the end of the project.

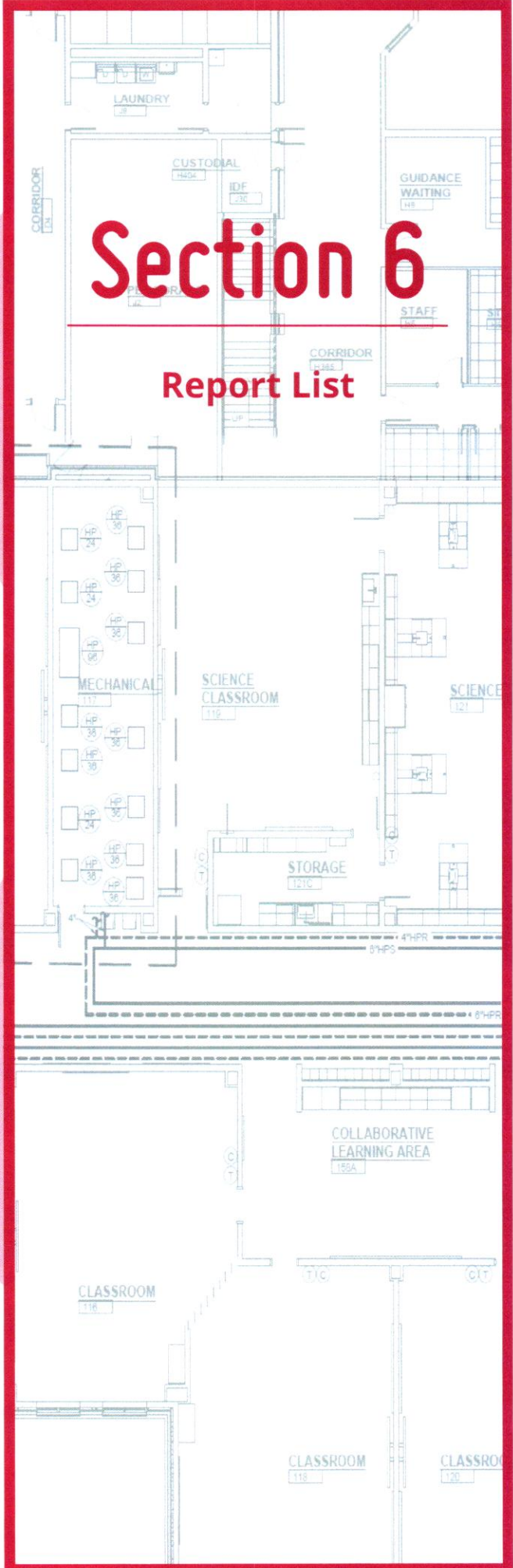
10-Month Walkthrough

The 10-month walkthrough serves to identify what has/has not been working effectively since the end of construction. This walkthrough also includes recommendations on changes that can be made to the system to increase usability and efficiency.



Section 6

Report List



SECTION 6
DOCUMENT REPORT LIST

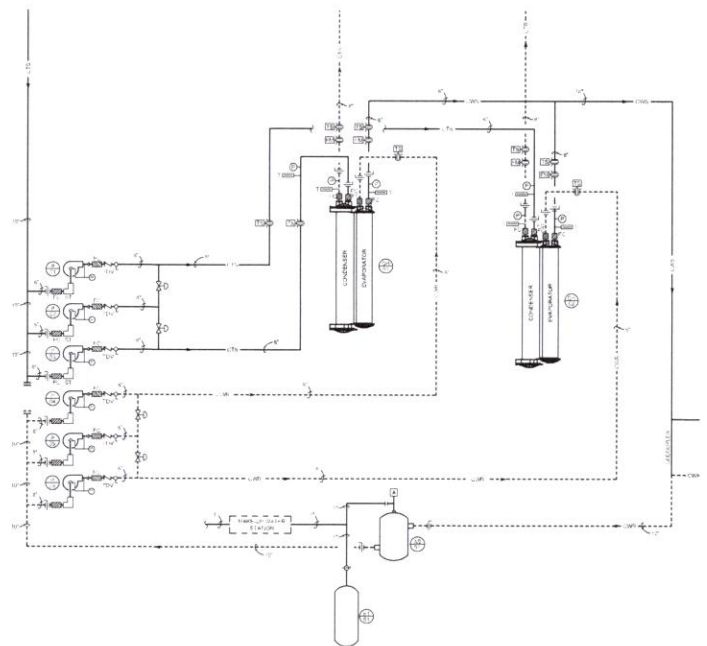
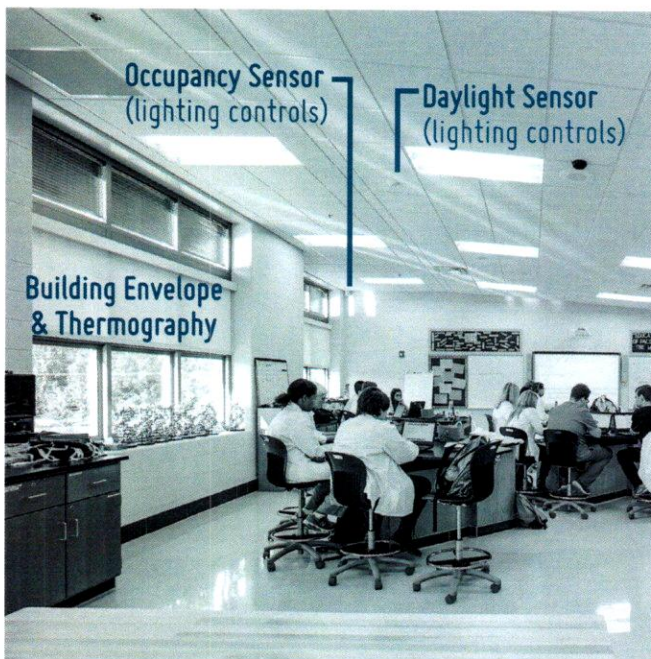
Cx Report

The Final Commissioning Report will be distributed to the entire Commissioning Team after functional testing has been completed. This report will detail all commissioning processes throughout the project. The report will follow an outline in the following format:

Title
Executive Summary
Functional Performance Tests
Past Issue Logs
Blank FPTs
Appendix and Additional Information

Report Layout and Uses

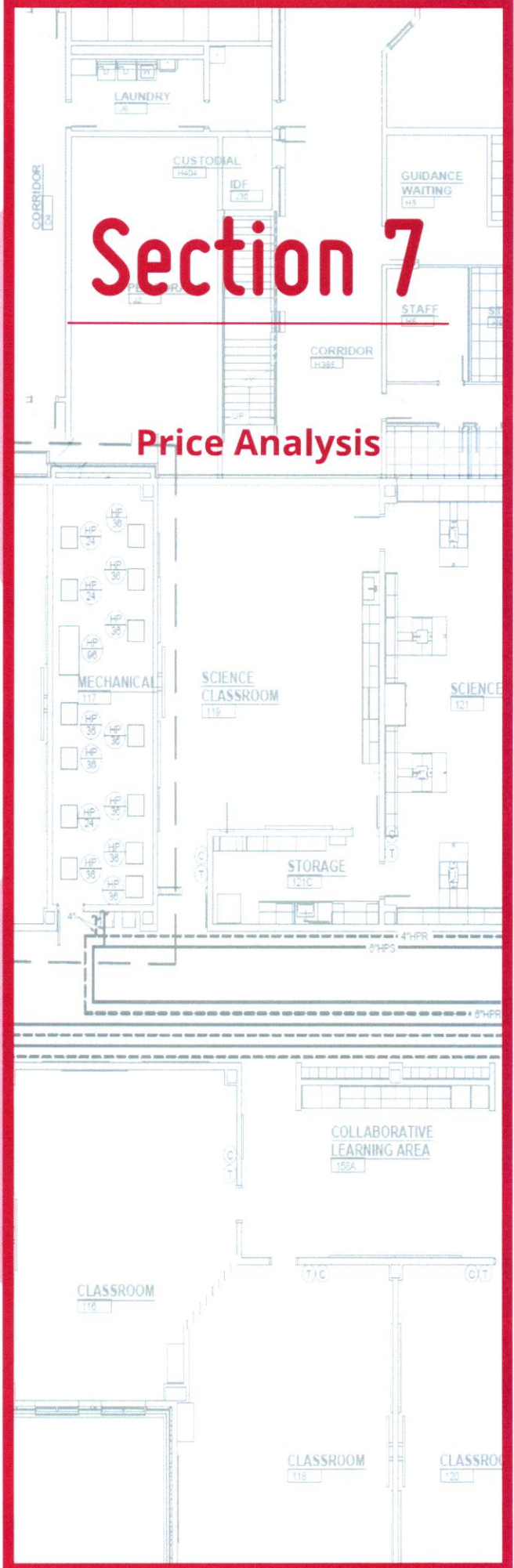
This report will serve as a condition marker for the project after the acceptance phase. This report will also contain blank versions of the FPTs used to evaluate the facility so that the owner may be able to replicate tests in the future. The Final Commissioning Report will be distributed electronically in PDF form, but hard copy versions will be made available upon request.



ARH Tug Valley Chilled Water Plant

Section 7

Price Analysis



Duff-Allen Central Elementary School Commissioning
Eastern, KY

We are proposing a lump sum fee amount of **\$36,400.00** to provide Fundamental Commissioning Services for Duff-Allen Central Elementary School.

Staff Hourly Rates:

PRINCIPALS.....	\$230.00
ASSOCIATE.....	\$200.00
PROCESS/DISTILLATION ENGINEER.....	\$200.00
SENIOR ENGINEER	\$175.00
ENGINEER	\$140.00
GRADUATE ENGINEER.....	\$105.00
CADD/BIM.....	\$95.00
ADMINISTRATIVE	\$80.00