MARC Project Title: US Department of Energy – Renew America's Nonprofits Grant Program
Federal CFDA Number: 81-086
Federal Grant Recipient: Mid-America Regional Council Community Services Corp.
DE-SE0001001
REQUEST FOR PROPOSALS FOR BUILDING ENERGY IMPROVEMENTS

Provided by:
Mid America Regional Council
801 Pennsylvania, Suite 400, Kansas City, MO 64105
816/474-4240
www.marc.org

In Conjunction with:
Community Capital Fund
Cornerstones of Care
Guadalupe Centers
Hope Faith Ministries
Jewish Vocational Service Bureau of Greater KC
Kansas City Public Library – Waldo Branch
Linwood Property – 3210 Michigan
YMCA of Greater KC – Linwood Branch
Mattie Rhodes Center
reStart Inc.
Samuel U. Rodgers Health Center
Synergy Services
TUV SUD

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Section 1 - Project Introduction

The Mid-America Regional Council (MARC through its 501c3 Community Service Corporation) received a competitive US Department of Energy grant in mid-2024 to assist area nonprofit organizations that own their buildings to fund energy conservation improvements. MARC formed a Community Advisory Board, invited applications from nonprofit agencies in the 9-county bistate Kansas City region, and through a process of community review and energy audits, 28 nonprofit organizations that own their buildings in Jackson, Johnson, Wyandotte and Platte counties were selected and agreed to participate.

The federal grant requires that MARC help the nonprofits achieve annual energy savings of at least 15 to 20 percent. The Level 2 ASHRAE energy audits for each building performed by area engineering firms in late summer/early fall 2025 identifies needed energy conservation improvements. The audits suggest improvements that could enable the nonprofit to achieve the desired energy savings. Each audit has information on energy use and costs for electricity and natural gas.

MARC is working with the first 11 of the 28 nonprofit organizations on this Request for Proposals. The 11 nonprofit organizations include:

Cornerstones of Care, 421 E. 137 Street, Kansas City, MO
Guadalupe Centers, 1512 Van Brunt, Kansas City, MO
Hope Faith Ministries, Inc., 705 Virginia, Kansas City, MO
Jewish Vocational Service Bureau of Greater Kansas City, 4600 The Paseo, Kansas City, MO
Kansas City Public Library – Waldo Branch,201 E. 75 Street, Kansas City, MO
Linwood Property, Inc., 3210 Michigan Ave., Kansas City, MO
Mattie Rhodes Center, 148 N. Topping, Kansas City, MO
reStart, Inc., 918 E. 9th Street, Kansas City, MO
Samuel U Rodgers Health Center, 2121 Summit, Kansas City, MO
Synergy Services, 400 E. 6th St., Parkville, MO
YMCA of Kansas City – Linwood Branch, 3800 E. Linwood Blvd., Kansas City, MO

Section 2 - General Bid Information

1. **Definition of owner** - the use of the term “Owner” or “Building Owner” refers to the Nonprofit Building Owner of each project.

2. **Bid Format** – The bids are to be submitted on the bid forms furnished in section 7 for that purpose by MARC on behalf of the nonprofit organizations as the building owners. The bid shall include cost of all labor, applicable taxes, insurance, permits, tools, equipment, materials, services, and incidentals necessary or required for the construction of the above project as established by the provided documentation. Submitted bids will utilize the appropriate county wage determinations as listed in section 10. County Wage Determination Details, Davis-Bacon Wages. **This is a best value bid selection process.** The attached bid form will be reviewed by MARC, the nonprofit, and SIG and selected based upon the best total combination of factors such as cost, schedule, familiarity with the type of work, etc.

3. **Time and Place to Receive Bids -** Bids will be received by MARC until **October 30, 2026 at 5:00pm Central Time via email to ashley.langenfeld@tuvsud.com**. It is the responsibility of the bidder to confirm with MARC that bids have been received within the stated deadline.

4. **Interpretation of Documents**

A. MARC shall not be responsible for oral, telegraphic, or telephonic instructions or any other explanations or interpretations of the construction documents.

B. Should a Bidder find discrepancies or ambiguities in, or omissions from, the drawings or specifications, or should they be in doubt as to their meaning, they should request an interpretation from MARC by **October 16th at 5:00pm CST**. All questions to be sent to Ashley Langenfeld, Ashley.langenfeld@tuvsud.com. An addendum with all questions answered will be provided the week of **October 19th** via DemandStar. Contractors that leave their information on the site visit sign-in will also be emailed the addendum once it is posted.

C. Bidders shall also thoroughly examine and be familiar with any available existing drawings and energy audit for the property. Failure or omission of any Bidder to receive or examine any form, instrument or document shall in no way relieve the Bidder from any obligation with respect to their bid. Each Bidder, by making their bid, represents that they have read and understands all provided documentation and have included in their proposal adequate funds for the provision of all materials, labor, and equipment to accommodate the conditions of work.

D. Every interpretation made to a Bidder shall be in the form of Addenda to the provided documentation which, when issued the week of October 19th, shall be sent promptly to all persons to whom provided documentation have been issued. All such Addenda shall become part of the provided documentation.

E. All acknowledgement sections of forms must be filled in, all applicable information provided on the bid forms, and all amounts must be in words as well as figures. Signatures must be in longhand and must be executed by a principal authorized to make contracts. The Bidder's legal name must be stated. Interlineations, alterations, or erasures will not be accepted. Bid proposals not invited by this RFP will not be entertained.

5. **Prebid Walkthrough**

MARC will work with the 11 nonprofit organizations to arrange for building walk-throughs the week of October 12-15, 2026 (schedule and map provided in sections 3-4). The schedule is designed to allow contractors adequate time to review the building and ask questions of nonprofit organization staff onsite during the prebid walkthrough. Locations, when possible with availability, are grouped by proximity on each day.

6. **Examination of the Site and Documents/Bidder's Representation**

A. Each bidder shall visit the site of the proposed Work and become fully acquainted with conditions as they exist to fully understand the facilities, difficulties and restrictions related to the execution of the Work requested. Each Bidder, by making their bid, represents that the contractor has visited the site and become familiarized with the local conditions under which the Work is to be performed. Failure to participate in the site walkthroughs scheduled the week of October 12th may constitute grounds for rejection of bid. Bidders will be given a sign-in sheet at each location to prove they were in attendance for bid consideration. Building owners have made no provisions for bidders to be allowed on their property to view requested improvements outside of the walkthrough schedule.

B. Bidders shall also thoroughly examine and be familiar with the provided documentation (e.g., existing drawings, energy audit). Failure or omission of any Bidder to receive or examine any form, instrument or document shall in no way relieve the Bidder from any obligation with respect to his bid. Each Bidder, by making his bid, represents that they have read and understand all provided documentation and has included in the proposal adequate funds for the provision of all materials, labor, and equipment to accommodate the conditions of work.

7. **Submission of Bids**

A. Bids shall be submitted on the Bid Forms issued with the provided documentation.

B. A bid will not be entertained if it has not been emailed as noted in section 2 by the bid deadline.

C. Unless otherwise provided in any supplement to this instruction to Bidders, no Bidder shall modify, withdraw or cancel their bid or any part thereof for sixty days after the time designated for the receipt of bids in the Information and Instructions to Bidders.

D. Bidder shall specifically state any and all areas in which their proposal deviates from the provided documentation. All deviations shall be stated in their bid. Unless the Bidder states otherwise, it is assumed that they take no exceptions to the bid documents.

8. **Add Alternates**

Each Bidder represents that the bid is based upon the materials and equipment described in the provided documentation. In addition to any add alternate described in the provided documentation, Bidders are encouraged to submit Add Alternate Proposals as noted in the bid form. Any such Add Alternate Proposal must be kept separate from the base bid price and shall include the associated cost difference and impact on schedule and aesthetics. Each nonprofit will include proposed add alternates within the project contract as budget and schedule allows. Specialty contractors may submit proposals for Add Alternatives separately (refer to bid form).

9. **Acceptance of Bids**

A. MARC may request any prospective Contractor to submit additional information to clarify their bid after the date of opening of bids.

B. Receipt of an Agreement from MARC or one of the participating nonprofit organizations shall be considered as notice of acceptance of bid. Upon submitting a Certificate of Insurance and proof of licensure with the city the work is to be completed, the Contractor shall coordinate project commencement with the building owner's Representative.

C. The successful Bidder shall deliver to the Building Owner a Certificate of Insurance on form approved by Building Owner, providing evidence that they have obtained all the insurance required by the provided documentation. Certificates of Insurance shall accompany signed Agreement. An endorsement naming MARC, Building Owner and Building Owner's parent as additional insured will be required.

11. **Right to Reject Bid Proposals**

The Nonprofit Building Owner reserves the right to waive irregularities and to reject any or all Bid Proposals without explanation.

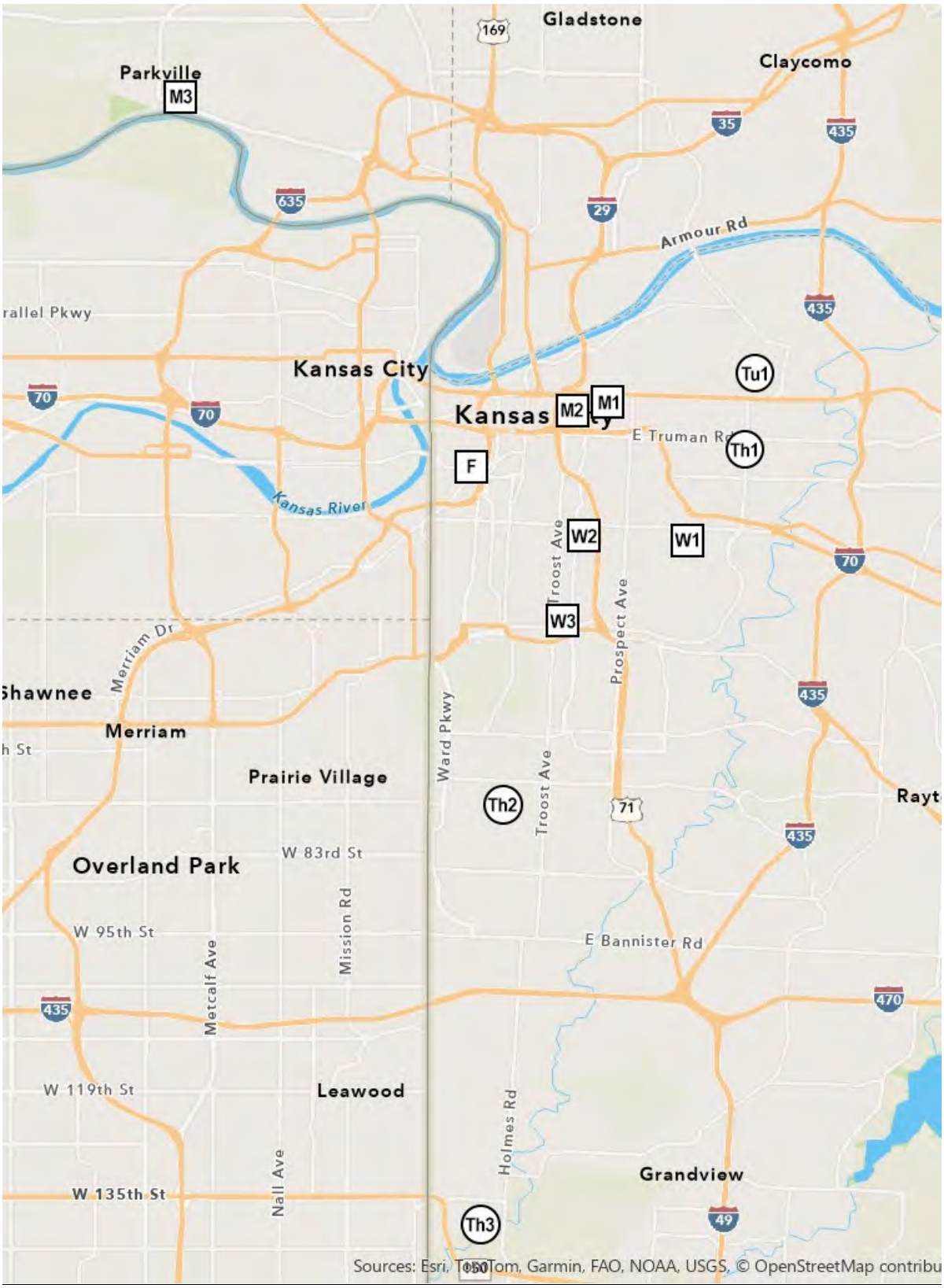
Section 3 – RFP Schedule

The schedule for the RFP shall be as follows:

1. RFP issued – October 5th 2026
2. Site Walkthroughs (schedule below) – October 12th – 16th
3. Questions due to Ashley.langenfeld@tuvsud.com – October 16th 2026 5:00pm CST
4. Addendum to be issued from MARC – week of October 19th 2026
5. **Bids due – October 30th, 2026 5:00pm**

Section 4 – Site Visit Schedule and Locations Map

	Nonprofit	Address	Time
Mon. 10.12.26	**M1**: Hope Faith Ministries	705 Virginia, Kansas City, MO	8 a.m.
	M2: reStart	918 E. 9th St., Kansas City, MO	10:30 a.m.
	M3: Synergy Services	400 E. 6th St., Parkville, MO	2 p.m.
Tues. 10.13.26	**Tu1**: Mattie Rhodes	148 N. Topping, Kansas City, MO	7 a.m.
Wed. 10.14.26	**W1**: YMCA Linwood Campus	3800 E. Linwood Blvd., Kansas City, MO	7 a.m.
	W2: Linwood Property, Inc.	3210 Michigan Ave., Kansas City, MO	9:30 a.m.
	W3: Jewish Vocational Services	4600 The Paseo, Kansas City, MO	2 p.m.
Thurs. 10.15.26	**Th1**: Guadalupe Centers	1512 Van Brunt, Kansas City, MO	8:30 am
	Th2: KC Library – Waldo	201 E. 75th St., Kansas City, MO	11 a.m.
	Th3: Cornerstones of Care	421 E. 137th St., Kansas City, MO	2 p.m.
Fri. 10.16.26	**F**: Samuel U. Rodgers Health Center	2121 Summit, Kansas City, MO	8 a.m.



Note: Letter/number combinations on map correspond with addresses in the previous page site schedule.

Section 5 - Federal Terms and Conditions

There are specific federal terms and conditions that each nonprofit organization must meet, and those requirements related to the bidding and construction must also be met by the contractors selected to complete the energy conservation work. (See attachment A for complete document of Federal Terms and Conditions). Among the federal requirements are:

NEPA and Historic Preservation Requirements
Must meet NEPA (National Environmental Policy Act) requirements by not disturbing any exterior ground and meeting federal Historic Preservation requirements on buildings designated as National Register of Historic Places buildings. No ground disturbance work will be required for this or the other 17 buildings. MARC has submitted information on every building to be improved through this grant for Missouri and Kansas State Historic Preservation Offices review and clearance. Bidders should confirm if specific improvements are required to meet historic requirements for older structures, particularly windows and doors.

Labor Standards/Davis-Bacon Act Requirements
The Requirement is to pay prevailing wages as determined by the US Secretary of Labor. Information on the current rates by county are available at Sam.gov or through MARC. Each contractor and subcontractor must meet Davis-Bacon Act requirements and submit payroll information in the portal used by the US Department of Energy, LP Tracker. Contractors selected through this RFP are required to enroll in the LCP Tracker system. The system is available at no cost to contractors. Training on this system will be available to all contractors selected for work under the program.

Compliance with Federal, State, and Municipal Law
The Recipient is required to comply with applicable federal, state, and local laws and regulations for all work performed under this Award, including appropriate IECC Energy Codes. The Recipient is required to obtain all necessary federal, state, and local permits, authorizations, licenses and approvals for all work performed under this Award. Contractors are responsible for applying for and securing local building permits if required.

American-made Equipment and Supplies
It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under this Award should be American-made.

Lobbying
By accepting funds under this Award, the contractor agrees that none of the funds obligated on the Award shall be expended, directly or indirectly, to influence Congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. § 1913.

Indemnification
All contractors are required to indemnify the US Department of Energy (DOE), MARC, the local nonprofit organization building owner and its officers, agents, or employees for any and all liability, including litigation expenses and attorneys' fees, arising from suits, actions, or claims of any character for death, bodily injury, or loss of or damage to property or to the environment, resulting from the project, except to the extent that such liability results from the direct fault or negligence of DOE or MARC or IBCC officers, agents or employees, or to the extent such liability may be covered by applicable allowable costs provisions.

Other Bidder Eligibility Requirements
To be considered for an award for construction involving federal funds, contractors must meet several administrative criteria:

- E-verify program: Complies with the federal e-verify program documenting compliance that all employees are qualified to work in the U.S.
- Debarment Certification: Complies with federal debarment requirements that the contractor (and any subcontractors) are not debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency.
- Responsibility Determination: MARC and/or the nonprofit organization must verify the contractor's integrity, financial resources, and past performance record.
- Non-Collusion Affidavit: Certification that the bid was developed independently without consulting other bidders. Contractors may work with subcontractors who are part of the bid package.
- Equal Employment Opportunity: Standard certifications regarding non-segregated facilities and affirmative action.
- Contractor License(s): Certain contractors are required to hold licenses documenting their proficiency and training to successfully oversee, carry out and complete required work. Licenses are required for roofing, plumbing, electrical and mechanical (HVAC) improvements and may be required for other energy conservation work.
- Inspection of Construction (FAR 52.246-12): The government's right to inspect and test all work at any time.

- Warranty of Construction (FAR 52.246-21): A minimum one-year warranty on all work from the date of final acceptance is required unless agreed to by the nonprofit building owner. In addition, warranties on all installed equipment should meet industry standards. Contractor will provide a printed copy or electronic access to all installation and maintenance guides for installed equipment and warranty information.
- Lien Waiver: Contractor will provide a lien waiver for all subcontractors and materials used for the Scope of Work as well as a lien waiver for work performed by the Contractor.

Section 6 – Project Scopes of Work

It is the responsibility of the awarded contractor to provide needed drawings, specifications, and documentation to secure permitting for the project. Construction teams are expected to be licensed with the city in which they are doing the work to obtain a permit. Both the bid and schedule should reflect the permitting process and any time and expense needed to produce permit documentation.

All 11 projects would like to pursue applicable incentives through both Evergy and Spire. Contractor teams with experience in both are preferred. Contractor will assist in needed documentation for and communication with Evergy or Spire incentives when applicable to the scope of work.

All work should be built to either unamended IECC 2021 standards or the local energy code, whichever is more stringent.

Coordinate final inspection walk and any needed information with SIG for grant required final report.

Provide operations, maintenance, and warranty information to the nonprofit at close of project. Training to the nonprofit so they can maintain and operate the new equipment to maintain energy efficiency for the required 12 months after for the grant is also required.

Pricing is based upon regular working hours Monday-Friday 8:00 am – 5:00 pm.

Cornerstones of Care (Cyr Hall) – hyperlink to energy audit

a. Base Bid: HVAC system upgrade. Update current HVAC system (RTUs, split-systems, and controls) to a code compliant system that provides sufficient ventilation to ASHRAE 62.1 2016 requirements with MERV 13 filters at a minimum for the RTUs. Current HVAC system is a combination of split systems and RTUs with standalone thermostats that are beyond useful life and are inefficient. Load

calculations to show that the new proposed system is sized correctly for the current needs of the facility and heating and cooling needs from future temperature swings due to climate change will be required for system design. A 1:1 replacement might not necessarily be the best option to meet the current needs of the facility. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Smart thermostats that include occupancy, seasonal scheduling, remote access/control, and weather sensing are required. Thermostats need to be tamperproof to prevent changing energy-saving temperature setpoints. Owner has interest in central controls for the entire campus, so system needs to consider plans for entire campus. Provide a final test and balance report as well as commissioning per code.

b. Add Alternate 1: LED Lighting and controls. Replace remaining fluorescent lighting (over 50% of lights – GC ton confirm quantity) with LED. There are currently no occupancy controls. Occupancy control switches for all lighting to be included in bid.
c. Add Alternate 2: Electrical Upgrade. Upgrade existing electrical break panelboards to current energy code requirements. Provide extra capacity for future needs of facility.
d. Add Alternate 3: Domestic Hot Water Upgrade. Replace domestic hot water heater with a tankless option that meets current energy code efficiencies. A preference is given for electric over natural gas.
e. Add alternate 4: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings.

Guadalupe Centers – hyperlink to energy audit

a. Base bid: HVAC system upgrade. Update current HVAC system (5 split-systems and base board heaters) to a code compliant system that provides sufficient ventilation to ASHRAE 62.1 2016 requirements. Current HVAC system is a combination of 5 split systems and baseboard heaters with individual, manual thermostats that are beyond useful life and are inefficient. Load calculations to show that the new proposed system is sized correctly for the current needs of the facility and heating and cooling needs from future temperature swings due to climate change will be required for system design. A 1:1 replacement might not necessarily be the best option to meet the current needs of the facility. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Smart thermostats that include occupancy, seasonal scheduling, remote access/control, and weather sensing are required. Thermostats need to be tamperproof to prevent

changing energy-saving temperature setpoints. Provide a final test and balance report as well as commissioning per code.

b. Add alternate 1: LED Lights and Lighting Controls. Replace approximately 114 existing interior fluorescent lighting fixtures and 8 exterior wall fixtures with new LED fixtures (GC to confirm quantity). There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid. Exterior light fixtures to include photo cell lighting controls.
c. Add alternate 2: Aerosol sealing for system ductwork.
d. Add alternate 3: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings. Add insulation to barriers between conditioned and unconditioned spaces. Add R-30 batt insulation across the entirety of attic space to create continuous insulation.

Hope Faith Homeless Assistance – hyperlink to energy audit

a. Base Bid: HVAC system upgrade. Update current HVAC system (RTUs, split-systems, and controls) to a code compliant system that provides sufficient ventilation to ASHRAE 62.1 2016 requirements with MERV 13 filters for the RTU units. Current HVAC system is a combination of split systems and RTUs that are beyond useful life and are inefficient. Load calculations to show that the new proposed system is sized correctly for the current needs of the facility and heating and cooling needs from future temperature swings due to climate change will be required for system design. A 1:1 replacement might not necessarily be the best option to meet the current needs of the facility. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Smart thermostats that include occupancy, seasonal scheduling, remote access/control, and weather sensing are required (currently thermostats are only at the units not throughout the facility). Thermostats need to be tamperproof to prevent changing energy-saving temperature setpoints. Provide a final test and balance report as well as commissioning per code.
b. Add Alternate 1: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings.
c. Add Alternate 2: Lighting controls. There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid.

Jewish Vocational Services of Greater KC – hyperlink to energy audit

a. Base Bid: Aerosol sealing for system ductwork.
b. Add Alternate 1: HVAC Replacement. 5 units were recently replaced and the remaining 6 need to be replaced to current building codes. Smart thermostats that

include occupancy, seasonal scheduling, remote access/control, and weather sensing are required (currently thermostats are only at the units not throughout the facility). Thermostats need to be tamperproof to prevent changing energy-saving temperature setpoints. Provide a final test and balance report as well as commissioning per code.

c. Add Alternate 2: LED Lights and Lighting Controls. Replace approximately 73 existing interior fluorescent and incandescent lighting fixtures and 8 exterior wall fixtures with new LED fixtures (GC to confirm quantity). There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid. Exterior light fixtures to include photo cell lighting controls.
d. Add Alternate 3: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings.
e. Add Alternate 4: Install Solar Film on windows and doors. Provide a low e-coating to innermost most exposed glass layer. Owner to select film color and compare colors to SHGC values for efficiency.

Kansas City Public Library – Waldo – hyperlink to energy audit

a. Base Bid: Base bid: 1:1 HVAC system replacement. Update current HVAC system (packaged rooftop units with VAV boxes) to a code compliant system that provides sufficient ventilation to ASHRAE 62.1 2016 requirements with MERV 13 filters. Load calculations to show that the new proposed system is sized correctly for the current needs of the facility and heating and cooling needs from future temperature swings due to climate change will be required for system design. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Recalibrate current HVAC controls for new equipment. Coordinate with owner on desired set points and scheduling to match settings across portfolio. Responsible removal and disposal of R-22 refrigerant given the Montreal Protocol to be considered in bid (2 out of 4 units).
b. Add Alternate 1: Domestic Hot Water Upgrade. Replace domestic hot water heater with a tankless option that meets current energy code efficiencies. A preference is given for electric over natural gas.
c. Add Alternate 2: LED Lights and Lighting Controls. Replace approximately 13 existing interior fluorescent lighting fixtures and 10 HID exterior fixtures with new LED fixtures (GC to confirm quantity). There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid. Exterior light fixtures to include photo cell lighting controls.

Linwood Property – Michigan – hyperlink to energy audit

a. Base Bid: HVAC system upgrade of five (5) existing Furnace Units and two (2) existing A/C Condensers - see floor plans. Update current HVAC system (split-systems, and controls) to a code compliant system for a Level 1 Alteration as defined in Section 602 of the 2018 International Existing Building Code, adopted by KCMO. Current HVAC system is split systems with standalone thermostats that are beyond useful life and are inefficient. Load calculations to show that the new proposed system is sized correctly for the current needs of the facility and heating and cooling needs from future temperature swings due to climate change will be required for system design. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Smart thermostats that include occupancy, seasonal scheduling, remote access/control, and weather sensing are required. Thermostats need to be tamperproof to prevent changing energy-saving temperature setpoints. Provide a final test and balance report as well as commissioning per code. Responsible removal and disposal of R-22 refrigerant given the Montreal Protocol to be considered in bid.

b. Add Alternate 1: LED Lights and Lighting Controls. Replace approximately 37.3 existing interior fluorescent/CFL lighting fixtures (GC to confirm quantity). There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid.

c. Add Alternate 2: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings.

d. Add alternate 3: A one to one replacement might not necessarily be the best option to meet the current needs of the facility. The Contractor should provide an engineered solution to address a system that addresses the facility needs with an alternate, collective approach.

Linwood YMCA – hyperlink to energy audit

a. Base Bid: Operable Rooftop. Either repair of or 1:1 replacement of the operable roof top for the pool (louvers and motor are not operational). This should be installed with relays to ensure the HVAC/Pool Heating system does not run concurrently while the space is open to the outdoors. GC to inspect glass roof to repair any seals in the window system to mitigate air infiltration. Additionally, the 10 exterior doors in the pool area will need to be replaced so that the operable roof assembly and associated pressure/HVAC of the space work correctly when in use. The existing door assembly is based on CRL-U.S.-Aluminum Model# HS324FBK11. Openings

vary so it is the contractor's responsibility to field verify each opening during the site visit but each opening is around 72"x 80".

b. Add Alternate 1: Add Alternate 1: LED Lights. Replace approximately 86% of existing interior fluorescent/metal hallide lighting fixtures (GC to confirm quantity).
c. Add Alternate 2: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings. Add operable window shades to all windows that do not have shading devices of some form (GC responsible for quantities).

Please note that HVAC upgrades have already been completed after the energy audit was completed and are not a part of the scope of work for bid.

Mattie Rhodes Center – hyperlink to energy audit

a. Base Bid: Update the current HVAC system (split-systems and controls) serving the Basement and 2nd Floor to a code-compliant system that provides sufficient ventilation per ASHRAE 62.1-2016 requirements. Note: the 1st and 3rd Floors have been addressed under a separate, funded project and are excluded from this scope; however, bidders should be aware of any shared mechanical infrastructure (e.g., rooftop units, shared ductwork, or distribution risers) that may serve both in-scope and out-of-scope floors and should flag these interdependencies during the walk-through.
   The current HVAC system serving these floors consists of split systems with individual zone thermostats that are beyond useful life and are inefficient. Load calculations must be provided showing that the new proposed system is sized correctly for the current needs of the Basement and 2nd Floor, as well as anticipated heating and cooling demands from future temperature swings due to climate change. A 1:1 replacement may not necessarily be the best option to meet current facility needs.
   Ductwork serving the Basement and 2nd Floor may need to be upgraded or reconfigured to meet current code and ventilation requirements. Smart thermostats — including occupancy sensing, seasonal scheduling, remote access/control, and weather sensing — are required for all zones within scope. Thermostats must be tamperproof to prevent unauthorized changes to energy-saving temperature setpoints.
   A final test and balance report, as well as commissioning per code, must be provided for all work performed under this scope. Responsible removal and disposal of R-22 refrigerant, in accordance with the Montreal Protocol, must be considered in the bid for all units being replaced on the Basement and 2nd Floor

b. Add Alternate 1: LED Lights and Lighting Controls. Replace approximately 89% of existing interior fluorescent lighting fixtures with new LED fixtures (GC to confirm quantity). There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid. Exterior light fixtures to include photocell lighting controls.
c. Add Alternate 2: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings.

reStart – hyperlink to energy audit

a. Base Bid: HVAC system upgrade. Update current HVAC system (split-systems, radiators, window air conditioners, and controls) to a code compliant system that provides sufficient ventilation to ASHRAE 62.1 2016 requirements. Current HVAC system is a combination of split systems , window units, and radiators that are beyond useful life and are inefficient. Load calculations to show that the new proposed system is sized correctly for the current needs of the facility and heating and cooling needs from future temperature swings due to climate change will be required for system design. A 1:1 replacement might not necessarily be the best option to meet the current needs of the facility. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Thermostats are at the unit with no controllability through the facility. Smart thermostats that include occupancy, seasonal scheduling, remote access/control, and weather sensing are required. Thermostats need to be tamperproof to prevent changing energy-saving temperature setpoints. Provide a final test and balance report as well as commissioning per code.
b. Add Alternate 1: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings. Add operable window shades to all windows that do not have shading devices of some form (GC responsible for quantities).
c. Add Alternate 2: Domestic Hot Water Upgrade. Replace domestic hot water heater with a tankless option that meets current energy code efficiencies. A preference is given for electric over natural gas.
d. Add Alternate 3: 1:1 Single-Pane Window Upgrades. Replace all single pane windows (GC to confirm quantity – 5th floor replacements have already occurred). Install windows and doors with performance values equal to current energy code. Window and door frames to be thermally broken.

Sam Rodgers Health Center – hyperlink to energy audit

a. Base Bid: The intent of this scope is to replace two DX cooling, electric heat rooftop units (RTUs). The replacements will occur during normal business hours. Shut down the RTUs and lock/out tag out the equipment. Provide all rigging, crane, and hauling of the equipment. Provide traffic control and any street closure permits required to shut down the street for the crane setup. Protect the duct smoke detectors during construction, they shall remain. Disconnect the electrical and fire alarm circuits and prepare for connection to new. Recover the refrigerant and legally dispose of it. Remove the existing RTUs. Hoist the new RTUs to the roof and secure them to the existing curbs. Adapter curbs are not required. Provide full size condensate drains off each RTU. Extend the existing 460V electrical circuit to the 50-ton RTU and connect. Provide a new 90-amp, 460V electrical circuit to the 25-ton RTU and connect. Replace the circuit breaker in the existing electrical panel. Extend the existing fire alarm shutdown wiring to the RTUs and connect. The RTUs shall shutdown upon alarm. Provide start-up of the RTUs. Provide test and balance of the new RTUs.
   Provide and install two Trane Intellipak rooftop units with the following options and features. Contractor to confirm current equipment specs below are appropriately rated for the facility needs.
      a. Cooling / Electric Heat
      b. One 50-ton RTU with 70kW electric heat, 20 HP supply fan, and 5 HP exhaust fan.
      c. One 25-ton RTU with 30kW electric heat, 7.5 HP supply fan, and 3 HP exhaust fan.
      d. 460 volt, 3 phase.
      e. MERV 8 and cartridge MERV 14 filters.
      f. 0-100% dry bulb economizer.
      g. VAV discharge air temp control supply VFD without bypass
      h. Unit Mounted Terminal Block
      i. Standard Aluminum Condenser Coil
      j. BACnet Communication
      k. Spring Isolators - Supply/Ex/Return
      l. 1st year part and labor warranty.
      m. 2nd – 5th year compressor parts warranty (no labor)
   In conjunction with RTU replacement, base bid scope of work shall include the replacement of building HVAC controls system. Contractor will replace the existing JCI controllers and duplicate the input/outputs as shown on the JCI Control

Drawings dated 1/10/05. The existing end devices, wiring and communication wiring will be reused and are assumed to be in good working condition. System shall include:

I. Web based control system for use on owner furnished PC workstation (requires owner furnished LAN drop and IP address)
II. Smart Phone/Tablet Application for system remote access
III. Setup of BAS site to provide remote access behind customer firewall
IV. BACnet communication to 2 new RTU's
V. Retrofit 29 FPVAV boxes with new controls to include the following:
VI. VAV box controller
VII. WCI (wireless communication interface)
VIII. Supply air sensor
IX. Digital Display sensor
X. Retrofit 1 VAV box with new controls to include the following:
XI. VAV box controller
XII. WCI (wireless communication interface)
XIII. Digital Display sensor
XIV. 3 controllers for control of 9 EF's (the existing Input/Outputs will be duplicated) (the existing relays, sensors, etc. will be reused)
XV. Graphics of all equipment controlled by DDC control system
XVI. Graphic floor plans
XVII. Engineered control drawings
XVIII. Technician labor
XIX. The existing communication wiring and field wiring will be reused and is assumed to be in good working condition.

b. Add Alternate 3: Replacement of existing FPVAV and VAV boxes with controls that tie in with updated HVAC BAS Controls (see above scope). GC to confirm quantity.
c. Add Alternate 2: LED Lights. Replace 100% of existing interior fluorescent lighting fixtures with new LED fixtures in the interior space and garage space (GC to confirm quantity).

Synergy – hyperlink to energy audit

a. Base Bid: HVAC system upgrade. Update current HVAC system (RTUs and controls) to a code compliant system that provides sufficient ventilation to ASHRAE 62.1 2016 requirements with MERV 13 filters. Current HVAC system is 8 RTUs with individual zone thermostats that are beyond useful life and are inefficient. There is also a portable air conditioner that may no longer be needed. Load calculations to show that the new proposed system is sized correctly for the current needs of the facility

and heating and cooling needs from future temperature swings due to climate change will be required for system design. A 1:1 replacement might not necessarily be the best option to meet the current needs of the facility. Ductwork may need to be upgraded or reconfigured to meet the current code and ventilation requirements. Smart thermostats that include occupancy, seasonal scheduling, remote access/control, and weather sensing are required. Thermostats need to be tamperproof to prevent changing energy-saving temperature setpoints. Provide a final test and balance report as well as commissioning per code.

b. Add Alternate 1: Aerosol sealing for system ductwork.
c. Add Alternate 2: Weatherization. Repair weatherization seals (ex: weatherstripping, caulk, rubberized, seals, etc) at all exterior penetrations and openings.
e. Add Alternate 3: Replace approximately 28 windows (GC to confirm quantity). Install windows and doors with performance values equal to current energy code. Window and door frames to be thermally broken.
d. Add Alternate 4: LED Lights and Lighting Controls. Replace existing exterior 8 wall pack and 2 pole mounted exterior fixtures with new LED fixtures (GC to confirm quantity). There are currently no occupancy controls. Occupancy control switches for all interior lighting to be included in bid. Exterior light fixtures to include photo cell lighting controls.
e. Add Alternate 5: Insulation. Replace hot water piping insulation and add batt insulation to plenum.

SECTION 7:
BID FORM

BID FORM

Only one copy of Pages 1 - 3 to be filled out as a Cover Sheet

---

TO: [select all the sites in the bid package]

- ☐ Cornerstones of Care
- ☐ Guadalupe Centers
- ☐ Hope Faith Ministries
- ☐ Jewish Vacational Services of Kansas City
- ☐ KC Public Library – Waldo Branch
- ☐ Linwood Property LLC
- ☐ Mattie Rhodes Center
- ☐ ReStart
- ☐ Samuel Rodgers Health Center
- ☐ Synergy Services
- ☐ YMCA - Linwood

FROM:_____(Name of Bidder)

_____(Address of Bidder)

_____

PROJECT TITLE:

DATE:

The undersigned, in compliance with your Information, and Instructions to Bidders, having examined the Contract Documents and the site of the proposed Work, and being familiar with all the conditions affecting the construction of the proposed project, including the availability of materials and supplies, hereby proposes and agrees to perform everything required to be performed, and to provide and furnish any and all labor, materials, necessary tools equipment, and all utility and transportation service necessary to perform and complete in a workmanlike manner all of the work required by the drawings and specifications at the prices stated below, which stated sums include taxes, fees, insurance and all other charges applicable to materials, appliances, labor and all things subject to and upon which taxes or other charges may be levied. Bids include provisions for creating and submitting needed drawings, specifications, and documentation to secure city permitting for the project. Construction teams are expected to be licensed with the city in which they are doing work to obtain a permit. Both the bid and schedule should reflect the permitting process and any time and expense needed to produce permit documentation.

It is understood that the Contract Documents for the proposed project include the following:

A. Agreement between Owner and Contractor
B. Special Conditions
C. General Conditions
D. Federal Terms and Conditions

The Bidder hereby acknowledges receipt of the following issues of Addenda, if any, and agrees that they are included in this bid.

A. The Bidder agrees that they have had an opportunity to examine the site of the Work, and has examined the contract Documents, and that they have carefully prepared their proposal upon the basis thereof, and that they have carefully examined and checked this bid and the materials, equipment, and labor required the cost thereof, and their figures therefor, and hereby states that the amount or amounts set forth in this Bid is, or are, correct and that no mistake or error has occurred this Bid or in the Bidder's

computations upon which the Bid is based, and the Bidder agrees that they will make no claim for reformation, modification, recision or correction of this Bid after the scheduled closing time for the receipt of Bid.

B. The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding, and that the Owner may consider all aspects of the Bidder's Bid when awarding the contract.

C. The Bidder agrees that this bid shall not be withdrawn or altered for a period of 60 calendar days after the last date scheduled for the submission bids.

D. The Bidder declares that in preparing this bid they have assured themselves of the availability of all labor, materials and products to meet the Substantial Completion date.

E. By signing this bid, the Bidder certifies that they do not or will not discriminate against their employees on the basis of sex, race, creed, color, national origin, or religion. They further certify that the Bidder does not maintain or provide for their employees facilities which are unlawfully segregated on any of the above categories.

F. By signing this bid, each Bidder certifies that this bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this bid with any other Bidder or any competitor.

G The Owner reserves the right to approve or reject the Bidder's proposed subcontractors in accordance the requirements of the General and Special Conditions.

H. The Bidder affirms and agrees to abide by the following:

- ☐ Endeavor to secure Build America, Buy America (BABA) products when available.
- ☐ Agree to pay wages at rates not less than those prevailing on similar projects locally, known as the Davis-Bacon Act.
- ☐ Agree to submit payroll weekly via LCPTracker, a third-party DBA electronic payroll compliance software application.
- ☐ I have read all federal terms and conditions as provided in this invitation to bid.

I. The Bidder may submit a three single sided pages or their equivalent max for narrative of qualifications. A listing of relevant work within the last 5 years not to exceed three pages may also be included.

Required Insurance

By signing this Bid, the Bidder certifies that they will purchase and maintain insurance of the types and limits of liability as detailed below and will maintain required insurance until the completion of contracted work. The insurance will be purchased and maintained through a company or companies that are lawfully authorized to do business in the jurisdiction where the project is located. MARC and the nonprofit named in this bid will be included as additional insured in the policies.

Insurance Type	Policy Limits Not Less Than
Commercial General Liability	$1 Million Per Claim, $2 Million in Aggregate
Automobile Liability	$1 Million Per Accident
Worker's Compensation	Statutory limits
Employer's Liability	$1 Million per Accident, $1 Million per Employee, $1 Million Policy Limit
Professional Liability – if furnishing professional services	$1 Million per Claim, $1 Million in Aggregate

☐ Contractor confirms ability to secure necessary insurance and to list additional insured.

The Bidder hereby takes exception to the following item(s) of the Contract Documents (If no exceptions, state "none")

ADDENDUM (Number and Date)

_____

DATED THIS _____DAY OF _____202___,

CORPORATE SEAL

_____
NAME OF FIRM

_____
ADDRESS

_____
CITY AND STATE

_____
CORPORATE SECRETARY

_____
BY SIGNATURE OF AUTHORIZED OFFICER

Name of Nonprofit: _____

Base Bid
In the following proposals, the amounts shall be shown in both words and figures. In the case of discrepancy between words and the figures, the words shall govern.

The undersigned hereby proposes and agrees to perform the forgoing for the (Guaranteed Max) of _____ Dollars ($_____), said amount constituting the Bid.

Proposed HVAC System included in Bid | For YMCA Base Bid only Proposed Operable Rooftop included in Bid | N/A for JVS

_____

Time of Commencement & Completion

The Bidder agrees that if awarded the Contract, they will substantially complete the work, ready for occupancy by the Owner, on or before _____. The expected Contract Award date should be no earlier than November 6, 2026. To meet the Substantial Completion date of_____. Contractor requires award of contract no later than _____, 202_.

☐ Contractor has past experience with achieving Evergy incentives for similar work.
☐ Contractor is an approved trade partner for Spire incentives and has past experience achieving incentives for similar work.
Please note that this is not a requirement to bid but will be evaluated for best value bid selection.

****All Add Alternates are to be kept separate from the base bid price and shall include the associated cost difference and impact on schedule and aesthetics. Add Alternates will be included as budget and schedule allows. Fill out the scope of work that you're interested in bidding on. Please note that if you are only bidding on an add alternate, that scope may not be included in the final project due to budgetary and/or schedule constraints.****

Add Alternate 1:

The undersigned hereby proposes and agrees to perform the forgoing for the (Guaranteed Max) of _____ Dollars ($_____), said amount constituting the Bid.

☐ Work can be completed in same time frame as base bid above.

If inclusion of Add Alternate 1 increases construction schedule, please note amount here in days.

_____

Add Alternate 2:

The undersigned hereby proposes and agrees to perform the forgoing for the (Guaranteed Max) of _____ Dollars ($_____), said amount constituting the Bid.

☐ Work can be completed in same time frame as base bid above.

Name of Nonprofit: _____

If inclusion of Add Alternate 2 increases construction schedule, please note amount here in days.

_____

Add Alternate 3:

The undersigned hereby proposes and agrees to perform the forgoing for the (Guaranteed Max) of _____ Dollars ($_____), said amount constituting the Bid.

☐ Work can be completed in same time frame as base bid above.

If inclusion of Add Alternate 1 increases construction schedule, please note amount here in days.

_____

Add Alternate 4:

The undersigned hereby proposes and agrees to perform the forgoing for the (Guaranteed Max) of _____ Dollars ($_____), said amount constituting the Bid.

☐ Work can be completed in same time frame as base bid above.

If inclusion of Add Alternate 1 increases construction schedule, please note amount here in days.

_____

Name of Nonprofit: _____

Additional information

The following subcontractors have agreed to furbish labor and material for this work for the trades/items indicated. These subcontractors/suppliers shall not be changed without the Owner's permission.

SUBCONTRACTOR / SUPPLIER	TRADE / MATERIAL	VALUE
		$
		$
		$
		$
		$
		$

DATED THIS _____DAY OF _____202___,

CORPORATE SEAL

_____
NAME OF FIRM

_____
ADDRESS

_____
CITY AND SATE

_____
BY SIGNATURE OF AUTHORIZED OFFICER

_____
CORPORATE SECRETARY

SECTION 8: ENERGY AUDITS BY PROPERTY



Cornerstones of Care

Level 2 Audit Report

September 2025

entegrity

energy. integrity.

17300 West 116th St. Lenexa, KS 66219 | www.entegritypartners.com

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including Cornerstones of Care.

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including Cornerstones of Care, received a Level 2 ASHRAE energy audit.

Cornerstones of Care Cyr Hall provides temporary out-of-home care for youth who face severe emotional and behavioral challenges through the Residential Treatment Program. Additionally, the Therapeutic Day Treatment Program works with 46 school districts in the Kansas City area to serve high school age students with emotional disturbances, autism spectrum disorders, and learning disabilities. Cyr Hall is comprised of dormitory wings, a campus cafeteria, and classrooms, including an art therapy program.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for Cornerstones of Care, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with Cornerstones of Care.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	Cornerstones of Care - Cyr Hall
Building Owner	Cornerstones of Care
Energy Auditor(s)	Hannah Parker
Street Address	421 E 137th St KC MO
Date of site visit(s)	7/29/2025

Metric	Value
Primary Building Use Type	Residence Hall/Dormitory
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1
Client Name	Cornerstones of Care
Point of Contact	Dane Sosniecki

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential.

Cornerstones of Care Cyr Hall has been partially converted to LED lighting, with fluorescent technology also remaining in use. The HVAC system serving the facility is made up of packaged rooftop units and split systems, with a variety of standalone thermostats. The primary goals for Cornerstones of Care include improving security, safety, and support for the children involved in campus programs and addressing deferred maintenance.

Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of Cornerstones of Care facilities. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to Cornerstones of Care's energy costs or operational requirements at a given facility.

Utility data analysis provides a lens into building energy performance and potential for savings. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. Cornerstones of Care's Cyr Hall residence facility currently underperforms the benchmark for similar facilities by 85%. This indicates that there is opportunity for investment and improvement which can reduce long-term utility and operational costs.

This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including LED Lighting, HVAC Replacements, HVAC Controls, and Electrical Upgrades

1-2 Facility Description

Entegrity audited Cornerstones of Care Cyr Hall on July 29, 2025. This facility serves as a 24/7 residence and care facility for children. Areas within the facility include dormitory-style rooms, recreation spaces, a kitchen/cafeteria, and classrooms.

During the audit, Entegrity identified several factors that affect building energy and operating costs, including outdated fluorescent lighting. aging HVAC systems. Cornerstones of Care facilities staff do well to ensure that equipment remains functional, and one rooftop unit has been recently replaced to ensure the facility remains properly conditioned and comfortable for residents, staff, and visitors.

Figure 1-2-1 Cornerstones of Care Cyr Hall



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of Cornerstones of Care, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for Cornerstones of Care during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 Cornerstones of Care Cyr Hall Characteristics

Metric	Value
Year of Construction	1979
Last Renovation	N/A
Year of Prior Energy Audit	2024 – Evergy Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	N
Historical Landmark Status	N
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	12,050
Total Conditioned Area (ft^2)	12,050
Heated Only (ft^2)	-
Cooled Only (ft^2)	-
Total Number of Floors	2
Conditioned Floors Above Grade	2
Conditioned Floors Below Grade	0
Spaces Excluded from Gross Floor Area	None

2-1.2 Occupancy Information

The table below outlines the typical occupancy of Cornerstones of Care Cyr Hall in a typical year of operations.

Table 2-1-2 Cornerstones of Care Cyr Hall Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	168
Typical Occupancy (weeks per year)	52
Typical number of occupants (during occupied hours)	25-50
Number of Dwelling Units in Building (Multifamily Only)	20
% of Dwelling Units currently Occupied (Multifamily Only)	100%

2-1.3 Space Functions

The table below outlines how Cornerstones of Care utilizes the spaces in Cyr Hall for a variety of different functions and operations.

Table 2-1-3 Cornerstones of Care Cyr Hall Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Residence Hall/Dormitory	8,000	66%
Food Service	3,100	26%
Other – Education	950	8%
Total	12,050	100%

Table 2-1-4 Cornerstones of Care Cyr Hall Space Function Breakdown

Space Description	1st Floor: Residential Treatment Program	Lower Level: Campus Cafeteria & Kitchen	Lower Level: Art Therapy Program
Space Function Type	Residence Hall/Dormitory	Food Service	Other – Education
Intended Use of Space	Residence Hall/Dormitory	Food Service	Other – Education

Space Description	1st Floor: Residential Treatment Program	Lower Level: Campus Cafeteria & Kitchen	Lower Level: Art Therapy Program
Gross Floor Area	8,000	3,100	950
Conditioned Area (%)	100%	100%	100%
Number of Occupants	20-25	0-50	0-25
Approx. Plug Loads (W/ft^2)	1.50	2.00	1.00
Space Use (hours/week)	168	25-35	25-30
Space Use (weeks/year)	52	52	50

2-1.4 Building Energy Sources

Cornerstones of Care Cyr Hall is served electricity and natural gas as metered energy sources.

Table 2-1-5 Cornerstones of Care Cyr Hall Building Energy Sources

Energy Source	Account Number	Utility Provider	Rate Schedule
Electricity	0509845353	Evergy	1MGSE
Natural Gas	6338321111	WoodRiver Energy	MSBA-Spire West-SoStar-Pass Thru

2-2 Lighting & Plug Loads

Cornerstones of Care Cyr Hall currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technologies in use at Cornerstones of Care Cyr Hall are fluorescent and LED.

Table 2-2-1 Cornerstones of Care Cyr Hall Facility Lighting Summary

Lighting Source Type	Ballast Type	Control Type	Space Type	% of Area Served
Fluorescent	4' Linear Tube	Wall Switch	Kitchen/Cafeteria	31.4%
Fluorescent	4' Linear Tube	Wall Switch	Residential/Dormitory	25.9%
Fluorescent	4' Linear Tube	Wall Switch	Classrooms	14.3%
Fluorescent	2' U-Bend	Wall Switch	Residential/Dormitory	13.2%
LED	4' Linear Tube	Wall Switch	Kitchen/Cafeteria	7.6%
LED	4' Linear Tube	Wall Switch	Classrooms	5.5%
LED	Single Bulb	Wall Switch	Residential/Dormitory	1.8%
LED	Nonstandard	Wall Switch	Residential/Dormitory	0.2%

Table 2-2-2 Cornerstones of Care Cyr Hall Plug Load Summary

Process/Plug Load Description	Operational Details
Kitchen Equipment and Appliances	Steam Table, 3 x Warmer, Mixer, Slicer, Convection Oven, Range, Fryer, Skillet, Steamer, Toaster, 1 x Microwave, 6 x Crock Pot
	Dishwasher, Ice Machine
	2 Multi-Door Refrigerator, 1 Walk-in Cooler
	1 Multi-Door Freezer, Walk-in Freezer
Office Equipment	10 Laptop Computers
	4 Desktop Computers
	3 Printers
	1 IT Server

2-3 Heating, Ventilation & Air Conditioning

Cornerstones of Care Cyr Hall is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving Cornerstones of Care Cyr Hall is summarized in the table below.

Table 2-3-1 Cornerstones of Care Cyr Hall Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Packaged Rooftop Units
	Secondary Source	Furnace Split Systems
	Fuel	Natural Gas
	Distribution	Ducted to zones
	Other Considerations	Thermostats in hallways
Cooling	Primary Source	Packaged Rooftop Units
	Secondary Source	Condensing Unit Split Systems
	Distribution	Ducted to zones
	Other Considerations	Thermostats in hallways
Controls	Zone Controls	Single zone units with standalone thermostats
	Central Controls	No central controls system at Cyr Hall
	Other Considerations	Interested in central controls system for entire campus
Hot Water	Primary Source	One gas-fired storage water heater
	Other Considerations	Located in West mechanical room in lower level

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of Cornerstones of Care Cyr Hall.

Table 2-4-1 Cornerstones of Care Cyr Hall Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	TPO
	Roofing Color	White
	Area	8,000 SF
	Condition	3/5 Good
Walls	Construction Type	Brick
	Condition	4/5 Great
Fenestrations	Frame Type	Black aluminum
	Glass Type	Double-Pane Operable (with blackout curtains)
	Glazing % of Wall Area	10-15%
	Seal Condition	3/5 Good
	Enclosure Tightness	3/5 Good
	Exterior Door Type	Hollow Metal/Storefront Glass

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with the Cornerstones of Care Cyr Hall facility. Utility data was analyzed from the period beginning June 2024 and ending May 2025.

Table 3-1-1 Annual Utility Expenses

Electric	kWh	281,492	$36,730
Natural Gas	MMBtu	330.3	$26,115

Figure 1 Cornerstones of Care Utility Cost Breakdown

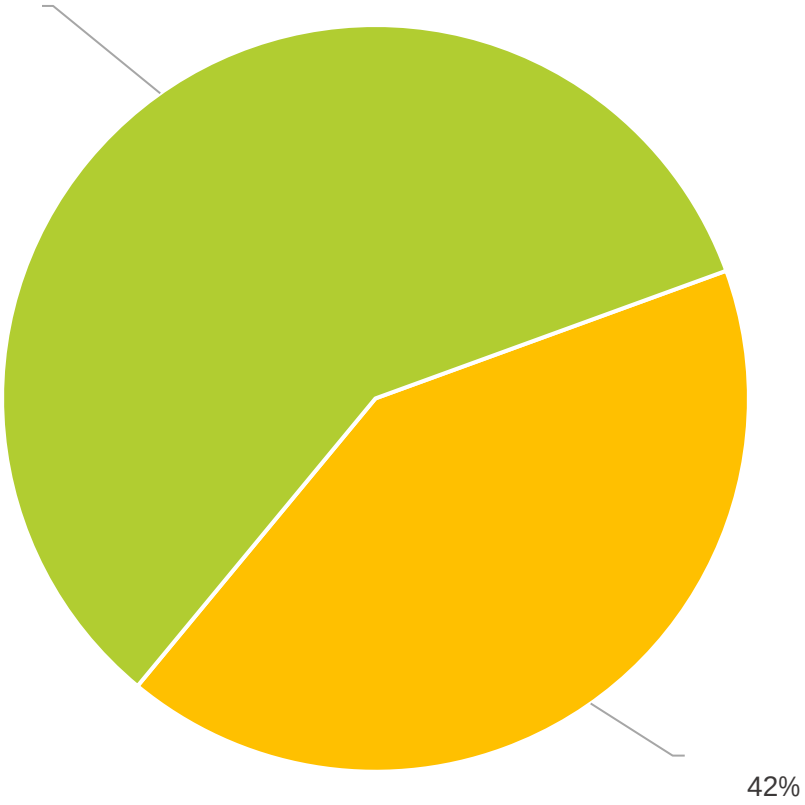
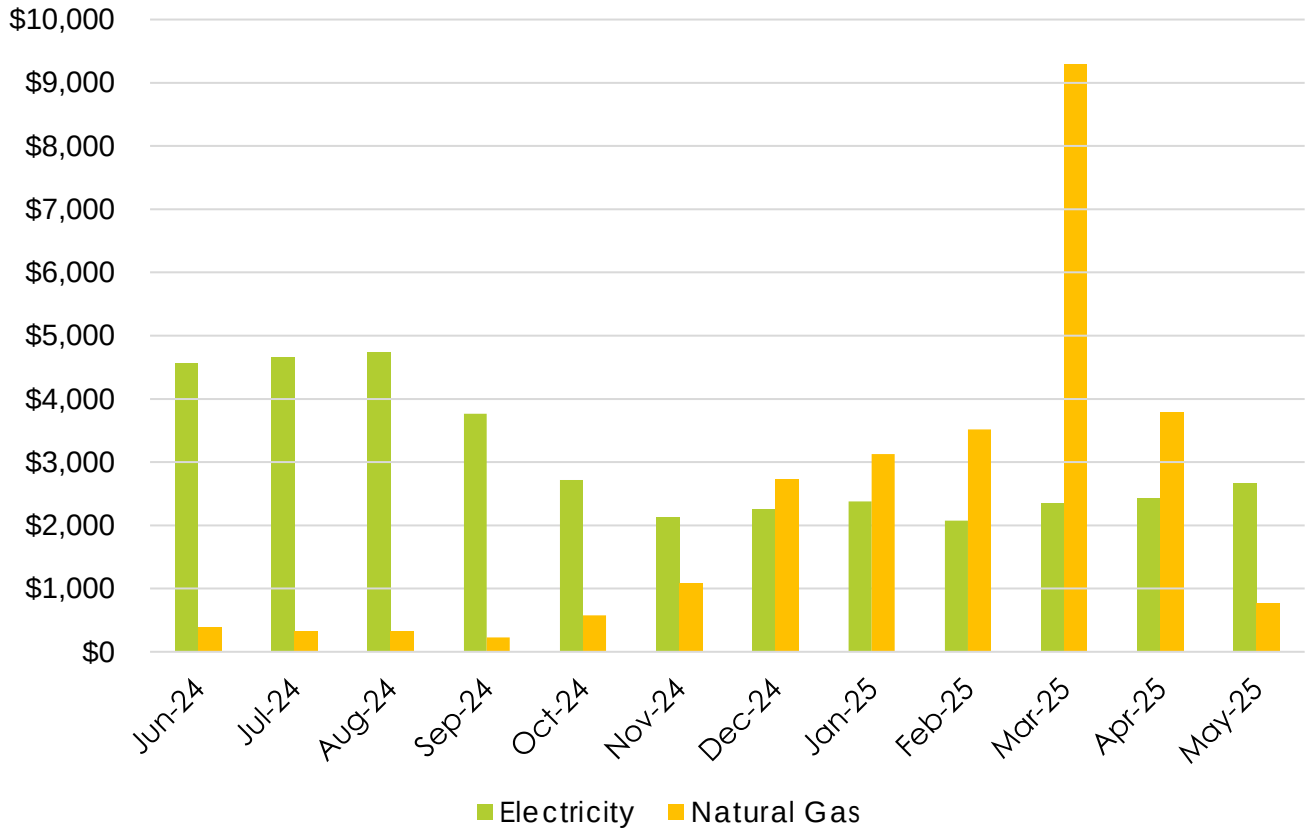


Figure 2 Cornerstones of Care Utility Cost Monthly Breakdown



3-1.1 Electricity

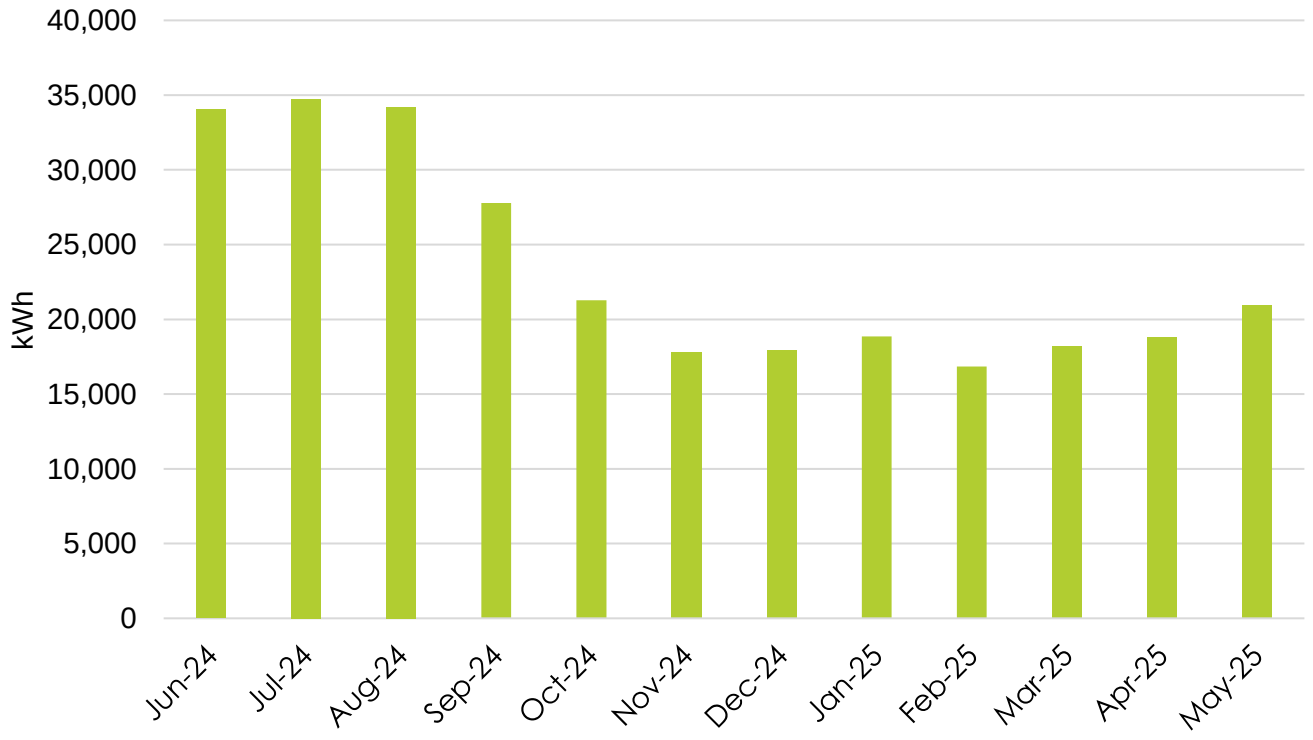
Entegrity has calculated annual electricity usage, demand, and cost data for audited Cornerstones of Care facilities. Cyr Hall is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Cornerstones of Care, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

0509845353	281,492	96.4	$36,730	$0.09872	$5.8170

Figure 3 Cornerstones of Care Cyr Hall Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

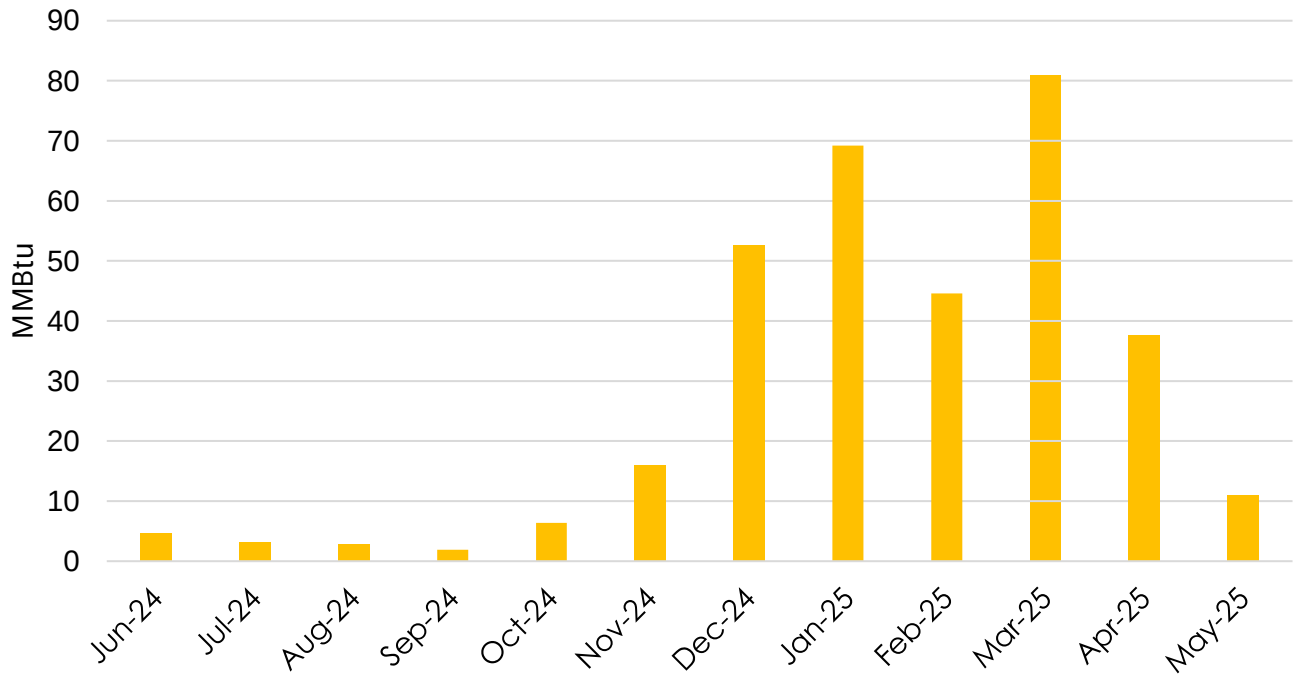
Entegrity has calculated natural gas usage and cost data for the audited Cornerstones of Care facilities. Cyr Hall is served natural gas by WoodRiver Energy via Spire. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Cornerstones of Care, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

Account ID	Base Year Usage (MMBtu)	Base Year Cost	Natural Gas Rate ($/MMBtu)
6338321111	330.3	$26,115	$16.2738
Total	330.3	$26,115	$16.2738

Figure 4 Cornerstones of Care Cyr Hall Natural Gas Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on Cornerstones of Care Cyr Hall, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare Cornerstones of Care Cyr Hall to a benchmarking target and determine the savings potential associated with reaching that target.

Target EUI and ECI are based on a 15% reduction in consumption and cost.

Table 3-2-1 Cornerstones of Care Cyr Hall Performance

Metric	Value
Conditioned Square Feet	12,050
Energy Use Intensity [building] (kBtu/sf/yr)	107.1
Energy Use Intensity [site] (kBtu/sf/yr)	107.1
Energy Cost Index ($/sf/yr)	$5.22

Table 3-2-2 Cornerstones of Care Cyr Hall Benchmarking

Metric	Value
Benchmark Source	CBECS – Residence Hall/Dormitory
Benchmark EUI (kBtu/sf/yr)	57.9
Target EUI [building] (kBtu/sf/yr)	91.1
Target EUI [site] (kBtu/sf/yr)	91.1
Target ECI [site] ($/sf/yr)	$4.43
Annual Energy Savings to Reach Target (kBtu)	193,616
Annual Cost Savings to Reach Target	$9,427

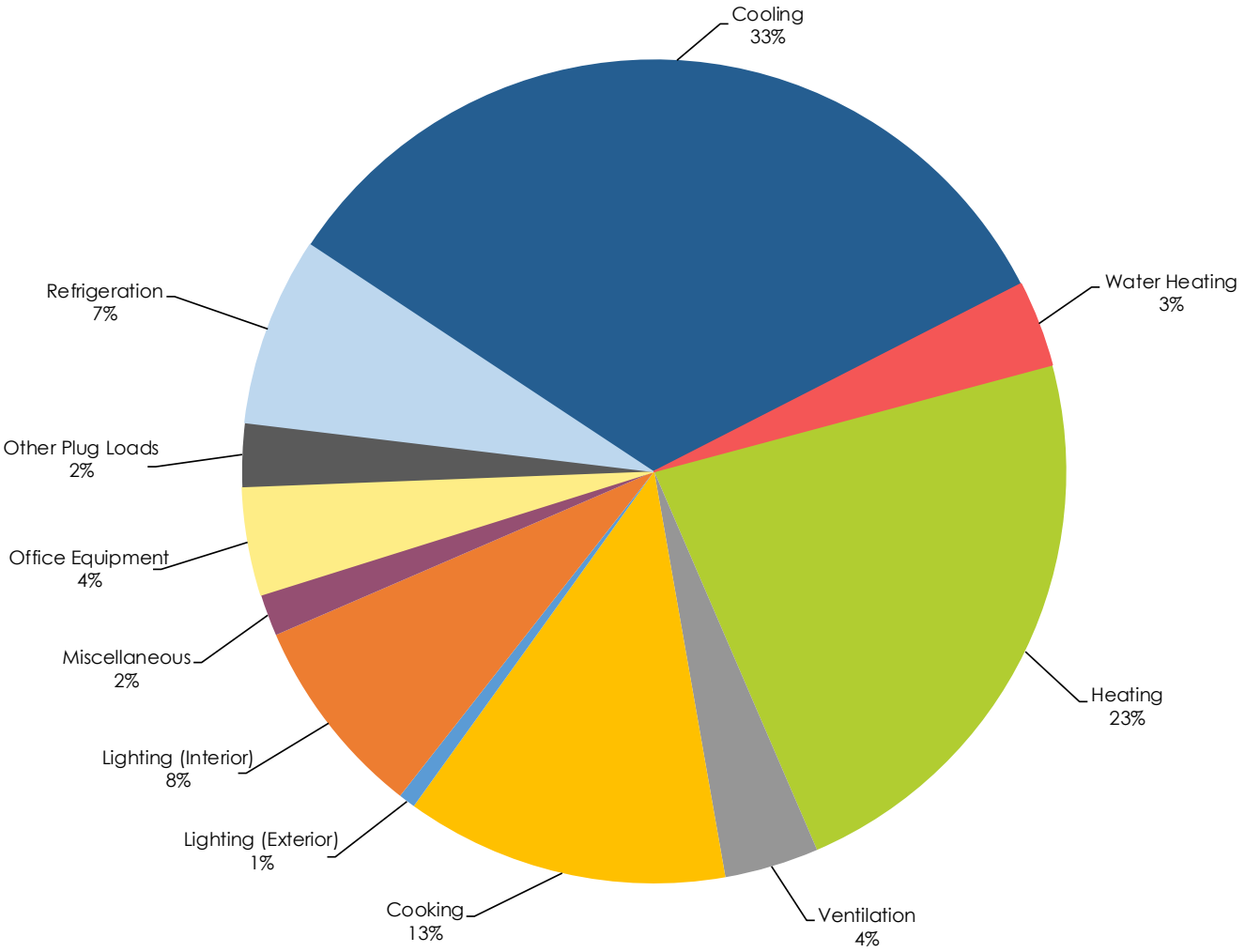
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at Cornerstones of Care and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 Cornerstones of Care Cyr Hall Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	8,500	3.0%	$1,109	264	79.9%	$20,873	$21,982
Ventilation	14,000	5.0%	$1,827	-	0.0%	$0	$1,827
Cooking	38,000	13.5%	$4,958	34	10.3%	$2,688	$7,647
Lighting (Exterior)	2,500	0.9%	$326	-	0.0%	$0	$326
Lighting (Interior)	30,000	10.7%	$3,914	-	0.0%	$0	$3,914
Miscellaneous	4,992	1.8%	$651	4	1.3%	$340	$991
Office Equipment	16,000	5.7%	$2,088	-	0.0%	$0	$2,088
Other Plug Loads	9,500	3.4%	$1,240	-	0.0%	$0	$1,240
Refrigeration	28,000	9.9%	$3,654	-	0.0%	$0	$3,654
Cooling	125,500	44.6%	$16,376	-	0.0%	$0	$16,376
Water Heating	4,500	1.6%	$587	28	8.5%	$2,214	$2,801
Total	281,492	100%	$36,730	330	100%	26,115	$62,845

Figure 5 Cornerstones of Care Cyr Hall Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Cornerstones of Care that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for Cornerstones of Care Cyr Hall.

4-1.2 Lighting

1. Turn Lights Off: Simply put, turn off lights when not in use. Areas such as restrooms and offices were noted with lights left on while nobody was occupying the space. Signage near light switches can help staff and occupants remember to turn off the lights.

4-1.3 Plug Loads

1. Refrigeration: A significant contributor to electricity consumption is refrigeration. Cornerstones of Care has refrigerators and a walk-in freezer in the kitchen. To save energy and maximize appliance efficiency, clean refrigerator coils twice annually and replace door gaskets if the seal is compromised. For walk-in coolers and freezers, it is recommended that they be serviced annually. The walk-in unit has been recently replaced, and proper maintenance and service will extend the useful life of the unit and enhance its efficiency.

4-1.4 HVAC

1. Thermostats: Cornerstones of Care currently has standalone thermostats in each zone. Some thermostats were noted with inaccurate or no scheduling programming. Correcting or adding occupancy scheduling can reduce runtime hours and save energy. Additionally, some thermostats may require recalibration to ensure they are sensing and controlling temperatures accurately.
2. Maintenance: Cornerstones of Care routinely checks for repairs needed and replaces equipment filters with a semi-annual maintenance service contract. Additional and improved maintenance practices such as coil cleaning and insulation repair can improve equipment efficiency and longevity.

4-1.5 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. Cornerstones of Care can reduce air leakage by replacing failed window seals, repairing

roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Cornerstones of Care that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for Cornerstones of Care Cyr Hall.

4-2.2 Lighting

1. LED Replacements: Cornerstones of Care uses approximately 50% fluorescent lighting at Cyr Hall, with the remaining 50% of fixtures upgraded to LED. Replacement with LED lighting significantly reduces electricity consumption and operating cost. LEDs use 60-90% less energy, last 3-50 times longer, and emit very little heat compared to older lighting technologies.

4-2.3 HVAC

1. HVAC Equipment Upgrades: Cornerstones of Care has several packaged rooftop units and split systems that are beyond useful life and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. Additionally, a comprehensive tune-up of equipment not replaced is an inexpensive way to help further reduce maintenance costs and ensure all HVAC equipment is functioning at the highest possible efficiency.
2. HVAC Controls: Cornerstones of Care currently has standalone thermostats. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, Cornerstones of Care can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability. A new controls system at Cyr Hall could also be expanded to include the entire Cornerstones of Care campus for further energy savings and improved operation.
3. Domestic Water Heater Upgrades: Cornerstones of Care has a natural gas fired storage water heater that is over 15 years old and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, and renewed equipment longevity. New tankless water heater technologies also reduce energy consumption by eliminating wasted energy through tank losses.

4-2.4 Other

1. Electrical Upgrades: As is recommended in the previous 2023 MEP audit report, replacement of the existing electrical breaker panelboards would ensure a more reliable and efficient power distribution system for Cornerstones of Care Cyr Hall. According to facilities staff, the electrical system at Cyr Hall affects the entirety of the Cornerstones of Care campus, ands all existing panelboards are in poor to fair condition.

4-3 Recommended Measures Summary

Measure Description (in order by priority)	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
LED Replacements	$1,750	$250	6.2	16,660	-	$12,000	None	10-15	$12,000	14.6%	6.9
HVAC Controls	$1,200	-	1.0	8,400	22.6	$10,000	$600	10-15	$9,400	12.8%	7.8
HVAC Upgrades	$4,850	$500	11.7	39,750	35.6	$220,000	$2,000	15-20	$218,000	2.2%	44.9
Water Heater Upgrades	$250	-	-	-	5.6	$12,000	None	15-20	$12,000	2.1%	48.0
Electrical Upgrades	$750	$500	-	5,630	-	$23,000	None	25+	$23,000	3.3%	30.7
Totals	$8,800	$1,250	18.9	70,440	63.8	$277,000	$2,600	-	$274,400	3.2%	31.2

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of Cornerstones of Care and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
LED Replacements	Contractor install new fixtures, replacing all existing non-LED fixtures and eliminating ballasts, Stipulate new fixture and installation labor costs
HVAC Controls	Cost per new smart thermostat and material and labor costs
HVAC Upgrades	Cost per ton for new equipment and labor costs
Water Heater Upgrades	Cost per ton for new equipment and labor costs
Electrical Upgrades	Estimated electrician labor and material costs

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
LED Replacements	Fixture cost times estimated quantity plus estimated labor cost
HVAC Controls	12 total thermostats to control all existing systems, plus estimated wire needed and labor
HVAC Upgrades	Cost per ton times capacity plus estimated labor, assuming the following units are replaced (see HVAC inventory): CU/F-EL, RTU-B, RTU-NE, RTU-NC, RTU-SE, and RTU-SW, and the following units receive a tune-up service: CU/F-WL, CU/F-WY
Water Heater Upgrades	System cost per ton times capacity plus estimated labor
Electrical Upgrades	Estimated electrician labor and material costs

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of Cornerstones of Care, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
LED Replacements	Stipulated wattage of new fixtures and utility rates
HVAC Controls	Annual EFLHs (run hours) and controls system reduction %
HVAC Upgrades	Annual EFLHs (run hours) and new equipment efficiencies
Water Heater Upgrades	Baseline annual usage and new equipment thermal efficiency
Electrical Upgrades	Minimal savings from improved electrical connections

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) - (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) - (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-3 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} - Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

3. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-4 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity SEER = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
LED Replacements	Lighting	16,660	-	56,844	51.3%	-	51.3%
HVAC Controls	Heating & Cooling	8,400	22.6	51,261	6.3%	8.6%	1.2%
HVAC Upgrades	Heating & Cooling	39,750	35.6	171,227	29.7%	13.5%	5.5%
Water Heater Upgrades	Water Heating	-	5.6	5,600	-	20.0%	12.9%
Electrical Upgrades	All Electrical	5,630	-	19,209	2.0%	-	1.5%
Total Savings (This Sheet)		70,440	63.8	304,141	25.0%	19.3%	23.6%
Total Savings (Measures Summary)		70,440	63.8	304,141			
Total Historical Use		281,492	330.3	1,290,751			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 Cornerstones of Care Cyr Hall Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
5/29/2024	6/27/2024	32,970	98.3	$4,421.53
6/27/2024	7/29/2024	35,778	103.3	$4,781.11
7/29/2024	8/27/2024	32,930	107.6	$4,577.11
8/27/2024	9/29/2024	31,094	91.2	$4,226.98
9/29/2024	10/28/2024	20,296	77.0	$2,614.71
10/28/2024	12/1/2024	20,166	59.6	$2,413.51
12/1/2024	12/30/2024	16,733	52.0	$2,104.23
12/30/2024	1/30/2025	18,881	65.4	$2,384.56
1/30/2025	3/3/2025	19,261	57.7	$2,370.50
3/3/2025	4/1/2025	17,002	56.4	$2,201.27
4/1/2025	4/30/2025	18,139	61.2	$2,337.13
4/30/2025	6/1/2025	21,653	76.4	$2,755.10
	Total	284,902	906	37,188

Table 6-1-2 Cornerstones of Care Cyr Hall Natural Gas Utility Data

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
6/19/2024	7/19/2024	3.1	$300.11
7/19/2024	8/18/2024	2.7	$318.79
8/20/2024	9/19/2024	3.0	$356.09
9/30/2024	10/30/2024	3.0	$346.55
10/23/2024	11/22/2024	11.5	$813.76
11/25/2024	12/25/2024	39.5	$2,542.05
12/23/2024	1/22/2025	69.9	$2,289.64
1/22/2025	2/21/2025	60.8	$4,573.44
2/27/2025	3/29/2025	60.4	$7,014.51
3/18/2025	4/17/2025	52.6	$5,882.39

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
4/15/2025	5/15/2025	17.8	$1,216.41
5/20/2025	6/19/2025	6.6	$487.52
	Total	331.0	$26,141

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Missouri Metro Medim General Service at Secondary Voltage (1MGSE)

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month: $3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month:	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10853 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05664 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

Table 6-2-2 Spire Missouri West Natural Gas Rates



Monthly Rates

Residential Customers +

Small general service −

Customer charge (per month)	$43.70
Charge for gas used (First 5,000 Ccf)	$0.18592 per Ccf
Charge for gas used (Over 5,000 Ccf)	$0.23241 per Ccf

Purchased Gas Adjustment (PGA): $0.63139 per CCF

Large general service +

6-3 Appendix C – Lighting Inventory

Table 6-3-1 Cornerstones of Care Cyr Hall Lighting Inventory

Location	Lighting Type	Fixture Type	Control Type	Fixture Quantity	Watts per Lamp	Lamps per Fixture	Total Watts
Art Room	Fluorescent	4' Linear Tube	Wall Switch	13	32	4	1,664
East Classroom	LED	4' Linear Tube	Wall Switch	8	10	4	320
West Classroom	LED	4' Linear Tube	Wall Switch	8	10	4	320
Kitchen/Cafeteria	Fluorescent	4' Linear Tube	Wall Switch	26	32	4	3,328
Dry Food Storage	Fluorescent	4' Linear Tube	Wall Switch	5	32	2	320
Kitchen/Cafeteria	LED	4' Linear Tube	Wall Switch	20	10	4	800
Mechanical West	LED	4' Linear Tube	Wall Switch	1	10	2	20
Stairwell	LED	4' Linear Tube	Wall Switch	3	10	2	60
Entry Vestibule	LED	Single Bulb	Wall Switch	1	10	1	10
Lobby/Office	Fluorescent	4' Linear Tube	Wall Switch	8	32	4	1,024
Offices	Fluorescent	4' Linear Tube	Wall Switch	2	32	4	256
Offices	Fluorescent	2' U-Bend	Wall Switch	3	32	2	192
Offices	LED	Round Flat	Wall Switch	1	10	1	10
Residential Dorms East	Fluorescent	4' Linear Tube	Wall Switch	12	32	2	768
Residential Dorms East	LED	Single Bulb	Wall Switch	12	10	1	120
Residential Dorms East	Fluorescent	2' U-Bend	Wall Switch	12	32	2	768
Residential Dorms West	Fluorescent	2' U-Bend	Wall Switch	9	32	2	576
Residential Dorms West	Fluorescent	4' Linear Tube	Wall Switch	1	32	4	128
Janitor/Storage West	LED	Single Bulb	Wall Switch	2	10	1	20
Calming Room West	LED	Nonstandard Decorative	Wall Switch	1	10	1	10
Residential Dorms West	Fluorescent	4' Linear Tube	Wall Switch	11	32	2	704
Laundry Room West	Fluorescent	4' Linear Tube	Wall Switch	1	32	4	128
Restrooms West	LED	Single Bulb	Wall Switch	6	10	1	60

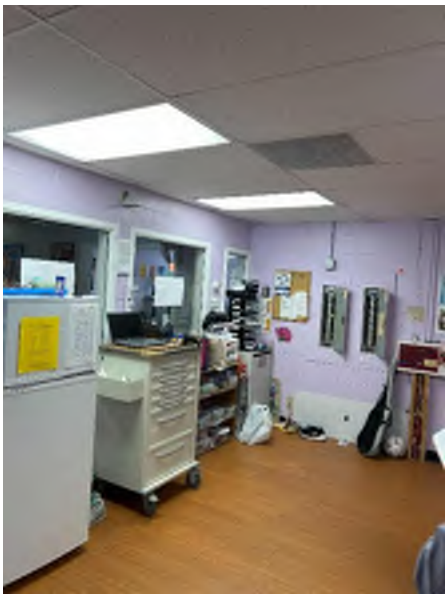
6-4 Appendix D – HVAC Inventory

Table 6-4-1 Cornerstones of Care Cyr Hall HVAC Equipment

ID	Location	Type	Make	Model	Year	Output Capacity (Btu/hr)	Efficiency	Condition	HVAC Scope
CU-EL	Roof	Condensing Unit	Carrier	38CKC048540	2001	48,000	10 SEER	2/5 Poor	Replace
CU-EY	Roof	Condensing Unit	York	YCD48B21SA	2022	48,000	13 SEER	4/5 Great	N/A
CU-WL	Roof	Condensing Unit	Lennox	TSA048S4N43Y	2012	48,000	13 SEER	3/5 Good	Tune-Up
CU-WY	Roof	Condensing Unit	York	TCD60B31SA	2022	60,000	13 SEER	4/5 Great	Tune-Up
F-EL	Mech E	Furnace	Lennox	ML180UH110P48C	2012	48,000	80% AFUE	3/5 Good	Replace
F-EY	Mech E	Furnace	Carrier	TM8E080C16MP11	2021	64,000	80% AFUE	4/5 Great	N/A
F-WL	Mech W	Furnace	Lennox	ML180UH110P48C	2012	48,000	80% AFUE	3/5 Good	Tune-Up
F-WY	Mech W	Furnace	York	TM8E100C20MP11	2014	80,000	80% AFUE	3/5 Good	Tune-Up
RTU-B	Roof	Packaged RTU	Carrier	Weathermaker	2001	48,000/88,000	11 SEER/81% AFUE	2/5 Poor	Replace
RTU-NC	Roof	Packaged RTU	Carrier	48GS-030060301	2001	30,000/60,000	10 SEER/78% AFUE	2/5 Poor	Replace
RTU-NE	Roof	Packaged RTU	Carrier	Weathermaker	2001	48,000/88,000	11 SEER/81% AFUE	2/5 Poor	Replace
RTU-NW	Roof	Packaged RTU	Carrier	48FCEA06A2A5	2021	48,000/88,000	14 SEER/80% AFUE	4/5 Great	N/A
RTU-SC	Roof	Packaged RTU	Trane	GBC060A3EMB0D0	2024	60,000/92,000	14 SEER/80% AFUE	5/5 New	N/A
RTU-SE	Roof	Packaged RTU	Carrier	Weathermaker	2001	48,000/88,000	11 SEER/81% AFUE	2/5 Poor	Replace
RTU-SW	Roof	Packaged RTU	Lennox	GCS16-036-90-5	2003	36,000/90,000	10 SEER/80% AFUE	2/5 Poor	Replace

6-5 Appendix E – Photos

























Level 2 Energy Audit

Guadalupe Centers Van Brunt

CUSTOM ENGINEERING
MECHANICAL & ELECTRICAL ENGINEERING

This Level 2 ASHRAE Energy Audit was performed for Guadalupe Centers Van Brunt and the Mid-America Regional Council and supported by grant funds provided by the US Department of Energy's Office of State and Community Energy Programs (SCEP) under the Renew America's Non-Profits Award Number DE-SE0001001. The views expressed herein do not necessarily represent those of the US Department of Energy or the US Government.

October 22, 2025

1. Executive Summary

a. The Guadalupe Centers Van Brunt facility at 1512 Van Brunt Boulevard, Kansas City, MO 64127 consumes a higher than average amount of energy compared to a similar building type. The building was constructed as an office building in 1969. It includes 8,580 sq. ft. with 23 rooms on 3 floors.

b. At current energy costs, the total annual cost savings of the recommended measures is $5,450 whereas the total cost of implementing the recommended measures is between $186,000 and $195,000 as illustrated in the following table. If all Energy Efficiency Measures (EEMs) are incorporated, the total energy use savings for the building would be 220,000 kBtu out of a total annual energy use of 544,655 kBtu, a percent savings of approximately 40%.

EEM #	Recommended Measure Description	Construction Cost, estimated	Energy Savings, estimated	Annual Site Energy Savings (%)	Cost Savings, estimated
2	Replace Existing Lighting Fixtures and Install Automatic Controls	$45,000 - $58,000	40,000 kBtu	7%	$1,700
3	Improve Building Envelope: Weatherization	$3,600	17,000 kBtu	3%	$300
4	Improve Building Envelope: Add Attic Insulation	$6,400	19,000 kBtu	4%	$300
5	Improve Building Envelope: Replace Windows & Doors	$53,000 - $75,000	19,000 kBtu	3%	$325
6	Replace Existing HVAC Systems	$51,000 - $75,000	76,000 kBtu	14%	$1,800
7	Perform Aerosol Sealing for System Ductwork	$14,000	49,000 kBtu	9%	$1,000
	Measures 2- 7	$186,000- $195,000	220,000 kBtu	40%	$5,450

2. Introduction

a. Audit scope included evaluation of current building envelope, lighting, lighting controls, HVAC, and HVAC controls; benchmarking of performance and cost; gathering energy use and cost data; assessment of building use, candidate need, building envelope, and electrical and mechanical system performance issues.

b. Key Dates:

- Level 1 Site Visit 10/17/24
- Level 1 Report by Custom Engineering, Inc. 11/11/24
- Level 2 Report by Custom Engineering, Inc. 09/30/25

c. Contact Information:

Diane Rojas
Chief Program Officer
Guadalupe Centers
1512 Van Brunt, Kansas City, MO 64127
(816) 561-6885
drojas@guadalupecenters.org

Building Location: 1512 Van Brunt Boulevard, Kansas City, MO 64127

3. Facility Description

This section outlines the details regarding the building and its equipment. It notes the activities that take place in the building and the estimated clients served in a typical year. The building envelope is described, and its condition is noted along with the environment it facilitates. All of the equipment in the building is listed along with condition, energy source and number of units. The equipment listing includes heating, ventilating, and air conditioning; hot water; lighting; and process and plug loads.



a. Building Information:

i. Guadalupe Centers Van Brunt is an 8,500 sq. ft. office building with 23 rooms on 3 floors. The building was originally a college administration building.

ii. Guadalupe Centers provides family support and is a vital hub for the community. The building houses an outpatient treatment program, which serves 142 individuals annually who are struggling with substance use disorders. In addition, Guadalupe Centers offers social services (emergency services) for 600 families and operates a food bank. Workforce preparation and digital literacy training are also provided.

iii. The building was reported to have a 75% increase in building occupancy in 2025. An estimated 2,035 clients are served annually.

iv. See APPENDIX F – Site Photos for additional facility photos documenting typical existing equipment and conditions.

b. Building Envelope:
    i. Windows and doors have poor thermal efficiency and are prone to wind leakage (infiltration). The building has 28 windows.
c. Heating, Ventilating, and Air Conditioning (HVAC):
    i. The building is heated and cooled by 5 split systems utilizing refrigerant cooling and natural gas heat. All units are controlled by individual manual thermostats.
    ii. The electric baseboard heaters located throughout the building, installed beneath windows, have been disconnected.
d. Domestic Hot Water (DHW):
    i. The building utilizes one natural gas 40-gallon water heater.
e. Lighting:
    i. The building is lit mainly by 2' x 4' T8 two-tube troffer fluorescent fixtures. There are additional surface-mounted fixtures in bathrooms. There are approximately 114 fluorescent fixtures throughout the building.
    ii. All lighting controls are manual.
f. Process and Plug Loads:
    i. 20 computers (approximate)
    ii. 3 residential refrigerators
    iii. 7 residential upright and chest freezers
    iv. 4 minifridges
    v. 1 dishwasher
    vi. 1 electric stove
    vii. 2 microwave ovens
    viii. 1 coffee machine
    ix. Office equipment (copiers, shredders, printers)
    x. Televisions and/or monitors
    xi. Security alarm system

4. Historical Utility Data

This section provides details regarding the utility aspects of the building. It provides a summary of the building's annual energy consumption along with the industry metrics of Energy Use Intensity (EUI) and Energy Cost Index (ECI). These metrics facilitate the comparison of the analyzed building to other buildings that are used for similar purposes. Both the current EUI and ECI are provided for the analyzed building along with desired targets for both metrics. The Appendix locations for benchmarking information, calculations and energy usage breakdowns are also provided.

a. Data Summary
    i. Annual energy consumption and cost
        - Electric: 67,228 kWh / 229,381 kBtu / $9,028
        - Natural gas: 3,037 Ccf / 315,274 kBtu / $3,644
        - Total site energy consumption: 544,655 kBtu
        - See APPENDIX A – Tabulated Utility Data
    ii. Gross square footage: 8,580 sq. ft.
    iii. Annual Energy Use Intensity (EUI) = 63.5 kBtu/yr/sq. ft.

iv. Annual Energy Cost Index (ECI) = $1.48/sq. ft.

b. Utility Rate Structures
   i. Electric service: Evergy - 1SGSE
   ii. Natural gas service: Spire - Small General Service
   iii. See APPENDIX B – Utility Rate Schedules

c. Benchmarking of Comparable Buildings
   i. Energy Use Index (EUI) Benchmarking Source: 2023 ASHRAE Handbook HVAC Applications IP Section 37, Table 2
      - Mixed-Use Office category: 50% EUI = 46 kBtu/yr/sq. ft.
      - Mixed-Use Office category: 75% EUI = 69 kBtu/yr/sq. ft.
   ii. Energy Use Index (EUI) calculation: Van Brunt Center
      - Van Brunt: EUI = 63.5 kBtu/yr/sq. ft.
      - The EUI listed in the Level 1 Audit Report, based on 2023 data, was 42.1 kBtu/yr/sq. ft. One change in the building usage between 2023 and 2024 was the addition of more staff (+75%) and people coming in for training and counselling. In addition, more computers have been added to the plug loads.
   iii. Energy Cost Index (ECI) Benchmarking Source: 2023 ASHRAE Handbook HVAC Applications IP Section 37, Table 5
      - Mixed-Use Office category: 50% ECI = $1.25/sq. ft.
      - Mixed-Use Office category: 75% EUI = $1.94/sq. ft.
      - Mixed-Use Office category: Mean EUI = $1.45/sq. ft.
   iv. Energy Cost Index (ECI) calculation: Van Brunt Center
      - Van Brunt Center: ECI = $1.48/sq. ft.
      - The ECI listed in the Level 1 Audit Report, based on 2023 data, was $0.89/sq. ft. This suggests the building was largely under-occupied before the addition of staff and visiting clients prior to 2025.
   v. Summary:
      - The Van Brunt Center EUI is calculated as 63.5 kBtu/yr/sq. ft. based on utility usage and square footage, which is higher than average. The high natural gas usage suggests that the building envelope openings (windows and doors) appear to be a source of heating energy losses.
      - The EUI is higher than the average value for the category of Mixed-Use Office, but the ECI is near the mean; therefore, energy efficiency measures for the building envelope as well as the mechanical and electrical systems are recommended to reduce annual energy usage. This will also achieve a desired EUI of less than average.
      - The current ratio of electrical consumption (42%) to gas consumption (58%) suggests that the building loads for computers, lighting, and cooling have increased. The prior 2023 ratio of electric to natural gas was 23% to 77%.
   vi. See APPENDIX C – Benchmarking.

d. Target and Savings Estimate
   i. By comparing this building EUI and ECI with that for the benchmark buildings, an improved EUI and ECI has been identified and reported using the Energy Star recommended 20% efficiency target:

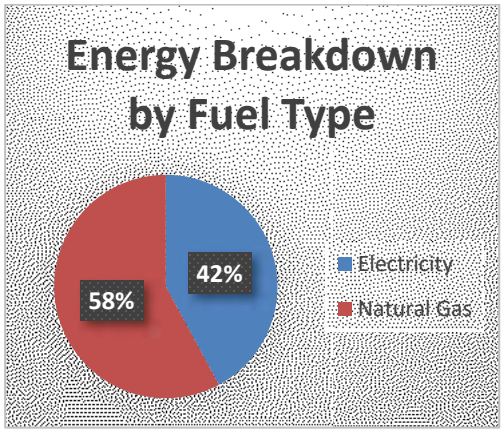
- Target Energy Use Intensity (EUI) = 55.2 kBtu/yr/sq. ft.
- Target Energy Cost Index (ECI) = $1.18/sq. ft.

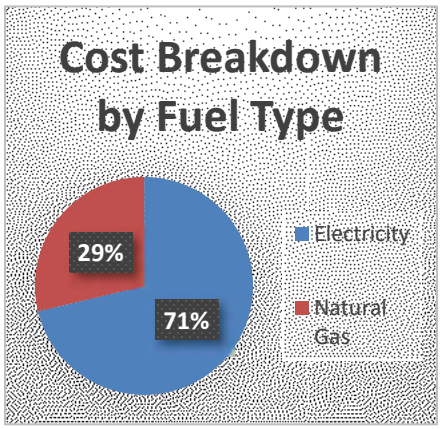
ii. If all recommended Energy Efficiency Measures (EEMs) 2-7 are incorporated, the total energy use savings for the building would be approximately 40%.

- Estimated Energy Use Intensity (EUI) = 37.9 kBtu/yr/sq. ft.
- Estimated Energy Cost Index (ECI) = $0.84/sq. ft.

The estimated annual energy savings will be 219,700 kBtu and the estimated annual cost savings will be $5,500 if the target is met.

iii. About 42% of the annual energy usage is electrical while 58% is natural gas. However, 71% of energy cost is electrical. EEMs that would shift the energy load from electrical to gas should be prioritized to reduce costs. EEM3, replacing windows and doors, combined with EEM4, weatherization of the building envelope, should both achieve lower energy costs. See pie charts below.





e. End-Use Breakdown (Largest Loads)

i. Natural Gas is used 84% by space heating and 6% by water heating (approximate).

ii. Electricity is consumed 35% by cooling, 27% by appliances, and 24% by lighting (approximate).

iii. See APPENDIX D – End-Use Breakdown.

5. Energy Saving Opportunities

a. The recommended steps to reduce energy consumption is to first reduce the demand loads from the leaky building envelope and from the inefficient lighting. Providing new energy efficient HVAC equipment will then further reduce energy consumption.

b. Low-Cost/No-Cost Savings Measures

i. New weather stripping on exterior doors.

ii. Programmable thermostats with heating and cooling temperature setpoints per ASHRAE standards for unoccupied hours. Include Optimal Start and Stop times when available. Thermostats should be outdoor weather sensing smart learning thermostats.

iii. Tamper-proof enclosures for thermostats to prevent individuals from changing energy-saving temperature setpoints.
iv. Maintenance schedule to change AC filters, inspect and repair weather stripping and caulking at doors and windows.
v. Low-flow constrictions on hot water fixtures.
vi. Hot water piping insulation replacement.
vii. As appliances near end of life, replace them with new Energy Star high efficiency units.
viii. Until occupancy sensors are installed, turn off lights to use less energy for unused spaces in the building.
ix. Enable sleep mode on all office equipment.
x. Improve Building Envelope: Weatherization and Insulation. Provide weatherization seals (weather stripping, rubberized seals, expanding foam or caulk) at exterior piping/vent/conduit penetrations, doors, and windows, including adding insulation to barriers between conditioned and unconditioned spaces.

c. Capital Projects
i. Install Automatic Controls for Lighting Control. Install lighting occupancy sensors to meet IECC2021 energy savings requirements. There will be approximately 24 new vacancy sensors for smaller rooms and 20 occupancy sensors for restrooms, corridors, and open areas.
ii. Replace Existing Interior Lighting Fixtures. Replace approximately 114 existing fluorescent lighting fixtures with new LED fixtures.
iii. Replace Exterior Lighting Fixtures. Replace approximately 8 exterior wall fixtures with new LED fixtures and install new photocell lighting controls.
iv. Improve Building Envelope: Add Attic Insulation. Install approximately 2800 sq. ft. of R-30 batt insulation in the attic space.
v. Improve Building Envelope: Replace Windows. Install energy-efficient double pane windows with low-e coating and tinting. Provide aluminum sash with thermal break. There are 28 windows that should be replaced.
vi. Improve Building Envelope: Replace Doors. Install energy-efficient storefront assembly at front and side entries.
vii. Replace Existing HVAC Systems. Replace old, inefficient HVAC condensing units and associated indoor coil with new, efficient and equivalent split systems (minimum 16 SEER) and weather sensing smart learning thermostatic controls. Furnace shall be minimum 96% efficient. The building has five units: one 3-ton, one 4-ton, and three 5-ton.
viii. Perform Ductwork Aerosol Sealing on System Ducts.

d. Incentives
i. Although a list of detailed incentives is beyond the scope of this audit level, there are “Energy Efficiency Incentives” offered by Evergy for upgrading to more efficient HVAC units, adding occupancy sensors, and replacing fluorescent lighting with LED lighting fixtures. Spire offers rebates for 7-day programmable thermostats. They also potentially offer nonprofits rebates for building envelope improvements. **Please note that applications for incentives must be approved prior to construction.**

ii. Evergy incentives are listed here: https://www.evergyenergysolutions.com/wp-content/uploads/MO-Standard-Incentives.pdf
iii. Spire incentives are listed as rebates. Apply for commercial "Custom rebate" for the installation of any natural gas related energy efficiency improvement that does not qualify for a standard rebate: https://www.spireenergy.com/commercial-rebates

e. Ancillary (Nonenergy Related) Impacts of Undertaking These Measures:
i. Funds can be redirected to expand and improve programs, such as providing more meals for seniors and increasing support for low-income families.
ii. Upgrades will create a safer, more comfortable space for all occupants and visitors, enabling the hosting of more activities and fostering a stronger community.
iii. Reducing the energy footprint aligns with the nonprofit's commitment to sustainability and social responsibility, setting a positive example for their community.

6. EEM Cost Estimates

This section details the Energy Efficiency Measures (EEM) in a table that outlines the recommended EEMs, their description, estimated construction costs, estimated cost savings, and the associated estimated Return on Investment (ROI). The ROI is a measure of the profitability of the energy improvement investment and is calculated as the following formula:

$$\text{ROI (\%)} = \frac{Cost\ Sav \quad s,\ st\ mat\ d}{Co\ \ struct\ o \quad Cost,\ st\ mat\ d}$$

EEM #	Measure Description	Construction Cost, estimated	Cost Savings, estimated	ROI, estimated
1	Install Automatic Controls for Lighting Control	$8,900	$560	6%
2	Replace Existing Lighting Fixtures and Install Automatic Controls	$45,000 - $58,000	$1,700	4%
3	Improve Building Envelope: Weatherization	$3,600	$300	8%
4	Improve Building Envelope: Add Attic Insulation	$6,440	$340	5%
5	Improve Building Envelope: Replace Windows & Doors	$53,000 - $75,000	$325	1%
6	Replace Existing HVAC Systems	$51,000 - $75,000	$1,800	4%
7	Perform Ductwork Aerosol Sealing on System Ducts	$14,000	$1,000	7%

7. EEM Economic Analysis

The various EEM details below refer to the table presented in section 6. For example, EEM2 references the second row of the table above.

a. EEM1 was calculated to be an affordable option if there were not enough funds to replace the lighting. We recommend EEM2 instead.
b. If upgrading the lighting is selected, IECC2021 requires lighting controls to meet energy savings requirements, thus new controls and new lighting are required to be completed at the same time. The 27% savings of automatic controls are then calculated against the reduced LED lighting load.
c. Accomplishing EEM2 (which incorporates EEM1) will save on labor costs. The Return on Investment (ROI) is only 4%. Although the cost of implementing these measures versus the measures' cost savings is low, the electrical energy used will be reduced 83%. Incentives will further lower costs to implement these measures, which would increase the ROI.
d. Combining EEM4 with EEM3 will improve the efficiency of the building envelope, resulting in even more energy savings with a shorter payback period.
e. The calculations for the cost to purchase and install five new HVAC split units is based on 2025 RS Means, a resource which estimates costs for the lowest efficient units that pass code. Actual costs may vary for high efficiency systems. The new units should be 19% more efficient than existing, with a ROI of 4%. The facility will see additional savings by not having to purchase refrigerant R22 in the future.
f. See APPENDIX E – Calculation Methodology.

8. Quality Assurance Appendices

The various appendices included in section 8 provide the collected utility data, utility rate schedules, benchmarking standards, the building's energy end use breakdown, the calculations used in the report, site photos and a breakdown of the expected scope associated with each of the EEMs. The scope provides a scope of work description, equipment quantities, scope elements and performance standards for improvements.

A. Tabulated Utility Data
B. Utility Rate Schedules
C. Benchmarking
D. End-Use Breakdown
E. Calculation Methodology
F. Site Photos
G. Scope of EEMs

If you have any questions or comments, please contact:

Susan Daily, EIT
Electrical Engineering
SDaily@customengr.com
(816) 350-1473 ext. 135

APPENDIX A

Tabulated Utility Data

Tabulated Utility Data

Building Name	Guadalupe Center Van Brunt
Gross floor area (sq. ft.)	8580
Date	October 22, 2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	

user input
calculated

Utility #1 - Shall be Electricity if present at the site

If sampling of meters was performed during utility analysis, describe methodology here:

N.A.

Utility #1 Electricity

MAIN DATA FOR ANALYSIS - Electricity					
Start Date	**End Date**	**Days**	**Electricity Use (kWh)**	**Electricity Cost ($)**	
6/19/2024	7/21/2024	32	7,257	$ 1,116	
7/21/2024	8/19/2024	29	7,035	$ 1,126	
8/19/2024	9/18/2024	30	6,652	$ 1,015	
9/18/2024	10/20/2024	32	6,725	$ 716	
10/20/2024	11/19/2024	30	3,429	$ 482	
11/20/2024	12/19/2024	30	3,554	$ 424	
12/19/2024	1/22/2025	34	4,845	$ 543	
1/22/2025	2/23/2025	32	4,802	$ 533	
2/23/2025	3/24/2025	29	5,000	$ 643	*estimated*
3/24/2025	4/22/2025	29	5,129	$ 659	
4/22/2025	5/21/2025	29	6,044	$ 775	
5/21/2025	6/22/2025	32	7,310	$ 1,070	
		368	67,780	9,102	

Utility #1: Definition

Units	kWh
kBtu/unit	3.412

Tabulated Utility Data

Building Name	Guadalupe Center Van Brunt
Gross floor area (sq. ft.)	8580
Date	October 22, 2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	

user input
calculated

Utility #1 - Shall be Electricity if present at the site

Utility #2 Natural Gas

MAIN DATA FOR ANALYSIS - Natural Gas				
Start Date	**End Date**	**Days**	**Natural Gas Use (Ccf)**	**Natural Gas Cost ($)**
6/2/2024	7/1/2024	29	36	$ 103
7/2/2024	8/1/2024	31	22	$ 83
8/2/2024	9/1/2024	31	26	$ 90
9/2/2024	10/1/2024	30	24	$ 80
10/2/2024	11/1/2024	31	91	$ 200
11/2/2024	12/1/2024	30	360	$ 500
12/5/2024	1/7/2025	34	708	$ 695
1/8/2025	2/5/2025	29	747	$ 730
2/6/2025	3/5/2025	28	671	$ 662
3/6/2025	4/2/2025	28	175	$ 217
4/3/2025	5/5/2025	33	116	$ 164
5/6/2025	6/4/2025	30	53	$ 110
		364	3,029	$ 3,634

Utility #2: Definition

Units	Ccf
kBtu/unit	103.80

APPENDIX B

U lity Rate Schedules

Small General Service
Schedule SGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1SGSE & 1SUSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

Metered Service:	
0-24 kW	$18.69
25-199 kW	$51.81
200-999 kW	$105.24
1000 kW or above	$898.57
Unmetered Service:	$7.84

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month	
First 25 kW	$0.000
All kW over 25 kW	$3.011

C. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.16583 per kWh	$0.12885 per kWh
Next 180 Hours Use per month:	$0.07871 per kWh	$0.06291 per kWh
Over 360 Hours Use per month:	$0.07010 per kWh	$0.05679 per kWh

Summer months: summer months are defined as June 1 - September 30 in all our territories.

FILED - Missouri Public Service Commission - 01/09/2023 - ER-2022-0129 - YE-2023-0104

DEMAND SIDE INVESTMENT MECHANISM RIDER (Cycle 4)
Schedule DSIM (Continued)

DISCONTINUING THE DSIM:

The Company reserves the right to discontinue the entire MEEIA Cycle 4 portfolio, if the Company determines that implementation of such programs is no longer reasonable due to changed factors or circumstances that have materially and negatively impacted the economic viability of such programs as determined by the Company, upon no less than thirty days' notice to the Commission. As a result of these changes, the Company may file to discontinue this DSIM. Similar to Program discontinuance, the Company would file a notice indicating that it is discontinuing the DSIM Rider. This notice would include a methodology for recovery of any unrecovered Program Costs and TD.

DEMAND SIDE INVESTMENT MECHANISM CHARGE:

Effective upon Commission approval in Case No. EO-2023-0369 MEEIA Cycle 4 Filing.

DSIM COMPONENTS AND TOTAL DSIM

Rate Schedule	Cycle	NPC/PE ($/kWh)	NTD/PE ($/kWh)	NEO/PE ($/kWh)	NOA/PE ($/kWh)	Total DSIM ($/kWh)
Residential Service	Cycle 2	$0.00000	$0.00002	($0.00001)	$0.00000	$0.00001
	Cycle 3	$0.00098	$0.00093	$0.00036	($0.00001)	$0.00226
	Cycle 4	$0.00255	$0.00011	$0.00000	$0.00000	$0.00266
	Total	$0.00353	$0.00106	$0.00035	($0.00001)	$0.00493
Non-Residential Service - SGS	Cycle 2	$0.00000	$0.00001	($0.00001)	$0.00000	$0.00000
	Cycle 3	$0.00150	$0.00155	$0.00021	$0.00000	$0.00326
	Cycle 4	$0.00079	$0.00002	$0.00000	$0.00000	$0.00081
	Total	$0.00229	$0.00158	$0.00020	$0.00000	$0.00407
Non- Residential Service - MGS	Cycle 2	$0.00000	$0.00002	$0.00000	$0.00000	$0.00002
	Cycle 3	$0.00133	$0.00141	$0.00023	$0.00000	$0.00297
	Cycle 4	$0.00253	$0.00002	$0.00000	$0.00000	$0.00255
	Total	$0.00386	$0.00145	$0.00023	$0.00000	$0.00554
Non- Residential Service - LGS	Cycle 2	$0.00000	$0.00001	$0.00000	$0.00000	$0.00001
	Cycle 3	$0.00041	$0.00059	$0.00026	$0.00000	$0.00126
	Cycle 4	$0.00104	$0.00002	$0.00000	$0.00000	$0.00106
	Total	$0.00145	$0.00062	$0.00026	$0.00000	$0.00233
Non- Residential Service - LPS	Cycle 2	$0.00000	$0.00001	$0.00000	$0.00000	$0.00001
	Cycle 3	($0.00015)	$0.00013	$0.00021	$0.00000	$0.00019
	Cycle 4	$0.00134	$0.00002	$0.00000	$0.00000	$0.00136
	Total	$0.00119	$0.00016	$0.00021	$0.00000	$0.00156

FILED - Missouri Public Service Commission - 02/01/2025 - EO-2025-0173 - JE-2025-0105

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 4th Revised Sheet No. 50.42

Canceling P.S.C. MO. No. 7 3rd Revised Sheet No. 50.42

For Missouri Retail Service Area

FUEL ADJUSTMENT CLAUSE – Rider FAC
FUEL AND PURCHASE POWER ADJUSTMENT ELECTRIC
(Applicable to Service Provided January 9, 2023 and Thereafter)
Effective for the Customer Usage Beginning April 2025 through September 2025

Accumulation Period Ending: **December 2024**			
1	Actual Net Energy Cost (ANEC) = (FC+E+PP+TC-OSSR-R)		$153,568,261
2	Net Base Energy Cost (B)	-	$148,006,228
	2.1 Base Factor (BF)		$0.01829
	2.2 Accumulation Period NSI (S_{AP})		8,092,194,001
3	(ANEC-B)		$5,562,033
4	Jurisdictional Factor (J)	x	55.1231%
5	(ANEC-B)*J		$3,065,965
6	Customer Responsibility	x	95%
7	95% *((ANEC-B)*J)		$2,912,666
8	True-Up Amount (T)	+	($872,202)
9	Interest (I)	+	$288,915
10	Prudence Adjustment Amount (P)	+	$0
11	Fuel and Purchased Power Adjustment (FPA)	=	$2,329,380
12	Estimated Recovery Period Retail NSI (S_{RP})	÷	8,893,846,174
13	Current Period Fuel Adjustment Rate (FAR)	=	$0.00026
14			
15	Current Period FAR_{Trans} = FAR x VAF_{Trans}		$0.00027
16	Prior Period FAR_{Trans}	+	$0.00100
17	Current Annual FAR_{Trans}	=	$0.00127
18			
19	Current Period FAR_{Sub} = FAR x VAF_{Sub}		$0.00027
20	Prior Period FAR_{Sub}	+	$0.00101
21	Current Annual FAR_{Sub}	=	$0.00128
22			
23	Current Period FAR_{Prim} = FAR x VAF_{Prim}		$0.00027
24	Prior Period FAR_{Prim}	+	$0.00102
25	Current Annual FAR_{Prim}	=	$0.00129
26			
27	Current Period FAR_{Sec} = FAR x VAF_{Sec}		$0.00028
28	Prior Period FAR_{Sec}	+	$0.00104
29	Current Annual FAR_{Sec}	=	$0.00132
30	VAF_{Trans} = 1.0300		
31	VAF_{Sub} = 1.0378		
32	VAF_{Prim} = 1.0497		
33	VAF_{Sec} = 1.0690		

FILED - Missouri Public Service Commission - 04/01/2025 - ER-2025-0217 - JE-2025-0121

SMALL GENERAL GAS SERVICE (Spire West)
SGS

Rate – The monthly charge shall consist of a customer charge plus a charge for gas used as set forth below:

Customer Charge – per month	$43.70
Charge for Gas Used – per Ccf	
Block 1 (First 5,000 Ccf)	$0.18592
Block 2 (Over 5,000 Ccf)	$0.23241

Minimum Monthly Charge – The Customer Charge.

Purchased Gas Adjustment – The charge for gas used as specified in this schedule shall be subject to an adjustment per Ccf for increases and decreases in the Company's cost of purchased gas, as set out on Sheet No. 11.

Surcharges and Riders – Service provided hereunder shall be subject to the Infrastructure System Replacement Surcharge (ISRS) as set out on Sheet No. 12 and any license, occupation or other similar charges or taxes as authorized by Sheet No. 14.

Late Payment Charge – Unless otherwise required by law or other regulation, 1.5% will be added to the outstanding balance of all bills not paid by the delinquent date stated on the bill. The late payment charge will not be applied to outstanding balances under $2 or to amounts being collected through a pre-arranged payment agreement with the Company that is current.

Other Terms and Conditions – Service provided hereunder is subject to the Company's General Terms and Conditions as approved by the Missouri Public Service Commission.

FILED - Missouri Public Service Commission - 12/23/2022 - GR-2022-0179 - JG-2023-0101

PURCHASED GAS COST ADJUSTMENT
PGA

H. SUMMARY STATEMENT – Spire Missouri West

Ccf

Sales Classification	CPGA	ACA	Total PGA
Residential	$0.63975	($0.01836)	$0.62139
Small General Service	$0.63975	($0.01836)	$0.62139
Large General Service	$0.63975	($0.01836)	$0.62139
Large Volume Service	$0.63975	($0.01836)	$0.62139
Unmetered Gas Light (1)	$0.63975	($0.01836)	$0.62139

1 Each Unmetered Gaslight Unit is equal to 15 Ccf.

FILED - Missouri Public Service Commission - 11/15/2024 - GR-2024-0341 - JG-2025-0060

INFRASTRUCTURE SYSTEM REPLACEMENT SURCHARGE
ISRS

Description: The Infrastructure System Replacement Surcharge (ISRS) is designed to recover the costs associated with the Company's eligible infrastructure replacements in accordance with the provisions of Sections 393.1009 to 393.1015, RSMo.

Applicability: In addition to the other charges provided for in the Company's tariff, a monthly ISRS shall be added to each customer's bill for service rendered on and after the effective date of the ISRS.

Schedule of Surcharges: The amount of the ISRS by rate schedule is as follows:

Spire East

Residential Service (RS)	$ 2.76
Small General Gas Service (SGS)	$ 5.62
Large General Gas Service (LGS)	$ 20.07
Large Volume Service (LV)	$ 146.80
Unmetered Gas Light Service (UG)	$ 0.96
General L.P. Gas Service (LP)	$ 2.88
Large Volume Transportation Service (LVTS)	$ 305.17

Spire West

Residential Service (RS)	$ 6.42
Small General Gas Service (SGS)	$ 14.03
Large General Gas Service (LGS)	$ 60.88
Large Volume Service (LV)	$ 512.23
Large Volume Transportation Service (LVTS)	$ 397.60
Transportation Service (TS)	$ 62.73
Intrastate Transportation Service (ITS)	$ 397.60

FILED - Missouri Public Service Commission - 05/14/2025 - GR-2025-0206 - JG-2025-0148

APPENDIX C

Benchmarking

Summary for Existing Building

Imported Energy (E_{imp})

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)
Electricity	67,228	kWh			
Natural Gas	3,037	Ccf			
Purchased Steam	-	lbs District Steam (15 psig) dumped after use			
Purchased Hot Water	-	kWh			
Purchased Chilled Water	-	MMBtu			
Oil	-	gallons (Fuel Oil #2)			
Propane	-	gallons (Propane)			
Coal	-	short ton (coal)			

On-Site Renewable Energy Production (E_g)

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)

Exported Energy (E_{exp})

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)
Exported - Thermal		MMBtu	1000.0	0	$ -
Exported - Electricity	-	kWh	3.4	0	$ -
			E_{exp} Total		**$ -**
			E_S Total		*[if applicable]*

Existing Building EUI/ECI

Building Name	Guadalupe Center Van Brunt	
Gross Conditioned Square Feet	8,580	
	63.5	*Similar to Benchmark: 75th Percentile (69)*
	63.5	
	$ 1.48	*Similar to Benchmark Mean ($1.45)*

*EUI: Energy Use Intensity

Benchmarking & Target EUI/ECI

Benchmark Source	ASHRAE HVAC Applications I-P-2023	
Benchmark EUI (kBtu/sf/yr)	69.0	*75th Percentile for EUI*
Target EUI [building] (kBtu/sf/yr)	55.2	*Approx. 55th Percentile for EUI*
Target EUI [site] (kBtu/sf/yr)		*A typical Energy Star target is 20% energy savings.*
Target ECI [site] ($/sf)	$ 1.18	*Just below the 50th Percentile for ECI ($1.25)*
Annual Energy Savings to Reach Target (kBtu)	71,039	
Annual Cost Savings to Reach Target	$ 2,534	

Notes

	EUI	ECI
CURRENT VALUES:	63.5	$ 1.48
EUI SAVED:	25.6	
ECI SAVED:		$ 0.63
CALCULATED VALUES POST-EEMs:	37.9	$ 0.84
TARGET VALUES:	55.2	$ 1.18

APPENDIX D

End-Use Breakdown

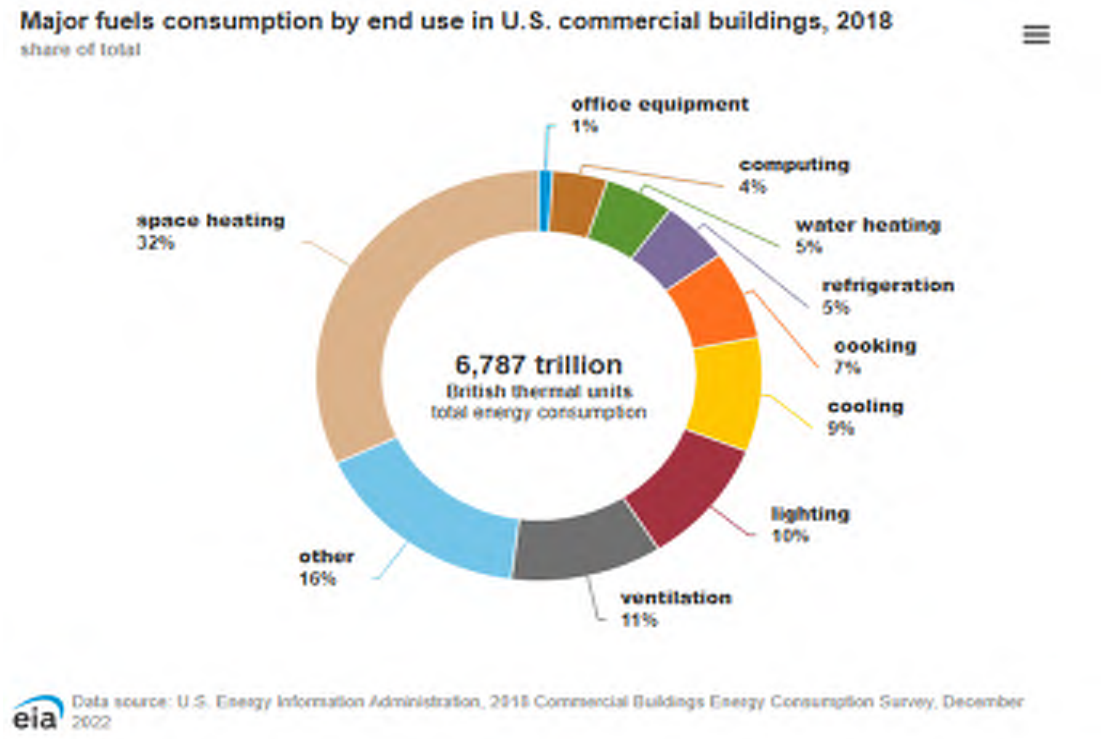
End Use Breakdown

user input
calculated
sourced data

Estimated Commercial End-use Energy Consumption						
	Default Ratio	**Estimated***	**% This Bldg**	**Energy Use (kBtu)**	**Energy Use (kWh)**	**Energy Use (Ccf)**
Office Equipment - Electric	1%	1%	0.8%	4,411	1,293	
Computing - Electric	4%	1%	0.8%	4,411	1,293	
Refrigeration - Electric	5%	10%	10.1%	55,140	16,161	
Lighting - Electric	10%	9%	8.9%	48,523	14,221	
Other Electrical - Electric	16%	2%	2.0%	11,028	3,232	
Space Cooling - Electric	9%	14%	14.2%	77,195	22,625	
Ventilation (Cooling) - Electric	5.5%	4%	4.5%	24,261	7,111	
Space Heating - Electric	0%	0%	0.0%	0	0	
Water Heating - Electric	0%	0%	0.0%	0	0	
Cooking - Electric	7%	1%	0.8%	4,411	1,293	
Space Heating - Gas	32%	48%	48.1%	262,208		2526
Ventilation (Heating) - Gas	5.5%	6%	6.3%	34,337		331
Water Heating - Gas	5%	3%	3.4%	18,729		180
Cooking - Gas	0%	0%	0.0%	0		0
Total	100%	100%	100%	544655	**67228**	**3037**

Actual Energy Use	**kWh**	**Ccf**	**kBtu**	**% Usage**	**Building Total kBtu**
Electrical	**67228**		229381	42%	**544655**
Natural Gas		**3037**	315274	58%	

Electricity accounted for 60% and natural gas accounted for 34% of total energy use in U.S. commercial buildings in 2018.



Source: https://www.eia.gov/energyexplained/use-of-energy/commercial-buildings.php

APPENDIX E

Calculation Methodology

Calculation Methodology

	Annual Totals	$ Rate	Rate Schedule
Electric (kWh)	67,228	0.13424	1SGSE
(Summer rate)		0.17122	
Gas (Ccf)	3,037	0.80731	SGS

KEY
user input
calculated
sourced data

Equipment List (Plug-in Loads)			
Description	**Qty**	**kWh/yr ea.**	
Dishwasher	1	78	
Microwave oven	2	103	
Stove	1	55	
Refrigerator/Freezer	10	1400	*No Energy Star*
Mini fridge	4	50	
Coffee machine	1	280	
Copier	2	390	
Shredder	3	120	
Printer	4	82	
Computer	12	22	*50% use sleep mode*
Monitor	6	4	
TV	6	4	
Desk lamp	4	4	
Security alarm system	1	730	

2025 Costs (Calculated)				
Description	**Quantity**	**Cost per**	**Source**	
Occupancy Sensors	44	$ 203	RSMeans 26.09.23.10.0010	*inc. demo*
LED Ltg Fixtures	114	$ 407	RSMeans	*inc. demo*
LED Exterior Lighting	8	$ 357	RSMeans 26.56.23.10.1278	*inc. demo*
Windows (low avg)	28	$ 1,000	Gov	*inc. demo*
Front Entry Door	1	$ 15,000	RSMeans 08.41.19	*inc. demo*
Side Entry Door	1	$ 10,000	RSMeans 08.41.19	*inc. demo*
3 Ton HVAC System	1	$ 7,740	RSMeans 23.62.13.10.0300	*inc. demo, cond unit, furnace, flue*
4 Ton HVAC System	1	$ 9,665	RSMeans 23.62.13.10.0400	*inc. demo, cond unit, furnace, flue*
5 Ton HVAC System	3	$ 11,240	RSMeans 23.62.13.10.0500	*inc. demo, cond unit, furnace, flue*
Duct Aerosol Sealing	5	$ 2,800	Vendor quote	*(starting for 3 ton system)*
Weatherization (16 hrs)	2	$ 1,800	RS Means 07.21.19.10.9000	*inc. demo*
Blanket insulation (sf)	2800	$ 2.30	RS Means 07.21.16.10.2210	

HVAC Condensing Units				
Existing Model No.	**Ton**	**Ex. SEER**	**New SEER2**	**Improvement**
C1048BB	4	10.0	16.0	38%
TCD60B31SA	5	13.0	16.0	19%
GSC13061GA	3	13.0	16.0	19%
TCD60B0B31SA	5	13.0	16.0	19%
24ABR360G550	5	10.0	16.0	37%
Total (weighted)				28%

HVAC Furnaces				
Existing Model No.	**kBtu**	**Exist. AFUE**	**New AFUE**	**Improvement**
TUE120	120	80%	96%	16%
TG8S120	120	80%	96%	16%
TUE120	120	80%	96%	16%
CF60CX1A	60	80%	96%	16%
TUE120	120	80%	96%	16%
Total (weighted)				16%

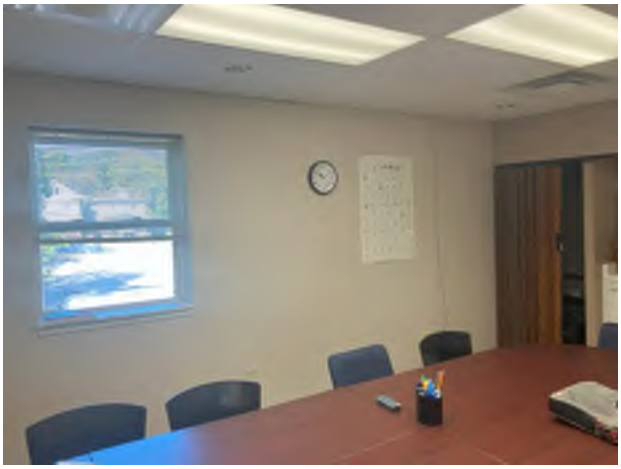
EEM Cost Estimates

EEM Energy Savings %		End-Use Energy	Annual Energy Use Savings (per EEM) %	kWh	Ccf	kBtu	$	NP-Provided Estimate	Estimated Cost	Site Energy Savings %
EEM1	**Install Automatic Controls for Lighting Control**								$ 8,932	
27%	*Occupancy Sensors save 27% on average for daytime use of lighting; photocells at night*									2%
	Lighting energy (kWh)	14,221	27%	3,840		13,101	$ 562	6% ROI		
EEM2a	**Replace Inefficient Interior Lighting with LED Fixtures**								$ 46,398	
	Replacing 64w fixtures with 15w fixtures (typical)									
	Lighting energy (kWh)	10,717	77%	8,205		27,997	$ 1,202	3% ROI		
EEM2b	**Replace Inefficient Exterior Lighting with LED Fixtures**								$ 2,856	
	Replacing 150w fixtures with 25w fixtures (typical) and integral photocell									
	Lighting energy (kWh)	3504.0	83%	2,920		9,963	$ 428	15% ROI		
EEM2c	**Install Automatic Controls of New Fixtures**								$ 8,932	
	IECC2021 requires ltg controls to meet energy savings requirements if installing new ltg									
	Occ Sensors req'd in Halls, Public Restrooms, Storage									
	Lighting energy (kWh)	2,512	27%	678		2,314	$ 99	1% ROI		
EEM2	**Replace Existing Lighting Fixtures and Install Automatic Controls**							$ 45,000	$ 58,186	
83%	*Totals of EEM2a and EEM2b*									7%
	Lighting energy (kWh)	14,221	83%	11,804		40,274	$ 1,729	4% ROI		
			%	**kWh**	**Ccf**	**kBtu**	**$**			
EEM3	**Improve Building Envelope: Weatherization**								$ 3,600	
	Weatherization projects in older buildings produce energy savings exceeding the costs									
	by a factor of 1.4, over the lifetime of the improvement.									3%
5%	Space cooling (kWh)	22,625	5.0%	1,131		3,860	$ 194			
	Space heating (Ccf)	2526	5.0%		126	13,110	$ 102			
	total savings					16,970	$ 296	8% ROI		
EEM4	**Improve Building Envelope: Add Attic Insulation**								$ 6,440	
	Insulation reduces the energy required in the building to cool and heat									
										4%
5.7%	Space cooling (kWh)	22,625	5.7%	1,290		4,400	$ 221			
	Space heating (Ccf)	2526	5.7%		144	14,946	$ 116			
	total savings					19,346	$ 337	5% ROI		
EEM5	**Improve Building Envelope: Replace Windows & Doors**							$ 75,000	$ 53,000	
	Window replacement saves about 5.5% in energy costs (double pane tinted)									
5.5%	Space cooling (kWh)	22,625	5.5%	1,244		4,246	$ 213			3%
	Space heating (Ccf)	2526	5.5%		139	14,421	$ 112			
	total savings					18,667	$ 325	1% ROI		
			%	**kWh**	**Ccf**	**kBtu**	**$**			
EEM6	**Replace Existing HVAC Systems**							$ 75,000	$ 51,125	
	Improving SEER rating of HVAC directly correlates to energy savings.									
	Specifying high efficiency gas furnaces increases energy savings.									
	Space cooling (kWh)	22,625	28%	6,335		21,615	$ 1,085			
19%	Space heating (Ccf)	2526	16%		404	41,953	$ 326			14%
	Ventilation cooling (kWh)	7,111	28%	1,991		6,793	$ 341			
	Ventilation heating (Ccf)	331	16%		53	5,494	$ 43			
	total savings					75,855	$ 1,795	4% ROI		
EEM7	**Perform Aerosol Duct Sealing for System Ductwork**								$ 14,000	
	Sealing ductwork systems for each air handler saves up to 30% in air losses									
	Space cooling (kWh)	22,625	10%	2,262		7,720	$ 387			
12%	Space heating (Ccf)	2526	10%		253	26,221	$ 204			9%
	Ventilation cooling (kWh)	7,111	25%	1,778		6,065	$ 304			
	Ventilation heating (Ccf)	331	25%		83	8,584	$ 67			
	total savings					48,590	$ 962	7% ROI		
			%	**kWh**	**Ccf**	**kBtu**	**$**	**Construction Cost Range**		
	TOTAL SITE SAVINGS (EEMs 2-7)					**219,702**	**$ 5,444**	**$ 195,000**	**$ 186,351**	**40%**

APPENDIX F

Site Photos

Lighting








Mechanical Equipment









Windows and Doors













APPENDIX G

Scope of EEMS

Energy Efficiency Measures (Electrical)

Site contact: Diane Rojas
Chief Program Officer
Guadalupe Centers
1512 Van Brunt, Kansas City, MO 64127
(816) 561-6885
drojas@guadalupecenters.org

EEM #

1 i. Install Automatic Controls for Lighting Control. Install lighting occupancy sensors to meet IECC2021 energy savings requirements. There will be approximately 24 new vacancy sensors for smaller rooms and 20 occupancy sensors for restrooms, corridors, and open areas.

2 ii. Update Inefficient Lighting Fixtures. Replace approximately 114 interior fixtures.
iii. Replace Exterior Lighting Fixtures. Replace approx. 8 exterior wall fixtures with new LED fixtures and install new photocell lighting controls.

	Equipment List			
	Description	**Quantity**		**(Similar to)**
1	Occupancy Sensor	20		RSMeans 26.09.23.10.0010
1	Vacancy Sensor	24		RSMeans 26.09.23.10
2	LED Ltg Fixtures	114		LED Similar to Existing
2	Ext. Lighting Control	8		RSMeans 26.09.23.10.0450
2	Ext LED Wall Ltg	8		RSMeans 26.56.23.10.1278

1 **Lighting Occupancy Sensors (Estimate)**

	Quantity
Rooms (wall switch)	24
Halls (ceiling mtd)	14
Toilets (full coverage)	6
Power packs for controls	

2 **Replace Existing Lighting Fixtures (Estimate)**

	Quantity
Demo existing fixtures	122
Interior LED lighting	114
Exterior wall fixture	8
Exterior lighting controls	8

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing inefficient lighting with new LED lighting that offers the same levels of lumens or meets the IECC requirements. Contractor to confirm final selection with building owner and verify exact quantities and fixture types prior to bid. Provide all equipment and materials for all phases of demo, installation, including necessary permits and inspections. Work shall comply with Kansas City Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Energy Efficiency Measures (Mechanical)

Site contact: Diane Rojas
Chief Program Officer
Guadalupe Centers
1512 Van Brunt, Kansas City, MO 64127
(816) 561-6885
drojas@guadalupecenters.org

EEM #

6 i. Replace Existing HVAC Systems. Replace existing HVAC condensing units with new matched efficient (minimum 16 SEER) split-systems and 7-day programmable thermostatic controls. Furnace shall be minimum 96% efficient. The building has five units: one 3-ton, one 4-ton, and three 5-ton.

7 ii. Perform Ductwork Aerosol Sealing on System Ducts.

	Equipment List			
	Description	**Quantity**		**Notes**
5	3 Ton HVAC Split System	1		Minimum SEER 16
5	4 Ton HVAC Split System	1		Minimum SEER 16
5	5 Ton HVAC Split System	3		Minimum SEER 16
7	Duct sealing for each supply	5		Reduce leakage to 2%

6

HVAC Condensing Units and Furnaces			
Existing Model No.	**Ton**	**Exist. SEER**	**New SEER2**
C1048BB	4	10	16.0
TCD60B31SA	5	13	16.0
GSC13061GA	3	13	16.0
TCD60B0B31SA	5	13	16.0
24ABR360G550	5	10	16.0
	MBH	**Exist. AFUE**	**New AFUE**
TUE120	120	80%	96%
TG8S120	120	80%	96%
TUE120	120	80%	96%
CF60CX1A	60	80%	96%
TUE120	120	80%	96%

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing. Contractor to confirm final selection with building owner and verify quantities prior to bid. Provide all equipment and materials for all phases of demo, installation, and commissioning, including necessary permits and inspections. Work shall encompass best industry practices and comply with Kansas City Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Energy Efficiency Measures (Building Envelope)

Site contact: Diane Rojas
Chief Program Officer
Guadalupe Centers
1512 Van Brunt, Kansas City, MO 64127
(816) 561-6885
drojas@guadalupecenters.org

EEM #

4 i. Improve Building Envelope: Replace Windows. Install energy-efficient double pane windows with low-e coating. Provide aluminum sash with thermal break. There are 28 windows that should be replaced.
ii. Improve Building Envelope: Replace Doors. Install energy-efficient storefront assembly at front and side entries.
5 iii. Provide weatherization seals (rubberized seals, expanding foam or caulk) at exterior piping/vent/conduit penetrations, doors, and windows, including adding insulation to barriers between conditioned and unconditioned
3 spaces.

	Equipment List			
	Description	**Quantity**		**Notes**
4	Window	28		Double pane; low-e; tinted
5	Front Entry Door	1		Double pane; low-e; tinted
	Side Entry Door	1		Double pane; low-e; tinted
	Steel Doors	3		FRP (optional)
3	Weatherization	(site)		

5 **Storefront glass doors**
New 6'10" x 7'4" Storefront Entry, Doors, Hardware similar to existing
New 3'6" x 7'4" Storefront Entry, Doors, Hardware similar to existing
Replace (3) existing steel doors with new FRP doors and hardware (optional)

4 **Windows (Approx)**	Quantity
3'6" x 2'10"H window (frosted)	2
3'6" x 4'2" H window	7
3'6" x 4'2" H window (frosted)	1
3'2" x 3'10"H window	3
6'10" x 4'8"H (2 units) window	9
3'2" x 4'6"H window	1
3'4" x 4'0"H window	2
3'4" x 4'0"H window (frosted)	1
3'6" x 4'8"H window	2

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing. Contractor to confirm final selection with building owner and verify quantities prior to bid. Provide all equipment and materials for all phases of demo, installation, and commissioning, including necessary permits and inspections. Work shall encompass best industry practices and comply with Kansas City Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Custom Engineering, Inc.
Columbia, MO | Independence, MO (HQ) |
St. Louis, MO | Overland Park, KS
573.875.4365 | 816.350.1473 | 314.366.3360



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Hope Faith Homeless Assistance

Level 2 Audit Report

September 2025

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including Hope Faith Homeless Assistance.

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including Hope Faith Homeless Assistance, received a Level 2 ASHRAE energy audit.

Hope Faith Homeless Assistance works to alleviate homelessness and poverty by providing basic necessities, critical services, and programs to empower individuals to become self-sufficient and independent. Services include meals, showers, clothing, haircuts, laundry, mail, bicycle repair, an eye clinic, and more. A primary focus of Hope Faith and its benefactors is to bring humanity back to its homeless guests through mental, emotional, and spiritual assistance and by providing care, rest, and work.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for Hope Faith Homeless Assistance, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with Hope Faith Homeless Assistance.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	Hope Faith Homeless Assistance Campus
Building Owner	Hope Faith Ministries
Energy Auditor(s)	Hannah Parker
Street Address	705 Virginia Ave, Kansas City, Missouri, 64106
Date of site visit(s)	7/28/2025

Metric	Value
Primary Building Use Type	Mixed Use Property
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1
Client Name	Hope Faith
Point of Contact	Katie Carlson

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential.

Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of Hope Faith Homeless Assistance facilities. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to Hope Faith's energy costs or operational requirements at a given facility.

The Hope Faith Homeless Assistance campus is the only of its kind in the area, located in the urban core of Kansas City. The facility serves all who come to the campus in need of services. The building was transformed from a warehouse over 10 years ago. Hope Faith currently functions as a day shelter but is currently undergoing work to function as an overnight shelter during cold weather periods.

Utility data analysis provides a lens into building energy performance and potential for savings. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. Hope Faith's facilities currently outperforms the benchmark for similar facilities by 17%. It is important to note that the facility has an existing solar array, which can significantly reduce billed electric consumption and as a result, energy use intensity. There is opportunity for investment and improvement which can further reduce long-term utility and operational costs.

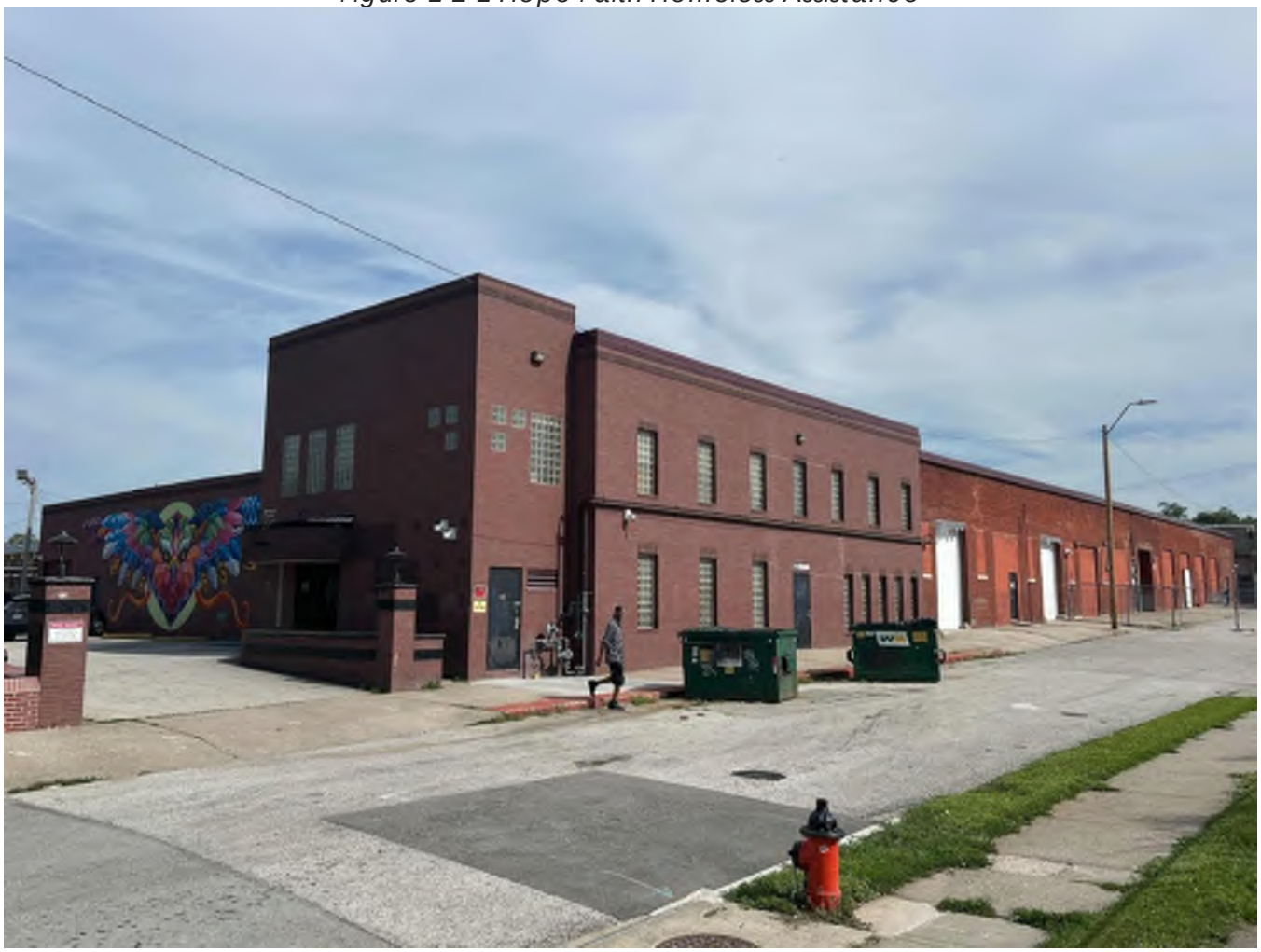
This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including TAB, envelope sealing, HVAC upgrades, HVAC controls, water conservation, and turning lights off.

1-2 Facility Description

Entegrity audited Hope Faith Homeless Assistance on July 28, 2025. This facility serves as the operations center for Hope Faith. Areas within the facility include a public lobby, offices, cafeteria, bike shop, shelter, and clinic.

During the audit, Entegrity identified several factors that affect building energy and operating costs. Maintenance personnel do well to ensure the facility is well maintained. During the audit, it was noted that the kitchen is often uncomfortable and warm, and the ductwork serving the space was found to be detached. Additionally, the air curtain for the main entry doors which were believed to be nonfunctional were found to be off at the disconnect. Staff was notified so that these issues may be resolved, both of which can provide immediate energy savings and an improvement in occupant comfort.

Figure 1-2-1 Hope Faith Homeless Assistance



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of Hope Faith, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for Hope Faith during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 Hope Faith Homeless Assistance Characteristics

Metric	Value
Year of Construction	1950
Last Renovation	2012
Year of Prior Energy Audit	2024 – Evergy Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	N
Historical Landmark Status	N
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	47,000
Total Conditioned Area (ft^2)	40,000
Heated Only (ft^2)	7,000
Cooled Only (ft^2)	-
Total Number of Floors	2
Conditioned Floors Above Grade	2
Conditioned Floors Below Grade	0
Spaces Excluded from Gross Floor Area	Basement

2-1.2 Occupancy Information

The table below outlines the typical occupancy of Hope Faith in a typical year of operations.

Table 2-1-2 Hope Faith Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	48 Typical/140 Winter
Typical Occupancy (weeks per year)	52
Typical number of occupants (during occupied hours)	20-250
Number of Dwelling Units in Building (Multifamily Only)	in process of converting spaces to overnight shelter with approx. 75-100 beds
% of Dwelling Units currently Occupied (Multifamily Only)	N/A

2-1.3 Space Functions

The table below outlines how Hope Faith utilizes the spaces in the Homeless Assistance campus for a variety of different functions and operations.

Table 2-1-3 Hope Faith Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Food Service	10,000	21%
Social/Meeting Hall	8,500	18%
Office	8,000	17%
Mixed Use Property	8,000	17%
Distribution Center	7,000	15%
Personal Services (Health/Beauty, Dry Cleaning, etc)	5,000	11%
Urgent Care/Clinic/Other Outpatient	500	1%
Total	47,000	100%

Table 2-1-4 Hope Faith Space Function Breakdown

Space Description	Cafeteria/ Kitchen	Loading Area & Devotion Area	Offices & Case Management	Clothing & Food Bank Storage	Hair Salon, Laundry, Showers, Etc.	Eye Care Clinic	Other
Space Function Type	Food Service	Social/ Meeting Hall	Office	Distribution Center	Personal Services (Health/Beauty, Dry Cleaning, etc)	Urgent Care/ Clinic/Other Outpatient	Mixed Use Property
Original/Intended Use of Space	Warehouse	Warehouse	Warehouse	Warehouse	Warehouse	Warehouse	Warehouse
Gross Floor Area	10000	8500	8000	7000	5000	500	8000
Conditioned Area (%)	100%	100%	100%	10%	100%	100%	90%
Number of Occupants	0-250	0-250	10-50	0-20	0-20	0-10	0-100
Approx. Plug Loads (W/ft^2)	1.0-1.5	0.5-1.0	1.0-1.5	0.5-1.0	1.5-2.0	1.5-2.0	0.5-1.0
Space Use (hours/week)	40-60	48-140	40	20-40	20-40	8	48
Space Use (weeks/year)	52	52	52	52	52	52	52

2-1.4 Building Energy & Utility Sources

Hope Faith Homeless Assistance is served electricity and natural gas as metered energy sources and water & sewer as a metered utility source. Additionally, Hope Faith generates on-site renewable energy with a rooftop solar array.

Table 2-1-5 Hope Faith Building Energy Sources

Energy Source	Account Number	Utility Provider	Rate Schedule
Electricity	9567532270	Evergy	1MGSE
Electricity	1174204450	Evergy	1MGSE w/Net Metering
Natural Gas	5736412222	Spire	Small Gen. Commercial
Water & Sewer	000215359 0065785 1	KC Water	Inside City Limits

2-2 Lighting & Plug Loads

Hope Faith Homeless Assistance currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technology in use at Hope Faith is LED.

Table 2-2-1 Hope Faith Facility Lighting Summary

Lighting Source Type	Fixture Type	Control Type	Space Type	% of Total Wattage
LED	Various	Wall Switch	All	100%

Table 2-2-2 Hope Faith Plug Load Summary

Process/Plug Load Description	Operational Details
Desktop Computers – Approx Qty 25	Offices, Computer Lab available to guests
Office Equipment	Copiers, IT Servers, etc.
Eye Clinic Machinery	Photopter, Autorefractor, Tonometer, etc.
Commercial Kitchen Equipment	Walk-in cooler/freezer, dishwasher, hood, etc.
Laundry and Salon Equipment	8 Combo Washer/Dryer units

2-3 Heating, Ventilation & Air Conditioning

Hope Faith is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving Hope Faith Homeless Assistance is summarized in the table below.

Table 2-3-1 Hope Faith Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Condensing unit split systems
	Secondary Source	Packaged rooftop units
	Fuel	Natural Gas
	Distribution	Ducted to zones
	Other Considerations	Most furnaces located in mechanical mezzanine
Cooling	Primary Source	Condensing unit split systems
	Secondary Source	Packaged rooftop units
	Distribution	Ducted to zones
	Other Considerations	Thermostats are located at the units, not in the zones
Ventilation	Outside Air	OA intakes on rooftop units
	Exhaust Fans	3 rooftop Exhaust fans and various vents for inline fans
	Heat Recovery	Makeup air unit for commercial kitchen
	Other Considerations	Kitchen hood left on when not in use
Controls	Zone Controls	Individual thermostats (quantity 13-15)
	Central Controls	No functional central controls system
	Other Considerations	Trane system in clinic area, does not operate entire facility and does not appear to be set up correctly
Hot Water	Primary Source	Natural Gas Storage Tank Water Heaters
	Other Considerations	Total quantity throughout facility: 7

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of Hope Faith.

Table 2-4-1 Hope Faith Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	Flat TPO
	Roofing Color	White
	Area	28,000
	Condition	4/5 Great
	Other Considerations	Replaced in 2021 with Solar Array Installation
Walls	Construction Type	Brick
	Condition	3/5 Good
Fenestrations	Frame Type	Mortared joints
	Glass Type	Glass block windows, inoperable
	Glazing % of Wall Area	5-10%
	Seal Condition	3/5 Good
	Enclosure Tightness	3/5 Good
	Exterior Door Type	Hollow Metal Doors

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with audited Hope Faith facilities. Utility data was analyzed from the period beginning July 2024 and ending June 2025. Due to the net metering configuration of the existing solar array, electric usage presented in this section is offset by solar production. Some months show 0 electric consumption, which indicates that the array produced more than the electric meter consumed.

Table 3-1-1 Annual Utility Expenses

Fuel Type	Unit	Base Year Usage	Base Cost ($)
Electric	kWh	89,345	$17,867
Natural Gas	MMBtu	1,020.2	$14,489
Water & Sewer	kGal	561.1	$15,360
Total	-	-	$47,716

Figure 1 Hope Faith Homeless Assistance Utility Cost Breakdown

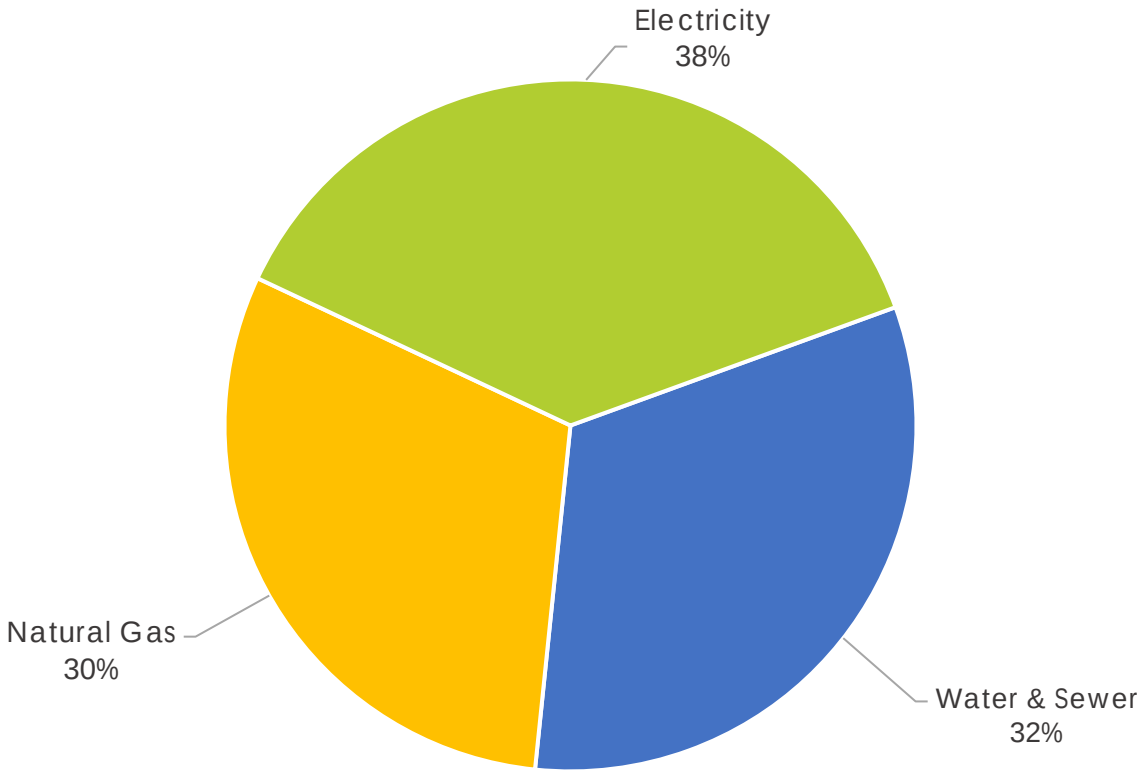
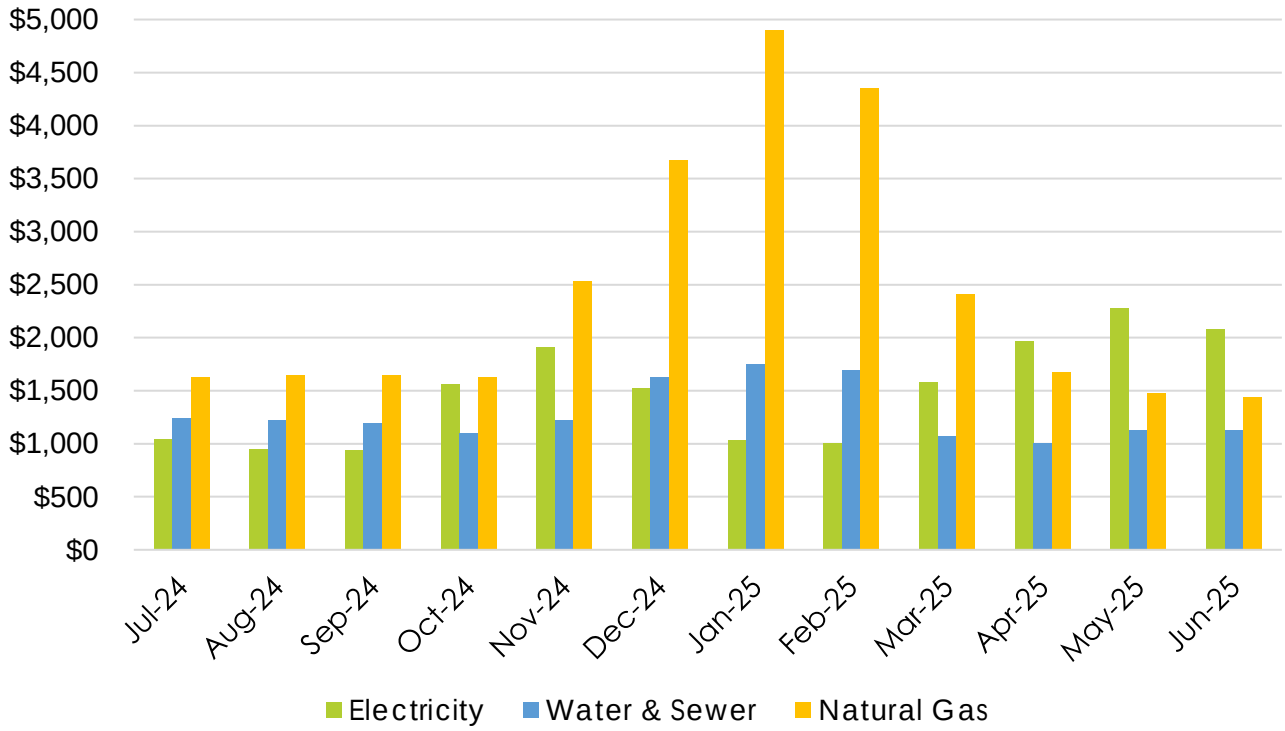


Figure 2 Hope Faith Homeless Assistance Utility Cost Monthly Breakdown



3-1.1 Electricity

Entegrity has calculated annual electricity usage, demand, and cost data for audited Hope Faith Homeless Assistance facilities. Hope Faith is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Hope Faith, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

Account ID	Consumption (kWh)	Demand (kW)	Base Year Cost ($)	Electric Rate ($/kWh)	Demand Rate ($/kW)
9567532270	57,883	15.6	$8,985	$0.1186	$6.4005
1174204450	31,461	33.5	$8,881	$0.1528	$6.2673
Total	89,345	49.1	$17,867	$0.1309	$6.3076

Figure 3 Hope Faith Homeless Assistance Electric Cost Breakdown

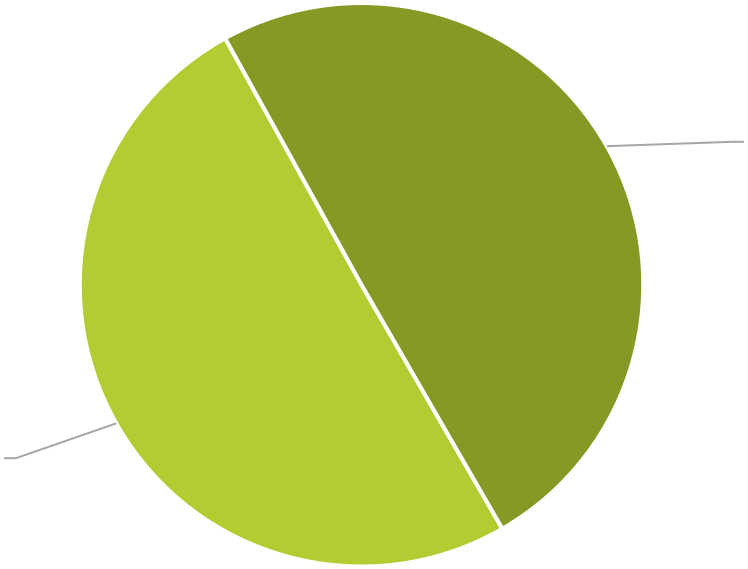
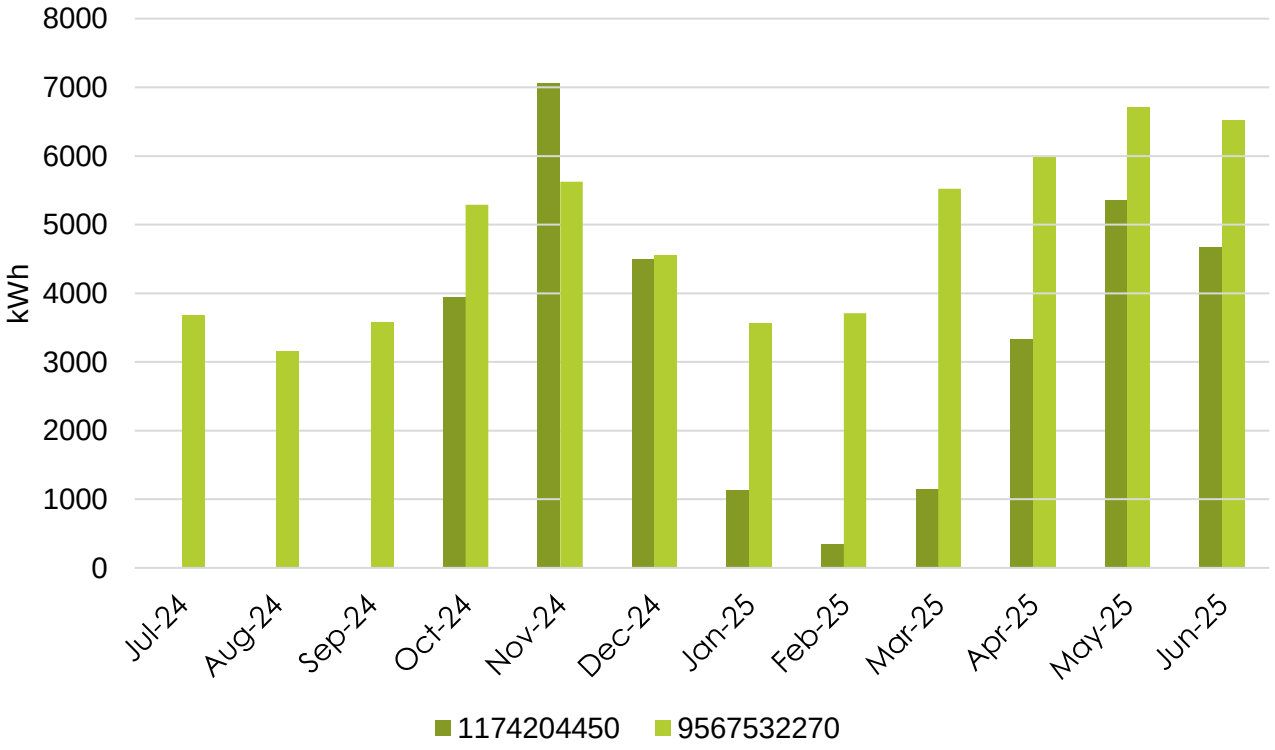


Figure 4 Hope Faith Homeless Assistance Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

Entegrity has calculated natural gas usage and cost data for the audited Hope Faith facilities. Hope Faith Homeless Assistance is served natural gas by Spire. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Hope Faith, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

705 Virginia Ave	942.5	$9,369	$8.3792
711 Virginia Ave	77.7	$5,121	$50.3428

Figure 5 Hope Faith Homeless Assistance Natural Gas Cost Breakdown

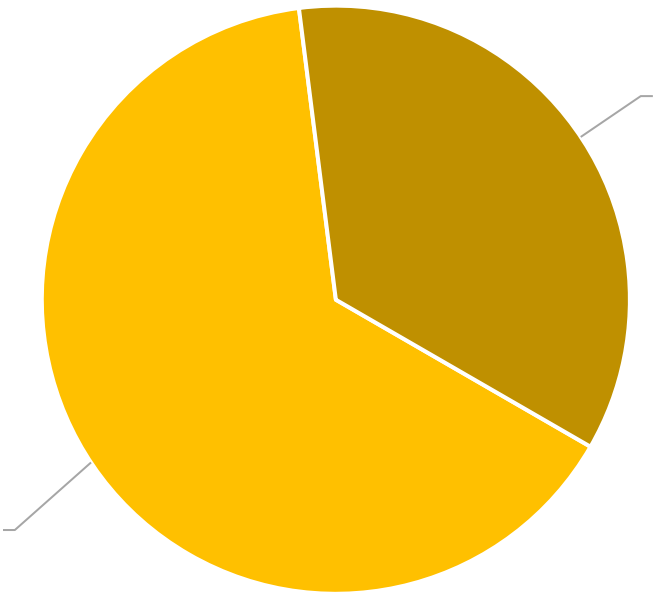
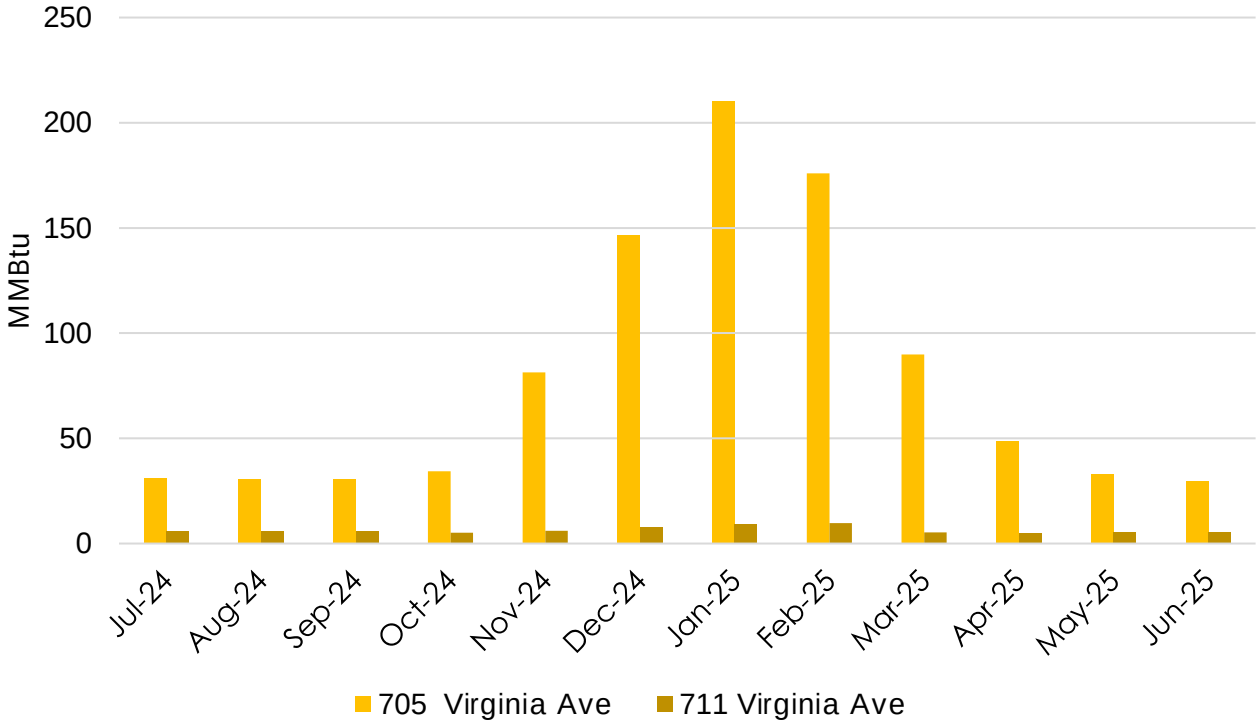


Figure 6 Hope Faith Homeless Assistance Natural Gas Utility Monthly Breakdown



3-1.3 Water & Sewer

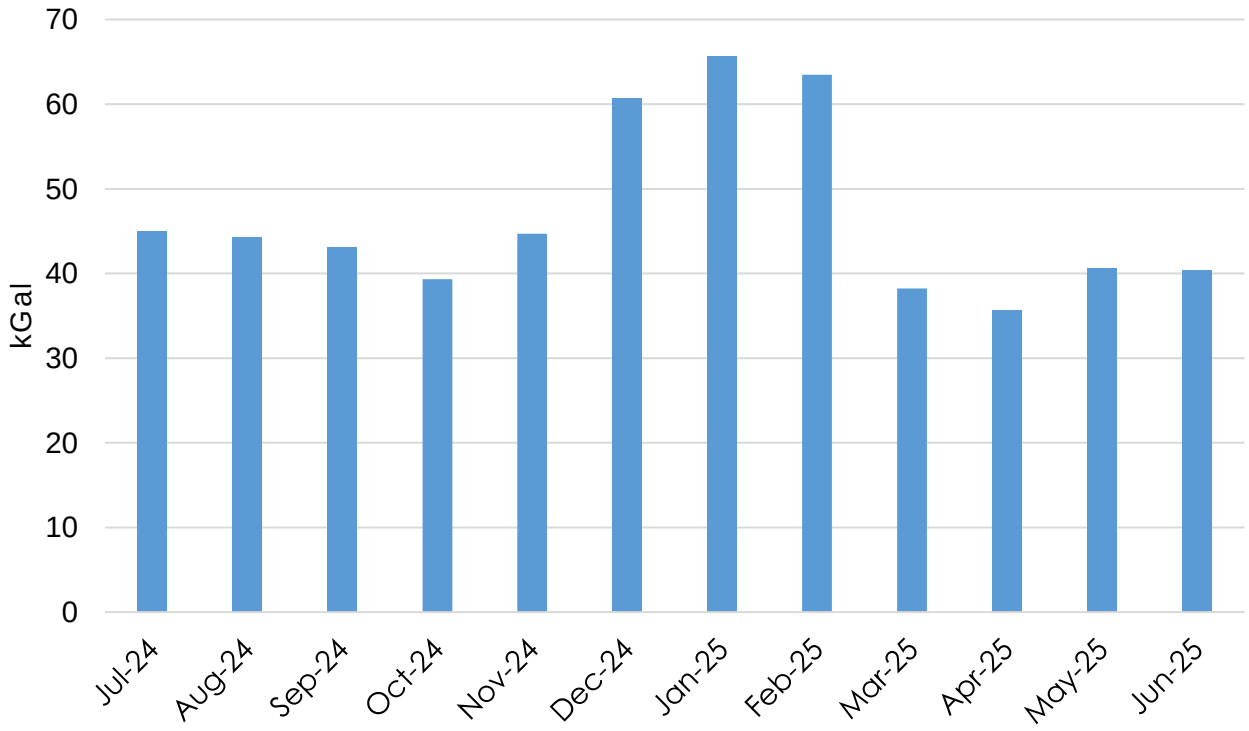
Entegrity has calculated water & Sewer usage and cost data for the audited Hope Faith facilities. Hope Faith Homeless Assistance is served water & sewer services by KC Water. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Hope Faith, it was determined that there are no potential adjustments for the water utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-4 Water Utility by Account

Account ID	Base Year Usage (kGal)	Base Year Cost	Water Rate ($/kGal)
00215359 0065785 1	561.1	$15,360	$24.9692
Total	561.1	$15,360	$24.9692

Figure 7 Hope Faith Homeless Assistance Water & Sewer Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on Hope Faith Homeless Assistance, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare Hope Faith to a benchmarking target and determine the savings potential associated with reaching that target.

The target EUI, ECI, and UCI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 Hope Faith Homeless Assistance Performance

Metric	Value
Conditioned Square Feet	40,000
Energy Use Intensity [building] (kBtu/sf/yr)	33.1
Energy Use Intensity [site] (kBtu/sf/yr)	33.1
Water Use Intensity (Gal/sf/yr)	14.03
Energy Cost Index ($/sf/yr)	$0.81
Utility Cost Index ($/sf/yr)	$1.19

Table 3-2-2 Hope Faith Homeless Assistance Benchmarking

Metric	Value
Benchmark Source	CBECS – Mixed Use Property
Benchmark EUI (kBtu/sf/yr)	40.1
Target EUI [building] (kBtu/sf/yr)	34.1
Target EUI [site] (kBtu/sf/yr)	34.1
Target WUI (kGal/sf/yr)	11.9
Target ECI [site] ($/sf/yr)	$0.69
Target UCI [site] ($/sf/yr)	$1.01
Annual Energy Savings to Reach Target (kBtu)	198,761
Annual Cost Savings to Reach Target	$7,157

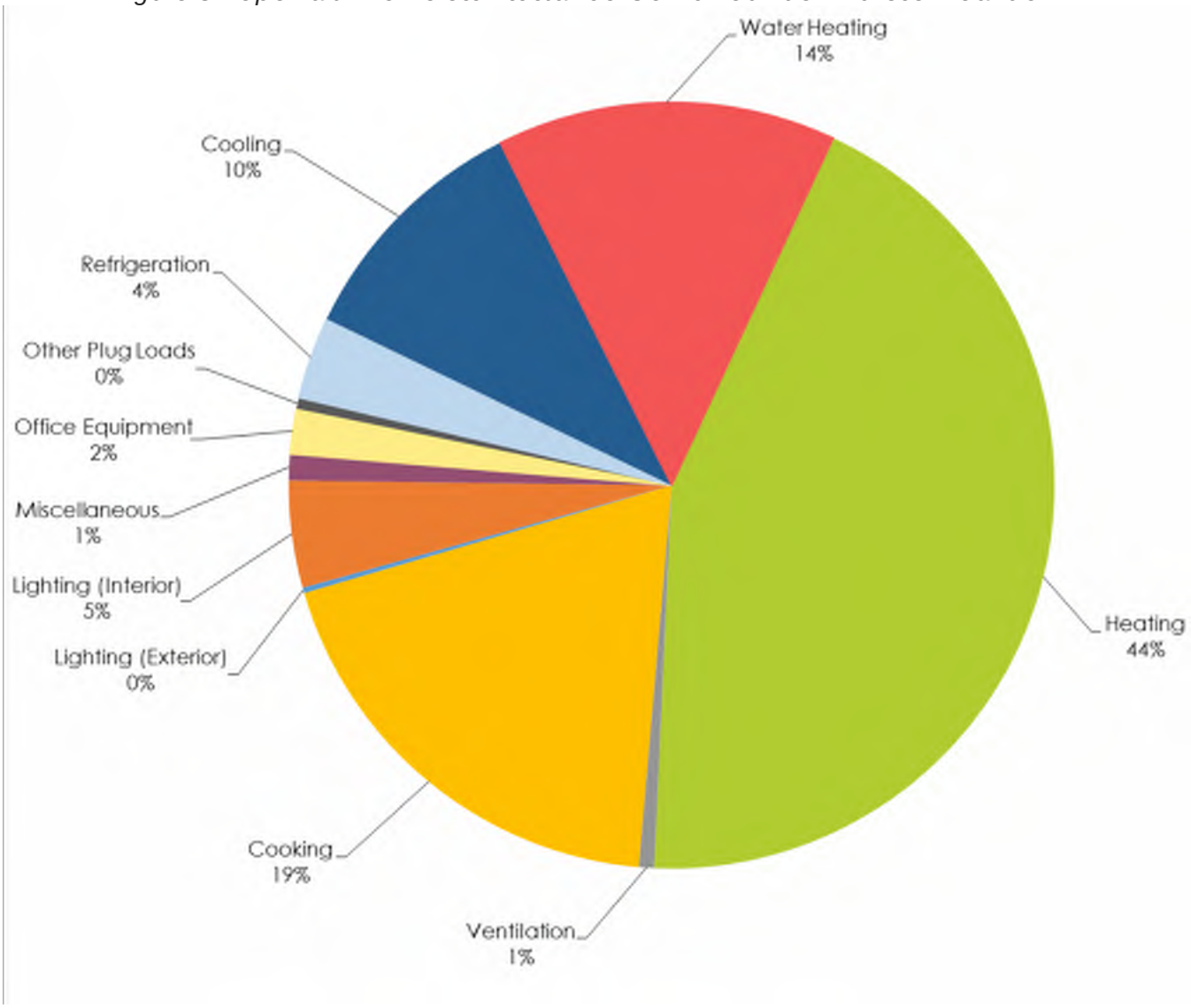
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at Hope Faith and the estimated annual energy use and utility cost associated with each end-use. It is important to note that electric utility data provided and analyzed is based on a net metering configuration with solar array offset. This means that each end use uses more electricity, but is not billed for all electricity used due to the energy generated by the existing solar array. This results in lower electric use associated with each end-use, and natural gas having a higher share of the energy end-usage.

Table 3-3-1 Hope Faith Homeless Assistance Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	-	0.0%	$0	580.1	56.9%	$8,239	$8,239
Ventilation	2,500	2.8%	$500	-	-	$0	$500
Cooking	3,800	4.3%	$760	240	23.5%	$3,409	$4,169
Lighting (Exterior)	900	1.0%	$180	-	-	$0	$180
Lighting (Interior)	17,500	19.6%	$3,500	-	-	$0	$3,500
Miscellaneous	1,345	1.5%	$269	10	1.0%	$142	$411
Office Equipment	7,400	8.3%	$1,480	-	-	$0	$1,480
Other Plug Loads	1,800	2.0%	$360	-	-	$0	$360
Refrigeration	13,500	15.1%	$2,700	-	-	$0	$2,700
Cooling	40,600	45.4%	$8,119	-	-	$0	$8,119
Water Heating	-	0.0%	$0	190	18.6%	$2,699	$2,699
Total	89,345	100%	$17,867	1,020.1	100%	$14,489	$32,356

Figure 8 Hope Faith Homeless Assistance Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Hope Faith that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for Hope Faith.

4-1.2 Lighting

1. Turn Lights Off: Simply put, turn off lights when not in use. Areas such as restrooms and offices were noted with lights left on while nobody was occupying the space. Staff noted that lights are left on frequently. Signage near light switches can help staff and visitors remember to turn off the lights. This is a low-cost alternative to occupancy sensors, which can help achieve the same savings without relying on occupant behavior changes. Additionally, replacing the switches on the LED high bay lighting throughout the facility with dimmer switches can help save energy by dimming the lights when daylight helps illuminate the space or in the evenings/at night when less light is needed.

4-1.3 HVAC

1. Maintenance: Hope Faith maintenance staff routinely checks for repairs needed and replaces equipment filters. Additional and improved maintenance practices such as coil cleaning and insulation repair can improve equipment efficiency and longevity.
2. Test, Adjust & Balance: Correcting building pressure and the distribution of air is known as TAB, and it is recommended for new and old buildings. Hope Faith experiences humidity issues in Summer, which can be caused by negative building pressure pulling outside air in through all building openings. Balancing can also improve occupant comfort and correct exhaust and outside air to meet code requirements while minimizing excess energy consumption.

4-1.4 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. Hope Faith can reduce air leakage by replacing failed window seals, repairing roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints. Additionally, the air curtain on the main entrance door was found to be off at the disconnect during the audit. This was rectified, which should help with the temperature swings experienced in the entrance area as a result of frequent door usage and lack of a vestibule.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Hope Faith that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for Hope Faith.

4-2.2 HVAC

1. HVAC Equipment Upgrades: Hope Faith has some split systems that are beyond useful life and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. Any equipment over 5 years old that is not replaced should also undergo a tune-up service to ensure proper functionality and extend useful life.
2. HVAC Controls: Hope Faith currently has standalone thermostats with no central controls system. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, Hope Faith can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability.

4-2.3 Other

1. Water Conservation: Water is a resource that all building owners depend on for sanitation, food preparation, irrigation, sustenance, and other needs. While typically less expensive than electricity and gas utilities over the course of a year, water costs can add up. Additionally, saving water typically also yields savings on the monthly sewer bill, and reducing hot water usage yields electric and gas savings. Hope Faith staff noted that water is often left running in several areas of the facility, and with water and laundry as two of the services offered, water usage at the facility is quite high. Hope Faith can significantly save on water utility costs by retrofitting flush valves on urinals and water closets and installing flow restrictors and pedal-operated valves on faucets.

4-3 Recommended Measures Summary

Measure Description (in order by priority)	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
Turn Lights Off/Dimmers	$250	-	-	1,800	-	$400	None	15-20	$300	62.5%	1.6
HVAC Upgrades	$1,300	$500	3.5	5,550	46.6	$114,000	$1,150	15-20	$112,850	1.6%	62.7
HVAC Controls	$1,100	-	0.8	3,500	53.4	$27,500	$250	10-15	$27,250	4.0%	24.8
Test, Adjust & Balance	$1,850	$250	-	3,200	37.8	$35,000	None	10-15	$35,000	6.0%	16.7
Water Conservation	$400	$2,500	-	-	28.5	$20,000	None	15-20	$20,000	14.5%	6.9
Envelope Sealing	$500	$250	-	1,250	17.4	$12,000	None	10-15	$12,000	6.3%	16.0
Totals	$5,400	$3,500	4.3	15,300	183.7	$208,900	$1,400	-	$207,400	4.3%	23.3

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of Hope Faith Homeless Assistance and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
Turn Lights Off/Dimmers	Assume no cost for occupant behavior change to turn lights off and/or add signage, stipulated cost per dimmer switch for high-bay lights, assuming self-installed
HVAC Upgrades	Cost per ton for new equipment and install labor costs
HVAC Controls	Cost per new smart thermostat plus material and install labor costs
Test, Adjust & Balance	Equipment quantity and estimated labor hours required
Water Conservation	Estimated fixture quantity and labor costs, stipulated new fixture costs
Envelope Sealing	Labor and material cost for comprehensive envelope sealing

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
Turn Lights Off	Dimmer switch cost times estimated quantity needed, assuming self-installed
HVAC Upgrades	Cost per ton times capacity plus estimated labor, assuming the following units are replaced (see HVAC inventory) and all other units (except RTU-2) receive a tune-up service: CU/F-1, CU/F-4, CU/F-6, and CU/F-8
HVAC Controls	15 total thermostats to control all existing systems, plus estimated wire needed and labor
Test, Adjust & Balance	Estimated labor cost and cost per square foot for TAB service, varies significantly by subcontractor depth of scope
Water Conservation	Quantity times cost per fixture plus estimated labor

Measure Description	Methods Used to Estimate Measure Cost
Envelope Sealing	Estimated labor and material cost, varies significantly by subcontractor depth of scope

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of Hope Faith Homeless Assistance, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
Turn Lights Off	Total lighting wattage and burn hours before and after
HVAC Upgrades	Annual EFLHs (run hours) and new equipment efficiencies
HVAC Controls	Annual EFLHs (run hours) and controls system reduction %
Test, Adjust & Balance	Slight system runtime reduction due to improved distribution
Water Conservation	Pre- and post- flow/flush rates and annual fixture usage
Envelope Sealing	Estimated typical savings from envelope sealing improvement

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) – (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) – (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for the solar measure were calculated according to the following formula.

Table 5-2-3 Solar Savings Calculations

Annual Savings (kWh)	$E = A * r * H * PR$
Variables	E = Energy (kWh) A = Total Solar Array Area (m^2) r = Solar Panel Yield (%) H = Annual Average Irradiation on Panels PR = Performance Ratio, Coefficient for Losses

3. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-4 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} – SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} – SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} – Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

4. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-5 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity SEER = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
Turn Lights Off/Dimmers	Lighting	1,800	-	6,142	10%	0%	10%
HVAC Upgrades	Heating & Cooling	5,550	46.6	65,537	14%	8%	9%
HVAC Controls	Heating & Cooling	3,500	53.4	65,342	9%	9%	9%
Test, Adjust & Balance	HVAC	3,200	37.8	48,718	7%	7%	7%
Water Conservation	Water Heating	-	28.5	28,520	0%	15%	15%
Envelope Sealing	HVAC	1,250	17.4	21,665	3%	3%	3%
Total Savings (This Sheet)		15,300	183.7	235,924	17%	18%	18%
Total Savings (Measures Summary)		15,300	183.7	235,924			
Total Historical Use		89,345	1,020	1,325,045			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 Hope Faith Homeless Assistance Electric Utility Data – Account 1174204450

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
7/15/2024	8/12/2024	0	36.9	$367.24
8/13/2024	9/11/2024	0	37.7	$368.02
9/12/2024	10/13/2024	0	49.1	$393.42
10/14/2024	11/12/2024	6,361	49.7	$1,101.13
11/13/2024	12/12/2024	7,479	49.1	$1,218.90
12/13/2024	1/14/2025	2,792	45.8	$696.07
1/15/2025	2/16/2025	0	35.9	$362.42
2/17/2025	3/17/2025	787	54.6	$563.26
3/18/2025	4/15/2025	1,392	53.7	$705.99
4/16/2025	5/14/2025	4,921	35.9	$1,186.59
5/15/2025	6/15/2025	5,586	61.1	$1,241.00
6/15/2025	7/15/2025	4,018	44.8	$935.76
	Total	33,336	554.1	$9,140

Table 6-1-2 Hope Faith Homeless Assistance Electric Utility Data – Account 9567532270

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
7/15/2024	8/12/2024	2,957	18.8	$550.89
8/13/2024	9/11/2024	3,043	12.7	$524.93
9/12/2024	10/13/2024	4,135	19.6	$639.36
10/14/2024	11/12/2024	5,941	20.3	$774.27
11/13/2024	12/12/2024	5,432	17.6	$714.27
12/13/2024	1/14/2025	4,193	17.8	$631.62
1/15/2025	2/16/2025	3,489	16.5	$566.80
2/17/2025	3/17/2025	4,842	20.0	$772.16
3/18/2025	4/15/2025	5,509	23.4	$916.74
4/16/2025	5/14/2025	6,036	28.0	$974.76

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
5/15/2025	6/15/2025	7,124	28.5	$1,089.68
6/15/2025	7/15/2025	6,181	23.2	$989.93
	Total	58,882	246.2	$9,145

Table 6-1-3 Hope Faith Homeless Assistance Natural Gas Utility Data – 705 Virigina Ave

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
7/1/2024	8/2/2024	32.4	$439.72
8/2/2024	9/4/2024	32.8	$444.63
9/4/2024	10/2/2024	28.5	$394.26
10/2/2024	11/4/2024	36.7	$491.33
11/4/2024	12/3/2024	83.8	$875.80
12/3/2024	1/3/2025	150.4	$1,360.64
1/3/2025	2/4/2025	221.2	$1,973.31
2/4/2025	3/4/2025	173.9	$1,564.26
3/4/2025	4/2/2025	73.8	$698.65
4/2/2025	5/2/2025	48.0	$475.29
5/2/2025	6/3/2025	33.5	$352.45
6/3/2025	7/3/2025	29.6	$319.80
	Total	944.5	$9,390

Table 6-1-4 Hope Faith Homeless Assistance Natural Gas Utility Data – 711 Virginia Ave

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
7/1/2024	8/1/2024	5.8	$386.50
8/1/2024	9/1/2024	6.1	$405.05
9/1/2024	10/1/2024	6.1	$402.05
10/1/2024	11/1/2024	5.2	$352.34
11/1/2024	12/1/2024	6.1	$405.08
12/1/2024	1/1/2025	8.0	$502.70
1/1/2025	2/1/2025	9.3	$571.68

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
2/1/2025	3/1/2025	9.8	$592.61
3/1/2025	4/1/2025	5.3	$363.39
4/1/2025	5/1/2025	5.1	$350.35
5/1/2025	6/1/2025	5.4	$390.77
6/1/2025	7/1/2025	5.6	$398.09
	Total	77.7	$5,121

Table 6-1-5 Hope Faith Homeless Assistance Water & Sewer Utility Data

Start Date	End Date	Water & Sewer Use (kGal)	Water & Sewer Cost ($)
6/27/2024	7/28/2024	45.1	$1,240.01
7/28/2024	8/28/2024	44.1	$1,214.37
8/28/2024	9/27/2024	44.0	$1,210.83
9/27/2024	10/27/2024	37.2	$1,039.96
10/27/2024	11/27/2024	44.1	$1,214.37
11/27/2024	12/27/2024	57.9	$1,558.95
12/27/2024	1/28/2025	66.7	$1,780.42
1/28/2025	2/27/2025	70.4	$1,869.89
2/27/2025	3/30/2025	38.3	$1,070.21
3/30/2025	4/30/2025	36.7	$1,030.99
4/30/2025	5/30/2025	39.3	$1,092.44
5/30/2025	6/29/2025	40.2	$1,117.67
	Total	564.1	$15,440

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Rate Schedule 1MGSE

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month $3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05664 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

Table 6-2-2 Spire Rate Schedule Small Gen Commercial

Monthly Rates

Residential Customers +

Small general service −

Customer charge (per month)	$43.70
Charge for gas used (First 5,000 Ccf)	$0.18592 per Ccf
Charge for gas used (Over 5,000 Ccf)	$0.23241 per Ccf

Purchased Gas Adjustment (PGA): $0.63139 per CCF

Large general service +

6-3 Appendix C – Lighting Inventory

A lighting inventory is excluded from this report. There is no opportunity for energy savings through LED lighting upgrades, as Hope Faith has retrofitted existing lighting to LED.

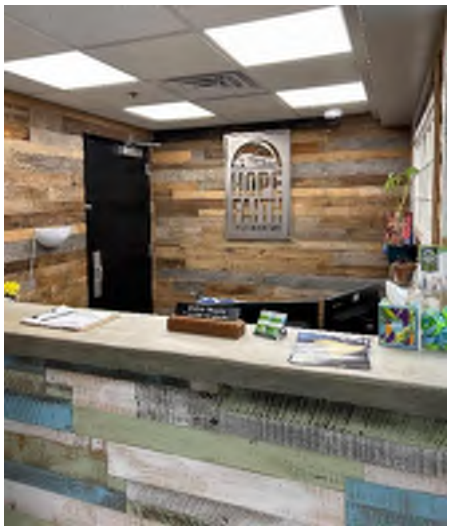
6-4 Appendix D – HVAC Inventory

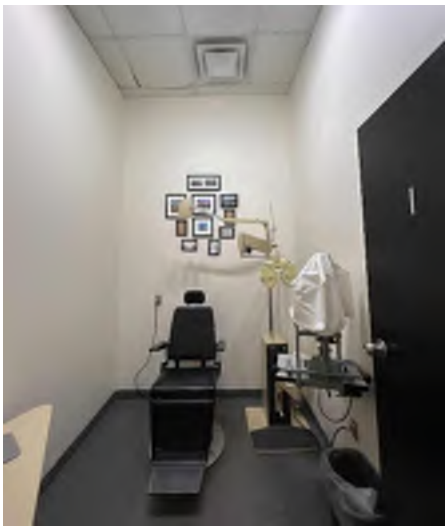
Table 6-4-1 Hope Faith Homeless Assistance HVAC Equipment

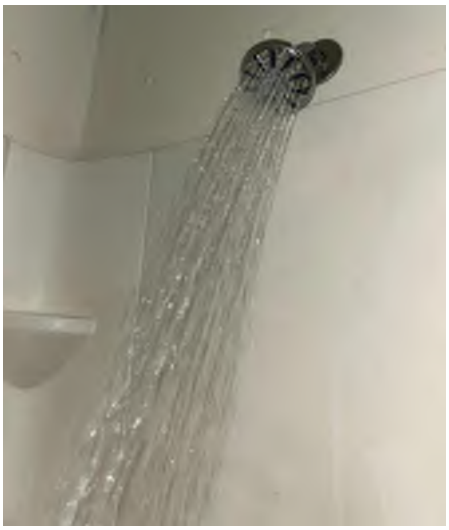
ID	Location	Type	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
CU-1	Roof	Condensing Unit	Rheem	RA1360AC1NB	2019	5 Tons	13 SEER	4/5 Great	Replace
CU-2	Roof	Condensing Unit	Rheem	RA1360AC1NB	2019	5 Tons	13 SEER	4/5 Great	Tune-Up
CU-3	Roof	Condensing Unit	Rheem	RA1336AC1NB	2019	3 Tons	13 SEER	4/5 Great	Tune-Up
CU-4	Roof	Condensing Unit	York	YCJD60S43S3A	2011	5 Tons	13 SEER	3/5 Good	Replace
CU-5	Roof	Condensing Unit	Lennox	TSA060S4N45Y	2017	5 Tons	14 SEER	3/5 Good	Tune-Up
CU-6	Roof	Condensing Unit	York	YCJD60S43S3A	2011	5 Tons	13 SEER	3/5 Good	Replace
CU-7	Roof	Condensing Unit	Rheem	RA1336AC1NB	2019	3 Tons	13 SEER	4/5 Great	Tune-Up
CU-8	Roof	Condensing Unit	York	YCJD60S43S3A	2010	5 Tons	13 SEER	3/5 Good	Replace
CU-9	Roof	Condensing Unit	Rheem	RA1360AC1NB	2019	5 Tons	13 SEER	4/5 Great	Tune-Up
F-1	Mech Mezz	Furnace	Coleman	FC9T100C20DH	1985	95 MBH	95% AFUE	2/5 Poor	Replace
F-2	Mech Mezz	Furnace	Rheem	AS-104120-17	2019	48 MBH	8.1 HSPF	4/5 Great	Tune-Up
F-3	Mech Mezz	Furnace	Rheem	-	2019	-	-	4/5 Great	Tune-Up
F-4	Mech Mezz	Furnace	York	PT9B12N080DH	2007	80 MBH	95% AFUE	2/5 Poor	Replace
F-5	Mech Mezz	Furnace	Lennox	ML193UH110XP60	2017	102.3 MBH	93% AFUE	3/5 Good	Tune-Up
F-6	Mech Mezz	Furnace	York	GY9S100C20DH	2007	92 MBH	92% AFUE	2/5 Poor	Replace

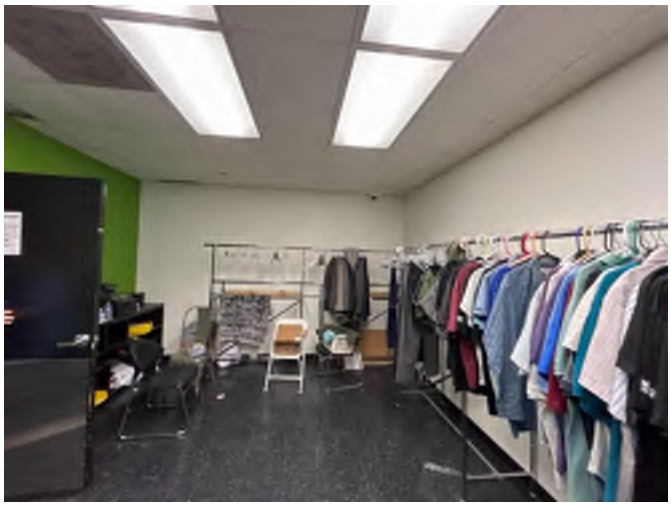
ID	Location	Type	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
F-7	Classroom	Furnace	Rheem	-	2019	-	95.5% AFUE	4/5 Great	Tune-Up
F-8	Classroom	Furnace	York	-	2010	-	-	3/5 Good	Replace
F-9	Laundry	Furnace	Rheem	-	2019	-	95.5% AFUE	4/5 Great	Tune-Up
MAU-1	Roof	Make-Up Air Unit	CaptiveAire	-	-	-	-	3/5 Good	Tune-Up
RTU-1	Roof	Packaged RTU	Lennox	ZGA048S4BH1Y	2016	4 Tons/ 120 MBH	13 SEER/ 80% AFUE	3/5 Good	Tune-Up
RTU-2	Roof	Packaged RTU	Lennox	ZGB060S4EH1Y	2024	5 Tons/ 120 MBH	14 SEER/ 80% AFUE	5/5 Like New	N/A
RTU-3	Roof	Packaged RTU	Lennox	ZGA120S4BM1Y	2017	10 Tons/ 144 MBH	10.8 SEER/ 80% AFUE	3/5 Good	Tune-Up
RTU-4	Roof	Packaged RTU	Rheem	RKPN-A060CK10E	2017	5 Tons/ 81 MBH	14 SEER/ 82% AFUE	3/5 Good	Tune-Up
WH-1	Laundry	Stg. Water Heater	State	GS675YRPDT	2010	70 MBH	80%	3/5 Good	N/A
WH-2	Laundry	Stg. Water Heater	A.O. Smith	GPDX-75L 310	2020	76 MBH	82%	4/5 Great	N/A
WH-3	Mech Mezz	Stg. Water Heater	Bradford White	RG2PV75H6N	2017	76 MBH	80%	3/5 Good	N/A
WH-4	Mech Mezz	Stg. Water Heater	State	GS675YRPDTL 200	2015	72 MBH	80%	3/5 Good	N/A
WH-5	Mech/IT	Stg. Water Heater	A.O. Smith	GCV 50 200	2010	40 MBH	80%	3/5 Good	N/A
WH-6	Mech/IT	Stg. Water Heater	A.O. Smith	GCV 50 200	2010	40 MBH	80%	3/5 Good	N/A

6-5 Appendix E – Photos

















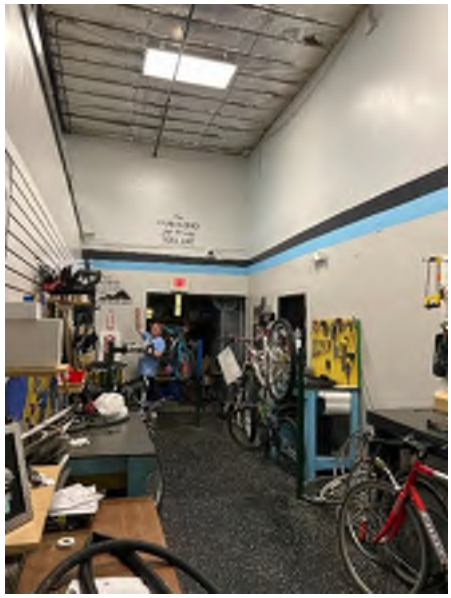




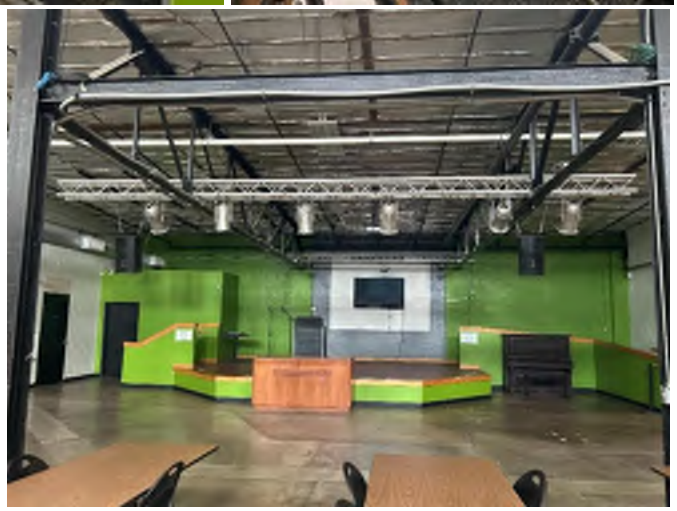


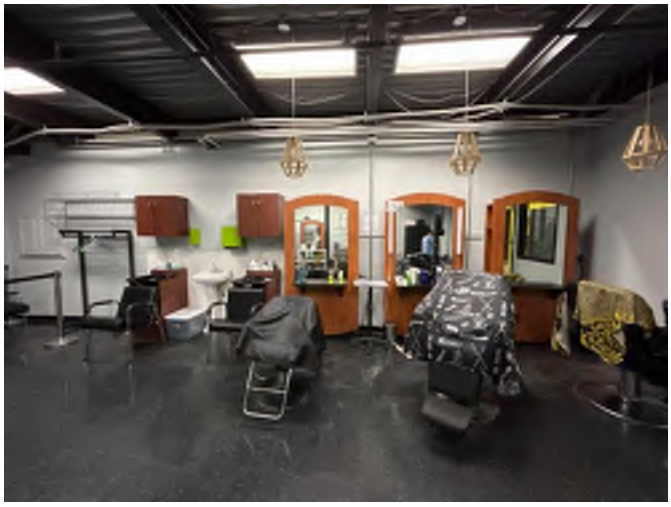



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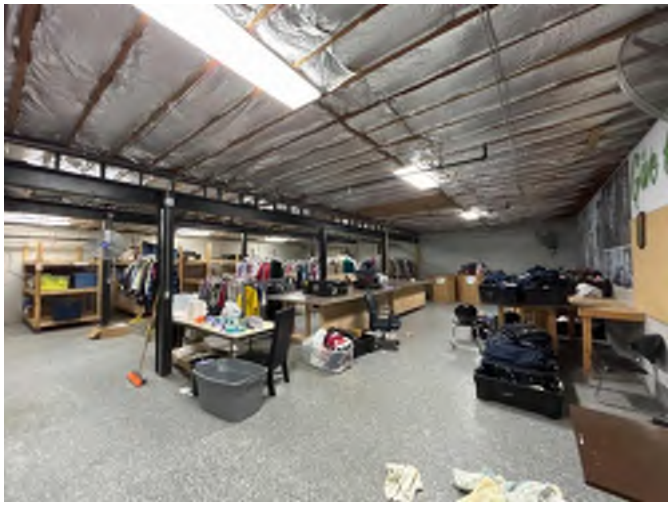


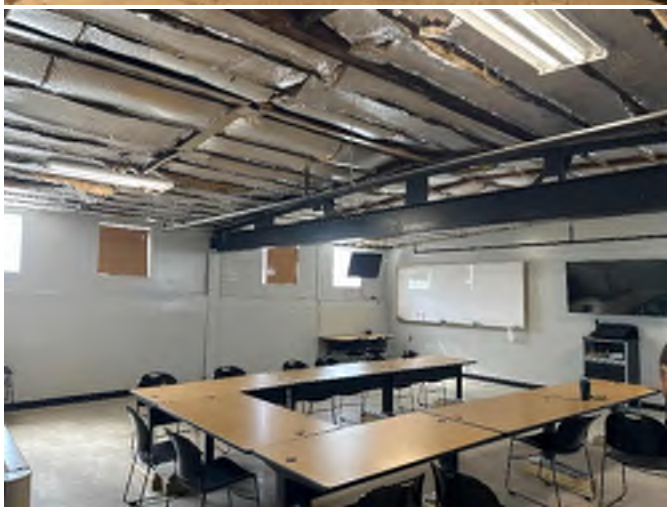










Level 2 Energy Audit

Jewish Vocational Service Bureau of Kansas City

CUSTOM ENGINEERING
MECHANICAL & ELECTRICAL ENGINEERING

This Level 2 ASHRAE Energy Audit was performed for Jewish Vocational Service Bureau of Kansas City and the Mid-America Regional Council and supported by grant funds provided by the US Department of Energy's Office of State and Community Energy Programs (SCEP) under the Renew America's Non-Profits Award Number DE-SE0001001. The views expressed herein do not necessarily represent those of the US Department of Energy or the US Government.

March 3, 2026

CUSTOM ENGINEERING

1. Executive Summary

a. The Jewish Vocational Service Bureau of Kansas City Facility at 4600 Paseo Boulevard, Kansas City, MO 64110 consumes a higher-than-average amount of energy compared to a similar building type. The building was constructed as a funeral home in 1925. It includes 15,000 sq. ft. with 43 rooms on three floors including basement.

b. At current energy costs, the total annual cost savings of the recommended measures is $9,974 whereas the total cost of recommended measures is $132,286 as illustrated in the following table.

c. If all recommended Energy Efficiency Measures (EEMs) are incorporated, the total energy use savings for the building would be 332,632 kBtu out of a total annual energy use of 1,118,248 kBtu, a percent savings of approximately 30%.

EEM #	Recommended Measure Description	Construction Cost, Estimated	Annual Energy Savings, Estimated	Annual Site Energy Savings (%)	Annual Cost Savings, Estimated
2	Replace Existing Lighting Fixtures and Install Automatic Controls	$48,810	106,905 kBtu	10%	$4,588
3	Improve Building Envelope: Weatherization	$3,600	32,893 kBtu	3%	$676
4	Improve Building Envelope: Install Solar Film on Windows and Doors	$4,551	28,296 kBtu	3%	$619
5	Replace Existing HVAC Systems (Inefficient only)	$60,325	65,208 kBtu	6%	$1,900
6	Perform Ductwork Aerosol Sealing on System Ducts	$15,000	99,330 kBtu	9%	$2,191
	Measures 2-6	$132,286	332,632 kBtu	30%	$9,974

2. Introduction

a. Audit scope included evaluation of current building envelope, lighting, lighting controls, HVAC, and HVAC controls; benchmarking of performance and cost; gathering energy use and cost data; assessment of building use, candidate need, electrical and mechanical system performance issues.

b. Key Dates:

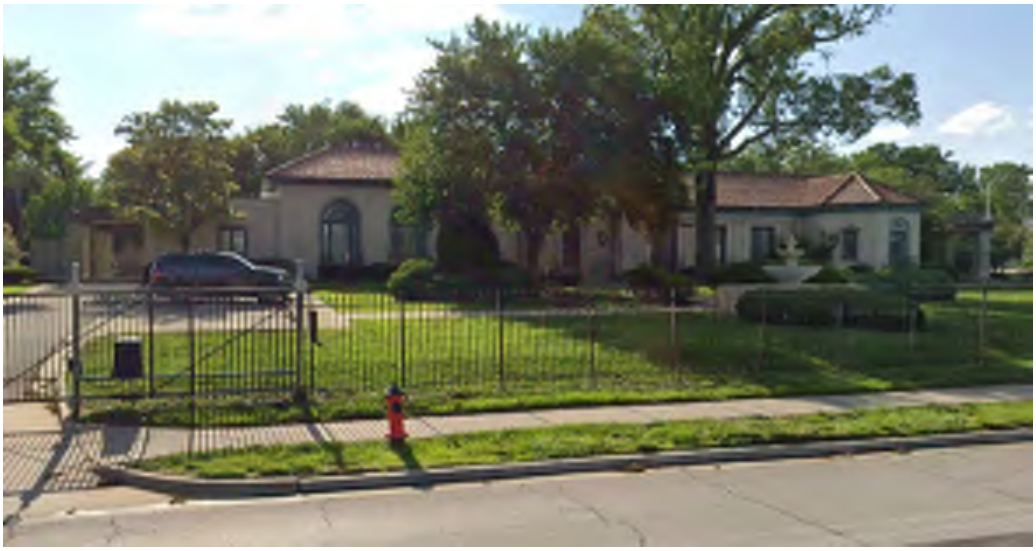
- Level 1 Report by Metropolitan Energy Center 10/25/24
- Level 2 Site Visit by Custom Engineering, Inc. 08/06/25
- Level 2 Report by Custom Engineering, Inc. 10/24/25
- Level 2 Report, Revised by Custom Engineering, Inc. 03/3/2026

c. Contact Information:

Beckah Molina, CMA
Chief Financial & Administrative Officer
Jewish Vocational Service Bureau of Kansas City
4600 Paseo Boulevard, Kansas City, MO 64110
(816) 629-8897
bmolina@jvskc.org

3. Facility Description

This section outlines the details regarding the building and its equipment. It notes the activities that take place in the building and the estimated clients served in a typical year. The building envelope is described, and its condition is noted along with the environment it facilitates. All of the equipment in the building is listed along with condition, energy source and number of units. The equipment listing includes heating, ventilating, and air conditioning; hot water; lighting; and process and plug loads.



a. Building Information:

i. The Jewish Vocational Service Bureau of Kansas City (JVS) is a 15,000 sq. ft. office building with 43 rooms on three floors including basement. The building was originally constructed as a funeral home.

ii. For over 70 years, JVS has been welcoming and serving refugees and immigrants who are seeking safety and security for themselves and their families. The JVS mission is to engage, encourage, and empower their clients to achieve social, cultural, and economic integration. JVS offers comprehensive services and support to thousands of refugees and immigrants in the areas of community integration, health & wellness, and workforce development. These services are vital to ensuring that refugees and immigrants have access to the resources, tools, and programs that will aid them on their path to self-sufficiency.

iii. An estimated 6,800 clients are served annually.

iv. See APPENDIX F – Site Photos for additional facility photos documenting typical existing equipment and conditions.

b. Building Envelope:
   i. The building was originally constructed in 1925. There are about 88 windows and six sets of exterior doors that lack caulking and weather stripping.
   ii. There are air gaps around doors, windows, and some penetrations through the exterior walls and band joists that should be foamed or caulked to cut back on air leaks that can cause the building to be more uncomfortable during extreme temperatures.
   iii. The attic has multiple penetrations of wiring, plumbing, HVAC, and recessed lighting causing a lot of air to leak out of the top of the envelope.
   iv. The grading with inconsistent guttering drainage plus window wells and a stairwell pose a risk of water infiltration during heavy rain events. There were several visual evidences of water infiltration issues with this building.
c. Heating, Ventilating, and Air Conditioning (HVAC):
   i. The JVS campus currently includes eleven separate HVAC units. While the units themselves are functional, there is inconsistent air handling/air flow, resulting in widely varying temperatures throughout the building.
   ii. Baseboard heat has been added to some offices and meeting rooms with inadequate heating.
   iii. The ductwork does not appear to be correctly sized, designed, and installed. The effectiveness and sizing of HVAC systems are unclear due to limited data.
   iv. Where the gas-burning furnaces are located on the second floor in the equipment closet (south side of the building), there are unsealed waste gas flues passing right next to an unsealed return duct. One of the return ducts has a large hole cut next to the waste flue. This invites carbon monoxide to be drawn in by the intake of a return. This situation has the potential to sicken those working in the rooms where these systems supply conditioned air and should be a top priority fix.
   v. An infrared camera showed no insulation in the above grade walls. The attic is either under- or un-insulated throughout these spaces.
   vi. The fresh air intakes for gas furnaces in the basement were left open to the basement. They should be ducted to the exterior.
   vii. There are a few open ducts in the basement left from some older HVAC systems. These cause some air leakages and need to be investigated.
d. Domestic Hot Water (DHW):
   i. The building utilizes a new electric Bradford White 39-gallon hot water heater. There are several Bosch PowerStar electric tankless water heaters located in various lavatories and under sinks. Most have been removed in a 2024 renovation.
e. Lighting:

i. The building is lit mainly by a mix of fluorescent, incandescent, and LED lighting that is 30+ years old. There are approximately 73 inefficient lighting fixtures throughout the building.
ii. All lighting controls are manual.

f. Process and Plug Loads:
i. 80 computers, as reported on the premises
ii. 5 refrigerators
iii. 2 dishwashers
iv. 1 wall-mounted television or monitor
v. 4 copiers
vi. 2 water dispensers
vii. 1 coffee machine
viii. 5 microwave ovens
ix. 2 mini fridges
x. 1 toaster oven
xi. 3 printers
xii. 1 entry wall heater
xiii. 1 security alarm system

4. Historical Utility Data

This section provides details regarding the utility aspects of the building. It provides a summary of the building's annual energy consumption along with the industry metrics of Energy Use Intensity (EUI) and Energy Cost Index (ECI). These metrics facilitate the comparison of the analyzed building to other buildings that are used for similar purposes. Both the current EUI and ECI are provided for the analyzed building along with desired targets for both metrics. The Appendix locations for benchmarking information, calculations and energy usage breakdowns are also provided.

a. Data Summary
i. Annual energy consumption
- Electrical: 148,102 kWh / 505,323 kBtu / $21,318
- Natural Gas: 5,905 Ccf / 612,925 kBtu / $6,136
- Total site energy consumption: 1,118,248 kBtu
- See APPENDIX A – Tabulated Utility Data

ii. Gross Square Footage: 15,000 sq. ft.
iii. Annual Energy Use Intensity (EUI) = 74.5 kBtu/yr/sq. ft.
iv. Annual Energy Cost Index (ECI) = $1.83/sq. ft.

b. Utility Rate Structures
i. Electric service: Evergy - 1SGSE
ii. Natural gas service: Spire - Small General Service
iii. See APPENDIX B – Utility Rate Schedules

c. Benchmarking of Comparable Buildings
i. Energy Use Index (EUI) Benchmarking Source: 2023 ASHRAE Handbook HVAC Applications IP Section 37, Table 2
- Mixed-Use Office category: 75% EUI = 69 kBtu/yr/sq. ft.
- Mixed-Use Office category: 90% EUI = 115 kBtu/yr/sq. ft.

ii. Energy Use Index (EUI) calculation:
- JVS: EUI = 74.5 kBtu/yr/sq. ft.

iii. Energy Cost Index (ECI) Benchmarking Source: 2023 ASHRAE Handbook HVAC Applications IP Section 37, Table 5
- Mixed-Use Office Category: 50% ECI = $1.25.
- Mixed-Use Office Category: 75% ECI = $1.94.

iv. Energy Cost Index (ECI) calculation:
- JVS: ECI = $1.83/sq. ft.

v. Summary:
- JVS EUI is calculated as 74.5 kBtu/yr/sq. ft. based on utility usage and square footage, which is higher than average. The high natural gas usage suggests that the old HVAC units and ductwork issues appear to be a source of heating and cooling energy losses. The shell openings (windows and gaps) are a contributing factor.
- The EUI and the ECI are higher than average for the category Mixed-Use Office; therefore, energy efficiency measures for the building envelope as well as the mechanical and electrical systems are recommended to reduce annual energy usage.

vi. See APPENDIX C – Benchmarking.

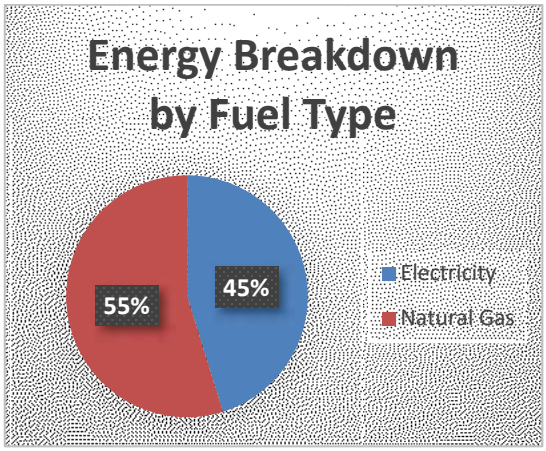
d. Target and Savings Estimate

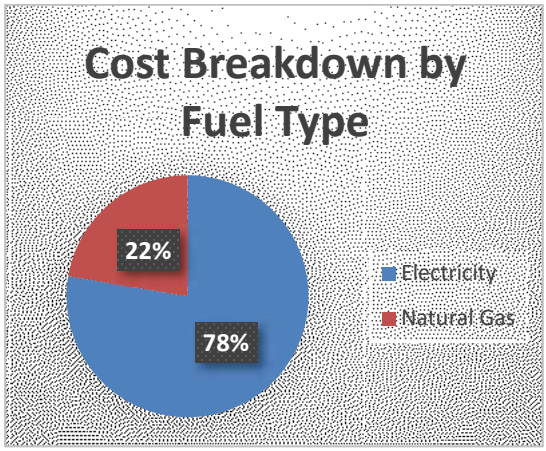
i. By comparing this building's EUI and ECI with those of the benchmark buildings, an improved EUI and ECI has been identified and reported using the Energy Star recommended 20% efficiency target:
- Target Energy Use Intensity (EUI) = 60.0 kBtu/yr/sq. ft.
- Target Energy Cost Index (ECI) = $1.46/sq. ft.

ii. If all recommended Energy Efficiency Measures (EEMs) are incorporated, the total energy use savings for the building would be approximately 30%.
- Estimated Energy use Intensity (EUI) = 52.4 kBtu/yr/sq. ft.
- Estimated Energy Cost Index (ECI) = $1.17/sq. ft.

The estimated annual energy savings will be 332,632 kBtu and the estimated annual cost savings will be $9,974, so the target will be met.

iii. About 45% of the energy usage is electrical while 55% is natural gas. However, 78% of energy cost is electrical. See pie charts below.





e. End-Use Breakdown (Largest Loads)
    i. Natural Gas is used 88% by space heating and 12% by water heating (approximate).
    ii. Electricity is consumed 51% by cooling, 10% by space heating, and 25% by lighting (approximate).
    iii. See APPENDIX D – End-Use Breakdown.

5. Energy Saving Opportunities

a. The recommended steps to reduce energy consumption is to first reduce the demand loads from the leaky building envelope and from the inefficient lighting. Providing new energy efficient HVAC equipment will then further reduce energy consumption.
b. Low-Cost/No-Cost Savings Measures
    i. New weather stripping on exterior doors.
    ii. Programmable thermostats with heating and cooling temperature setpoints per ASHRAE standards for unoccupied hours. Include Optimal Start and Stop times when available. Thermostats should be outdoor weather sensing smart learning thermostats.
    iii. Tamper-proof enclosures for thermostats to prevent individuals from changing energy-saving temperature setpoints.
    iv. Maintenance schedule to change AC filters, inspect and repair weather stripping and caulking at doors and windows.
    v. Low flow constrictions on hot water fixtures.
    vi. Hot water piping insulation replacement.
    vii. As appliances near end of life, replace them with new Energy Star high efficiency units.
    viii. Until occupancy sensors are installed, turn off lights to use less energy for unused spaces in the building.
    ix. Enable sleep mode on all office equipment.
    x. Seal gaps and cracks in walls in the basement.
    xi. Replace and maintain ceiling tiles in the basement. It will reduce air leaks.
    xii. Cover the unused elevator shaft to reduce air leakage and eliminate the safety hazard.
    xiii. Cover or demolish the old unused ducts in the basement to mitigate some of the air leakage issues.
c. Capital Projects
    i. Install Automatic Controls for Lighting Control. Install lighting occupancy sensors to meet IECC2021 energy savings requirements. There will be approximately 36 new vacancy sensors for smaller rooms and 14 occupancy sensors for restrooms, corridors, and open areas.
    ii. Update Inefficient Lighting Fixtures. Replace approximately 73 fixtures.
    iii. Replace Exterior Lighting Fixtures. Replace approx. 8 exterior wall fixtures and 8 pole-mounted parking lot lights with new LED fixtures and install new photocell lighting controls.
    iv. Replace Existing HVAC Systems. Replace existing HVAC condensing units with new, efficient and equivalent split-systems (minimum 16 SEER) and weather sensing smart learning thermostatic controls. Furnace shall be minimum 96%

efficient. The building has eleven units. Five units were replaced a few years ago. It is recommended that the following older, less efficient units be replaced to more efficient standards: two 3-ton, two 3.5-ton, one 5-ton and one 15-ton.

v. Perform Ductwork Aerosol Sealing on System Ducts.

vi. Improve Building Envelope: Install Solar Film on Windows and Doors. Improve the building envelope's energy efficiency by installing solar film on energy inefficient windows and doors. Owner to confirm solar film color. A low e-coating should be applied as the innermost exposed layer of the film to reduce heat loss, as it will improve the glass R-value up to 44%. Choose a film with low solar heat gain coefficient (SHGC). The lower the SHGC, the better the film is at blocking heat gain during the cooling season. There is approximately 370 sq. ft. of glass that should have solar film installed.

vii. Improve Building Envelope: Weatherization. Provide weatherization seals (weather stripping, rubberized seals, expanding foam or caulk) at exterior piping/vent/conduit penetrations, doors, and windows, including adding insulation to barriers between conditioned and unconditioned spaces.

d. Incentives

i. Although a list of detailed incentives is beyond the scope of this audit level, there are "Energy Efficiency Incentives" offered by Evergy for upgrading to more efficient HVAC units, adding occupancy sensors, and replacing fluorescent lighting with LED lighting fixtures. Spire offers rebates for 7-day programmable thermostats. They also potentially offer nonprofits rebates for building envelope improvements. **Please note that applications for incentives must be approved prior to construction.**

ii. Evergy incentives are listed here: https://www.evergyenergysolutions.com/wp-content/uploads/MO-Standard-Incentives.pdf

iii. Spire incentives are listed as rebates. Apply for commercial "Custom rebate" for the installation of any natural gas related energy efficiency improvement that does not qualify for a standard rebate: https://www.spireenergy.com/commercial-rebates

e. Ancillary (Nonenergy Related) Impacts of Undertaking These Measures:

i. Funds can be redirected to expand and improve community integration, health and wellness, and workforce development programs for refugees and immigrants.

ii. Upgrades will create a safer, more comfortable space for all occupants and visitors, enabling the hosting of more activities and fostering a stronger community.

iii. Reducing the energy footprint aligns with their commitment to sustainability and social responsibility, setting a positive example for their community.

6. EEM Cost Estimates

This section details the Energy Efficiency Measures in a table that outlines the calculated EEMs, their description, estimated construction costs, estimated cost savings, and the associated estimated Return

on Investment (ROI). The ROI is a measure of the profitability of the energy improvement investment and is calculated as the following formula:

$$\text{ROI (\%)} = \frac{Cost\ Sav\quad s,\ st\ mat\ \ d}{Co\ \ struct\ o\quad Cost,\ st\ mat\ \ d}$$

EEM #	Measure Description	Construction Cost, Estimated	Cost Savings, Estimated	ROI, estimated
1	Install Automatic Controls for Lighting Control	$10,150	$1,435	14%
2	Replace Existing Lighting Fixtures and Install Automatic Controls	$48,810	$4,588	9%
3	Improve Building Envelope: Weatherization	$3,600	$676	19%
4	Improve Building Envelope: Install Solar Film on Windows and Doors	$4,551	$619	14%
5	Replace Existing HVAC Systems (Inefficient only)	$60,325	$1,900	3%
6	Perform Ductwork Aerosol Sealing on System Ducts	$15,000	$2,191	15%

7. EEM Cost Estimates

The various EEM details below refer to the table presented in section 6. For example, EEM2 references the second row of the table above.

a. EEM1 is recommended if there are no funds to replace the lighting at this time.
b. Accomplishing EEM2 (which incorporates EEM1) will save on labor costs. The Return on Investment (ROI) is 9% and the electrical energy used will be reduced 86%. Incentives will further lower costs to implement these measures, which would increase the ROI.
c. Combining EEM4 with EEM3 will improve the efficiency of the building envelope, resulting in even more energy savings with a lower payback period.
d. The calculations for the cost to purchase and install six new 16 SEER HVAC split units is based on 2025 RS Means, a resource which estimates costs for the lowest efficient units that pass code. These units are 20% more efficient than existing, with a ROI of 3%.
e. See APPENDIX E – Calculation Methodology.

8. Quality Assurance Appendices

The various appendices included in section 8 provide the collected utility data, utility rate schedules, benchmarking standards, the building's energy end use breakdown, the calculations used in the report, site photos and a breakdown of the expected scope associated with each of the EEMs. The scope provides a scope of work description, equipment quantities, scope elements and performance standards for improvements.

A. Tabulated Utility Data
B. Utility Rate Schedules

C. Benchmarking
D. End-Use Breakdown
E. Calculation Methodology
F. Site Photos
G. Scope of EEMs

If you have any questions or comments, please contact:

Krishna Potdar, EIT
Mechanical Engineering
KPotdar@customengr.com
(816) 350-1473 ext. 138

Greg Long
Electrical Engineering
GLong@customengr.com
(816) 350-1473 ext. 132

APPENDIX A

Tabulated Utility Data

Tabulated Utility Data

Building Name	Jewish Vocational Service Bureau of Kansas City	user input
Gross floor area (sq. ft.)	15000	calculated
Date	10/24/2025	
Utility #1	Electricity	
Utility #2	Natural Gas	
Utility #3	Electricity	

Utility #1 - Shall be Electricity if present at the site

If sampling of meters was performed during utility analysis, describe methodology here:

N.A.

Utility #1 Electricity

MAIN DATA FOR ANALYSIS - Electricity				
Start Date	**End Date**	**Days**	**Electricity Use (kWh)**	**Electricity Cost ($)**
7/1/2024	7/31/2024	30	16,010	$ 2,790
7/31/2024	9/1/2024	32	16,105	$ 2,689
9/1/2024	10/2/2024	31	12,734	$ 2,269
10/2/2024	10/31/2024	29	9,454	$ 1,443
10/31/2024	12/4/2024	34	11,613	$ 1,510
12/4/2024	1/5/2025	32	11,602	$ 1,440
1/5/2025	2/4/2025	30	11,690	$ 1,498
2/5/2025	3/6/2025	30	12,209	$ 1,570
3/6/2025	4/6/2025	31	10,907	$ 1,535
4/6/2025	5/5/2025	29	12,039	$ 1,193
5/5/2025	6/4/2025	30	8,549	$ 1,395
6/4/2025	7/6/2025	32	12,146	$ 2,279
		370	145,059	$ 21,610

Utility #1: Definition

Units	kWh
kBtu/unit	3.41

Tabulated Utility Data

Building Name	Jewish Vocational Service Bureau of Kansas City
Gross floor area (sq. ft.)	15000
Date	10/24/2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	Electricity

user input
calculated

Utility #1 - Shall be Electricity if present at the site

Utility #2 **Natural Gas**

MAIN DATA FOR ANALYSIS - Natural Gas				
Start Date	**End Date**	**Days**	**Natural Gas Use (Ccf)**	**Natural Gas Cost ($)**
6/16/2024	7/16/2024	30	13	$ 72
7/16/2024	8/14/2024	30	25	$ 87
8/14/2024	9/15/2024	33	10	$ 69
9/15/2024	10/15/2024	31	242	$ 354
10/15/2024	11/14/2024	31	921	$ 944
11/14/2024	12/16/2024	33	1,329	$ 1,252
12/16/2024	1/16/2025	32	1,611	$ 1,505
1/16/2025	2/18/2025	34	1,304	$ 1,230
2/18/2025	3/19/2025	30	502	$ 510
3/19/2025	4/17/2025	30	118	$ 166
4/17/2025	5/18/2025	32	21	$ 82
5/18/2025	6/17/2025	31	3	$ 67
		377	6,099	$ 6,338

Utility #2: Definition

Units	Ccf
kBtu/unit	103.80

Tabulated Utility Data

Building Name	Jewish Vocational Service Bureau of Kansas City
Gross floor area (sq. ft.)	15000
Date	10/24/2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	Electricity

user input
calculated

Utility #1 - Shall be Electricity if present at the site

Utility #3 **Electricity**

MAIN DATA FOR ANALYSIS - Electricity				
Start Date	**End Date**	**Days**	**Electricity Use (kWh)**	**Electricity Cost ($)**
7/2/2024	8/1/2024	30	485	$ 76
8/1/2024	9/2/2024	32	485	$ 75
9/2/2024	10/2/2024	30	464	$ 72
10/2/2024	10/31/2024	29	447	$ 62
10/31/2024	12/4/2024	34	551	$ 69
12/5/2024	1/5/2025	32	504	$ 66
1/5/2025	2/4/2025	30	454	$ 63
2/4/2025	3/6/2025	30	344	$ 52
3/6/2025	4/5/2025	30	235	$ 54
4/6/2025	5/5/2025	30	340	$ 53
5/6/2025	6/3/2025	29	355	$ 55
6/4/2025	7/6/2025	33	392	$ 65
	Annual Total	369	5,058	$ 761

Utility #3: Definition

Units	kWh
kBtu/unit	3.41

APPENDIX B

Utility Rate Schedules

Small General Service
Schedule SGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1SGSE & 1SUSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

Metered Service:	
0-24 kW	$18.69
25-199 kW	$51.81
200-999 kW	$105.24
1000 kW or above	$898.57
Unmetered Service:	$7.84

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month	
First 25 kW	$0.000
All kW over 25 kW	$3.011

C. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.16583 per kWh	$0.12885 per kWh
Next 180 Hours Use per month:	$0.07871 per kWh	$0.06291 per kWh
Over 360 Hours Use per month:	$0.07010 per kWh	$0.05679 per kWh

Summer months: summer months are defined as June 1 - September 30 in all our territories.

FILED - Missouri Public Service Commission - 01/09/2023 - ER-2022-0129 - YE-2023-0104

DEMAND SIDE INVESTMENT MECHANISM RIDER (Cycle 4)
Schedule DSIM (Continued)

DISCONTINUING THE DSIM:

The Company reserves the right to discontinue the entire MEEIA Cycle 4 portfolio, if the Company determines that implementation of such programs is no longer reasonable due to changed factors or circumstances that have materially and negatively impacted the economic viability of such programs as determined by the Company, upon no less than thirty days' notice to the Commission. As a result of these changes, the Company may file to discontinue this DSIM. Similar to Program discontinuance, the Company would file a notice indicating that it is discontinuing the DSIM Rider. This notice would include a methodology for recovery of any unrecovered Program Costs and TD.

DEMAND SIDE INVESTMENT MECHANISM CHARGE:

Effective upon Commission approval in Case No. EO-2023-0369 MEEIA Cycle 4 Filing.

DSIM COMPONENTS AND TOTAL DSIM

Rate Schedule	Cycle	NPC/PE ($/kWh)	NTD/PE ($/kWh)	NEO/PE ($/kWh)	NOA/PE ($/kWh)	Total DSIM ($/kWh)
Residential Service	Cycle 2	$0.00000	$0.00002	($0.00001)	$0.00000	$0.00001
	Cycle 3	$0.00098	$0.00093	$0.00036	($0.00001)	$0.00226
	Cycle 4	$0.00255	$0.00011	$0.00000	$0.00000	$0.00266
	Total	$0.00353	$0.00106	$0.00035	($0.00001)	$0.00493
Non-Residential Service - SGS	Cycle 2	$0.00000	$0.00001	($0.00001)	$0.00000	$0.00000
	Cycle 3	$0.00150	$0.00155	$0.00021	$0.00000	$0.00326
	Cycle 4	$0.00079	$0.00002	$0.00000	$0.00000	$0.00081
	Total	$0.00229	$0.00158	$0.00020	$0.00000	$0.00407
Non- Residential Service - MGS	Cycle 2	$0.00000	$0.00002	$0.00000	$0.00000	$0.00002
	Cycle 3	$0.00133	$0.00141	$0.00023	$0.00000	$0.00297
	Cycle 4	$0.00253	$0.00002	$0.00000	$0.00000	$0.00255
	Total	$0.00386	$0.00145	$0.00023	$0.00000	$0.00554
Non- Residential Service - LGS	Cycle 2	$0.00000	$0.00001	$0.00000	$0.00000	$0.00001
	Cycle 3	$0.00041	$0.00059	$0.00026	$0.00000	$0.00126
	Cycle 4	$0.00104	$0.00002	$0.00000	$0.00000	$0.00106
	Total	$0.00145	$0.00062	$0.00026	$0.00000	$0.00233
Non- Residential Service - LPS	Cycle 2	$0.00000	$0.00001	$0.00000	$0.00000	$0.00001
	Cycle 3	($0.00015)	$0.00013	$0.00021	$0.00000	$0.00019
	Cycle 4	$0.00134	$0.00002	$0.00000	$0.00000	$0.00136
	Total	$0.00119	$0.00016	$0.00021	$0.00000	$0.00156

FILED - Missouri Public Service Commission - 02/01/2025 - EO-2025-0173 - JE-2025-0105

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 4th Revised Sheet No. 50.42

Canceling P.S.C. MO. No. 7 3rd Revised Sheet No. 50.42

For Missouri Retail Service Area

FUEL ADJUSTMENT CLAUSE – Rider FAC
FUEL AND PURCHASE POWER ADJUSTMENT ELECTRIC
(Applicable to Service Provided January 9, 2023 and Thereafter)
Effective for the Customer Usage Beginning April 2025 through September 2025

Accumulation Period Ending: **December 2024**			
1	Actual Net Energy Cost (ANEC) = (FC+E+PP+TC-OSSR-R)		$153,568,261
2	Net Base Energy Cost (B)	-	$148,006,228
	2.1 Base Factor (BF)		$0.01829
	2.2 Accumulation Period NSI (S_{AP})		8,092,194,001
3	(ANEC-B)		$5,562,033
4	Jurisdictional Factor (J)	x	55.1231%
5	(ANEC-B)*J		$3,065,965
6	Customer Responsibility	x	95%
7	95% *((ANEC-B)*J)		$2,912,666
8	True-Up Amount (T)	+	($872,202)
9	Interest (I)	+	$288,915
10	Prudence Adjustment Amount (P)	+	$0
11	Fuel and Purchased Power Adjustment (FPA)	=	$2,329,380
12	Estimated Recovery Period Retail NSI (S_{RP})	÷	8,893,846,174
13	Current Period Fuel Adjustment Rate (FAR)	=	$0.00026
14			
15	Current Period FAR_{Trans} = FAR x VAF_{Trans}		$0.00027
16	Prior Period FAR_{Trans}	+	$0.00100
17	Current Annual FAR_{Trans}	=	$0.00127
18			
19	Current Period FAR_{Sub} = FAR x VAF_{Sub}		$0.00027
20	Prior Period FAR_{Sub}	+	$0.00101
21	Current Annual FAR_{Sub}	=	$0.00128
22			
23	Current Period FAR_{Prim} = FAR x VAF_{Prim}		$0.00027
24	Prior Period FAR_{Prim}	+	$0.00102
25	Current Annual FAR_{Prim}	=	$0.00129
26			
27	Current Period FAR_{Sec} = FAR x VAF_{Sec}		$0.00028
28	Prior Period FAR_{Sec}	+	$0.00104
29	Current Annual FAR_{Sec}	=	$0.00132
30	VAF_{Trans} = 1.0300		
31	VAF_{Sub} = 1.0378		
32	VAF_{Prim} = 1.0497		
33	VAF_{Sec} = 1.0690		

FILED - Missouri Public Service Commission - 04/01/2025 - ER-2025-0217 - JE-2025-0121

SMALL GENERAL GAS SERVICE (Spire West)
SGS

Rate – The monthly charge shall consist of a customer charge plus a charge for gas used as set forth below:

Customer Charge – per month	$43.70
Charge for Gas Used – per Ccf	
Block 1 (First 5,000 Ccf)	$0.18592
Block 2 (Over 5,000 Ccf)	$0.23241

Minimum Monthly Charge – The Customer Charge.

Purchased Gas Adjustment – The charge for gas used as specified in this schedule shall be subject to an adjustment per Ccf for increases and decreases in the Company's cost of purchased gas, as set out on Sheet No. 11.

Surcharges and Riders – Service provided hereunder shall be subject to the Infrastructure System Replacement Surcharge (ISRS) as set out on Sheet No. 12 and any license, occupation or other similar charges or taxes as authorized by Sheet No. 14.

Late Payment Charge – Unless otherwise required by law or other regulation, 1.5% will be added to the outstanding balance of all bills not paid by the delinquent date stated on the bill. The late payment charge will not be applied to outstanding balances under $2 or to amounts being collected through a pre-arranged payment agreement with the Company that is current.

Other Terms and Conditions – Service provided hereunder is subject to the Company's General Terms and Conditions as approved by the Missouri Public Service Commission.

FILED - Missouri Public Service Commission - 12/23/2022 - GR-2022-0179 - JG-2023-0101

PURCHASED GAS COST ADJUSTMENT
PGA

H. SUMMARY STATEMENT – Spire Missouri West

Ccf

Sales Classification	CPGA	ACA	Total PGA
Residential	$0.63975	($0.01836)	$0.62139
Small General Service	$0.63975	($0.01836)	$0.62139
Large General Service	$0.63975	($0.01836)	$0.62139
Large Volume Service	$0.63975	($0.01836)	$0.62139
Unmetered Gas Light (1)	$0.63975	($0.01836)	$0.62139

1 Each Unmetered Gaslight Unit is equal to 15 Ccf.

FILED - Missouri Public Service Commission - 11/15/2024 - GR-2024-0341 - JG-2025-0060

INFRASTRUCTURE SYSTEM REPLACEMENT SURCHARGE
ISRS

Description: The Infrastructure System Replacement Surcharge (ISRS) is designed to recover the costs associated with the Company's eligible infrastructure replacements in accordance with the provisions of Sections 393.1009 to 393.1015, RSMo.

Applicability: In addition to the other charges provided for in the Company's tariff, a monthly ISRS shall be added to each customer's bill for service rendered on and after the effective date of the ISRS.

Schedule of Surcharges: The amount of the ISRS by rate schedule is as follows:

Spire East

Residential Service (RS)	$ 2.76
Small General Gas Service (SGS)	$ 5.62
Large General Gas Service (LGS)	$ 20.07
Large Volume Service (LV)	$ 146.80
Unmetered Gas Light Service (UG)	$ 0.96
General L.P. Gas Service (LP)	$ 2.88
Large Volume Transportation Service (LVTS)	$ 305.17

Spire West

Residential Service (RS)	$ 6.42
Small General Gas Service (SGS)	$ 14.03
Large General Gas Service (LGS)	$ 60.88
Large Volume Service (LV)	$ 512.23
Large Volume Transportation Service (LVTS)	$ 397.60
Transportation Service (TS)	$ 62.73
Intrastate Transportation Service (ITS)	$ 397.60

FILED - Missouri Public Service Commission - 05/14/2025 - GR-2025-0206 - JG-2025-0148

APPENDIX C

Benchmarking

Summary for Existing Building

Imported Energy (E_{imp})

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)
Electricity	148,102	kWh			
Natural Gas	5,905	Ccf			
Purchased Steam	-	lbs District Steam (15 psig) dumped after use			
Purchased Hot Water	-	kWh			
Purchased Chilled Water	-	MMBtu			
Oil	-	gallons (Fuel Oil #2)			
Propane	-	gallons (Propane)			
Coal	-	short ton (coal)			

On-Site Renewable Energy Production (E_g)

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)

Exported Energy (E_{exp})

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)
Exported - Thermal	-	MMBtu	1000.0	0	$ -
Exported - Electricity	-	kWh	3.4	0	$ -
			E_{exp} Total		**$ -**
			E_S Total		*[if applicable]*

Existing Building EUI/ECI

Building Name	Jewish Vocational Service Bureau of Kansas City	
Gross Conditioned Square Feet	15,000	
	74.5	*Just above Benchmark: 75th Percentile (69)*
	74.5	
	$ 1.83	*Just under Benchmark: 75th Percentile ($1.94)*

*EUI: Energy Use Intensity

Benchmarking & Target EUI/ECI

Benchmark Source	ASHRAE HVAC Applications I-P-2023	
Benchmark EUI (kBtu/sf/yr)	75.0	*Approx. 80th Percentile for EUI*
Target EUI [building] (kBtu/sf/yr)	60.0	*Approx. 63rd Percentile for EUI*
Target EUI [site] (kBtu/sf/yr)		
Target ECI [site] ($/sf)	$ 1.46	*Approx. 63rd Percentile for ECI*
Annual Energy Savings to Reach Target (kBtu)	218,248	
Annual Cost Savings to Reach Target	$5,491	

A typical Energy Star target is 20% energy savings.

Notes

	EUI	ECI
CURRENT VALUES:	74.5	$ 1.83
EUI SAVED:	22.2	
ECI SAVED:		$ 0.66
CALCULATED VALUES POST-EEMs:	52.4	$ 1.17
TARGET VALUES:	60.0	$ 1.46

APPENDIX D

End-Use Breakdown

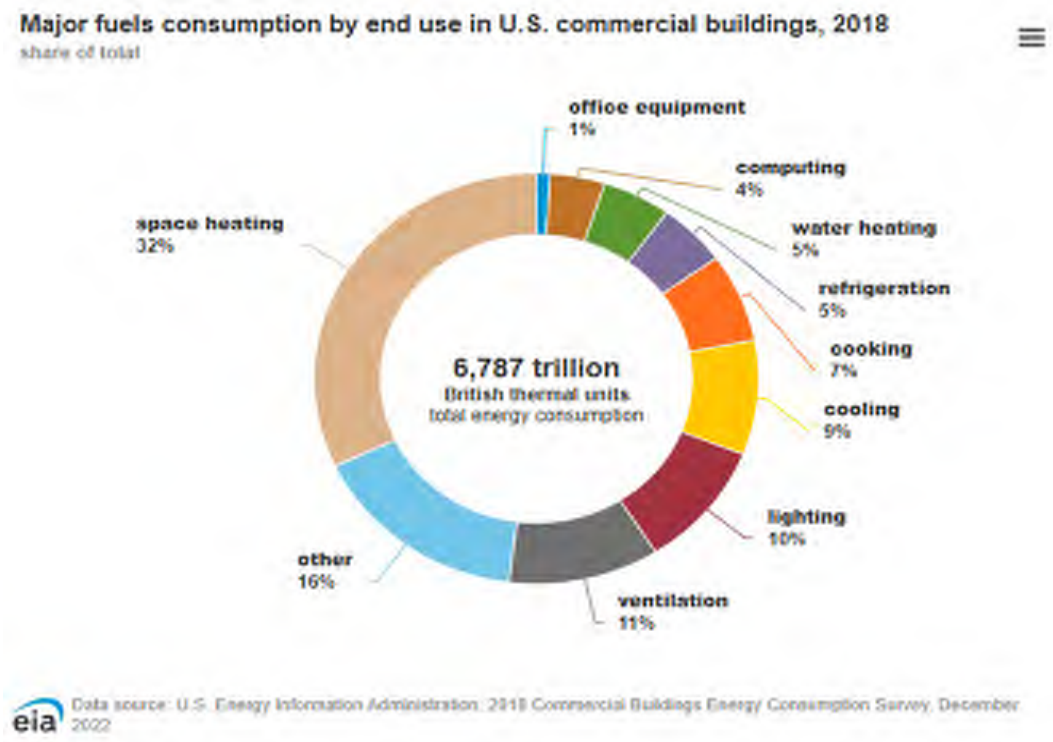
End Use Breakdown

user input
calculated
sourced data

Estimated Commercial End-use Energy Consumption						
	Default Ratio	**Estimated***	**% This Bldg**	**Energy Use (kBtu)**	**Energy Use (kWh)**	**Energy Use (Ccf)**
Office Equipment - Electric	1%	0%	0.4%	4,954	1,452	
Computing - Electric	4%	2%	1.8%	19,817	5,808	
Refrigeration - Electric	5%	2%	1.8%	19,817	5,808	
Lighting - Electric	10%	11%	11.1%	123,854	36,299	
Other Electrical - Electric	16%	2%	2.2%	24,771	7,260	
Space Cooling - Electric	9%	18%	17.7%	198,166	58,079	
Ventilation (Cooling) - Electric	5.5%	5%	4.9%	54,496	15,972	
Space Heating - Electric	0%	4%	4.4%	49,541	14,520	
Water Heating - Electric	0%	0%	0.0%	0	0	
Cooking - Electric	7%	1%	0.9%	9,908	2,904	
Space Heating - Gas	32%	41%	41.1%	459,694		4,429
Ventilation (Heating) - Gas	5.5%	7%	7.1%	79,680		768
Water Heating - Gas	5%	7%	6.6%	73,551		709
Cooking - Gas	0%	0%	0.0%	0		0
Total	100%	100%	100%	1,118,248	**148,102**	**5,905**

Actual Energy Use	**kWh**	**Ccf**	**kBtu**	**% Usage**	**Building Total kBtu**
Electrical	**148,102**		505,323	45%	**1,118,248**
Natural Gas		**5,905**	612,925	55%	

Electricity accounted for 60% and natural gas accounted for 34% of total energy use in U.S. commercial buildings in 2018.



Source: https://www.eia.gov/energyexplained/use-of-energy/commercial-buildings.php

APPENDIX E

Calculation Methodology

Calculation Methodology

	Annual Totals	$ Rate	Rate Schedule
Electric (kWh)	148,102	0.13424	1SGSE
(Summer rate)		0.17122	
Gas (Ccf)	5,905	0.80731	SGS

KEY
user input
calculated
sourced data

Equipment List (Plug-in Loads)		
Description	**Qty**	**kWh/yr ea.**
Dishwasher	2	78
Microwave oven	5	103
Refrigerator	5	900
Mini fridge	2	50
Coffee machine	4	280
Toaster oven	1	5
Copier	4	390
Printer	6	82
Computer	5	22
Laptop	75	5
Monitor	80	4
Water dispenser	2	720
TV	1	4
Electric heat	10	900
Security alarm system	1	730

2025 Costs (Calculated)				
Description	**Quantity**	**Cost per**	**Source**	
Occupancy Sensors	50	$ 203	RSMeans 26.09.23.10.0010	*inc demo*
LED Ltg Fixtures	83	$ 300	RSMeans 26.51.13.55.xxxx	*inc demo*
Ext LED Wall Ltg	8	$ 320	RSMeans 26.56.23.10.1278	*inc demo*
Ext LED Pole Ltg	8	$ 1,400	RSMeans 26.56.19.60.2080	*inc demo*
Neutral Solar Film	1	$ 4,551	RSMeans 08.85.10.10.1050	
3 Ton HVAC System	2	$ 7,740	RSMeans 23.62.13.10.0300	*inc demo, cond. unit, furnace, flue*
3.5 Ton HVAC System	2	$ 9,090	RSMeans 23.62.13.10.0350	*inc demo, cond. unit, furnace, flue*
5 Ton HVAC System	1	$ 11,240	RSMeans 23.62.13.10.0500	*inc demo, cond. unit, furnace, flue*
15 Ton HVAC System	1	$ 15,425	RSMeans 23.62.13.10.0650	*includes demo, condensing unit*
Duct Aerosol Sealing	1	$ 15,000	$1/sq.ft.	
Weatherization (16 hrs)	2	$ 1,800	RS Means 07.21.19.10.9000	*inc demo*

HVAC Condensing Units				
Existing Model No.	**Ton**	**Ex. SEER**	**New SEER2**	**Improvement**
38CKC060570	5	9.7	16.0	37%
TCJD36S41S3A	3	13.0	16.0	19%
13ACXN036	3	13.0	16.0	19%
TSA042S4N44Y	3.5	14.0	16.0	12%
TSA042S4N44Y	3.5	14.0	16.0	12%
38AUZA16A0A5A0A0A0	15	13.0	16.0	19%
CA16NW061-B	5	16.0		
CA16NW061-B	5	16.0		
CA16NW061-B	5	16.0		
CA16NW061-B	5	16.0		
TTX760A100A1	5	10.0		
Total (weighted)				13%

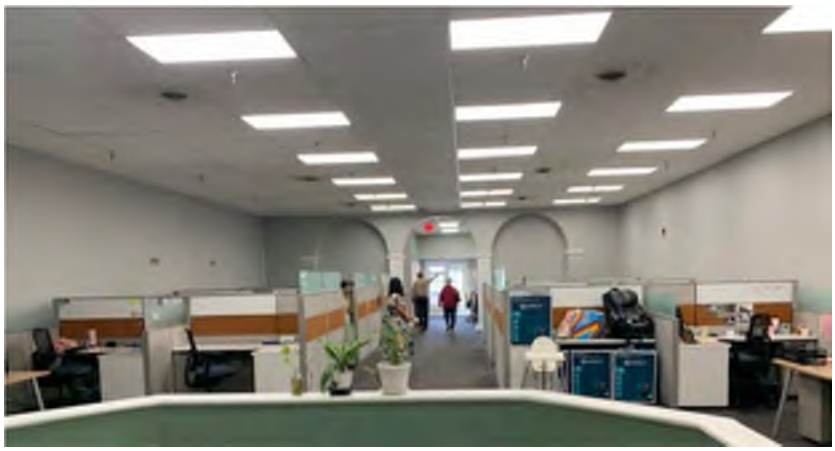
EEM Cost Estimates

EEM Energy Savings %	Description	End-Use Energy	Annual Energy Use Savings (per EEM) %	kWh	Ccf	kBtu	$	NP-Provided Estimate	Estimated Cost	Site Energy Savings %
EEM1	**Install Automatic Controls for Lighting Control**								$ 10,150	
27%	*Occupancy Sensors save 27% on average for daytime use of lighting*									3%
	Lighting energy (kWh)	36,299	27%	9,801		33,441	$ 1,435	14% ROI		
EEM2a	**Replace Inefficient Lighting with LED Fixtures**								$ 38,660	
	*Replacing **64** w fixtures with **13** w fixtures (typical) and updating exterior ltg*									
	Lighting energy (kWh)	33,541	81%	29,495		100,636	$ 4,319			
EEM2b	**Install Automatic Controls for All New & Existing LED Fixtures**								$ 10,150	
	IECC2021 requires ltg controls to meet energy savings requirements if installing new ltg									
	Occ Sensors req'd in Halls, Public Restrooms, Storage									
	Lighting future (kWh)	6,805	27%	1,837		6,269	$ 269			
EEM2	**Replace Inefficient Lighting Fixtures and Install Automatic Controls**								$ 48,810	
86%	*Totals of EEM2a and EEM2b*									10%
	Lighting energy (kWh)	36,299	86%	31,332		106,905	$ 4,588	9% ROI		
			%	**kWh**	**Ccf**	**kBtu**	**$**			
EEM3	**Improve Building Envelope: Weatherization**								$ 3,600	
	Weatherization projects in older buildings produce energy savings exceeding the costs									
	by a factor of 1.4, over the lifetime of the improvement.									3%
5%	Space cooling (kWh)	58,079	5%	2,904		9,908	$ 497			
	Space heating (Ccf)	4,429	5%		221	22,985	$ 179			
	total savings					32,893	$ 676	19% ROI		
EEM4	**Improve Building Envelope: Install Solar Film on Windows and Doors**								$ 4,551	
	The lower the solar heat gain coefficient (SHGC), the better the film is at blocking heat gain.									
	Reduce heat loss with low-e coating on innermost layer of film, to improve R-value up to 44%.									
4%	Space cooling (kWh)	58,079	4%	2,323		7,927	$ 398			3%
	Space heating (Ccf)	4,429	4%		177	18,388	$ 143			
	Space heating (kWh)	14,520	4%	581		1,982	$ 78			
	total savings					28,296	$ 619	14% ROI		
			%	**kWh**	**Ccf**	**kBtu**	**$**			
EEM5	**Replace Existing HVAC Systems (Inefficient only)**								$ 60,325	
	Improving SEER rating of HVAC directly correlates to energy savings.									
	Specifying high efficiency gas furnaces increases energy savings.									
	Space cooling (kWh)	58,079	13%	7,550		25,762	$ 1,293			6%
8%	Space heating (Ccf)	4,429	6%		266	27,582	$ 215			
	Ventilation cooling (kWh)	15,972	13%	2,076		7,084	$ 356			
	Ventilation heating (Ccf)	768	6%		46	4,781	$ 37			
	total savings					65,208	$ 1,900	3% ROI		
EEM6	**Perform Aerosol Duct Sealing for System Ductwork**								$ 15,000	
	Sealing ductwork systems for each air handler saves up to 30% in air losses									
	Space cooling (kWh)	58,079	10%	5,808		19,817	$ 994			
12%	Space heating (Ccf)	4,429	10%		443	45,969	$ 358			9%
	Ventilation cooling (kWh)	15,972	25%	3,993		13,624	$ 684			
	Ventilation heating (Ccf)	768	25%		192	19,920	$ 155			
	total savings					99,330	$ 2,191	15% ROI		
						kBtu	**$**		**Est. Cost**	
	TOTAL SITE SAVINGS (EEMs 2-6)					**332,632**	**$ 9,974**	**8%** ROI	**$ 132,286**	**30%**

APPENDIX F

Site Photos

Interior Lighting

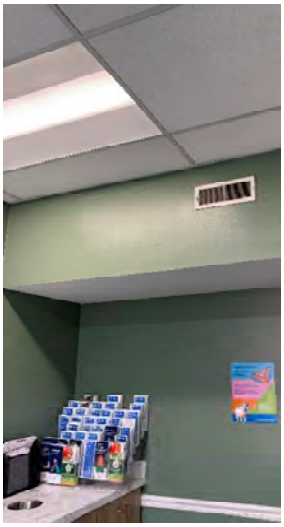












Exterior Lighting, Windows, and Building Envelope



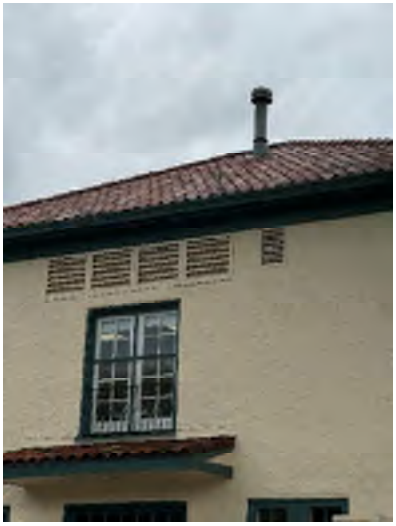


























Mechanical Equipment

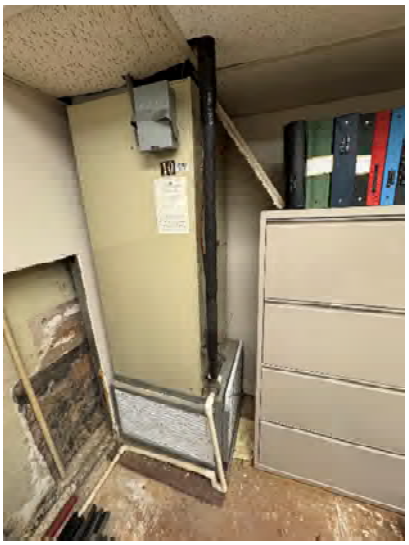
































APPENDIX G

Scope of EEMS

Energy Efficiency Measures (Electrical)

Site contact: Beckah Molina, CMA
Chief Financial & Administrative Officer
Jewish Vocational Service Bureau of Kansas City
4600 Paseo Boulevard, Kansas City, MO 64110
(816) 629-8897
bmolina@jvskc.org

EEM #

1 i.Install Automatic Controls for Lighting Control. Install lighting occupancy sensors to meet IECC2021 energy savings requirements. There will be approximately 36 new vacancy sensors for smaller rooms and 14 occupancy sensors for restrooms, corridors, and open areas.

2 ii.Update Inefficient Lighting Fixtures. Replace approximately 73 fixtures.

2 iii.Replace Exterior Lighting Fixtures. Replace approx. 8 exterior wall fixtures and 8 pole-mounted parking lot lights with new LED fixtures and install new photocell lighting controls.

	Replacement Equipment List			
	Description	**Quantity**		
1	Occupancy Sensor	18		RSMeans 26.09.23.10.0010
1	Vacancy Sensor	36		RSMeans 26.09.23.10
2	LED Ltg Fixtures	83		LED Similar to Existing
2	Ext LED Wall Ltg	8		RSMeans 26.56.23.10.1278
2	Ext LED Pole Ltg	8		RSMeans 26.56.19.60.2080

1 **Lighting Occupancy Sensors (Estimate)**

	Quantity
Wall vacancy sensor	36
Ceiling mtd	14
Toilets (full coverage)	4
Power packs for controls	

2 **Replace Inefficient Lighting Fixtures**

	Quantity
Demo existing fixtures	100
Exterior wall fixture	8
Walkway pole lighting	8
Exterior lighting controls	16
Interior LED lighting	83

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing inefficient lighting with new LED lighting that offers the same levels of lumens or meets the IECC requirements. Contractor to confirm final selection with building owner and verify exact quantities and fixture types prior to bid. Provide all equipment and materials for all phases of demolition, removal, installation, including necessary permits and inspections. Work shall comply with Kansas City Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Energy Efficiency Measures (Mechanical)

Site contact: Beckah Molina, CMA
Chief Financial & Administrative Officer
Jewish Vocational Service Bureau of Kansas City
4600 Paseo Boulevard, Kansas City, MO 64110
(816) 629-8897
bmolina@jvskc.org

EEM #

5 i.Replace Existing HVAC Systems. Replace existing HVAC condensing units with new, efficient and equivalent split-systems (minimum 16 SEER) and weather sensing smart learning thermostatic controls. Furnace shall be minimum 96% efficient. The building has eleven units. Five units were replaced a few years ago. It is recommended that the following older less efficient units be replaced to more efficient standards: two 3-ton, two 3.5-ton, one 5-ton and one 15-ton.

6 ii.Perform Ductwork Aerosol Sealing on System Ducts.

	Replacement Equipment List			
	Description	**Quantity**		
5	3 Ton HVAC System	2		
5	3.5 Ton HVAC System	2		
5	5 Ton HVAC System	1		
5	15 Ton HVAC System	1		
6	Duct Aerosol Sealing			Reduce leakage to 2%

5 **HVAC Condensing Units**

Existing Model No.	Ton	Exist. SEER	New SEER2
38CKC060570	5	9.7	16.0
TCJD36S41S3A	3	13.0	16.0
13ACXN036	3	13.0	16.0
TSA042S4N44Y	3.5	14.0	16.0
TSA042S4N44Y	3.5	14.0	16.0
38AUZA16A0A5A0A0A0	15	13.0	16.0

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing. Contractor to confirm final selection with building owner and verify quantities prior to bid. Provide all equipment and materials for all phases of demolition, removal, installation, and commissioning, including necessary permits and inspections. Work shall encompass best industry practices and comply with Kansas City Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Energy Efficiency Measures (Building Envelope)

Site contact: Beckah Molina, CMA
Chief Financial & Administrative Officer
Jewish Vocational Service Bureau of Kansas City
4600 Paseo Boulevard, Kansas City, MO 64110
(816) 629-8897
bmolina@jvskc.org

EEM #

4 i. Improve Building Envelope: Install Solar Film on Windows and Doors. Improve the building envelope's energy efficiency by installing solar film on energy inefficient windows and doors. Owner to confirm solar film color. A low e-coating should be applied as the innermost exposed layer of the film to reduce heat loss, as it will improve the glass R-value up to 44%. Choose a film with low solar heat gain coefficient (SHGC). The lower the SHGC, the better the film is at blocking heat gain during the cooling season. There is approximately 370 sq. ft. of glass that should have solar film installed.

3 ii.Provide weatherization seals (weather stripping, rubberized seals, expanding foam or caulk) at exterior piping/vent/conduit penetrations, doors, and windows, including adding insulation to barriers between conditioned and unconditioned spaces.

Replacement Equipment List			
Description	**Quantity**		
4 Solar Film on Windows and Doors	370 sq. ft.		Neutral solar film
3 Weatherization	(site)		

4 **Solar Film Size (Approx)**	Quantity
Windows	347 sq. ft.
Doors	23 sq. ft.

FILM: RS Means: 2020 Commercial Renovation Costs 08.85.10.10.1050

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting new work. Contractor to confirm final color and material selection with building owner and verify quantities prior to bid, including allowance for trimming. Provide all equipment and materials for all phases of demolition, removal, installation, and commissioning, including necessary permits and inspections. Work shall encompass best industry practices and comply with Kansas City Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Custom Engineering, Inc.
Columbia, MO | Independence, MO (HQ) |
St. Louis, MO | Overland Park, KS
573.875.4365 | 816.350.1473 | 314.366.3360



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Kansas City Public Library - Waldo

Level 2 Audit Report

September 2025

17300 West 116th St. Lenexa, KS 66219 | www.entegritypartners.com

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including the Kansas City Public Library Waldo Branch (KCPL Waldo).

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including KCPL Waldo, received a Level 2 ASHRAE energy audit.

The Kansas City Public Library system has 10 locations throughout the Metro area which provide access to reading materials, educational programming and a variety of classes to the surrounding community. The primary goal of the library system is to provide essential resources and support by bridging gaps in access to information and services. Library services include citizenship classes, tax assistance, technical training, device lending, and youth and family programming. The Waldo branch is one of the most popular branches in the KCPL system, serving over 20,000 visitors per year. The surrounding area experiences a poverty rate of 12%, an unemployment rate of 5%, and high educational attainment, with 90% of residents having a diploma and 40% holding higher education degrees.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for KCPL Waldo, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with KCPL Waldo.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	Kansas City Public Library – Waldo Branch
Building Owner	Kansas City Urban Public Library District
Energy Auditor(s)	Hannah Parker

Metric	Value
Street Address	201 E 75th St., Kansas City, MO, 64114
Date of site visit(s)	8/11/2025
Primary Building Use Type	Library
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1
Client Name	Kansas City Public Library
Point of Contact	Margaret Perkins-McGuinness

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential.

Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of KCPL Waldo facilities. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to the KCPL Waldo's energy costs or operational requirements at a given facility.

The KCPL Waldo branch was constructed in 1992, it is open to the public 7 days a week, and it is well maintained by the staff. According to staff, all fluorescent lighting has been upgraded to LED, with the exception of interior can lights and exterior canopy lights. The HVAC system is comprised of packaged rooftop units with zone VAV boxes, with one RTU slated for replacement in the next few months due to a condenser failure. The facility has an HVAC controls system which is monitored in-house and serviced by Controls Service Company.

Utility data analysis provides a lens into building energy performance and potential for savings. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. The KCPL Waldo facility currently outperforms the benchmark for similar facilities by 6.2%. However, there is still opportunity for investment and improvement which can further reduce long-term utility and operational costs.

This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including LED lighting, HVAC upgrades, controls system improvements, and envelope sealing.

1-2 Facility Description

Entegrity audited KCPL Waldo on August 11, 2025. This facility serves as the Waldo branch for the Kansas City Urban Public Library District. Areas within the facility include a library, meeting rooms, and offices.

During the audit, Entegrity identified several factors that affect building energy and operating costs. The HVAC systems at KCPL Waldo are nearing the end of their useful life, but KCPL maintenance personnel do well to ensure that the facility is operating as efficiently as possible and that equipment is functioning properly.

Figure 1-2-1 Kansas City Public Library – Waldo Branch



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of KCPL Waldo, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for KCPL Waldo during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 KCPL Waldo Characteristics

Metric	Value
Year of Construction	1992
Last Renovation	N/A
Year of Prior Energy Audit	2024 – Evergy Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	Y
Historical Landmark Status	N
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	14,200
Total Conditioned Area (ft^2)	14,200
Heated Only (ft^2)	-
Cooled Only (ft^2)	-
Total Number of Floors	1
Conditioned Floors Above Grade	1
Conditioned Floors Below Grade	-
Spaces Excluded from Gross Floor Area	None

2-1.2 Occupancy Information

The table below outlines the typical occupancy of KCPL Waldo in a typical year of operations.

Table 2-1-2 KCPL Waldo Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	68
Typical Occupancy (weeks per year)	50
Typical number of occupants (during occupied hours)	10-50
Number of Dwelling Units in Building (Multifamily Only)	N/A
% of Dwelling Units currently Occupied (Multifamily Only)	N/A

2-1.3 Space Functions

The table below outlines how KCPL utilizes the spaces in the Waldo branch facility for a variety of different functions and operations.

Table 2-1-3 KCPL Waldo Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Library	13,400	94%
Office	800	6%
Total	14,200	100%

Table 2-1-4 KCPL Waldo Space Function Breakdown

Space Description	Library	Office
Space Function Type	Library	Office
Intended Use of Space	Library	Office
Gross Floor Area	13,400	800
Conditioned Area (%)	100%	100%
Number of Occupants	0-50	0-10
Approx. Plug Loads (W/ft^2)	0.5-1.0	1.5-2.0
Space Use (hours/week)	68	68
Space Use (weeks/year)	50	50

2-1.4 Building Energy & Utility Sources

KCPL Waldo is served electricity and natural gas as metered energy sources, and water/sewer as a metered utility source.

Table 2-1-5 KCPL Waldo Building Energy Sources

Energy Source	Account Number	Utility Provider	Rate Schedule
Electricity	6683326449	Evergy	MGS Secondary Voltage
Natural Gas	3488233333	Spire	Small Gen. Commercial
Water/Sewer	000024125 0025451 4	KC Water	Inside City Limits

2-2 Lighting & Plug Loads

KCPL Waldo currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technology in use at KCPL Waldo is LED, with incandescent and HID also in use.

Table 2-2-1 KCPL Waldo Facility Lighting Summary

Lighting Source Type	Fixture Type	Control Type	Space Type	Quantity
Incandescent 60W Bulb	Single Bulb Can	Wall Switch	Meeting Rooms	5
Incandescent 60W Bulb	Single Bulb Can	Wall Switch	Library	3
Incandescent 60W Bulb	Single Bulb Can	Wall Switch	IT Hallway	2
Incandescent 60W Bulb	Single Bulb Can	Wall Switch	Restrooms	2
Incandescent 60W Bulb	Single Bulb Can	Wall Switch	Offices	1
Exterior Canopy Lighting	HID Overhead	Daylight Sensor	Exterior	8
Exterior Security Lighting	HID Wall Pack	Daylight Sensor	Exterior	2
LED	LED Fixtures	Wall Switch	All Others	-

Table 2-2-2 KCPL Waldo Plug Load Summary

Process/Plug Load Description	Operational Details
25 Desktop Computers	19 for Public use, 6 for Staff use
1 Catalog Machine	For Public use
4 Printers/Copiers	2 for Public use, 2 for Staff use

2-3 Heating, Ventilation & Air Conditioning

KCPL Waldo is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving KCPL Waldo is summarized in the table below.

Table 2-3-1 KCPL Waldo Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Packaged Rooftop Units with VAV Boxes
	Fuel	Natural Gas
	Distribution	Ducted to Zone VAVs
Cooling	Primary Source	Packaged Rooftop Units with VAV Boxes
	Distribution	Ducted to Zone VAVs
	Other Considerations	2 of 4 units use R-22 refrigerant
Ventilation	Outside Air	At rooftop unit OA intake
	Exhaust Fans	6 total EFs – mainly restroom exhaust
Controls	Zone Controls	Automated Logic sensors/thermostats
	Central Controls	Controls Service Company central controls system
	Other Considerations	Online access for monitoring
Hot Water	Primary Source	Natural Gas storage water heater serving restrooms
	Secondary Source	Small Natural Gas storage water heater serving mop sink
	Other Considerations	Minimal hot water use, primary heater over 25 years old

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of KCPL Waldo.

Table 2-4-1 KCPL Waldo Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	TPO
	Roofing Color	White
	Area	14,200
	Condition	3/5 Good
Walls	Construction Type	Brick
	Condition	4/5 Great
Fenestrations	Frame Type	Metal Frame
	Glass Type	Double pane storefront windows
	Glazing % of Wall Area	10-15%
	Seal Condition	3/5 Good
	Enclosure Tightness	3/5 Good
	Exterior Door Type	Hollow Metal/Storefront Glass

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with the KCPL Waldo facility. Utility data was analyzed from the period beginning June 2024 and ending May 2025

Table 3-1-1 Annual Utility Expenses

Electric	kWh	147,891	$20,182
Natural Gas	MMBtu	452.2	$4,681
Water/Sewer	kGal	120.3	$4,455

Figure 1 KCPL Waldo Utility Cost Breakdown

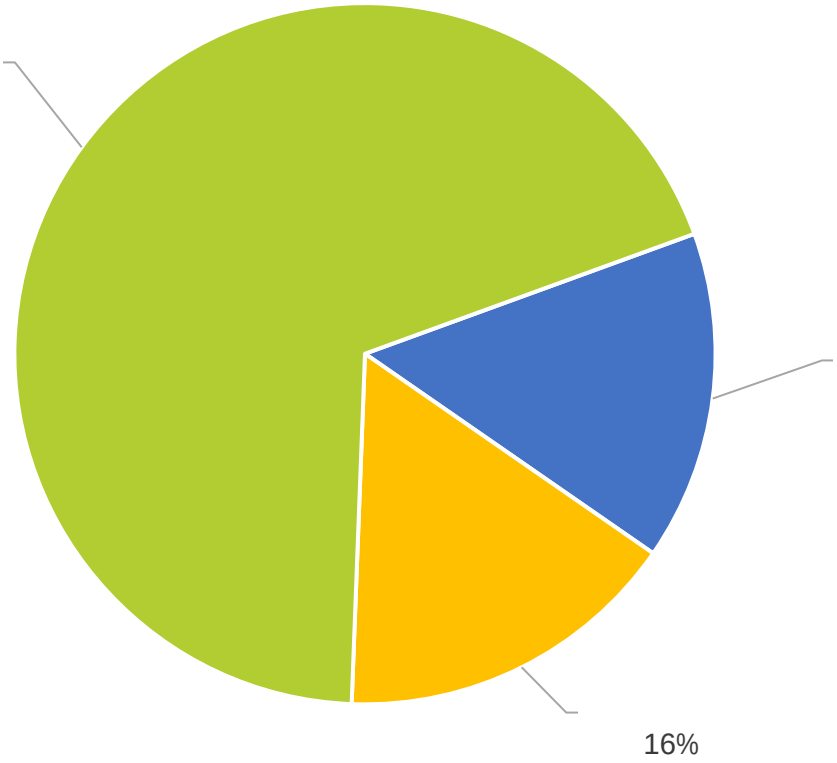
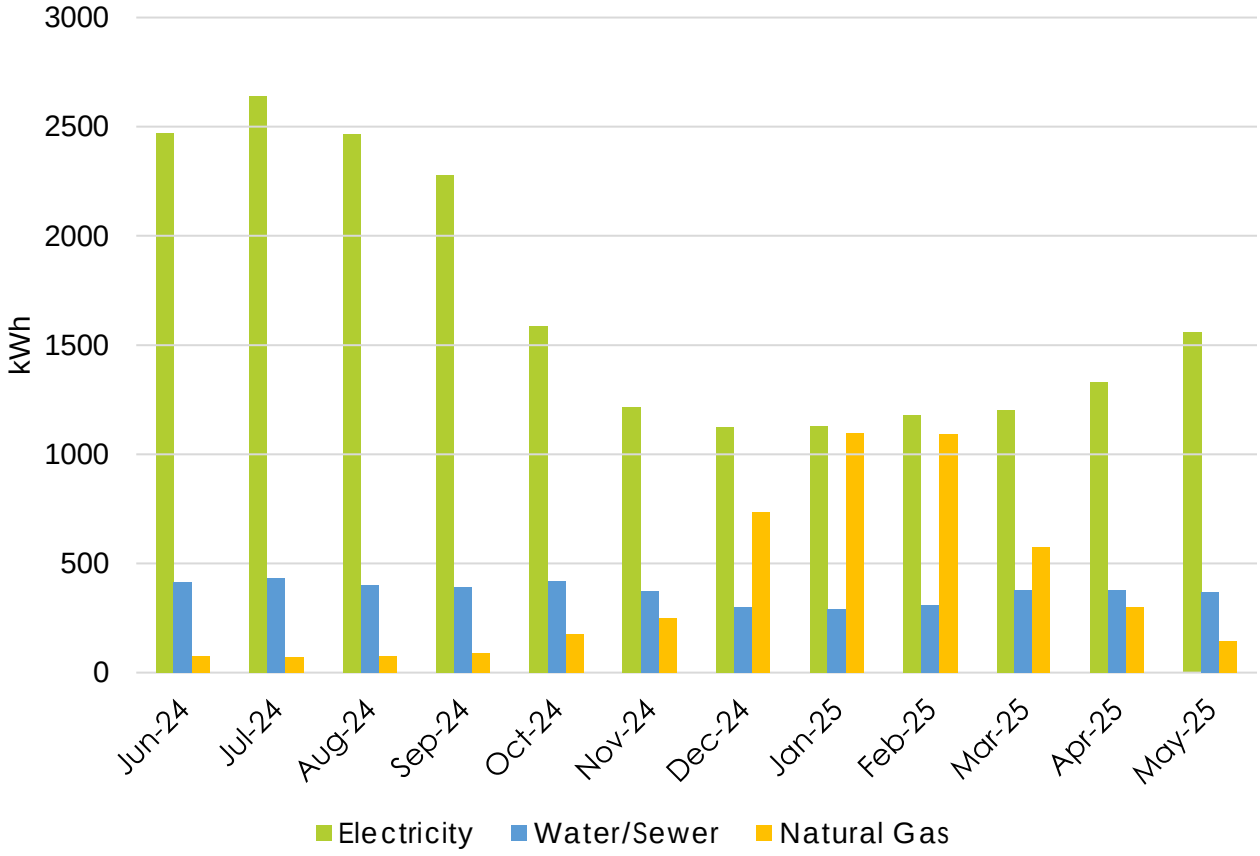


Figure 2 KCPL Waldo Utility Cost Monthly Breakdown



3-1.1 Electricity

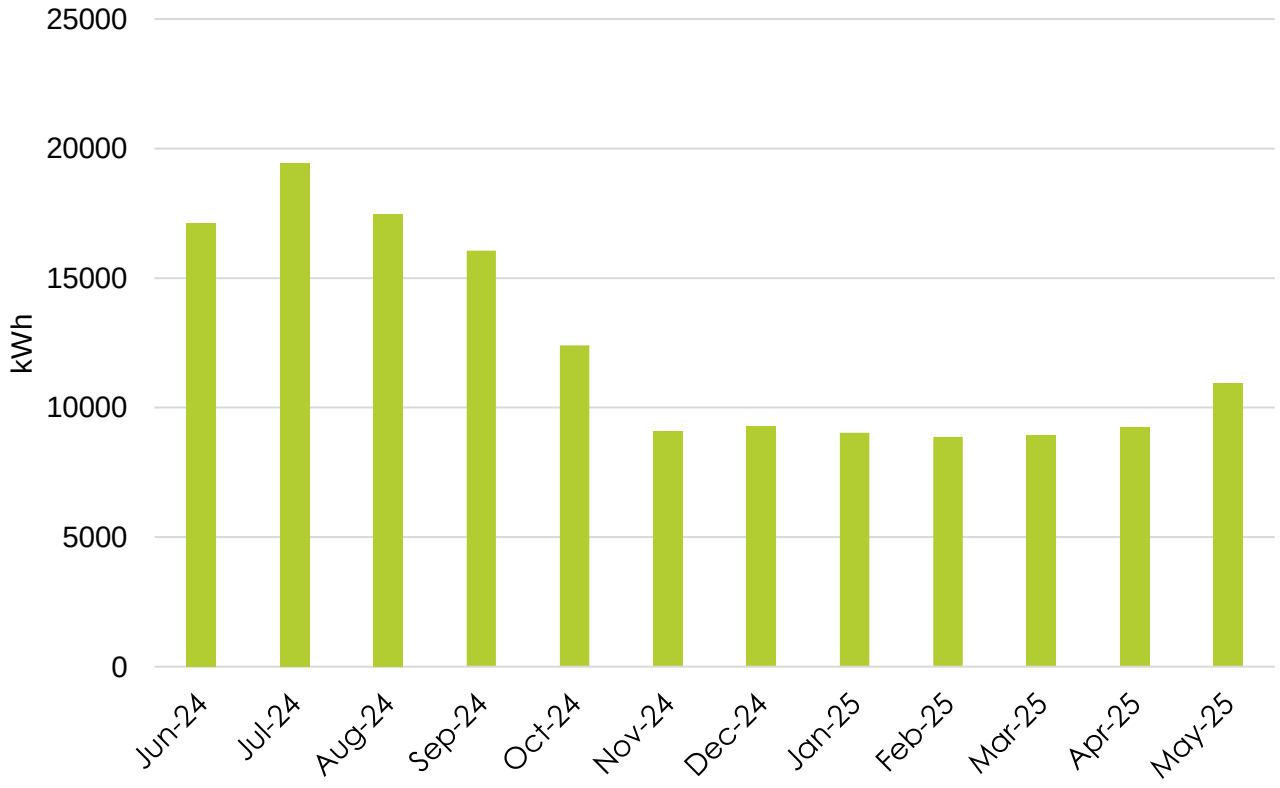
Entegrity has calculated annual electricity usage, demand, and cost data for the KCPL Waldo facility. KCPL Waldo is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for KCPL Waldo, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

6683326449	147,891	61.0	$20,182	$0.11063	$6.3479

Figure 3 KCPL Waldo Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

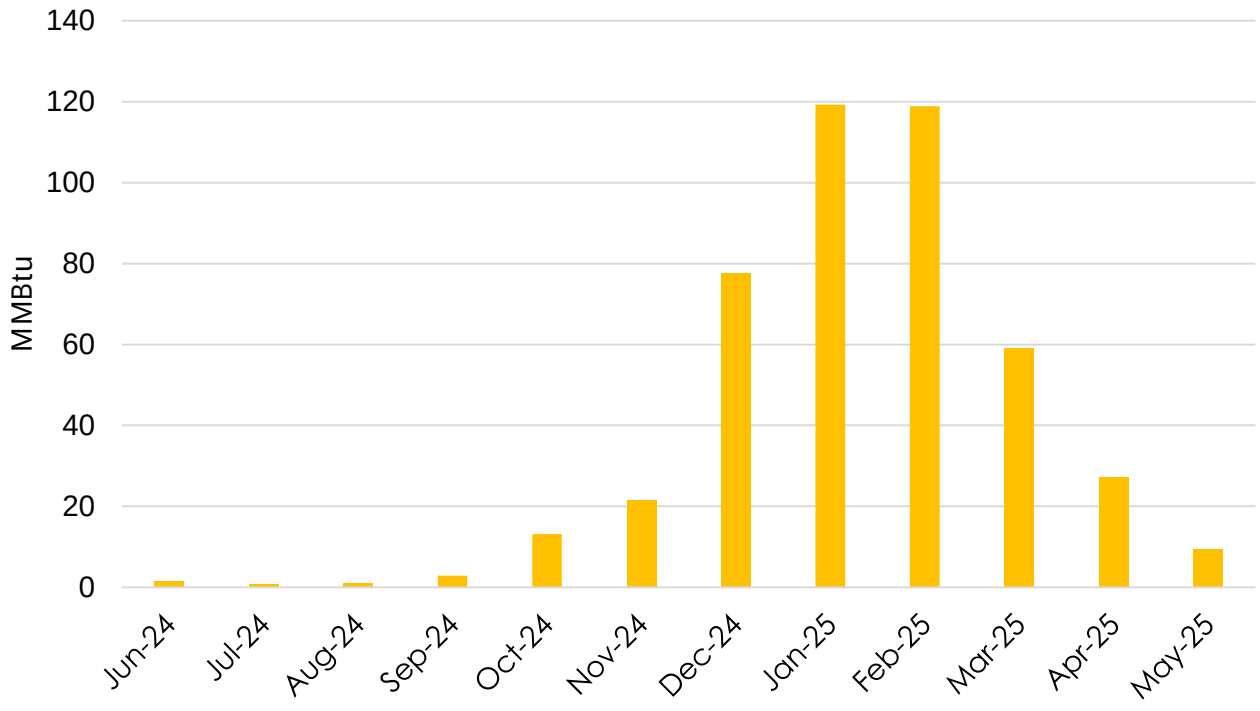
Entegrity has calculated natural gas usage and cost data for the KCPL Waldo facility. KCPL Waldo is served natural gas by Spire. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for KCPL Waldo, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

Account ID	Base Year Usage (MMBtu)	Base Year Cost	Natural Gas Rate ($/MMBtu)
3488233333	452.2	$4,681	$7.7847
Total	452.2	$4,681	$7.7847

Figure 4 KCPL Waldo Natural Gas Utility Monthly Breakdown



3-1.3 Water & Sewer

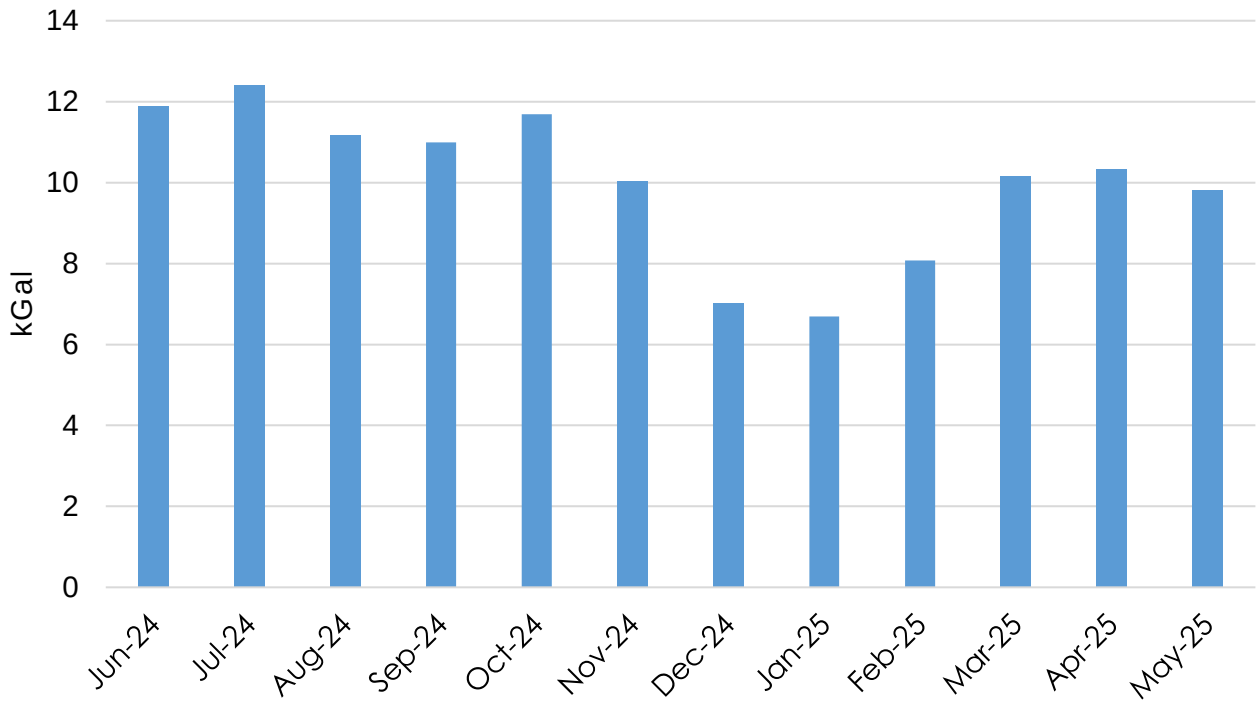
Entegrity has calculated water usage and cost data for the audited KCPL Waldo facility. KCPL Waldo is served water & sewer by KC Water. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for KCPL Waldo, it was determined that there are no potential adjustments for the water utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-4 Water Utility by Account

000024125 0025451 4	120.3	$4,455	$24.7363

Figure 5 KCPL Waldo Water & Sewer Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on KCPL Waldo, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare KCPL Waldo to a benchmarking target and determine the savings potential associated with reaching that target.

The target EUI, ECI, and UCI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 KCPL Waldo Performance

Metric	Value
Conditioned Square Feet	14,200
Energy Use Intensity [building] (kBtu/sf/yr)	67.4
Energy Use Intensity [site] (kBtu/sf/yr)	67.4
Water Use Intensity (kGal/sf/yr)	8.47
Energy Cost Index ($/sf/yr)	$1.75
Utility Cost Index ($/sf/yr)	$2.06

Table 3-2-2 KCPL Waldo Benchmarking

Metric	Value
Benchmark Source	CBECS - Library
Benchmark EUI (kBtu/sf/yr)	71.6
Target EUI [building] (kBtu/sf/yr)	57.3
Target EUI [site] (kBtu/sf/yr)	57.3
Target WUI (kGal/sf/yr)	7.20
Target ECI [site] ($/sf/yr)	$1.49
Target UCI [site] ($/sf/yr)	$1.75
Annual Energy Savings to Reach Target	143,525
Annual Cost Savings to Reach Target	$4,398

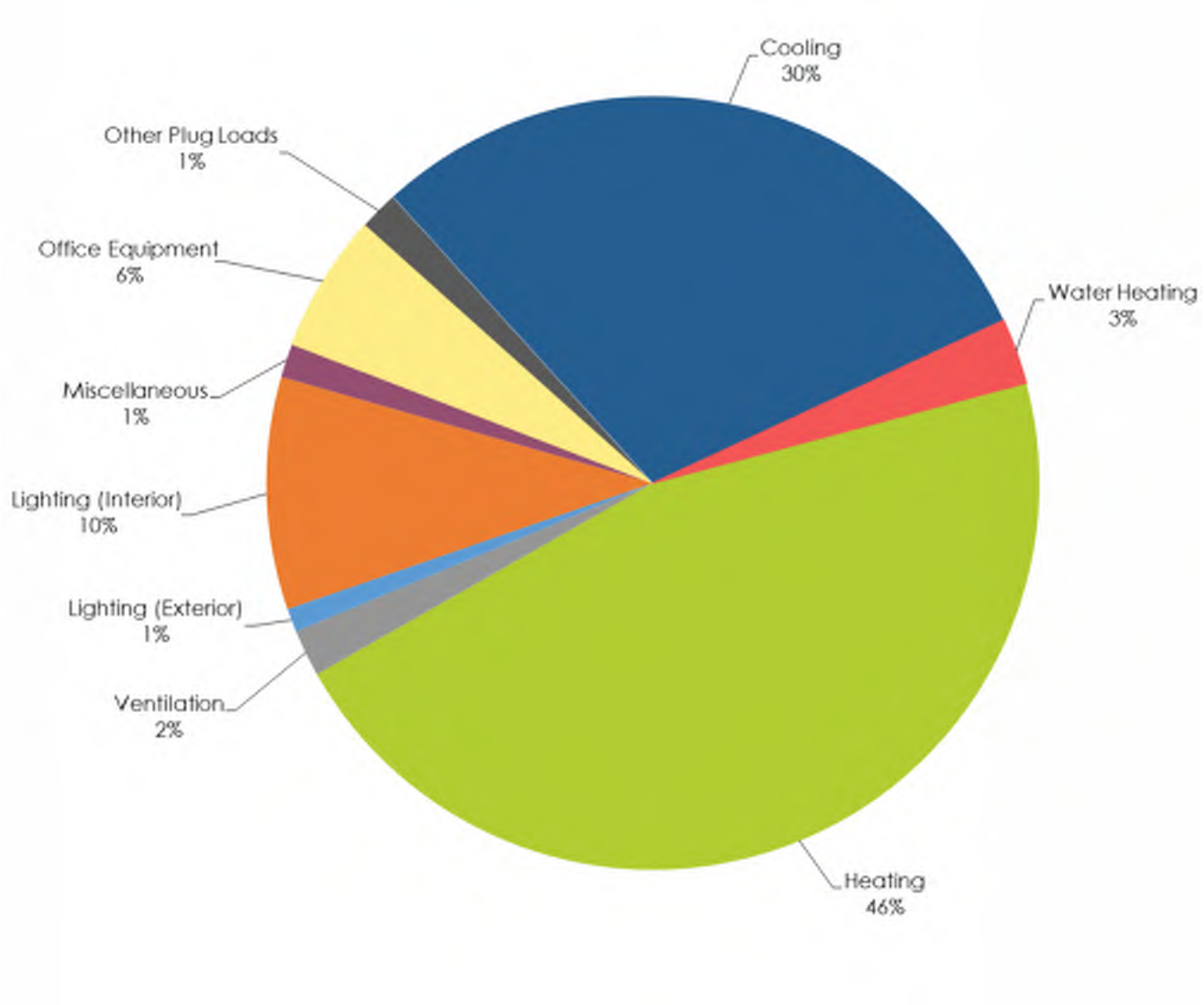
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at KCPL Waldo and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 KCPL Waldo Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	2,500	1.7%	$341	431.0	95.3%	$4,462	$4,803
Ventilation	5,500	3.7%	$751	-	0.0%	$0	$751
Lighting (Exterior)	2,750	1.9%	$375	-	0.0%	$0	$375
Lighting (Interior)	27,250	18.4%	$3,719	-	0.0%	$0	$3,719
Miscellaneous	3,991	2.7%	$545	-	0.0%	$0	$545
Office Equipment	16,200	11.0%	$2,211	-	0.0%	$0	$2,211
Other Plug Loads	4,600	3.1%	$628	-	0.0%	$0	$628
Cooling	83,600	56.5%	$11,409	-	0.0%	$0	$11,409
Water Heating	1,500	1.0%	$205	21.2	4.7%	$219	$424
Total	147,891	100%	$20,182	452.2	100%	$4,681	$24,863

Figure 6 KCPL Waldo Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for KCPL Waldo that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for KCPL Waldo.

4-1.2 HVAC

1. Controls System: KCPL Waldo currently has thermostats in each zone which are connected through a central controls system. Often, these systems and/or facility operations change over time, and system setpoints and schedules become inaccurate or disconnected. Correcting or "re-commissioning" the controls system can ensure accurate operation, reduce runtime hours. and save energy. Additionally, some thermostats may require recalibration to ensure they are sensing and controlling temperatures accurately.
2. Maintenance: KCPL Waldo maintenance staff routinely checks for repairs needed and replaces equipment filters. Any significant needs are addressed by a contractor, but the facility does not have a maintenance service contract. Additional and improved maintenance practices such as coil cleaning and insulation repair can improve equipment efficiency and longevity.

4-1.3 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. KCPL Waldo can reduce air leakage by replacing failed window seals, repairing roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for KCPL Waldo that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for KCPL Waldo.

4-2.2 Lighting

1. LED Replacements: KCPL Waldo primarily uses LED lighting, but some fixtures remain with incandescent and fluorescent fixtures. Replacement with LED lighting significantly reduces electricity consumption and operating cost. LEDs use 60-90% less energy, last 3-50 times longer, and emit very little heat compared to older lighting technologies.

4-2.3 HVAC

1. HVAC Equipment Upgrades: KCPL Waldo has several packaged rooftop units that are beyond useful life and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. Additionally, any equipment which is not replaced would benefit from a comprehensive tune up to identify and correct any maintenance issues which affect proper operation and increase energy consumption
2. Domestic Water Heater Replacements: KCPL Waldo has a 25+ year old gas-fired storage tank water heater that is beyond useful life and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, and renewed equipment longevity. New tankless water heater technologies also reduce energy consumption by eliminating wasted energy through tank losses. This would be an appropriate application for a tankless water heater, as there are no showers or commercial kitchens in use at the facility which typically require standby hot water availability.

4-3 Recommended Measures Summary

Measure Description (in order of priority)	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
LED Replacements	$460	$150	1.3	3,800	-	$4,000	None	10-15	$4,000	12%	8.7
HVAC Upgrades	$3,500	$250	12.5	26,000	68.2	$250,000	$1,200	15-20	$248,800	1%	71.1
Water Heater Upgrade	$100	-	-	-	5.5	$5,000	$650	15-20	$4,350	2%	43.5
Controls System	$200	-	0.1	1,500	7.3	$1,500	$150	10-15	$1,350	15%	6.8
Envelope Sealing	$750	-	-	4,000	10.0	$8,000	None	10-15	$8,000	9%	10.7
Totals	$5,010	$400	13.9	35,300	91.0	$268,500	$2,000	-	$266,500	2%	53.2

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of KCPL Waldo and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
LED Replacements	Self-install new fixtures where existing lighting is non-LED, stipulate new fixture cost. Contractor may be required to eliminate ballasts where applicable
HVAC Upgrades	Cost per ton for new equipment and install labor costs
Water Heater Upgrade	Cost per ton for new equipment and install labor costs
Controls System	Approx hours required for re-commissioning and recalibration of existing thermostats and/or new thermostats installed with replaced HVAC units
Envelope Sealing	Labor and material costs for comprehensive envelope sealing

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
LED Replacements	Fixture cost times estimated quantity plus estimated labor cost (assuming majority self-installed)
HVAC Upgrades	Cost per ton times capacity plus estimated labor, assuming the following units are replaced (see HVAC inventory): RTU-1, RTU-2, and RTU-4
Water Heater Upgrade	System cost per ton times capacity plus estimated labor
Controls System	Approx hours required times estimated hourly rate for recommissioning of controls system for 4 thermostats
Envelope Sealing	Estimated labor and material cost, varies significantly by subcontractor depth of scope

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of KCPL Waldo, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
LED Replacements	Stipulated wattage of new fixtures and utility rates
HVAC Upgrades	Annual EFLHs (run hours) and new equipment efficiencies
Water Heater Upgrade	Annual run time/energy usage and new equipment efficiency
Controls System	Annual EFLHs (run hours) and controls system reduction %
Envelope Sealing	Average energy reduction from envelope upgrades

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) - (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) - (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for the solar measure were calculated according to the following formula.

Table 5-2-3 Solar Savings Calculations

Annual Savings (kWh)	$E = A * r * H * PR$
Variables	E = Energy (kWh) A = Total Solar Array Area (m^2) r = Solar Panel Yield (%) H = Annual Average Irradiation on Panels PR = Performance Ratio, Coefficient for Losses

3. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-4 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} - Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

4. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-5 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity SEER = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
LED Replacements	Lighting	3,800	-	12,966	13%	0%	13%
HVAC Upgrades	Heating & Cooling	26,000	68.2	156,912	30%	16%	22%
Water Heater Upgrades	Water Heating	-	5.5	5,500	0%	26%	21%
Controls System	Heating & Cooling	1,500	7.3	12,418	2%	2%	2%
Envelope Sealing	Heating & Cooling	4,000	10.0	23,648	5%	2%	3%
Total Savings (This Sheet)		35,300	91.0	211,444	24%	20%	22%
Total Savings (Measures Summary)		35,300	91.0	211,444			
Total Historical Use		147,891	452.2	956,804			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 KCPL Waldo Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
5/31/2024	6/30/2024	17,078	63.1	$2,467
6/30/2024	7/31/2024	19,500	61.9	$2,643
7/31/2024	8/31/2024	17,500	55.8	$2,472
8/31/2024	9/30/2024	16,200	54.2	$2,303
9/30/2024	10/31/2024	12,500	44.4	$1,600
10/31/2024	11/30/2024	9,100	31.7	$1,219
11/30/2024	12/31/2024	9,300	20.8	$1,127
12/31/2024	1/31/2025	9,000	23.6	$1,121
1/31/2025	2/28/2025	8,900	29.4	$1,180
2/28/2025	3/31/2025	8,900	29.1	$1,199
3/31/2025	4/30/2025	9,200	37.1	$1,327
4/30/2025	5/30/2025	10,119	45.8	$1,444
	Total	147,297	497.1	$20,101

Table 6-1-2 KCPL Waldo Natural Gas Utility Data

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
6/1/2024	7/1/2024	1.5	$77
7/1/2024	8/1/2024	0.9	$72
8/1/2024	9/1/2024	1.0	$73
9/1/2024	10/1/2024	2.9	$89
10/1/2024	11/1/2024	13.2	$178
11/1/2024	12/1/2024	21.5	$250
12/1/2024	1/1/2025	77.6	$735
1/1/2025	2/1/2025	119.3	$1,096
2/1/2025	3/1/2025	118.8	$1,092
3/1/2025	4/1/2025	59.0	$574

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
4/1/2025	5/1/2025	27.3	$300
5/1/2025	6/1/2025	9.3	$145
	Total	452.2	$4,681

Table 6-1-3 KCPL Waldo Water/Sewer Utility Data

Start Date	End Date	Water Use (kGal)	Water/Sewer Cost ($)
5/20/2024	6/20/2024	11.7	$415
6/20/2024	7/20/2024	12.8	$440
7/20/2024	8/20/2024	11.1	$400
8/20/2024	9/20/2024	11.2	$402
9/20/2024	10/20/2024	11.2	$401
10/20/2024	11/17/2024	10.7	$385
11/17/2024	12/18/2024	8.7	$339
12/18/2024	1/17/2025	4.9	$243
1/17/2025	2/18/2025	8.8	$342
2/18/2025	3/21/2025	9.6	$363
3/21/2025	4/20/2025	10.8	$389
4/20/2025	5/21/2025	9.9	$369
	Total	121.4	$4,486

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Rate Schedule 1MGSE

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month $3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05664 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

Table 6-2-2 Spire Rate Schedule Small Gen Commercial

Monthly Rates

Residential Customers +

Small general service −

Customer charge (per month)	$43.70
Charge for gas used (First 5,000 Ccf)	$0.18592 per Ccf
Charge for gas used (Over 5,000 Ccf)	$0.23241 per Ccf

Purchased Gas Adjustment (PGA): $0.6139 per CCF

Large general service +

6-3 Appendix C – Lighting Inventory

Table 6-3-1 KCPL Waldo Lighting Inventory

Location	Lighting Type	Fixture Type	Control Type	Approx. Quantity	Watts per Fixture	Total Watts
Meeting Rooms	Incandescent	Single Bulb Can	Wall Switch	5	60	300
Library	Incandescent	Single Bulb Can	Wall Switch	3	60	180
IT Hallway	Incandescent	Single Bulb Can	Wall Switch	2	60	120
Restrooms	Incandescent	Single Bulb Can	Wall Switch	2	60	120
Offices	Incandescent	Single Bulb Can	Wall Switch	1	60	60
Exterior	HID	Wall Pack	Daylight Sens	8	75	600
Exterior	HID	Wall Pack	Daylight Sens	2	75	150
All Others	LED	LED Fixtures	Wall Switch	-	-	-

6-4 Appendix D – HVAC Inventory

Table 6-4-1 KCPL Waldo HVAC Equipment

ID	Location	Type	Area/System Served	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
RTU-1	Roof	Packaged RTU	Children's	Trane	YCD150D3LABB	2006	12.5 Tons/ 122 MBH	11 EER/ 80% AFUE	2/5 Poor	Replace
RTU-2	Roof	Packaged RTU	Stacks	Trane	YCD120C3M0A	2000	10 Tons/ 166 MBH	11.4 EER/ 86% AFUE	2/5 Poor	Replace
RTU-3	Roof	Packaged RTU	Work Room	Trane	YSD150G3RLC16	2021	12.5 Tons/ 122 MBH	11 EER/ 81% AFUE	4/5 Great	N/A
RTU-4	Roof	Packaged RTU	Meeting Rooms	Trane	YSC120A3ELA	2002	10 Tons/ 120 MBH	10.4 EER/ 82% AFUE	2/5 Poor	Replace
WH-1	Rm A Closet	Storage Water Heater	All	Reliance	640N0RS	1999	35 MBH (40 Gal)	75%	2/5 Poor	Replace

6-5 Appendix E – Photos























Linwood Property – Michigan Avenue

Level 2 Audit Report

September 2025

17300 West 116th St. Lenexa, KS 66219 | www.entegritypartners.com

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including the Linwood Property - Michigan Avenue.

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including Linwood Property – Michigan Ave, received a Level 2 ASHRAE energy audit.

The Linwood Property - Michigan Avenue, also known as the Harold Thomas Center for Reconciliation, is a space leased to Heartland Presbytery, reStart, ReDiscover, and Front Porch Alliance. Linwood Property, Inc.'s primary and larger nonprofit function as owner is to manage the leasing and maintenance of the property and to facilitate partnerships among those on the campus. Linwood Property, Inc. also offers Community Initiatives directly, which are underway with the help of LAMP Campus Partners and community organizations. They include community shared-use kitchen, locally sourced farmers market, a community garden, nutrition programs, a teaching kitchen, and a location for education and small food-based enterprises, as well as a focus in emerging urban agricultural community development.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for Linwood Property - Michigan Avenue, which describes the existing conditions of facility infrastructure and further outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with Linwood Property - Michigan Avenue.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	Harold Thomas Center for Reconciliation or Linwood Property – Michigan Avenue
Building Owner	Linwood Property, Inc.
Energy Auditor(s)	Brett Crow, Hannah Parker

Street Address	3200 Michigan Ave, Kansas City, MO 64109
Date of site visit(s)	9/25/2024
Primary Building Use Type	Adult Education
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1
Client Name	Linwood Property
Point of Contact	Jim Scott

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential. Following the initial site visit, Entegrity reviewed data and information gathered during the assessment of the Linwood Property - Michigan Avenue facility. The results of the site visit and data analysis are summarized in this report.

The facility is well maintained by all nonprofit organizations which share the space. Linwood Property - Michigan Avenue has partially upgraded to LED, but some older fluorescent fixtures still remain. The HVAC system is comprised of split systems with standalone thermostats. Many of these systems are nearing 25 years old, which means they are towards the end of their useful life and require R-22, a phased-out refrigerant.

Utility data analysis provides a lens into building energy performance and potential for savings. Updated utility data shows that Linwood Property - Michigan Avenue spends over $23,000 per year on electric, gas, and water utilities, which represents more than 4.5% of the organization's annual operating budget. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. Based on an updated utility analysis, Linwood Property - Michigan Avenue currently outperforms the benchmark for similar facilities by 14.0%. However, there is opportunity for investment and improvement which can further reduce long-term utility and operational costs.

This report further outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including updated HVAC equipment, HVAC controls and occupancy scheduling, and completion of the LED lighting upgrade.

1-2 Facility Description

Entegrity audited Linwood Property - Michigan Avenue on September 25, 2024. This facility serves as low-cost office space which is leased to several local nonprofits. Areas within the facility include offices and storage spaces.

During the audit, Entegrity identified several factors that affect building energy and operating costs. Linwood Property - Michigan Avenue maintenance personnel do well to ensure that equipment is functioning properly, and operations staff has done well to keep aging HVAC equipment running.

Figure 1 Linwood Property – Michigan Avenue



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of Linwood Property – Michigan Ave, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for Linwood Property – Michigan Ave during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 Linwood Property – Michigan Ave Characteristics

Metric	Value
Year of Construction	1931
Last Renovation	2018, 2014/15
Year of Prior Energy Audit	2024 – Entegrity Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	N
Historical Landmark Status	Y
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	15,621
Total Conditioned Area (ft^2)	15,621
Heated Only (ft^2)	N/A
Cooled Only (ft^2)	N/A
Total Number of Floors	L/A
Conditioned Floors Above Grade	4

2-1.2 Occupancy Information

The table below outlines the typical occupancy of Linwood Property – Michigan Ave in a typical year of operations.

Table 2-1-2 Linwood Property – Michigan Ave Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	40
Typical Occupancy (weeks per year)	52
Typical number of occupants (during occupied hours)	60
Number of Dwelling Units in Building (Multifamily Only)	-
% of Dwelling Units currently Occupied (Multifamily Only)	0%

2-1.3 Space Functions

The table below outlines how spaces in Linwood Property – Michigan Ave are utilized for a variety of different functions and operations.

Table 2-1-3 Linwood Property – Michigan Ave Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Office	13,668	88%
Storage	1,953	13%
Total	15,621	100%

Table 2-1-4 Linwood Property – Michigan Ave Space Function Breakdown

Space Description	Office	Storage
Space Function Type	Other – Office	Non-Refrigerated Warehouse
Intended Use of Space	Other – Office	Non-Refrigerated Warehouse
Gross Floor Area	13,668	1,953
Conditioned Area (%)	100%	100%
Number of Occupants	60	0
Approx. Plug Loads (W/ft^2)	0.28	0.01

Space Use (hours/week)	40	-
Space Use (weeks/year)	52	52

2-1.4 Building Utility Sources

Linwood Property – Michigan Ave is served electricity by Evergy and natural gas by Spire as metered energy sources. Additionally, Linwood Property – Michigan Ave is served water and sewer by KC Water.

Table 2-1-5 Linwood Property – Michigan Ave Building Energy Sources

Utility Source	Account Number	Utility Provider	Rate Schedule
Electricity	7195647862	Evergy	MGS Secondary Voltage (1MGSE)
Natural Gas	7452941111	Spire	Small Gen. Commercial (SGC)
Sewer	000654403 0369656 9	KC Water	N/A
Water	000654403 0369656 9	KC Water	N/A

2-2 Lighting & Plug Loads

Linwood Property – Michigan Ave currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technology in use at Linwood Property – Michigan Ave is LED.

Table 2-2-1 Linwood Property – Michigan Ave Facility Lighting Summary

Lighting Source Type	Lamp Type	Control Type	Fixture Type	% of Total Load
LED	Single Bulb	Wall Switch	Recessed Can	26.6%
LED	LED Tube	Wall Switch	2-Lamp 4 Foot	36.1%
CFL/ Fluorescent	Single Bulb/ T8 Tube	Wall Switch	Recessed Can/2-Lamp 4 Foot	37.3%

Table 2-2-2 Linwood Property – Michigan Ave Plug Load Summary

Process/Plug Load Description	Operational Details
Computers	Approximate Quantity: 30-35
Televisions/Projector Screens	Approximate Quantity: 3-6
Office Equipment (i.e. Copy Machine)	Approximate Quantity: 3-5
IT Servers	Estimate 1 for Internet & Security System
Refrigerator/Freezer	Approximate Quantity: 2-3
Elevator	1 Elevator

2-3 Heating, Ventilation & Air Conditioning

Linwood Property – Michigan Ave is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving Linwood Property – Michigan Ave is summarized in the table below.

Table 2-3-1 Linwood Property – Michigan Ave Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Gas Furnace Split Systems
	Fuel	Natural Gas
	Distribution	Ducted throughout facility to corridors and rooms
	Other Considerations	Furnaces vary significantly in age, likely replaced upon failure
Cooling	Primary Source	Dx Condensing Unit Split Systems
	Distribution	Ducted throughout facility to corridors and rooms
	Other Considerations	Staff stated that there is no cooling in the basement. Some units use R-22 refrigerant which is phased out
Ventilation	Exhaust Fans	Inline restroom exhaust fans
	Other Considerations	Ducted through ceilings to roof vent
Controls	Zone Controls	Standalone Thermostats
	Other Considerations	Various Manufacturers – Ecobee, Lennox, White-Rodgers, etc.

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of Linwood Property – Michigan Ave.

Table 2-4-1 Linwood Property – Michigan Ave Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	Flat Rolled Asphalt
	Roofing Color	Gray
	Area	3,785
	Condition	3/5 Good
Walls	Construction Type	Brick
	Condition	3.5/5 Good-Great
Fenestrations	Frame Type	Wood/Vinyl
	Glass Type	2-Pane Single Hung
	Glazing % of Wall Area	15-25%
	Seal Condition	3/5 Good
	Enclosure Tightness	3/5 Good
	Exterior Door Type	Metal

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with the Linwood Property – Michigan Ave facility. Utility data was analyzed from the period beginning June 2024 and ending May 2025.

The spaces in the Linwood Property – Michigan Ave facility are leased to multiple tenants, including Heartland Presbytery, Front Porch Alliance, KC Digital Drive, reStart, and ReDiscover. Utilities are not individually metered for each tenant, and bills are paid by Linwood Property, who manages the facility.

Table 3-1-1 Annual Utility Expenses

Electric	kWh	131,422	$17,881
Natural Gas	MMBtu	262.4	$3,394
Water & Sewer	kGal	87.0	$2,667

Figure 1 Linwood Property – Michigan Ave Utility Cost Breakdown

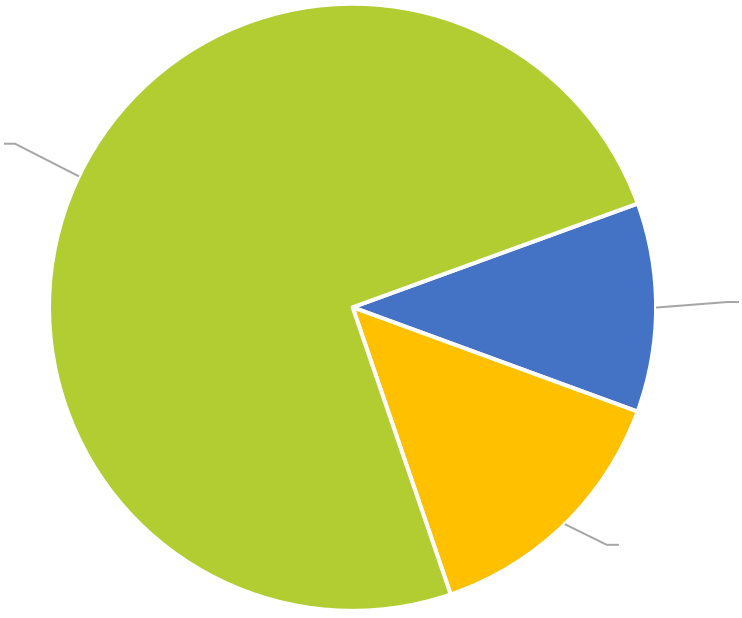
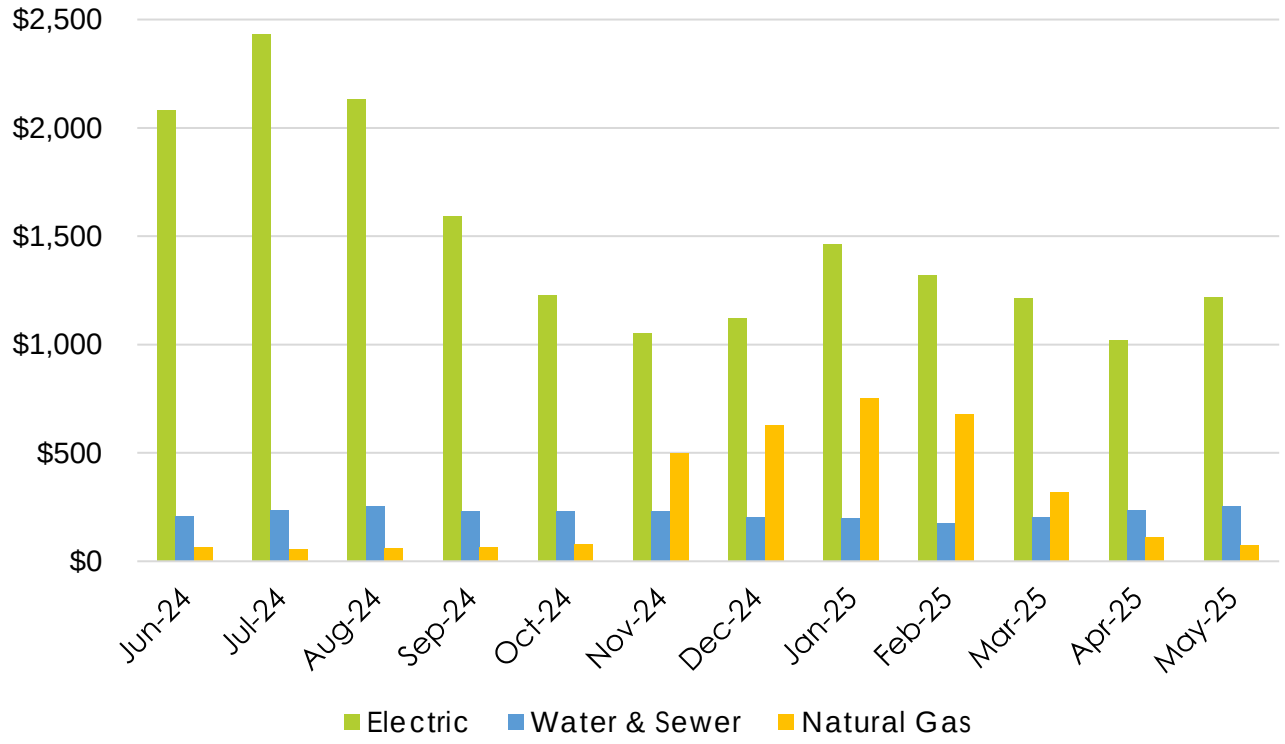


Figure 2 Linwood Property – Michigan Ave Utility Cost Monthly Breakdown



3-1.1 Electricity

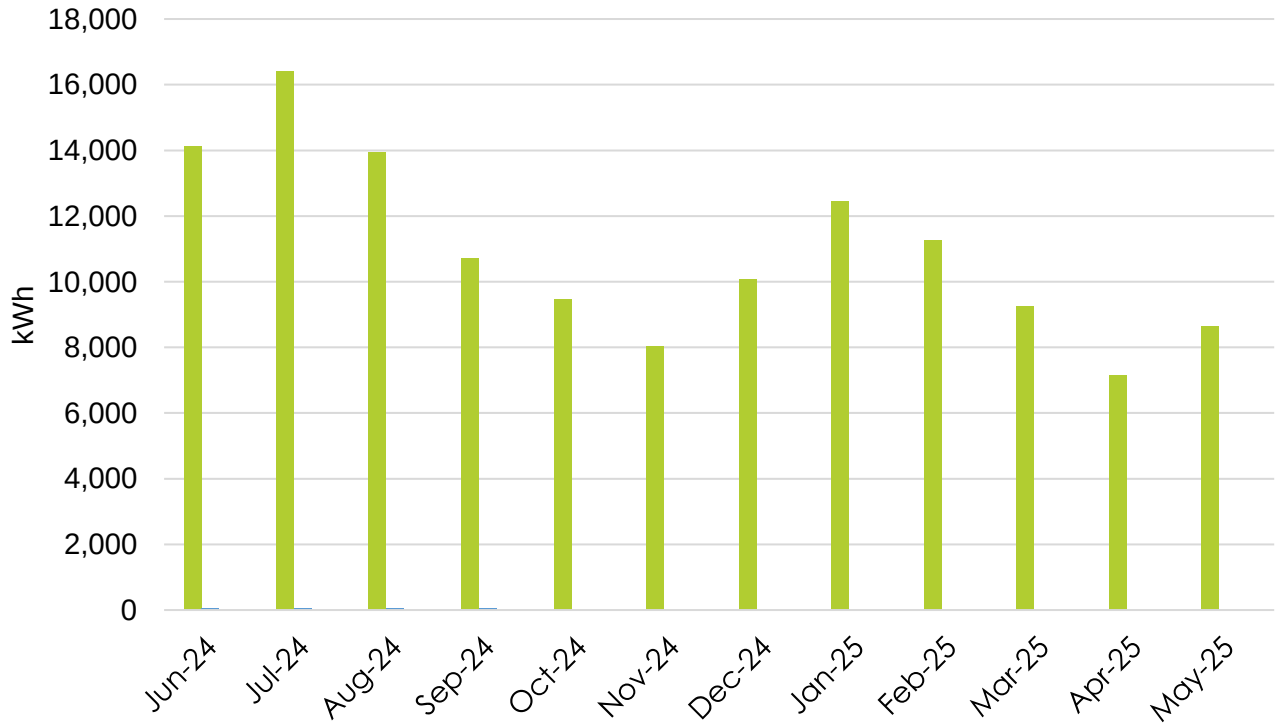
Entegrity has calculated annual electricity usage, demand, and cost data for audited facilities. Linwood Property – Michigan Ave is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Linwood Property – Michigan Ave, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

Account ID	Consumption (kWh)	Demand (kW)	Base Year Cost ($)	Electric Rate ($/kWh)	Demand Rate ($/kW)
7195647862	131,422	45.2	$17,881	$0.09914	$6.404
Total	131,422	45.2	$17,881	$0.09914	$6.404

Figure 3 Linwood Property – Michigan Ave Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

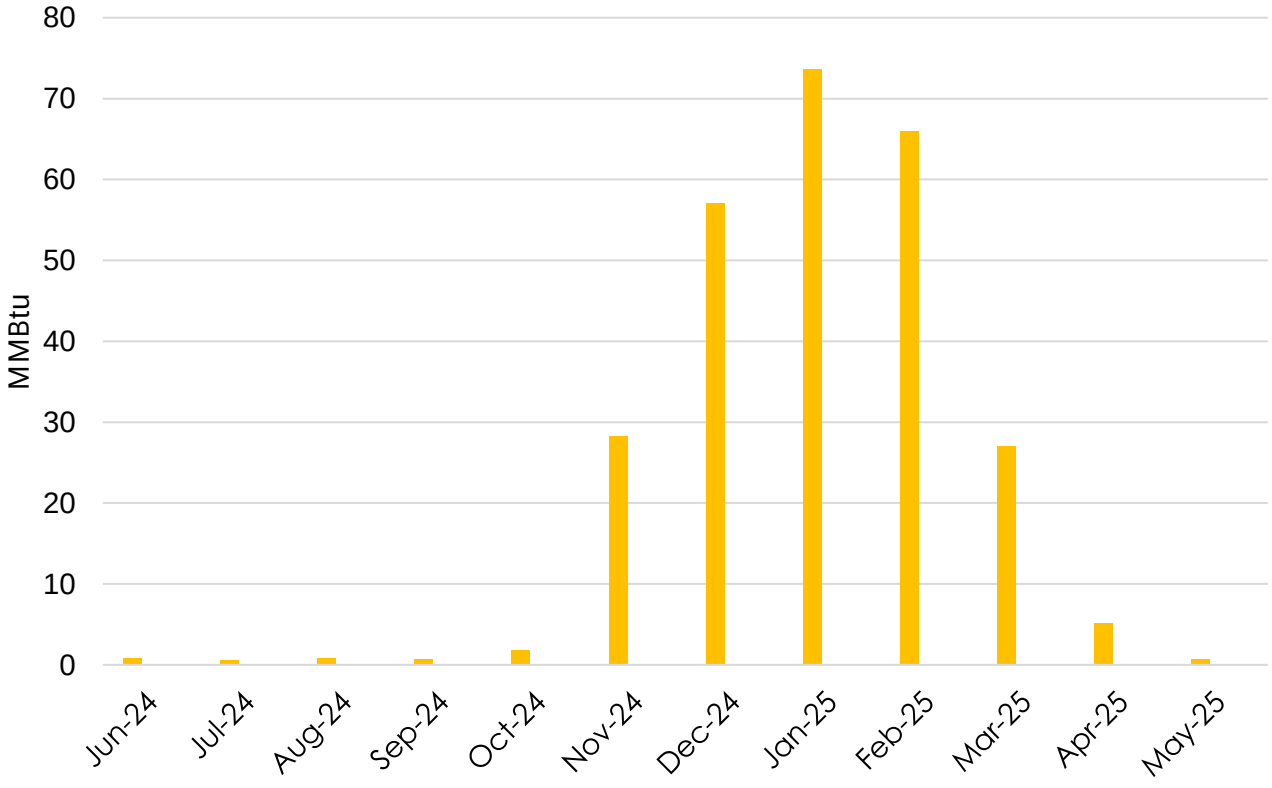
Entegrity has calculated natural gas usage and cost data for the audited facilities. Linwood Property – Michigan Ave is served natural gas by Spire. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Linwood Property – Michigan Ave, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

Account ID	Base Year Usage (MMBtu)	Base Year Cost	Natural Gas Rate ($/MMBtu)
7452941111	262.4	$3,394	$7.7851
Total	262.4	$3,394	$7.7851

Figure 4 Linwood Property – Michigan Ave Natural Gas Utility Monthly Breakdown



3-1.3 Water & Sewer

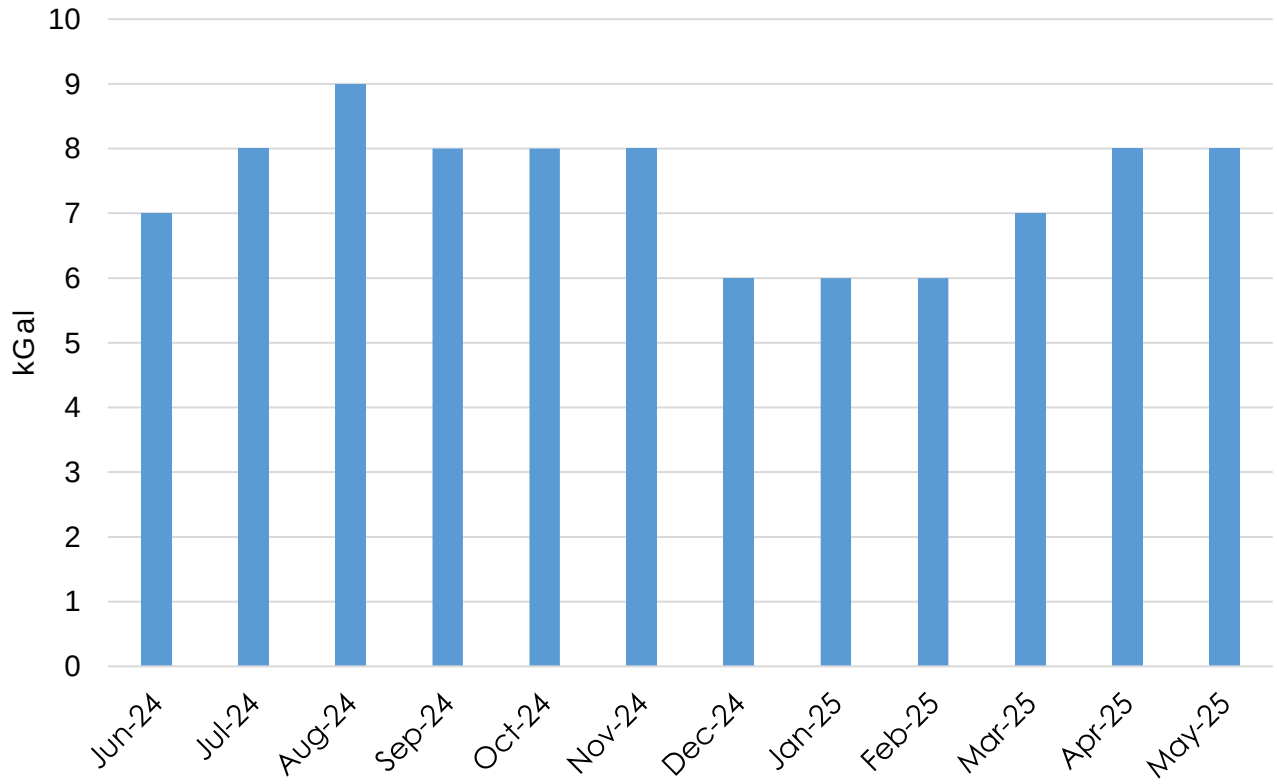
Entegrity has calculated water usage and cost data for the audited facilities. Linwood Property – Michigan Ave is served water by KC Water. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Linwood Property – Michigan Ave, it was determined that there are no potential adjustments for the water utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-4 Water Utility by Account

Account ID	Base Year Usage (kGal)	Base Year Cost	Water & Sewer Combined Rate ($/kGal)
000665770 0110590 5	87.0	$2,667	$17.81
Total	87.0	$2,667	$17.81

Figure 5 Linwood Property – Michigan Ave Water & Sewer Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on Linwood Property – Michigan Ave, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare Linwood Property – Michigan Ave to a benchmarking target and determine the savings potential associated with reaching that target.

Due to the reduced operating hours and varying occupancy of Linwood Property – Michigan Ave, the CBECS benchmark was adjusted to better apply to this application. The target EUI and ECI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 Linwood Property – Michigan Ave Performance

Metric	Value
Conditioned Square Feet	15,621
Energy Use Intensity [building] (kBtu/sf/yr)	45.5
Energy Use Intensity [site] (kBtu/sf/yr)	45.5
Water Use Intensity (Gal/sf/yr)	5.57
Energy Cost Index ($/sf/yr)	$1.36
Utility Cost Index ($/sf/yr)	$1.53

Table 3-2-2 Linwood Property – Michigan Ave Benchmarking

Metric	Value
Benchmark Source	Energy Star
Benchmark EUI (kBtu/sf/yr)	52.9
Target EUI [building] (kBtu/sf/yr)	38.7
Target EUI [site] (kBtu/sf/yr)	38.7
Target ECI [site] ($/sf)	$1.16
Target UCI [site] ($/sf)	$1.30
Annual Energy Savings to Reach Target (kBtu)	106,619
Annual Cost Savings to Reach Target	$3,591

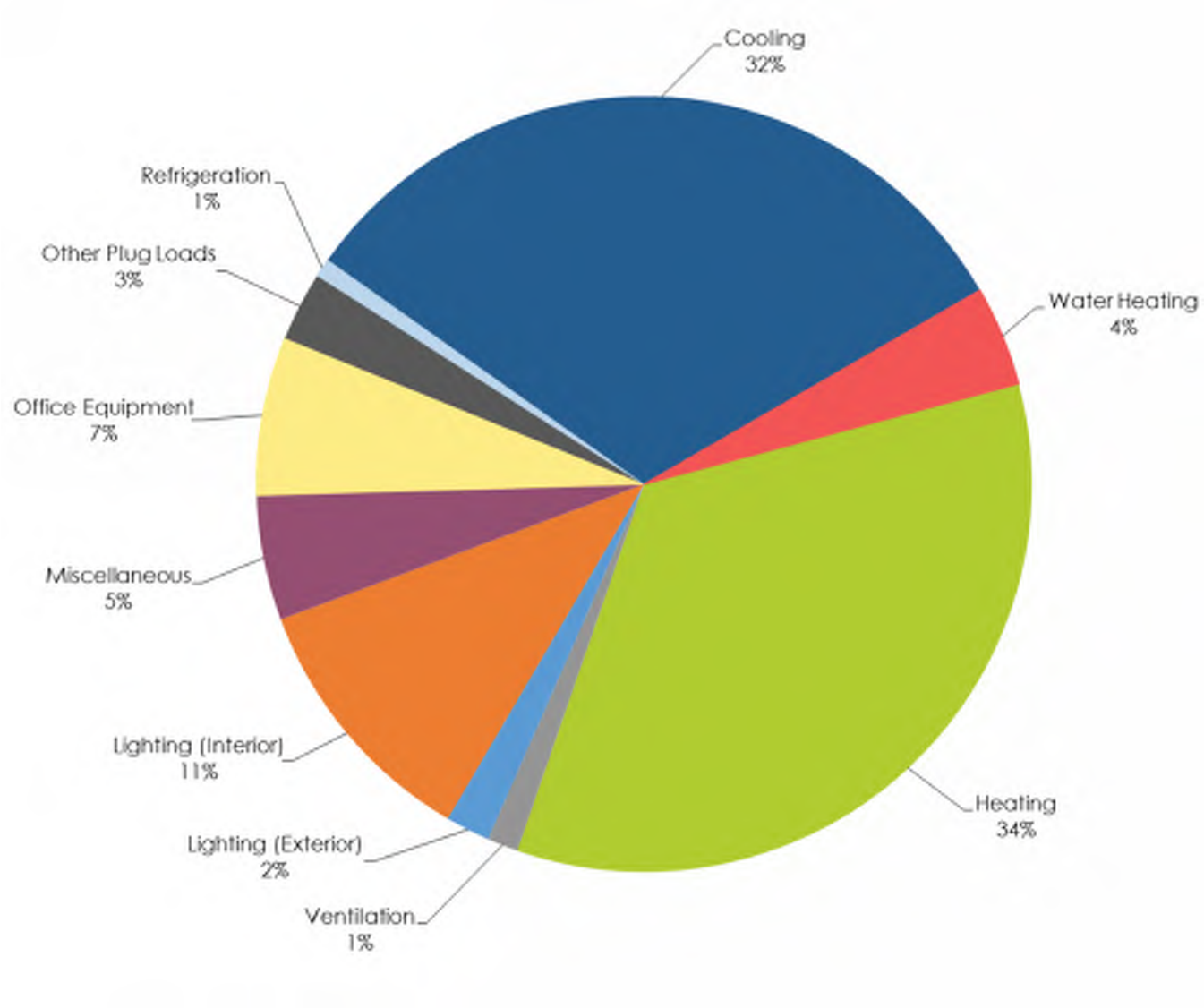
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at Linwood Property – Michigan Ave and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 Linwood Property – Michigan Ave Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	2,840	2.2%	$386	235	89.7%	$3,045	$3,431
Ventilation	2,690	2.0%	$366	-	0.0%	$0	$366
Lighting (Exterior)	3,860	2.9%	$525	-	0.0%	$0	$525
Lighting (Interior)	22,660	17.2%	$3,083	-	0.0%	$0	$3,083
Miscellaneous	9,982	7.6%	$1,358	3	1.1%	$39	$1,397
Office Equipment	13,730	10.4%	$1,868	-	0.0%	$0	$1,868
Other Plug Loads	6,070	4.6%	$826	-	0.0%	$0	$826
Refrigeration	1,590	1.2%	$216	-	0.0%	$0	$216
Cooling	66,350	50.5%	$9,027	-	0.0%	$0	$9,027
Water Heating	1,650	1.3%	$224	24	9.1%	$310	$535
Total	131,422	100%	$17,881	262	100%	3,394	$21,275

Figure 6 Linwood Property – Michigan Ave Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Linwood Property – Michigan Ave that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for Linwood Property – Michigan Ave.

4-1.2 Lighting

1. Turn Lights Off: Simply put, turn off lights when not in use. Areas such as restrooms and offices were noted with lights left on while nobody was occupying the space. Signage near light switches can help staff and visitors remember to turn off the lights.

4-1.3 HVAC

1. Thermostats: Linwood Property – Michigan Ave currently has standalone thermostats in each zone. Some thermostats were noted with inaccurate or no scheduling programming. Correcting or adding occupancy scheduling can reduce runtime hours and save energy. Additionally, some thermostats may require recalibration to ensure they are sensing and controlling temperatures accurately.
2. Maintenance: Linwood Property – Michigan Ave maintenance staff routinely checks for repairs needed and replaces equipment filters. Additional and improved maintenance practices such as coil cleaning and insulation repair can improve equipment efficiency and longevity.
3. Test, Adjust & Balance: Correcting building pressure and the distribution of air is known as TAB, and it is recommended for new and old buildings. Humidity issues and occupant comfort complaints can be caused by negative building pressure pulling outside air in through all building openings. Balancing can also correct exhaust and outside air to meet code requirements while minimizing excess energy consumption.

4-1.4 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. Linwood Property – Michigan Ave can reduce air leakage by replacing failed window seals, repairing roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Linwood Property – Michigan Ave that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for Linwood Property – Michigan Ave.

4-2.2 Lighting

1. LED Replacements: Linwood Property – Michigan Ave primarily uses LED lighting, but there approximately 15-20% of existing lighting is still fluorescent. Replacement with LED lighting significantly reduces electricity consumption and operating cost. LEDs use 60-90% less energy, last 3-50 times longer, and emit very little heat compared to older lighting technologies. There are unfortunately no rebates available, as Evergy suspended prescriptive lighting rebates through their Business Energy Savers program in Missouri.

4-2.3 HVAC

1. HVAC Equipment Upgrades: Linwood Property – Michigan Ave has several split systems that are beyond useful life and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. Evergy offers prescriptive rebates driven by SEER efficiency improvement through their business energy savers program.
2. HVAC Controls: Linwood Property – Michigan Ave currently has standalone zone-local thermostats. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, Linwood Property – Michigan Ave can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability. Evergy offers custom rebates driven by kWh savings through their business energy savers program.

4-3 Recommended Measures Summary

Measure Description (in order by priority)	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
LED Lighting	$675	$100	1.10	4,950	-	$1,500	-	15	$1,500	45.0%	2.22
HVAC Controls	$750	-	0.55	4,750	16.8	$8,500	$380	15	$8,120	9.2%	10.8
HVAC Replacement	$2,500	$500	5.92	20,100	64.5	$45,000	$1,560	20	$43,440	5.8%	17.4
Totals	$4,925	$600	7.57	29,800	81.3	$55,000	$1,940	-	$53,060	9.3%	10.8

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of Linwood Property – Michigan Ave and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
LED Lighting Replacements	Contractor replacement of all existing non-LED fixtures including ballast elimination where applicable, stipulate new fixture cost and installation labor costs
HVAC Controls Upgrades	Cost per new smart thermostat and material and labor costs
HVAC Equipment Upgrades	Cost per ton for new equipment and labor costs

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
LED Lighting Replacements	Fixture cost times quantity plus labor cost per square foot
HVAC Controls Upgrades	6 total thermostats to control all existing systems, plus estimated wire needed and labor
HVAC Equipment Upgrades	Cost per ton times capacity plus estimated labor, assuming the following units are replaced (see HVAC inventory): CU/F-1, CU/F-2, F-3, F-4 and F-6

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of Linwood Property – Michigan Ave, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
LED Lighting Replacements	Stipulated wattage of new fixtures and utility rates
HVAC Controls Upgrades	Annual EFLHs (run hours) and controls system reduction %
HVAC Equipment Upgrades	Annual EFLHs (run hours) and new equipment efficiencies

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) - (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) - (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-3 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} - Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

3. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-4 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity SEER = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
Low-Cost and No-Cost Measures							
LED Lighting	Lighting – Interior	4,950	-	16,889	22%	0%	22%
HVAC Controls	Heating & Cooling	4,750	17	33,007	7%	7%	7%
HVAC Replacement	Heating & Cooling	20,100	65	133,081	29%	27%	28%
Total Savings (This Sheet)		29,800	81.3	182,978	23%	31%	26%
Total Savings (Measures Summary)		29,800	81.3	182,978			
Total Historical Use		131,422	262.4	710,812			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 Linwood Property – Michigan Ave Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
6/4/2024	7/4/2024	14,480	44.1	$2,152.11
7/4/2024	8/4/2024	16,554	50.1	$2,452.38
8/4/2024	9/3/2024	13,204	41.5	$2,030.01
9/3/2024	9/25/2024	7,992	29.9	$1,220.85
9/25/2024	11/3/2024	11,904	28.5	$1,545.75
11/3/2024	12/6/2024	8,739	30.0	$1,148.31
12/6/2024	1/7/2025	10,753	20.4	$1,168.39
1/7/2025	2/6/2025	12,532	34.2	$1,491.16
2/6/2025	3/10/2025	12,771	31.6	$1,491.95
3/10/2025	4/8/2025	7,441	26.3	$1,047.03
4/8/2025	5/7/2025	6,735	23.4	$968.84
5/7/2025	6/6/2025	8,687	29.5	$1,222.65
	Total	131,790	389.4	$17,939

Table 6-1-2 Linwood Property – Michigan Ave Natural Gas Utility Data

Start Date	End Date	Natural Gas Use (CCF)	Natural Gas Cost ($)
6/7/2024	7/4/2024	7	$60.95
7/5/2024	8/6/2024	6	$60.95
8/7/2024	9/6/2024	8	$60.95
9/7/2024	10/4/2024	6	$60.95
10/5/2024	11/6/2024	19	$87.07
11/6/2024	12/5/2024	313	$563.25
12/5/2024	1/7/2025	620	$672.11
1/8/2025	2/6/2025	722	$764.75
2/7/2025	3/6/2025	628	$673.64

Start Date	End Date	Natural Gas Use (CCF)	Natural Gas Cost ($)
3/7/2025	4/4/2025	161	$217.76
4/5/2025	5/6/2025	39	$102.61
5/7/2025	6/5/2025	0	$68.30
	Total	2,529	$3,393.29

Table 6-1-3 Linwood Property – Michigan Ave Water & Sewer Utility Data

Start Date	End Date	Water Use (CCF)	Water & Sewer Cost ($)
6/14/2024	7/15/2024	9.0	$209.65
7/15/2024	8/15/2024	11.7	$256.31
8/15/2024	9/15/2024	11.7	$256.31
9/15/2024	10/15/2024	9.5	$215.43
10/15/2024	11/12/2024	9.7	$216.84
11/12/2024	12/13/2024	10.4	$234.76
12/13/2024	1/13/2025	6.9	$185.98
1/13/2025	2/13/2025	9.1	$202.84
2/13/2025	3/15/2025	7.7	$184.44
3/15/2025	4/15/2025	9.5	$217.84
4/15/2025	5/16/2025	11.9	$269.14
5/16/2025	6/16/2025	10.0	$241.11
	Total	117.1	$2,690.65

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Missouri Metro Medim General Service at Secondary Voltage (1MGSE)

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month: $3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month:	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10853 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05664 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

Table 6-2-2 Spire Western Missouri Small General Service



Monthly Rates

Residential Customers +

Small general service −

Customer charge (per month)	$43.70
Charge for gas used (First 5,000 Ccf)	$0.18592 per Ccf
Charge for gas used (Over 5,000 Ccf)	$0.23241 per Ccf

Purchased Gas Adjustment (PGA): $0.62139 per CCF

Large general service +

6-3 Appendix C – Lighting Inventory

Table 6-3-1 Linwood Property – Michigan Ave Lighting Inventory

Location	Lighting Type	Fixture Type	Control Type	Approx. Quantity	Watts per Fixture	Total Watts
Basement	Fluorescent	4' T8 2-Lamp	Wall Switch	8	64	512
Basement	CFL	Recessed Can	Wall Switch	6	60	360
1st Floor Corridors	LED	Recessed Can	Wall Switch	16	15	240
1st Floor Offices & Meeting Rooms	LED	Recessed Can	Wall Switch	6	15	90
1st Floor Offices & Meeting Rooms	LED	2-Lamp 4' Tube	Wall Switch	22	15	330
2nd Floor Corridors	LED	Recessed Can	Wall Switch	16	15	240
2nd Floor Offices & Meeting Rooms	LED	Recessed Can	Wall Switch	6	15	90
2nd Floor Offices & Meeting Rooms	LED	2-Lamp 4' Tube	Wall Switch	16	30	480
3rd Floor Corridors	LED	Recessed Can	Wall Switch	16	15	240
3rd Floor Offices & Meeting Rooms	LED	Recessed Can	Wall Switch	8	15	120
3rd Floor Offices & Meeting Rooms	LED	2-Lamp 4' Tube	Wall Switch	18	30	540
4th Floor Corridors	LED	Recessed Can	Wall Switch	16	15	240
4th Floor Offices & Meeting Rooms	LED	Recessed Can	Wall Switch	6	15	90
4th Floor Offices & Meeting Rooms	LED	2-Lamp 4' Tube	Wall Switch	16	30	480
Other	Fluorescent /CFL	Tube/Can	Wall Switch	16	64	1024
			Total	192	-	5,076

6-4 Appendix D – HVAC Inventory

Table 6-4-1 Linwood Property – Michigan Ave HVAC Equipment

ID	Location	Type	Area/ System Served	Make	Model	Year	Capacity	Efficiency	Condition	HVAC Scope
CU-1	Exterior	Condensing Unit	1st Floor	Thermal Zone	S3BA-060KA	2001	5 Tons	10 SEER	2/5 (Poor)	Replace
CU-2	Exterior	Condensing Unit	3rd Floor	Thermal Zone	S3BA-060KA	2001	5 Tons	10 SEER	2/5 (Poor)	Replace
CU-3	Roof	Condensing Unit	2nd Floor	Goodman	GSX140601KD	2020	5 Tons	14 SEER	4/5 (Great)	N/A
CU-5	Roof	Condensing Unit	4th Floor	Lennox	13ACXN036-230	2015	3 Tons	13 SEER	4/5 (Great)	N/A
CU-6	Roof	Condensing Unit	4th Floor	Goodman	GSX140601KD	2020	5 Tons	14 SEER	4/5 (Great)	N/A
F-1	Mech. Room	Furnace	1st Floor	Thermal Zone	TZ80MSX	2001	80 MBH	80% AFUE	2/5 (Poor)	Replace
F-2	Elec. Room	Furnace	3rd Floor	Thermal Zone	TZ80MSX	2001	80 MBH	80% AFUE	2/5 (Poor)	Replace
F-3	2nd Floor	Furnace	2nd Floor	Thermal Zone	TZ80MSX	2001	80 MBH	80% AFUE	2/5 (Poor)	Replace
F-4	Basement	Furnace	Basement	Ruud	UGAC-080A	1982	80 MBH	80% AFUE	2/5 (Poor)	Replace
F-5	4th Floor	Furnace	4th Floor	Lennox	CX34-38	2015	36 MBH	85% AFUE	4/5 (Great)	N/A
F-6	4th Floor	Furnace	4th Floor	Thermal Zone	TZ80MSX	2001	80 MBH	80% AFUE	2/5 (Poor)	Replace



YMCA of Greater Kansas City

Level 2 Audit Report

September 2025

17300 West 116th St. Lenexa, KS 66219 | www.entegritypartners.com

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including the Linwood YMCA, operated by YMCA of Greater Kansas City. Entegrity was selected as a project partner to provide ASHRAE Level 1 energy audit services.

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including YMCA of Greater Kansas City, received a Level 2 ASHRAE energy audit.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for YMCA of Greater Kansas City, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with YMCA of Greater Kansas City.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	Linwood YMCA
Building Owner	YMCA of Greater Kansas City
Energy Auditor(s)	Brett Crow and Hannah Parker
Street Address	3800 E. Linwood Blvd Kansas City, MO 64128
Date of site visit(s)	9/26/2024
Primary Building Use Type	Fitness Center/Health Club/Gym
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90/1
Client Name	Young Men's Christian Association of Greater Kansas City
Point of Contact	Jon Neely

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential. Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of the Linwood YMCA facility. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to the Linwood YMCA's energy costs or operational requirements at a given facility. The results of the site visit and data analysis are summarized in this report.

Utility data analysis provides a lens into building energy performance and potential for savings. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. Based on an updated utility analysis, the Linwood YMCA spends over $81,000 per year on electric and gas utilities, which represents more than 11% of the annual operating budget. Additionally, the facility underperforms the benchmark for similar facilities by 220%. This indicates that there is opportunity for investment and improvement which can reduce long-term utility and operational costs.

This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including occupancy scheduling, LED lighting, HVAC controls, and repairs to glass the pool enclosure.

1-2 Facility Description

Entegrity audited the Linwood YMCA Facility at 3800 E. Linwood Blvd Kansas City, MO 64128 on September 26, 2024. This facility serves a large and diverse community for this area of Greater Kansas City. Areas within the facility include a public lobby, offices, exercise rooms, weight rooms, a pool, and a gymnasium.

As previously reported, the YMCA facility is well maintained, evidenced by the operation of much of the original equipment to the facility. The facility was occupied in 1964 but has had various renovations since. YMCA is a non-profit that offers programs and services that bolster healthy living, youth development, and social responsibility. YMCA's programming includes group exercise classes, personal training, aquatics, teen development, an anti-hunger initiative with an onsite food pantry, mobile pantry, and open meal program, and a Tech Center to support digital equity. The Linwood YMCA facility is often used for community events such as a voter registration and as a polling station, community meetings, and as a cooling/heating center during inclement weather.

During the audit, Entegrity identified several factors that affect building energy and operating costs, including high wattage lighting, minimally programmable HVAC controls, and inoperable sliding pool doors.

Figure 1 Linwood YMCA



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of the Linwood YMCA, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for the Linwood YMCA during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 Linwood YMCA Characteristics

Metric	Value
Year of Construction	1964
Last Renovation	2015
Year of Prior Energy Audit	2024 – Entegrity Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	N
Historical Landmark Status	N
Percent Owned	100%
Percent Leased	100%
Gross Floor Area (ft^2)	32,000
Total Conditioned Area (ft^2)	32,000
Heated Only (ft^2)	N/A
Cooled Only (ft^2)	N/A
Total Number of Floors	2
Conditioned Floors Above Grade	1
Conditioned Floors Below Grade	0.5
Spaces Excluded from Gross Floor Area	-

2-1.2 Occupancy Information

The table below outlines the typical occupancy of the Linwood YMCA in a typical year of operations.

Table 2-1-2 Linwood YMCA Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	70
Typical Occupancy (weeks per year)	52
Typical number of occupants (during occupied hours)	45
Number of Dwelling Units in Building (Multifamily Only)	-
% of Dwelling Units currently Occupied (Multifamily Only)	0%

2-1.3 Space Functions

The table below outlines how spaces in Linwood YMCA are utilized for a variety of different functions and operations.

Table 2-1-3 Linwood YMCA Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Social/Meeting Hall	1,900	6%
Fitness Center/Health Club/Gym	21,012	66%
Swimming Pool	5,912	18%
Office	3,176	10%
Total	32,000	

Table 2-1-4 Linwood YMCA Space Function Breakdown

Space Description	Meeting Rooms	Gym	Pool	Offices
Space Function Type	Social/Meeting Hall	Fitness Center/Health Club/Gym	Swimming Pool	Office
Intended Use of Space	Social/Meeting Hall	Fitness Center/Health Club/Gym	Swimming Pool	Office
Gross Floor Area	1,900	21,012	5,912	3,176

Space Description	Meeting Rooms	Gym	Pool	Offices
Conditioned Area (%)	100%	100%	100%	100%
Number of Occupants	5	45	5	8
Approx. Plug Loads (W/ft^2)	0.90	0.70	0.50	2.00
Space Use (hours/week)	70	70	70	70
Space Use (weeks/year)	52	52	52	52

2-1.4 Building Energy Sources

The Linwood YMCA is served electricity and natural gas as metered energy sources.

Table 2-1-5 Linwood YMCA Building Energy Sources

Energy Source	Account Number	Utility Provider	Rate Code/Name
Electricity	7789400416	Evergy	1MGSE/1ALDE
Natural Gas	9553472721	Spire	Transport
Natural Gas	20809-9553472721	Clearwater	Commodity

2-2 Lighting & Plug Loads

The Linwood YMCA currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technology in use at the Linwood YMCA is fluorescent, with LED and metal halide also in use.

Table 2-2-1 Linwood YMCA Facility Lighting Summary

Lighting Source Type	Fixture Type	Control Type	% of Total Wattage
Fluorescent	Linear Tube	Wall Switch	56.9%
Metal Halide	High Bay	Wall Switch	29.1%
LED	Exit Sign	Emergency Lighting	13.1%
LED	Linear Tube	Wall Switch	0.9%

Table 2-2-2 Linwood YMCA Plug Load Summary

Process/Plug Load Description	Operational Details
6 Desktop Computers	In use by office staff
11 Laptop Computers	
2 Copiers	
2 Servers	
1 Scoreboard	Gymnasium
1 Elevator	Used infrequently, provides basement access
9 Televisions	Placed throughout facility
2 Commercial & 2 Residential Refrigerators	Kitchen appliances also include oven and coffee machine
1 Commercial & 2 Residential Freezers	
1 Ice Machine	

2-3 Heating, Ventilation & Air Conditioning

The Linwood YMCA is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving the Linwood YMCA is summarized in the table below.

Table 2-3-1 Linwood YMCA Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Packaged rooftop units
	Secondary Source	Heat pump split systems
	Fuel	Natural Gas, Electric
	Distribution	Ducted to individual zones
	Other Considerations	Also a gas-heat makeup air unit
Cooling	Primary Source	Packaged rooftop units
	Secondary Source	Heat pump split systems
	Distribution	Ducted to individual zones
	Other Considerations	Also a large condenser/fluid cooler and air handler
Ventilation	Outside Air	Roof over pool designed to be operable for ventilation
	Exhaust Fans	8 total exhaust fans, mainly for restroom exhaust
	Other Considerations	Operable pool roof louver motors are NOT functional
Controls	Zone Controls	Individual zone thermostats, many not programmed
	Central Controls	No centralized controls system
	Other Considerations	Hard-wired stats need to be reset following outage
Hot Water	Primary Source	3 Natural Gas storage water heaters
	Secondary Source	EnergyRite pool heater
	Other Considerations	Pool heater is 885.4% efficient, set to 84F

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of the Linwood YMCA.

Table 2-4-1 Linwood YMCA Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	TPO, Stone Aggregate, Composite Roof over Pool
	Roofing Color	White, Brown
	Area	23,560
	Condition	3/5 Good
Walls	Construction Type	Brick/Stone Exterior, Glass Pool Enclosure
	Condition	4/5 Great
Fenestrations	Frame Type	Storefront glass
	Glass Type	Double-pane
	Glazing % of Wall Area	20-30%
	Seal Condition	4/5 Great
	Enclosure Tightness	3/5 Good
	Exterior Door Type	Storefront glass/Hollow metal doors

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with the Linwood YMCA facility. Utility data was analyzed from the period beginning July, 2024 and ending June, 2025.

Table 3-1-1 Annual Utility Expenses

Electric	kWh	500,055	$57,233
Natural Gas	MMBtu	3,592.2	$24,344

Figure 2 Linwood YMCA Utility Cost Breakdown

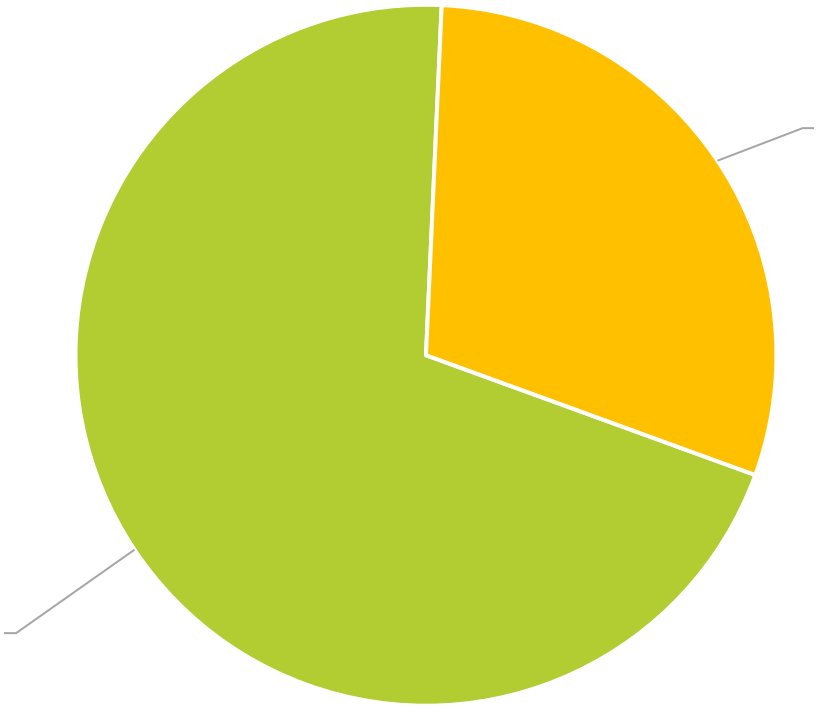
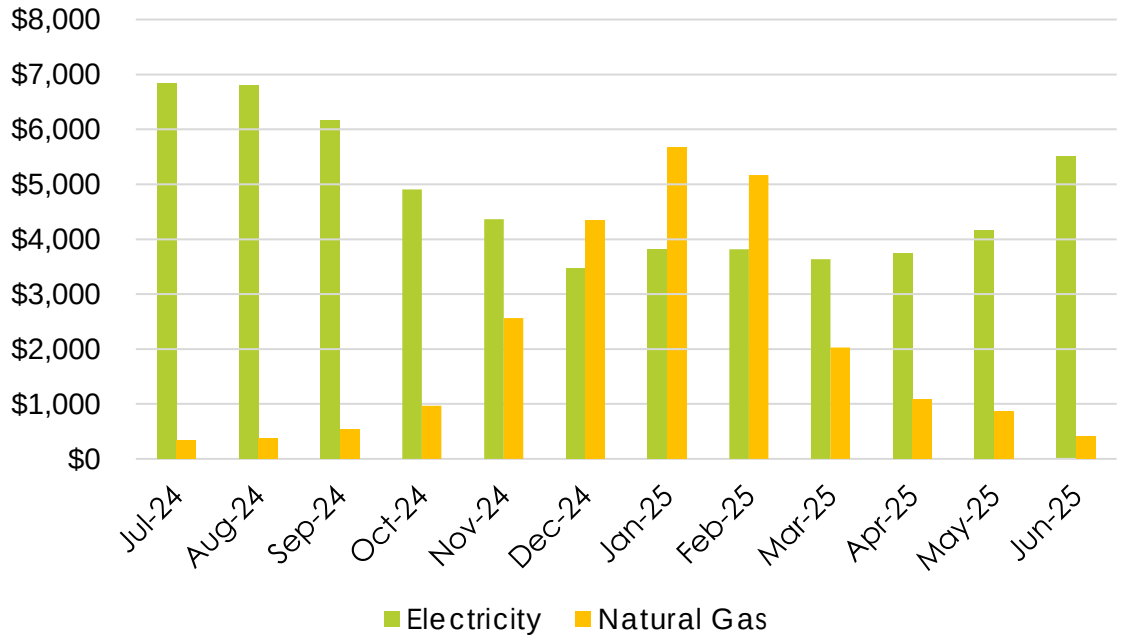


Figure 3 Linwood YMCA Utility Cost Monthly Breakdown



3-1.1 Electricity

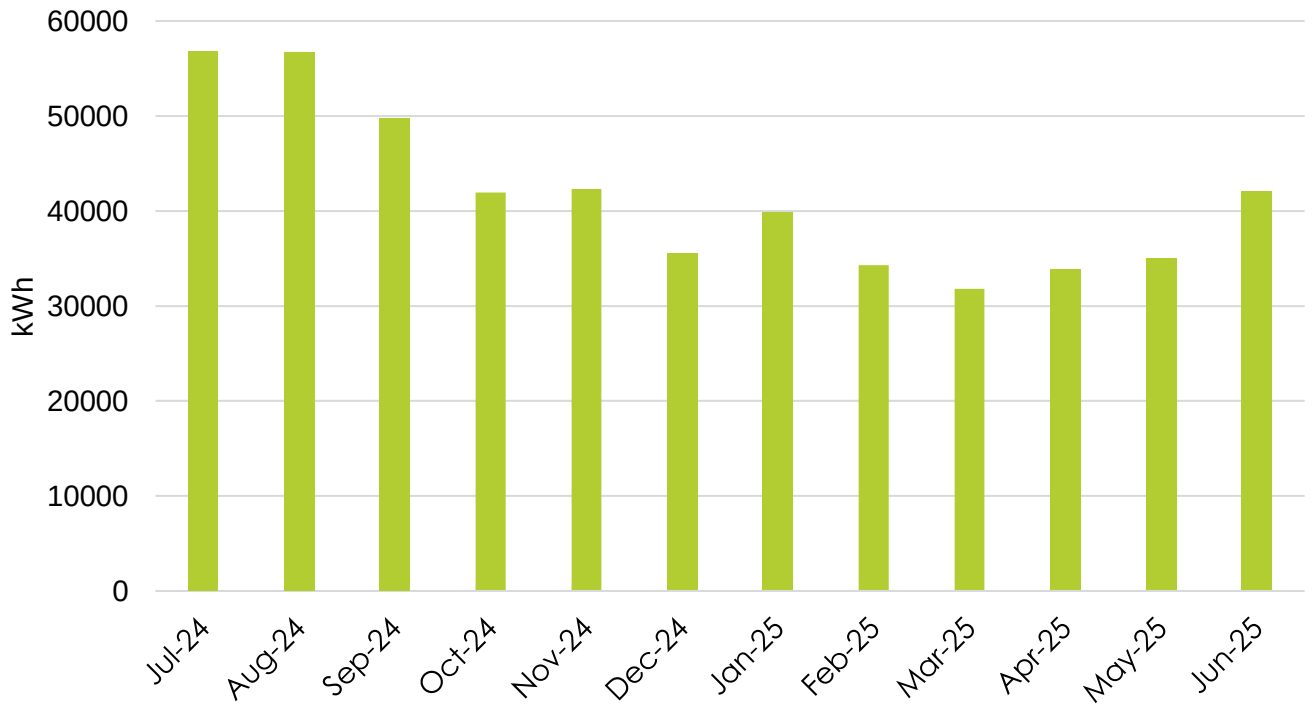
Entegrity has calculated annual electricity usage, demand, and cost data for the Linwood YMCA facility. The Linwood YMCA is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for the Linwood YMCA, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

7789400416	500,055	1,214.0	$57,233	$0.08822	$6.2197

Figure 4 Linwood YMCA Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

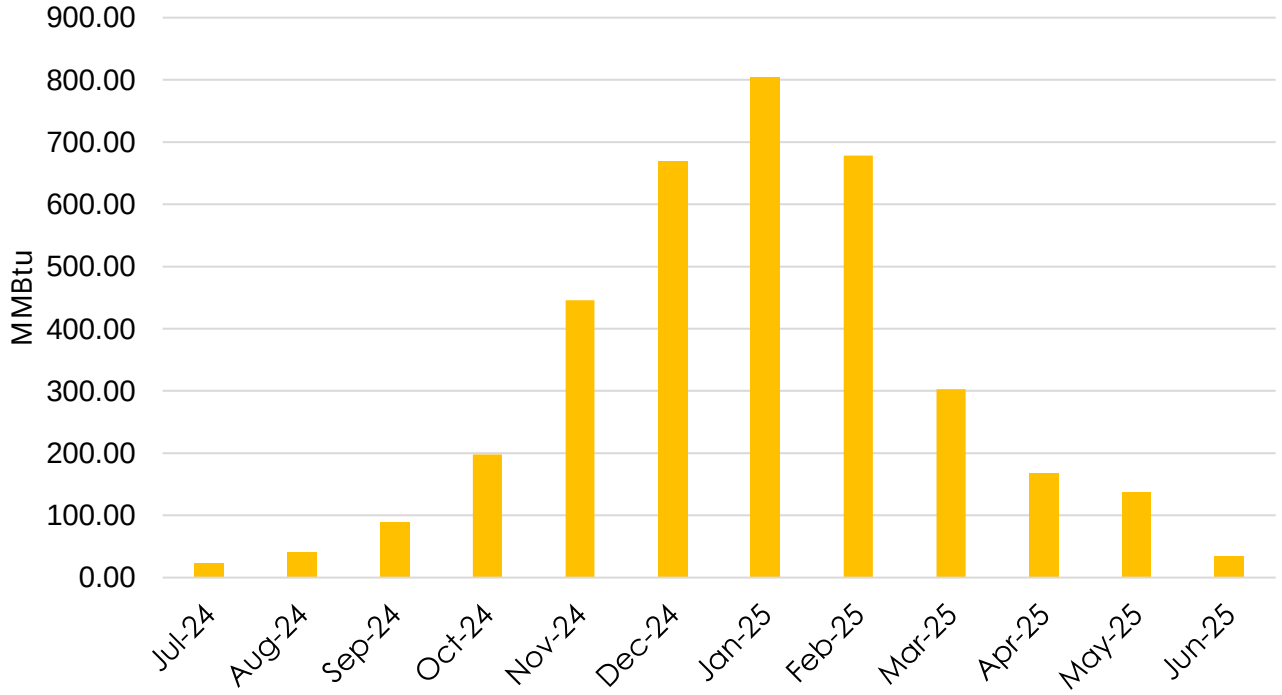
Entegrity has calculated natural gas usage and cost data for the Linwood YMCA facility. The Linwood YMCA is served natural gas by Spire and Clearwater. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for the Linwood YMCA, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

Account ID	Base Year Usage (MMBtu)	Base Year Cost	Natural Gas Rate ($/MMBtu)
9553472721 (Spire)	-	$7,380	$0.73732
20809-9553472721	3,592.2	$16,964	$3.2300
Total	3,592.2	$24,344	$3.9673

Figure 5 Linwood YMCA Natural Gas Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on the Linwood YMCA, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare the Linwood YMCA to a benchmarking target and determine the savings potential associated with reaching that target.

The target EUI and ECI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 Linwood YMCA Performance

Metric	Value
Conditioned Square Feet	32,000
Energy Use Intensity [building] (kBtu/sf/yr)	162.7
Energy Use Intensity [site] (kBtu/sf/yr)	162.7
Energy Cost Index ($/sf/yr)	$2.45

Table 3-2-2 Linwood YMCA Benchmarking

Metric	Value
Benchmark Source	CBECS - Fitness Center/Health Club/Gym
Benchmark EUI (kBtu/sf/yr)	50.8
Target EUI [building] (kBtu/sf/yr)	138.3
Target EUI [site] (kBtu/sf/yr)	138.3
Target ECI [site] ($/sf)	$2.08
Annual Energy Savings to Reach Target (kBtu)	781,182
Annual Cost Savings to Reach Target	$11,758

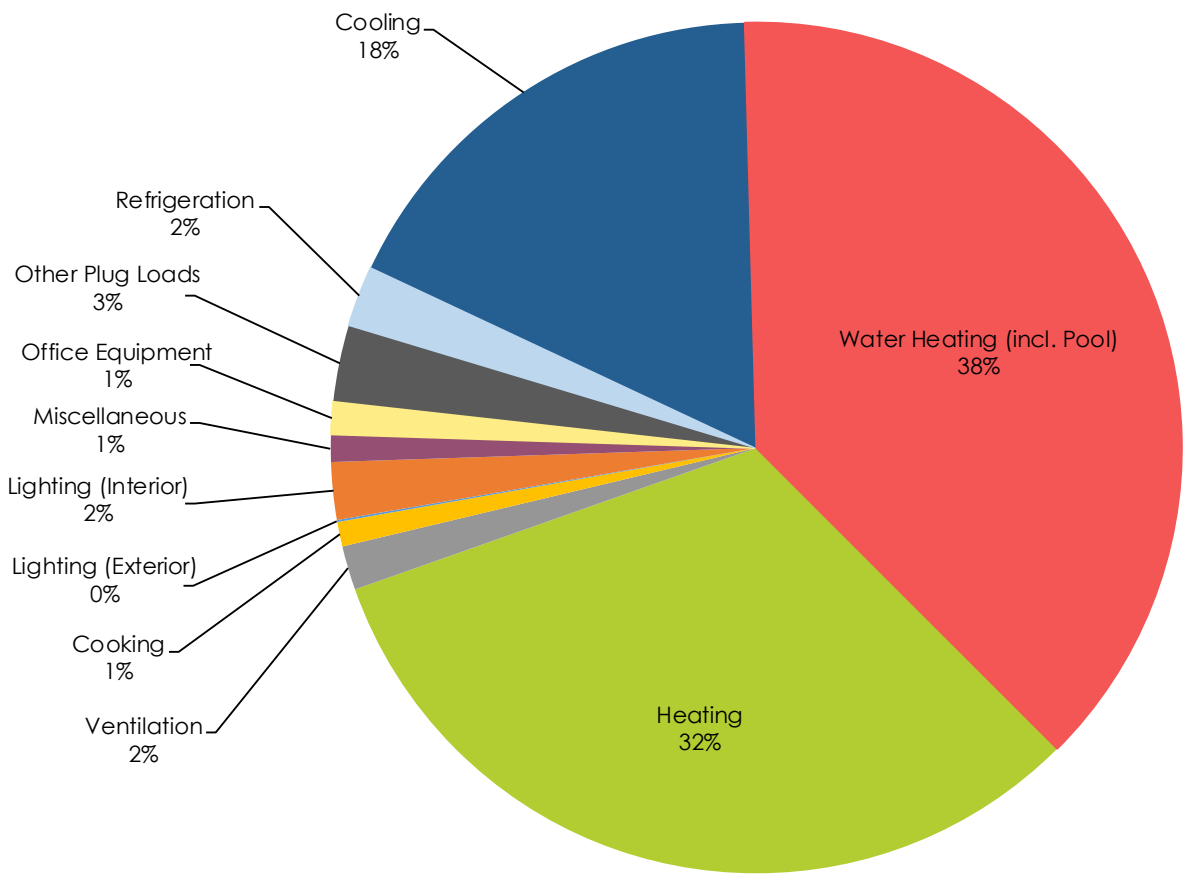
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at the Linwood YMCA and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 Linwood YMCA Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	34,558	6.9%	$3,955	1,583	44.1%	$10,728	$14,684
Ventilation	26,000	5.2%	$2,976	-	0.0%	$0	$2,976
Cooking	14,500	2.9%	$1,660	-	0.0%	$0	$1,660
Lighting (Exterior)	1,200	0.2%	$137	-	0.0%	$0	$137
Lighting (Interior)	33,900	6.8%	$3,880	-	0.0%	$0	$3,880
Miscellaneous	3,771	0.8%	$432	42	1.2%	$285	$716
Office Equipment	19,500	3.9%	$2,232	-	0.0%	$0	$2,232
Other Plug Loads	45,000	9.0%	$5,150	-	0.0%	$0	$5,150
Refrigeration	36,000	7.2%	$4,120	-	0.0%	$0	$4,120
Cooling	273,126	54.6%	$31,260	-	0.0%	$0	$31,260
Water Heating	12,500	2.5%	$1,431	1,967	54.8%	$13,331	$14,762
Total	500,055	100%	$57,233	3,592	100%	24,344	$81,577

Figure 6 Linwood YMCA Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for the Linwood YMCA that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for the Linwood YMCA.

4-1.2 Lighting

1. Turn Lights Off: Simply put, turn off lights when not in use. Areas such as restrooms and offices were noted with lights left on while nobody was occupying the space. Signage near light switches can help staff and visitors remember to turn off the lights.

4-1.3 HVAC

1. Thermostats: The Linwood YMCA currently has standalone thermostats in each zone. Some thermostats were noted with inaccurate or no scheduling programming. Correcting or adding occupancy scheduling can reduce runtime hours and save energy. Additionally, some thermostats may require recalibration to ensure they are sensing and controlling temperatures accurately.
2. Test, Adjust & Balance: Correcting building pressure and the distribution of air is known as TAB, and it is recommended for new and old buildings. Humidity issues in summer can be caused by negative building pressure pulling outside air in through all building openings. Balancing can also correct exhaust and outside air to meet code requirements while minimizing excess energy consumption.

4-1.4 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. The Linwood YMCA can reduce air leakage by replacing failed window seals, repairing roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints.
2. Window Shades: Windows allow light to illuminate spaces, but they also contribute to heating and cooling load. Some of the windows at the Linwood YMCA have shades, but many do not. Adding window shades allows occupants to control space lighting temperature, and recommending occupants close shades before leaving the building can reduce loads during unoccupied times.

4-1.5 Other

1. Investigate Water Metering: Pools lose water through evaporation. Recommend investigating how existing water metering is set up and billed to confirm whether Linwood YMCA is billed the same consumption for sewer as water consumption. If Linwood YMCA is billed sewer use for all water consumed, there may be savings opportunity by installing a deduct meter or pursuing utility billing adjustments to eliminate sewer utility cost associated with evaporated pool water.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for the Linwood YMCA that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for the Linwood YMCA.

4-2.2 Lighting

1. LED Replacements: The Linwood YMCA primarily uses fluorescent lighting. Replacement with LED lighting significantly reduces electricity consumption and operating cost. LEDs use 60-90% less energy, last 3-50 times longer, and emit very little heat compared to older lighting technologies.

4-2.3 HVAC

1. HVAC Controls: The Linwood YMCA currently has a standalone thermostat, minimally programmable controls system. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, the Linwood YMCA can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability.
2. HVAC Replacement: The Linwood YMCA has two existing heat pump split systems which are nearing 15 years old. These systems use R-22 refrigerant, which is phased out, meaning it is difficult to procure and very expensive for unit repairs. Replacing these systems would eliminate all R-22 from the HVAC portfolio and increase unit efficiency, reducing both energy and maintenance costs for the Linwood YMCA.

4-2.4 Building Envelope

1. Repair Pool Roof: The pool space has an operable roof top open to the outside, allowing for passive heating/cooling/ventilation. However, this system is not functional due to burnout of the motors on the louvers which were not properly installed. This leads to excessive energy use condition the pool area. It is important to note that relays should be installed to ensure the HVAC/Pool Heating system does not run concurrently while the space is open to the outdoors. Repairing the pool roof, along with improving envelope sealing throughout the facility, can significantly reduce heating, cooling, and ventilation energy usage and utility costs.

4-3 Recommended Measures Summary

Measure Description (ranked by priority)	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
LED Lighting	$1,750	$250	7.9	18,979	-	$16,000	$650	10-15	$15,350	13.0%	7.7
HVAC Controls Upgrade	$2,650	-	5.3	21,644	145.2	$24,500	$1,500	10-15	$23,000	11.5%	8.7
HVAC Replacement	$1,500	$500	10.4	16,199	-	$28,000	$750	15-20	$27,250	7.3%	13.6
Repair Pool Sliding Doors	$7,500	-	-	45,000	330.0	$15,000	None	15-20	$15,000	50%	2.0
Totals	$13,400	$750	23.6	101,822	475.2	$83,500	$2,900	-	$80,600	17.6%	5.7

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of the Linwood YMCA and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
LED Lighting	Contractor install new fixtures where any existing lighting is fluorescent, stipulated new fixture cost and estimated labor cost, including ballast elimination where applicable
HVAC Controls Upgrade	Cost per thermostat and material and labor costs
HVAC Replacement	Cost per ton to replace system and add ducted cooling
Repair Pool Sliding Doors	Estimated material and labor costs

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
LED Lighting	Fixture cost times quantity plus estimated labor cost
HVAC Controls Upgrade	12-15 total thermostats to control all existing systems, plus estimated wire needed and labor
HVAC Replacement	Cost per ton times capacity plus estimated labor, assuming the following units are replaced (see HVAC inventory): CU/FCU-3 and CU/FCU-4
Repair Pool Sliding Doors	Estimated material and labor costs, will vary depending on exact depth of scope and whether any existing hardware can be reused or repurposed

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of the Linwood YMCA, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
LED Lighting	Stipulated wattage of new fixtures and utility rates
HVAC Controls Upgrade	Annual EFLHs (run hours) and controls system reduction %
HVAC Replacement	Annual EFLHs (run hours) and new system Btu/hr capacities
Repair Pool Sliding Doors	Average energy cost reduction from envelope upgrades

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) - (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) - (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-3 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity SEER = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
LED Lighting	Interior & Exterior Lighting	18,979	-	64,756	54%	0%	16%
HVAC Controls Upgrade	Heating & Cooling	21,644	145	219,049	7%	9%	8%
HVAC Replacement	Heating & Cooling	16,199	-	55,271	5%	0%	2%
Repair Pool Sliding Doors	HVAC	45,000	330	483,540	13%	9%	10%
Total Savings (This Sheet)		101,822	475	822,617	20%	13%	16%
Total Savings (Measures Summary)		101,822	475	822,617			
Total Historical Use		500,055	3,592	5,298,388			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 Linwood YMCA Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
5/20/2025	6/19/2025	42,071	130.0	$5,512.96
4/21/2025	5/20/2025	35,031	114.0	$4,165.82
3/23/2025	4/21/2025	33,888	83.0	$3,735.27
2/20/2025	3/23/2025	31,819	86.0	$3,637.11
1/21/2025	2/20/2025	34,297	90.0	$3,817.58
12/18/2024	1/21/2025	39,879	71.0	$3,816.57
11/18/2024	12/18/2024	35,499	63.0	$3,470.72
10/17/2024	11/18/2024	42,334	99.0	$4,365.95
9/17/2024	10/17/2024	41,958	109.0	$4,909.29
8/18/2024	9/17/2024	49,744	117.0	$6,168.49
7/17/2024	8/18/2024	56,712	125.0	$6,803.82
6/17/2024	7/17/2024	56,823	127.0	$6,828.96
	Total	500,055	1,214.0	$57,233

Table 6-1-2 Linwood YMCA Natural Gas Utility Data - Spire

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
6/1/2025	7/1/2025	34.2	$308.35
5/1/2025	6/1/2025	137.9	$378.33
4/1/2025	5/1/2025	168.0	$390.24
3/1/2025	4/1/2025	302.8	$653.80
2/1/2025	3/1/2025	678.2	$1,134.10
1/1/2025	2/1/2025	803.7	$1,294.64
12/1/2024	1/1/2025	669.9	$1,123.48
11/1/2024	12/1/2024	445.9	$830.12
10/1/2024	11/1/2024	198.1	$397.91

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
9/1/2024	10/1/2024	89.2	$317.63
8/1/2024	9/1/2024	41.5	$282.45
7/1/2024	8/1/2024	22.8	$268.69
	Total	3,592.2	$7,380

Table 6-1-3 Linwood YMCA Natural Gas Utility Data - Clearwater

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
6/1/2025	7/1/2025	34.2	$99.53
5/1/2025	6/1/2025	137.9	$482.53
4/1/2025	5/1/2025	168.0	$701.92
3/1/2025	4/1/2025	302.8	$1,376.80
2/1/2025	3/1/2025	678.2	$4,034.23
1/1/2025	2/1/2025	803.7	$4,370.62
12/1/2024	1/1/2025	669.9	$3,222.86
11/1/2024	12/1/2024	445.9	$1,733.44
10/1/2024	11/1/2024	198.1	$567.46
9/1/2024	10/1/2024	89.2	$216.63
8/1/2024	9/1/2024	41.5	$91.17
7/1/2024	8/1/2024	22.8	$67.10
	Total	3,592.2	$16,964

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Rate Schedule 1MGSE

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month $3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05664 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

Table 6-2-2 Spire Transportation Service Rate Schedule

P.S.C. MO. No. 9 Second Revised SHEET No. 9.12
CANCELLING P.S.C. MO. No. 9 First Revised SHEET No. 9.12

Spire Missouri Inc. d/b/a/ Spire For: Spire Missouri

TRANSPORTATION SERVICE
TS

D. Rate (Continued):

For the Western Missouri Service Territory:

Net Monthly Bill

The bill for each billing period shall be the sum of the Customer Charge, the Delivery Charge, the Contract Demand Charge, and the monthly EGM Charge of $25.00. Service hereunder is subject to the Infrastructure System Replacement Surcharge (ISRS) in Sheet 12, the Tax Adjustment (TA) schedule in Sheet 14 and other provisions as hereinafter described.

Large Volume Transport - usage exceeds 15,000 Ccf for any month during the most recent 12-month period ending February, or that the Company expects will exceed 15,000 Ccf in the following contract year

Fixed Monthly Charge: $1238.36 per month

Volumetric Delivery Charge:

For all gas delivered during the billing months of November through March:

$0.05512 per Ccf for the first 36,000 Ccfs delivered, plus
$0.04300 per Ccf for all additional gas delivered.

For all gas delivered during the billing months of April through October:

$0.03441 per Ccf for the first 36,000 Ccfs delivered, plus
$0.02280 per Ccf for all additional gas delivered.

Maximum Delivery Charge: The delivery charge as stated above.

6-3 Appendix C – Lighting Inventory

Table 6-3-1 Linwood YMCA Lighting Inventory

Location	Lighting & Fixture Type	Control Type	Approx. Quantity	Lamps per Fixture	Watts per Lamp	Watts per Fixture	Total Watts
Admin Office	Fluorescent	Wall Switch	3	2	32	64	192
Aquatics Director	Fluorescent	Wall Switch	2	2	32	64	128
Av/data	LED	Wall Switch	2	2	12	24	48
Basement Corridor	Fluorescent	Wall Switch	10	1	32	32	320
Basement Corridor	Fluorescent	Wall Switch	5	2	32	64	320
Basement Mechanical	Fluorescent	Wall Switch	13	2	40	80	1040
Basement Mechanical	Fluorescent	Wall Switch	8	2	32	64	512
Childcare	LED	Wall Switch	1	1	12	12	12
Childcare	Fluorescent	Wall Switch	11	1	32	32	352
Commons	Exit Sign	Occupancy	3	1	12	12	36
Commons	LED	Wall Switch	2	1	12	12	24
Commons	Fluorescent	Wall Switch	27	1	32	32	864
Community Room	Exit Sign	Wall Switch	1	1	12	12	12
Community Room	Fluorescent	Wall Switch	40	1	32	32	1280
Ex director	Fluorescent	Wall Switch	1	2	32	64	64
Family Locker Room 202A	Fluorescent	Wall Switch	2	1	32	32	64
Family Locker Room 202A	LED	Wall Switch	1	1	12	12	12
Family Locker Room 202A	Fluorescent	Wall Switch	2	1	32	32	64
Fitness	Exit Sign	Wall Switch	2	1	12	12	24
Fitness	Fluorescent	Wall Switch	36	1	32	32	1152
Gymnasium	Exit Sign	Wall Switch	1	1	12	12	12
Gymnasium	LED	Wall Switch	16	4	12	48	768
Gymnasium	Fluorescent	Wall Switch	3	1	32	32	96
Lobby 1	Exit Sign	Emergency Control	3	1	12	12	36

Location	Lighting & Fixture Type	Control Type	Approx. Quantity	Lamps per Fixture	Watts per Lamp	Watts per Fixture	Total Watts
Lobby 1	LED	Wall Switch	54	1	12	12	648
Mechanical Sptinkler	Fluorescent	Wall Switch	1	2	32	64	64
Men's Locker Room	LED	Wall Switch	11	1	12	12	132
Men's Locker Room	Fluorescent	Wall Switch	1	1	32	32	32
Pool	Fluorescent	Wall Switch	4	2	32	64	256
Pool	Metal Halide	Wall Switch	16	1	250	250	4000
Pool Mechanical	Fluorescent	Wall Switch	3	2	32	64	192
Stairs 2 m locker	LED	Wall Switch	1	1	12	12	12
Stairs 2 m locker	LED	Wall Switch	1	1	12	12	12
Stairs 3	Fluorescent	Wall Switch	6	1	32	32	192
Studio A	Fluorescent	Wall Switch	14	1	32	32	448
omen's Locker Room	LED	Wall Switch	11	1	12	12	132
omen's Locker Room	Fluorescent	Wall Switch	2	1	32	32	64
Ex admin	Fluorescent	Wall Switch	2	2	32	64	128

6-4 Appendix D – HVAC Inventory

Table 6-4-1 Linwood YMCA HVAC Equipment

ID	Location	Type	Make	Model	Serial	Year	Output Capacity	Efficiency	Condition	HVAC Scope
RTU-1	Roof	Rooftop Unit	JCI	J12ZRN24D4B3FA	N1D6510061	2016	150 MBH	11.15	3/5 Good	N/A
RTU-11	Roof	Rooftop Unit	JCI	ZF150N20N2AAA5A	N1B254870	2012	150 MBH	11.15	3/5 Good	N/A
RTU-12	Roof	Rooftop Unit	JCI	ZF150N20N2AAA5A	N1M1399712	2011	150 MBH	11.15	3/5 Good	N/A
RTU-6	Roof	Rooftop Unit	Lennox	KGA300S4BH1Y	5610M02641	2010	270 MBH	11.15	3/5 Good	N/A
RTU-8	Roof	Rooftop Unit	York	J20ZRN30B4C3FA	N1D6519618	2016	360 MBH	11.15	3/5 Good	N/A
RTU-9	Roof	Rooftop Unit	York	J15ZRN30B4B3FA	N1D6519636	2016	360 MBH	11.15	3/5 Good	N/A
MAU-10	Roof	Rooftop Unit	Accurex	XDGK-109-H15-DB	14564349	-	120 MBH	11.15	3/5 Good	N/A
CU-3	Roof	Heat Pump	Guardian	GCGD60S21S2B	W1G1174519	2011	60 MBH	11.15	2/5 Poor	Replace
CU-4	Roof	Heat Pump	Guardian	GCGD60S21S2B	W1G1174449	2011	60 MBH	11.15	2/5 Poor	Replace
CU-5	Roof	Heat Pump	Mitsubishi	PUY-A36NHA6	42U01688B	2014	36 MBH	11.15	3/5 Good	N/A
FCU-3	Mech.	Fan Coil Unit	Guardian	M20DN21H	W1A2502239	2012	-	-	2/5 Poor	Replace
FCU-4	Elec.	Fan Coil Unit	Guardian	M20DN21H	W1A2502238	2012	-	-	2/5 Poor	Replace
AHU-5	Elec.	Air Handler	Mitsubishi	PKA-A36KA6	53M01209	2015	-	-	3/5 Good	N/A

6-5 Appendix E – Photos

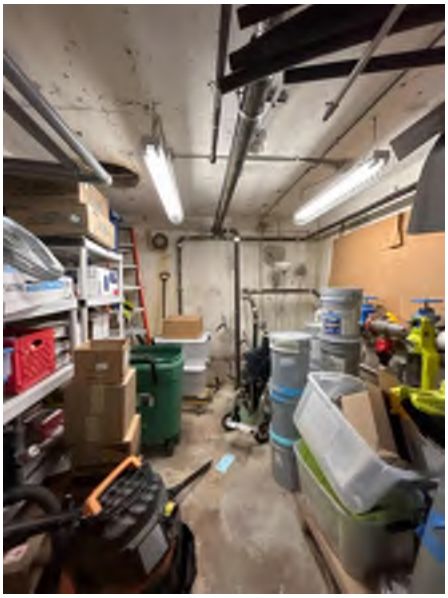
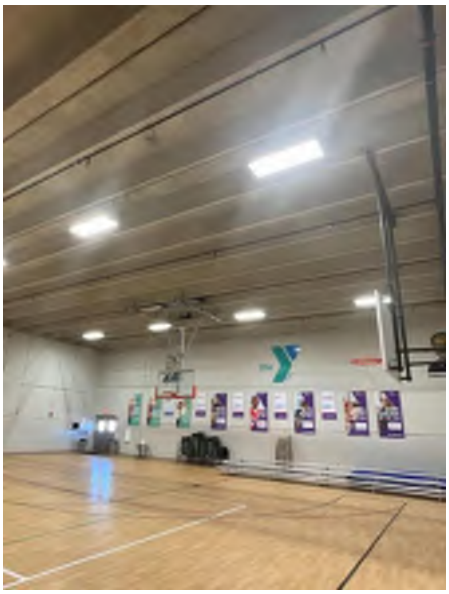














Mattie Rhodes

Level 2 Audit Report

September 2025

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including Mattie Rhodes.

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including Mattie Rhodes, received a Level 2 ASHRAE energy audit.

The Mattie Rhodes Center primarily serves Spanish-speaking immigrants living in Kansas City's historic Northeast neighborhood. The facility provides advocacy and empowerment services to enhance the health, economic stability, education, and housing affordability of program participants. The neighborhood where the facility is located experiences high risk factors including violence, poverty, and homelessness.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for Mattie Rhodes, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with Mattie Rhodes.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	Mattie Rhodes Center Northeast
Building Owner	Mattie Rhodes
Energy Auditor(s)	Hannah Parker
Street Address	148 N Topping Ave, Kansas City, MO, 64123
Date of site visit(s)	7/28/2025
Primary Building Use Type	Office

Metric	Value
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1
Client Name	Mattie Rhodes
Point of Contact	Julie Youngers

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential.

Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of Mattie Rhodes facilities. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to the Mattie Rhodes's energy costs or operational requirements at a given facility.

The Mattie Rhodes Center Northeast was originally constructed as an educational center for a neighboring church before attendance declined and the building sat vacant. Mattie Rhodes purchased the facility in 2025 and completed a major renovation, including roof and HVAC replacement. The facility experiences high electric bills and poor occupant comfort as a result of insufficient ventilation and temperature swings throughout the facility. According to staff, some lighting has been replaced with LED, but a significant quantity of fixtures original to the facility remain, using fluorescent and incandescent lighting. The HVAC system is comprised of split systems with roof-mounted condensing units and furnaces in mechanical closets. Mattie Rhodes is currently working on a grant project through the city to address needed window replacements.

Utility data analysis provides a lens into building energy performance and potential for savings. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. Mattie Rhodes's facilities currently outperforms the benchmark by 19%. However, there is still opportunity for investment and improvement which can further reduce long-term utility and operational costs.

This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including LED Lighting, HVAC system upgrades, HVAC controls upgrades, and envelope sealing.

1-2 Facility Description

Entegrity audited Mattie Rhodes on July 28, 2025. This facility serves as the operations center for Mattie Rhodes. Areas within the facility include a public lobby, offices, and meeting spaces.

During the audit, Entegrity identified several factors that affect building energy and operating costs. Mattie Rhodes maintenance personnel do well to ensure that equipment is functioning properly and that the facility is functional and comfortable for all occupants.

Figure 1-2-1 Mattie Rhodes Center Northeast



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of Mattie Rhodes, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for Mattie Rhodes during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 Mattie Rhodes Characteristics

Metric	Value
Year of Construction	1956
Last Renovation	2005
Year of Prior Energy Audit	2024 – Entegrity Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	N
Historical Landmark Status	N
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	18,200
Total Conditioned Area (ft^2)	17,000
Heated Only (ft^2)	-
Cooled Only (ft^2)	-
Total Number of Floors	4
Conditioned Floors Above Grade	3
Conditioned Floors Below Grade	1
Spaces Excluded from Gross Floor Area	None

2-1.2 Occupancy Information

The table below outlines the typical occupancy of Mattie Rhodes in a typical year of operations.

Table 2-1-2 Mattie Rhodes Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	45
Typical Occupancy (weeks per year)	50
Typical number of occupants (during occupied hours)	25-50
Number of Dwelling Units in Building (Multifamily Only)	-
% of Dwelling Units currently Occupied (Multifamily Only)	N/A

2-1.3 Space Functions

The table below outlines how Mattie Rhodes utilizes the spaces in the facility for a variety of different functions and operations.

Table 2-1-3 Mattie Rhodes Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Office	13,200	73%
Social/Meeting Hall	5,000	27%
Total	18,200	100%

Table 2-1-4 Mattie Rhodes Space Function Breakdown

Space Description	Office Areas	Meeting Rooms
Space Function Type	Office	Social/Meeting Hall
Intended Use of Space	Office	Social/Meeting Hall
Gross Floor Area	13,200	5,000
Conditioned Area (%)	90%	100%
Number of Occupants	25-35	0-25

Space Description	Office Areas	Meeting Rooms
Approx. Plug Loads (W/ft^2)	1.0-1.5	0.5-1.0
Space Use (hours/week)	45	40
Space Use (weeks/year)	50	50

2-1.4 Building Energy and Utility Sources

Mattie Rhodes is served electricity and natural gas as metered energy sources and water and sewer as metered utility sources

Table 2-1-5 Mattie Rhodes Building Energy Sources

Energy/Utility Source	Account Number	Utility Provider	Rate Schedule
Electricity	5712613083	Evergy	SGA Secondary Voltage
Natural Gas	9901551111	Spire	Residential
Water & Sewer	000079339 0046844 7	KC Water	Inside City Limits

2-2 Lighting & Plug Loads

Mattie Rhodes currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technology in use at Mattie Rhodes is fluorescent, with LED and incandescent also in use.

Table 2-2-1 Mattie Rhodes Facility Lighting Summary

Lighting Source Type	Fixture Type	Control Type	Space Type	% of Total Wattage
Fluorescent	3-Bulb Round Flush-Mount	Wall Switch	Offices/Classrooms	43.8%
Fluorescent	Linear Tube	Wall Switch	Offices/Classrooms	27.1%
Fluorescent	2-Bulb Round Flush-Mount	Wall Switch	Offices/Classrooms	15.2%
LED	Recessed Can	Motion Sensor	Basement	5.5%
LED	Round Flat Panel	Wall Switch	Offices/Classrooms	3.5%
LED	Linear Tube	Motion Sensor	Basement	2.0%
Fluorescent	Recessed Can	Motion Sensor	Basement	1.5%
Fluorescent	Linear Tube	Motion Sensor	Basement	1.2%
LED	Single Bulb	Wall Switch	Offices/Classrooms	0.2%
LED	Single Bulb	Motion Sensor	Basement	0.1%

Table 2-2-2 Mattie Rhodes Plug Load Summary

Process/Plug Load Description	Operational Details
Radon Mitigation System	Fan operates 24/7, installed June 2025
Office Computers	Average daily quantity: 33
Miscellaneous Office Equipment	Printer, IT Server, etc.
Small Kitchen Appliances	Microwave, Stove, etc.
Commercial Kitchen Appliances	1 Freezer, 2 Refrigerators

2-3 Heating, Ventilation & Air Conditioning

Mattie Rhodes is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving Mattie Rhodes is summarized in the table below.

Table 2-3-1 Mattie Rhodes Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Gas Furnace Split Systems
	Fuel	Natural Gas
	Distribution	Ducted to individual zones
	Other Considerations	All existing split systems are over 20 years old
Cooling	Primary Source	Condensing Unit Split Systems
	Secondary Source	IT Room Window Air Conditioner
	Distribution	Ducted to individual zones
	Other Considerations	All existing condensing units use R-22
Controls	Zone Controls	Individual zone thermostats
	Central Controls	No central controls system
	Other Considerations	Mix of wired and WiFi thermostats, recent failures
Hot Water	Primary Source	Single gas-fired storage water heater in basement
	Other Considerations	50 gallon storage capacity, installed in 2017

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of Mattie Rhodes.

Table 2-4-1 Mattie Rhodes Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	TPO
	Roofing Color	White
	Area	4,500
	Condition	3/5 Good
Walls	Construction Type	Brick
	Condition	3/5 Good
Fenestrations	Frame Type	Vinyl frame double hung
	Glass Type	Double pane
	Glazing % of Wall Area	15-20%
	Seal Condition	2/5 Poor
	Enclosure Tightness	3/5 Good
	Exterior Door Type	Storefront glass/hollow metal doors

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with audited Mattie Rhodes facilities. Utility data was analyzed from the period beginning June 2024 and ending May 2025.

Table 3-1-1 Annual Utility Expenses

Electric	kWh	83,885	$14,456
Natural Gas	MMBtu	479.2	$6,715
Water & Sewer	kGal	72.0	$2,571

Figure 1 Mattie Rhodes Utility Cost Breakdown

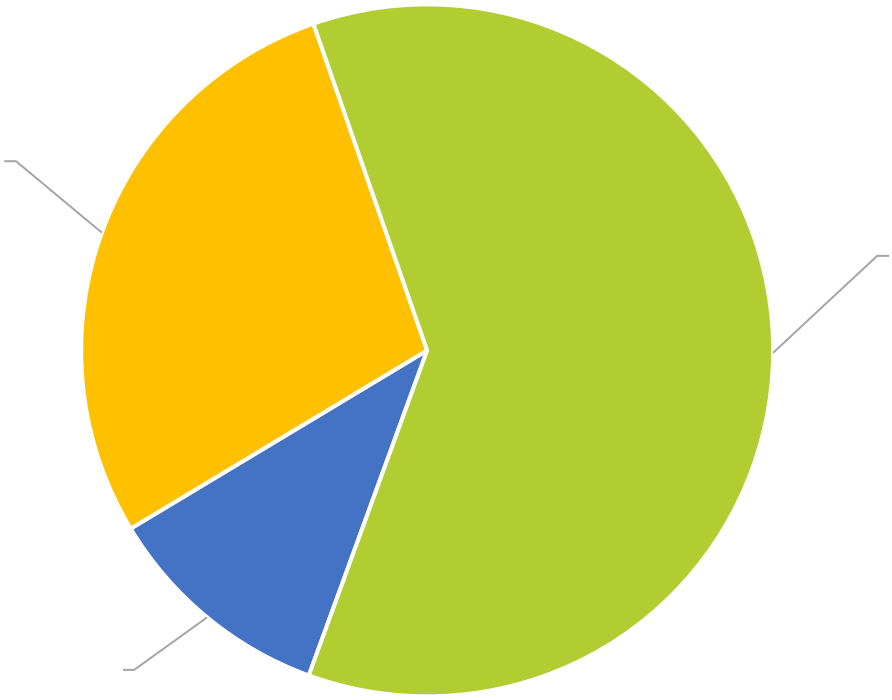
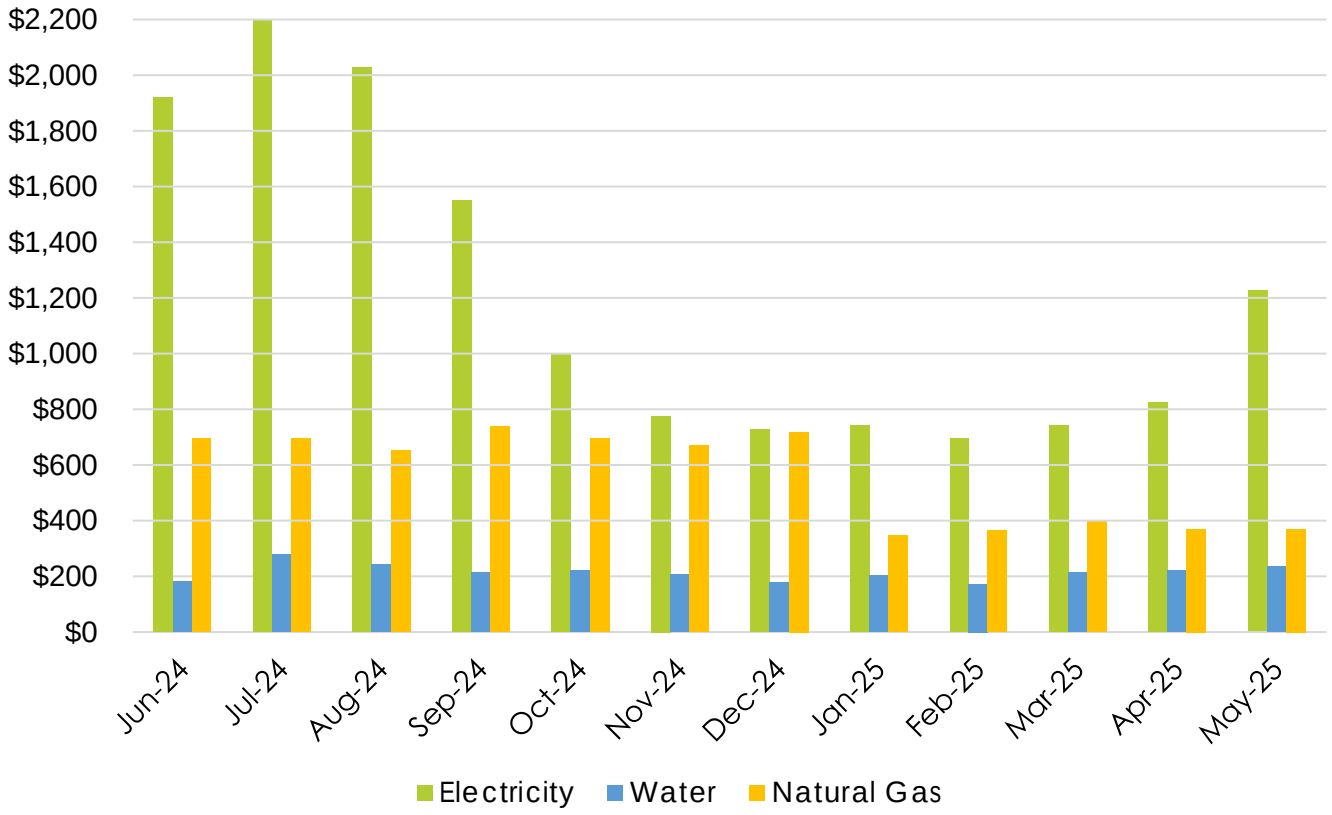


Figure 2 Mattie Rhodes Utility Cost Monthly Breakdown



3-1.1 Electricity

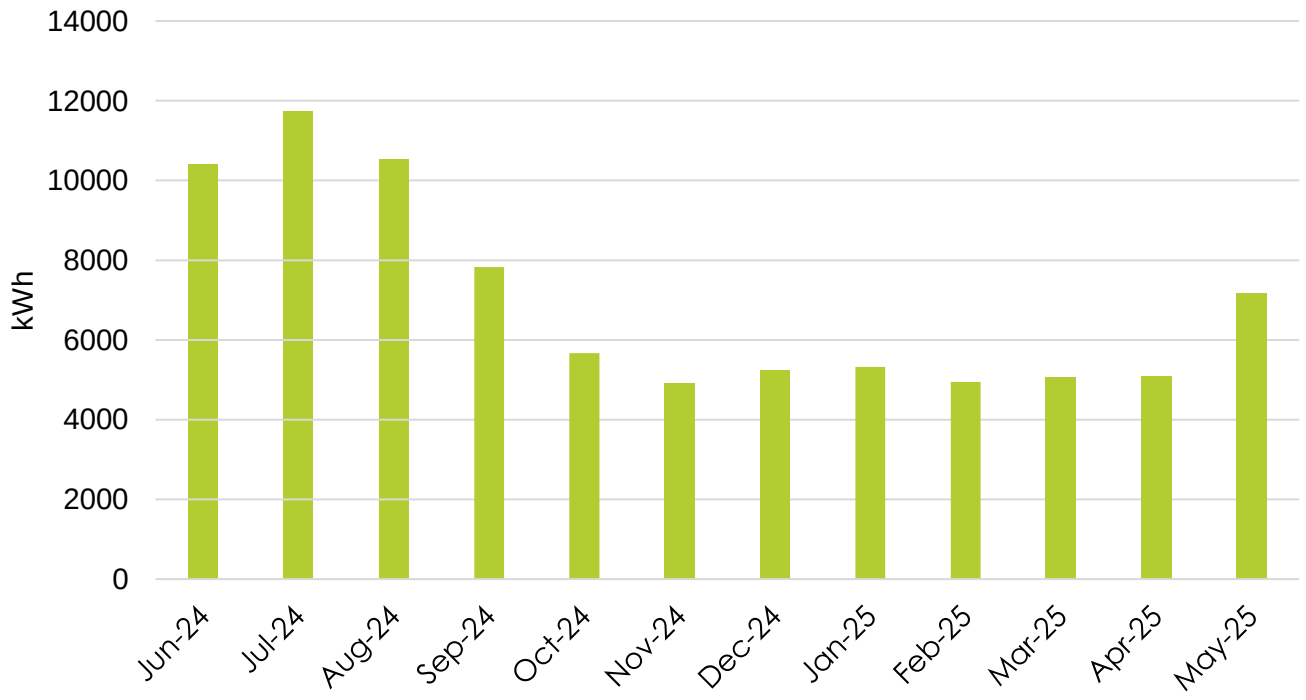
Entegrity has calculated annual electricity usage, demand, and cost data for audited Mattie Rhodes facilities. Mattie Rhodes is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Mattie Rhodes, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

Account ID	Consumption (kWh)	Demand (kW)	Base Year Cost ($)	Electric Rate ($/kWh)	Demand Rate ($/kW)
5712613083	83,885	26.7	$14,456	$0.16395	$0.43837
Total	83,885	26.7	$14,456	$0.16395	$0.43837

Figure 3 Mattie Rhodes Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

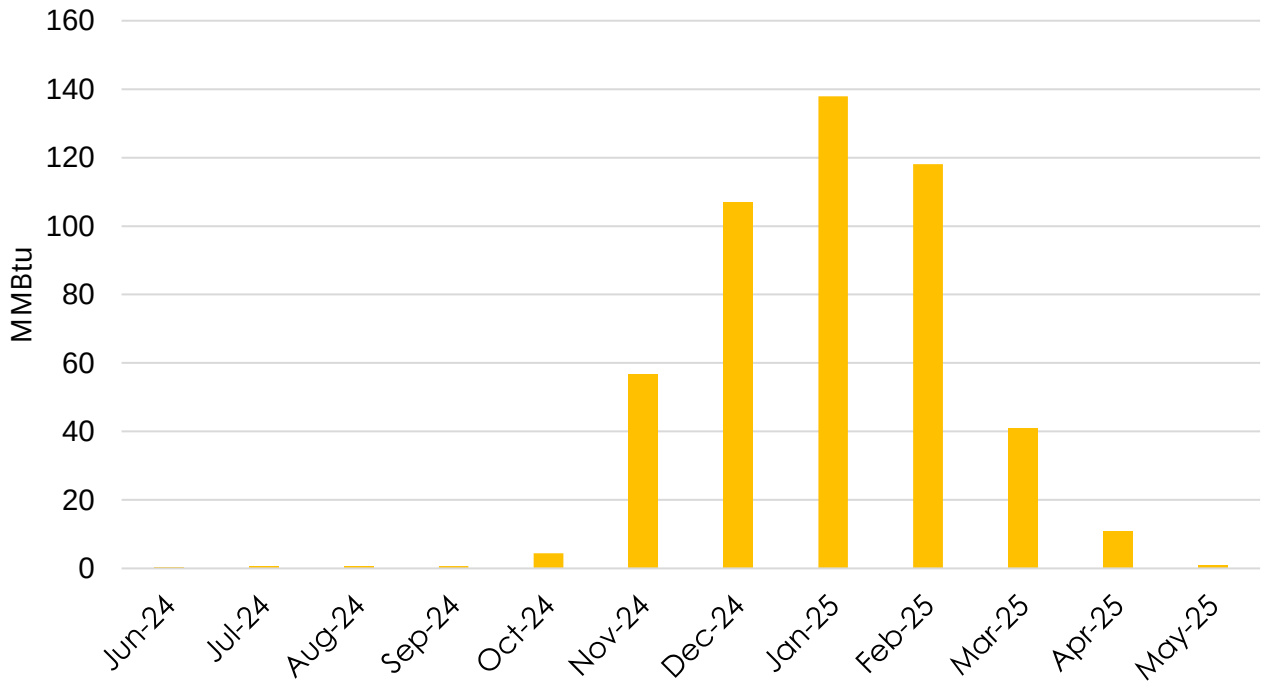
Entegrity has calculated natural gas usage and cost data for the audited Mattie Rhodes facilities. Mattie Rhodes is served natural gas by Spire. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Mattie Rhodes, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

Account ID	Base Year Usage (MMBtu)	Base Year Cost	Natural Gas Rate ($/MMBtu)
9901551111	479.2	$6,715	$14.24
Total	479.2	$6,715	$14.24

Figure 4 Mattie Rhodes Natural Gas Utility Monthly Breakdown



3-1.3 Water & Sewer

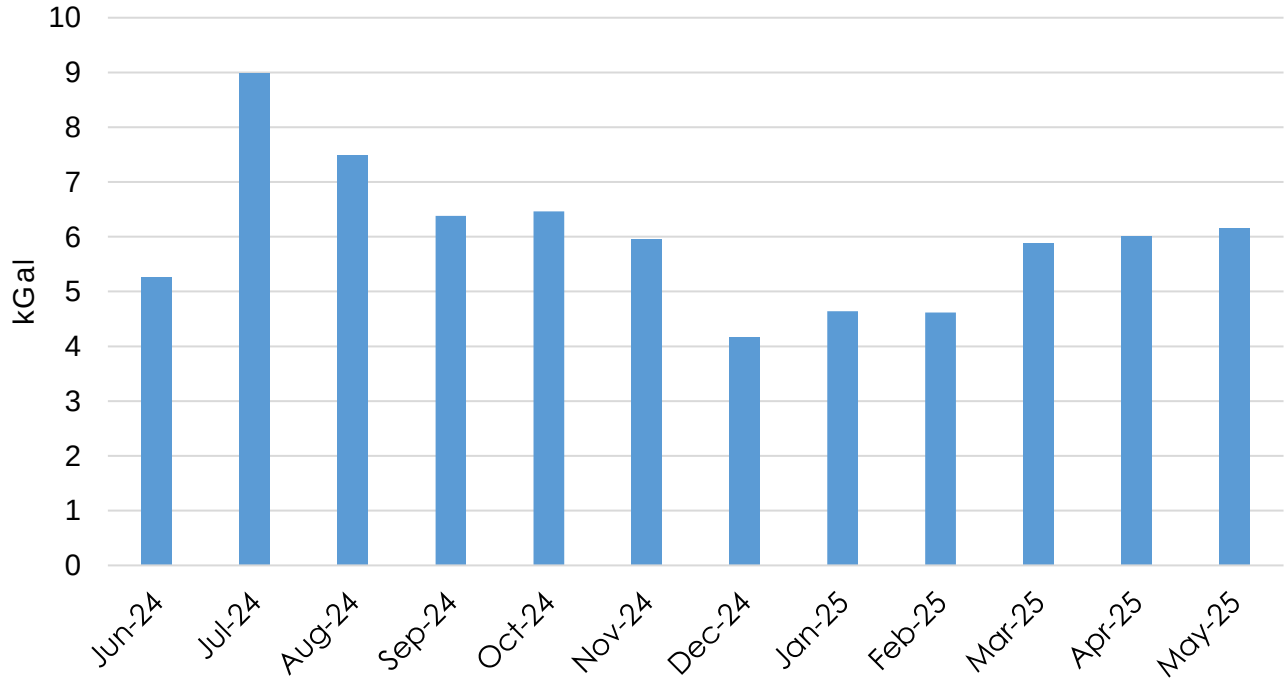
Entegrity has calculated water & sewer usage and cost data for the audited Mattie Rhodes facilities. Mattie Rhodes is served water & sewer by KC Water. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for Mattie Rhodes, it was determined that there are no potential adjustments for the water utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-4 Water Utility by Account

Account ID	Base Year Usage (kGal)	Base Year Cost	Water Rate ($/kGal)
000079339 0046844 7	72.5	$2,571	$23.84
Total	72.5	$2,571	$23.84

Figure 5 Mattie Rhodes Water & Sewer Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on Mattie Rhodes, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare Mattie Rhodes to a benchmarking target and determine the savings potential associated with reaching that target.

The target EUI, ECI, and UCI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 Mattie Rhodes Performance

Metric	Value
Conditioned Square Feet	17,000
Energy Use Intensity [building] (kBtu/sf/yr)	45.0
Energy Use Intensity [site] (kBtu/sf/yr)	45.0
Water Use Intensity (gal/sf/yr)	4.2
Energy Cost Index ($/sf/yr)	$1.25
Utility Cost Index ($/sf/yr)	$1.40

Table 3-2-2 Mattie Rhodes Benchmarking

Metric	Value
Benchmark Source	CBECS - Office
Benchmark EUI (kBtu/sf/yr)	52.9
Target EUI [building] (kBtu/sf/yr)	38.3
Target EUI [site] (kBtu/sf/yr)	38.3
Target WUI (gal/sf/yr)	3.6
Target ECI [site] ($/sf/yr)	$1.06
Target UCI ($/sf/yr)	$1.19
Annual Energy Savings to Reach Target	114,812
Annual Cost Savings to Reach Target	$3,561

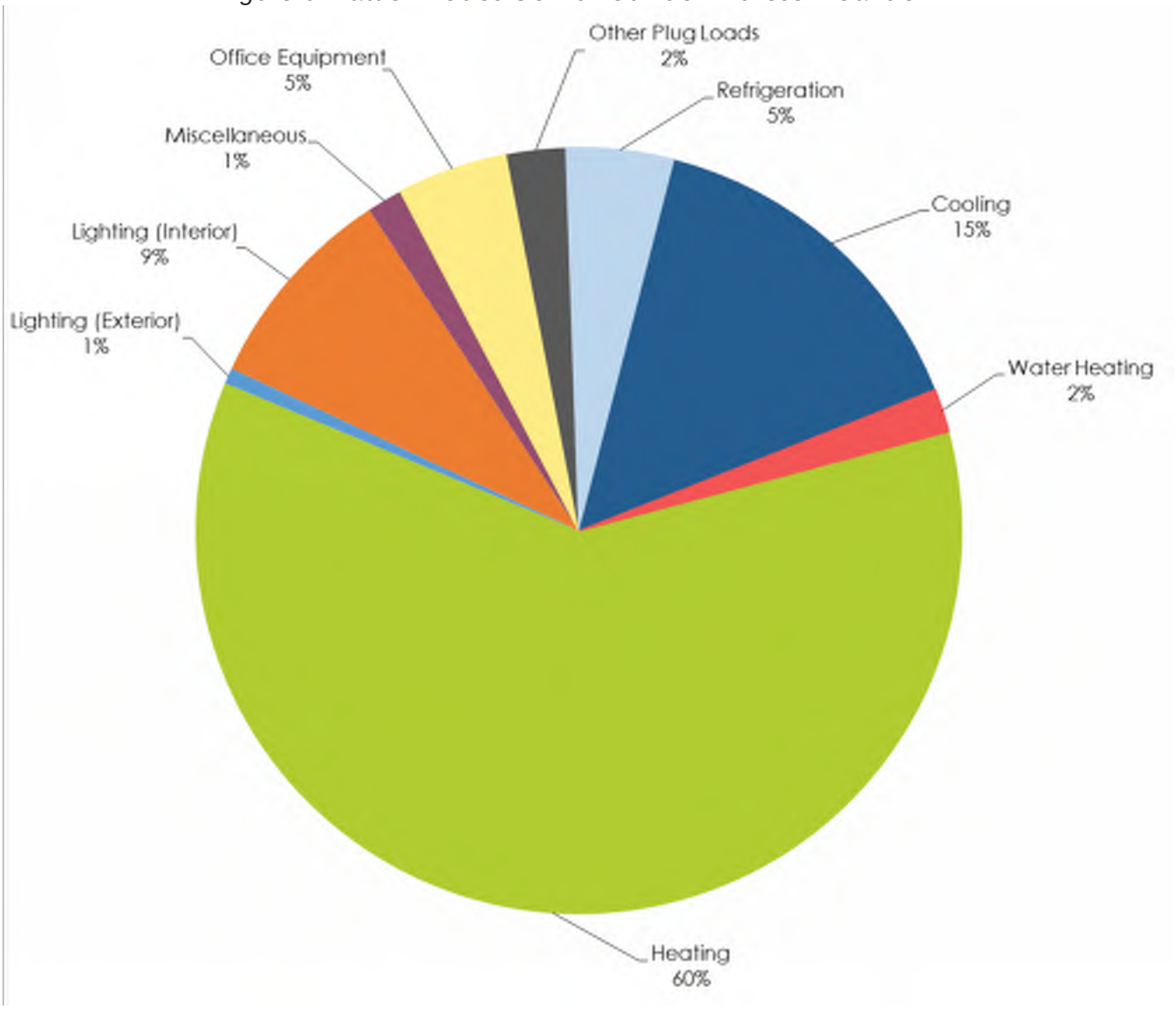
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at Mattie Rhodes and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 Mattie Rhodes Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	-	0.0%	$0	463	96.6%	$6,485	$6,485
Lighting (Exterior)	1,500	1.8%	$258	-	0.0%	$0	$258
Lighting (Interior)	19,800	23.6%	$3,412	-	0.0%	$0	$3,412
Miscellaneous	1,185	1.4%	$204	7	1.5%	$104	$308
Office Equipment	10,500	12.5%	$1,809	-	0.0%	$0	$1,809
Other Plug Loads	5,600	6.7%	$965	-	0.0%	$0	$965
Refrigeration	10,200	12.1%	$1,758	-	0.0%	$0	$1,758
Cooling	33,600	40.1%	$5,790	-	0.0%	$0	$5,790
Water Heating	1,500	1.8%	$258	9	1.9%	$126	$385
Total	83,885	100%	$14,456	479	100%	6,715	$21,171

Figure 6 Mattie Rhodes Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Mattie Rhodes that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for Mattie Rhodes.

4-1.2 HVAC

1. Thermostats: Mattie Rhodes currently has standalone thermostats in each zone. Some thermostats were noted with inaccurate or no scheduling programming. Correcting or adding occupancy scheduling can reduce runtime hours and save energy. Additionally, some thermostats may require recalibration to ensure they are sensing and controlling temperatures accurately.
2. Maintenance: Mattie Rhodes maintenance staff routinely checks for repairs needed and replaces equipment filters. Additional and improved maintenance practices such as coil cleaning and insulation repair can improve equipment efficiency and longevity.
3. Test, Adjust & Balance: Correcting building pressure and the distribution of air is known as TAB, and it is recommended for new and old buildings. Mattie Rhodes experiences significant temperature swings between zones, as well as cold temperatures in winter and humidity issues in summer, which can be caused by negative building pressure pulling outside air in through all building openings. Balancing can also correct exhaust and outside air to meet code requirements while minimizing excess energy consumption.

4-1.3 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. Mattie Rhodes can reduce air leakage by replacing failed window seals, repairing roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for Mattie Rhodes that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for Mattie Rhodes.

4-2.2 Lighting

1. LED Replacements: Mattie Rhodes primarily uses fluorescent lighting. Replacement with LED lighting significantly reduces electricity consumption and operating cost. LEDs use 60-90% less energy, last 3-50 times longer, and emit very little heat compared to older lighting technologies.

4-2.3 HVAC

1. HVAC System Upgrades: Mattie Rhodes has several split systems that are beyond useful life and operating at degraded efficiency. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. Additionally, a comprehensive test-adjust-balance should be performed in conjunction with HVAC replacement, and any equipment not replaced should receive a tune-up service. These additional steps can significantly improve occupant comfort and overall system performance.
2. HVAC Controls: Mattie Rhodes currently has standalone thermostats with no controls system. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, Mattie Rhodes can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability.

4-3 Recommended Measures Summary

Measure Description (in order by priority)	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
LED Lighting	$1,750	$250	5.7	10,683	-	$16,500	None	10-15	$16,500	12.1%	8.3
HVAC System Upgrades	$3,750	$500	8.2	11,176	132.8	$250,000	$2,500	15-20	$247,500	1.7%	58.2
HVAC Controls Upgrades	$1,600	-	0.8	3,851	66.0	$14,500	$350	10-15	$13,150	12.2%	8.2
Envelope Sealing	$400	$100	-	1,000	13.9	$8,500	None	10-15	$8,500	5.9%	17.0
Totals	$7,500	$850	14.7	26,710	212.7	$289,500	$2,850	-	$286,650	2.9%	34.3

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of Mattie Rhodes and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
LED Lighting	Contractor install new fixtures where existing lighting is not LED, stipulate new fixture cost. Contractor may be required to eliminate ballasts where applicable, and fixture costs may be higher than expected due to unique historic nature of existing round multi-bulb fixtures
HVAC System Upgrades	Cost per ton for new equipment and install labor costs
HVAC Controls Upgrades	Cost per new smart thermostat and material and install labor costs
Envelope Sealing	Estimated cost for comprehensive envelope sealing

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
LED Lighting	Fixture cost times estimated quantity plus estimated labor cost, assuming contractor install
HVAC System Upgrades	Cost per ton times capacity plus estimated labor, assuming ALL existing split systems are replaced (see HVAC inventory)
HVAC Controls Upgrades	9 total thermostats to control all existing systems, plus estimated wire needed and labor
Envelope Sealing	Estimated labor and material cost, varies significantly by subcontractor depth of scope

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of Mattie Rhodes, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
LED Lighting	Stipulated wattage of new fixtures and utility rates
HVAC System Upgrades	Annual EFLHs (run hours) and new equipment efficiencies
HVAC Controls Upgrades	Annual EFLHs (run hours) and controls system reduction %
Envelope Sealing	Average energy usage reduction from envelope upgrades

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) - (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) - (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for the solar measure were calculated according to the following formula.

Table 5-2-3 Solar Savings Calculations

Annual Savings (kWh)	$E = A * r * H * PR$
Variables	E = Energy (kWh) A = Total Solar Array Area (m^2) r = Solar Panel Yield (%) H = Annual Average Irradiation on Panels PR = Performance Ratio, Coefficient for Losses

3. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-4 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} - Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

4. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-5 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity SEER = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
LED Lighting	Lighting	10,683	-	36,450	50%	-	50%
HVAC System Upgrades	Heating & Cooling	11,176	133	170,933	33%	29%	30%
HVAC Controls Upgrades	Heating & Cooling	3,851	66	79,140	11%	14%	14%
Envelope Sealing	Heating & Cooling	1,000	14	17,312	3%	3%	3%
Total Savings (This Sheet)		26,710	213	303,835	32%	44%	40%
Total Savings (Measures Summary)		26,710	213	303,835			
Total Historical Use		83,885	479	765,416			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 Mattie Rhodes Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
5/21/2024	6/20/2024	9,869	34.9	$1,774.53
6/20/2024	7/21/2024	11,707	41.4	$2,240.51
7/21/2024	8/20/2024	11,405	36.9	$2,133.19
8/21/2024	9/20/2024	8,997	36.6	$1,843.96
9/20/2024	10/22/2024	6,201	26.8	$1,110.69
10/22/2024	11/21/2024	4,806	28.1	$812.50
11/21/2024	12/23/2024	5,410	16.8	$750.74
12/23/2024	1/24/2025	5,420	17.0	$754.24
1/24/2025	2/25/2025	5,723	18.3	$802.29
2/25/2025	3/26/2025	4,761	13.6	$682.53
3/26/2025	4/24/2025	4,613	13.4	$738.63
4/24/2025	5/23/2025	5,932	20.1	$982.97
	Total	84,844	304.0	$14,627

Table 6-1-2 Mattie Rhodes Natural Gas Utility Data

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
6/4/2024	7/1/2024	0.5	$695.00
7/2/2024	8/1/2024	0.6	$695.00
8/2/2024	9/3/2024	0.7	$695.00
9/4/2024	10/1/2024	0.6	$695.00
10/2/2024	11/1/2024	4.5	$695.00
11/2/2024	12/2/2024	58.7	$695.00
12/3/2024	1/1/2025	105.0	$695.00
1/2/2025	2/3/2025	147.2	$370.00
2/4/2025	3/3/2025	117.6	$370.00
3/4/2025	4/1/2025	32.1	$370.00

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
4/2/2025	5/1/2025	10.8	$370.00
5/2/2025	6/1/2025	0.8	$370.00
	Total	479.2	$6,715

Table 6-1-3 Mattie Rhodes Water & Sewer Utility Data

Start Date	End Date	Water & Sewer Use (kGal)	Water & Sewer Cost ($)
6/5/2024	7/6/2024	6.3	$215.57
7/6/2024	8/6/2024	9.5	$292.16
8/6/2024	9/6/2024	7.1	$235.17
9/6/2024	10/6/2024	6.3	$213.32
10/6/2024	11/3/2024	5.8	$198.14
11/3/2024	12/4/2024	6.1	$212.01
12/4/2024	1/4/2025	4.0	$173.52
1/4/2025	2/4/2025	4.7	$205.65
2/4/2025	3/7/2025	5.2	$188.86
3/7/2025	4/7/2025	6.1	$221.56
4/7/2025	5/7/2025	6.1	$223.50
5/7/2025	6/7/2025	6.1	$237.33
	Total	73.2	$2,617

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Rate Schedule 1SGAE

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 17A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 17A

For Missouri Retail Service Area

Small General Service – All Electric (FROZEN)
Schedule SGA

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1SGAE

A. CUSTOMER CHARGE (per month):

Customer pays one of the following charges based upon the Facilities Demand:

0 - 24 kW	$18.69
25-199 kW	$51.81
200-999 kW	$105.24
1000 kW or above	$898.57

B. FACILITIES CHARGE:

Per kW of Facilities Demand per month

First 25 kW	$0.000
All kW over 25 kW	$3.011

C. ENERGY CHARGE:

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.16583 per kWh	$0.11803 per kWh
Next 180 Hours Use per month:	$0.07871 per kWh	$0.05291 per kWh
Over 360 Hours Use per month:	$0.07010 per kWh	$0.05679 per kWh

Table 6-2-2 Spire Residential Rate Schedule

Monthly Rates

Residential Customers

Effective November 15, 2024

Customer charge (per month)	$20.00
Winter billing (Nov. - Apr.)	$0.37404 per CCF
Summer billing (May - Oct.) - 1st 50 CCF	$0.33660 per CCF
Summer billing (May - Oct.) - over 50 CCF	$0.41527 per CCF

Purchased Gas Adjustment (PGA): $0.60139

6-3 Appendix C – Lighting Inventory

Table 6-3-1 Mattie Rhodes Lighting Inventory

Location	Lighting Type	Fixture Type	Control Type	Approx. Quantity	Watts per Fixture	Total Watts
Lobby/Office	Fluorescent	Round Flush-Mount	Wall Switch	3	96	288
Lobby/Office	Fluorescent	Linear Tube	Wall Switch	4	128	512
Lobby/Office	Fluorescent	Linear Tube	Wall Switch	1	64	64
Stairwells	Fluorescent	Round Flush-Mount	Wall Switch	22	64	1,408
Basement	LED	Recessed Can	Motion Sensor	75	8	600
Basement	LED	Single Bulb	Motion Sensor	2	8	16
Basement	LED	Linear Tube	Motion Sensor	18	12	216
Basement	Fluorescent	Recessed Can	Motion Sensor	5	32	160
Basement	Fluorescent	Linear Tube	Motion Sensor	4	32	128
Mechanical	LED	Single Bulb	Wall Switch	3	8	24
1st Floor	LED	Round Flat Panel	Wall Switch	8	12	96
1st Floor	Fluorescent	Round Flush-Mount	Wall Switch	2	64	128
1st Floor	Fluorescent	Round Flush-Mount	Wall Switch	4	96	384
1st Floor	Fluorescent	Linear Tube	Wall Switch	7	64	448
1st Floor	Fluorescent	Linear Tube	Wall Switch	10	128	1,280
2nd Floor	Fluorescent	Round Flush-Mount	Wall Switch	2	64	128
2nd Floor	Fluorescent	Round Flush-Mount	Wall Switch	22	96	2,112
2nd Floor	LED	Round Flat Panel	Wall Switch	8	12	96
2nd Floor	Fluorescent	Linear Tube	Wall Switch	14	48	672
3rd Floor	Fluorescent	Round Flush-Mount	Wall Switch	21	96	2,016
3rd Floor	LED	Round Flat Panel	Wall Switch	16	12	192

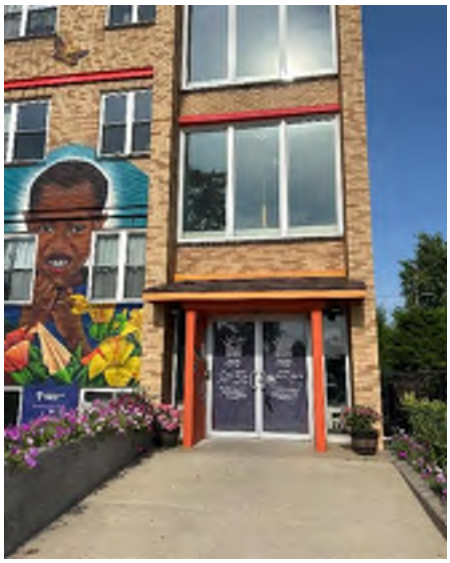
6-4 Appendix D – HVAC Inventory

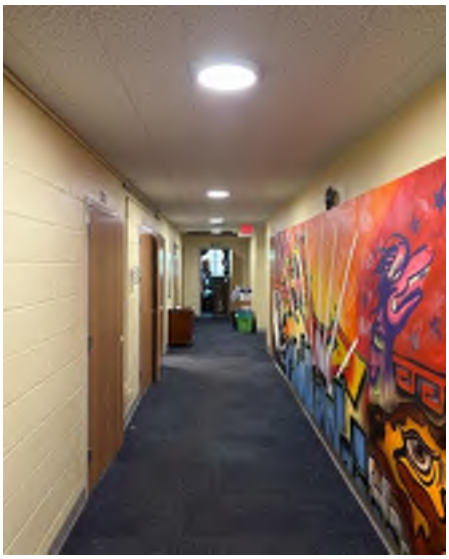
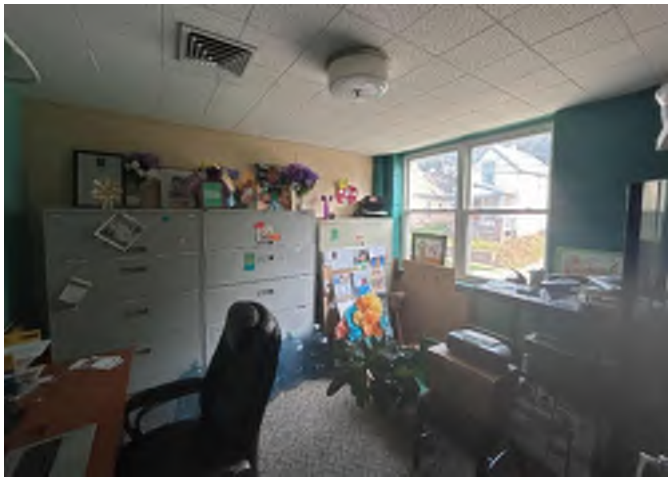
Table 6-4-1 Mattie Rhodes HVAC Equipment

ID	Location	Type	Area Served	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
CU-1	Roof	Condensing Unit	Basement	Trane	2TTB3042A100	2005	3.5 Tons	13 SEER	2/5 Poor	Replace
CU-10	Roof	Condensing Unit	3rd Floor	Trane	2TTX4048B100	2006	4 Tons	14 SEER	2/5 Poor	Replace
CU-11	Roof	Condensing Unit	3rd Floor	Trane	2TTX4048B100	2006	4 Tons	14 SEER	2/5 Poor	Replace
CU-2	Roof	Condensing Unit	Basement	Trane	2TTB3048A100	2005	4 Tons	13 SEER	2/5 Poor	Replace
CU-3	Roof	Condensing Unit	1st Floor	Trane	2TTB3036A100	2008	3 Tons	13 SEER	2/5 Poor	Replace
CU-4	Roof	Condensing Unit	1st Floor	Trane	2TTB3036A100	2005	3 Tons	13 SEER	2/5 Poor	Replace
CU-5	Roof	Condensing Unit	1st Floor	Trane	2TTB3048A100	2005	4 Tons	13 SEER	2/5 Poor	Replace
CU-6	Roof	Condensing Unit	2nd Floor	Trane	2TTX4042B100	2006	3.5 Tons	14 SEER	2/5 Poor	Replace
CU-7	Roof	Condensing Unit	2nd Floor	Trane	2TTX4042B100	2006	3.5 Tons	14 SEER	2/5 Poor	Replace
CU-8	Roof	Condensing Unit	2nd Floor	Trane	2TTX4042B100	2006	3.5 Tons	14 SEER	2/5 Poor	Replace
CU-9	Roof	Condensing Unit	3rd Floor	Trane	2TTX4042B100	2006	3.5 Tons	14 SEER	2/5 Poor	Replace
F-1	Basement Mech	Furnace	Basement	Trane	TUD120G960K4	2005	96 MBH	80% AFUE	2/5 Poor	Replace
F-10	3rd Floor Mech	Furnace	3rd Floor	Trane	TUD1C100A961	2005	79 MBH	80% AFUE	2/5 Poor	Replace
F-11	3rd Floor Mech	Furnace	3rd Floor	Trane	TUD1C100A961	2005	79 MBH	80% AFUE	2/5 Poor	Replace
F-2	Basement Mech	Furnace	Basement	Trane	TUD120C960K4	2004	96 MBH	80% AFUE	2/5 Poor	Replace

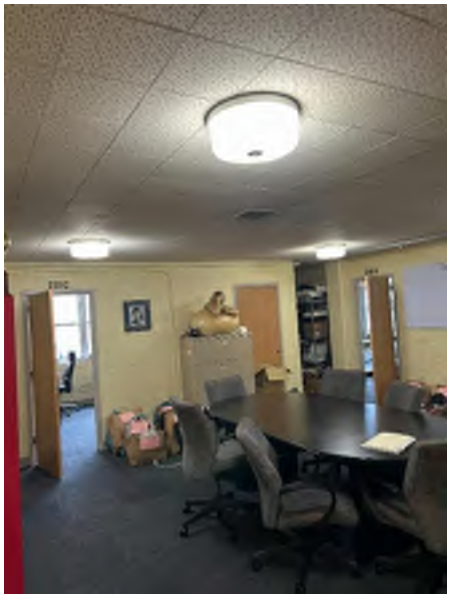
ID	Location	Type	Area Served	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
F-3	1st Floor Mech	Furnace	1st Floor	Trane	TUD100C948K4	2005	79 MBH	80% AFUE	2/5 Poor	Replace
F-4	1st Floor Mech	Furnace	1st Floor	Trane	TUD100C948K4	2005	79 MBH	80% AFUE	2/5 Poor	Replace
F-5	1st Floor Mech	Furnace	1st Floor	Trane	TUD120C960K4	2004	96 MBH	80% AFUE	2/5 Poor	Replace
F-6	2nd Floor Mech	Furnace	2nd Floor	Trane	TUD1C100A9481	2006	79 MBH	80% AFUE	2/5 Poor	Replace
F-7	2nd Floor Mech	Furnace	2nd Floor	Trane	TUD1C100A9481	2006	79 MBH	80% AFUE	2/5 Poor	Replace
F-8	2nd Floor Mech	Furnace	2nd Floor	Trane	TUD1C100A9481	2006	79 MBH	80% AFUE	2/5 Poor	Replace
F-9	3rd Floor Mech	Furnace	3rd Floor	Trane	TUD1C100A961	2005	79 MBH	80% AFUE	2/5 Poor	Replace

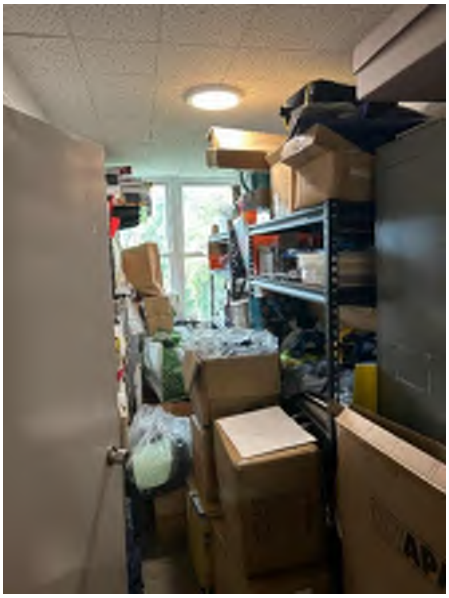
6-5 Appendix E – Photos










Aprilaire



reStart

Level 2 Audit Report

September 2025

entegrity

energy. integrity.

17300 West 116th St. Lenexa, KS 66219 | www.entegritypartners.com

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including reStart.

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including reStart, received a Level 2 ASHRAE energy audit.

reStart provides housing and services to people affected by homelessness, including adults, families, youth, pregnant and new mothers, and individuals referred for mental health and/or addiction services. All individuals served by reStart's shelters live at or below the poverty level, and 58% lack health insurance. reStart provides over 90,000 bed nights of shelter and over 100,000 meals annually.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for reStart, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with reStart.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	reStart
Building Owner	reStart, Inc.
Energy Auditor(s)	Hannah Parker
Street Address	918 E 9th St, Kansas City, MO, 64106
Date of site visit(s)	9/24/2024
Primary Building Use Type	Multifamily Housing
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1

Metric	Value
Client Name	reStart
Point of Contact	Patty Craft

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential.

Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of reStart facilities. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to the reStart's energy costs or operational requirements at a given facility.

As previously reported, reStart has worked hard in recent years to chip away at the many facility improvements that are needed. Recent projects include a roof replacement, 5th floor window replacements, LED lighting upgrades, bathroom remodels, and upgrades to a portion of the HVAC system, including new boilers ahead of the heating season. Many of the remaining systems are aging or nearing the end of useful life, including several partially- or non-functional HVAC units. This leads to high maintenance and parts costs and poor energy performance.

Utility data analysis provides a lens into building energy performance and potential for savings. An updated utility analysis shows that reStart spends over $176,000 per year on electric, gas, and water utilities. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. reStart's facilities currently underperform the benchmark for multifamily housing facilities by 29.6%. This indicates that there is significant opportunity for investment and improvement which can reduce long-term utility and operational costs.

This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including occupancy scheduling, improved maintenance, water conservation, HVAC upgrades, HVAC controls, and envelope sealing.

1-2 Facility Description

Entegrity audited reStart on September 24, 2024. This facility serves as the operations center for reStart and a housing complex which serves as a shelter and provides meal service. Areas within the facility include a lobby, offices, meeting spaces, a cafeteria, kitchen, and dorm-style and quad-style housing units.

The reStart shelter was originally constructed in the 1920s, and portions of the facility served as a convent. The facility is located in Kansas City, MO and primarily serves people in the KCMO metro area. The focus of reStart is to provide meals, housing, and medical services to community members, families, and youth experiencing homelessness. Reduction in utility and maintenance costs would free up money in reStart's annual budget that could be re-allocated to programs, services, and additional facility improvements.

During the audit, Entegrity identified several factors that affect building energy and operating costs. The facility experiences frequent plumbing issues and backups. Additionally, there is poor zone temperature control, but staff receives few complaints as residents are grateful to be housed. reStart maintenance personnel do well to ensure that equipment is functioning properly. There is room for improvement in occupant comfort, which is impacted by a lack of proper HVAC functionality and scheduling, as well as building envelope air leakage.

Figure 1 *reStart*



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of reStart, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

As previously reported, all lighting fixtures at reStart have been retrofitted with LED lighting. There are a variety of HVAC system types, including condensing unit/fan coil unit split systems, packaged units, steam boilers, radiators, and window air conditioners. There are several refrigerators and freezers and other commercial kitchen equipment. The facility envelope is a brick exterior with a mix of single- and double-pane windows, some operable, and an asphalt flat roof.

In the following section, Entegrity presents the facility data that we collected for reStart during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 reStart Characteristics

Metric	Value
Year of Construction	1924/1960
Last Renovation	No recent major renovations
Year of Prior Energy Audit	2024 – Entegrity Level 1 Audit
Year Last Commissioned	N/A
Building Automation System	None
Historical Landmark Status	No
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	64,000
Total Conditioned Area (ft^2)	64,000
Heated Only (ft^2)	N/A
Cooled Only (ft^2)	N/A

Metric	Value
Total Number of Floors	6
Conditioned Floors Above Grade	5
Conditioned Floors Below Grade	1
Spaces Excluded from Gross Floor Area	West Building (Convent)

2-1.2 Occupancy Information

The table below outlines the typical occupancy of reStart in a typical year of operations.

Table 2-1-2 reStart Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	168
Typical Occupancy (weeks per year)	52
Typical number of occupants (during occupied hours)	50-200
Number of Dwelling Units in Building (Multifamily Only)	94
% of Dwelling Units currently Occupied (Multifamily Only)	90-95%

2-1.3 Space Functions

The table below outlines how reStart utilizes the spaces in the facility for a variety of different functions and operations.

Table 2-1-3 reStart Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Multifamily Housing - Dwelling Units	50,000	78%
Multifamily Housing - Common Areas	6,500	10%
Food Service	3,000	5%
Office	2,500	4%
Medical Office	2,000	3%
Total	64,000	100%

Table 2-1-4 reStart Space Function Breakdown

Space Description	Residential Housing Units	Multipurpose Rooms & Lounges	Cafeteria & Kitchen	Offices & Admin	Emergency Shelter, Mental Health Services
Space Function Type	Multifamily Housing - Dwelling Units	Multifamily Housing - Common Areas	Food Service	Office	Medical Office
Intended Use of Space	Multifamily Housing - Dwelling Units	Multifamily Housing - Common Areas	Food Service	Office	Medical Office
Gross Floor Area	50,000	6,500	3,000	2,500	2,000
Conditioned Area (%)	100%	100%	100%	100%	100%
Number of Occupants	10-125	1-50	1-150	20-40	45,347
Approx. Plug Loads (W/ft^2)	1.75-2.5	1.75-2.5	2.25-3.0	1.25-1.75	2.0-2.5
Space Use (hours/week)	168	60-100	70-90	40-50	120-168
Space Use (weeks/year)	52	52	52	52	52

2-1.4 Building Energy & Utility Sources

reStart is served electricity and natural gas as metered energy sources. Additionally, reStart is served water utilities by KC Water.

Table 2-1-5 reStart Building Energy Sources

Energy Source	Account Number	Utility Provider	Rate Code/Name
Electricity	3902752995	Evergy	1MGAE/1MGSE
Natural Gas	5551219367	Spire	Large Gen Commercial
	8251421111		Small Gen Commercial
Water	000062089 0065625 0	KC Water	Inside City Limits

2-2 Lighting & Plug Loads

reStart currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technology in use at reStart is LED, with all fixtures upgraded.

Table 2-2-1 reStart Facility Lighting Summary

Lighting Source Type	Fixture Type	Control Type	Space Type	% of Total Wattage
LED	Miscellaneous	Wall Switch	All (Residential, Shared Spaces, Offices, Clinic, etc.)	100%

Table 2-2-2 reStart Plug Load Summary

Process/Plug Load Description	Operational Details
Small Kitchen Appliances	Microwaves & Refrigerators in residential kitchens
Laundry Appliances	Available to resident use
Office Equipment	Copiers, Servers, Computers in use by staff
Commercial Kitchen Equipment	5 Refrigerators, 1 Freezer, Various Cooking Equipment
Televisions	Lobby, Youth Shelter, Lounge Areas

2-3 Heating, Ventilation & Air Conditioning

reStart is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving reStart is summarized in the table below.

Table 2-3-1 reStart Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Rooftop heat pump & fan coil unit
	Secondary Source	Radiators
	Fuel	Natural Gas & Electric
	Distribution	Fan coil units and split systems ducted to zones
	Other Considerations	Boiler replacement project completed in 2024-2025
Cooling	Primary Source	Rooftop heat pump & fan coil unit
	Secondary Source	Window air conditioners
	Distribution	Fan coil units and split systems ducted to zones
	Other Considerations	Some areas on floor with window units have no cooling
Ventilation	Outside Air	Primarily through operable windows
	Exhaust Fans	Rooftop exhaust fans – 6 total
Controls	Zone Controls	Temperature sensors in zones, no controllability
	Central Controls	Thermostats at the unit, no central controls system
	Other Considerations	Staff states there are minimal temperature complaints, mainly because residents are grateful to be housed
Hot Water	Primary Source	Large electric storage hot water heater in basement
	Secondary Source	Natural gas tankless water heaters
	Other Considerations	Tankless units may be non-functional per staff

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of reStart.

Table 2-4-1 reStart Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	Flat rolled asphalt, replaced within last 10 years
	Roofing Color	Light gray
	Area	10,045
	Condition	3/5 Good
Walls	Construction Type	Brick
	Condition	3/5 Good
Fenestrations	Frame Type	Aluminum
	Glass Type	Mix of Single-pane and double-pane
	Glazing % of Wall Area	20-30%
	Seal Condition	2/5 Poor
	Enclosure Tightness	2/5 Poor
	Exterior Door Type	Hollow metal doors

Section 3 Historical Utility Data

3-1 Utility Analysis

Entegrity has calculated usage and cost data for the below electric, gas, and water meters associated with audited reStart facilities. Utility data provided varied by billing months, so the baseline period is not the same for each utility type. Utility data was analyzed from the period beginning July 2024 and ending June 2025 for electricity, beginning August 2024 and ending July 2025 for natural gas, and beginning March 2024 and ending February 2025 for water & sewer.

Table 3-1-1 Annual Utility Expenses

Electricity	kWh	884,134	$104,391
Natural Gas	MMBtu	1,926.7	$20,322
Water & Sewer	kGal	2,086.0	$51,964

Figure 2 reStart Utility Cost Breakdown

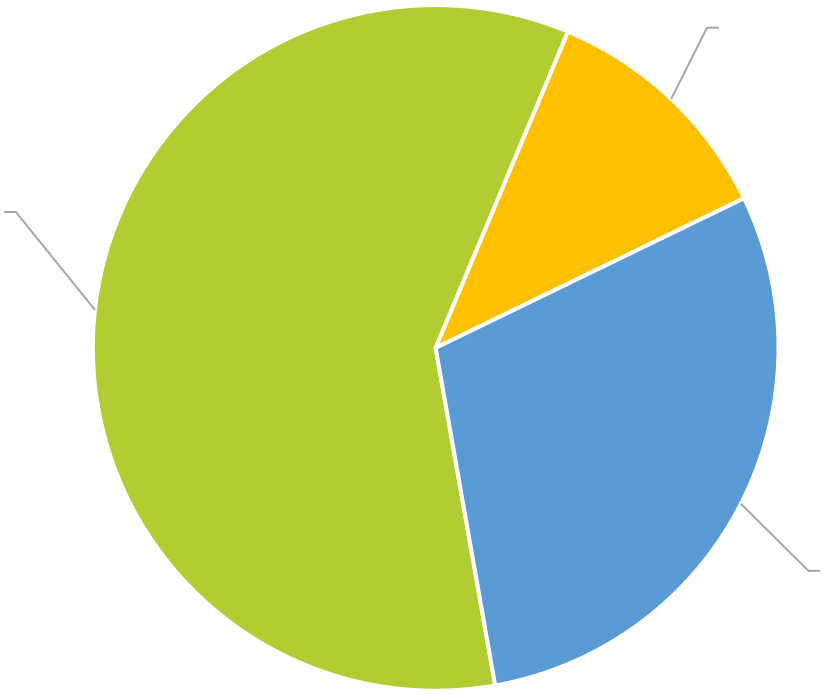


Figure 3 reStart Utility Cost Monthly Breakdown – Baseline Months

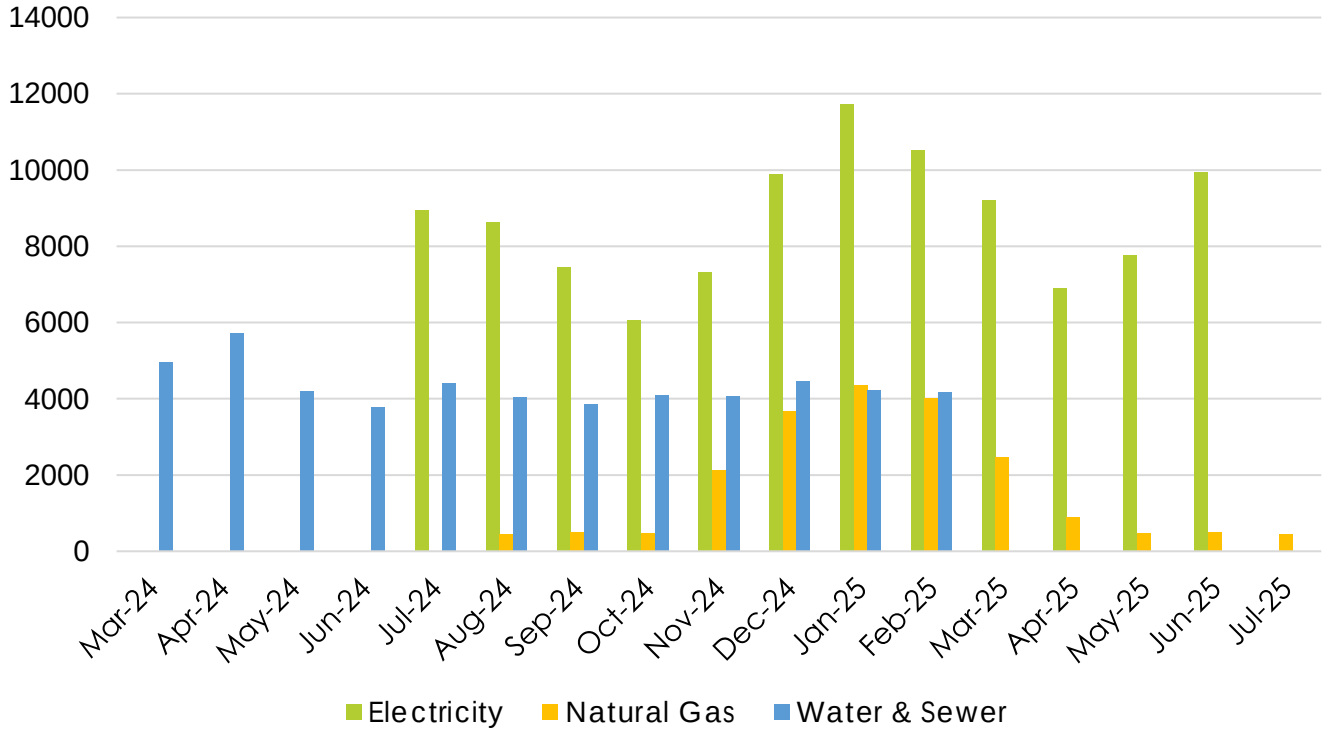
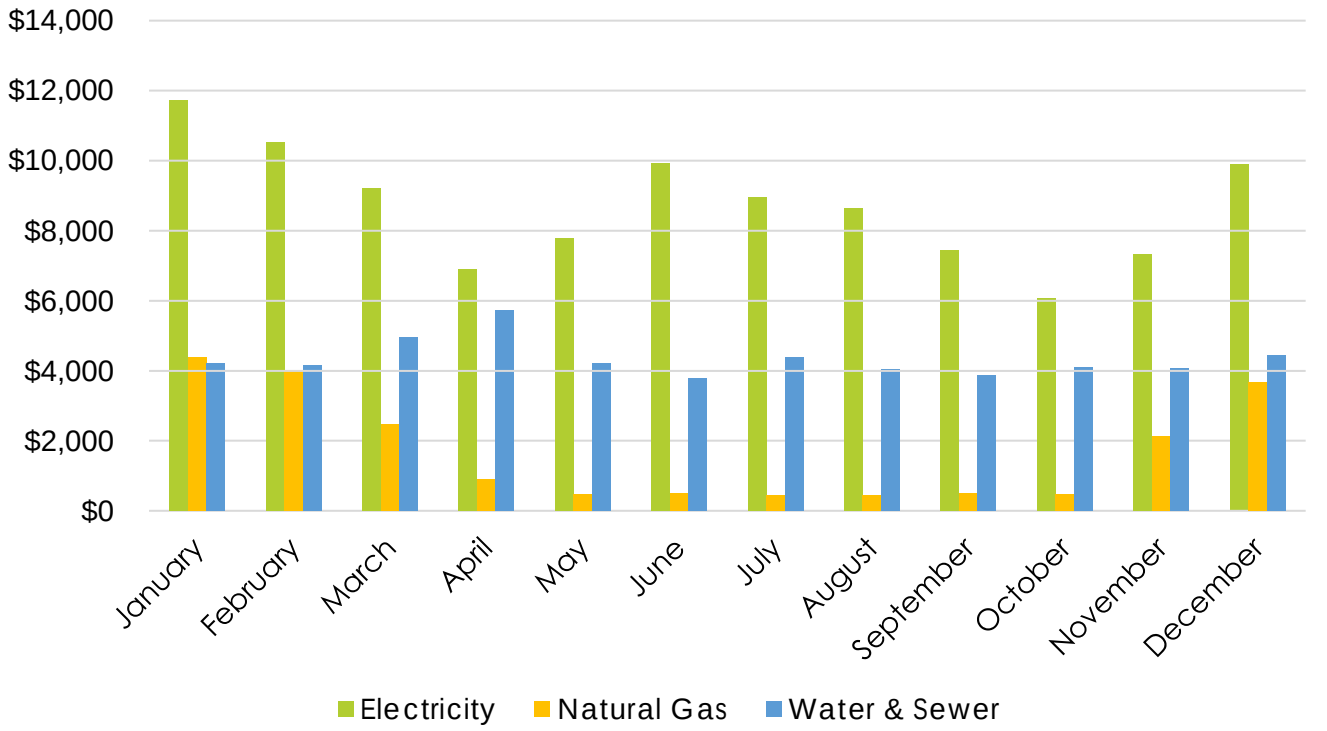


Figure 4 reStart Utility Cost Monthly Breakdown – Calendar Months Aligned



3-1.1 Electricity

Entegrity has calculated annual electricity usage, demand, and cost data for audited reStart facilities. reStart is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for reStart, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-2 Electric Data by Account

Account ID	Consumption (kWh)	Demand (kW)	Base Year Cost ($)	Electric Rate ($/kWh)	Demand Rate ($/kW)
918 E 9th	742,702	194.0	$86,056	$0.1011	$9.249
922 E 9th	141,433	29.6	$18,335	$0.1047	$9.145
Total	884,134	223.6	$104,391	$0.1017	$9.235

Figure 5 reStart Electric Consumption Monthly Breakdown



3-1.2 Natural Gas

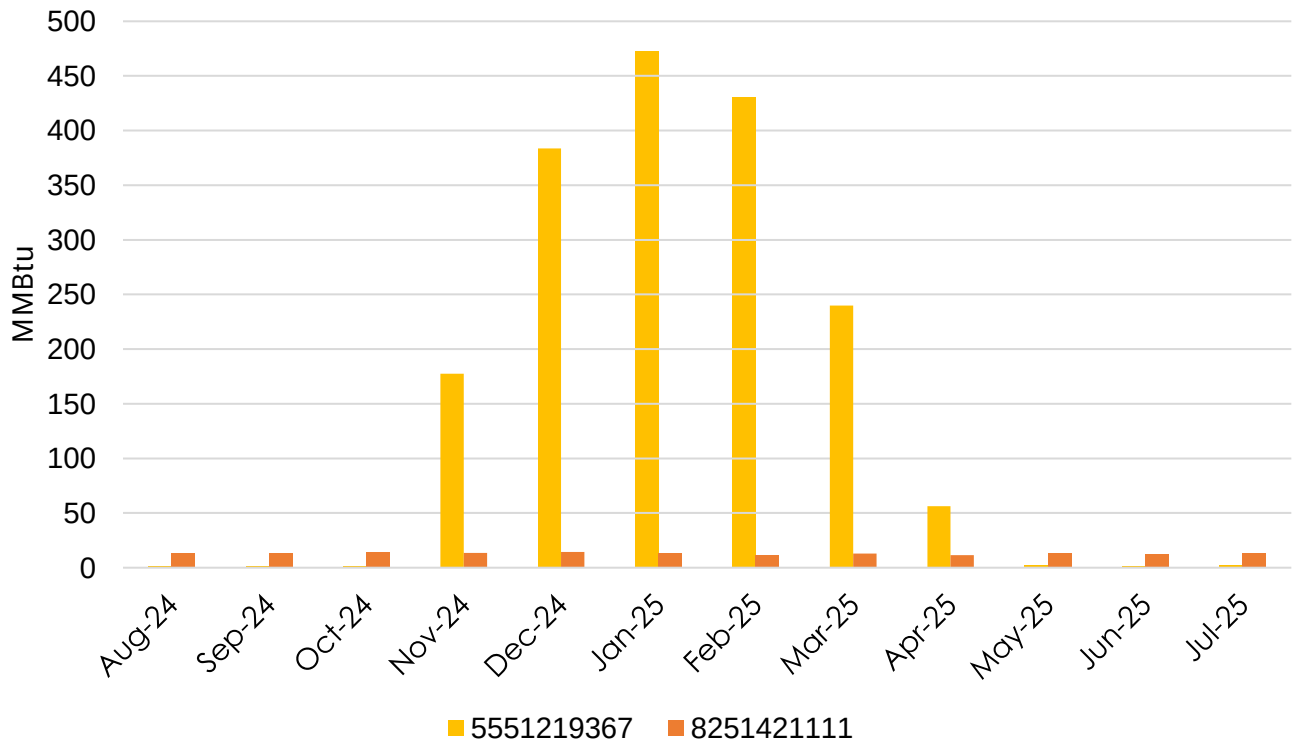
Entegrity has calculated natural gas usage and cost data for the audited reStart facilities. reStart is served natural gas by Spire. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for reStart, it was determined that there are no potential adjustments for the natural gas utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-3 Natural Gas Utility by Account

Account ID	Base Year Usage (MMBtu)	Base Year Cost	Natural Gas Rate ($/MMBtu)
8251421111	156.5	$2,216	$10.65
5551219367	1,770.2	$18,105	$7.59
Total	1,926.7	$20,322	$7.84

Figure 6 reStart Natural Gas Utility Monthly Breakdown



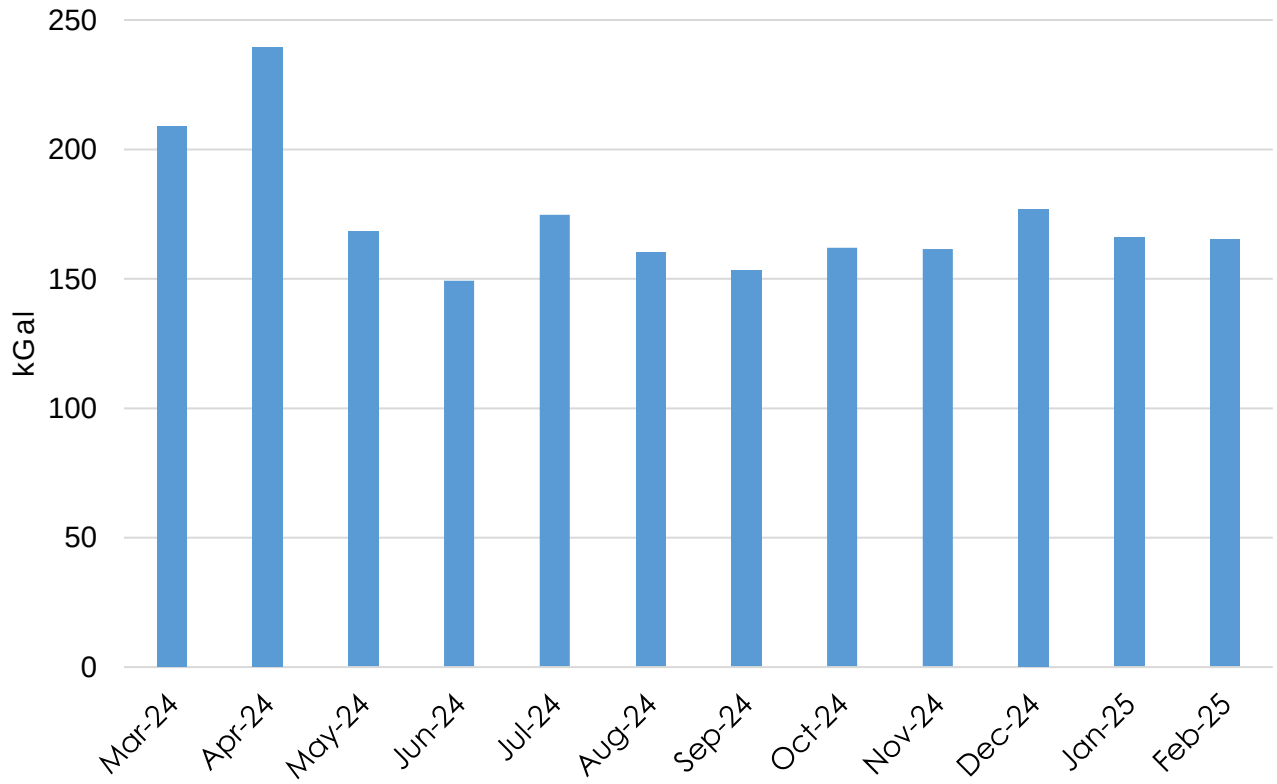
3-1.3 Water & Sewer

Entegrity has calculated water usage and cost data for the audited facilities. reStart is served water by KC Water. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and cost.

Table 3-1-4 Water Utility by Account

000062089 0065625 0	2,086	$51,964	$24.29

Figure 7 reStart Water Utility Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on reStart, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare reStart to a benchmarking target and determine the savings potential associated with reaching that target.

The target EUI, ECI, WUI, and UCI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 reStart Performance

Metric	Value
Conditioned Square Feet	64,000
Energy Use Intensity [building] (kBtu/sf/yr)	77.2
Energy Use Intensity [site] (kBtu/sf/yr)	77.2
Water Use Intensity (Gal/sf/yr)	32.6
Energy Cost Index ($/sf/yr)	$1.95
Utility Cost Index ($/sf/yr)	$2.76

Table 3-2-2 reStart Benchmarking

Metric	Value
Benchmark Source	Energy Star - CBECS
Benchmark EUI (kBtu/sf/yr)	59.6
Target EUI [building] (kBtu/sf/yr)	65.7
Target EUI [site] (kBtu/sf/yr)	65.7
Target WUI (Gal/sf/yr)	27.7
Target ECI [site] ($/sf/yr)	$1.66
Target UCI ($/sf/yr)	$2.35
Annual Energy Savings to Reach Target (kBtu)	741,509
Annual Water Savings to Reach Target (kGal)	312.9
Annual Cost Savings to Reach Target	$26,501

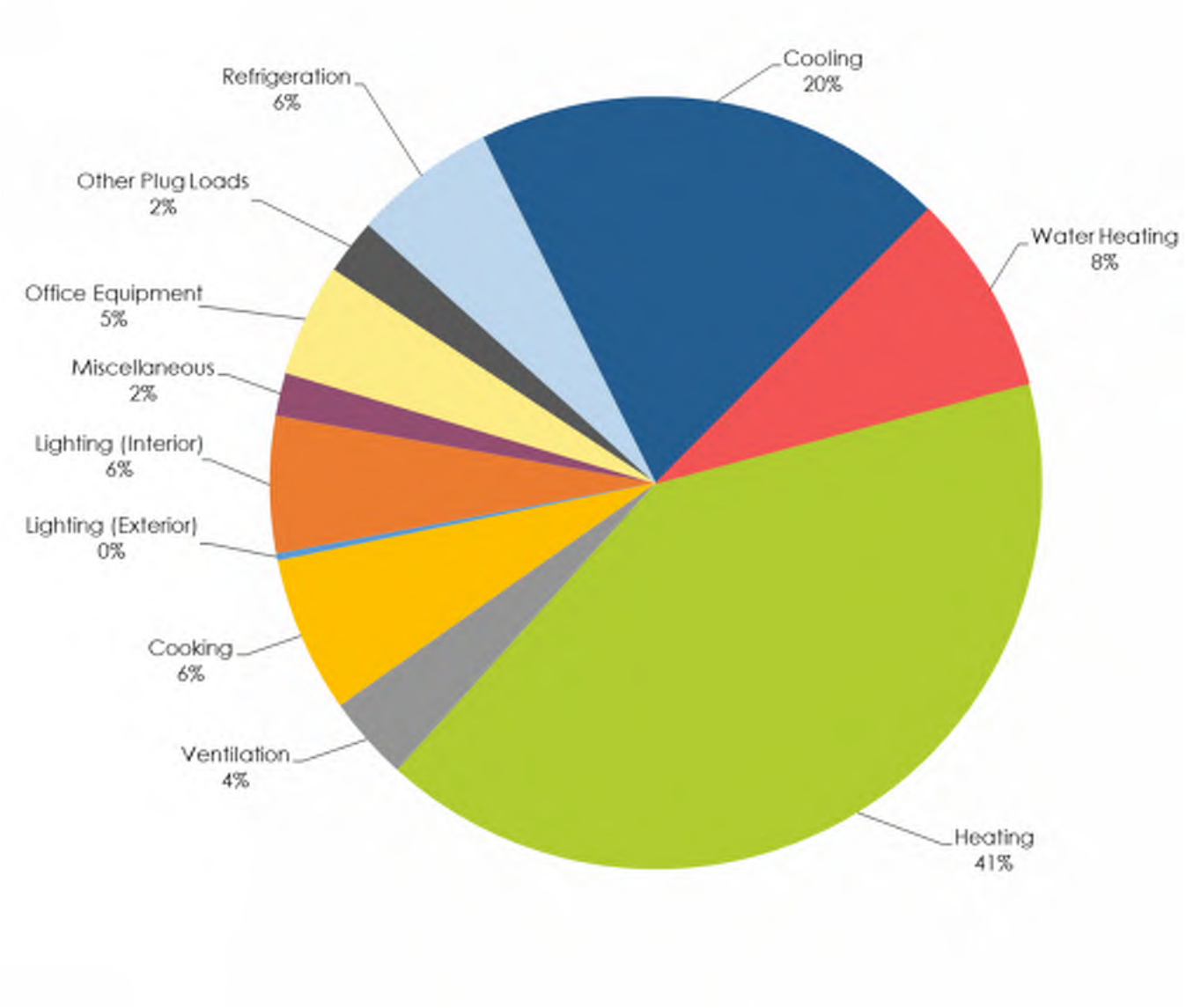
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity and natural gas at reStart and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 reStart Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost	MMBtu	% Total MMBtu	MMBtu Cost	Total Cost
Heating	186,500	21.1%	$22,020	1,383	71.8%	$14,585	$36,605
Ventilation	51,500	5.8%	$6,081	-	0.0%	$0	$6,081
Cooking	24,500	2.8%	$2,893	240	12.5%	$2,531	$5,424
Lighting (Exterior)	4,300	0.5%	$508	-	0.0%	$0	$508
Lighting (Interior)	82,800	9.4%	$9,776	-	0.0%	$0	$9,776
Miscellaneous	16,534	1.9%	$1,952	34	1.8%	$359	$2,311
Office Equipment	68,000	7.7%	$8,029	-	0.0%	$0	$8,029
Other Plug Loads	34,000	3.8%	$4,014	-	0.0%	$0	$4,014
Refrigeration	86,500	9.8%	$10,213	-	0.0%	$0	$10,213
Cooling	287,500	32.5%	$33,946	-	0.0%	$0	$33,946
Water Heating	42,000	4.8%	$4,959	270	14.0%	$2,847	$7,806
Total	884,134	100%	$104,391	1,927	100%	20,322	$124,713

Figure 8 reStart Combined Fuel End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for reStart that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for reStart.

4-1.2 Lighting

1. Turn Lights Off: Simply put, turn off lights when not in use. Areas such as restrooms and offices were noted with lights left on while nobody was occupying the space. Signage near light switches can help staff and visitors remember to turn off the lights.

4-1.3 Plug Loads

1. Sleep Mode: The office equipment at reStart contributes to the electrical plug load. These devices consume power when in use, and they continue to use power when not in use without proper settings. Activate automatic sleep/power management functions on office equipment, such as computers, monitors, and printers to reduce plug load and energy consumption.
2. Refrigeration: A significant contributor to electricity consumption is refrigeration. reStart has refrigerators and freezers in the kitchen. To save energy and maximize appliance efficiency, clean refrigerator coils annually and replace door gaskets if the seal is compromised. For walk-in coolers and freezers, it is recommended that they be serviced annually.

4-1.4 HVAC

1. Thermostats: reStart currently has standalone thermostats for each unit, in most cases one thermostat per floor, and in many cases no thermostat where radiant heaters/window air conditioners are used. Some thermostats were noted with inaccurate or no scheduling programming. Correcting or adding occupancy scheduling can reduce runtime hours and save energy. Additionally, some thermostats may require recalibration to ensure they are sensing and controlling temperatures accurately.
2. Maintenance: reStart maintenance staff routinely checks for repairs needed and replaces equipment filters. Additional and improved maintenance practices such as coil cleaning and insulation repair can improve equipment efficiency and longevity.

4-1.5 Building Envelope

1. Envelope Sealing: Air leakage wastes energy by allowing excess amounts of conditioned air to leave the building or by unconditioned air entering the building through small openings. reStart can reduce air leakage by replacing failed window seals, repairing roof leaks, adding weather stripping to doors, and using caulk to seal cracks, gaps, and joints.
2. Window Shades: Windows allow light to illuminate spaces, but they also contribute to heating and cooling load. Some of the windows at reStart have shades, but many do not. Adding window shades allows occupants to control space lighting temperature, and recommending occupants close shades before leaving the building can reduce loads during unoccupied times.

4-1.6 Other

1. Educational Signage: Staff at reStart indicated that some residents, especially those who have experienced homelessness for extended periods of time, are not well educated on energy efficiency and facility maintenance best practices. A low-cost potential opportunity could be adding signage throughout the facility to inform and remind residents, such as turning off lights, closing windows, conserving hot water, and monitoring setpoints and space temperatures.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for reStart that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for reStart.

4-2.2 HVAC

1. HVAC Equipment Upgrades: reStart has several split systems that are beyond useful life and operating at degraded efficiency. The facility also uses window air conditioners and radiant heaters in the 3rd, 4th, and 5th floor residential areas in the North Wing of the facility. Window air conditioners are designed for high efficiencies, but they do not distribute air well and they allow significant air leakage through the window opening where they are installed. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. Additionally, a tune-up service of all equipment over 5 years old can help reduce future maintenance costs and ensure proper efficient operation of the entire HVAC system for years to come.
2. HVAC Controls: reStart does not currently have a central controls system. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, reStart can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability.
3. Domestic Water Heater Replacements: reStart uses one large electric water heater with supplemental gas heat. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, and renewed equipment longevity. New tankless water heater technologies also reduce energy consumption by eliminating wasted energy through tank losses and offering a point-of-use solution.

4-2.3 Building Envelope

1. Single-Pane Window Upgrades: Glazing is a vital component of building architecture, providing both natural light to occupants indoors and aesthetic appeal to buildings. reStart has aging single pane windows which offer little to no thermal barrier and are in need of replacement to improve the building envelope and reduce air leakage. One option is replacement of windows, which reStart has previously performed on the 5th floor of the building. Another solution exists where instead of a directly replacing single pane windows,

the existing single pane window remains and an additional windowpane on the interior side of the window is added that effectively converts the window to a double pane configuration.

4-2.4 Other

1. Water Conservation: Water is a resource that all building owners depend on for sanitation, food preparation, irrigation, sustenance, and other needs. While typically less expensive than electricity and other utilities over the course of a year, water costs can add up, and reStart spends more annually on water & sewer than on natural gas. Additionally, saving water typically also yields savings on the monthly sewer bill, and reducing hot water usage yields electric and gas savings. reStart can significantly save on water utility costs by retrofitting flush valves on urinals and water closets and installing flow restrictors on faucets. It is recommended that as part of any water conservation project the plumbing system be assessed for necessary repairs and/or cleaning to ensure the system continues to operate properly and efficiently with reduced water flow.

4-3 Recommended Measures Summary

Measure Description	Annual Energy and Cost Savings					Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Natural Gas [MMBtu]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
Envelope Sealing	$4,750	-	-	37,950	79.5	$15,000	None	5-10	$15,000	31.7%	3.2
HVAC Controls	$6,400	-	7.0	50,750	146.9	$53,000	$3,400	10-15	$49,600	12.9%	7.8
Water Conservation	$1,200	$11,500	-	6,300	35.5	$80,000	None	10-20	$80,000	15.9%	6.3
Water Heater Upgrades	$1,250	$500	-	8,350	34.5	$45,000	None	10-20	$45,000	2.8%	36.0
HVAC Upgrades	$6,650	$850	18.6	50,650	158.3	$350,000	$2,500	15-20	$347,500	2.2%	46.3
Single Pane Windows	$2,950	$150	-	23,000	58.5	$95,000	None	20-30	$165,000	1.9%	53.2
Totals	$23,200	$13,000	25.6	177,000	513.2	$708,000	$5,900	-	$702,100	5.2%	19.4

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of reStart and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
Envelope Sealing	Labor and material costs for comprehensive sealing upgrade
HVAC Controls	Cost per new smart thermostat and material and install labor costs
Water Conservation	Estimated fixture quantity and fixture/retrofit costs
Water Heater Upgrades	Cost per ton for new equipment and install labor costs
HVAC Upgrades	Cost per ton for new equipment and install/tune-up labor costs
Single Pane Windows	Estimated cost per window for new windows

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
Envelope Sealing	Estimated labor and material cost, varies significantly by subcontractor depth of scope
HVAC Controls	68 total thermostats plus estimated wire needed and labor
Water Conservation	Quantity times cost per fixture plus estimated labor
Water Heater Upgrades	System cost per ton times capacity plus estimated labor
HVAC Upgrades	Cost per ton times capacity plus estimated labor, assuming the following units are replaced (see HVAC inventory): HP/FCU-3, HP/FCU-7, HP/FCU-10, and all Window Air Conditioners, and the following units receive a tune-up service: HP/FCU-2, HP/FCU-9, HP/FCU-K, and RTU-KIT
Single Pane Windows	Cost per window times approximate quantity, varies significantly depending on window type and glass selection

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of reStart, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
Envelope Sealing	Average energy cost reduction from envelope upgrades
HVAC Controls	Annual EFLHs (run hours) and controls system reduction %
Water Conservation	Pre- and post- flow/flush rates and annual fixture usage
Water Heater Upgrades	Annual run time/energy usage and new equipment efficiency
HVAC Upgrades	Annual EFLHs (run hours) and new equipment efficiencies
Single Pane Windows	Average energy cost reduction from envelope upgrades

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) – (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) – (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-3 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} - Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

3. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-4 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER$ = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use			Savings Backchecks		
		Electricity (kWh)	Natural Gas (MMBtu)	Total Energy (kBtu)	% Electricity Savings	% Natural Gas Savings	% Total
Envelope Sealing	Heating & Cooling	37,950	80	208,985	8%	6%	7%
HVAC Controls	Heating & Cooling	50,750	147	320,059	11%	11%	11%
Water Conservation	Water Heating	6,300	36	56,996	15%	13%	14%
Water Heater Upgrades	Water Heating	8,350	35	62,990	20%	13%	15%
HVAC Upgrades	Heating & Cooling	50,650	158	331,118	11%	11%	11%
Single Pane Windows	Heating & Cooling	23,000	59	136,976	5%	4%	5%
Total Savings (This Sheet)		177,000	513.2	1,117,124	20.0%	26.6%	22.6%
Total Savings (Measures Summary)		177,000	513	1,117,124			
Total Historical Use		884,134	1,927	4,943,365			

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 reStart Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
7/12/2024	8/12/2024	67,829	170.8	$8,944.32
8/12/2024	9/11/2024	59,266	161.7	$8,179.52
9/11/2024	10/11/2024	53,869	155.0	$7,085.53
10/11/2024	11/12/2024	51,515	142.3	$5,654.82
11/12/2024	12/12/2024	78,111	258.3	$8,495.73
12/12/2024	1/14/2025	113,595	303.0	$11,176.35
1/14/2025	2/13/2025	114,089	371.8	$12,204.93
2/13/2025	3/17/2025	101,132	345.1	$11,287.75
3/17/2025	4/15/2025	54,251	195.5	$6,890.85
4/15/2025	5/14/2025	52,356	166.4	$6,487.41
5/14/2025	6/13/2025	63,348	177.4	$8,102.81
6/13/2025	7/15/2025	89,726	208.4	$11,899.33
	Total	899,087	2,656	106,409

Table 6-1-2 reStart Natural Gas Utility Data

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
8/3/2024	9/4/2024	15.9	$488.59
9/5/2024	10/2/2024	14.3	$470.06
10/3/2024	11/4/2024	16.6	$497.13
11/5/2024	12/3/2024	204.2	$2,247.65
12/4/2024	1/3/2025	410.9	$3,756.56
1/4/2025	2/4/2025	506.9	$4,558.38
2/5/2025	3/4/2025	441.2	$4,009.35
3/5/2025	4/2/2025	211.2	$2,088.37
4/3/2025	5/2/2025	62.3	$844.21

Start Date	End Date	Natural Gas Use (MMBtu)	Natural Gas Cost ($)
5/3/2025	6/3/2025	14.5	$460.29
6/4/2025	7/1/2025	13.0	$454.16
7/2/2025	8/4/2025	17.3	$491.48
	Total	1,928.3	$20,366.23

Table 6-1-3 reStart Water & Sewer Utility Data

Start Date	End Date	Water Use (Gal)	Water & Sewer Cost ($)
3/8/2024	4/7/2024	205,243	$4,868.62
4/7/2024	5/6/2024	239,876	$5,735.86
5/6/2024	6/7/2024	156,459	$3,957.54
6/7/2024	7/7/2024	149,899	$3,789.18
7/7/2024	8/7/2024	179,422	$4,516.52
8/7/2024	9/7/2024	155,830	$3,937.93
9/7/2024	10/8/2024	158,860	$4,012.22
10/8/2024	11/5/2024	147,116	$3,713.45
11/5/2024	12/6/2024	167,447	$4,222.82
12/6/2024	1/6/2025	178,532	$4,494.69
1/6/2025	2/5/2025	158,411	$4,025.41
2/5/2025	3/9/2025	192,206	$4,834.23
	Total	2,089,301	$52,108.47

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Rate Schedule 1MGSE

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month	$3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05884 per kWh
Over 360 Hours Use per month:	$0.05319 per kWh	$0.04751 per kWh

Table 6-2-2 Evergy Rate Schedule 1MGAE

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 18A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 18A

For Missouri Retail Service Area

Medium General Service – All Electric (FROZEN)
Schedule MGA

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGAE

A. CUSTOMER CHARGE (per month):

Customer pays one of the following charges based upon the Facilities Demand:

0 - 24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. FACILITIES CHARGE:

Per kW of Facilities Demand per month $3.223

C. DEMAND CHARGE:

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$3.038

D. ENERGY CHARGE:

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.08304 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.04751 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04125 per kWh

Table 6-2-3 Spire Rate Schedule SGS/LGS

Monthly Rates

Residential Customers +

Small general service −

Customer charge (per month)	$43.70
Charge for gas used (First 5,000 Ccf)	$0.18592 per Ccf
Charge for gas used (Over 5,000 Ccf)	$0.23241 per Ccf

Purchased Gas Adjustment (PGA): $0.62339 per CCF

Large general service −

Customer charge (per month)	$189.61
Charge for gas used	$0.15823 per Ccf

Purchased Gas Adjustment (PGA): $0.62339 per CCF

6-3 Appendix C – Lighting Inventory

A lighting inventory is excluded from this report. There is no opportunity for energy savings through LED lighting upgrades, as reStart has retrofitted all existing lighting to LED.

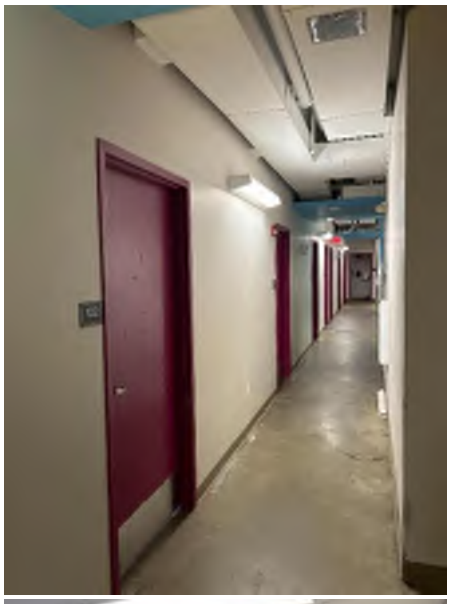
6-4 Appendix D – HVAC Inventory

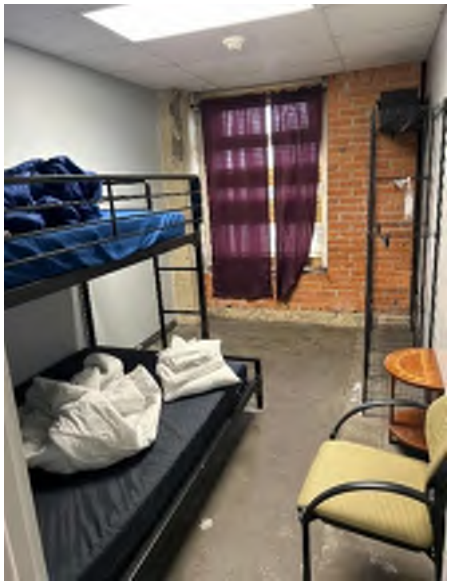
Table 6-4-1 reStart HVAC Equipment

ID	Location	Type	Make	Model	Year	Output Capacity	Heat Type/ Efficiency	Condition	HVAC Scope
EF-2	Roof	Exhaust Fan	Cook	100ACE	2006	-	-	3/5 Good	N/A
EF-3	Roof	Exhaust Fan	Cook	100ACE	2006	-	-	3/5 Good	N/A
EF-4	Roof	Exhaust Fan	Cook	100ACE	2006	-	-	3/5 Good	N/A
EF-5	Roof	Exhaust Fan	Cook	100ACE	2006	-	-	3/5 Good	N/A
FCU-1	2nd Floor Mech	Fan Coil Unit	Carrier	40RFQA12A	2023	106 MBH	Heat Pump	4/5 Great	N/A
FCU-10	-	Fan Coil Unit	Lennox	CBX27UH-048	2011	48 MBH	Electric Resistance	2/5 Poor	Replace
FCU-2	2nd Floor Mech	Fan Coil Unit	Trane	GAM5B0A24M	2013	36 MBH	Electric	3/5 Good	Tune-Up
FCU-3	1st Floor East Mech	Fan Coil Unit	Trane	TWE090D300AA	2013	-	Hydronic	3/5 Good	Replace
FCU-4	-	Fan Coil Unit	Carrier	40RFQA12A	2023	106 MBH	Heat Pump	4/5 Great	N/A
FCU-5	-	Fan Coil Unit	Carrier	40RFQA12A	2023	106 MBH	Heat Pump	4/5 Great	N/A
FCU-7	2nd Floor Mech Res	Fan Coil Unit	Trane	TWE120A300EL	2006	120 MBH	Electric	2/5 Poor	Replace
FCU-8	-	Fan Coil Unit	Carrier	40RFQA12A	2023	106 MBH	Heat Pump	4/5 Great	N/A
FCU-9.1	2nd Floor Mech	Fan Coil Unit	Lennox	CBX27UH-048	2011	48 MBH	Electric	3/5 Good	Tune-Up
FCU-9.2	2nd Floor Mech	Fan Coil Unit	Lennox	CBX27UH-048	2011	48 MBH	Electric	3/5 Good	Tune-Up
FCU-K1	Kitchen/Cafeteria	Fan Coil Unit	York	AHE60D3XH21B	2015	30 MBH	Electric	3/5 Good	Tune-Up

ID	Location	Type	Make	Model	Year	Output Capacity	Heat Type/ Efficiency	Condition	HVAC Scope
FCU-K2	Kitchen/Cafeteria	Fan Coil Unit	York	AHE60D3XH21B	2015	30 MBH	Electric	3/5 Good	Tune-Up
HP-1	Roof	Condensing Unit	Carrier	38AUQD12	2023	112 MBH	11 EER/11.6 HSPF	4/5 Great	N/A
HP-10	Roof	Condensing Unit	Lennox	TSA120S4SN1G	2012	113 MBH	11.2 EER	3/5 Good	Replace
HP-2	Roof	Condensing Unit	Trane	TTA090G400AA	2017	95 MBH	11.5 EER	3/5 Good	Tune-Up
HP-3	Roof	Condensing Unit	Trane	TWA120A400FB	2006	115 MBH	11.6 EER	2/5 Poor	Replace
HP-4	Roof	Condensing Unit	Carrier	38AUQD12	2023	112 MBH	11 EER/11.6 HSPF	4/5 Great	N/A
HP-5	Roof	Condensing Unit	Carrier	38AUQD12	2023	112 MBH	11 EER/11.6 HSPF	4/5 Great	N/A
HP-7	Roof	Condensing Unit	Trane	TWA120A400FB	2006	115 MBH	11.6 EER	2/5 Poor	Replace
HP-8	Roof	Condensing Unit	Carrier	38AUQD12	2023	112 MBH	11 EER/11.6 HSPF	4/5 Great	N/A
HP-9	Roof	Condensing Unit	Lennox	TSA120S4SN1G	2012	113 MBH	11.2 EER	3/5 Good	Tune-Up
HP-K	Exterior	Condensing Unit	York	YHJD60S41S7A	2015	60 MBH	13 SEER	3/5 Good	Tune-Up
MS-El1	Roof	Mini-Split Unit	Mitsubishi	PUZ-A18NHA4	2023	18 MBH	12.2 EER	4/5 Great	N/A
MS-El2	Roof	Mini-Split Unit	Mitsubishi	PUZ-A18NHA4	2023	18 MBH	12.2 EER	4/5 Great	N/A
RCU-1	Exterior	Condensing Unit	Heatcraft	BHT010X68BFM	2013	-	-	3/5 Good	N/A
RCU-2	Exterior	Condensing Unit	HTP Group	RF0300L4SEA	2017	-	-	3/5 Good	N/A
RTU-KIT	Exterior	Packaged RTU	Aaon	RNA-020-C-0-3	2016	240 MBH	13 EER	3/5 Good	Tune-Up
WAC-X	3rd/4th/5th Floor East (QTY: 54)	Window AC	Toshiba	RAC-WK0612CMRU	2020	5 MBH	11 SEER	3/5 Good	Replace

6-5 Photos

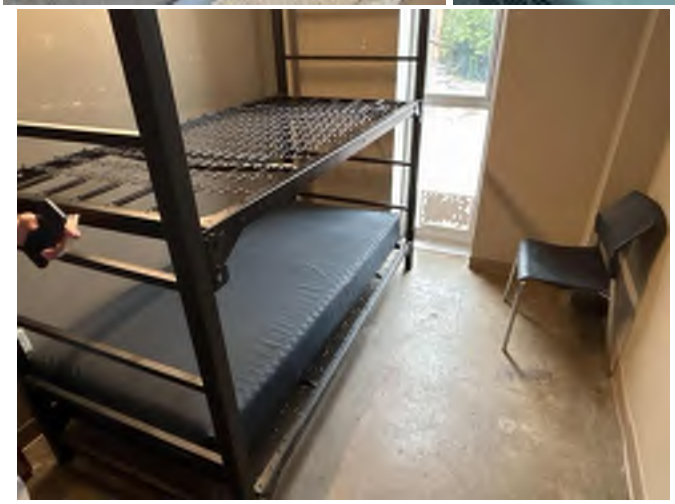




















Samuel Rodgers Health Center

Level 2 Audit Report

September 2025

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Section 1 Executive Summary

1-1 Audit Overview

1-1.1 Audit Summary

Mid-America Regional Council (MARC) was selected by the U.S. Department of Energy Office of State and Community Energy Programs as a recipient of a Renew America's Nonprofits grant. This program provides funding for energy efficiency assessments to selected nonprofit organizations in the Kansas City region, including Samuel Rodgers Health Center (SRHC).

Entegrity was selected as a project partner to provide ASHRAE energy audit services. Eligible nonprofits received an initial Level 1 ASHRAE energy audit, and buildings recommended by the Community Advisory Board (CAB), including SHRC, received a Level 2 ASHRAE energy audit.

The SRHC Cabot Campus provides primary health services to all ages, including mental health, women's health, medical, dental, and on-site language interpreters. The primary mission of SRHC is to achieve health equity by providing high-quality affordable healthcare to anyone regardless of their ability to pay.

Entegrity Energy Partners, LLC is an energy services company that specializes in Energy Efficiency Assessments, Building Energy Services, and Sustainability. The purpose of an energy audit is to identify opportunities to save energy by reducing waste and improving efficiency. Entegrity is pleased to provide this report for SRHC, which describes the existing conditions of facility infrastructure and outlines opportunities for improving energy efficiency and facility performance.

The table below summarizes our energy audit project with Samuel Rodgers Health Center.

Table 1-1-1 Audit Summary

Metric	Value
Building Name	SRHC Cabot Campus
Building Owner	Samuel U. Rodgers Health Center
Energy Auditor(s)	Hannah Parker
Street Address	2121 Summit St, Kansas City, MO, 64108-2126
Date of site visit(s)	8/11/2025
Primary Building Use Type	Urgent Care/Clinic/Other Outpatient
Energy Code/Efficiency Standard	IECC 2018/ASHRAE 90.1
Client Name	Samuel U. Rodgers Health Center

Metric	Value
Point of Contact	Danica Cherry

1-1.2 Audit Findings

The first step of an energy audit is gathering information and performing a facility site visit. During this phase, Entegrity collected utility data, interviewed key facility personnel, and toured the owner's facilities to document existing conditions, take equipment inventory, and identify energy savings potential.

Following the initial site visit, Entegrity analyzed data and information gathered during the assessment of SRHC facilities. This phase typically involves a deeper analysis of the owner's utility profiles, operational practices, and facility infrastructure including lighting systems, heating, venting, and air conditioning equipment and controls, building envelope systems, and other systems and processes that may contribute to SRHC's energy costs or operational requirements at a given facility.

Utility data analysis provides a lens into building energy performance and potential for savings. Energy benchmarking is a method of comparing a building's energy consumption to better understand whether a building is underperforming or outperforming others of similar use and occupancy. The SHRC facility currently underperforms the benchmark for similar facilities by 38%. This indicates that there is opportunity for investment and improvement which can reduce long-term utility and operational costs.

This report outlines facility information gathered during the energy assessment and energy-saving opportunities identified, including LED lighting, HVAC system upgrades, HVAC controls upgrades, and water heater replacements.

1-2 Facility Description

Entegrity audited SRHC on August 11, 2025. This facility serves as the Cabot clinic for Samuel Rodgers Health Center. Areas within the facility include a public lobby, offices, a medical clinic, a dental clinic, and a food pantry.

During the audit, Entegrity identified several factors that affect building energy and operating costs. The HVAC system is made up of large rooftop air handling units with electric resistance heating and zone VAV boxes, and there is no natural gas in use at the facility. The building at one time had a functioning central controls system, but according to staff, the system failed several years ago and was never repaired. It is possible that the system has no night setback and maintains zone temperatures at all times, regardless of occupancy. The second floor was renovated and roughed in recently, and it is the only area in the facility with existing LED lighting.

Figure 1-2-1 Samuel Rodgers Health Center Cabot Clinic



Section 2 Existing Conditions

2-1 Facility Summary

During the energy audit of SRHC, Entegrity took a wide snapshot of many existing conditions. Factors that were considered included occupancy information, space use functions, energy sources, and building systems.

The purpose of gathering this data is to create a baseline profile. This profile can be used to identify savings opportunities, plan and prioritize investments in facility improvements, and define the energy and cost impact of the proposed measures.

In the following section, Entegrity presents the facility data that we collected for Samuel Rodgers Health Center during the energy audit.

2-1.1 Facility Characteristics

Table 2-1-1 SRHC Characteristics

Metric	Value
Year of Construction	2005
Last Renovation	2021
Year of Prior Energy Audit	2024 – MES Energy Audit
Year Last Commissioned	N/A
Building Automation System	N
Historical Landmark Status	N
Percent Owned	100%
Percent Leased	0%
Gross Floor Area (ft^2)	23,000
Total Conditioned Area (ft^2)	23,000
Heated Only (ft^2)	0
Cooled Only (ft^2)	0
Total Number of Floors	3
Conditioned Floors Above Grade	2
Conditioned Floors Below Grade	1
Spaces Excluded from Gross Floor Area	Parking Garage

2-1.2 Occupancy Information

The table below outlines the typical occupancy of the Cabot clinic in a typical year of SRHC operations.

Table 2-1-2 SRHC Occupancy Information

Metric	Value
Typical Occupancy (hours per week)	40
Typical Occupancy (weeks per year)	52
Typical number of occupants (during occupied hours)	50-150
Number of Dwelling Units in Building (Multifamily Only)	N/A
% of Dwelling Units currently Occupied (Multifamily Only)	N/A

2-1.3 Space Functions

The table below outlines how SRHC utilizes the spaces in the Cabot clinic for a variety of different functions and operations.

Table 2-1-3 SRHC Space Function Analysis

Space Function Type	Floor Area	% of Total Area
Urgent Care/Clinic/Other Outpatient	14,000	61%
Office	6,500	28%
Other	2,500	11%
Total	23,000	100%

Table 2-1-4 SRHC Space Function Breakdown

Space Description	Dental Clinic	Medical Clinic	Office	Storage/ Basement
Space Function Type	Urgent Care/Clinic/Other Outpatient	Urgent Care/Clinic/Other Outpatient	Medical Office	Other
Intended Use of Space	Urgent Care/Clinic/Other Outpatient	Urgent Care/Clinic/Other Outpatient	Medical Office	Other
Gross Floor Area	7,000	7,000	6,500	2,500
Conditioned Area (%)	100%	100%	100%	100%
Number of Occupants	15-50	15-50	10-40	0-10
Approx. Plug Loads (W/ft^2)	1.5-2.0	1.5-2.0	1.0-1.5	0.5-1.0
Space Use (hours/week)	40	40	40	40
Space Use (weeks/year)	52	52	52	52

2-1.4 Building Energy Sources

SRHC is served electricity as a metered energy source. There is no natural gas in use at the Cabot clinic.

Table 2-1-5 SRHC Building Energy Sources

Energy Source	Account Number	Utility Provider	Rate Schedule
Electricity	3316413000	Evergy	1MGSE

2-2 Lighting & Plug Loads

SRHC currently utilizes a variety of light sources and plug loads, which contribute greatly to electricity consumption and cost. These loads are summarized in the tables below. The primary lighting technologies in use at SRHC are LED and Fluorescent.

Table 2-2-1 SRHC Facility Lighting Summary

Lighting Source Type	Fixture Type	Control Type	Space Type	% of Total Wattage
Fluorescent	4' Linear Troffer	Wall Switch	Clinic	60.1%
LED	2' Recessed Troffer	Wall Switch	Lobby/Admin/Parking	13.6%
LED	2' Recessed Troffer	Wall Switch	Offices	10.2%
LED	4' Linear	Wall Switch	Offices/Stairwells	7.2%
Fluorescent	4' Linear Troffer	Wall Switch	Mech/Elec	6.0%
LED	2' Recessed Troffer	Occ Sensor	Restrooms	1.2%
HID	Wall Pack	Daylight/Timer	Exterior	0.8%
Fluorescent	CFL Bulb	Wall Switch	Clinic	0.5%
LED	Recessed Can	Wall Switch	Offices	0.4%

Table 2-2-2 SRHC Plug Load Summary

Process/Plug Load Description	Operational Details
Office Equipment	IT Servers, Copiers, Computers (Qty: 50), etc.
Small Kitchen Appliances	Refrigerators, microwaves, toaster, coffee machine, etc.
Food Pantry Equipment	1 Commercial Freezer & 2 Refrigerators
Medical Clinic Equipment	Diagnostic machines, medical devices, monitors, etc.
Dental Clinic Equipment	Dental chairs, suction units, compressors, x-ray machine, etc.
Individual Space Heaters	In use by staff, policy to turn off when not in use

2-3 Heating, Ventilation & Air Conditioning

SRHC is made up of primarily conditioned spaces, which use HVAC equipment to heat, cool, and ventilate, as well as heat water and control equipment operation. HVAC is a driver of building efficiency, as it consumes significant energy loads, and efficiency varies widely across the many different HVAC system types. The HVAC system serving SRHC is summarized in the table below.

Table 2-3-1 SRHC Facility HVAC Summary

HVAC Component	Metric	Value
Heating	Primary Source	Multizone Packaged Rooftop Units
	Secondary Source	Electric Unit Heaters
	Fuel	Electricity
	Distribution	Ducted to Zone Terminal Units
Cooling	Primary Source	Multizone Packaged Rooftop Units
	Distribution	Ducted to Zone Terminal Units
	Other Considerations	System uses R-22 refrigerant
Ventilation	Outside Air	OA intakes at rooftop units
	Exhaust Fans	8 rooftop exhaust fans
	Other Considerations	Laboratory exhaust system
Controls	Zone Controls	Zone thermostats connected to VAV boxes
	Central Controls	Johnson Controls MetaSys (old version - obsolete)
	Other Considerations	System failed in last 10 years and was abandoned
Hot Water	Primary Source	2 Electric Storage Water Heaters
	Other Considerations	50 Gallon Capacity Each, nearing 20 years old

2-4 Building Envelope

Building design and construction involves several factors – shape, size, location, and orientation, all of which have an impact on building energy efficiency. Unfortunately, these factors cannot be easily modified once the building is in use, but maintaining an efficient and effective building envelope can significantly improve energy performance. The table below summarizes the building envelope of SRHC.

Table 2-4-1 SRHC Facility Envelope Summary

Envelope Component	Metric	Value
Roof	Construction Type	Flat TPO
	Roofing Color	Beige
	Area	14,000
	Condition	4/5 Great
Walls	Construction Type	Brick/Stucco
	Condition	4/5 Great
Fenestrations	Frame Type	Aluminum
	Glass Type	Double Pane
	Glazing % of Wall Area	10-15%
	Seal Condition	3/5 Good
	Enclosure Tightness	4/5 Great
	Exterior Door Type	Storefront Glass & Hollow Metal

Section 3 Historical Utility Data

3-1 Utility Analysis

3-1.1 Electricity

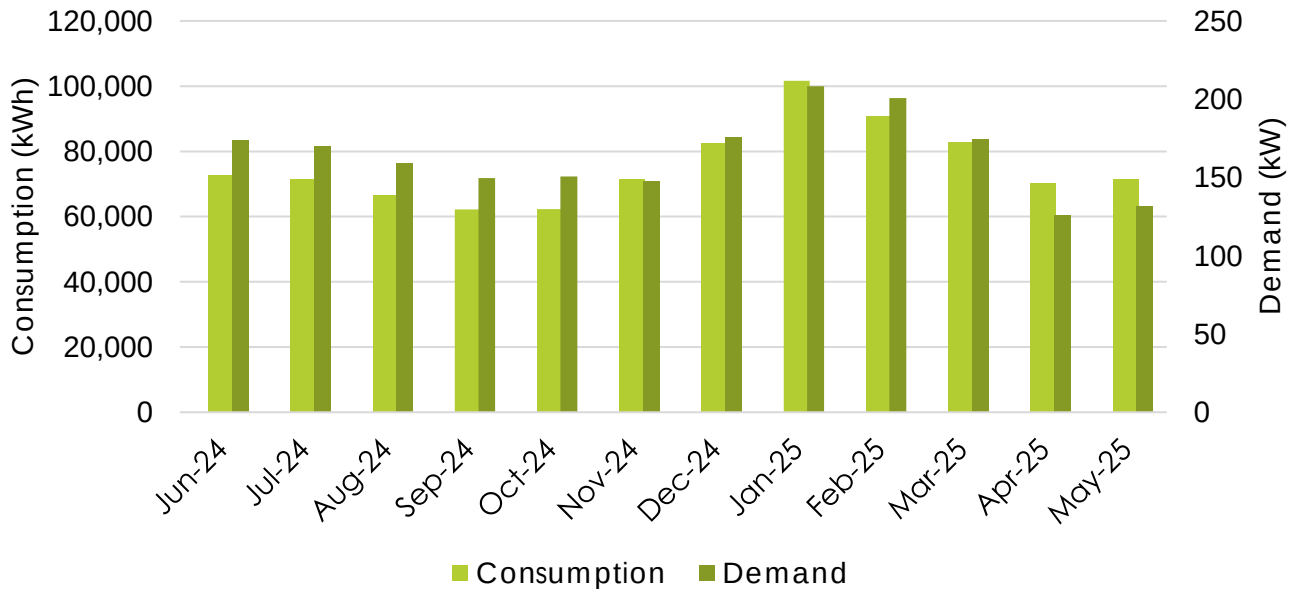
Entegrity has calculated annual electricity usage, demand, and cost data for audited SRHC facilities. Utility data was analyzed from the period beginning June 2024 and ending May 2025. SRHC is served electricity by Evergy. Utility rates for savings calculations are determined through an analysis of the existing utility rate structures and riders, utility consumption and demand profiles.

It can be possible to generate utility cost savings by modifying the rate structure to better suit the facility or by correcting irregularities in monthly energy use patterns. During the utility rate analysis for SRHC, it was determined that there are no potential adjustments for the electric utility rates. This is because the current rate schedule is determined by the character of service which cannot be modified.

Table 3-1-1 Electric Data by Account

Account ID	Consumption (kWh)	Demand (kW)	Base Year Cost ($)	Electric Rate ($/kWh)	Demand Rate ($/kW)
3316413000	905,768	154.8	$97,919	$0.10444	$9.0539
Total	905,768	154.8	$97,919	$0.10444	$9.0539

Figure 1 SRHC Electric Consumption Monthly Breakdown



3-2 Benchmarking

Entegrity performed benchmarking on SRHC, using the annual utility consumption and expenditure to define the building's current energy performance. The tables below outline the energy use and energy cost per square foot in order to compare SRHC to a benchmarking target and determine the savings potential associated with reaching that target.

The target EUI, ECI, and UCI are based on a 15% reduction in utility cost and consumption.

Table 3-2-1 SRHC Performance

Metric	Value
Conditioned Square Feet	23,000
Energy Use Intensity [building] (kBtu/sf/yr)	134.4
Energy Use Intensity [site] (kBtu/sf/yr)	134.4
Energy Cost Index ($/sf/yr)	$4.26

Table 3-2-2 SRHC Benchmarking

Metric	Value
Benchmark Source	CBECS – Medical Office
Benchmark EUI (kBtu/sf/yr)	97.7
Target EUI [building] (kBtu/sf/yr)	114.2
Target EUI [site] (kBtu/sf/yr)	114.2
Target ECI [site] ($/sf)	$3.62
Annual Energy Savings to Reach Target (kBtu)	463,587
Annual Cost Savings to Reach Target	$14,688

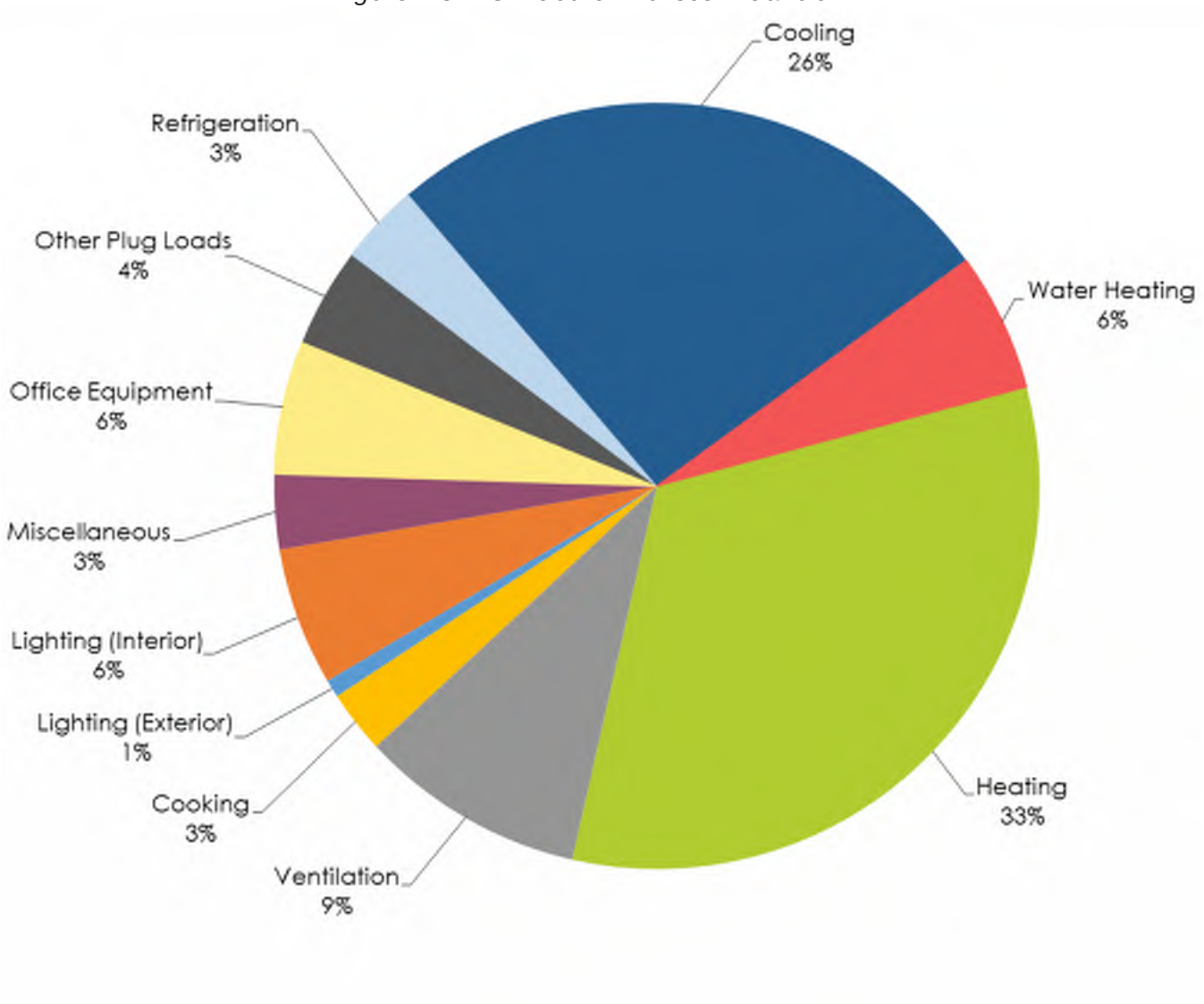
3-3 Energy End-Use Breakdown

In addition to the total energy consumption and cost of a facility, it is important to understand where that energy is going. The table below summarizes each end-use of electricity at SRHC and the estimated annual energy use and utility cost associated with each end-use.

Table 3-3-1 SRHC Energy End-Use Breakdown

Energy End-Use	kWh	% Total kWh	Electric Cost
Heating	296,400	32.7%	$32,043
Ventilation	86,500	9.5%	$9,351
Cooking	24,000	2.6%	$2,595
Lighting (Exterior)	6,800	0.8%	$735
Lighting (Interior)	52,860	5.8%	$5,714
Miscellaneous	28,608	3.2%	$3,093
Office Equipment	51,000	5.6%	$5,513
Other Plug Loads	38,000	4.2%	$4,108
Refrigeration	31,000	3.4%	$3,351
Cooling	237,600	26.2%	$25,686
Water Heating	53,000	5.9%	$5,730
Total	905,768	100%	$97,919

Figure 2 SRHC Electric End-Use Breakdown



Section 4 Energy Saving Opportunities

4-1 Low- or No-Cost Savings Measures

4-1.1 Low- or No-Cost Measures Overview

Entegrity has developed a comprehensive list of recommended measures for SRHC that includes low- and no-cost measures. These include tasks and projects which are inexpensive or free to implement and generate energy savings with a short payback. Outlined below are the low- and no-cost measure recommendations for SRHC.

4-1.2 Lighting

1. Turn Lights Off: Simply put, turn off lights when not in use. Areas such as restrooms and offices were noted with lights left on while nobody was occupying the space. Signage near light switches can help staff and visitors remember to turn off the lights.

4-1.3 Plug Loads

1. Personal Appliance Use: A previous energy audit report noted that personal space heater usage was common at the SRHC Cabot clinic facility. Staff noted that it is now policy that space heaters must be turned off when leaving the room, but they are still permitted and in use throughout the facility. This can lead to high electrical plug loads, and can even cause simultaneous heating and cooling if space heaters are in use while the system is in cooling mode. The HVAC system and controls upgrades recommended in the Capital Measures section can vastly improve system performance and occupant comfort. It is recommended that once HVAC upgrades are complete and zone thermostats are properly programmed, space heater usage be eliminated in the facility.

4-2 Capital Measures

4-2.1 Capital Measures Overview

Entegrity has developed a comprehensive list of recommended measures for SRHC that includes capital measures. These include projects which require a financial investment to implement. These measures generate energy and/or operational cost savings, and should be prioritized by best payback and return on investment. Outlined below are the capital measure recommendations for SRHC.

4-2.2 Lighting

1. LED Replacements: SRHC primarily uses fluorescent lighting. Replacement with LED lighting significantly reduces electricity consumption and operating cost. LEDs use 60-90% less energy, last 3-50 times longer, and emit very little heat compared to older lighting technologies.

4-2.3 HVAC

1. HVAC System Upgrade: SRHC has an HVAC system that is over 20 years old and original to the building. The heating system utilizes electric resistance heat, which has a high operating cost and poor efficiency when compared to alternatives such as heat pumps or natural gas. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, renewed system longevity, and assurance of long-term heating and cooling capability. It is recommended that the SRHC HVAC system be completely replaced and converted to heat pump technology.
2. HVAC Controls: SRHC has an obsolete and nonfunctional controls system. Improved controls systems utilize modern controls strategies to increase energy savings capabilities and improve system performance. Additionally, SRHC can better manage and oversee HVAC system operation with upgraded controls by choosing a system that offers remote access and controllability. A comprehensive building management system can also provide controllability of hot water boilers, ventilation, and medical equipment systems. It is recommended that a new building management system, or at minimum smart thermostats with remote access capability, be installed and programmed in tandem with the recommended HVAC system upgrade.
3. Domestic Water Heater Replacements: SRHC has two electric resistance storage tank water heaters that are over 20 years old, beyond useful life and operating at degraded efficiency. The units in use have a rated standby loss of 237 Btu/hr. Replacing this equipment can be costly, but it can also result in reduced energy consumption, maintenance and utility cost savings, and renewed equipment longevity. It is recommended that these be replaced with heat pump water heaters.

4-3 Recommended Measures Summary

Measure Description (in order by priority)	Annual Energy and Cost Savings				Payback with Incentive					
	Energy Cost Savings	Non-Energy Cost Savings	Peak Demand Savings [kW]	Electricity [kWh]	Measure Cost	Potential Incentives	Useful Life (years)	Net Measure Cost	Simple ROI	Simple Payback (yr)
LED Lighting	$2,500	$150	6.1	23,150	$13,000	None	10-15	$13,000	20.4%	4.9
HVAC Controls	$5,000	-	6.1	47,450	$90,000	$3,500	10-15	$86,500	5.8%	17.3
HVAC System Upgrade	$18,000	$3,500	55.9	167,150	$750,000	$6,500	15-20	$743,500	2.9%	34.6
Water Heaters	$900	-	-	8,650	$16,000	$1,400	10-20	$14,600	6.2%	16.2
Totals	$26,400	$3,650	68.1	246,400	$869,000	$11,400	-	$857,600	3.5%	28.5

Section 5 Methodology

5-1 Cost Estimates

To accurately estimate costs for each recommended measure, Entegrity used information gathered during the audit of SRHC and conservative engineering assumptions. The methods used to develop cost estimates for each measure are outlined below.

5-1.1 Cost Estimate Factors & Assumptions

Table 5-1-1 Cost Estimate Assumptions

Measure Description	Major Assumptions
LED Lighting	Contractor install new fixtures where existing lighting is not LED, stipulate new fixture cost. Contractor may be required to eliminate ballasts where applicable.
HVAC Controls	Cost per new smart thermostat and material and install labor costs
HVAC System Upgrade	Cost per ton for new equipment and install labor costs
Water Heaters	Cost per ton for new equipment and install labor costs

5-1.2 Cost Estimate Calculations

Table 5-1-2 Cost Estimate Methods

Measure Description	Methods Used to Estimate Measure Cost
LED Lighting	Fixture cost times estimated quantity plus estimated labor cost, assuming contractor install
HVAC Controls	30 total thermostats to control all existing systems, plus estimated wire needed and labor
HVAC System Upgrade	Cost per ton times capacity plus estimated labor, assuming ALL existing split systems are replaced (see HVAC inventory)
Water Heaters	System cost per ton times capacity plus estimated labor

5-2 Savings Calculations

To accurately estimate savings for each recommended measure, Entegrity performed calculations and analysis using utility data, information gathered during the audit of SRHC, and conservative engineering assumptions. The methods used to develop savings estimates for each measure are outlined below.

5-2.1 Savings Calculation Assumptions

Table 5-2-1 Savings Calculation Assumptions

Measure Description	Major Assumptions
LED Lighting	Stipulated burn hours and new fixture wattages
HVAC Controls	Annual EFLHs (run hours) and controls system reduction %
HVAC System Upgrade	Annual EFLHs and new system efficiencies of 16 SEER/11 HSPF
Water Heaters	Annual run time/energy usage and new equipment efficiency

5-2.2 Savings Calculation Formulas

1. Savings estimates for the lighting measures were calculated according to the following formulas.

Table 5-2-2 Lighting Savings Calculations

Electric Energy Savings	$kWh_{SAVINGS} = (kW_{PRE} * AOH_{PRE}) - (kW_{POST} * AOH_{PST})$
Electric Demand Savings	$kW_{SAVINGS} = (kW_{PRE} * CF_{PRE}) - (kW_{POST} * CF_{POST})$
Annual Utility Cost Savings	$U_{SAVINGS} = (kWh_{SAVINGS} * U_{kWh}) + (kW_{SAVINGS} * U_{kW})$
Calculated Variables	$kWh_{SAVINGS}$ = Lighting Energy Savings kW_{PRE} = Lighting Power Prior to Upgrade kW_{POST} = Lighting Power Post Upgrade $kW_{SAVINGS}$ = Lighting Demand Savings $U_{SAVINGS}$ = Lighting Utility Cost Savings
Estimated Variables	AOH_{PRE} = Annual Operating Hours Pre-Upgrade AOH_{POST} = Annual Operating Hours Post-Upgrade CF_{PRE} = Coincidence Factor Pre-Upgrade CF_{POST} = Coincidence Factor Prior Post-Upgrade

2. Savings estimates for HVAC measures were calculated according to the following formulas.

Table 5-2-3 HVAC Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * EFLH_C$
Cooling Demand Savings (kW)	$x = C_C * (SEER_{PRE} - SEER_{POST}) * CF$
Heating Consumption Savings (MMBtu)	$x = C_H * (Eff_{PRE} - Eff_{POST}) * EFLH_H$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER_{PRE}$ = Cooling Part-Load Efficiency Pre-Upgrade Eff = Thermal Efficiency (%) P = Motor Power
Estimated Variables	$SEER_{POST}$ = Cooling Part-Load Efficiency Post-Upgrade $EFLH_C$ = Equivalent Full-Load Hours, Cooling $EFLH_H$ = Equivalent Full-Load Hours, Heating CF = Coincidence Factor AOH = Annual Operating Hours R = Reduction Factor

3. Savings estimates for HVAC Controls measures were calculated according to the following formulas.

Table 5-2-4 HVAC Controls Savings Calculations

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Cooling Demand Savings (kW)	$x = C_C * (12/EER) * (CF_{PRE} - CF_{POST})$
Heating Consumption Savings (MMBtu)	$x = C_H * Eff * (EFLH_{H,PRE} - EFLH_{H,POST})$
Fan and Pump Consumption Savings (kWh)	$x = P * AOH * R$
Calculated Variables	x = Savings C_C = Equipment Cooling Capacity C_H = Equipment Heating Capacity $SEER$ = Cooling Part-Load Efficiency EER = Cooling Efficiency Eff = Thermal Efficiency (%) P = Motor Power

Cooling Consumption Savings (kWh)	$x = C_C * (12/SEER) * (EFLH_{C,PRE} - EFLH_{C,POST})$
Estimated Variables	$EFLH_{C,PRE}$ = Equivalent Full-Load Hours, Cooling $EFLH_{C,POST}$ = Equivalent Full-Load Hours, Cooling $EFLH_{H,PRE}$ = Equivalent Full-Load Hours, Heating $EFLH_{H,POST}$ = Equivalent Full-Load Hours, Heating CF_{PRE} = Coincidence Factor Pre-Controls CF_{POST} = Coincidence Factor Post Controls AOH = Annual Operating Hours R = Reduction Factor

5-3 Quality Assurance

Measure Description	End-Use Category	Savings by End Use		Savings Backchecks	
		Electricity (kWh)	Total Energy (kBtu)	% Electricity Savings	% Total
LED Lighting	Interior & Exterior Lighting	19,600	66,875	33%	33%
HVAC Controls	Heating, Cooling & Ventilation	47,450	161,899	8%	8%
HVAC System Upgrade	Heating, Cooling & Ventilation	167,150	570,316	27%	27%
Water Heaters	Water Heating	8,650	29,514	16%	16%
	Total Savings (This Sheet)	242,850	828,604	27%	27%
	Total Savings (Measures Summary)	242,850	828,604		
	Total Historical Use	905,768	3,090,480		

Section 6 Appendices

6-1 Appendix A – Tabulated Utility Data

Table 6-1-1 SRHC Electric Utility Data

Start Date	End Date	Electricity Use (kWh)	Electricity Peak (kW)	Electricity Cost ($)
6/10/2024	7/8/2024	69,443	165.6	$8,820.17
7/8/2024	8/7/2024	67,430	160.8	$8,564.55
8/7/2024	9/8/2024	67,996	162.1	$8,636.39
9/8/2024	10/8/2024	61,769	148.8	$7,577.18
10/8/2024	11/6/2024	57,809	139.9	$6,182.17
11/6/2024	12/9/2024	81,053	162.9	$7,840.58
12/9/2024	1/10/2025	87,398	189.9	$8,657.43
1/10/2025	2/10/2025	108,558	218.2	$10,501.26
2/10/2025	3/12/2025	93,744	216.8	$9,474.27
3/12/2025	4/10/2025	70,024	137.8	$6,987.64
4/10/2025	5/11/2025	71,455	122.6	$6,890.21
5/11/2025	6/11/2025	71,409	136.0	$7,605.84
	Total	908,088	1,961.3	$97,738

6-2 Appendix B – Utility Rate Schedules

Table 6-2-1 Evergy Rate Schedule ABC123

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 — 11th — Revised Sheet No. 10A

Canceling P.S.C. MO. No. 7 — 10th — Revised Sheet No. 10A

For Missouri Retail Service Area

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month	$3.223

C. **DEMAND CHARGE:**

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$2.145

D. **ENERGY CHARGE:**

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05684 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

6-3 Appendix C – Lighting Inventory

Table 6-3-1 SRHC Lighting Inventory

Location	Lighting Type	Fixture Type	Control Type	Approx. Quantity	Watts per Fixture	Total Watts
Lobby/Admin	LED	2' Recessed Troffer	Wall Switch	36	20	720
2nd Floor Offices	LED	2' Recessed Troffer	Wall Switch	87	20	1,740
2nd Floor Offices	LED	4' Linear Strip	Wall Switch	4	20	80
2nd Floor Offices	LED	Recessed Can	Wall Switch	7	10	70
Restrooms	LED	2' Recessed Troffer	Occ Sensor	10	20	200
Parking	LED	2' Recessed Troffer	Wall Switch	80	20	1,600
Stairwells	Fluorescent	4' Linear Strip	Wall Switch	18	64 (2x32)	1,152
Basement Elec	Fluorescent	4' Linear Troffer	Wall Switch	12	64 (2x32)	768
1st Floor Clinic	Fluorescent	4' Linear Troffer	Wall Switch	54	128 (4x32)	6,912
1st Floor Clinic	Fluorescent	4' Linear Troffer	Wall Switch	12	96 (3x32)	1,152
1st Floor Clinic	Fluorescent	4' Linear Troffer	Wall Switch	34	64 (2x32)	2,176
1st Floor Clinic	Fluorescent	CFL Bulb	Wall Switch	2	40 (20x2)	80
2nd Floor Mech	Fluorescent	4' Linear Troffer	Wall Switch	2	64 (2x32)	128
2nd Floor Elec	Fluorescent	4' Linear Troffer	Wall Switch	2	64 (2x32)	128
Exterior	HID	Wall Pack	Daylight/Timer	8	150	40

6-4 Appendix D – HVAC Inventory

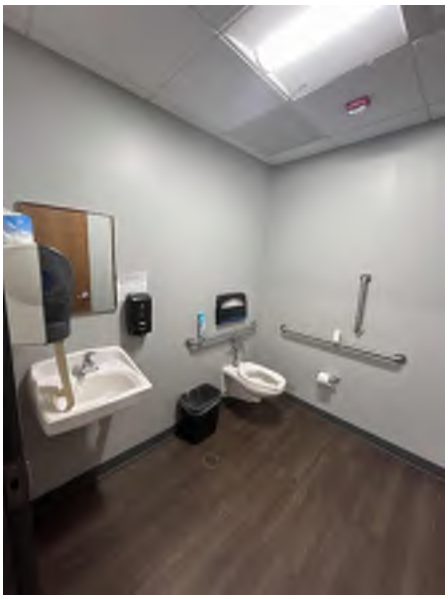
Table 6-4-1 SRHC HVAC Equipment

ID	Location	Type	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
RTU-1	Lower Roof	Packaged Unit	Trane	SEHFC504L644E6AD8	2004	50 Tons/70 kW	11 EER	2/5 Poor	Replace
RTU-2	Upper Roof	Packaged Unit	Trane	SEHFC204D637E3BD8	2004	20 Tons/30 kW	11 EER	2/5 Poor	Replace
FPB1-1	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-2	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-3	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-4	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-5	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-6	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-7	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-8	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-9	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-10	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-11	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-12	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-13	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace

ID	Location	Type	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
FPB1-14	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-15	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-16	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-17	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-18	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-19	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-20	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-21	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB1-22	1st Floor	Zone FPB	Titus	DTQS---	2005	est. 5 kW	1.0 COP	3/5 Good	Replace
FPB2-1	2nd Floor	Zone FPB	Titus	DTQS-02	2005	3.0 kW	1.0 COP	3/5 Good	Replace
FPB2-2	2nd Floor	Zone FPB	Titus	DTQS-03	2005	8.5 kW	1.0 COP	3/5 Good	Replace
FPB2-3	2nd Floor	Zone FPB	Titus	DTQS-02	2005	3.0 kW	1.0 COP	3/5 Good	Replace
FPB2-4	2nd Floor	Zone FPB	Titus	DTQS-04	2005	7.5 kW	1.0 COP	3/5 Good	Replace
FPB2-5	2nd Floor	Zone FPB	Titus	DTQS-02	2005	3.0 kW	1.0 COP	3/5 Good	Replace
FPB2-6	2nd Floor	Zone FPB	Titus	DTQS-02	2005	3.0 kW	1.0 COP	3/5 Good	Replace
FPB2-7	2nd Floor	Zone FPB	Titus	DTQS-03	2005	8.5 kW	1.0 COP	3/5 Good	Replace
FPB2-8	2nd Floor	Zone FPB	Titus	DTQS-04	2005	8.5 kW	1.0 COP	3/5 Good	Replace
FPB2-9	2nd Floor	Zone FPB	Titus	DFLS-02	2021	1.0 kW	1.0 COP	4/5 Great	Replace

ID	Location	Type	Make	Model	Year	Output Capacity	Efficiency	Condition	HVAC Scope
EF1-1	Lower Roof	Exhaust Fan	Greenheck	G-130-5-V6-1-19-X	2021	-	-	4/5 Great	N/A
EF1-2	Lower Roof	Exhaust Fan	Greenheck	G-090-VG-1-17-X	2021	-	-	4/5 Great	N/A
EF1-3	Upper Roof	Exhaust Fan	Loren Cook	180 ACE 18006B	2003	-	-	2/5 Poor	N/A
EF-2	Upper Roof	Exhaust Fan	Greenheck	CUE-161HP-V6-10-X	2020	-	-	4/5 Great	N/A
EF-3	Upper Roof	Exhaust Fan	Loren Cook	402 ACE 402011B	2003	-	-	2/5 Poor	N/A
EF-4	Upper Roof	Exhaust Fan	Loren Cook	90 ACEH 90015DH	2003	-	-	2/5 Poor	N/A
EF-5	Upper Roof	Exhaust Fan	Loren Cook	90 ACEH 9001	2003	-	-	2/5 Poor	N/A
DHW-1	2nd Floor Mech	Water Heater	Rheem	ES50-6-G	2004	6 kW	98%	3/5 Good	N/A
DHW-2	2nd Floor Mech	Water Heater	Rheem	ES50-12-G	2004	12 kW	98%	3/5 Good	N/A

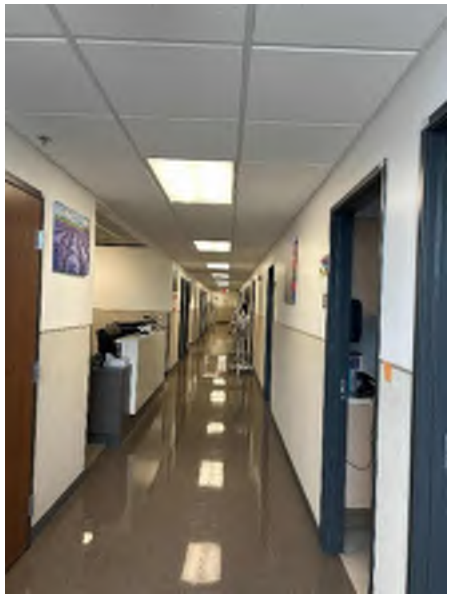
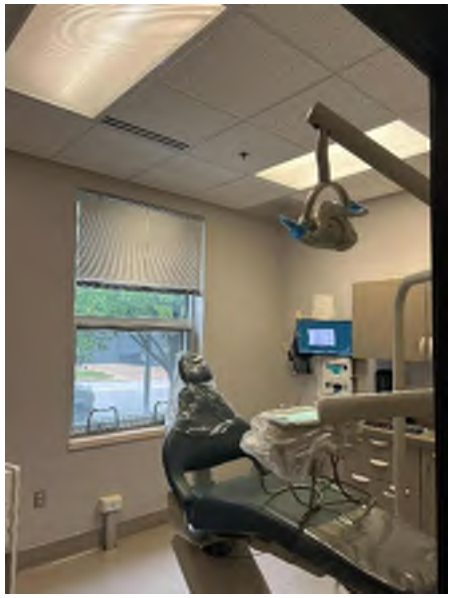
6-5 Appendix E – Photos











Level 2 Energy Audit

Synergy Services, Inc.

CUSTOM ENGINEERING
MECHANICAL & ELECTRICAL ENGINEERING

This Level 2 ASHRAE Energy Audit was performed for Synergy Services, Inc. and the Mid-America Regional Council and supported by grant funds provided by the US Department of Energy's Office of State and Community Energy Programs (SCEP) under the Renew America's Non-Profits Award Number DE-SE0001001. The views expressed herein do not necessarily represent those of the US Department of Energy or the US Government.

October 23, 2025

1. Executive Summary

a. The Synergy Services facility at a non-disclosed location in Parkville, MO consumes a lower-than-average amount of energy compared to a similar mixed-use building type. This single-story brick building was constructed in 1995. It includes 10,000 sq. ft. with 43 rooms.
b. After calculating seven Energy Efficiency Measures (EEMs), EEM7 (a new entry door) was removed from recommended measures as the energy savings impact was not measurable.
c. At current energy costs, the total cost savings of the recommended measures is $1,564 whereas the total cost of recommended measures is approximately $127,087 as illustrated in the following table. If the six recommended EEMs are incorporated, the total energy use savings for the site would be about 92,800 kBtu out of a total annual energy use of 304,000 kBtu, a percent savings of approximately 31%.

EEM #	Recommended Measure Description	Construction Cost, estimated	Annual Energy Savings, estimated	Annual Site Energy Savings (%)	Annual Cost Savings, estimated
1	Install Occupancy Sensors for Lighting Control	$10,962	2,500 kBtu	1%	$78
2	Replace Exterior Lighting Fixtures, Install New Controls	$6,600	15,000 kBtu	5%	$468
3	Improve Building Envelope: Weatherization	$1,800	12,000 kBtu	4%	$145
4	Improve Building Envelope: Replace Windows	$19,040	13,000 kBtu	4%	$160
5	Perform Aerosol Duct Sealing on Supply Ductwork	$22,400	31,000 kBtu	10%	$369
6	Replace Existing HVAC Rooftop Units	$66,225	18,800 kBtu	6%	$344
	Measures 1 – 6	$127,087	92,800 kBtu	31%	$1,564

2. Introduction

a. Audit Scope included evaluation of current building envelope, lighting, lighting controls, HVAC, and HVAC controls; benchmarking of performance and cost; gathering energy use and cost data; assessment of building use, candidate need, electrical and mechanical system performance issues.
b. Key Dates:
   - Building Energy Assessment Report by Evergy 09/24/24
   - Level 2 Site Visit 08/08/25
   - Level 2 Report by Custom Engineering, Inc 10/23/25

c. Contact Information:

Dennis Meier, Co-Executive Director
Synergy Services, Inc.
Parkville, MO 64152
(816) 587-4100 ext. 104
DMeier@SynergyServices.org



3. Facility Description

This section outlines the details regarding the building and its equipment. It notes the activities that take place in the building and the estimated clients served in a typical year. The building envelope is described, and its condition is noted along with the environment it facilitates. All of the equipment in the building is listed along with condition, energy source and number of units. The equipment listing includes heating, ventilating, and air conditioning; hot water; lighting; and process and plug loads.

a. Building Information:
    i. Synergy Services is a 10,000 sq. ft. office building that provides counseling and crisis support for children, youth, and families who are survivors of domestic violence and abuse. Approximately 2,350 clients are served annually with therapy services, including trauma specific treatment. Most are under-insured or do not have insurance.
    ii. The building was built in 1995 for Synergy on land owned by a local university.
    iii. See APPENDIX F – Site Photos for additional facility photos documenting typical existing equipment and conditions.
b. Building Envelope:

i. Windows and doors are original to the building. They have less than optimal thermal efficiency and are prone to wind leakage (infiltration). The building has 28 windows.
ii. A new roof was installed recently, just prior to this audit. The existing solar panels on the roof were removed at that time and not replaced.

c. Heating, Ventilating, and Air Conditioning (HVAC):
i. The building is heated and cooled by 8 rooftop systems utilizing refrigerant cooling and natural gas heat. All units are controlled by individual manual thermostats.
ii. There is a small, portable 10 kBtu air conditioner installed in the data server room, exhausting into the plenum. It uses R-22 refrigerant.
iii. There are personal electric space heaters and fans in several offices.

d. Domestic Hot Water (DHW):
i. The building utilizes one electric 38-gallon water heater.

e. Lighting:
i. The original lighting was updated to LED fixtures in approximately 2020.
ii. The interior lobby and hallways remain lit after closing.
iii. Three exterior walls are lit by eight wall-mounted fixtures and the walkways are lit by two pole-mounted fixtures. The inefficient exterior lighting stays lit all night.
iv. All interior lighting controls are manual.

f. Process and Plug Loads:
i. 18 computers, as reported on the premises
ii. 5 printers
iii. 1 copier
iv. 3 shredders
v. 3 televisions
vi. 3 clocks and radios
vii. 10 sound machines
viii. 38 desk and standing lamps with LED bulbs
ix. 5 space heaters
x. 3 personal fans
xi. 1 residential refrigerator and 2 mini fridges
xii. 1 dishwasher
xiii. 2 microwave ovens
xiv. 2 coffee machines
xv. 1 security alarm system
xvi. 1 UPS server cabinet

4. Historical Utility Data

This section provides details regarding the utility aspects of the building. It provides a summary of the building's annual energy consumption along with the industry metrics of Energy Use Intensity (EUI) and Energy Cost Index (ECI). These metrics facilitate the comparison of the analyzed building to other buildings that are used for similar purposes. Both the current EUI and ECI are provided for the analyzed

building along with desired targets for both metrics. The Appendix locations for benchmarking information, calculations and energy usage breakdowns are also provided.

a. Data Summary
    i. Annual energy consumption
        - Electric: 22,663 kWh / 77,327 kBtu / $3,947
            - 11,796 kWh produced by the utility
            - 10,868 kWh generated on-site via solar panels
            - 743 kWh exported in 2025
        - Natural gas: 2,182 Ccf / 226,494 kBtu / $2,596
        - Total site energy consumption: 303,821 kBtu
        - See APPENDIX A – Tabulated Utility Data
    ii. Gross square footage = 10,000 sq. ft.
    iii. Annual Energy Use Intensity (EUI) = 30.4 kBtu/yr/sq. ft.
    iv. Annual Energy Cost Index (ECI) = $0.65/sq. ft.
b. Utility Rate Structures
    i. Electric service: Evergy – 1MGSE
    ii. Natural Gas service: Spire - Small General Service
    iii. See APPENDIX B – Utility Rate Schedules
c. Benchmarking of Comparable Buildings
    i. Energy Use Index (EUI) Benchmarking Source: 2023 ASHRAE Handbook HVAC Applications IP Section 37, Table 2
        - Mixed-Use Office category: 25th% EUI = 25 kBtu/yr/sq. ft.
        - Mixed-Use Office category: 50th% EUI = 46 kBtu/yr/sq. ft
    ii. Energy Use Index (EUI) calculation: Synergy Services
        - Synergy Services: Building EUI = 30.4 kBtu/yr/sq. ft.
        - Synergy Services: Site EUI = 30.4 kBtu/yr/sq. ft. [No longer applicable, see Summary explanation below.)
    iii. Energy Cost Index (ECI) Benchmarking Source: 2023 ASHRAE Handbook HVAC Applications Section 37, Table 5
        - Mixed-Use Office category: 10th% ECI = $0.35/sq. ft.
        - Mixed-Use Office category: 25th% ECI = $0.69/sq. ft.
    iv. Energy Cost Index (ECI) calculation: Synergy Services
        - Synergy Services: ECI = $0.65/sq. ft.
    v. Summary:
        - The Synergy Services building EUI is calculated as 30.4 kBtu/yr/sq. ft. based on all electrical energy usage and square footage, which is lower than average.
        - Although the EUI can be extrapolated to be roughly at the 38th percentile for the category of Mixed-Use Office, the ECI is approximately at the 19th percentile. The low ECI was due to generating nearly half of their electricity via solar panels.
        - Given Evergy's monthly fees of about $191, it is estimated that Synergy would have paid about $5,600 in total this past year without solar panels. This raises their ECI to about $0.82/sq. ft., about the 37th

percentile. Target would then be $0.66/sq. ft., just below the 25th percentile. The EEMs would achieve about $0.68/sq. ft.

- The tabulated utility data for Synergy's electric usage and cost includes the time period Synergy had solar panels installed. If the panels remained, we would benchmark the site using EUI site values (26.4 kBtu/sq. ft.), not EUI building values (30.4 kBtu/sq. ft.).
- The image below shows the relationship of imported energy (E_{imp}), on-site renewable energy production (E_g), and exported energy (E_{exp}), all calculated in the Benchmarking appendix. Looking at the formula in the box at left, site EUI is grid-only energy but building EUI includes the generated on-site energy used. There was no stored energy and negligible exported energy.

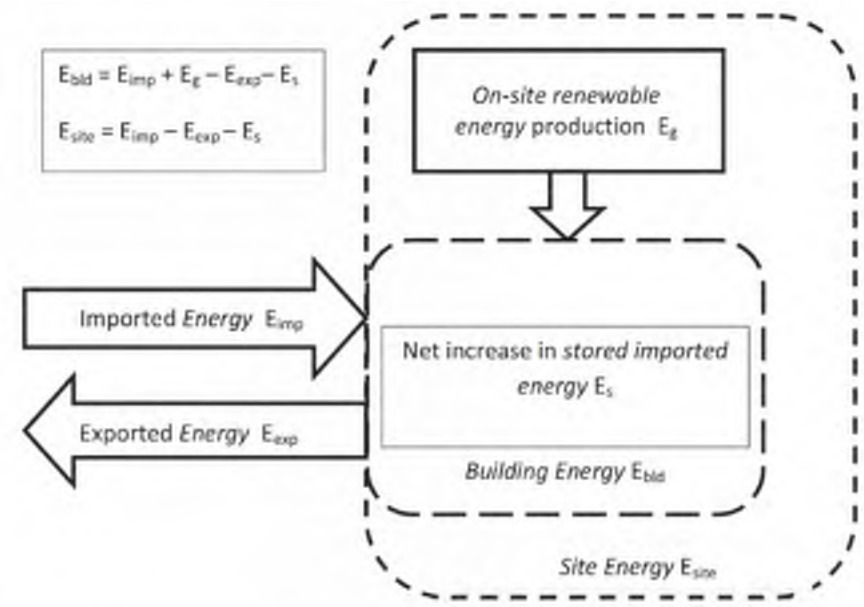


Figure 1 Relationship of *site energy* (E_{site}) and *building energy* (E_{bld})

vi. See APPENDIX C – Benchmarking

d. Target and Savings Estimate

i. By comparing this building's EUI and ECI with those of the benchmark buildings, an improved EUI and ECI has been identified and reported as a target:

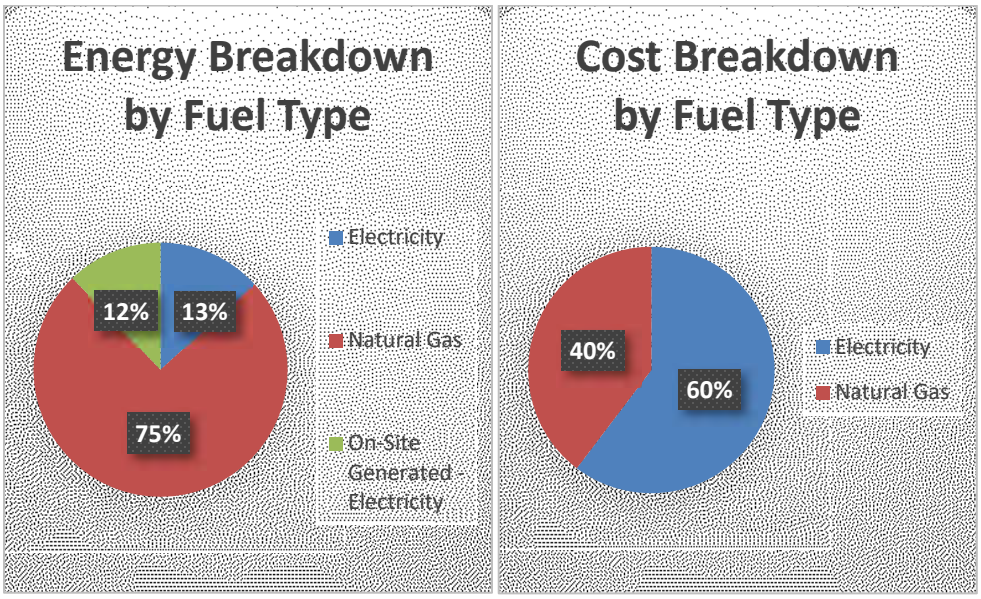
- Target Energy Use Intensity (EUI) = 25.0 kBtu/yr/sq. ft.
- Target Energy Cost Index (ECI) = $0.52/sq. ft.
- No-Solar Revised Target Energy Cost Index (ECI) = $0.66/sq. ft.

ii. If all six recommended Energy Efficiency Measures (EEMs) are incorporated, the total energy use savings for the building would be approximately 39%.

- Estimated Energy use Intensity (EUI) = 18.6 kBtu/yr/sq. ft.
- Estimated Energy Cost Index (ECI) = $0.48/sq. ft.
- No-Solar Estimated Energy Cost Index (ECI) = $0.64/sq. ft.

The estimated annual energy savings will be 92,800 kBtu and the estimated annual cost savings will be about $1,560 if the six EEMs are incorporated.

e. End-Use Breakdown (Largest Loads)
    i. Natural Gas is consumed 90% by space heating and 10% by ventilation (approximate).
    ii. Electricity is consumed 43% by cooling and 32% by lighting (approximate).
    iii. About 25% of the energy usage is electrical while 75% is natural gas. However, 60% of energy cost is electrical, even with the generation on-site of electricity. EEMs that will reduce the electrical energy load should be prioritized to reduce costs. See pie charts below.



    iv. See APPENDIX D – End-Use Breakdown.

5. Energy Saving Opportunities

a. The recommended steps to reduce energy consumption is to first reduce the demand loads from the leaky building envelope and from the inefficient exterior lighting. Providing new energy efficient HVAC equipment and sealing the ductwork will then further reduce energy consumption.
b. Low-Cost/No-Cost Savings Measures
    i. New weather stripping on exterior doors.
    ii. Programmable thermostats with heating and cooling temperature setpoints per ASHRAE standards for unoccupied hours. Include Optimal Start and Stop times when available. Thermostats should be outdoor weather sensing smart learning thermostats.
    iii. Tamper-proof enclosures for thermostats to prevent individuals from changing energy-saving temperature setpoints.
    iv. Maintenance schedule to change AC filters, inspect and repair weather stripping and caulking at doors and windows.
    v. Low flow constrictions on hot water fixtures.

vi. Hot water piping insulation replacement.
vii. As appliances near end of life, replace them with new Energy Star high efficiency units.
viii. Until occupancy sensors are installed, turn off lights to use less energy for unused spaces in the building.
ix. Enable sleep mode on all office equipment.
x. Determine if the portable air conditioner is still required to operate in the Server Room given that the UPS Server Cabinet loads seemed reduced. Ensure the space is not also being heated via the ceiling diffuser, if applicable.

c. Capital Projects
   i. Install Occupancy Sensors for Lighting Control. There will be approximately 40 new vacancy sensors for smaller rooms and 14 occupancy sensors for halls and open areas. (EEM1)
   ii. Replace Exterior Lighting Fixtures, Install New Controls. Replace eight exterior wall pack lighting fixtures and two pole-mounted walkway lighting fixtures with new LED fixtures and install new lighting controls. Utilize existing poles. (EEM2)
   iii. Improve Building Envelope: Replace Windows. Install energy-efficient double pane windows with e-coating (tinted glass). There are 28 windows that should be replaced. (EEM4)
   iv. Replace Existing HVAC Rooftop Units. Replace old, inefficient HVAC rooftop units with new, efficient and equivalent systems (minimum 16 SEER) and weather sensing smart learning thermostatic controls. The building has eight units: two 3-ton, three 4-ton, two 5-ton, and one 7.5-ton. (EEM6)
   v. Improve Building Envelope: Weatherization. Provide weatherization seals (weather stripping, rubberized seals, expanding foam or caulk) at exterior piping/vent/conduit penetrations, doors, and windows, including adding insulation to barriers between conditioned and unconditioned spaces. (EEM3)
   vi. Perform Aerosol Duct Sealing. Provide sealing on supply ductwork to reduce air leakage to 2%. (EEM5)
   vii. Add new insulation to plenum if possible.

d. EEMs Considered but Not Recommended
   i. Improve Building Envelope: Replace Front Entry Door. Install energy-efficient storefront double door assembly. The minimal energy savings do not justify the cost of the measure. The ancillary impact, however, of having a better conditioned vestibule and welcoming façade may make this a measure to consider in the future as funds allow. (EEM7)
   ii. Install Building Automation System. The building has eight air conditioning units; however, setting individual programmable thermostats installed in tamper-proof enclosures will achieve similar results at a much lower cost.

e. Incentives
   i. Although a list of detailed incentives is beyond the scope of this audit level, there are “Energy Efficiency Incentives” offered by Evergy for upgrading to more efficient HVAC units and adding occupancy sensors. Spire offers rebates for 7-day programmable thermostats. They also potentially offer nonprofits

rebates for building envelope improvements. **Please note that applications for incentives must be approved prior to construction.**

ii. Evergy incentives are listed here: https://www.evergy.com/-/media/documents/ways-to-save/incentives/besp/mo-ee-incentives-brochure.pdf

i. Spire incentives are listed as rebates. Apply for commercial "Custom rebate" for the installation of any natural gas related energy efficiency improvement that does not qualify for a standard rebate: https://www.spireenergy.com/commercial-rebates.

f. Ancillary (Nonenergy Related) Impacts of Undertaking These Measures:

i. Upgrades will create a cleaner, more comfortable space for all occupants and visitors, fostering a stronger sense of safety and security. This is particularly important to clients served by this nonprofit organization that may have experienced trauma or are facing behavioral health challenges.

6. EEM Cost Estimates

This section details the Energy Efficiency Measures in a table that outlines the investigated EEMs, their description, estimated construction costs, estimated cost savings, and the associated estimated Return on Investment (ROI). The ROI is a measure of the profitability of the energy improvement investment and is calculated by using the following formula:

$$\text{ROI (\%)} = \frac{Cost\ Sav\quad s,\ st\ mat\ d}{Co\ \ struct\ o\quad Cost,\ st\ mat\ d} \text{ X } 100$$

EEM #	Measure Description	Construction Cost, estimated	Cost Savings, estimated	ROI, estimated
1	Install Occupancy Sensors for Lighting Control	$11,000	$100	1%
2	Replace Exterior Lighting Fixtures, Install New Controls	$6,500	$500	7%
3	Improve Building Envelope: Weatherization	$1,500	$100	8%
4	Improve Building Envelope: Replace Windows	$19,000	$200	1%
5	Perform Aerosol Duct Sealing on Supply Ductwork	$22,500	$400	2%
6	Replace Existing HVAC Rooftop Units	$66,200	$350	1%
7	Improve Building Envelope: Replace Front Entry Door	$15,000	$20	0.1%

7. EEM Economic Analysis

The various EEM details below refer to the table presented in section 6. For example, EEM2 references the second row of the table above.

a. It is recommended to implement EEM2 as the most efficient measure. The Return on Investment (ROI) is 7%. Although the cost of implementing the measure versus the measure's cost savings is low, the electrical energy used will be reduced approximately 97%. Electric utility incentives will further lower costs to implement this measure, which would increase the ROI.
b. Combining EEM3 with EEM4 will improve the efficiency of the building envelope, resulting in even more energy savings with a shorter payback period.
c. Although it was determined that the main entry door is very inefficient and should be replaced, the potential energy savings were difficult to evaluate since there is a vestibule present. This is an item highly desired by Synergy, which is why it is part of this audit.
d. The calculations for the cost to purchase and install eight new rooftop units are based on 2025 RS Means, which estimates costs for the lowest efficient units that pass code. The ROI will improve if incentives are sought and higher SEER units are purchased. The Level 1 Audit by Evergy also recommends replacing these units, as they are reaching the end of typical life expectancy and are energy inefficient.
e. See APPENDIX E – Calculation Methodology.

8. Quality Assurance Appendices

The various appendices included in section 8 provide the collected utility data, utility rate schedules, benchmarking standards, the building's energy end use breakdown, the calculations used in the report, site photos and a breakdown of the expected scope associated with each of the EEMs. The scope provides a scope of work description, equipment quantities, scope elements and performance standards for improvements.

A. Tabulated Utility Data
B. Utility Rate Schedules
C. Benchmarking
D. End-Use Breakdown
E. Calculation Methodology
F. Site Photos
G. Scope of EEMs

If you have any questions or comments, please contact:

Susan Daily, EIT
Electrical Engineering
SDaily@customengr.com
(816) 350-1473 ext. 135

Karen Shook, EIT
Mechanical Engineering
KShook@customengr.com
(816) 350-1473 ext. 139

Brie Hawthorne-Crosby
Mechanical Engineering
bhawthorne-crosby@customengr.com
(816) 350-1473 ext. 126

APPENDIX A

Tabulated Utility Data

Tabulated Utility Data

Building Name	Synergy Services
Gross floor area (sq. ft.)	10000
Date	10/23/2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	On-Site Generated - Electricity

user input
calculated

Utility #1 - Shall be Electricity if present at the site

If sampling of meters was performed during utility analysis, describe methodology here:

N.A.

Utility #1 Electricity

MAIN DATA FOR ANALYSIS - Electricity				
Start Date	**End Date**	**Days**	**Electricity Use (kWh)**	**Electricity Cost ($)**
6/16/2024	7/16/2024	30	940.22	480.28
7/16/2024	8/14/2024	29	2,087.86	563.44
8/14/2024	9/15/2024	32	1,794.23	446.51
9/15/2024	10/15/2024	30	779.42	301.51
10/15/2024	11/14/2024	30	414.53	231.03
11/14/2024	12/16/2024	32	1,152.10	304.01
12/16/2024	1/16/2025	31	1,746.65	351.21
1/16/2025	2/18/2025	33	2,048.58	384.20
2/18/2025	3/19/2025	29	324.31	222.81
3/19/2025	4/17/2025	29	-	190.46
4/17/2025	5/18/2025	31	-	191.36
5/18/2025	6/17/2025	30	540.09	280.01
		366	11,828	3,947

Utility #1: Definition

Units	kWh
kBtu/unit	3.41

[note: this forumula may be overriden if other units are used]

Tabulated Utility Data

Building Name	Synergy Services
Gross floor area (sq. ft.)	10000
Date	10/23/2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	On-Site Generated - Electricity

user input
calculated

Utility #1 - Shall be Electricity if present at the site

Utility #2 **Natural Gas**

MAIN DATA FOR ANALYSIS - Natural Gas				
Start Date	**End Date**	**Days**	**Natural Gas Use (Ccf)**	**Natural Gas Cost ($)**
6/25/2024	7/24/2024	29	1	$ 54.58
7/24/2024	8/23/2024	31	31	$ 89.48
8/24/2024	9/23/2024	31	18	$ 74.37
9/24/2024	10/23/2024	30	43	$ 103.45
10/24/2024	11/21/2024	29	138	$ 204.29
12/21/2024	1/22/2025	33	740	$ 685.67
1/23/2025	2/21/2025	30	630	$ 592.19
2/22/2025	3/24/2025	31	357	$ 360.20
3/25/2025	4/23/2025	30	174	$ 204.69
4/24/2025	5/22/2025	29	38	$ 90.32
5/23/2025	6/23/2025	32	15	$ 73.52
6/24/2025	7/24/2025	31	3	$ 63.32
		366	2,188	$ 2,596

Utility #2: Definition

Units	Ccf
kBtu/unit	103.80

Tabulated Utility Data

Building Name	Synergy Services
Gross floor area (sq. ft.)	10000
Date	10/23/2025
Utility #1	Electricity
Utility #2	Natural Gas
Utility #3	On-Site Generated - Electricity

user input
calculated

Utility #1 - Shall be Electricity if present at the site

Utility #3 **On-Site Generated - Electricity**

MAIN DATA FOR ANALYSIS - On-Site Generated - Electricity

Start Date	End Date	Days	On-Site Generated - Electricity Use (kWh)	On-Site Generated - Electricity Cost ($)	Exported On-Site Gen Elec (kWh)	Exported On-Site Gen Elec Credit ($)
6/16/2024	7/16/2024	30	895.18			
7/16/2024	8/14/2024	29	457.75			
8/14/2024	9/15/2024	32	937.29			
9/15/2024	10/15/2024	30	1,096.39			
10/15/2024	11/14/2024	30	1,024.81			
11/14/2024	12/16/2024	32	718.50			
12/16/2024	1/16/2025	31	288.30			
1/16/2025	2/18/2025	33	675.72			
2/18/2025	3/19/2025	29	1,261.67			
3/19/2025	4/17/2025	29	1,160.22		457.18	$ 9
4/17/2025	5/18/2025	31	1,281.27		286.14	$ 5
5/18/2025	6/17/2025	30	1,100.29			
Annual Total		366	10,897	$ 1,661	743	$ 14

Utility #3: Definition

Units	kWh
kBtu/unit	3.41

APPENDIX B

Utility Rate Schedules

Medium General Service
Schedule MGS

RATE FOR SERVICE AT SECONDARY VOLTAGE, 1MGSE

A. **CUSTOMER CHARGE:**

Customer pays one of the following charges per month based upon the Facilities Demand:

0-24 kW	$55.47
25-199 kW	$55.47
200-999 kW	$112.65
1000 kW or above	$961.83

B. **FACILITIES CHARGE:**

Per kW of Facilities Demand per month $3.223

C. DEMAND CHARGE:

	Summer Season	Winter Season
Per kW of Billing Demand per month	$4.217	$2.145

D. ENERGY CHARGE:

	Summer Season	Winter Season
First 180 Hours Use per month:	$0.10953 per kWh	$0.09464 per kWh
Next 180 Hours Use per month:	$0.07492 per kWh	$0.05664 per kWh
Over 360 Hours Use per month:	$0.06319 per kWh	$0.04751 per kWh

FILED - Missouri Public Service Commission - 01/09/2023 - ER-2022-0129 - YE-2023-0104

Medium General Service
Schedule MGS

REACTIVE DEMAND ADJUSTMENT (Secondary and Primary Service)

Company may determine the customer's monthly maximum 30-minute reactive demand in kilovars. In each month a charge of $0.803 per month shall be made for each kilovar by which such maximum reactive demand is greater than fifty percent (50%) of the customer's Monthly Maximum Demand (kW) in that month. The maximum reactive demand in kilovars shall be computed similarly to the Monthly Maximum Demand as defined in the Determination of Demands section.

MINIMUM MONTHLY BILL

The Minimum Monthly Bill shall be equal to the sum of the Customer Charge, Facilities Charge, Demand Charge, and Reactive Demand Adjustment.

SUMMER AND WINTER SEASONS

For determination of Seasonal periods, the four (4) summer months shall be defined as the four (4) monthly billing periods of June through September. The eight (8) winter months shall be defined as the eight (8) monthly billing periods of October through May. Customer bills for meter reading periods including one or more days in both seasons will reflect the number of days in each season.

SECONDARY AND PRIMARY VOLTAGE CUSTOMER DEFINITIONS

Secondary voltage customer	Receives service on the low side of the line transformer.
Primary voltage customer	Receives service at Primary voltage of 12,000 volts or over but not exceeding 69,000 volts. Customers receiving service at 4160 volts as of May 5, 1986 are also classified as Primary voltage customers. Customer will own all equipment necessary for transformation including the line transformer.

FILED - Missouri Public Service Commission - 01/09/2023 - ER-2022-0129 - YE-2023-0104

DEMAND SIDE INVESTMENT MECHANISM RIDER (Cycle 4)
Schedule DSIM (Continued)

DISCONTINUING THE DSIM:

The Company reserves the right to discontinue the entire MEEIA Cycle 4 portfolio, if the Company determines that implementation of such programs is no longer reasonable due to changed factors or circumstances that have materially and negatively impacted the economic viability of such programs as determined by the Company, upon no less than thirty days' notice to the Commission. As a result of these changes, the Company may file to discontinue this DSIM. Similar to Program discontinuance, the Company would file a notice indicating that it is discontinuing the DSIM Rider. This notice would include a methodology for recovery of any unrecovered Program Costs and TD.

DEMAND SIDE INVESTMENT MECHANISM CHARGE:

Effective upon Commission approval in Case No. EO-2023-0369 MEEIA Cycle 4 Filing.

DSIM COMPONENTS AND TOTAL DSIM

Rate Schedule	Cycle	NPC/PE ($/kWh)	NTD/PE ($/kWh)	NEO/PE ($/kWh)	NOA/PE ($/kWh)	Total DSIM ($/kWh)
Residential Service	Cycle 2	$0.00000	$0.00002	($0.00001)	$0.00000	$0.00001
	Cycle 3	$0.00098	$0.00093	$0.00036	($0.00001)	$0.00226
	Cycle 4	$0.00255	$0.00011	$0.00000	$0.00000	$0.00266
	Total	$0.00353	$0.00106	$0.00035	($0.00001)	$0.00493
Non-Residential Service - SGS	Cycle 2	$0.00000	$0.00001	($0.00001)	$0.00000	$0.00000
	Cycle 3	$0.00150	$0.00155	$0.00021	$0.00000	$0.00326
	Cycle 4	$0.00079	$0.00002	$0.00000	$0.00000	$0.00081
	Total	$0.00229	$0.00158	$0.00020	$0.00000	$0.00407
Non- Residential Service - MGS	Cycle 2	$0.00000	$0.00002	$0.00000	$0.00000	$0.00002
	Cycle 3	$0.00133	$0.00141	$0.00023	$0.00000	$0.00297
	Cycle 4	$0.00253	$0.00002	$0.00000	$0.00000	$0.00255
	Total	$0.00386	$0.00145	$0.00023	$0.00000	$0.00554
Non- Residential Service - LGS	Cycle 2	$0.00000	$0.00001	$0.00000	$0.00000	$0.00001
	Cycle 3	$0.00041	$0.00059	$0.00026	$0.00000	$0.00126
	Cycle 4	$0.00104	$0.00002	$0.00000	$0.00000	$0.00106
	Total	$0.00145	$0.00062	$0.00026	$0.00000	$0.00233
Non- Residential Service - LPS	Cycle 2	$0.00000	$0.00001	$0.00000	$0.00000	$0.00001
	Cycle 3	($0.00015)	$0.00013	$0.00021	$0.00000	$0.00019
	Cycle 4	$0.00134	$0.00002	$0.00000	$0.00000	$0.00136
	Total	$0.00119	$0.00016	$0.00021	$0.00000	$0.00156

FILED - Missouri Public Service Commission - 02/01/2025 - EO-2025-0173 - JE-2025-0105

EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO

P.S.C. MO. No. 7 4th Revised Sheet No. 50.42

Canceling P.S.C. MO. No. 7 3rd Revised Sheet No. 50.42

For Missouri Retail Service Area

FUEL ADJUSTMENT CLAUSE – Rider FAC
FUEL AND PURCHASE POWER ADJUSTMENT ELECTRIC
(Applicable to Service Provided January 9, 2023 and Thereafter)
Effective for the Customer Usage Beginning April 2025 through September 2025

Accumulation Period Ending: **December 2024**			
1	Actual Net Energy Cost (ANEC) = (FC+E+PP+TC-OSSR-R)		$153,568,261
2	Net Base Energy Cost (B)	-	$148,006,228
	2.1 Base Factor (BF)		$0.01829
	2.2 Accumulation Period NSI (S_{AP})		8,092,194,001
3	(ANEC-B)		$5,562,033
4	Jurisdictional Factor (J)	x	55.1231%
5	(ANEC-B)*J		$3,065,965
6	Customer Responsibility	x	95%
7	95% *((ANEC-B)*J)		$2,912,666
8	True-Up Amount (T)	+	($872,202)
9	Interest (I)	+	$288,915
10	Prudence Adjustment Amount (P)	+	$0
11	Fuel and Purchased Power Adjustment (FPA)	=	$2,329,380
12	Estimated Recovery Period Retail NSI (S_{RP})	÷	8,893,846,174
13	Current Period Fuel Adjustment Rate (FAR)	=	$0.00026
14			
15	Current Period FAR_{Trans} = FAR x VAF_{Trans}		$0.00027
16	Prior Period FAR_{Trans}	+	$0.00100
17	Current Annual FAR_{Trans}	=	$0.00127
18			
19	Current Period FAR_{Sub} = FAR x VAF_{Sub}		$0.00027
20	Prior Period FAR_{Sub}	+	$0.00101
21	Current Annual FAR_{Sub}	=	$0.00128
22			
23	Current Period FAR_{Prim} = FAR x VAF_{Prim}		$0.00027
24	Prior Period FAR_{Prim}	+	$0.00102
25	Current Annual FAR_{Prim}	=	$0.00129
26			
27	Current Period FAR_{Sec} = FAR x VAF_{Sec}		$0.00028
28	Prior Period FAR_{Sec}	+	$0.00104
29	Current Annual FAR_{Sec}	=	$0.00132
30	VAF_{Trans} = 1.0300		
31	VAF_{Sub} = 1.0378		
32	VAF_{Prim} = 1.0497		
33	VAF_{Sec} = 1.0690		

FILED - Missouri Public Service Commission - 04/01/2025 - ER-2025-0217 - JE-2025-0121

SMALL GENERAL GAS SERVICE (Spire West)
SGS

Rate – The monthly charge shall consist of a customer charge plus a charge for gas used as set forth below:

Customer Charge – per month	$43.70
Charge for Gas Used – per Ccf	
Block 1 (First 5,000 Ccf)	$0.18592
Block 2 (Over 5,000 Ccf)	$0.23241

Minimum Monthly Charge – The Customer Charge.

Purchased Gas Adjustment – The charge for gas used as specified in this schedule shall be subject to an adjustment per Ccf for increases and decreases in the Company's cost of purchased gas, as set out on Sheet No. 11.

Surcharges and Riders – Service provided hereunder shall be subject to the Infrastructure System Replacement Surcharge (ISRS) as set out on Sheet No. 12 and any license, occupation or other similar charges or taxes as authorized by Sheet No. 14.

Late Payment Charge – Unless otherwise required by law or other regulation, 1.5% will be added to the outstanding balance of all bills not paid by the delinquent date stated on the bill. The late payment charge will not be applied to outstanding balances under $2 or to amounts being collected through a pre-arranged payment agreement with the Company that is current.

Other Terms and Conditions – Service provided hereunder is subject to the Company's General Terms and Conditions as approved by the Missouri Public Service Commission.

FILED - Missouri Public Service Commission - 12/23/2022 - GR-2022-0179 - JG-2023-0101

PURCHASED GAS COST ADJUSTMENT
PGA

H. SUMMARY STATEMENT – Spire Missouri West

Ccf

Sales Classification	CPGA	ACA	Total PGA
Residential	$0.63975	($0.01836)	$0.62139
Small General Service	$0.63975	($0.01836)	$0.62139
Large General Service	$0.63975	($0.01836)	$0.62139
Large Volume Service	$0.63975	($0.01836)	$0.62139
Unmetered Gas Light (1)	$0.63975	($0.01836)	$0.62139

1 Each Unmetered Gaslight Unit is equal to 15 Ccf.

FILED - Missouri Public Service Commission - 11/15/2024 - GR-2024-0341 - JG-2025-0060

INFRASTRUCTURE SYSTEM REPLACEMENT SURCHARGE
ISRS

Description: The Infrastructure System Replacement Surcharge (ISRS) is designed to recover the costs associated with the Company's eligible infrastructure replacements in accordance with the provisions of Sections 393.1009 to 393.1015, RSMo.

Applicability: In addition to the other charges provided for in the Company's tariff, a monthly ISRS shall be added to each customer's bill for service rendered on and after the effective date of the ISRS.

Schedule of Surcharges: The amount of the ISRS by rate schedule is as follows:

Spire East

Residential Service (RS)	$ 2.76
Small General Gas Service (SGS)	$ 5.62
Large General Gas Service (LGS)	$ 20.07
Large Volume Service (LV)	$ 146.80
Unmetered Gas Light Service (UG)	$ 0.96
General L.P. Gas Service (LP)	$ 2.88
Large Volume Transportation Service (LVTS)	$ 305.17

Spire West

Residential Service (RS)	$ 6.42
Small General Gas Service (SGS)	$ 14.03
Large General Gas Service (LGS)	$ 60.88
Large Volume Service (LV)	$ 512.23
Large Volume Transportation Service (LVTS)	$ 397.60
Transportation Service (TS)	$ 62.73
Intrastate Transportation Service (ITS)	$ 397.60

FILED - Missouri Public Service Commission - 05/14/2025 - GR-2025-0206 - JG-2025-0148

APPENDIX C

Benchmarking

Summary for Existing Building

Imported Energy (E_{imp})

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)
Electricity	11,796	kWh			
Natural Gas	2,182	Ccf			
Purchased Steam	-	lbs District Steam (15 psig) dumped after use			
Purchased Hot Water	-	kWh			
Purchased Chilled Water	-	MMBtu			
Oil	-	gallons (Fuel Oil #2)			
Propane	-	gallons (Propane)			
Coal	-	short ton (coal)			

On-Site Renewable Energy Production (E_g)

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Cost ($)

Exported Energy (E_{exp})

Energy Type	Total Annual Use*	Units	Conversion Multiplier	Thousands BTU (kBtu)	Total Annual Credit ($)
Exported - Thermal	-	MMBtu	1000.0	0	$ -
Exported - Electricity	743	kWh	3.4	2,536	$ 14
			E_{exp} Total	**2,536**	**$ 14**
			E_S Total		*[if applicable]*

Existing Building EUI/ECI

Building Name	Synergy Services	
Gross Conditioned Square Feet	10,000	
	30.4	*Between the 25th (25) & 50th (46) Percentile*
	26.4	*(with energy used from grid only)*
Site ECI (energy cost index or $/sf/yr)	$ 0.65	*Similar to 25th Percentile ($0.69)*

Est. elec cost with no solar $ 5,608

Est. Site ECI with no solar $ 0.82

*EUI: Energy Use Intensity

Benchmarking & Target EUI/ECI

Benchmark Source	ASHRAE HVAC Applications I-P-2023	
Benchmark EUI (kBtu/sf/yr)	30.0	*About the 38th Percentile*
Target EUI [building] (kBtu/sf/yr)	25.0	*25th Percentile for EUI*
Target EUI [site] (kBtu/sf/yr)		
Target ECI [site] ($/sf)	$ 0.52	*Approx. 19th Percentile for ECI*
Annual Energy Savings to Reach Target (kBtu)	53,821	
Annual Cost Savings to Reach Target	$1,306	

A typical Energy STAR target is 20% energy savings.

Est. Target ECI with no solar $ 0.66

Est. ECI post EEMs no solar $ 0.64

Notes

	EUI	ECI
CURRENT VALUES:	30.4	$0.65
EUI SAVED:	9.3	
ECI SAVED:		$0.16
CALCULATED VALUES POST-EEMs:	21.1	$0.50
TARGET VALUES:	25.0	$0.52

APPENDIX D

End-Use Breakdown

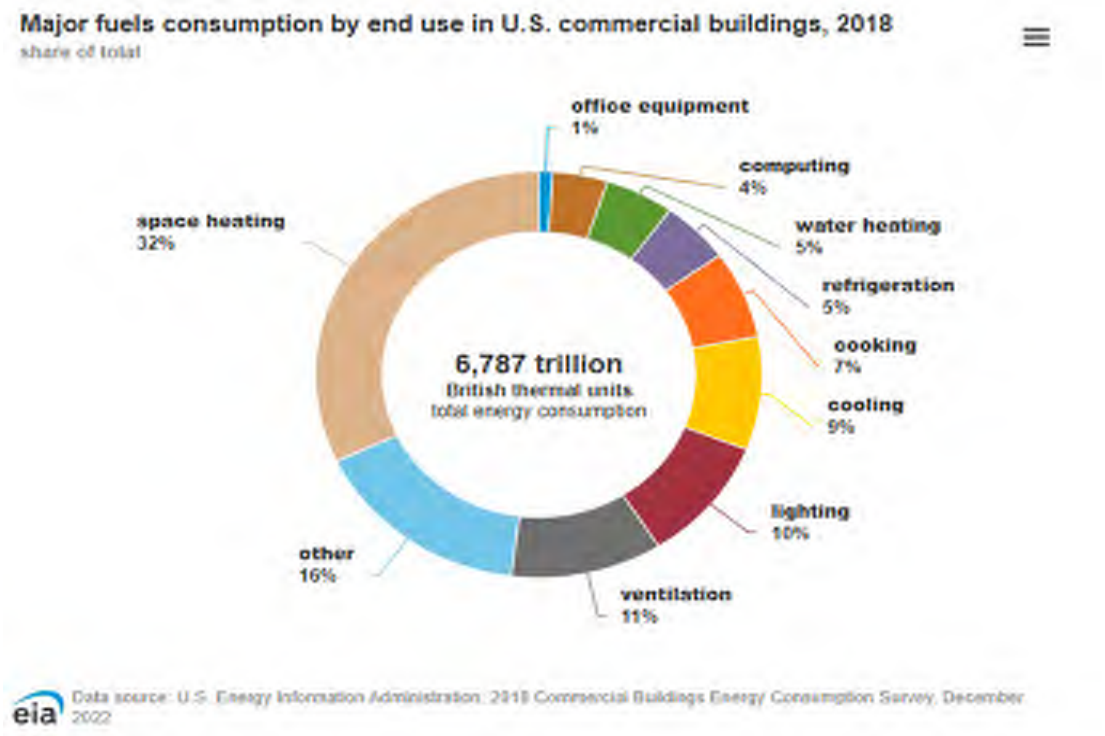
End Use Breakdown

user input
calculated
sourced data

Estimated Commercial End-use Energy Consumption						
	Default Ratio	**Estimated***	**% This Bldg**	**Energy Use (kBtu)**	**Energy Use (kWh)**	**Energy Use (Ccf)**
Office Equipment - Electric	1%	1%	0.5%	1,547	453	
Computing - Electric	4%	1%	0.5%	1,547	453	
Lighting (Exterior) - Electric	5%	5%	5.1%	15,465	4,533	
Lighting (Interior) - Electric	10%	3%	3.1%	9,279	2,720	
Other Electrical - Electric	16%	0%	0.3%	773	227	
Space Cooling - Electric	9%	11%	10.9%	33,251	9,745	
Ventilation (Cooling) - Electric	5.5%	2%	2.0%	6,186	1,813	
Space Heating - Electric	0%	1%	1.3%	3,866	1,133	
Water Heating - Electric	0%	1%	1.3%	3,866	1,133	
Cooking - Electric	7%	1%	0.5%	1,547	453	
Space Heating - Gas	32%	67%	67.1%	203,844		1964
Ventilation (Heating) - Gas	5.5%	7%	7.5%	22,649		218
Water Heating - Gas	5%	0%	0.0%	0		0
Cooking - Gas	0%	0%	0.0%	0		0
Total	100%	100%	100%	303821	**22663**	**2182**

Actual Energy Use	**kWh**	**Ccf**	**kBtu**	**% Usage**	**Building Total kBtu**
Electrical	**22663**		77327	25%	**303821**
Natural Gas		**2182**	226494	75%	

Electricity accounted for 60% and natural gas accounted for 34% of total energy use in U.S. commercial buildings in 2018.



Source: https://www.eia.gov/energyexplained/use-of-energy/commercial-buildings.php

APPENDIX E

Calculation Methodology

Calculation Methodology

	Annual Totals	$ Rate	Rate Schedule
Electric (kWh)	22,663	0.10150	1MGSE
(Summer rate)		0.11639	
Gas (Ccf)	2,182	0.80731	SGS

KEY
user input
calculated
sourced data

Equipment List (Plug-in Loads)		
Description	**Qty**	**kWh/yr ea.**
Computer	18	22
Space heater	5	900
Dishwasher	1	78
Microwave oven	2	103
Refrigerator	1	864
Mini fridge	2	50
Coffee machine	2	282
Sound machine	10	10.4
Fan (personal)	3	70
Copier	1	390
Shredder	3	120
Printer	5	82
Mail	1	50
TV	3	4
Lamp (LED bulbs)	38	4
Clocks, radios	3	10
Toaster oven	1	2
Security alarm system	1	730
UPS server cabinet	1	4

2025 Costs (Estimated)				
Description	**Quantity**	**Cost per**	**Source**	
Occupancy Sensor	54	$ 203	RSMeans 26.09.23.10.0010	*inc demo*
Ext. Lighting Control	10	$ 130	RSMeans 26.09.23.10.0450	*inc demo*
Ext LED Wall Ltg	8	$ 320	RSMeans 26.56.23.10.1278	*inc demo*
Ext LED Pole Ltg	2	$ 1,400	RSMeans 26.56.19.60.2080	*inc demo*
Window	28	$ 680	RSMeans 08.4	*inc demo*
Front Entry Door	1	$ 15,000	RSMeans 08.41.19	*inc demo*
Duct Aerosol Sealing	8	$ 2,800	Vendor quote	*Supply only*
Weatherization (16 hrs)	1	$ 1,800	RS Means 07.21.19.10.9000	*inc demo*
3 Ton HVAC Unit	2	$ 5,800	RSMeans 23.74.33.10.1100	*inc demo*
4 Ton HVAC Unit	3	$ 8,050	RSMeans 23.74.33.10.1120	*inc demo*
5 Ton HVAC Unit	2	$ 9,175	RSMeans 23.74.33.10.1140	*inc demo*
7.5 Ton HVAC Unit	1	$ 12,125	RSMeans 23.74.33.10.1150	*inc demo*

HVAC Units				
Existing Model No.	**Ton**	**Ex. SEER**	**New SEER2**	**Improvement**
ZF036N08A2AAA2A	3	13.0	16.2	19%
ZF036N08A2AAA2A	3	13.0	16.2	19%
ZF048N10A2AAA2A	4	13.0	16.2	19%
ZF048N10A2AAA2A	4	13.0	16.2	19%
ZF048N10A2AAA2A	4	13.0	16.2	19%
ZF090N15N2AAA5A	5	13.0	16.2	19%
ZF060N10A2AAA1A	5	13.0	16.2	19%
48TCEA06A2A5A0A0A0	7.5	13.0	16.2	19%
Total (weighted)				19%

EEM Cost Estimates & Economic Analysis

EEM Savings %	Description	End-Use Energy	Annual Energy Use Savings (per EEM) %	kWh	Ccf	kBTU	$	NP-Provided Estimate	Estimated Cost	Site Energy Savings %
EEM1	**Install Occupancy Sensors for Lighting Control**								$ 10,962	
27%	*Occupancy Sensors save 27% on average for daytime use of lighting*									1%
	Lighting energy (kWh)	2,720	27%	734		2,505	$ 78	ROI	1%	
EEM2	**Replace Exterior Lighting Fixtures with LED Fixtures and controls**								$ 6,660	
97%	*Replacing 295w wall ltg with 26w & 1080w pole ltg with 80w*									5%
	Lighting energy (kWh)	4,533	97%	4,400		15,012	$ 468	ROI	7%	
EEM3	**Improve Building Envelope: Weatherization**								$ 1,800	
	Weatherization projects in older buildings produce energy savings exceeding the costs exceeding the costs by a factor of 1.4, over the lifetime of the improvement.									
5%	Space cooling (kWh)	9,745	5%	487		1,663	$ 57			4%
	Space heating (Ccf)	1,964	5%		98	10,192	$ 79			
	Space heating (kWh)	1,133	5%	91		309	$ 9			
	total savings					12,164	$ 145	ROI	8%	
EEM4	**Improve Building Envelope: Replace Windows**								$ 19,040	
	Window replacement saves up 5.5% in cooling & heating energy costs (double pane, low-e, tinted,									
5.5%	Space cooling (kWh)	9,745	5.5%	536		1,829	$ 62			4%
	Space heating (Ccf)	1,964	5.5%		108	11,211	$ 87			
	Space heating (kWh)	1,133	5.5%	100		340	$ 10			
	total savings					13,380	$ 160	ROI	1%	
			%	**kWh**	**Ccf**	**kBTU**	**$**			
EEM5	**Perform Aerosol Duct Sealing on Supply Ductwork**								$ 22,400	
	Sealing ductwork systems for each air handler saves up to 30% in air losses									
11%	Space cooling (kWh)		10%	975		3,325	$ 113			10%
	Space heating (Ccf)		10%		196	20,384	$ 159			
	Ventilation cooling (kWh)		25%	453		1,547	$ 53			
	Ventilation heating (Ccf)		25%		55	5,662	$ 44			
	total savings					30,918	$ 369	ROI	2%	
EEM6	**Replace Existing HVAC Rooftop Units**								$ 66,225	
	Improving SEER rating of HVAC directly correlates to energy savings.									
	Specifying high efficiency gas furnaces increases energy savings.									
7%	Space cooling (kWh)	9,745	19%	1,852		6,318	$ 216			6%
	Space heating (Ccf)	1,964	5%		98	10,192	$ 79			
	Ventilation cooling (kWh)	1,813	19%	344		1,175	$ 40			
	Ventilation heating (Ccf)	218	5%		11	1,132	$ 9			
	total savings					18,818	$ 344	ROI	1%	
EEM7	**Improve Building Envelope: Replace Front Entry Door**							$ 22,000	$ 15,000	
	(Not recommended)									
0.5%	Space cooling (kWh)	9,745	0.5%	49		166	$ 6			0.4%
	Space heating (Ccf)	1,964	0.5%		10	1,019	$ 8			
	total savings					1,185	$ 14	ROI	0.1%	
				kWh	**Ccf**	**kBTU**	**$**			
	TOTAL SITE SAVINGS (EEMs 1 - 6)					**92,798**	**$ 1,564**		**$ 127,087**	31%

APPENDIX F

Site Photos

Exterior Lighting, Windows, and Building Envelope


















EXIT



Mechanical Equipment (typical)





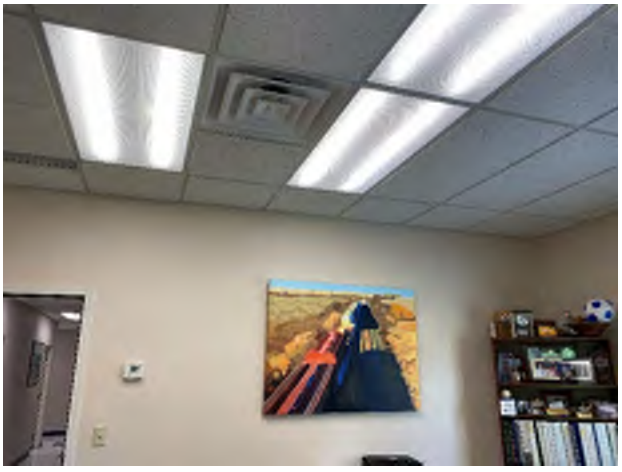


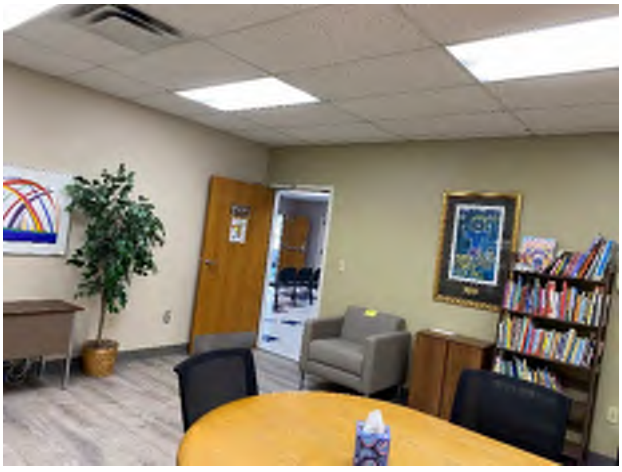


Controls









APPENDIX G

Scope of EEMs

Energy Efficiency Measures (Electrical)

Site contact: Dennis Meier
Co-Executive Director
Synergy Services, Inc.
Parkville, MO 64152
(816) 587-4100 ext. 104
DMeier@SynergyServices.org

EEM #

1 i.Install Occupancy Sensors for Lighting Control. There will be approximately 40 new vacancy sensors for smaller rooms and 14 occupancy sensors for halls and open areas.

2 ii.Replace Exterior Lighting Fixtures, Install New Controls. Replace eight exterior wall pack lighting fixtures and two pole-mounted walkway fixtures with new LED fixtures and install new lighting controls. Utilize existing poles.

	Replacement Equipment List			
	Description	**Quantity**		
1	Occupancy Sensor	14		RSMeans 26.09.23.10.0010
1	Vacancy Sensor	40		RSMeans 26.09.23.10
2	Ext. Lighting Control	10		RSMeans 26.09.23.10.0450
2	Ext LED Wall Ltg	8		RSMeans 26.56.23.10.1278
2	Ext LED Pole Ltg	2		RSMeans 26.56.19.60.2080

2 **Replace Exterior Lighting Fixtures**

	Quantity
Demo existing fixtures	10
Exterior wall fixture	8
Walkway pole lighting	2
Exterior lighting controls	10

1 **Lighting Occupancy Sensors (Estimate)**

	Quantity
Rooms (wall switch)	40
Halls (ceiling mtd)	14
Toilets (full coverage)	NA
Power packs for controls	

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing inefficient lighting with new LED lighting that offers the same levels of lumens. Contractor to confirm final selection with building owner and verify exact quantities and fixture types prior to bid. Provide all equipment and materials for all phases of demo, installation, including necessary permits and inspections. Work shall comply with Parkville Chapter 500 Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Energy Efficiency Measures (Mechanical)

Site contact: Dennis Meier
Co-Executive Director
Synergy Services, Inc.
Parkville, MO 64152
(816) 587-4100 ext. 104
DMeier@SynergyServices.org

EEM #

6 i.Replace Existing HVAC Rooftop Units. Replace old, inefficient HVAC rooftop units with new, efficient and equivalent systems (minimum 16 SEER) and weather sensing smart learning thermostatic controls. The building has eight units: two 3-ton, three 4-ton, two 5-ton, and one 7.5-ton.

ii.Perform Aerosol Duct Sealing. Provide sealing on supply ductwork to reduce air leakage to 2%.

5

	Replacement Equipment List			
	Description	**Quantity**		
6	3 Ton HVAC Rooftop Unit	2		
6	4 Ton HVAC Rooftop Unit	3		
6	5 Ton HVAC Rooftop Unit	2		
6	7.5 Ton HVAC Rooftop Unit	1		
5	Duct sealing for each supply	8		Reduce leakage to 2%

6

HVAC Rooftop Units			
Existing Model No.	**Ton**	**Exist. SEER**	**New SEER2**
ZF036N08A2AAA2A	3	13.0	16.0
ZF036N08A2AAA2A	3	13.0	16.0
ZF048N10A2AAA2A	4	13.0	16.0
ZF048N10A2AAA2A	4	13.0	16.0
ZF048N10A2AAA2A	4	13.0	16.0
ZF090N15N2AAA5A	5	13.0	16.0
ZF060N10A2AAA1A	5	13.0	16.0
48TCEA06A2A5A0A0A0	7.5	13.0	16.0

Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting an equivalent replacement of existing. Contractor to confirm final selection with building owner and verify quantities prior to bid. Provide all equipment and materials for all phases of demo, installation, and commissioning, including necessary permits and inspections. Work shall encompass best industry practices and comply with Parkville Chapter 500 Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Energy Efficiency Measures (Building Envelope)

Site contact: Dennis Meier
Co-Executive Director
Synergy Services, Inc.
Parkville, MO 64152
(816) 587-4100 ext. 104
DMeier@SynergyServices.org

EEM #

4 i.Improve Building Envelope: Replace Windows. Install energy-efficient double pane windows with low e-coating and tinted glass. Provide aluminum sash with thermal break. There are 28 windows that should be replaced.

7 ii.Improve Building Envelope: Replace Front Entry Door. Install energy-efficient storefront double door assembly.

3 iii.Improve Building Envelope: Weatherization. Provide weatherization seals (weather stripping, rubberized seals, expanding foam or caulk) at exterior piping/vent/conduit penetrations, doors, and windows, including adding insulation to barriers between conditioned and unconditioned spaces.

	Replacement Equipment List			
	Description	**Quantity**		
4	Window	28		Double pane; low-e; tinted
7	Front Entry Door	1		Double pane; low-e; tinted
3	Weatherization	(site)		

7 **Storefront glass double doors**
12 ft2/42~25% metal frame
REPLACEMENT: RS Means: 2020 Commercial Renovation Costs 08 41 19
DEMOLITION: RS Means: 2020 Commercial Renovation Costs 08 05

4 **Windows (Approx)**

	Quantity
5'H x 8'8" W (3 units)	2
4'3"H x 8'9"W (3 units)	1
4'6"H x 5'9"W (2 units)	2
4'4"H x 3'W	21
7'H x 1'10"W single pane side lights	2

REPLACEMENT: RS Means: 2020 Commercial Renovation Costs 08 4
DEMOLITION: RS Means: 2020 Commercial Renovation Costs 08 05

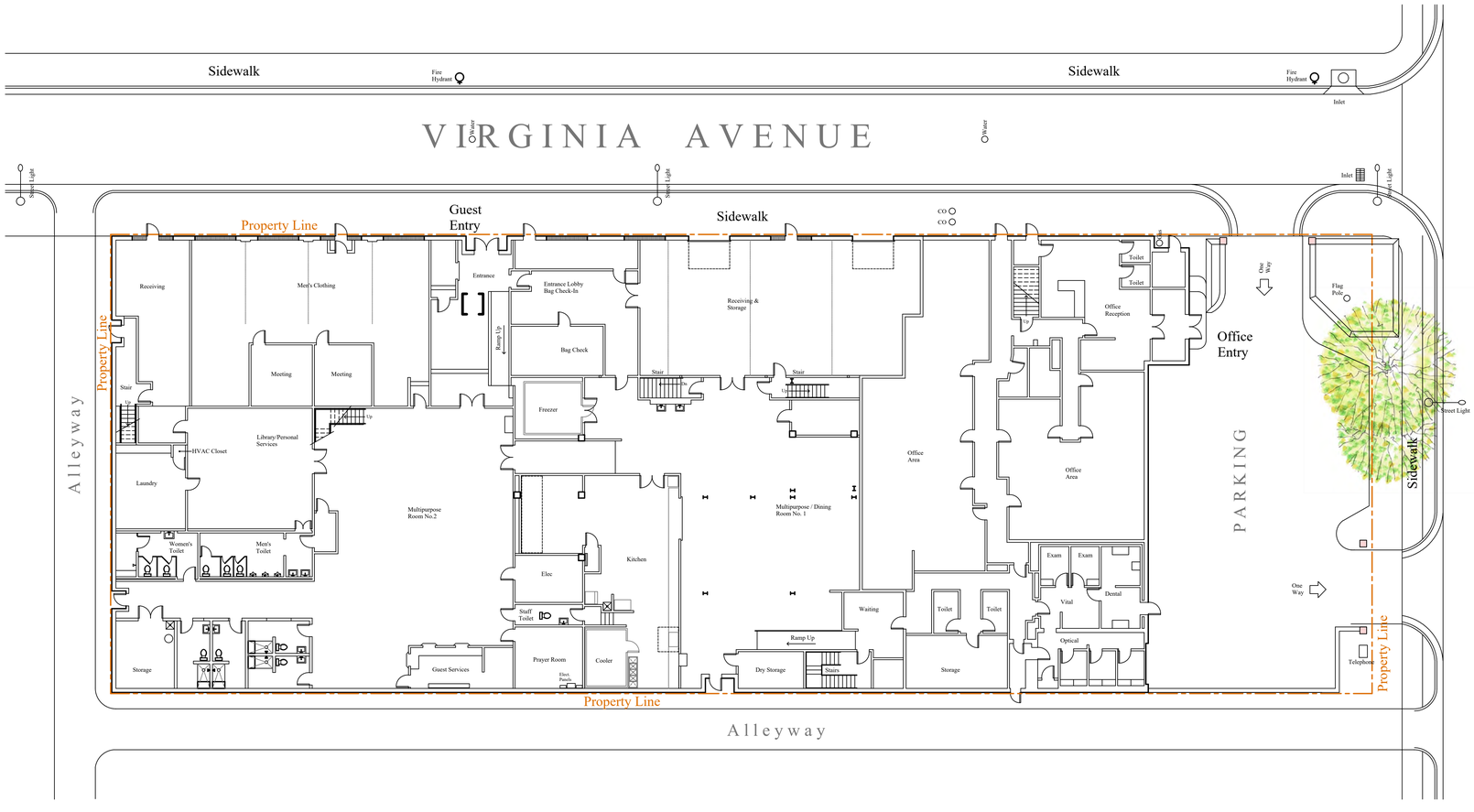
Note:
Contractor shall examine existing conditions prior to bid. The site owner is requesting a similar replacement of existing. Contractor to confirm final selection with building owner and verify quantities prior to bid. Provide all equipment and materials for all phases of demo, installation, and commissioning, including necessary permits and inspections. Work shall encompass best industry practices and comply with Parkville Chapter 500 Building Code. At completion of project, site conditions shall meet or exceed current conditions.

Custom Engineering, Inc.
Columbia, MO | Independence, MO (HQ) |
St. Louis, MO | Overland Park, KS
573.875.4365 | 816.350.1473 | 314.366.3360



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HOPE FAITH MINISTRIES DRAWINGS



Site Plan: Existing Conditions

Scale: 1/16" = 1'-0"

MDC Architecture, Inc.
Studio B

9701 Russell Street
Overland Park, Kansas 66212
913-341-5053

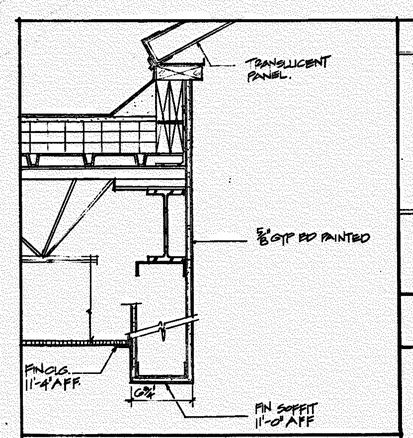
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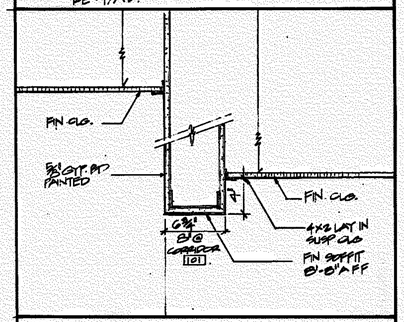
No.	Date	Revision

Commission No: 2026-010
Date:
Drawn By: Jackie Lemanczyk
Chkd By: MDC
Sheet

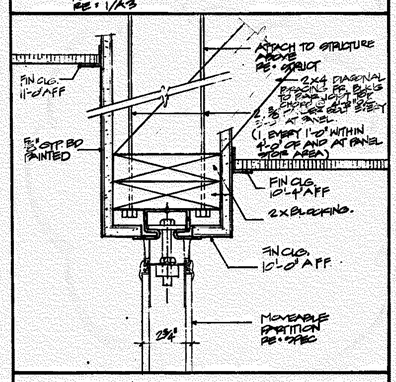
KC PUBLIC LIBRARY - WALDO BRANCH DRAWINGS



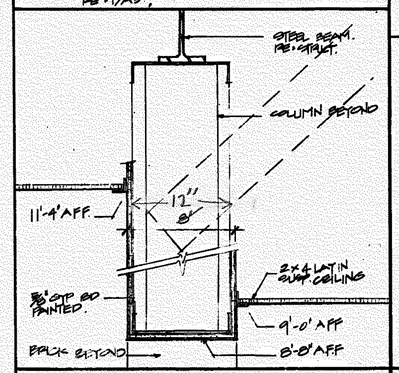
5 CLG. DROP SECTION @ TRANSLUCENT PANEL.
1½" = 1'-0"
RE: 1/A3.



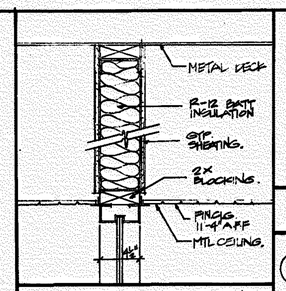
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1½" = 1'-0"
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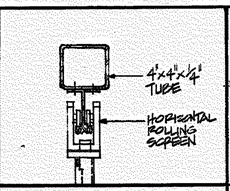
3 CEILING DETAIL @ MOVEABLE PARTITION
3" = 1'-0"
RE: 1/A3,



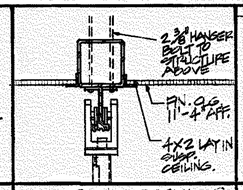
2 SECTION @ CEILING DROP
1½" = 1'-0"
RE: 1/A3, 2/A6



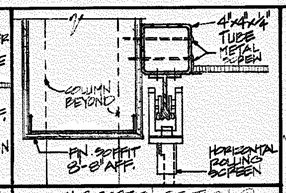
6 DETAIL ABOVE ENTRY
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RE: 1/A3. 1/A6



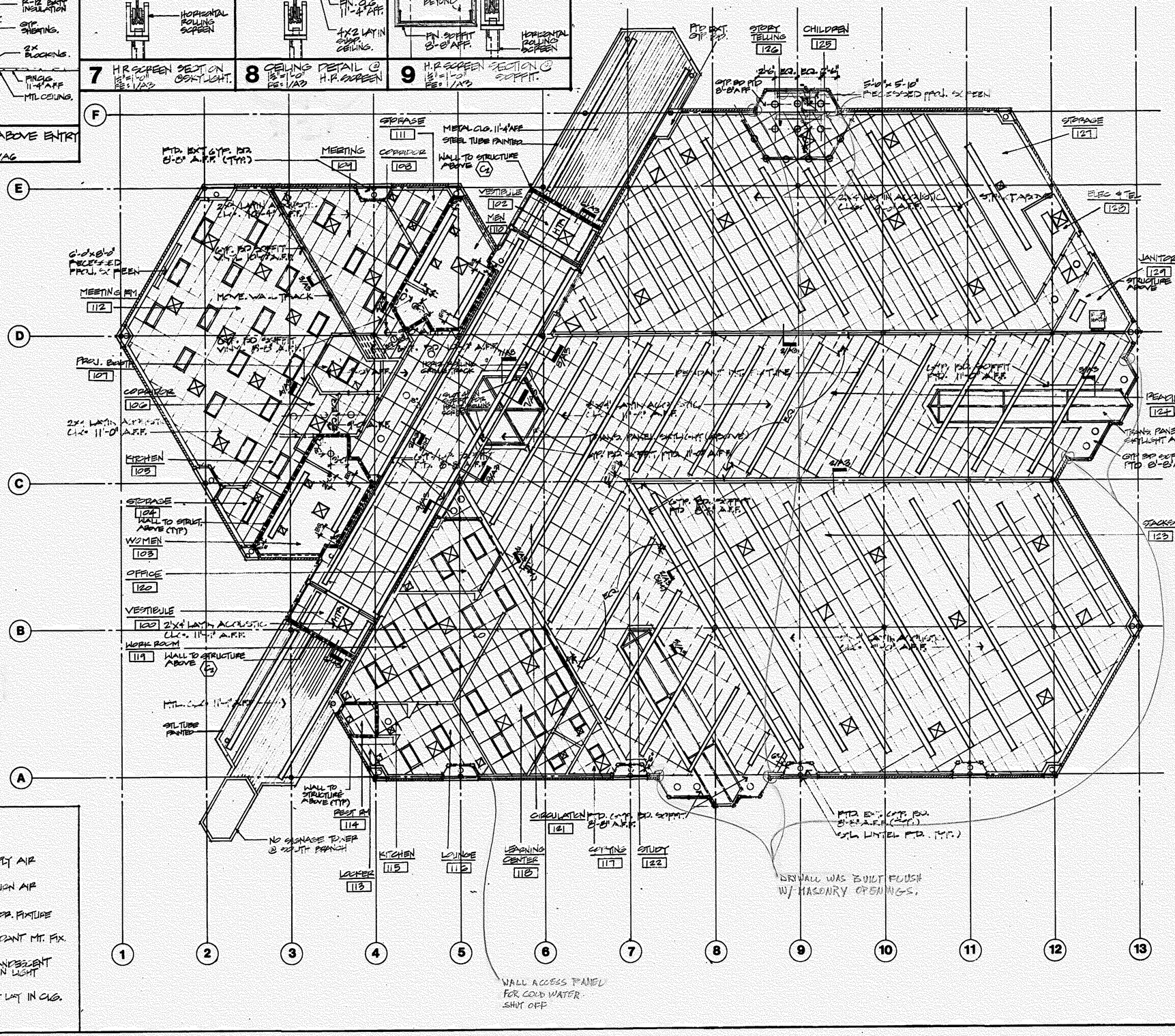
7 H.R SCREEN SECTION @ SKYLIGHT.
1½" = 1'-0"
RE: 1/A3



8 CEILING DETAIL @ H.R. SCREEN
1½" = 1'-0"
RE: 1/A3



9 H.R SCREEN SECTION @ SOFFIT.
1½" = 1'-0"
RE: 1/A3



SYMBOLS

- SUPPLY AIR
- RETURN AIR
- FLUOR. FIXTURE
- PENDANT MT. FIX.
- INCANDESCENT DOWN LIGHT
- 2x4 LAY IN CLG.

1 REFLECTED CEILING PLAN
1/8" = 1'-0"

Devine Architects
231 West Forty-Seventh
Kansas City, Missouri 64112

Taliaferro and Brown
Civil Engineers

Bob D. Campbell
Structural Engineers

Massaglia Neustrom and Bredson
Mechanical / Electrical

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Branch Library Facilities

W. Independence Branch
23rd. & Vermont
Independence, MO

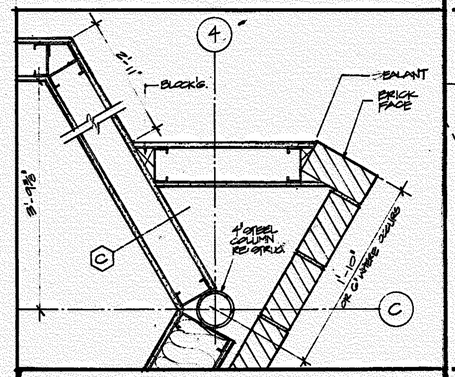
Northeast Branch
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Kansas City, MO

South Branch
75th. & Grand
Kansas City, MO

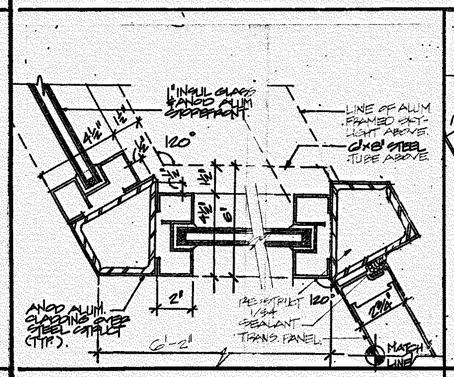
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Date: 25 NOV 87
Drawn by: RL-T
Revised:

A3
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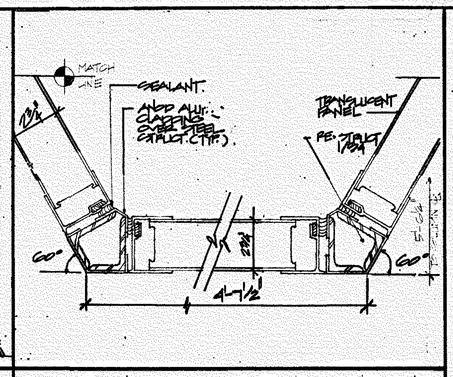
ALL THREE FACILITIES



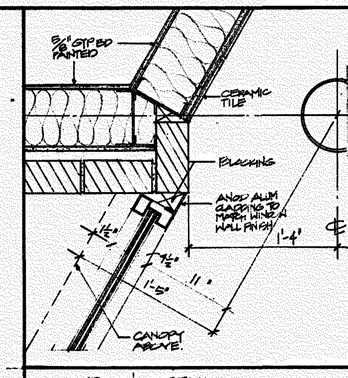
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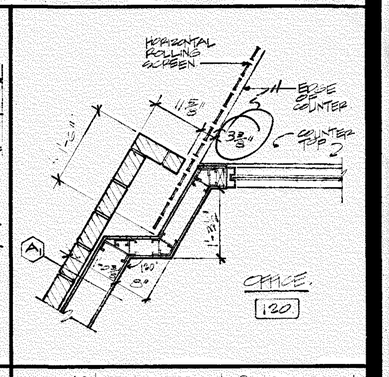
6 ENLARGED PLAN @ BAY WINDOW
3/4" = 1'-0"
RE: 1/A2



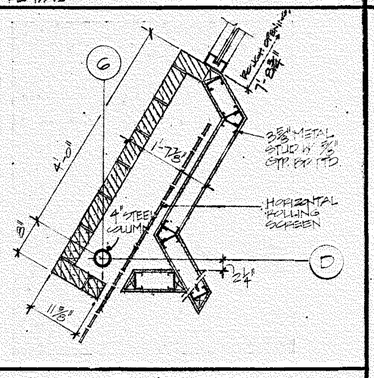
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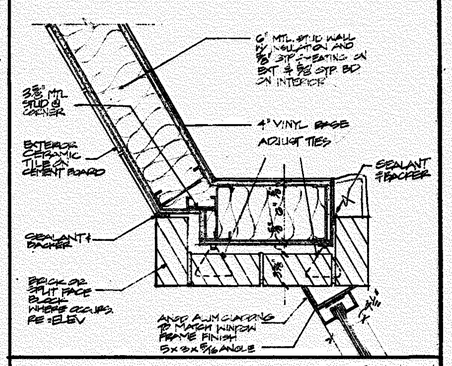
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1½" = 1'-0"
RE: 1/A2



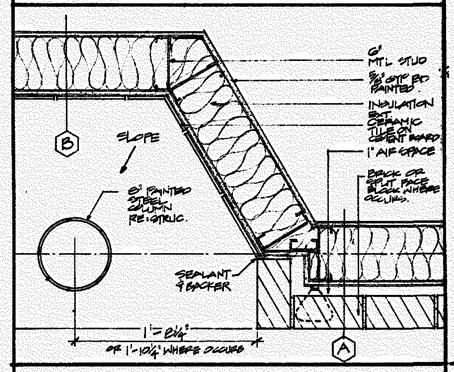
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3/4" = 1'-0"
RE: 1/A2



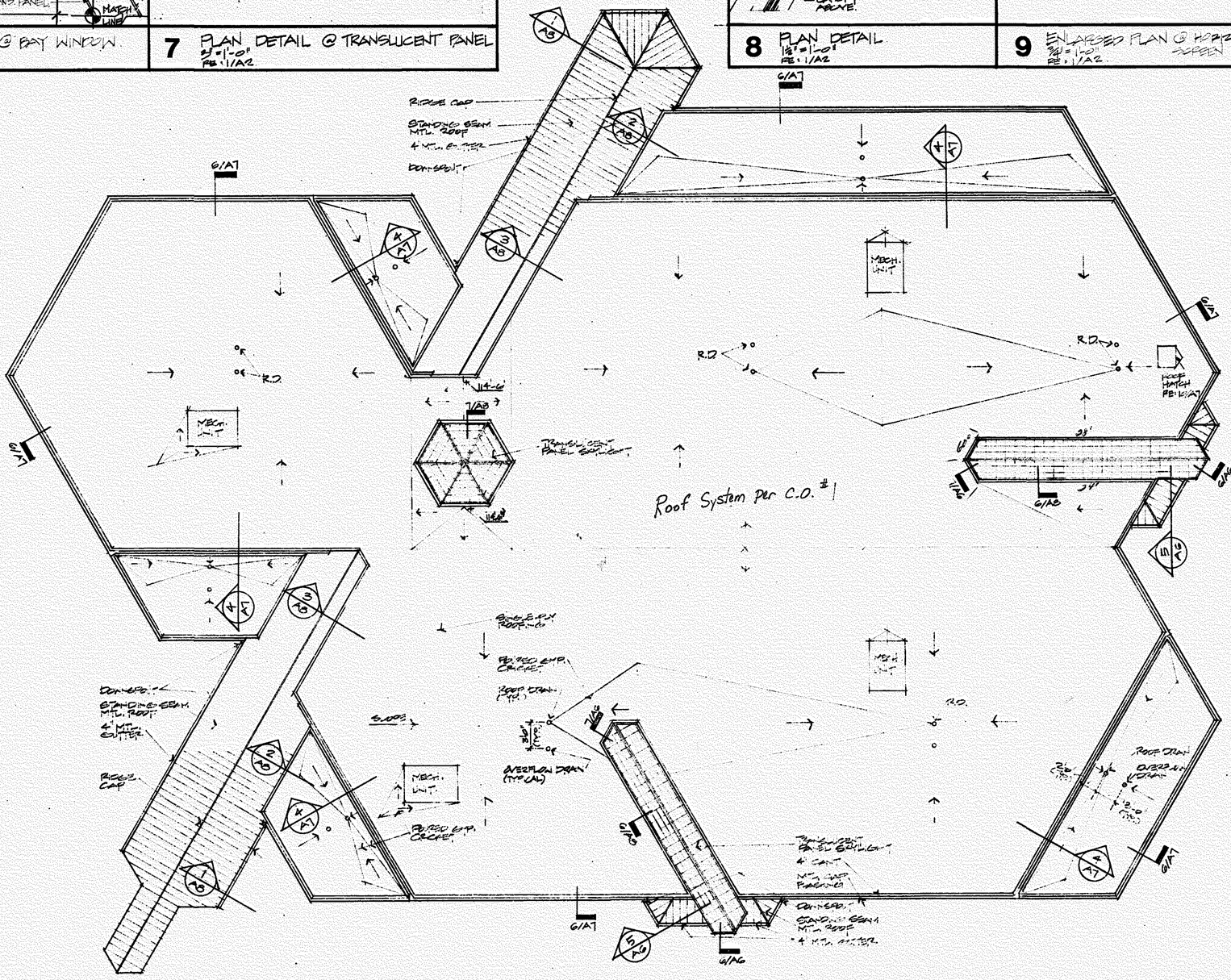
4 ENLARGED PLAN @ HORIZ. ROLLING SCREEN STORAGE CLOSET.
3/4" = 1'-0"
RE: 1/A2



3 ENLARGED PLAN @ FACE OF WINDOW INSET.
1½" = 1'-0"
RE: 1/A2



2 ENLARGED PLAN @ BUILDING CORNER
1½" = 1'-0"
RE: 1/A2



1 ROOF PLAN
⅛" = 1'-0"

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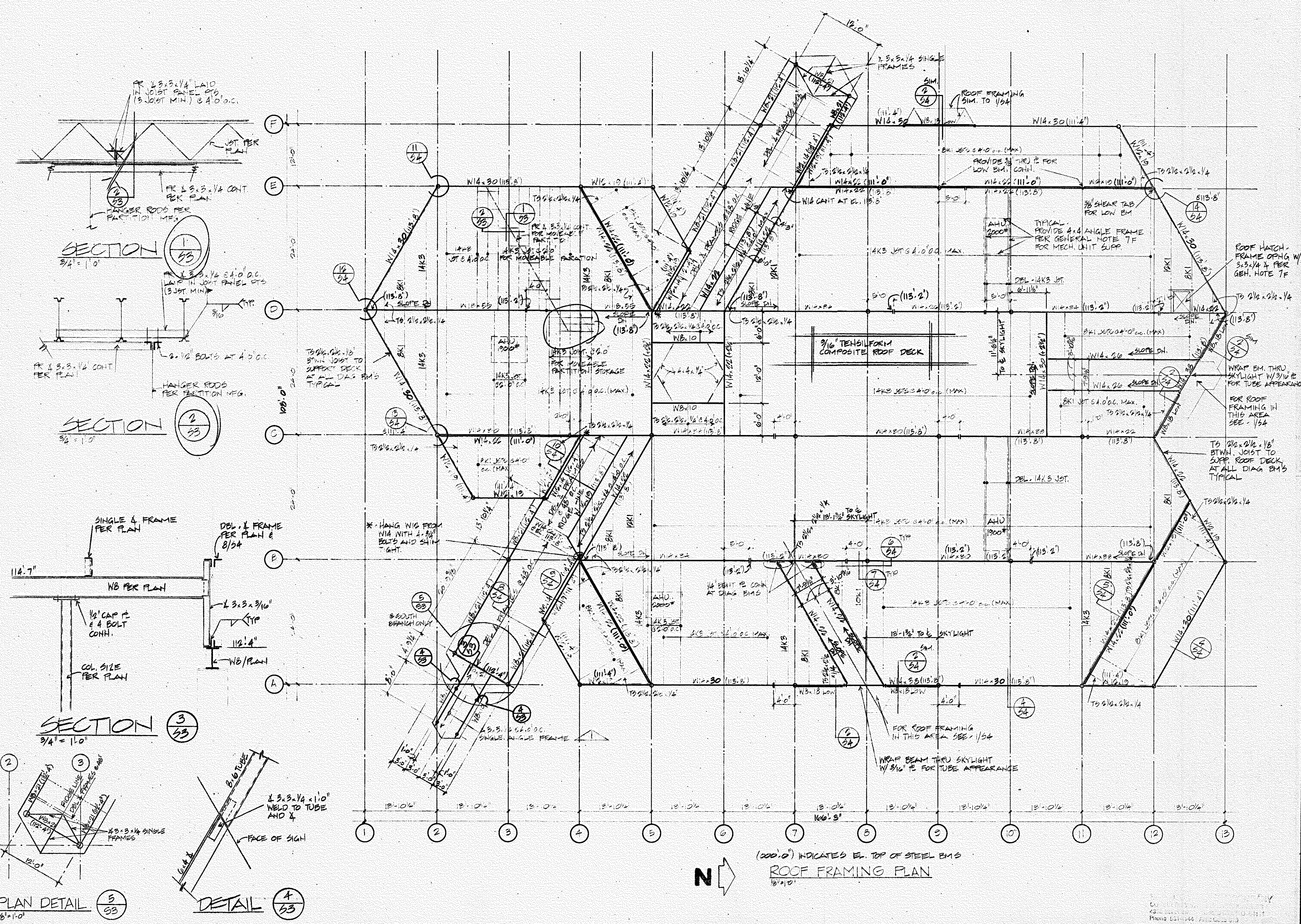
Northeast Branch
Wilson & White
Kansas City, MO

South Branch
75th. & Grand
Kansas City, MO

Project No: 85-09
Date: 25 NOV 85
Drawn by: DM
Revised:

A4
ROOF PLAN

ALL THREE FACILITIES



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Kansas City, Missouri 64112

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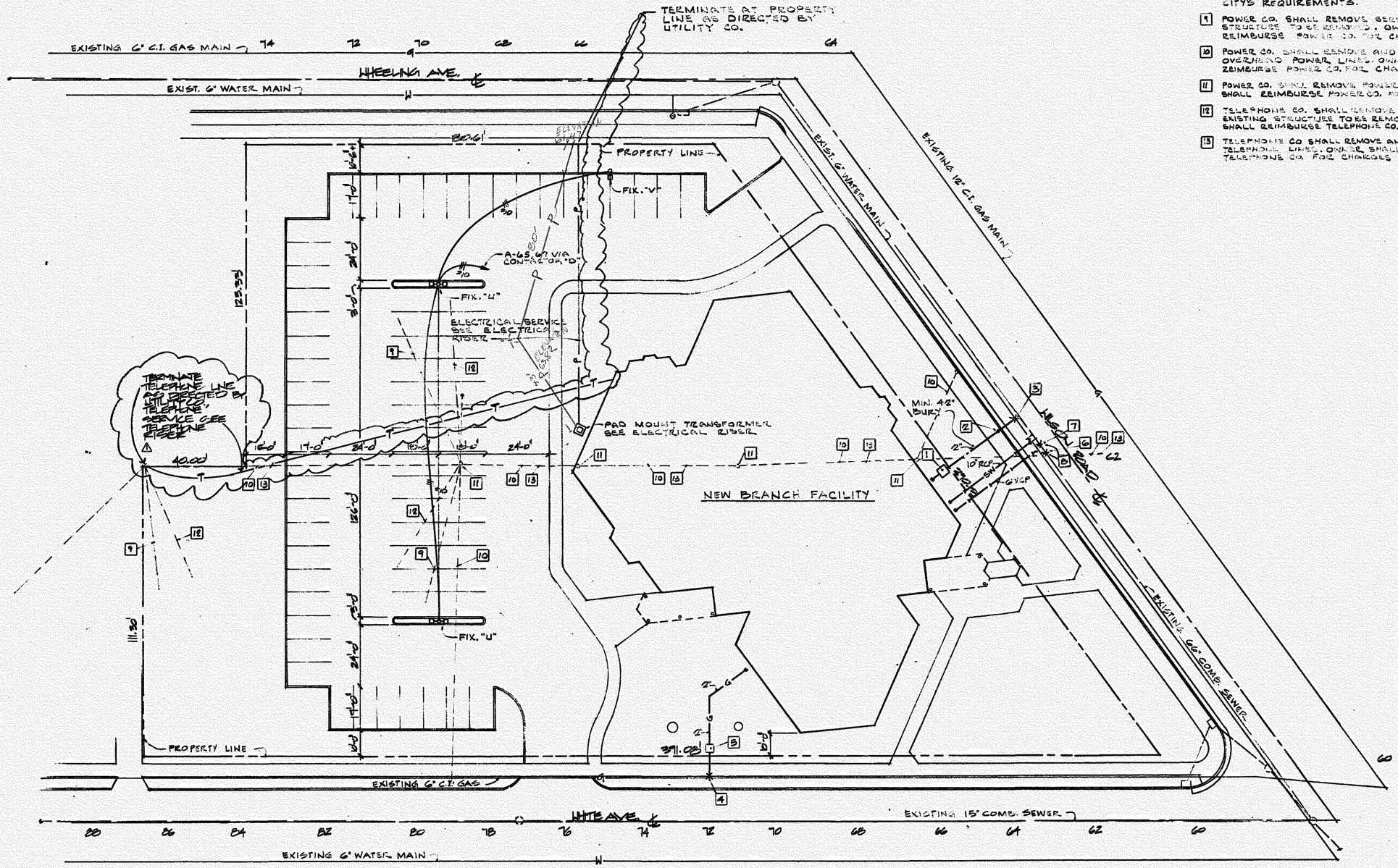
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23rd. & Vermont Independence, MO	Wilson & White Kansas City, MO	75th. & Grand Kansas City, MO

Project No: 87022
Date: 25 Nov. 1987
Drawn by: MFQ, FAC
Revised:

S3

ROOF FRAMING PLAN

ALL THREE FACILITIES



NORTHEAST BRANCH

MECHANICAL / ELECTRICAL SITE PLAN NOTES:

SCALE: 1" = 20'-0"

NOTES:

1. INSTALL NEW 2" WATER METER WITH BY-PASS IN WATER METER PIT TO WATER DEPARTMENTS REQUIREMENTS.
2. GATE VALVE WITH CAST IRON ROADWAY BOX & EXTENSION.
3. WATER DEPARTMENT TO TAP EXISTING WATER MAIN - REIMBURSED BY PLUMBING CONTR.
4. GAS SERVICE COMPANY TO TAP EXISTING GAS MAIN.
5. GAS METER SETTING & REGULATOR FURNISHED BY GAS CO. -TOTAL BUILDING LOAD 670 CFH
6. CONNECT NEW 6" SANITARY SEWER LINE TO EXISTING 66" COMBINATION SEWER LINE - VERIFY EXACT LOCATION & ELEVATION.
7. CONNECT NEW 10" STORM WATER LINE TO EXISTING 66" COMBINATION SEWER LINE - VERIFY EXACT LOCATION & ELEVATION.
8. CONNECTION TO EXISTING COMBINATION SEWER SHALL BE IN ACCORDANCE WITH CITYS REQUIREMENTS.
9. POWER CO. SHALL REMOVE SERVICE TO EXIST. STRUCTURE TO BE REMOVED. OWNER SHALL REIMBURSE POWER CO. FOR CHARGES.
10. POWER CO. SHALL REMOVE AND RELOCATE OVERHEAD POWER LINES. OWNER SHALL REIMBURSE POWER CO. FOR CHARGES.
11. POWER CO. SHALL REMOVE POWER POLE. OWNER SHALL REIMBURSE POWER CO. FOR CHARGES.
12. TELEPHONE CO. SHALL REMOVE SERVICE TO EXISTING STRUCTURE TO BE REMOVED. OWNER SHALL REIMBURSE TELEPHONE CO. FOR CHARGES.
13. TELEPHONE CO SHALL REMOVE AND RELOCATE TELEPHONE LINES. OWNER SHALL REIMBURSE TELEPHONE CO. FOR CHARGES.

Devine Architects
231 West Forty-Seventh
Kansas City, Missouri 64112

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Civil Engineers

Bob D. Campbell
Structural Engineers

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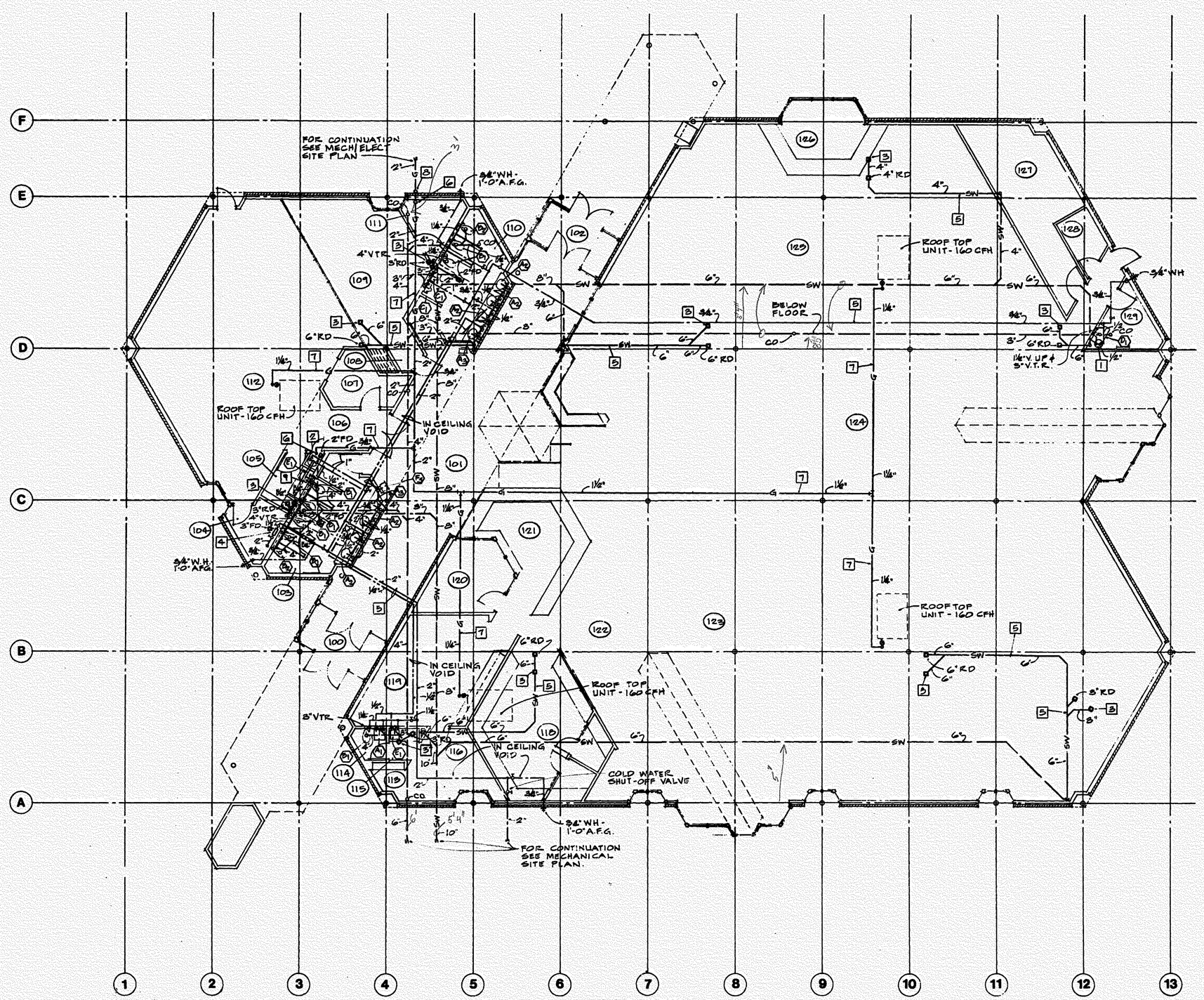
W. Independence Branch	Northeast Branch	South Branch
23rd. & Vermont	Wilson & White	75th. & Grand
Independence, MO	Kansas City, MO	Kansas City, MO

Project No: B702.2
Date: 25 Nov 87
Drawn by: RAC
Revised: 1 MAR. 88

ME1 b
MECH./ELEC. SITE PLAN
NORTHEAST BRANCH

NOTES:

1. ELECTRIC HOT WATER HEATER - MOUNTED ON SHELF ABOVE JAN. BASIN - SEE DETAIL.
2. HOT WATER HEATER - SEE DETAIL
3. OVERFLOW DRAIN - SEE DETAIL.
4. INSTALL 2" BACK FLOW PREVENTER FOR LAWN SPRINKLER SYSTEM.
5. IN CEILING VOID SPACE.
6. GAS PIPE ROOF PENETRATION - SEE DETAIL.
7. GAS PIPING ON ROOF - SEE GAS PIPE SUPPORT DETAIL.
8. RISE ABOVE GROUND BEFORE ENTERING BUILDING WITH GAS LINE.
9. OFFSET WATER HEATER FLUE ABOVE CEILING TO AVOID TERMINATION NEAR COMBUSTION AIR INTAKE OR R.T.U. #4 O.A. INTAKE



NORTHEAST BRANCH
PLUMBING FLOOR PLAN
SCALE: 1/8" = 1'-0"

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231 West Forty-Seventh
Kansas City, Missouri 64112

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Civil Engineers

Bob D. Campbell
Structural Engineers

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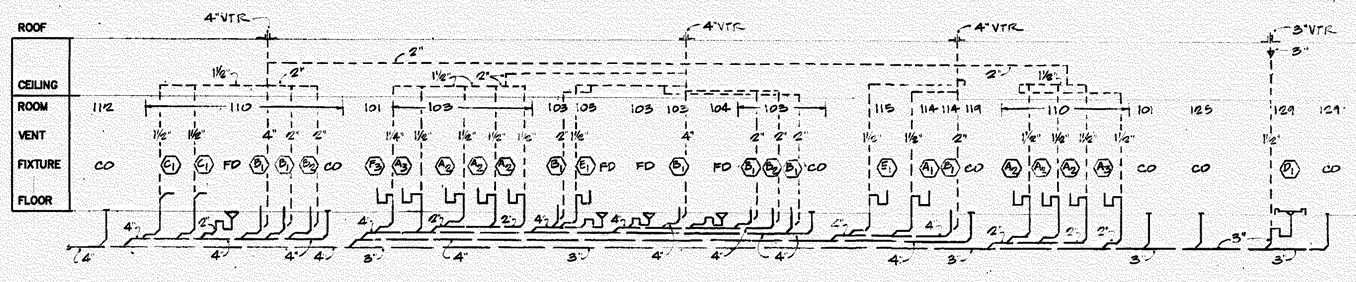
W. Independence Branch
23rd. & Vermont
Independence, MO

Northeast Branch
Wilson & White
Kansas City, MO

South Branch
75th. & Grand
Kansas City, MO

Project No: 8702.2
Date: 25 Nov 87
Drawn by: RAC
Revised:

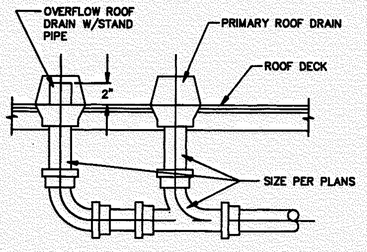
P1 b



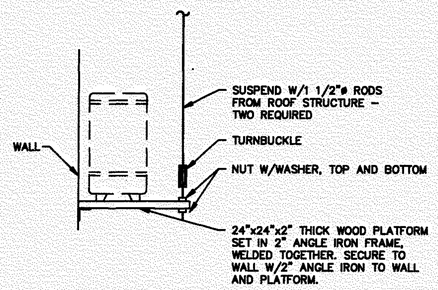
SOUTH BRANCH
PLUMBING VENTING RISER DIAGRAM
NOT TO SCALE

PLUMBING SYMBOL LIST

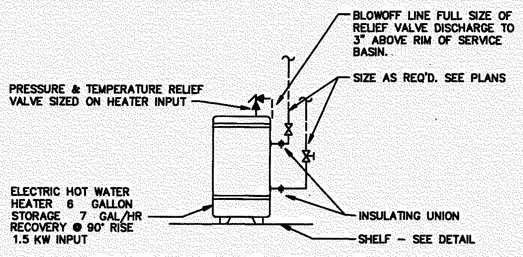
CW	COLD WATER
HW	140° HOT WATER
W	WASTE BELOW GROUND
V	SANITARY WASTE VENT
SW	STORM WATER ABOVE GROUND
SW	STORM WATER BELOW GROUND
G	NON-INTERRUPTABLE GAS
D	INDIRECT DRAIN ABOVE GROUND
	GATE VALVE
	CHECK VALVE
	GAS VALVE
	UNION
WH	WALL HYDRANT
	CLEAN-OUT FLOOR
FD	FLOOR DRAIN
RD	ROOF DRAIN
VTR	VENT THRU ROOF
	PLUMBING FIXTURE DESIGNATION



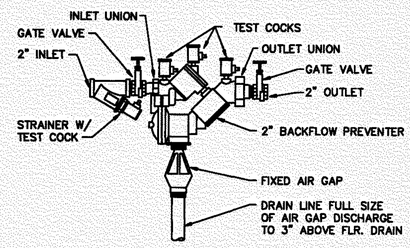
ROOF DRAIN DETAIL
NOT TO SCALE



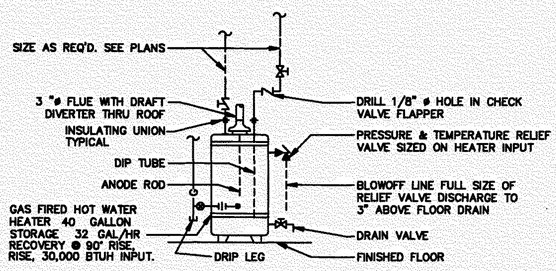
WATER HEATER SHELF - DETAIL
NOT TO SCALE



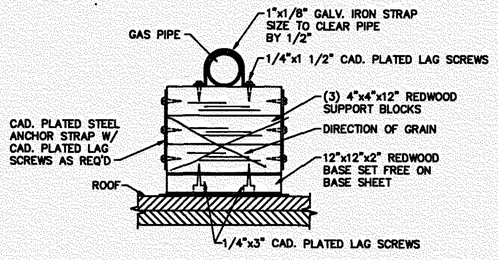
ELECTRIC WATER HEATER - DETAIL
NOT TO SCALE



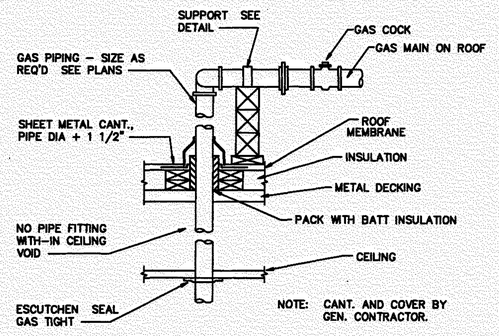
BACKFLOW PREVENTER - DETAIL
NOT TO SCALE



HOT WATER HEATER - DETAIL
NOT TO SCALE



GAS PIPE SUPPORT - DETAIL
NOT TO SCALE



GAS PIPE ROOF PENETRATION - DETAIL
NOT TO SCALE

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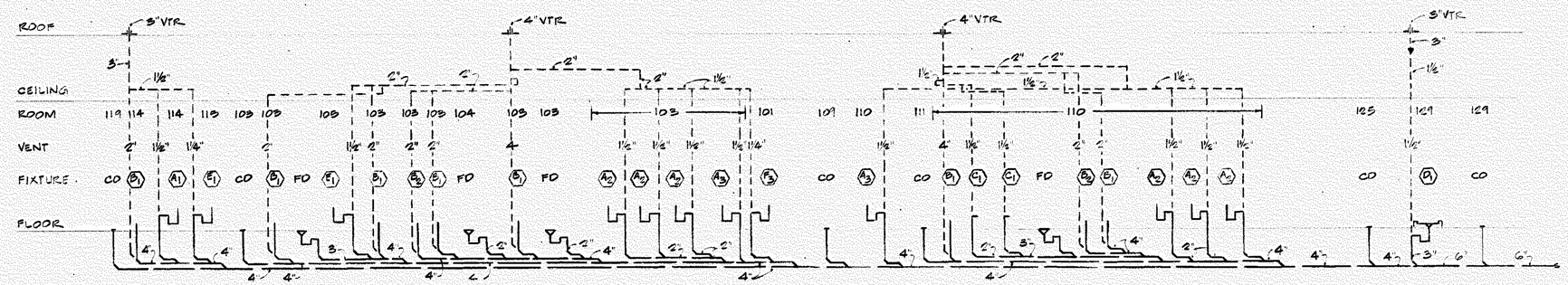
South Branch
75th & Grand
Kansas City, MO

Northeast Branch
Wilson & White
Kansas City, MO

W. Independence Branch
23rd. & Vermont
Independence, MO

Project No: 892.2
Date: 23 Mar 87
Drawn by: RAC
Revised:

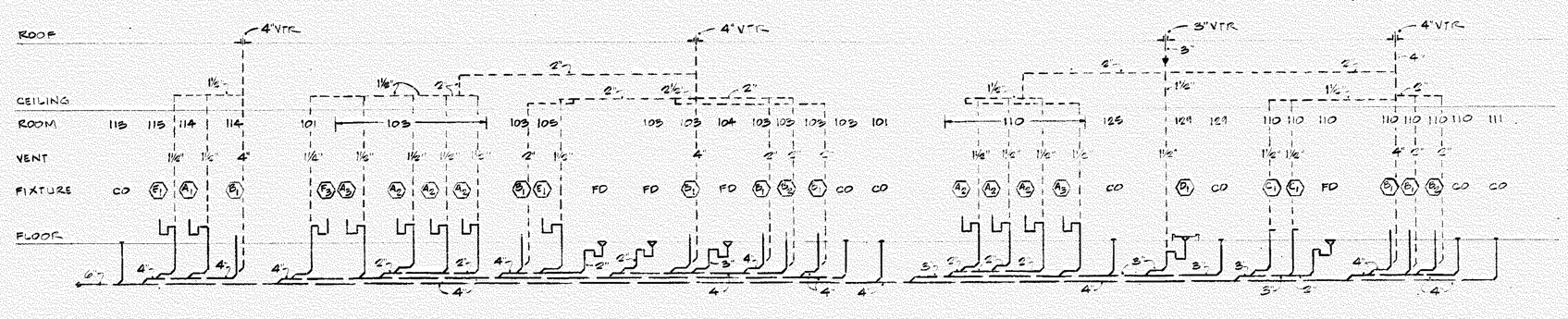
P2



W. INDEPENDENCE BRANCH

PLUMBING VENTING RISER DIAGRAM

NOT TO SCALE



NORTHEAST BRANCH

PLUMBING VENTING RISER DIAGRAM

NOT TO SCALE

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Kansas City, MO

South Branch
75th. & Grand
Kansas City, MO

Project No: 8702.2
Date: 23 Nov 87
Drawn by: RAC
Revised:

P3

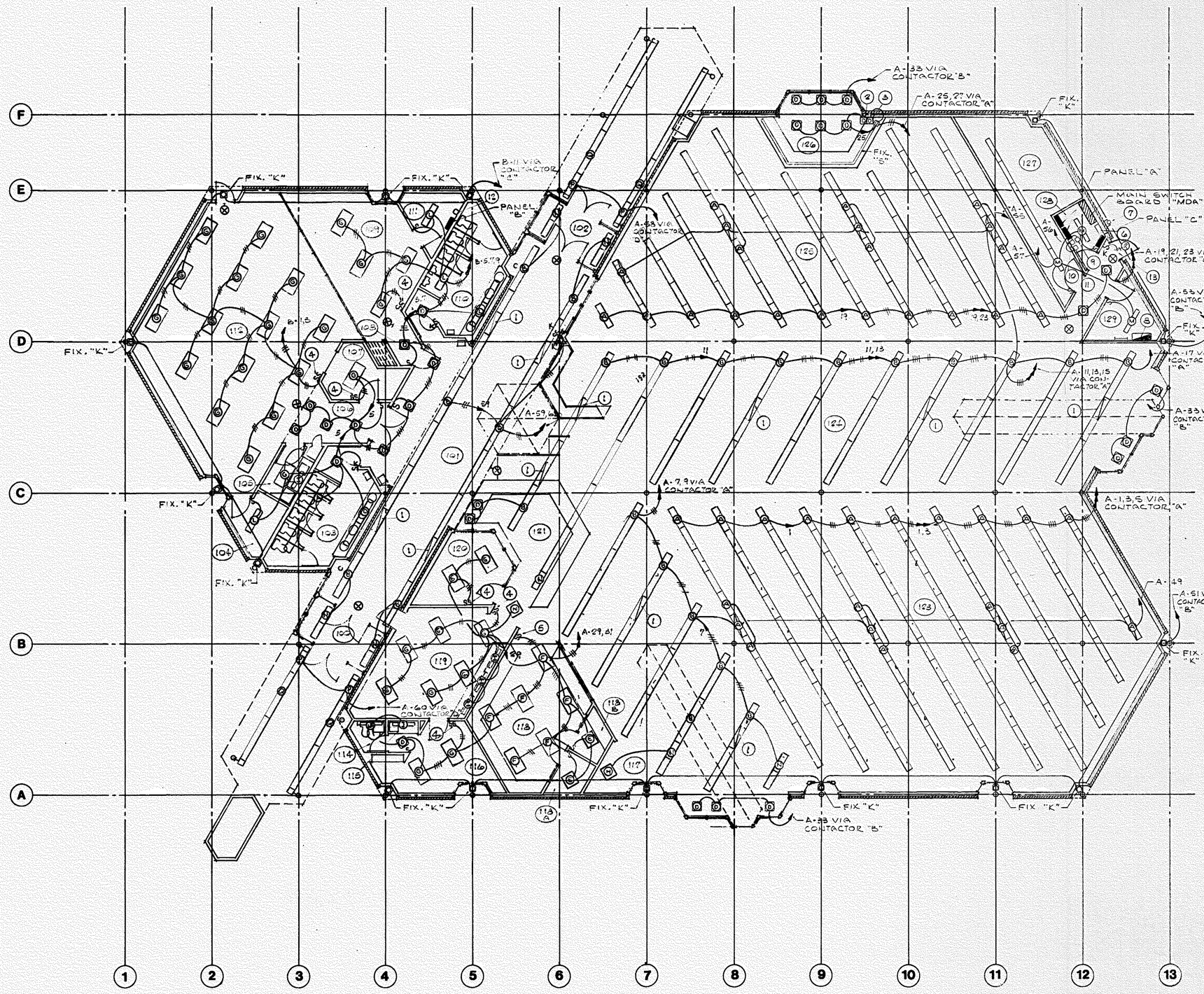
NOTES:

1. NIGHT LIGHT - LIGHT FIXTURE SHALL NOT BE SWITCHED.
2. INCANDESCENT DIMMER 1000 WATT
3. INCANDESCENT DIMMER 2000 WATT
4. EACH SWITCH SHALL CONTROL TWO LAMPS OF EACH TYPE "G" LIGHT FIXTURE.
5. ONE SWITCH SHALL CONTROL TWO LAMPS THE OTHER SWITCH SHALL CONTROL ONE LAMP OF EACH TYPE "F" LIGHT FIXTURE.
6. "CT" CABINET SEE ELECTRICAL RISER
7. ELECTRIC UTILITY METER SEE ELECTRICAL RISER.
8. TELEPHONE EQUIPMENT CABINET SEE POWER FLOOR PLAN.
9. PHOTO CELL ABOVE ROOF.
10. ELECTRONIC FOUR CIRCUIT TIME SWITCH
11. CONTACTOR "A" 9 POLES AT 20AMPS PER POLE CONTACTOR CONTROLLED FROM REMOTE ON/OFF SWITCH.

    CONTACTOR "B" 8 POLES AT 20AMPS PER POLE CONTACTOR CONTROLLED FROM TIME SWITCH ON/OFF BY PHOTO CELL

    CONTACTOR "D" 4 POLES AT 20AMPS PER POLE CONTACTOR CONTROLLED FROM TIME SWITCH ON BY PHOTO CELL OFF BY TIME SWITCH.
12. CONTACTOR "C" 2 POLES AT 20AMPS PER POLE CONTACTOR CONTROLLED FROM TIME SWITCH ON/OFF BY PHOTO CELL
13. CONTROL SWITCH FOR CONTACTOR "A" KEY OPERATED.

Supplemental lighting per CO.#1



LIGHTING
FLOOR PLAN – ELECTRICAL
SCALE 1/8" = 1'-0"

VARIES, REFER TO SITE PLAN

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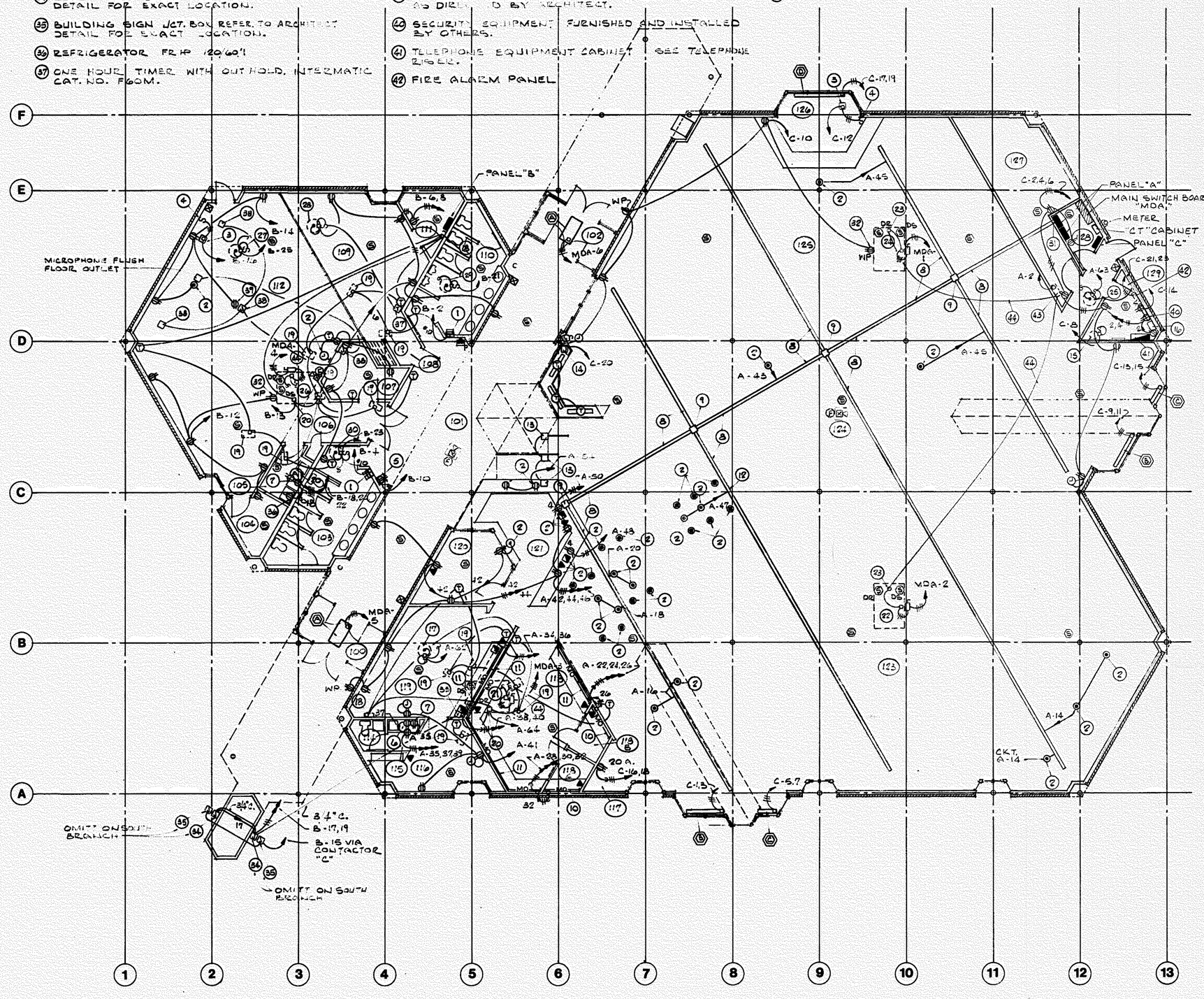
W. Independence Branch 23rd. & Vermont Independence, MO	Northeast Branch Wilson & White Kansas City, MO	South Branch 75th. & Grand Kansas City, MO

Project No: 85.02.2
Date: 25 Nov 87
Drawn by: G.D.K.
Revised:

E 1

NOTES:

1. HAND DRYER WORLD 2451 OR EQUAL 120/60/1 2300 WATTS COLOR AS SELECTED.
2. EXACT LOCATION OF OUTLETS OR DEVICE AS DIRECTED BY ARCHITECT.
3. MOTORIZED PROJECTION SCREEN ROUGH-IN AND CONNECT AS REQUIRED 120/60/1.
4. PROJECTION SCREEN SWITCH FURNISHED BY GENERAL CONTRACTOR. ROUGH-IN AND CONNECT AS REQUIRED.
5. ELECTRIC DRINKING FOUNTAIN FR HP 120/60/1.
6. UNDERCOUNTER REFRIGERATOR FR HP 120/60/1.
7. MICROWAVE REFER TO ARCHITECT DETAIL FOR EXACT LOCATION OF OUTLET.
8. 3.8 SQ. IN. UNDERFLOOR DUCT WITH INSERTS 24" ON CENTERS FIRST INSERT 6" FROM END OF DUCT.
9. UNDERFLOOR DUCT JUNCTION BOX SINGLE LEVEL.
10. SINGLE CIRCUIT MULTI-OUTLET ASSEMBLY WITH OUTLETS 6" ON CENTERS 3 WIRE INSULATED GROUNDING CONDUCTOR. CENTER LINE 8" ABOVE COUNTER.
11. TWO CIRCUIT MULTI-OUTLET ASSEMBLY WITH OUTLETS 6" ON CENTERS 4 WIRE INSULATED GROUNDING CONDUCTOR. CENTER LINE 8" ABOVE COUNTER.
12. UNDERFLOOR DUCT WITH 3/4" CONDUIT SIDE INSERT (TYPICAL).
13. BOOK DETECTION SYSTEM ROUGH-IN AND CONNECT AS REQUIRED.
14. DISPLAY CASE ROUGH-IN AND CONNECT AS REQUIRED.
15. ELECTRIC HOT WATER HEATER 1500 WATTS 120/60/1 ROUGH-IN AND CONNECT AS REQUIRED.
16. MODEM CABINET FURNISHED BY OWNER ROUGH-IN AND CONNECT AS REQUIRED
17. ROOF EXH. EF-5 1/6 HP 120/60/1 ROUGH-IN AND CONNECT AS REQ'D. INTERLOCK WITH R.T.U.#2
18. DISCRIMATOR PANEL - ROUGH IN AND CONNECT CONTROL WIRING AS REQ'D BY EQUIP. MFG. NO. AND SIZE OF CONDUIT AND SIZE OF CONDUCTORS AS REQ'D. BY EQUIP. MFG.
19. VAV DAMPER - ROUGH-IN AND CONNECT CONTROL WIRING AS REQ'D. BY EQUIP. MFG. NO. AND SIZE OF CONDUIT AND SIZE OF CONDUCTORS AS REQ'D BY EQUIP. MFG.
20. ROUGH-IN AND CONNECT CONTROL TRANSFORMER, FAN CONTACTOR, VELOCITY METER, L.A.T. AND BY PASS DAMPER AS REQ'D.
21. R.T.U. #3 72.9 FLA 208/60/3 ROUGH-IN AND CONNECT AS REQ'D. CONNECT CONTROL WIRING AS REQ'D.
22. R.T.U. #2 68.3 FLA 208/60/3 ROUGH-IN AND CONNECT AS REQ'D. CONNECT CONTROL WIRING AS REQ'D.
23. REMOTE THERMOSTAT SENSOR IN RETURN AIR DUCT. ROUGH-IN AND CONNECT AS REQ'D
24. R.T.U. #1 72.9 FLA 208/60/3 ROUGH-IN AND CONNECT AS REQ'D. CONNECT CONTROL WIRING AS REQ'D.
25. ROOF EXH. EF-6 100 WATTS 120/60/1 ROUGH-IN AND CONNECT AS REQ'D. INTERLOCK WITH R.T.U. #1 AS REQ'D.
26. R.T.U. #4 68.3 FLA. 208/60/3 ROUGH-IN AND CONNECT AS REQ'D. CONNECT CONTROL WIRING AS REQ'D.
27. ROOF EXH. EF-1 1/6 HP 120/60/1 ROUGH-IN AND CONNECT AS REQ'D. INTERLOCK WITH R.T.U. #4 AS REQ'D.
28. ROOF EXH. EF-2 100 WATTS 120/60/1 ROUGH-IN AND CONNECT AS REQ'D.
29. ROOF EXH. EF-3 1/6 HP 120/60/1 ROUGH-IN AND CONNECT AS REQ'D. INTERLOCK WITH R.T.U. #4 AS REQ'D.
30. ROOF EXH. EF-4 1/6 HP 120/60/1 ROUGH-IN AND CONNECT AS REQ'D. INTERLOCK WITH R.T.U. #4 AS REQ'D.
31. UNDERFLOOR DUCT WITH VERTICAL RISE TO PANEL "A"
32. MOUNT RECEPTACLE ON ROOF TOP UNIT AS DIRECTED BY MECH. CONTR.
33. DATA TERMINAL - EXACT LOCATION OF JCT. BOX AS DIRECTED BY ARCHITECT.
34. ELECTRONIC SIGN JCT. BOX REFER TO ARCHITECT DETAIL FOR EXACT LOCATION.
35. BUILDING SIGN JCT. BOX REFER TO ARCHITECT DETAIL FOR EXACT LOCATION.
36. REFRIGERATOR FR HP 120/60/1
37. ONE HOUR TIMER WITH OUT HOLD, INTERMATIC CAT. NO. F60M.
38. SPEAKER JCT. BOX EXACT LOCATION AS DIRECTED BY ARCHITECT. 3/4" CONDUIT BETWEEN JCT. BOXES.
39. OVERHEAD PROJECTOR OUTLET EXACT LOCATION AS DIRECTED BY ARCHITECT.
40. SECURITY EQUIPMENT FURNISHED AND INSTALLED BY OTHERS.
41. TELEPHONE EQUIPMENT CABINET SEE TELEPHONE RISER.
42. FIRE ALARM PANEL
43. ENERG. MANAGEMENT SYSTEM 120/60/1 ROUGH-IN AND CONNECT AS REQ'D.
44. CONTROL WIRING TO ENERG. MANAGEMENT SYSTEM.



POWER

FLOOR PLAN – ELECTRICAL

SCALE 1/8" = 1'-0"

VARIES, REFER TO SITE PLAN

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75th. & Grand
Kansas City, MO

Project No: 8702.2
Date: 25 Nov 87
Drawn by: G.D.K.
Revised:

E 2

See revised Plan of 6-16-88

PANELBOARD "A"

LOCATION: 128

AMPS: 225 MAINS: M.L.O. VOLTS/PHASE/WIRE: 120/208/3/4 MOUNTING: SURFACE

BRKR. A.	P.	LOAD	CIRCUIT WATTS	NO.	PHASE LOADS A	B	C	CIRCUIT NO.	WATTS	LOAD	BRKR. P.	A.
20	1	LIGHTING	1505	1	2505			2	1000	ENERG. SYS.	1	20
20	1	LIGHTING	1505	3		2505		4	1000	FUTURE	1	20
20	1	LIGHTING	1462	5			2462	6	1000	FUTURE	1	20
20	1	LIGHTING	725	7	1725			8	1000	FUTURE	1	20
20	1	LIGHTING	1325	9		2325		10	1000	FUTURE	1	20
20	1	LIGHTING	1646	11			2646	12	1000	FUTURE	1	20
20	1	LIGHTING	1318	13	1818			14	500	RECEPTACLE	1	20
20	1	LIGHTING	1318	15		1818		16	500	RECEPTACLE	1	20
20	1	LIGHTING	868	17			1368	18	500	RECEPTACLE	1	20
20	1	LIGHTING	1247	19	1747			20	500	RECEPTACLE	1	20
20	1	LIGHTING	860	21		1860		22	1000	RECEPTACLE	1	20
20	1	LIGHTING	1031	23			2031	24	1000	RECEPTACLE	1	20
20	1	LIGHTING	450	25	1650			26	1200	RECEPTACLE	1	20
20	1	LIGHTING	1200	27		2200		28	1000	RECEPTACLE	1	20
20	1	LIGHTING	1365	29			2365	30	1000	RECEPTACLE	1	20
20	1	LIGHTING	1355	31	2555			32	1200	RECEPTACLE	1	20
20	1	LIGHTING	1400	33		2400		34	1000	RECEPTACLE	1	20
20	1	MICROWAVE	1500	35			2500	36	1000	RECEPTACLE	1	20
20	1	UNDERCOUNT. REF.	500	37	1500			38	1000	RECEPTACLE	1	20
20	1	RECEPTACLE	1200	39		2200		40	1000	RECEPTACLE	1	20
20	1	RECEPTACLE	1000	41			1800	42	800	RECEPTACLE	1	20
20	1	RECEPTACLE	500	43	1300			44	800	RECEPTACLE	1	20
20	1	RECEPTACLE	500	45		1300		46	800	RECEPTACLE	1	20
20	1	RECEPTACLE	1000	47			2000	48	1000	RECEPTACLE	1	20
20	1	LIGHTING	500	49	1500			50	1000	RECEPTACLE	1	20
20	1	LIGHTING	525	51		1525		52	1000	FUTURE	1	20
20	1	LIGHTING	150	53			950	54	800	RECEPTACLE	1	20
20	1	LIGHTING	500	55	1000			56	500	CONTROLS	1	20
20	1	LIGHTING	600	57		1650		58	1050	LIGHTING	1	20
20	1	LIGHTING	1440	59			2190	60	750	LIGHTING	1	20
20	1	LIGHTING	1440	61	1940			62	500	E.F. #5	1	20
20	1	E.F. #6	100	63		600		64	500	R.T.U. #3 CONT.	1	20
20	2	EXTERIOR LTS.	860	65			860	66	–	SPARE	1	20
–	–	–	860	67	860			68	–	SPARE	1	20
		SPACE		69				70	–	SPARE	1	20
		SPACE		71				72	–	SPARE	1	20
		SPACE		73				74	–	SPARE	1	20
		SPACE		75				76		SPACE		
		SPACE		77				78		SPACE		
		SPACE		79				80		SPACE		
		SPACE		81				82		SPACE		
		SPACE		83				84		SPACE		

TOTAL LOAD: 61.7 KW, 171.3 AMPS 20100 20383 21172 I.C. 42,000 RMS SYM. AMPS

PANELBOARD "B"

LOCATION: 111

AMPS: 225 MAINS: M.L.O VOLTS/PHASE/WIRE: 120/208/3/4 MOUNTING: SURFACE

BRKR. A.	P.	LOAD	CIRCUIT WATTS	NO.	PHASE LOADS A	B	C	CIRCUIT NO.	WATTS	LOAD	BRKR. P.	A.
20	1	LIGHTING	1125	1	3425			2	2300	HAND DRYER	1	20
20	1	LIGHTING	1125	3		3425		4	2300	HAND DRYER	1	20
20	1	LIGHTING	1050	5			2250	6	1200	RECEPTACLE	1	20
20	1	LIGHTING	1200	7	2400			8	1200	RECEPTACLE	1	20
20	1	LIGHTING	1200	9		2070		10	870	E.D.F.	1	20
20	1	LIGHTING	450	11			1250	12	800	RECEPTACLE	1	20
20	1	R.T.U. #4 CONT.	500	13	1500			14	1000	RECEPTACLE	1	20
20	1	SIGNS	1500	15		2000		16	500	PROJECT. SCREEN	1	20
20	1	ELECTRONIC SIGN	1000	17			1870	18	870	REFRIGERATOR	1	20
20	1	ELECTRONIC SIGN	1000	19	2500			20	1500	MICROWAVE	1	20
20	1	E.F. #3	500	21		1500		22	1000	RECEPTACLE	1	20
20	1	E.F. #4	500	23			500	24	–	SPARE	1	20
20	1	E.F. #1	500	25	500			26	–	SPARE	1	20
		SPACE		27				28		SPACE		
		SPACE		29				30		SPACE		

TOTAL LOAD: 25.2 KW, 70 AMPS 10325 8995 5870 I.C. 22,000 RMS SYM. AMPS

PANELBOARD "C"

LOCATION: 129

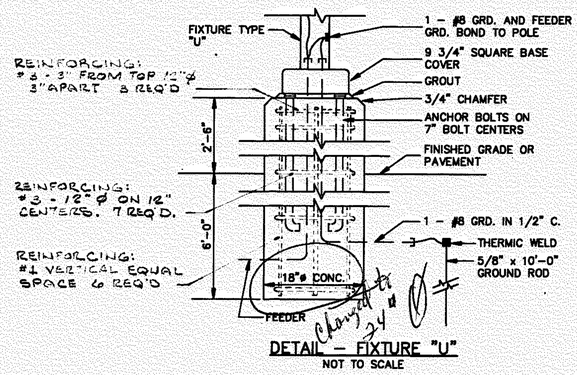
AMPS: 100 MAINS: M.L.O. VOLTS/PHASE/WIRE: 120/208/3/4 MOUNTING: SURFACE

BRKR. A.	P.	LOAD	CIRCUIT WATTS	NO.	PHASE LOADS A	B	C	CIRCUIT NO.	WATTS	LOAD	BRKR. P.	A.
20	2	ELEC. HEATER	750	1	1250			2	500	TELE. EQUIP.	1	20
–	–	–	750	3		1250		4	500	MODEM	1	20
20	2	ELEC. HEATER	250	5			1250	6	1000	RECEPTACLE	1	20
–	–	–	250	7	1750			8	1500	ELEC. WATER HTR.	1	20
20	2	ELEC. HEATER	750	9		1350		10	600	RECEPTACLE	1	20
–	–	–	750	11			1250	12	500	PROJECT. SCREEN	1	20
20	2	ELEC. HEATER	250	13	750			14	500	SECURITY	1	20
–	–	–	250	15		1750		16	1500	COPY MACHINE	2	20
20	2	ELEC. HEATER	1000	17			2500	18	1500	–	–	–
–	–	–	1000	19	1350			20	350	LIGHTS	1	20
20	2	FIRE ALARM	1500	21		1500		22	–	SPARE	1	20
–	–	–	1500	23			1500	24	–	SPARE	1	20
		SPACE		25				26		SPACE		
		SPACE		27				28		SPACE		
		SPACE		29				30		SPACE		

TOTAL LOAD: 17.4 KW, 48.5 AMPS 5100 5850 6500 I.C. 22,000 RMS SYM. AMPS

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP NO.	WATTS	G.E. CODE	FINISH	MOUNTING	VOLTS	INPUT WATTS	REMARKS
A	COLUMBIA	P2141G4218	1	34	T-12 CW	STD	RECESSED	120	43	MOUNT TO MATCH CEILING SUPPLIED.
B	LITECONTROL	P186N48RS	4	34	T-12 CW	AS SELECTED BY ARCH.	PENDANT	120	150	BOTTOM 8'-8" A.F.F.
C	HUBBELL	103-7/8801	1	150	PAR 38 FL	STD	GRADE	120	150	MT. ON 18"x18"x 6" CONC. PAD.
D	PRESCOLITE	1225-462	1	150	A-21	STD	RECESSED	120	150	MOUNT TO MATCH CEILING SUPPLIED.
E	COLUMBIA	P2 2222G4 233U	2	35	T-12 CWU	STD	RECESSED	120	75	MOUNT TO MATCH CEILING SUPPLIED.
F	COLUMBIA	P2 243G4 236	3	34	T-12 CW	STD	RECESSED	120	105	MOUNT TO MATCH CEILING SUPPLIED.
G	COLUMBIA	5112G-68-244	4	34	T-12 CW	STD	RECESSED	120	150	MOUNT TO MATCH CEILING SUPPLIED.
H	COLUMBIA	5112G-68-222U	2	34	T-12 CWU	STD	RECESSED	120	75	MOUNT TO MATCH CEILING SUPPLIED.
I	ALKCO	213-RSW	2	13	T-5	STD	UNDER UPPER CABINET	120	30	
J	PRESCOLITE	3085	2	34	T-12 CW	STD	WALL	120	75	C.L. 6" ABOVE MIRROR
K	PRESCOLITE	79-832	1	75	R-30 FL	STD	RECESSED	120	75	MOUNT TO MATCH CEILING SUPPLIED.
L	COLUMBIA	5112G-68-142	2	34	T-12 CW	STD	RECESSED	120	75	MOUNT TO MATCH CEILING SUPPLIED.
M	COLUMBIA	FS 140 M4	1	34	T-12 CW	STD	SURFACE	120	43	
N	LITECONTROL	P186N23RS	2	25	T-12 CW	AS SELECTED BY ARCH.	PENDANT	120	60	BOTTOM 8'-8" A.F.F.
P	LITECONTROL	P186N24RS	2	40	T-12 CW	AS SELECTED BY ARCH.	PENDANT/ WALL BKT. AS SHOWN	120	100	HEIGHT AS DIRECETED BY ARCH., -20" BALLAST, END EXTENSIONS AND WP
Q	LITECONTROL	P186N48RS	4	40	T-12 CW	AS SELECTED BY ARCH.	PENDANT/ WALL BKT. AS SHOWN	120	200	HEIGHT AS DIRECETED BY ARCH., -20" BALLAST, END EXTENSIONS AND WP
⊗	LITHONIA	ESG ELC R SERIES	AS REQUIRED			STD	CEILING OR WALL	120	33	WITH ARROWS AS SHOWN
R	PRESCOLITE	9392	1	150	PAR 38 FL	AS SELECTED BY ARCH.	WALL	120	150	C.L. 12" ABOVE DOOR
S	PRESCOLITE	LITE-TRAC TS SERIES WITH 6-T144 FIXT.	6	150	R 40 FL	WHITE	CEILING	120	900	LENGTH AS SHOWN
T	LITHONIA	SM 240 ES	2	34	T-12 CW	STD	DISPLAY CASE	120	75	SEE ARCH. DETAIL
U	MOLDCAST	12224-20-A1130JC	2	400	MH	AS SELECTED BY ARCH.	POLE SEE DETAIL	208	860	
V	MOLDCAST	12114-20-A1130JC	1	400	MH	AS SELECTED BY ARCH.	POLE SEE DETAIL	208	430	



DETAIL - FIXTURE "U"
NOT TO SCALE

ELECTRICAL SYMBOL LIST

- INCANDESCENT LIGHT WITH FIXTURE MARK. WALL BRACKET.
- INCANDESCENT LIGHT WITH FIXTURE MARK. CEILING RECESSED.
- EXIT LIGHT WITH FIXTURE MARK. CEILING MOUNTED.
- EXIT LIGHT WITH FIXTURE MARK. WALL BRACKET.
- FLUORESCENT LIGHT WITH FIXTURE MARK. SCALE.
- FLUORESCENT LIGHT FIXTURE WITH 1 LAMP ON BATTERY BACK-UP (NIGHT LIGHT)
- CLOCK OUTLET ONLY. CENTER 12" BELOW CEILING UNLESS NOTED.
- DUPLEX GROUNDING TYPE RECEPTACLE CENTER 18" A.F.F. UNLESS NOTED.
- DUPLEX GROUNDING TYPE RECEPTACLE. FLUSH FLOOR TYPE.
- SPECIAL OUTLET AS NOTED.
- TELEPHONE OUTLET. CENTER 18" A.F.F. UNLESS NOTED. "P" PAY PHONE CENTER 48" A.F.F. "J" JACK OUTLET WITH 3/4" CONDUIT TO TELEPHONE TERMINAL CABINET.
- TCI TELEPHONE TERMINAL CABINET. SEE RISER.
- S WALL SWITCH SINGLE POLE. CENTER 48" A.F.F.
- S K WALL SWITCH, KEY OPERATED. CENTER 48" A.F.F.
- INCANDESCENT DIMMER. SIZE AS NOTED. CENTER 48" A.F.F.
- MOTOR.
- DISCONNECT SWITCH. SIZE AND TYPE AS NOTED.
- C CAPACITOR AT MOTOR.
- FIRE ALARM MANUAL STATION. CENTER 48" A.F.F.
- FIRE ALARM HORN. CEILING RECESSED.
- FIRE ALARM HORN. 13" BELOW CEILING.
- FIRE ALARM FLASHER. CEILING MOUNTED.
- FIRE ALARM SMOKE DETECTOR. CEILING MOUNTED.
- DS FIRE ALARM SMOKE DETECTOR. DUCT TYPE IN MAIN AIR PLENUM OF MECHANICAL EQUIPMENT. "S" SUPPLY PLENUM; "R" RETURN PLENUM.
- MO MULTI-OUTLET ASSEMBLY WITH OUTLETS 6" O.C. WITH WIRE GROUND. (SINGLE OR DOUBLE CIRCUIT AS INDICATED ON DRAWINGS).
- J JUNCTION BOX
- T ELECTRIC THERMOSTAT/CONTROL. EQUIPMENT CONNECTION AS REQUIRED. CENTER 48" A.F.F.
- COMPUTER CABLE OUTLET. CENTER 18" A.F.F. WITH 3/4" CONDUIT TO MODEM LOCATION.
- COMPUTER CABLE OUTLET. FLUSH FLOOR TYPE WITH 3/4" CONDUIT TO MODEM LOCATION.
- WP WEATHERPROOF
- SPECIAL DEVICE AND/OR CONNECTION AS NOTED.
- A OUTLET LOCATED ABOVE COUNTER.
- LIGHTING AND POWER PANELBOARD. TOP 84" A.F.F.
- DISTRIBUTION PANELBOARD.
- CONCEALED CONDUIT WITH 2-#12 WIRES IN 1/2" CONDUIT UNLESS NOTED.
- HOME RUN TO PANEL. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. ANY CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A TWO #12 WIRE CIRCUIT. A GREATER NUMBER OF WIRES IS INDICATED AS FOLLOWS: "///" 3-#12 WIRES, "////" 4-#12 WIRES.
- DENOTES CONDUIT WITH GREEN WIRE GROUND SIZED IN ACCORDANCE WITH NEC.

Devine Architects
231 West Forty-Seventh
Kansas City, Missouri 64112

Taliaferro and Brown
Civil Engineers

Bob D. Campbell
Structural Engineers

Massaglia Neustrom and Bredson
Mechanical / Electrical

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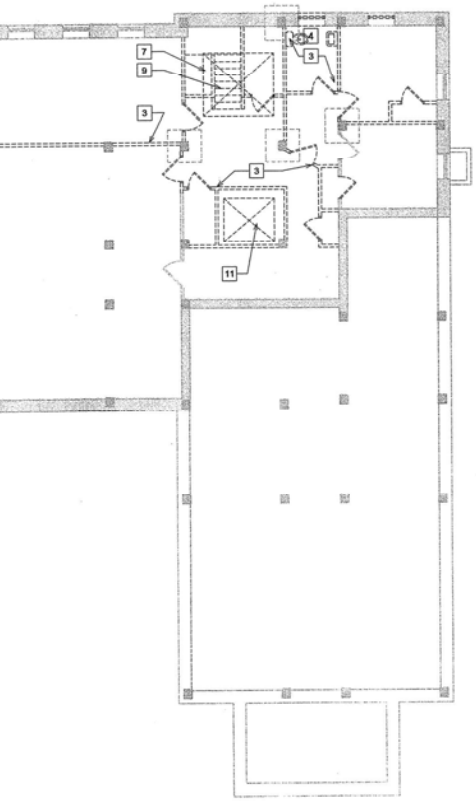
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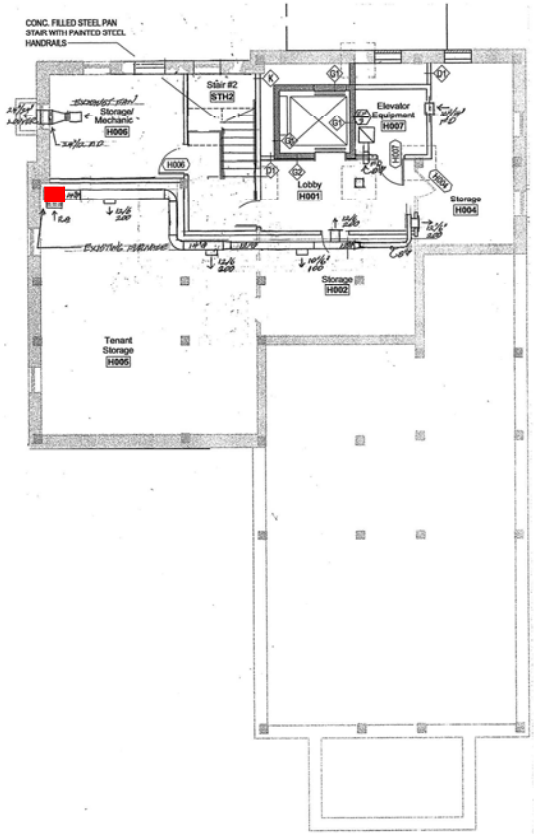
Project No: 8702.2
Date: 26 Nov 87
Drawn by: G.D.K.
Revised:

E3

LINWOOD PROPERTIES DRAWINGS



ON PLAN



1 BASEMENT FLOOR PLAN
SCALE: 1/8"=1'-0"

Furnace (older)

M109

RECORD DRAWING

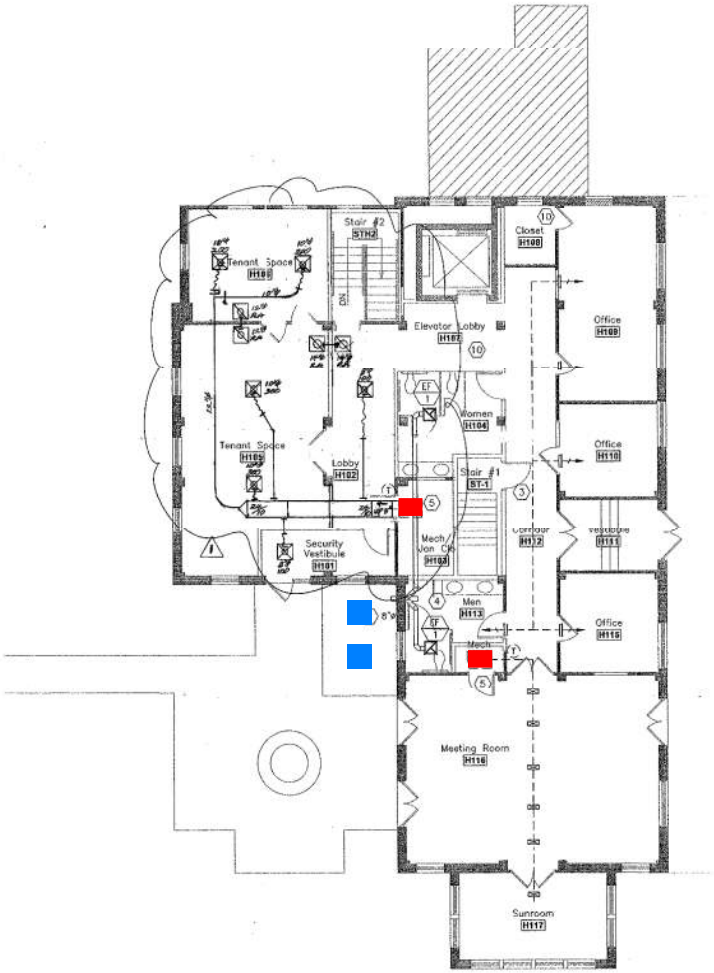
MetroAir
DESIGN/BUILD HVAC SHEETMETAL CONTROLS SERVICE

LINWOOD AREA MINISTRY PLAZA
KANSAS CITY, MO.

SCALE: 1/8"=1'-0"	DATE: 3-19-13	DRAWN BY: JG
APPROVED BY:	DWG # MB-1	

Furnace (older)

Condenser



(2) HTC MECHANICAL 1ST FLOOR PLAN
1/8" = 1'-0"

MECHANICAL GENERAL NOTES (HTC BUILDING):

1. ALL MECHANICAL DUCTWORK SHALL BE GALVANIZED STEEL, CONSTRUCTED ACCORDING TO SMACNA STANDARDS.
2. [illegible] INSULATION. RETURN AIR DUCTWORK TO BE LINED WITH 1/2", 2LB DENSITY FIBERGLASS DUCT LINER.
3. HVAC CONTRACTOR WILL CHECK EACH SYSTEM FOR PROPER OPERATION UPON START-UP.
4. HVAC CONTRACTOR SHALL HAVE AN INDEPENDENT CONTRACTOR TO TEST & BALANCE HVAC SYSTEM TO THE PROPER AIRFLOWS AND STATIC PRESSURES. A COPY OF THE BALANCING REPORT WILL BE SUBMITTED TO THE OWNER UPON COMPLETION.
5. FLEXIBLE RUN-OUTS TO BE U.L. LISTED AND HAVE A MAXIMUM LENGTH OF 6'-0". DUCT RUNS TO BE SAME SIZE AS DIFFUSER NECK SIZE SHOWN.
6. AIR HANDLING UNITS SUPPLYING 2,000 CFM OR MORE SHALL HAVE A SMOKE DETECTOR INSTALLED IN THE RETURN AIR DUCTWORK. THE SMOKE DETECTOR SHALL OF WATER POWER TO SHUT DOWN ALL SUPPLY FANS UPON ALARM.
7. MAINTAIN MINIMUM 10'-0" FROM ALL PLUMBING VENTS AND EXHAUST VENTS TO ALL OUTSIDE AIR INTAKES.
8. DO NOT INSTALL PIPING OR DUCTWORK OVER ELECTRICAL PANELS.
9. EXISTING MECHANICAL SYSTEMS TO REMAIN. VENTILATION IS PROVIDED BY EXISTING OPERABLE WINDOWS.

MECHANICAL PLAN NOTES (HTC BUILDING):

1. ROUTE EXHAUST AIR DUCT UP WALL. FIELD VERIFY EXHAUST IS MINIMUM 3'-0" AWAY FROM OPERABLE WINDOWS.
2. MODIFY EXISTING HEATING ONLY DUCTWORK TO ACCOMMODATE NEW STAIRS.
3. MODIFY EXISTING SUPPLY AIR DUCTWORK TO ACCOMMODATE NEW WALL LAYOUT. EXISTING SUPPLY AIR SNAPS AND RETURNS TO REMAIN.
4. REWORK EXISTING REFRIGERANT LINES, COMBUSTION AIR FLUES, VENTS AND CONDENSATE PIPING TO ACCOMMODATE NEW CEILING AND WALLS.
5. EXISTING 5-TON FURNACE AND ASSOCIATED SUPPLY AIR AND RETURN AIR DUCTWORK TO REMAIN. REBALANCE SUPPLY AIRFLOW FOR OCCUPANT COMFORT.
6. NEW SPLIT SYSTEM. PROVIDE COMBUSTION AIR AND FLUE PIPING UP THRU ROOF. CONNECT REFRIGERANT PIPING FROM ROOF MOUNTED CONDENSING UNIT TO NEW FURNACE. CONNECT NEW SUPPLY AIR DUCTWORK FROM FURNACE TO EXISTING SUPPLY AIR DUCTWORK AS SHOWN. PROVIDE FIRE DAMPER IN WALL TO MATCH EXISTING CONSTRUCTION.
7. CAP EXISTING SUPPLY AIR DUCTWORK.
8. REMOVE EXISTING SUPPLY AIR GRILLE AND CAP EXISTING DUCTWORK.
9. PROVIDE FILTERED WALL MOUNTED RETURN AIR GRILLE AT 12" A.F.F. WITH FIRE DAMPER TO MATCH EXISTING CONSTRUCTION.
10. REMOVE EXISTING CEILING MOUNTED EXHAUST AIR FAN AND ASSOCIATED DUCTWORK.
11. ROUTE EXHAUST AIR DUCT UP THRU ROOF.

LEGEND (HTC BUILDING)

- SD-1 SUPPLY AIR DIFFUSER – PRICE SCD 24"x24"
- SUPPLY AIR GRILLE – EXISTING TO REMAIN
- RETURN AIR GRILLE – EXISTING TO REMAIN
- T1 AHU-1 THERMOSTAT WITH UNIT DESIGNATION. MOUNT AT 48" A.F.F.
- EF-1 GREENHECK SPA CEILING MOUNTED EXHAUST FAN SIZED AT 150 CFM @ 0.25" ESP. PROVIDE WITH MOUNTING HARDWARE FOR LAY-IN CEILING, BACKDRAFT DAMPER AND WALL CAP. EXHAUST FAN SIZED AT 75 CFM PER WATER CLOSET. (TYP.)
- EF-2 GREENHECK SPA CEILING MOUNTED EXHAUST FAN SIZED AT 75 CFM @ 0.25" ESP. PROVIDE WITH MOUNTING HARDWARE FOR LAY-IN CEILING, BACKDRAFT DAMPER AND WALL CAP. EXHAUST FAN SIZED AT 75 CFM PER WATER CLOSET. (TYP.)
- EF-3 GREENHECK SPA CEILING MOUNTED EXHAUST FAN SIZED AT 300 CFM @ 0.25" ESP. PROVIDE WITH MOUNTING HARDWARE FOR LAY-IN CEILING, BACKDRAFT DAMPER AND WALL CAP. EXHAUST FAN SIZED AT 75 CFM PER WATER CLOSET. (TYP.)
- FD FIRE DAMPER
- CONNECTION POINT OF NEW WORK TO EXISTING

RECORD DRAWING

Scott Associates
Architecture Urban Planning Urban Design Development Services
7161 E 83rd Street
Kansas City, MO 64110
(816) 822-8000

Consultant

LAMP
Linwood Area Ministry Place
1801 E. Linwood Blvd.
Kansas City, MO 64109

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Revisions

Permit Set Documents

Date: 6/13/2014

Sheet Name

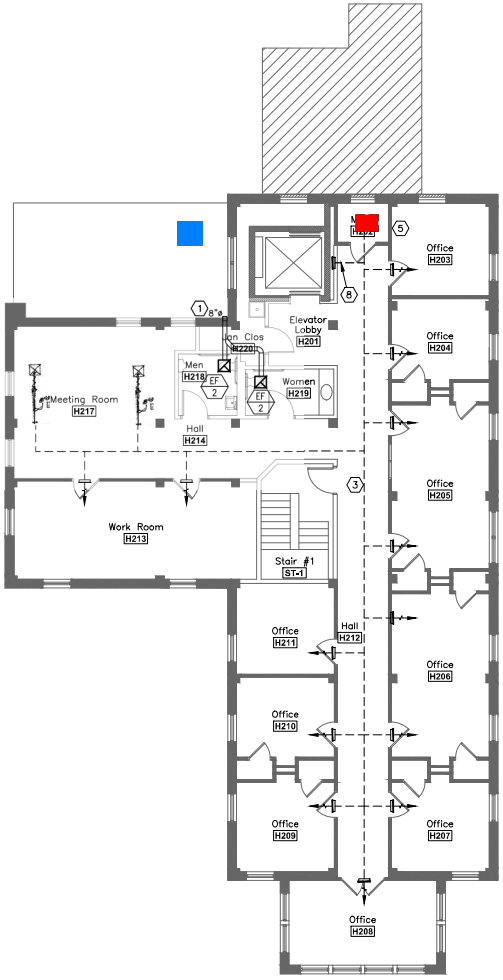
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1 2-19-15 REVISION

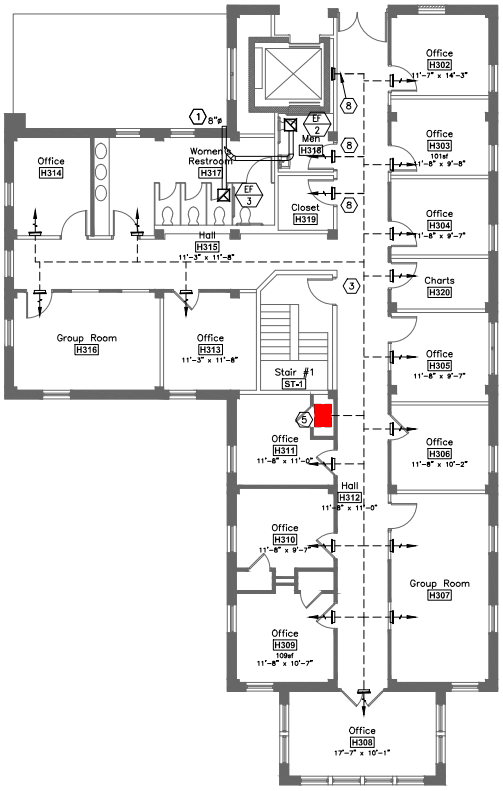
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MetroAir
DESIGN/BUILD HVAC SHEETMETAL CONTROLS SERVICE

LINWOOD AREA MINISTRY PLACE		
1801 E. LINWOOD – KANSAS CITY, MO		
SCALE: AS SHOWN	DATE: 6/13/14	DRAWN BY: M.D.K.
APPROVED BY: C.M.M.	DWG # M4	OF 7
PERMIT DRAWINGS		



1 HTC MECHANICAL 2ND FLOOR PLAN
1/8" = 1'-0"



2 HTC MECHANICAL 3RD FLOOR PLAN
1/8" = 1'-0"

Furnace (older)

Condenser

MECHANICAL GENERAL NOTES (HTC BUILDING):

1. ALL MECHANICAL DUCTWORK SHALL BE GALVANIZED STEEL, CONSTRUCTED ACCORDING TO SMACNA STANDARDS.
2. ALL RECTANGULAR SUPPLY AIR DUCTWORK TO BE LINED WITH 1/2", 2 LB DENSITY FIBERLASS INSULATION. RETURN AIR DUCTWORK TO BE LINED WITH 1/2", 2LB DENSITY FIBERGLASS DUCT LINER.
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7. MAINTAIN MINIMUM 10'-0" FROM ALL PLUMBING VENTS AND EXHAUST VENTS TO ALL OUTSIDE AIR INTAKES.
8. DO NOT INSTALL PIPING OR DUCTWORK OVER ELECTRICAL PANELS.
9. EXISITING MECHANICAL SYSTEMS TO REMAIN. VENTILATION IS PROVIDED BY EXISTING OPERABLE WINDOWS.

MECHANICAL PLAN NOTES (HTC BUILDING):

1. ROUTE EXHAUST AIR DUCT UP WALL. FIELD VERIFY EXHAUST IS MINIMUM 3'-0" AWAY FROM OPERABLE WINDOWS.
2. MODIFY EXISTING HEATING ONLY DUCTWORK TO ACCOMMODATE NEW STAIRS.
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4. REWORK EXISTING REFRIGERANT LINES, COMBUSTION AIR FLUES, VENTS AND CONDENSATE PIPING TO ACCOMMODATE NEW CEILING AND WALLS.
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11. ROUTE EXHAUST AIR DUCT UP THRU ROOF.

LEGEND (HTC BUILDING)

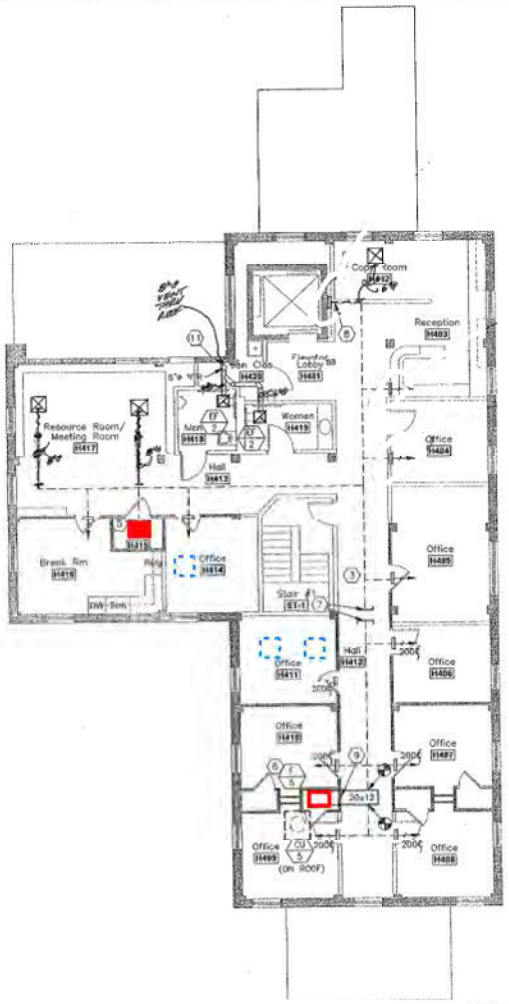
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- SUPPLY AIR GRILLE – EXISTING TO REMAIN
- RETURN AIR GRILLE – EXISTING TO REMAIN
- RG-1 RETURN AIR GRILLE – PRICE PERFORATED WITH ROUND NECK
- T AHU-1 THERMOSTAT WITH UNIT DESIGNATION. MOUNT AT 48" A.F.F.
- EF 1 GREENHECK SPA CEILING MOUNTED EXHAUST FAN SIZED AT 150 CFM @ 0.25" ESP. PROVIDE WITH MOUNTING HARDWARE FOR LAY-IN CEILING, BACKDRAFT DAMPER AND WALL CAP. EXHAUST FAN SIZED AT 75 CFM PER WATER CLOSET. (TYP.)
- EF 2 GREENHECK SPA CEILING MOUNTED EXHAUST FAN SIZED AT 75 CFM @ 0.25" ESP. PROVIDE WITH MOUNTING HARDWARE FOR LAY-IN CEILING, BACKDRAFT DAMPER AND WALL CAP. EXHAUST FAN SIZED AT 75 CFM PER WATER CLOSET. (TYP.)
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- FD FIRE DAMPER
- CONNECTION POINT OF NEW WORK TO EXISTING

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MetroAir
DESIGN/BUILD HVAC SHEETMETAL CONTROLS SERVICE

LINWOOD AREA MINISTRY PLACE		
1801 E. LINWOOD – KANSAS CITY, MO		
SCALE: AS SHOWN	DATE: 6/13/14	DRAWN BY: M.D.K
APPROVED BY: G.M.M.	DWG # M5	OF 7
PERMIT DRAWINGS		



1 HTC MECHANICAL 4TH FLOOR PLAN
1/8" = 1'-0"

- Furnace (older)
- Furnace (newer)
- Rooftop condenser

MECHANICAL GENERAL NOTES (HTC BUILDING):

1. ALL MECHANICAL DUCTWORK SHALL BE STAINLESS STEEL CONSTRUCTED ACCORDING TO SMACNA STANDARDS.
2. ALL RECTANGULAR SUPPLY AIR DUCTWORK TO BE LINED WITH 1/2", 2 LB DENSITY FIBERGLASS INSULATION. RETURN AIR DUCTWORK TO BE LINED WITH 1/2", 2LB DENSITY FIBERGLASS DUCT LINER.
3. HVAC CONTRACTOR WILL CHECK EACH SYSTEM FOR PROPER OPERATION UPON START-UP.
4. HVAC CONTRACTOR SHALL HAVE AN INDEPENDENT CONTRACTOR TO TEST & BALANCE HVAC SYSTEM TO THE PROPER AIRFLOWS AND STATIC PRESSURES. A COPY OF THE BALANCING REPORT WILL BE SUBMITTED TO THE OWNER UPON COMPLETION.
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7. MAINTAIN MINIMUM 10'-0" FROM ALL PLUMBING VENTS AND EXHAUST VENTS TO ALL OUTSIDE AIR INTAKES.
8. DO NOT INSTALL PIPING OR DUCTWORK OVER ELECTRICAL PANELS.
9. EXISTING MECHANICAL SYSTEMS TO REMAIN. VENTILATION IS PROVIDED BY EXISTING OPERABLE WINDOWS.

MECHANICAL PLAN NOTES (HTC BUILDING):

1. ROUTE EXHAUST AIR DUCT UP WALL. FIELD VERIFY EXHAUST IS MINIMUM 3'-0" AWAY FROM OPERABLE WINDOWS.
2. MODIFY EXISTING SUPPLY AIR DUCTWORK TO ACCOMMODATE NEW WALL LAYOUT. EXISTING SUPPLY AIR MAINS AND RETURNS TO REMAIN.
3. REWORK EXISTING REFRIGERANT LINES, COMBUSTION AIR FLUES, VENTS AND CONDENSATE PIPING TO ACCOMMODATE NEW CEILING AND WALLS.
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6. CAP EXISTING SUPPLY AIR DUCTWORK.
7. REMOVE EXISTING SUPPLY AIR GRILLE AND CAP EXISTING DUCTWORK.
8. PROVIDE FILTERED WALL MOUNTED RETURN AIR GRILLE AT 12" A.F.F. WITH FIRE DAMPER TO MATCH EXISTING CONSTRUCTION.
9. REMOVE EXISTING CEILING MOUNTED EXHAUST AIR FAN AND ASSOCIATED DUCTWORK.
10. ROUTE EXHAUST AIR DUCT UP THRU ROOF.

LEGEND (HTC BUILDING)

- SD-1 SUPPLY AIR DIFFUSER – PRICE SCD 24"x24"
- SUPPLY AIR GRILLE – EXISTING TO REMAIN
- RETURN AIR GRILLE – EXISTING TO REMAIN
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- FD FIRE DAMPER
- CONNECTION POINT OF NEW WORK TO EXISTING

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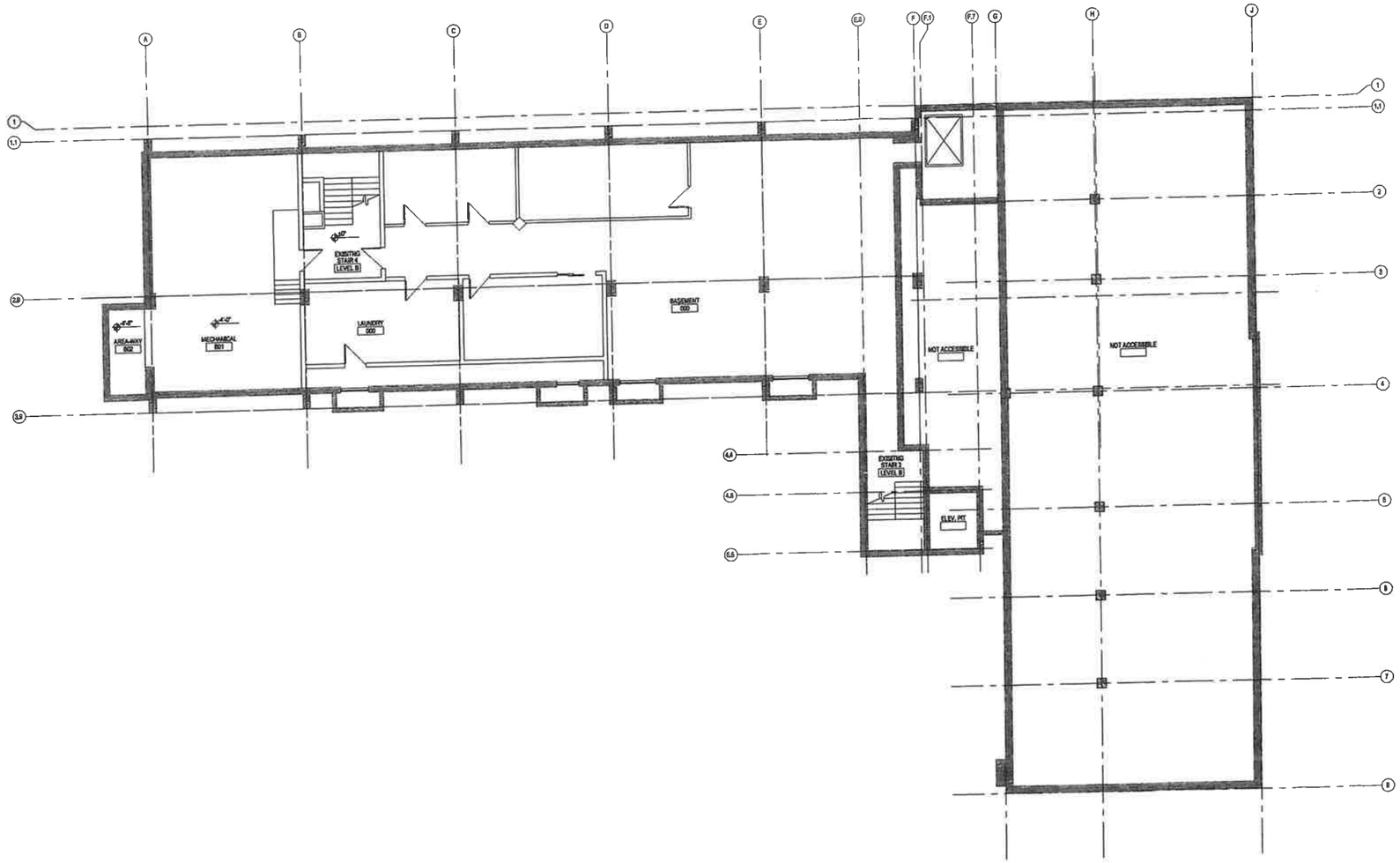
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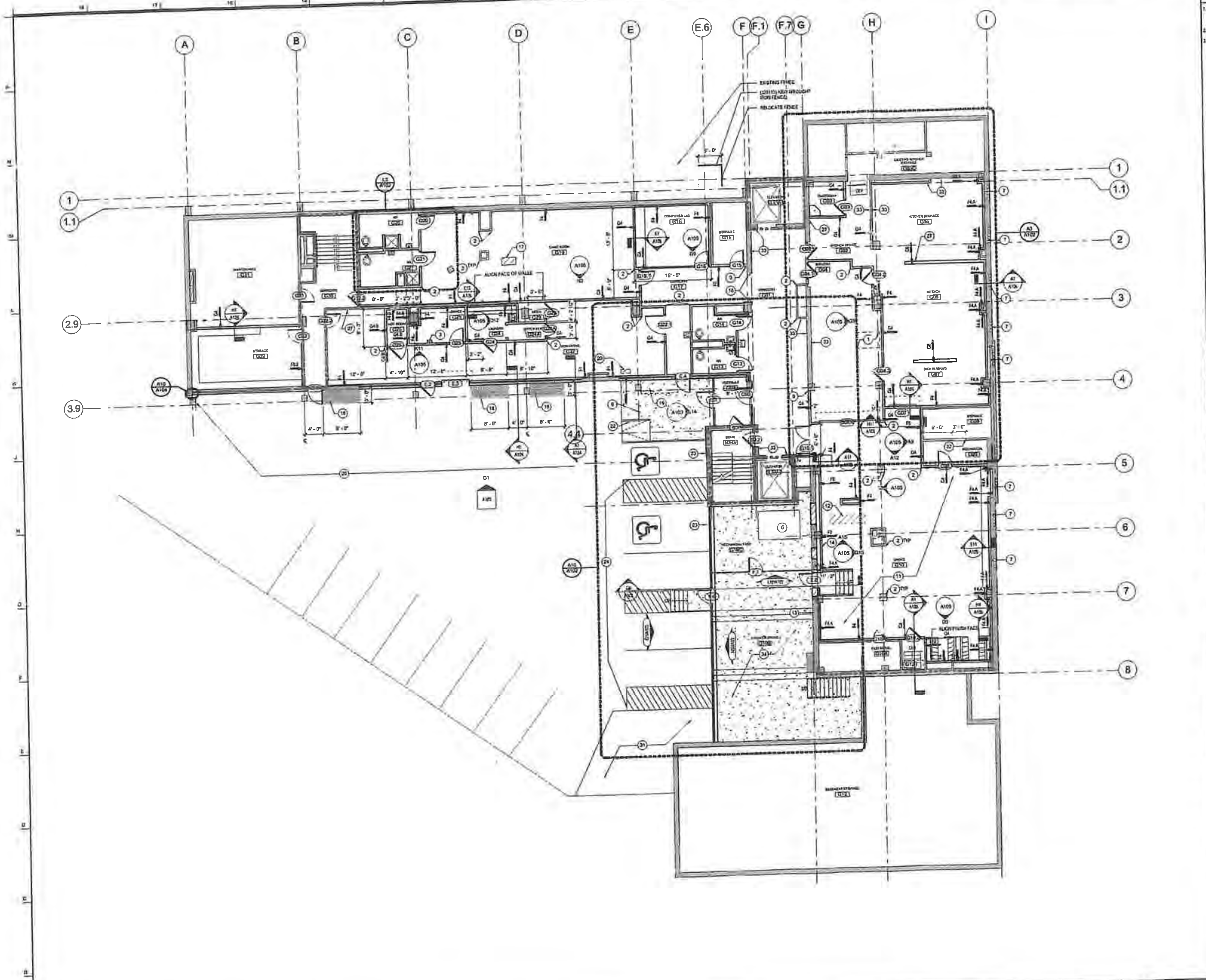
LINWOOD AREA MINISTRY PLACE
1801 E. LINWOOD – KANSAS CITY, MO

SCALE: AS SHOWN	DATE: 6/13/14	DRAWN BY: M.D.K.
APPROVED BY: C.M.M.	DWG # M6	OF 7
PERMIT DRAWINGS		

RESTART DRAWINGS



BASEMENT LEVEL



Floor Plan - Ground Floor

1/8" = 1'-0"

A3

General Notes:

1. CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND CONDITIONS NEW AND EXISTING. NOTIFY THE ARCHITECT/OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
2. ENLARGED PLANS MAY BE ROTATED OR MIRRORED. COORDINATE WITH MAIN FLOOR PLAN.
3. CONTRACTOR TO PROVIDE 4'-0" HIGH PLYWOOD BACKER BOARD IN ALL MECHANICAL AND ELECTRICAL ROOMS MOUNTED 2'-0" A.F.F. FOR PERIMETER OF ROOM.

Sheet Notes - Floor Plan

#	Description
1	(033000) INFILL DEPRESSED SLAB WITH CONCRETE
2	(102650) SS 4" X 4"x6' CORNER GUARD
3	FIELD VERIFY EXACT LOCATION OF EXISTING PIPING. FURR AROUND THEM.
4	(042000) REPAIR AND REPLACE BRICK AS REQUIRED FROM DAMAGED BRICK BEHIND EXISTING GARAGE AND AT EXISTING OPENINGS BEHING IN-FILLED.
5	(102650) "U" SHAPE STAINLESS STEEL CORNER GUARD, 6' TALL.
6	MECHANICAL EQUIPMENT, REF MEP.
7	(064116 and 092900)TYPICAL CONDITION AT EXISTING EXTERIOR WINDOWS SHALL BE SOLID SURFACE AND DRYWALL FRAMING TO RUN AROUND WINDOW.
8	(033000) EXTERIOR CONCRETE PAD AND RAMP TO CREATE ADA SLOPE AT ENTRANCE
9	(102650) 4"X4" STAINLESS STEEL CORNER GUARD, FULL HEIGHT.
11	(035416) FLOAT ENTIRE DINING (G10) WITH CONCRETE TO PROVIDE A LEVEL FLOOR FOR RECEIVING NEW SHEET GOOD FLOORING
12	(033000) INFILL/PATCH FLOOR WITH CONRETE AS REQUIRED TO FILL IN EXISTING HOLES
13	SEE ELEVATION FOR EXTERIOR WINDOWS
14	(083113) PROVIDE TRIMLESS, FLUSH ACCESS PANEL FOR EXISTING ELECTRICAL PANEL. PAINT TO MATCH ADJACENT WALL.
16	(099123) EXISTING DOOR FRAME TO REMAIN. PATCH HOLES AND PAINT PER TYPICAL DOOR FRAME COLOR.
17	(033000) INFILL FLOOR WITH FRAMING AND CONCRETE IN PREPARATION FOR FINISH FLOOR. (4) LOCATIONS THROUGHOUT GAME ROOM G19.
18	REMOVE EXISTING GRATE. INSTALL ANGLES INTO CONCRETE WALL. TRIM GRATE AND RE-INSTALL GRATE SO THAT IT IS LEVEL WITH THE GROUND.
19	REMOVE AND DISCARD EXISTING GRATE. INFILL HOLE WITH ROCK AND CONCRETE. INFILL HOLE IN WALL WITH PLYWOOD ON THE INTERIOR SIDE.
20	(033000) EXISTING FLOOR GRILL NO LONGER ACTIVE. INFILL FLOOR WITH FRAMING AND CONCRETE IN PREPARATION FOR FINISH FLOOR. QUANTITY OF (6) LOCATED THROUGHOUT DONATIONS G22 AND STORAGE G28.
22	(033000) CAST IN PLACE CONCRETE RAMP WITH PAINTED PIPE TUBE HANDRAIL ON BOTH SIDES.
23	(320000) ADA PARKING SIGN
24	(321723) STRIPE NEW PARKING SPACES. MILL AND OVERLAY PARKING LOT AS REQUIED TO CREATE FINISH SURFACE.
25	(102800) EACH RESTROOM RECEIVE STANDARD TOILET ACCESSORIES AS SHOWN ON A001-PROJECT STANDARDS.
26	(108113) SEE PROJECT STANDARD SHEET FOR PIGEON SPIKE SCOPE
27	(104413 and 104416) SURFACE MOUNTED FIRE EXTINGUISHER CABINET AND FIRE EXTINGUISHER
28	(102800) SHOWER CURTAIN ROD (CR) AND ROBE HOOK (RH-01)
30	(102800) HAND DRYER, HD-01
31	EXISTING RETAINING WALL, CONCRETE SLAB, STAIRS AND WOOD RAMP TO REMAIN.
32	59" HEIGHT OPENING IN WALL UNDER LANDING. INSTALL WOOD FRAME TO CLEAN CUT LINES.
33	(092400) REPAIR AND PATCH EXISTING PLASTERWORK PER SPECIFICATIONS
34	(033000) 4" CONCRETE SLAB FOR EXTERIOR DINING, SITE SURVEY PENDING.
35	(107313) EXTEND OF REPLACED CANOPY ABOVE

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reStart Inc. / Ground Floor Renovation

918 East 9th Street
Kansas City, MO

owner:
reStart Inc.
918 East 9th Street
Kansas City, Missouri 64106
816.472.5664 voice
816.472.6137 fax
www.restartinc.org

architect:
Gould Evans Associates
4041 Mill Street
Kansas City, MO 64111
816.931.6655 voice
816.931.9640 fax
www.gouldevans.com

mechanical/electrical engineer:
PKMR Engineers
6001 Galleria, Suite 200
Overland Park, KS 66214
913.492.2400 voice
913.492.2437 fax
www.pkmrcmp.com

construction manager:
JE Dunn Construction
1001 Locust Street
Kansas City, MO 64106
816.474.8600 voice
www.jedunn.com

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STATE OF MISSOURI
ADAM LEO STERNS
NUMBER A-2492
REGISTERED ARCHITECT

Architectural Corporation
Missouri License No. 000351
Adam L. Sterns — Date: 07/27/2015
Architect — License No. A-2492

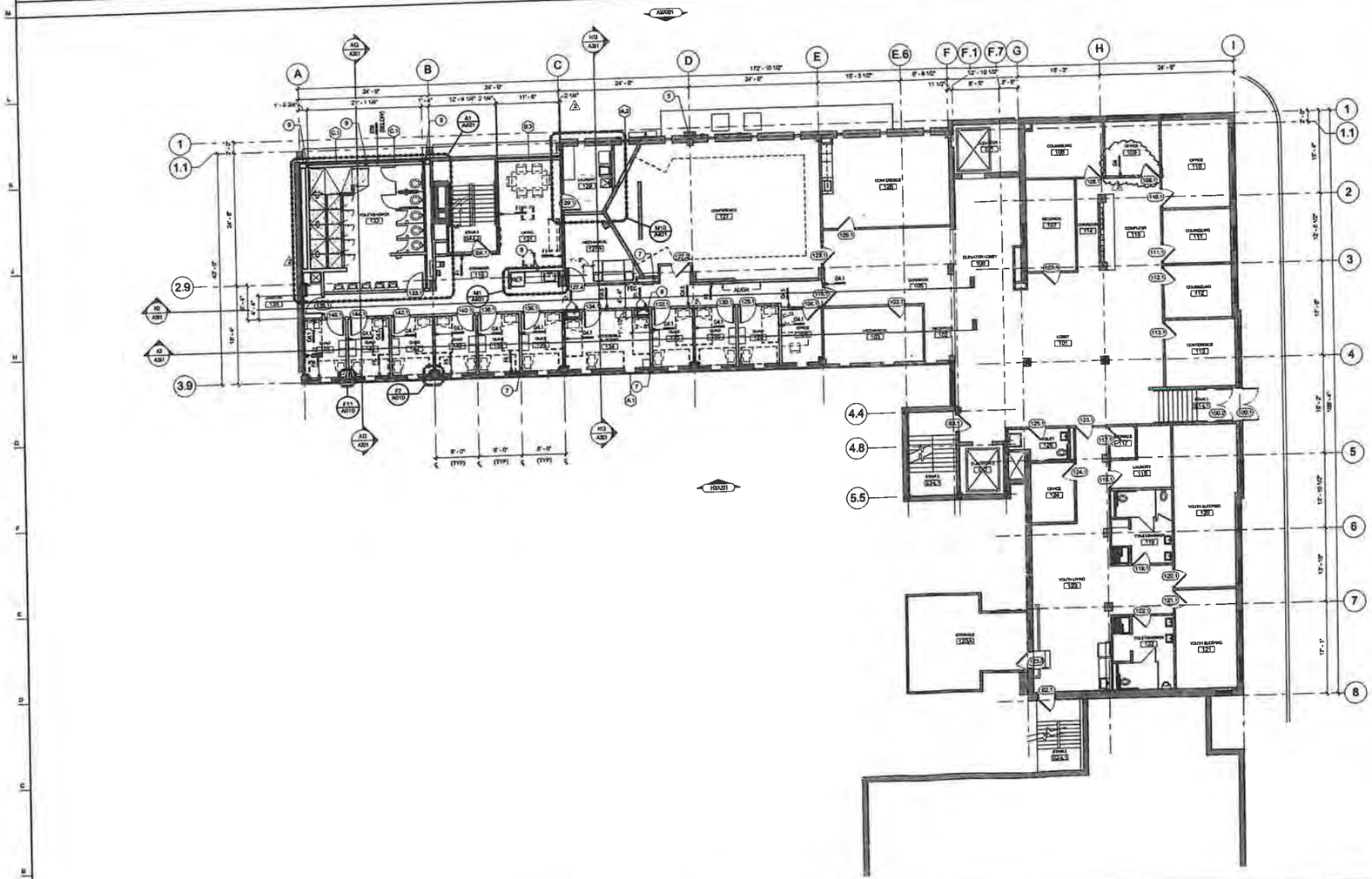
Number	Revision Description	Date

Project No: 0214-1060
Date: 07.27.2015
Sheet:

GROUND FLOOR - PLAN

A100

Issue for Bid and Construction



Floor Plan - Level 1 | **A3**

1/8" = 1'-0" | A3 / A201

General Notes:

1. CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND CONDITIONS NEW AND EXISTING. NOTIFY THE ARCHITECT/OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
2. DRAWINGS PLANS MAY BE ROTATED OR MIRRORED GOODWRITE WITH MAIN FLOOR PLAN.
3. CONTRACTOR TO PROVIDE 4'-0" WIDE PLYWOOD BACKER BOARD IN ALL MECHANICAL AND ELECTRICAL ROOMS MOUNTED 2'-0" A.F.F. FOR PERIMETER OF ROOM

Construction Keynotes

No.	Note
1	INFILL CONCRETE DECK. REMOVE AND REINSTALL PARTITION AS NECESSARY TO INSTALL FLOOR DECK. REVIEW REQUIREMENTS WITH STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
2	3 1/2" +/- LIGHTWEIGHT CONCRETE SLAB ON 9" EPS19 GLIDFORM "EZ FORM" DECK. SLAB WITH 6X6-6/6 WWF. ALIGN TOP OF SLAB WITH TOP OF EXISTING CONCRETE. REVIEW REQUIREMENTS WITH STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
3	CLEAN AND PAINT EXPOSED CONCRETE. MATCH EXISTING COLOR.
4	REINSTALL LOUVER
5	CLEAN AND PAINT ELECTRICAL COVER/JAIL.
6	REPLACE EXISTING GLAZING PANELS WITH LOUVERS
7	RELOCATE STORM DRAIN TO BE INSIDE WALL OR CHASE.
8	RELOCATE PLUMBING (SANITARY, WATER, ETC)
9	HSS 6 x 2 x 3/16 TUBE STEEL POST. FLOOR TO STRUCTURE ABOVE. REVIEW REQUIREMENTS WITH STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
10	REPLACE EXISTING ROOFING SYSTEM
11	EXISTING ROOF DRAIN. REMOVE AND RESET TO ACCOMODATE NEW INSULATION THICKNESS
12	PROVIDE ROOF FLASHING AFTER WINDOW REPLACEMENT
ETR	EXISTING TO REMAIN

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918 East 9th Street
Kansas City, MO

owner:
reStart Inc.
918 East 9th Street
Kansas City, Missouri 64106
816.472.2666 voice
816.472.6127 fax
www.restartinc.org

architect:
Gould Evans Associates
4041 MB Street
Kansas City, MO 64111
816.931.0600 voice
816.931.8640 fax
www.gouldevans.com

mechanical/electrical engineer:
RDM Engineers
3901 Belinder, Suite 200
Overland Park, KS 66214
913.492.3400 voice
913.492.3437 fax
www.rdmeng.com

construction manager:
JE Dunn Construction
1001 Locust Street
Kansas City, MO 64106
816.474.8000 voice
www.jedunn.com

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Architectural Consultant
Drawing # & Name: 100-A101
Author: Author | Date: 03/12/2013
Approved: Approver | Job No: 0212-1090

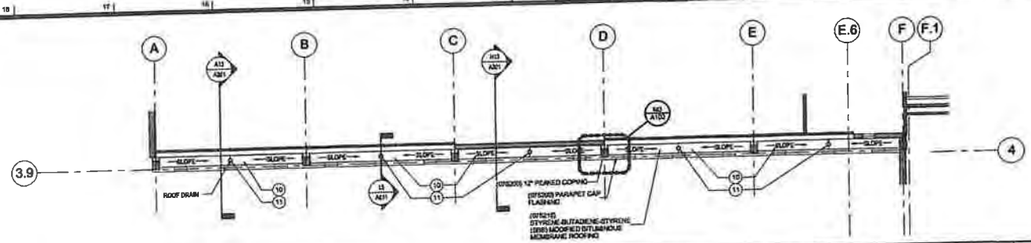
Number	Revision Description	Date
2	Addendum No. 1	04.12.2013
3	PR-01	05.03.2013

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Sheet:

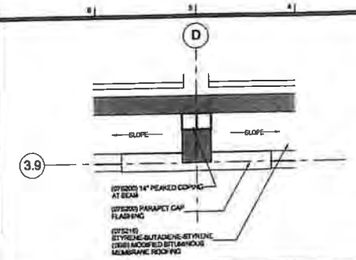
Floor Plan - Level 1 - Phase 1

A101

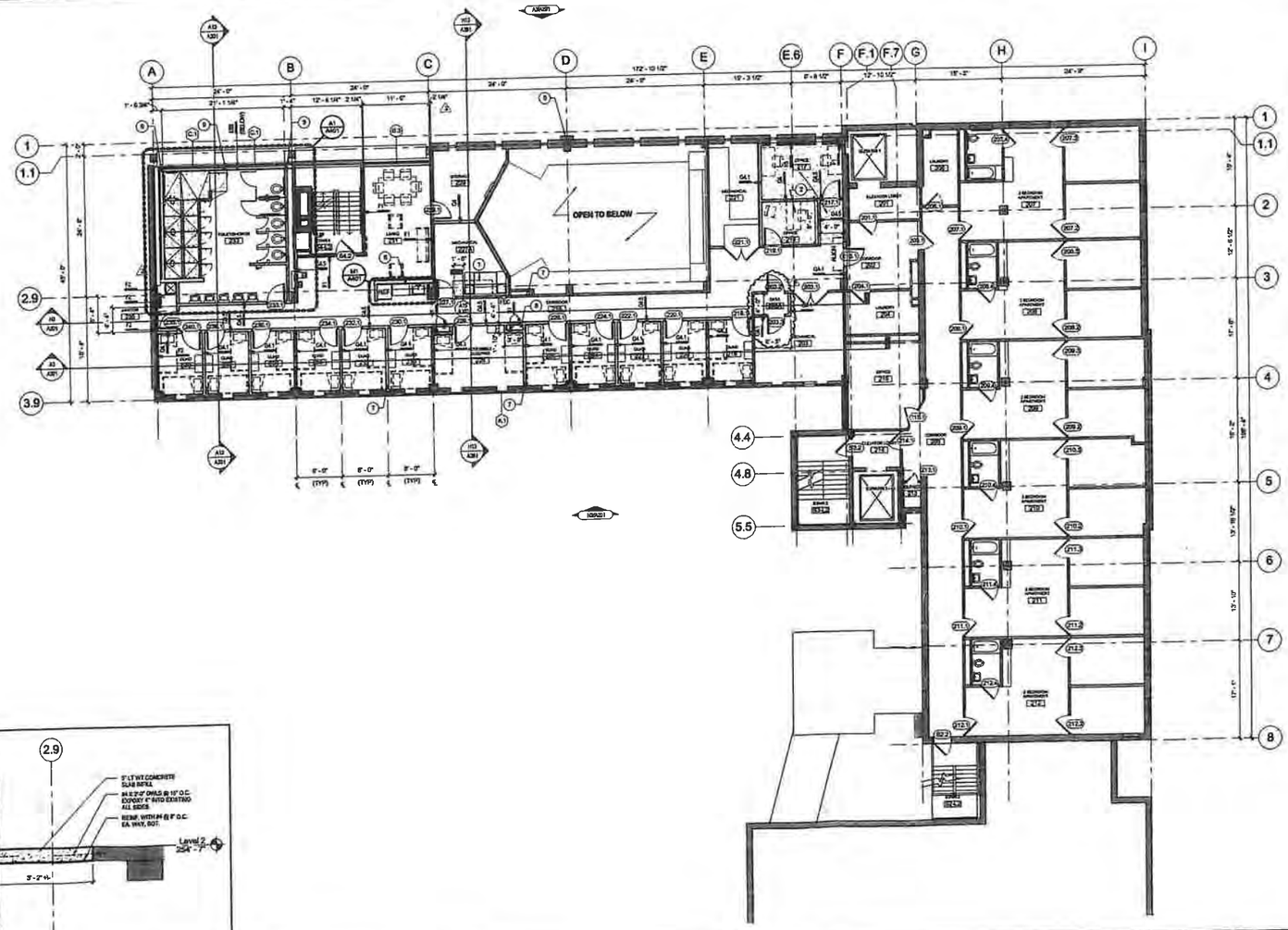
PERMIT SET



Partial Roof Plan - Level 3 | **M7**
1/8" = 1'-0" | A3 / A201



Enlarged Roof Plan @ Column | **M3**
1/2" = 1'-0" | M7 / A102



Floor Plan - Level 2 | **A3**
1/8" = 1'-0" | A15 / A102

SLAB INFILL - LEVEL 2 | **A15**
3/4" = 1'-0" | A3 / A102

General Notes:

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2. DRAWINGS PLANS MAY BE MIRRORED OR MIRRORED COORDINATE WITH MAIN FLOOR PLAN.
3. CONTRACTOR TO PROVIDE 4'-0" WIDE PLYWOOD BACKER BOARD IN ALL MECHANICAL AND ELECTRICAL ROOMS MOUNTED 2'-0" A.F.F. FOR PERIMETER OF ROOM.

Construction Keynotes

No.	Note
1	INFILL CONCRETE DECK. REMOVE AND REINSTALL PARTITION AS NECESSARY TO INSTALL FLOOR DECK. REVIEW REQUIREMENTS WITH STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
2	2 1/2" A-LIGHTWEIGHT CONCRETE SLAB ON 2" EPS15 GEOFOAM. REINFORCE SLAB WITH 6X6-6x6 WWF. ALIGN TOP OF SLAB WITH TOP OF EXISTING CONCRETE. REVIEW REQUIREMENTS WITH STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
3	CLEAN AND PAINT EXPOSED CONCRETE. MATCH EXISTING COLOR.
4	REINSTALL LOUVER
5	CLEAN AND PAINT ELECTRICAL COVER (ALL FLOORS) MATCH EXISTING COLOR.
6	REPLACE EXISTING GLAZING PANELS WITH LOUVERS
7	RELOCATE STORM DRAIN TO BE INSIDE WALL OR CHASE.
8	RELOCATE PLUMBING (SANITARY, WATER, ETC)
9	HSS 6 x 2 x 3/16 TUBE STEEL POST, FLOOR TO STRUCTURE ABOVE. REVIEW REQUIREMENTS WITH STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
10	REPLACE EXISTING ROOFING SYSTEM
11	EXISTING ROOF DRAIN. REMOVE AND RESET TO ACCOMODATE NEW INSULATION THICKNESS
12	PROVIDE ROOF FLASHING AFTER WINDOW REPLACEMENT
ETR	EXISTING TO REMAIN

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918 East 9th Street
Kansas City, MO

owner:
reStart Inc
918 East 9th Street
Kansas City, Missouri 64106
816.472.6864 voice
816.472.6127 fax
www.restartinc.org

architect:
Gould Evans Associates
4041 MB Street
Kansas City, MO 64111
816.931.2666 voice
816.931.8640 fax
www.gouldevans.com

mechanical/electrical engineer:
Rimkin Engineers
8901 Bellevue, Suite 200
Overland Park, KS 66214
913.492.2400 voice
913.492.2427 fax
www.rimkineng.com

construction manager:
JE Dunn Construction
1001 Locust Street
Kansas City, MO 64106
816.474.2600 voice
www.jedunn.com

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Architectural Consultant
Drawing Log Issue: 001
Author: Author
Check By: Checker

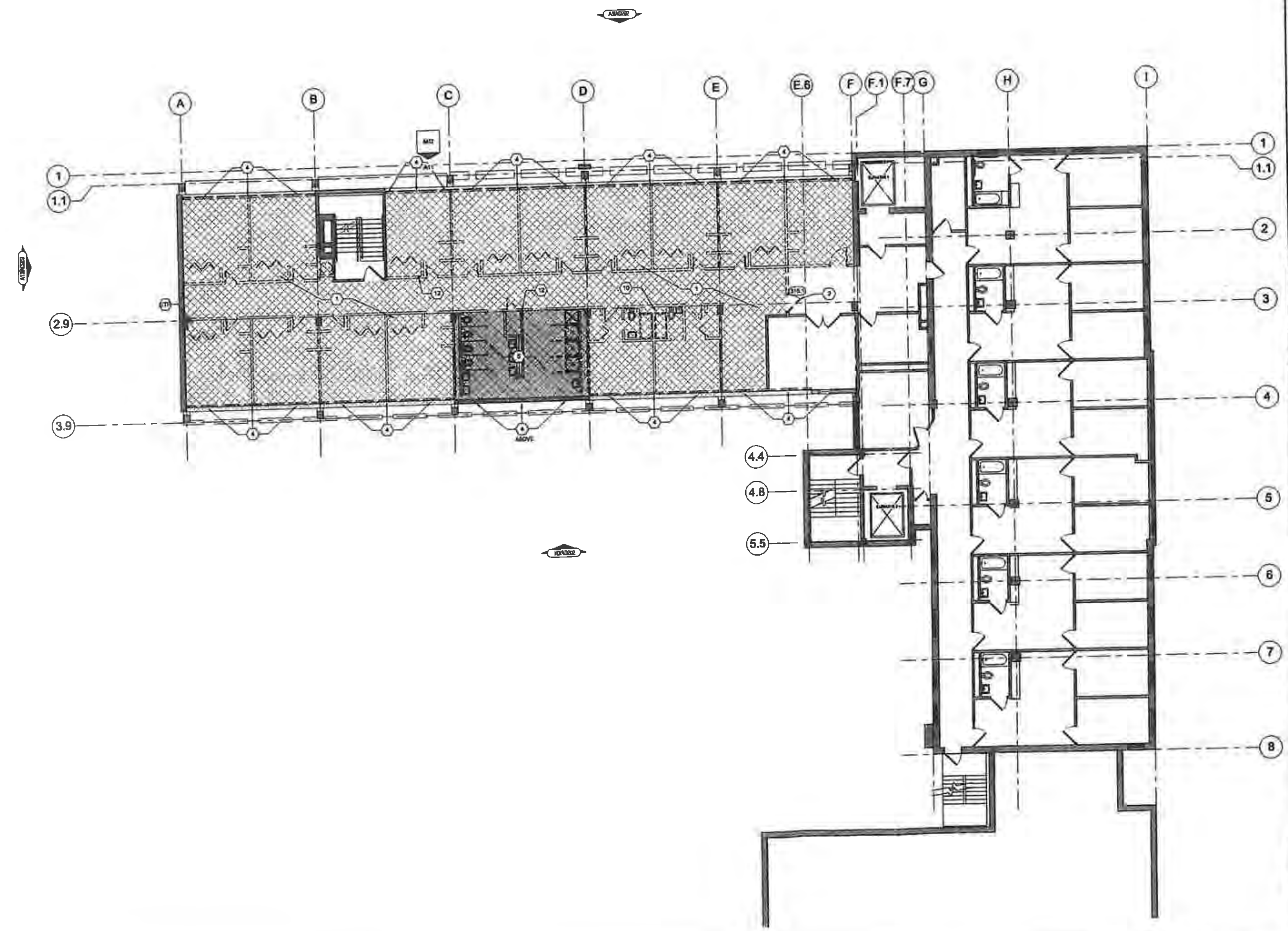
Number	Revision Description	Date
2	Addendum No. 1	04.12.2013
3	PR-001	08.03.2013

Project No: 6212-1000
Date: 03.12.2013
Sheet:

Floor Plan - Level 2 - Phase 1

A102

PERMIT SET



Demolition Plan - Level 3 | A3
1/8" = 1'-0" | A3 / A201

General Demolition Notes:

1. EXISTING BUILDING LAYOUT AND CONDITION WAS OBTAINED FROM DOCUMENTS AND INFORMATION SUPPLIED TO THE ARCHITECT. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS, SIZES, ELEVATIONS, ETC. AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
2. REMOVE OR RELOCATE ALL FURNITURE AND BELONGINGS AS DIRECTED BY THE OWNER AND AS NECESSARY PRIOR TO THE BEGINNING DEMOLITION WORK.
3. CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING DEMOLITION.
5. CONTRACTOR SHALL PROTECT ALL EXISTING CONSTRUCTION NOT INDICATED FOR REMOVAL FROM DAMAGE AND SOILING DURING DEMOLITION.
6. DAMAGE TO EXISTING CONSTRUCTION TO REMAIN SHALL BE REPAIRED OR REPLACED BY CONTRACTOR.
7. CONTRACTOR SHALL CONSTRUCT TEMPORARY DUST AND NOISE PARTITIONS BETWEEN CONSTRUCTION AREA AND ADJACENT PROPERTIES AS NECESSARY TO MAINTAIN OPERATIONS.
8. NOTIFY THE BUILDING OWNER OF MATERIALS, FIXTURES, ETC. THAT ARE TO BE REMOVED AND ARE DEEMED SALVAGEABLE. IF REQUESTED BY OWNER, DELIVER SUCH ITEMS TO OWNER IN GOOD CONDITION. DISPOSE OF ALL ITEMS NOT SALVAGED BY OWNER.
9. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
10. DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE OR INTERFERE WITH ROADS, STREETS, PARKING, WALKS, AND OTHER ADJACENT FACILITIES.
11. MAINTAIN THE INTEGRITY OF EXISTING RATED WALLS. FIRE SEAL ANY PENETRATIONS WITH U.L. APPROVED ASSEMBLY.
12. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS ARE DISCOVERED THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT FOR RESOLUTION.
13. PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING TO REMAIN AGAINST UNNECESSARY CUTTING, BREAKING, OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIAL OR EXCAVATED MATERIAL WITHIN DRIP LINES. SUCH PROTECTION SHALL INCLUDE, BUT IS NOT LIMITED TO, EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE.
14. CONTRACTOR SHALL PROVIDE TRAFFIC HANDLING MEASURES AS NECESSARY TO PROTECT THE GENERAL PUBLIC AT ALL TIMES, AND AS REQUIRED BY THE CITY.
15. DO NOT INTERRUPT EXISTING PUBLIC UTILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES AS ACCEPTABLE TO GOVERNING AUTHORITIES.
16. WHEN UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICE BEFORE PROCEEDING WITH DEMOLITION.
17. CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ELECTRIC, GAS, WATER, TELEPHONE, STORM SEWER, AND SANITARY SEWER FOR FIELD LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITY LINES. PRIOR TO COMMENCEMENT WITH ANY DEMOLITION WORK.
18. CONTRACTOR SHALL IDENTIFY ALL ELECTRICAL CIRCUITS SERVING THE AREA TO BE DEMOLISHED. THOSE CIRCUITS SHALL THEN BE LOCKED OUT AND TAGGED OUT IF THEY DO NOT SERVICE ANY OF THE REMAINING BUILDING. THOSE CIRCUITS WHICH ARE IDENTIFIED TO SERVICE BOTH THE AREA TO BE DEMOLISHED AND PORTIONS OF THE REMAINING BUILDING SHALL BE SPLIT SO AS TO KILL ALL ELECTRICAL POWER TO THE AREA TO BE DEMOLISHED WHILE MAINTAINING POWER TO OTHER AREAS OF THE BUILDING.
19. CONTRACTOR TO PATCH/REPAIR ALL HOLES IN WALLS, FLOORS AND/OR CEILINGS. PAINT TO MATCH ADJACENT WALL/CEILING.
20. CONTRACTOR TO RE-LOCATE EXISTING UTILITIES & EQUIPMENT AS REQUIRED TO ACCOMMODATE HVAC, ELECTRICAL & PLUMBING REQUIREMENTS FOR THIS PROJECT.
21. REFER TO PLUMBING PLANS FOR EXTENT OF CONCRETE SLAB TO BE REMOVED AND REPLACED FOR UNDER FLOOR PIPING INSTALLATION.
22. IN AREAS WHERE THE SLAB WILL BE EXPOSED AFTER TRENCHING, REVIEW TRENCHING LAYOUT WITH ARCHITECT PRIOR TO REMOVAL.
23. PATCH EXISTING CONCRETE OR MASONRY FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.
24. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTING WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH.
25. NEW OPENING TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED TO THE HEIGHT AND WIDTH INDICATED. PROVIDE LINTEL TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURAL DRAWINGS.
26. WHERE EXISTING INTERIOR WALLS ARE REPLACED OR REMOVED, REMOVE MEP SYSTEMS BACK TO PANEL OR MECHANICAL ROOM OR FARTHEST POSSIBLE POINT WITHOUT DISTURBING EXISTING CONSTRUCTION. REMOVE EXISTING MECHANICAL EQUIPMENT. RELOCATE POWER PER MEP DRAWINGS.
27. ALSO REFER TO MEP DRAWINGS FOR DEMOLITION OF MEP SYSTEMS. IDENTIFY WORK REQUIRED BY ALL SUBCONTRACTORS WHICH MAY AFFECT DEMOLITION AND/OR REPAIRS OF ARCHITECTURAL ELEMENTS. COORDINATE EXTENT OF DEMOLITION WORK WITH OTHER SUBS.
28. PATCH FLOORS, WALLS CEILINGS WHICH REMAIN AT LOCATIONS WHERE PIPES, CONDUITS, ETC. ARE REMOVED AS REQUIRED TO MATCH EXISTING CONDITIONS OR FOR NEW FINISHES.
29. REMOVE EXISTING FINISH FLOOR INCLUDING ADHESIVE. PATCH AND PREPARE CONCRETE SURFACE FOR FLOOR FINISH.
30. REMOVE ANY EXISTING VINYL MATERIALS IN ACCORDANCE WITH EPA STANDARDS. NOTIFY ARCHITECT & OWNER OF ANY ASBESTOS CONTAINING MATERIALS DISCOVERED BEFORE PROCEEDING WITH WORK. PROTECT INTERIOR CONSTRUCTION TO REMAIN FROM CONTAMINATION DURING DEMOLITION AND CONSTRUCTION.

Demolition Keynotes

No.	Note
1	REMOVE ALL INTERIOR CONSTRUCTION IN THIS AREA. REMOVAL INCLUDES WALLS, DOORS, FLOORING, CEILINGS, LIGHTING, PLUMBING FIXTURES. REMOVE PLASTER FROM INTERIOR OF EXTERIOR WALLS. ALSO REMOVE ANY UNUSED MEP ITEMS INCLUDING PIPING, DUCTWORK, CONDUIT, HANGERS.
2	REMOVE DOOR, FRAME AND HARDWARE AND SALVAGE FOR REUSE
3	REMOVE STOREFRONT WINDOW SYSTEM, INCLUDING DOORS
4	REMOVE WINDOW
5	REMOVE THICKSET TILE FLOORING TO CONCRETE DECK
6	REMOVE WALL TO ACCEPT NEW CONSTRUCTION
7	REMOVE STAIR AND SURROUNDING WALLS
8	REMOVE LOUVER AND SALVAGE FOR REUSE
9	[illegible]
10	[illegible]
11	RELOCATE STORM DRAIN (RE: FLOOR PLANS)
12	RELOCATE PLUMBING (RE: FLOOR PLANS)
13	REMOVE CANOPY, FRAME AND SUPPORTS
E1	EXISTING MEP CHASE. PROTECT ACTIVE MEP ITEMS (PIPES, CONDUITS, ETC.) DURING DEMOLITION AND CONSTRUCTION. REMOVE MEP ITEMS NO LONGER IN USE.
ETR	EXISTING TO REMAIN

LEGEND:

- EXISTING WALL TO REMAIN
- REMOVE WALL
- REMOVE DOOR
- REMOVE ALL CONSTRUCTION THIS AREA
- SAWCUT AND REMOVE SLAB
- REMOVE TOPPING SLAB
- DEMOLITION KEYNOTE (SEE ABOVE)

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918 East 9th Street
Kansas City, MO

owner:
reStart Inc.
918 East 9th Street
Kansas City, Missouri 64106

architect:
Gould Evans Associates
Kansas City, MO 64111

mechanical/electrical engineer:
Overland Park, KS

construction manager:
JE Dunn Construction
Kansas City, MO 64105

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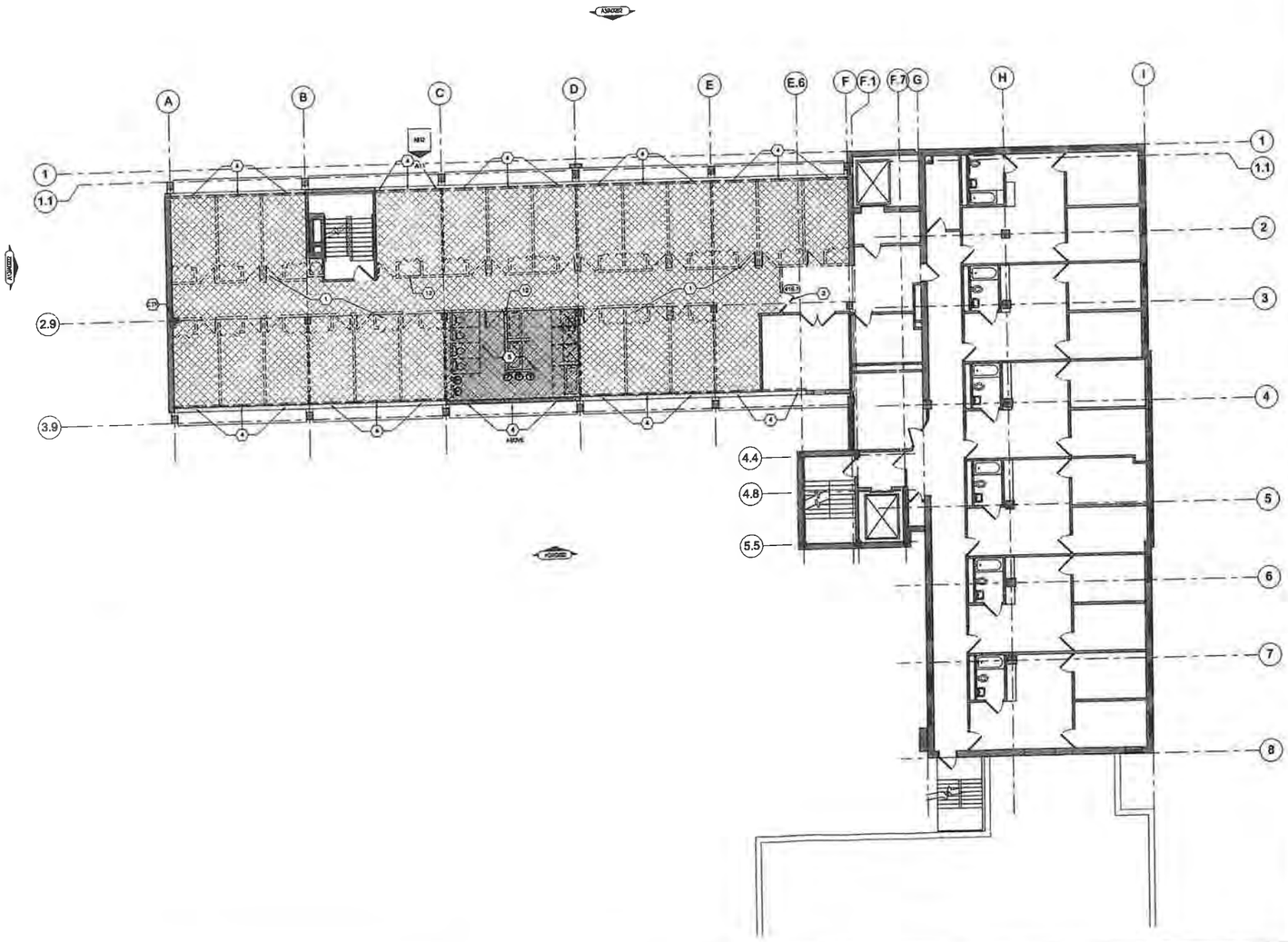
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Date: 03.22.2013
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Demolition Plan - Level 3 - Phase 2

AD103

PRICING SET



Demolition Plan - Level 4

1/8" = 1'-0"

A3

A7 / A019

General Demolition Notes:

1. EXISTING BUILDING LAYOUT AND CONDITION WAS OBTAINED FROM DOCUMENTS AND INFORMATION SUPPLIED TO THE ARCHITECT. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS, SIZES, ELEVATIONS, ETC. AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
2. REMOVE OR RELOCATE ALL FURNITURE AND MELCHANDISE AS DIRECTED BY THE OWNER AND AS NECESSARY PRIOR TO THE BEGINNING DEMOLITION WORK.
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4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING DEMOLITION.
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8. NOTIFY THE BUILDING OWNER OF MATERIALS, FIXTURES, ETC. THAT ARE TO BE REMOVED AND ART DEEMED SALVAGEABLE IF REQUESTED BY OWNER, DELIVER SUCH ITEMS TO OWNER IN GOOD CONDITION. DISPOSE OF ALL ITEMS NOT SALVAGED BY OWNER.
9. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
10. DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE OR INTERFERE WITH ROADS, STREETS, PARKING, MALLS, AND OTHER ADJACENT FACILITIES.
11. MAINTAIN THE INTEGRITY OF EXISTING RATED WALLS. FIRE SEAL ANY PENETRATIONS WITH U.L. APPROVED ASSEMBLY.
12. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS ARE DISCOVERED THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT FOR RESOLUTION.
13. PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING TO REMAIN AGAINST UNNECESSARY CUTTING, BREAKING, OR SCARING OF ROOTS, SCARRING OR BRUISING OF BARK. SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIAL OR EXCAVATED MATERIAL WITHIN DRIP LINES. SUCH PROTECTION SHALL INCLUDE, BUT IS NOT LIMITED TO, EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE.
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16. WHEN UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICES BEFORE PROCEEDING WITH DEMOLITION.
17. CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ELECTRIC, GAS, WATER, TELEPHONE, STORM SEWER, AND SANITARY SEWER FOR FIELD LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITY LINES. PRIOR TO COMMENCEMENT WITH ANY DEMOLITION WORK.
18. CONTRACTOR SHALL IDENTIFY ALL ELECTRICAL CIRCUITS SERVING THE AREA TO BE DEMOLISHED. THOSE CIRCUITS SHALL THEN BE CLOSED OUT AND TAGGED OUT IF THEY DO NOT SERVICE ANY OF THE REMAINING BUILDING. THOSE CIRCUITS WHICH ARE IDENTIFIED TO SERVICE BOTH THE AREA TO BE DEMOLISHED AND PORTIONS OF THE REMAINING BUILDING SHALL BE SPLIT SO AS TO KILL ALL ELECTRICAL POWER TO THE AREA TO BE DEMOLISHED WHILE MAINTAINING POWER TO OTHER AREAS OF THE BUILDING.
19. CONTRACTOR TO PATCH/REPAIR ALL HOLES IN WALLS, FLOORS AS/OR CEILINGS. PAINT TO MATCH ADJACENT WALLS/CEILING.
20. CONTRACTOR TO RELOCATE EXISTING UTILITIES & EQUIPMENT AS REQUIRED TO ACCOMMODATE HVAC, ELECTRICAL & PLUMBING REQUIREMENTS FOR THIS PROJECT.
21. REFER TO PLUMBING PLANS FOR EXTENT OF CONCRETE SLAB TO BE REMOVED AND REPLACED FOR UNDER FLOOR PIPING INSTALLATION.
22. IN AREAS WHERE THE SLAB WILL BE EXPOSED AFTER TRENCHING, REVIEW TRENCHING LAYOUT WITH ARCHITECT PRIOR TO REMOVAL.
23. PATCH EXISTING CONCRETE OR MASONRY FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.
24. EXISTING WALLS OR PORTIONS OF WALLS TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTED WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH.
25. NEW OPENING TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED TO THE HEIGHT AND WIDTH INDICATED. PROVIDE LINTEL TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURAL DRAWINGS.
26. WHERE EXISTING INTERIOR WALLS ARE ADJACENT OR REMOVED, REMOVE MEP SYSTEMS BACK TO PANEL OR MECHANICAL ROOM OR FARTHEST POSSIBLE POINT WITHOUT DISTURBING EXISTING CONSTRUCTION. REMOVE EXISTING MECHANICAL EQUIPMENT. RELOCATE POWER PER MEP DRAWINGS.
27. ALSO REFER TO MEP DRAWINGS FOR DEMOLITION OF MEP SYSTEMS. IDENTIFY WORK REQUIRED BY ALL SUBCONTRACTORS WHICH MAY AFFECT DEMOLITION AND/OR REPAIRS OF ARCHITECTURAL ELEMENTS. COORDINATE EXTENT OF DEMOLITION WORK WITH OTHER TRADES.
28. PATCH FLOORS, WALLS & CEILINGS WHICH REMAIN AT LOCATIONS WHERE PIPES, CONDUITS, ETC. ARE REMOVED AS REQUIRED TO MATCH EXISTING CONDITIONS OR FOR NEW FINISHES.
29. REMOVE EXISTING FINISH FLOOR INCLUDING ADHESIVE. PATCH AND PREPARE CONCRETE SURFACE FOR FLOOR FINISH.
30. REMOVE ANY EXISTING PAINT, MATERIALS IN ACCORDANCE WITH EPA STANDARDS. NOTIFY ARCHITECT & OWNER OF ANY ASBESTOS CONTAINING MATERIALS DISCOVERED BEFORE PROCEEDING WITH WORK. PROTECT INTERIOR CONSTRUCTION TO REMAIN FROM CONTAMINATION DURING DEMOLITION AND CONSTRUCTION.

Demolition Keynotes

No.	Note
1	REMOVE ALL INTERIOR CONSTRUCTION IN THIS AREA, REMOVAL INCLUDES WALLS, DOORS, FLOOR TO CEILING, LIGHTING, PLUMBING FIXTURES. REMOVE PLASTER FROM EITHER OF EXISTER WALLS. FILLED ADJACENT AIR OR ELECTRICAL MEP ITEMS EXISTER WALLS. FILLED ADJACENT AIR OR ELECTRICAL MEP ITEMS
2	REMOVE DOOR, FRAME AND HARDWARE AND SALVAGE FOR REUSE
3	REMOVE STOREFRONT WINDOW SYSTEM, SALVAGE FOR REUSE
4	REMOVE RAILING
5	REMOVE THIN-SET TILE FLOORING TO CONCRETE DECK
6	REMOVE WALL TO ACCEPT NEW CONSTRUCTION
7	REMOVE STAIR AND SURROUNDING WALLS
8	REMOVE LOUVER, AND SALVAGE FOR REUSE
9	REMOVE TRASH CHUTE, FILL FLOORS, CUT AND PATCH AS NECESSARY FOR FULL REMOVAL
10	RELOCATE EXISTING ACTIVE MEP ITEMS (PIPES, LIGHTS, ETC) TO NEW WALLS OR CHASES (SEE FLOOR PLANS). REMOVE INACTIVE MEP ITEMS
11	RELOCATE STORM DRAIN (SEE FLOOR PLANS)
12	RELOCATE PLUMBING (SEE FLOOR PLANS)
13	REMOVE CANOPY, FRAME AND SUPPORTS
E1	EXISTING MEP ITEMS, PIPING ETC ITEMS MEP ITEMS (PIPES, CONDUITS, ETC.) DURING DEMOLITION AND CONSTRUCTION. REMOVE MEP ITEMS NO LONGER REUSE.
EXR	EXISTING TO REMAIN

LEGEND:

- EXISTING WALL TO REMAIN
- REMOVE WALL
- REMOVE DOOR
- REMOVE ALL CONSTRUCTION THIS AREA
- SAWCUT AND REMOVE SLAB
- REMOVE TOPPING SLAB
- DEMOLITION KEYNOTE (SEE ABOVE)

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reStart Inc. / Adult Shelter

918 East 9th Street
Kansas City, MO

owner:
reStart Inc.
918 East 9th Street
Kansas City, Missouri 64106
816.472.2004 voice
816.472.0127 fax
www.restartinc.org

architect:
Gould Evans Associates
4041 MB Street
Kansas City, MO 64111
816.931.6000 voice
816.931.3040 fax
www.gouldevans.com

mechanical/electrical engineer:
RDM Engineers
8501 Bellerive, Suite 200
Overland Park, KS 66214
913.492.2400 voice
913.492.2437 fax
www.rdmeng.com

construction manager:
JE Dunn Construction
1201 Locust Street
Kansas City, MO 64106
816.474.8800 voice
www.jedunn.com

UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

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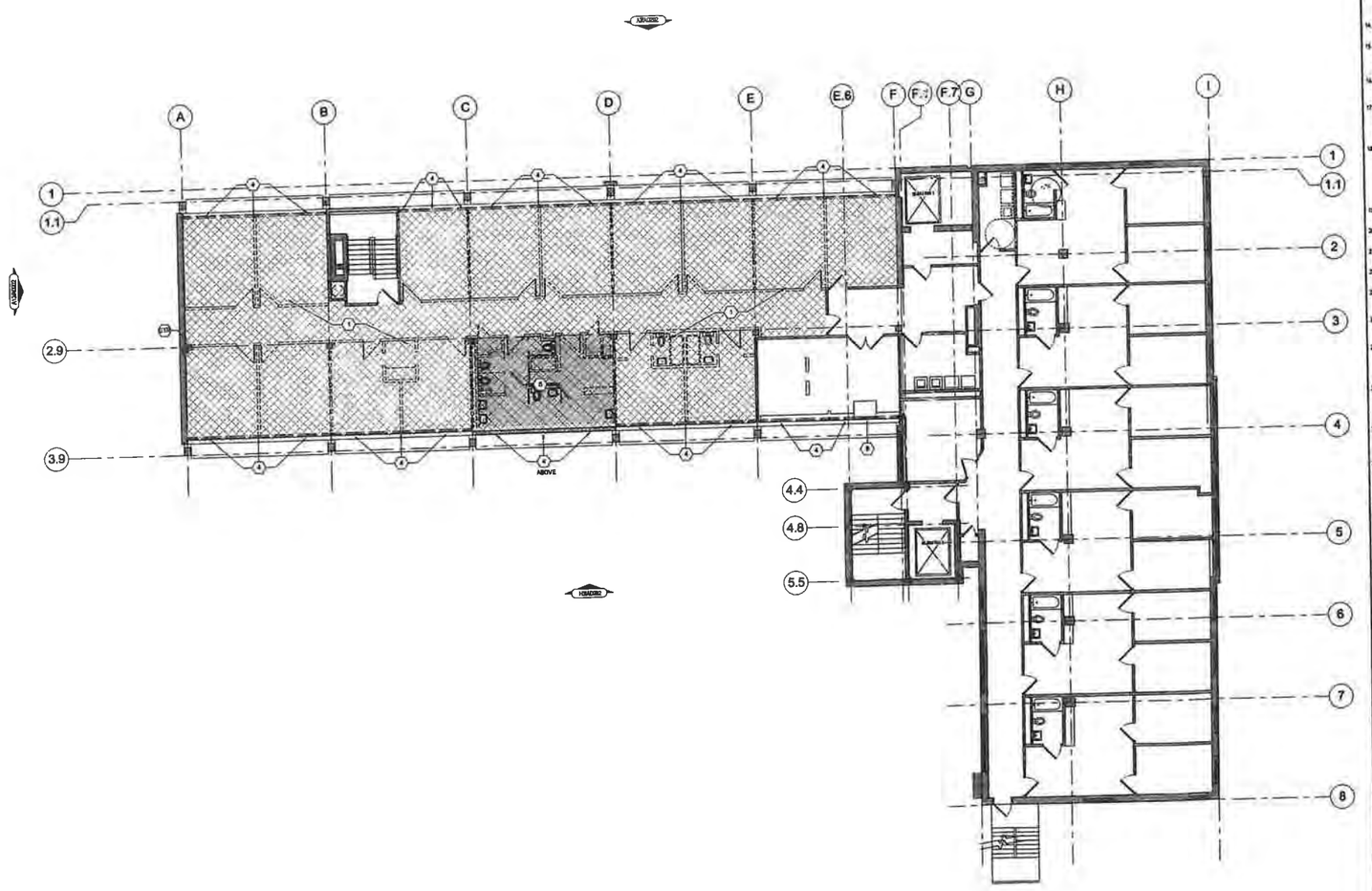
Number	Revision Description	Date

Project No 0212-1090
Date: 03.22.2013
Sheet:

Demolition Plan - Level 4 - Phase 2

AD104

PRICING SET



General Demolition Notes:

1. EXISTING BUILDING LAYOUT AND CONDITION WAS OBTAINED FROM DOCUMENTS AND INFORMATION SUPPLIED TO THE ARCHITECT. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS, SIZES, ELEVATIONS, ETC. AND REPORT ANY DISCREPANCIES TO THE ARCHITECT
2. REMOVE OR RELOCATE ALL FURNITURE AND BELONGINGS AS DIRECTED BY THE OWNER AND AS NECESSARY PRIOR TO THE BEGINNING DEMOLITION WORK.
3. CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING DEMOLITION.
5. CONTRACTOR SHALL PROTECT ALL EXISTING CONSTRUCTION NOT INDICATED FOR REMOVAL FROM DAMAGE AND SOILING DURING DEMOLITION.
6. DAMAGE TO EXISTING CONSTRUCTION TO REMAIN SHALL BE REPAIRED OR REPLACED BY CONTRACTOR.
7. CONTRACTOR SHALL CONSTRUCT TEMPORARY DUST AND NOISE PARTITIONS BETWEEN CONSTRUCTION AREA AND ADJACENT PROPERTIES AS NECESSARY TO MAINTAIN OPERATIONS.
8. NOTIFY THE BUILDING OWNER OF MATERIALS, FIXTURES, ETC. THAT ARE TO BE REMOVED AND ARE DEEMED SALVAGEABLE. IF REQUESTED BY OWNER, DELIVER SUCH ITEMS TO OWNER IN GOOD CONDITION. DISPOSE OF ALL ITEMS NOT SALVAGED BY OWNER.
9. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
10. DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE OR INTERFERE WITH ROADS, STREETS, PATHWAYS, WALKS, AND OTHER ADJACENT FACILITIES.
11. MAINTAIN THE INTEGRITY OF EXISTING RATED WALLS. FIRE SEAL ANY PENETRATIONS WITH ULL APPROVED ASSEMBLY.
12. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL OR STRUCTURAL ELEMENTS ARE DISCOVERED THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT FOR RESOLUTION.
13. PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING TO REMAIN AGAINST UNNECESSARY CUTTING, BRUISING, OR SCARRING OF ROOTS, SCARRING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIAL OR EXCAVATED MATERIAL WITHIN DRIP LINES. SUCH PROTECTION SHALL INCLUDE, BUT IS NOT LIMITED TO, EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE.
14. CONTRACTOR SHALL PROVIDE TRAFFIC HANDLING MEASURES AS NECESSARY TO PROTECT THE GENERAL PUBLIC AT ALL TIMES, AND AS REQUIRED BY THE CITY.
15. DO NOT INTERRUPT EXISTING PUBLIC UTILITIES, EXCEPT WITH AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES AS ACCEPTABLE TO GOVERNING AUTHORITIES.
16. WHEN UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICE BEFORE PROCEEDING WITH DEMOLITION.
17. CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ELECTRIC, GAS, WATER, TELEPHONE, STORM, SANITARY, SEWER FOR FIELD LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITY LINES. PRIOR TO COMMENCEMENT WITH ANY DEMOLITION WORK.
18. CONTRACTOR SHALL IDENTIFY ALL ELECTRICAL CIRCUITS SERVING THE AREA TO BE DEMOLISHED. EXISTING CIRCUITS SHALL THEN BE LOCKED OUT AND TAGGED OUT IF THEY DO NOT SERVICE ANY OF THE REMAINING BUILDING. THOSE CIRCUITS WHICH ARE IDENTIFIED TO SERVICE BOTH THE AREA TO BE DEMOLISHED AND PORTIONS OF THE REMAINING BUILDING SHALL BE SPLIT SO AS TO KILL ALL ELECTRICAL POWER TO THE AREA TO BE DEMOLISHED WHILE MAINTAINING POWER TO OTHER AREAS OF THE BUILDING.
19. CONTRACTOR TO PATCH/REPAIR ALL HOLES IN WALLS, FLOORS AND/OR CEILINGS. PAINT TO MATCH ADJACENT WALL/CEILING.
20. CONTRACTOR TO RE-LOCATE EXISTING UTILITIES & EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW ELECTRICAL & PLUMBING REQUIREMENTS FOR THIS PROJECT.
21. REFER TO PLUMBING PLANS FOR EXTENT OF CONCRETE SLAB TO BE REMOVED AND REPLACED FOR UNDER FLOOR PIPING INSTALLATION.
22. SLABS AS WHERE THE SLAB WILL BE EXPOSED AFTER TRENCHING. REVIEW TRENCHING LAYOUT WITH ARCHITECT PRIOR TO REMOVAL.
23. PATCH EXISTING CONCRETE OR MASONRY FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.
24. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTING WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH.
25. NEW OPENING TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED TO THE HEIGHT AND WIDTH INDICATED. PROVIDE LINTEL TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL.
26. CONSTRUCTION PER STRUCTURAL DRAWINGS.
27. WHERE EXISTING INTERIOR WALLS ARE REPLACED OR REMOVED, REMOVE MEP SYSTEMS BACK TO PANEL OR MECHANICAL ROOM OR FARTHEST POSSIBLE POINT WITHOUT DISTURBING EXISTING CONSTRUCTION. ALWAYS EXISTING MECHANICAL EQUIPMENT, RELOCATE POWER PER MEP DRAWINGS.
28. ALSO REFER TO MEP DRAWINGS FOR DEMOLITION OF MEP SYSTEMS. IDENTIFY WORK REQUIRED BY ALL SUBCONTRACTORS WHICH MAY AFFECT DEMOLITION AND/OR REPAIRS OF ARCHITECTURAL ELEMENTS. COORDINATE EXTENT OF DEMOLITION WORK WITH OTHER TRADES.
29. PATCH FLOORS, WALLS CEILINGS WHICH REMAIN AT LOCATIONS WHERE PIPES, CONDUITS, ETC. ARE REMOVED AS REQUIRED TO MATCH EXISTING CONDITIONS OR FOR NEW FINISHES.
30. REMOVE EXISTING FINISH FLOOR INCLUDING ADHESIVE, PATCH AND PREPARE CONCRETE SURFACE FOR FLOOR FINISH.
31. REMOVE ANY EXISTING VINYL MATERIALS IN ACCORDANCE WITH EPA STANDARDS. NOTIFY ARCHITECT & OWNER OF ANY ASBESTOS CONTAINING MATERIALS DISCOVERED BEFORE PROCEEDING WITH WORK. PROTECT INTERIOR CONSTRUCTION TO REMAIN FROM CONTAMINATION DURING DEMOLITION AND CONSTRUCTION.

Demolition Keynotes

No.	Note
1	REMOVE ALL INTERIOR CONSTRUCTION IN THIS AREA, REMOVAL INCLUDES WALLS, DOORS, FLOORING, CEILINGS, LIGHTING, PLUMBING SYSTEMS. REMOVE PLASTER FROM INTERIOR OF EXTERIOR WALLS. ALSO REMOVE ANY ABANDONED ITEMS INCLUDING PIPING, ELECTRICAL, CONDUIT, HANGERS, ETC.
2	REMOVE DOOR, FRAME AND HARDWARE AND SALVAGE FOR RESET
3	REMOVE STOREFRONT WINDOW SYSTEM, INCLUDING DOORS
4	REMOVE WINDOW
5	REMOVE THICKSET TILE FLOORING TO DOOR ENTRY DECK
6	REMOVE WALL TO ACCEPT NEW CONSTRUCTION
7	REMOVE STAIR AND SURROUNDING WALLS
8	REMOVE LOUVER AND SALVAGE FOR RESET
9	REMOVE TERRACOTTA TILE FLOORING, CUT AND PATCH AS NECESSARY FOR FULL REMOVAL
10	RELOCATE EXISTING ACTIVE MEP ITEMS (PIPES, CONDUIT, ETC) TO BE IN WALLS OR CHASE FOR FLOOR PLANS, REMOVE INACTIVE MEP ITEMS
11	RELOCATE STORM DRAIN FOR FLOOR PLANS
12	RELOCATE PLUMBING FOR FLOOR PLANS
13	REMOVE CANOPY, FRAME AND SUPPORTS
E1	EXISTING MEP ITEMS (PIPES, CONDUIT, ETC) DURING DEMOLITION AND CONSTRUCTION, REMOVE MEP ITEMS NO LONGER IN USE.
ETR	EXISTING TO REMAIN

LEGEND:

- EXISTING WALL TO REMAIN
- REMOVE WALL
- REMOVE DOOR
- REMOVE ALL CONSTRUCTION THIS AREA
- SAWCUT AND REMOVE SLAB
- REMOVE TOPPING SLAB
- (4) DEMOLITION KEYNOTE (SEE ABOVE)

Demolition Plan - Level 5 | **A3**

1/8" = 1'-0" | A7 / A010

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918 East 9th Street
Kansas City, MO

owner:
reStart Inc.
918 East 9th Street
Kansas City, Missouri 64106
816.472.8884 voice
816.472.0127 fax
www.restartinc.org

architect:
Gould Evans Associates
4041 NW Street
Kansas City, MO 64111
816.931.8666 voice
816.931.8990 fax
www.gouldevans.com

mechanical/electrical engineer:
RGSE Engineers
2201 Baltimore, Suite 201
Overland Park, KS 66218
913.492.8400 voice
913.492.3437 fax
www.rgsekc.com

construction manager:
JE Dunn Construction
1001 Locust Street
Kansas City, MO 64106
816.474.8900 voice
www.jedunn.com

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Number	Revision Description	Date

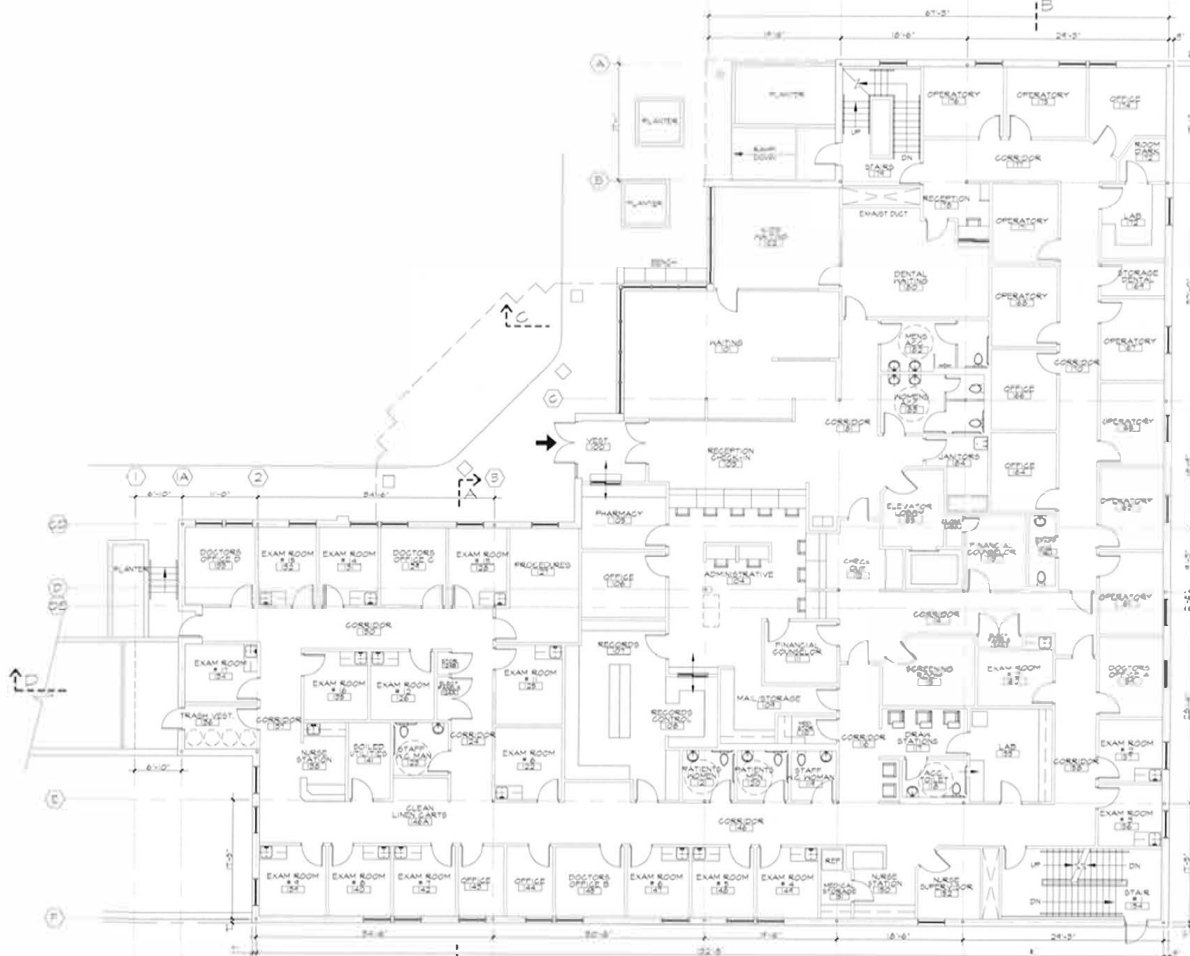
Project No 0212-1000
Date: 03.22.2013
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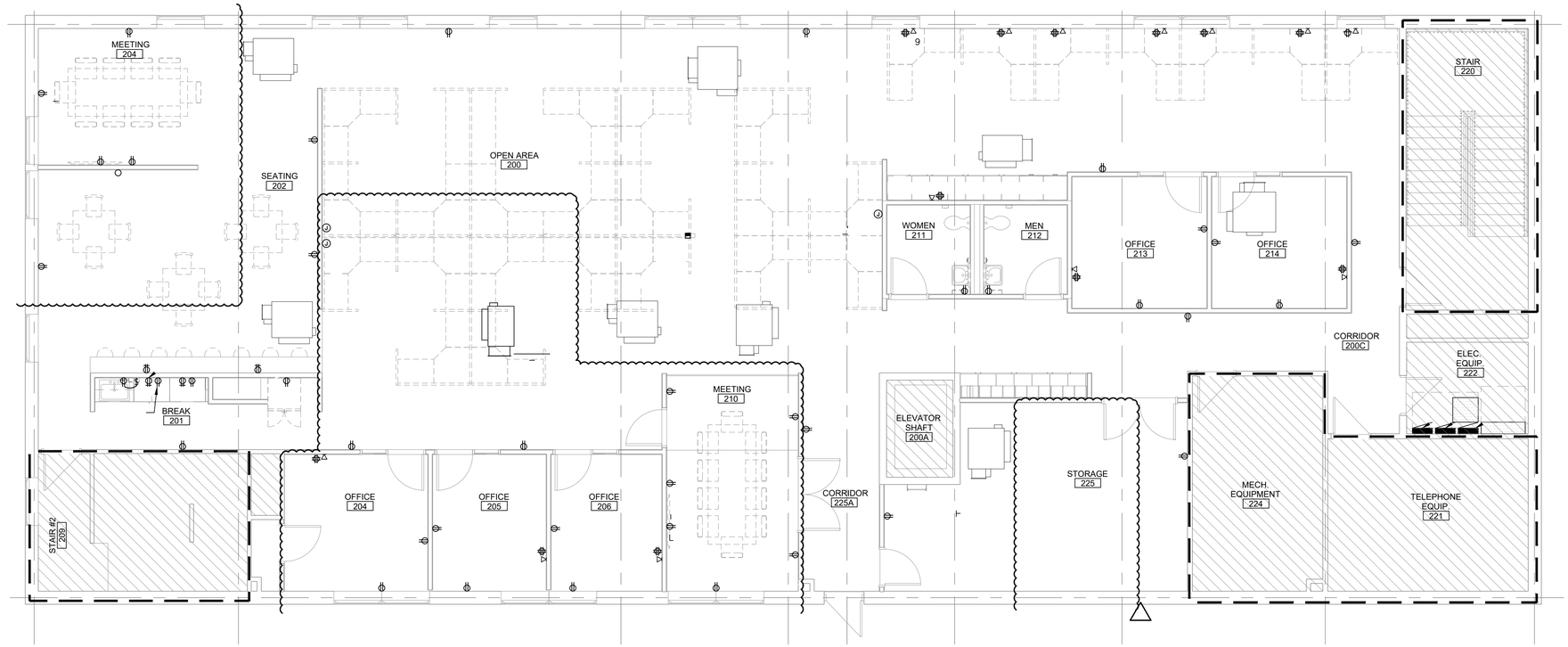
Demolition Plan - Level 5 - Phase 2

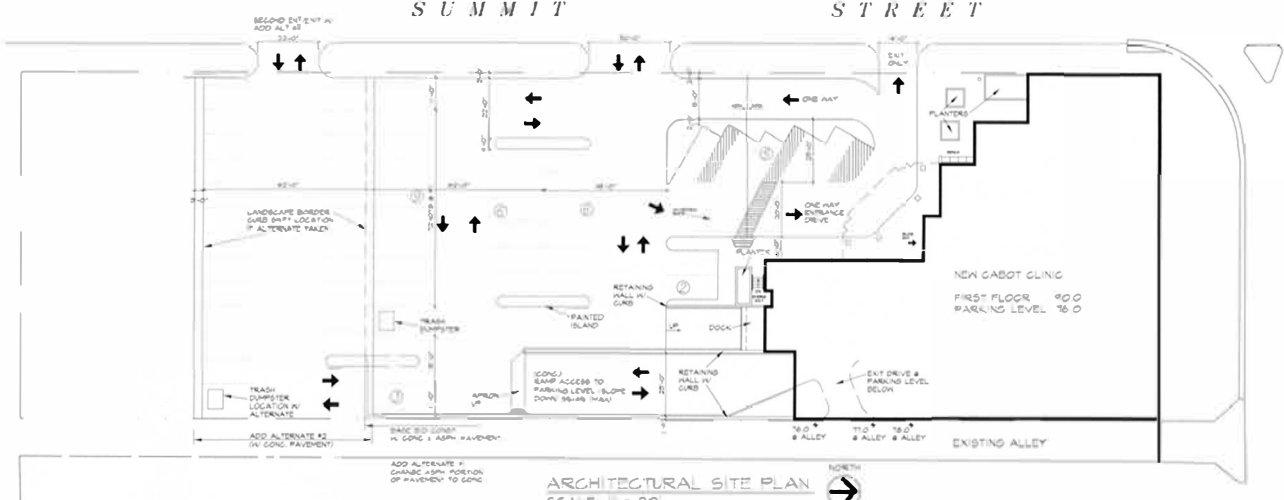
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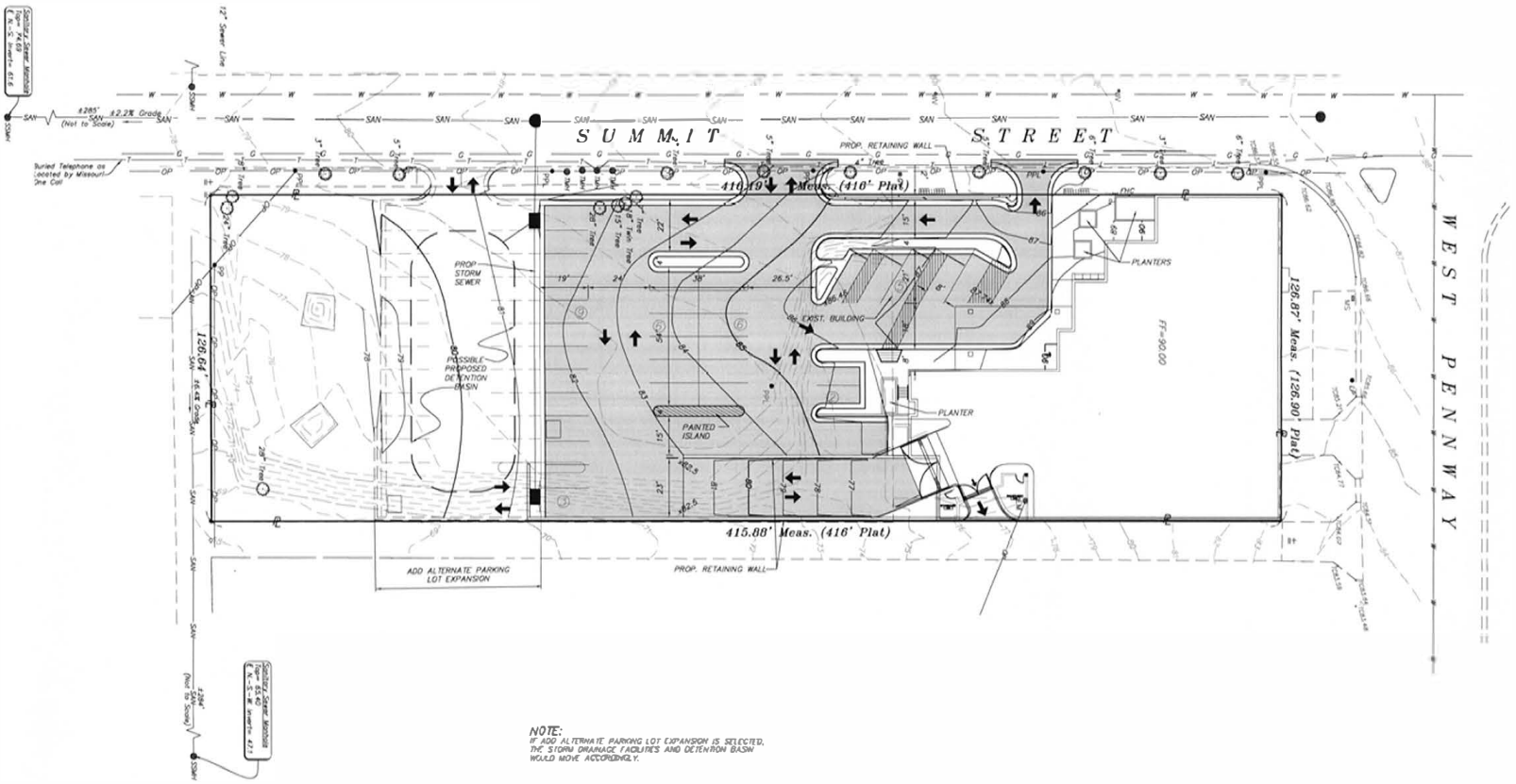
PRICING SET

SAMUEL U. RODGERS HEALTH CENTER DRAWINGS


PLANTER
OPERATORY
OFFICE
CORRIDOR
RECEPTION
EXHAUST DUCT
DENTAL
STORAGE
LAB
WAITING
XRAY
JANITOR
ELEVATOR
PHARMACY
ADMINISTRATIVE
FINANCIAL COUNSELOR
DOCTORS OFFICE D
EXAM ROOM
DOCTORS OFFICE C
PROCEDURES
DOCTORS OFFICE A
TRASH/SOIL
NURSE STATION
SOILED LINENS
STAFF TOILET
CLEAN LINEN/LANTS
RECORDS
RECORDS OPENING
MAIL/STORAGE
PATIENTS
STAFF TOILET
SCREENING
DOCTORS OFFICE B
MEDICAL
NURSE SUPERVISOR
UP
DN
STAIR


MEETING
204
SEATING
202
OPEN AREA
200
WOMEN
211
MEN
212
OFFICE
213
OFFICE
214
STAIR
220
CORRIDOR
200C
ELEC.
EQUIP.
222
BREAK
201
MEETING
210
ELEVATOR
SHAFT
200A
STORAGE
225
MECH.
EQUIPMENT
224
TELEPHONE
EQUIP.
221
OFFICE
204
OFFICE
205
OFFICE
206
CORRIDOR
225A
STAIR #2
209


SUMMIT
STREET
SECOND EXIT EXIT W/ ADD ALT #2
ONE WAY
EXIT ONLY
PLANTERS
LANDSCAPE BARRIER CURB SHIFT LOCATION IF ALTERNATE TAKEN
ONE WAY ENTRANCE DRIVE
RETAINING WALL W/ CURB
NEW CABOT CLINIC
FIRST FLOOR 90.0
PARKING LEVEL 78.0
TRASH DUMPSTER
PAINTED ISLAND
DOCK
TRASH DUMPSTER LOCATION W/ ALTERNATE
(CONC.) RAMP ACCESS TO PARKING LEVEL - SLOPE DOWN 9%-4% (MAX)
RETAINING WALL W/ CURB
EXIT DRIVE & PARKING LEVEL BELOW
ADD ALTERNATE #2 (W/ CONC. PAVEMENT)
BASE BID CONST. W/ CONC & ASPH. PAVEMENT
78.0 @ ALLEY
77.0 @ ALLEY
78.0 @ ALLEY
EXISTING ALLEY
ADD ALTERNATE #1 CHANGE ASPH. PORTION OF PAVEMENT TO CONC.
ARCHITECTURAL SITE PLAN
NORTH



NOTE:
IF ADD ALTERNATE PARKING LOT EXPANSION IS SELECTED, THE STORM DRAINAGE FACILITIES AND DETENTION BASIN WOULD MOVE ACCORDINGLY.

SCALE: 1" = 20'

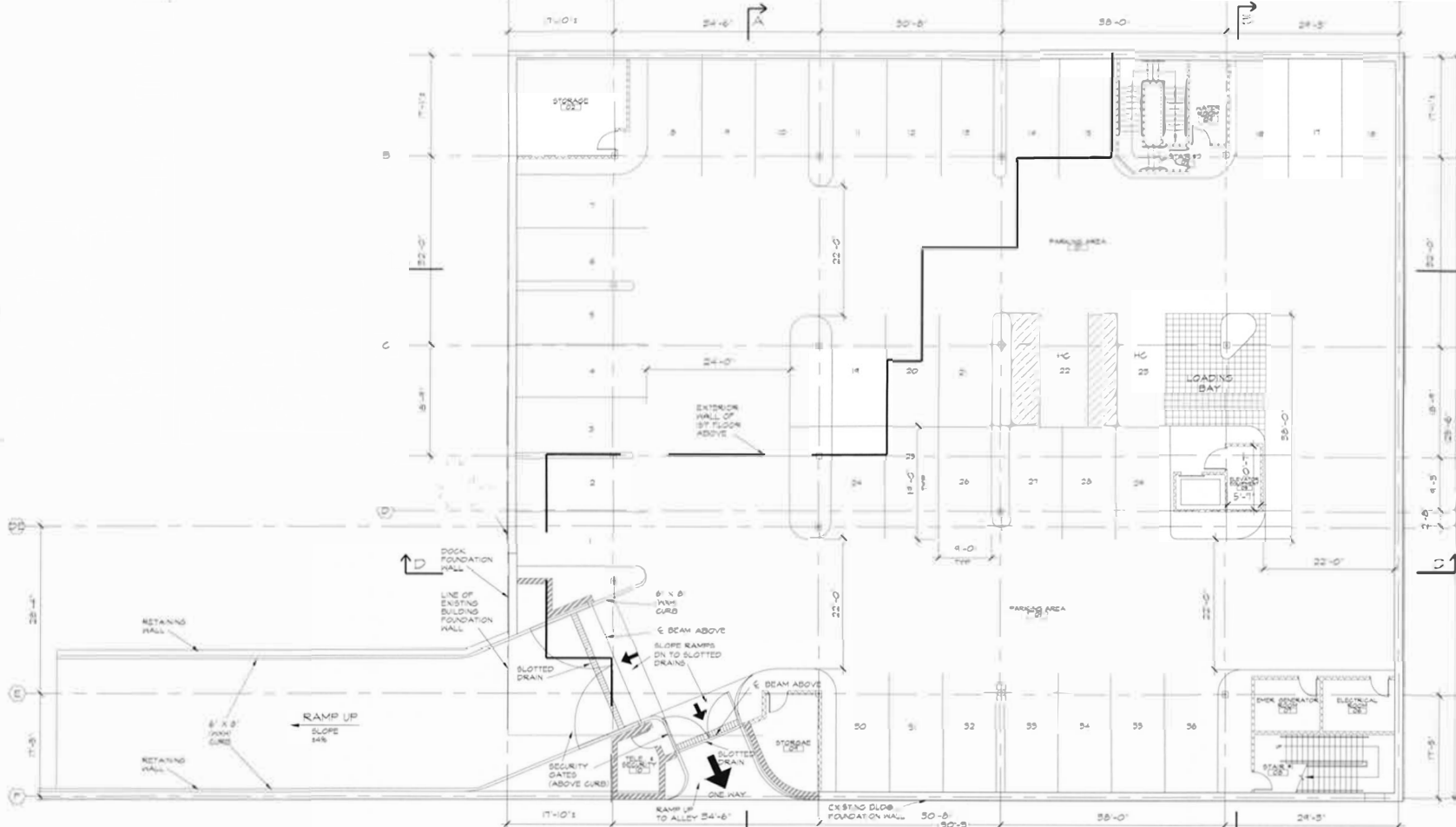
SHAFER, KLINE & WARREN, I

Cabot
Westside Clinic
Saint Luke's - Shawnee Mission Health System
SAINT LUKE'S HOSPITAL OF KANSAS CITY
4401 WORNALL RD. KANSAS CITY, MISSOURI 64111

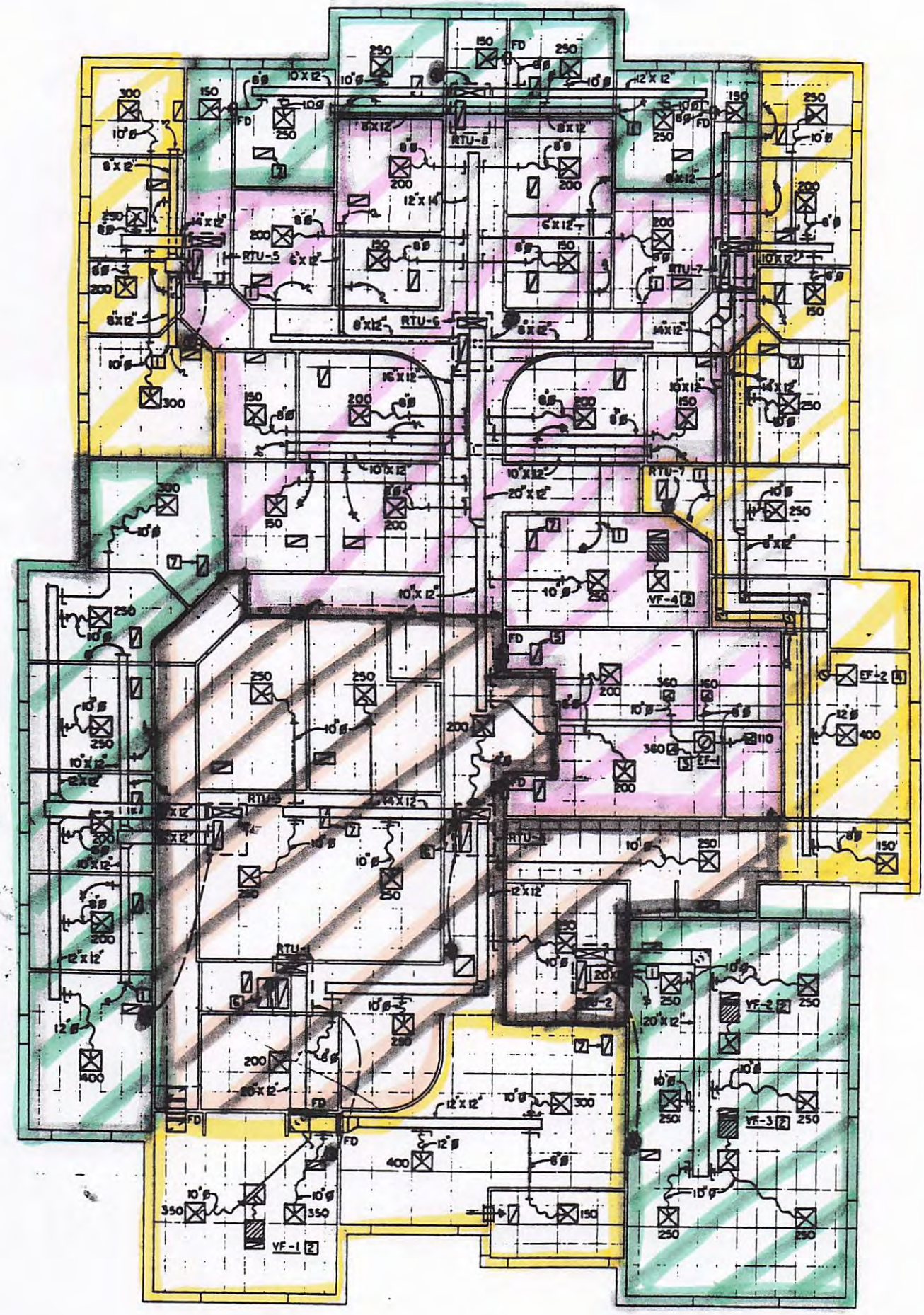
NEVILLE SHARP & SIMON INC.
Architects
106 WEST FOURTEENTH STREET, KANSAS CITY, MISSOURI 64105 (816) 421-2030

DRAWN BY JDB
CHECKED BY
ISSUE DATE 9/6/02
REVISION
DESIGN DEVELOPMENT

C-


17'-10 1/2"
34'-6"
30'-8"
58'-0"
24'-5"
STORAGE
PARKING AREA
22'-0"
24'-0"
EXTERIOR WALL OF 1ST FLOOR ABOVE
LOADING BAY
9'-0"
DOCK FOUNDATION WALL
LINE OF EXISTING BUILDING FOUNDATION WALL
6" x 8" NWM CURB
℄ BEAM ABOVE
SLOPE RAMPS DN TO SLOTTED DRAINS
SLOTTED DRAIN
RETAINING WALL
RAMP UP
SLOPE 14%
SECURITY GATES (ABOVE CURB)
ONE WAY
RAMP UP TO ALLEY
EXISTING DOCK FOUNDATION WALL
ELEVATOR
ELECTRICAL
STAIR 2

SYNERGY SERVICES DRAWINGS



HVAC PLAN

SECTION 10: COUNTY WAGE DETERMINATION DETAILS, DAVIS-BACON WAGES

"General Decision Number: MO20260082 05/18/2026

State: Missouri

Construction Types: Building

Counties: Missouri Counties of
Bates, Caldwell, Clay, Jackson,
Lafayette and Ray

Modification Number	Publication Date
1	01/30/2026
2	05/18/2026

ASBE0027-006 10/07/2024

	Rates	Fringes
HEAT & FROST INSULATOR (INCLUDES DUCT, PIPE AND MECHANICAL SYSTEMS)	$ 43.60	33.52

BRMO0015-021 06/01/2023

	Rates	Fringes
BRICKLAYER	$ 40.53	16.69

BRMO0018-003 07/05/2023

	Rates	Fringes
TILE SETTER	$ 34.09	20.36

CARP1011-005 05/01/2024

	Rates	Fringes
CARPENTER	$ 44.63	22.40

ELEC0124-012 09/01/2025

	Rates	Fringes
ELECTRICIAN	$ 54.01	27.85

ELEC0124-013 11/25/2024

	Rates	Fringes
ELECTRICIAN (COMMUNICATION TECHNICIAN)	$ 48.23	25.35

ELEV0012-005 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC. A. VACATION: EMPLOYER CONTRIBUTES 8% OF BASIC HOURLY RATE TO VACATION PAY CREDIT FOR EMPLOYEE WHO HAS WORKED IN BUSINESS MORE THAN 5 YEARS AND 6% FOR 6 MONTHS TO 5 YEARS AS VACATION PAY CREDIT. B. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS' DAY, THANKSGIVING DAY, FRIDAY AFTER		

THANKSGIVING DAY AND CHRISTMAS DAY.....$ 60.69 38.44

ENGI0101-052 04/01/2025

	Rates	Fringes
OPERATOR: FORKLIFT	$ 44.14	22.42

ENGI0101-053 04/01/2025

	Rates	Fringes
OPERATOR: CRANE	$ 47.29	22.42

ENGI0101-054 04/01/2025

	Rates	Fringes
OPERATOR: BOBCAT/SKID STEER/SKID LOADER	$ 45.48	22.42
OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE	$ 45.48	22.42

ENGI0513-026 05/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: OILER	$ 39.06	30.38

ENGI0513-027 05/07/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: BULLDOZER	$ 45.96	30.57

IRON0010-003 04/01/2025

	Rates	Fringes
IRONWORKER	$ 39.00	34.25

LABO0110-007 06/04/2025

	Rates	Fringes
LABORER: PIPELAYER	$ 40.82	17.56

LABO0264-009 04/01/2023

	Rates	Fringes
LABORER: COMMON OR GENERAL	$ 31.60	18.25

LABO1104-007 03/01/2025

	Rates	Fringes
LABORER: MASON TENDER - CEMENT/CONCRETE	$ 31.80	14.91

PLAS0518-015 04/01/2025

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 40.13	20.50

PLUM0008-021 06/01/2025

	Rates	Fringes
PLUMBER	$ 58.38	25.29

PLUM0533-014 06/01/2025

	Rates	Fringes
PIPEFITTER	$ 57.51	28.35

ROOF0020-023 06/01/2024

	Rates	Fringes
ROOFER	$ 38.45	22.29

SFMO0314-002 10/01/2024

	Rates	Fringes
SPRINKLER FITTER	$ 45.85	25.50

SHEE0002-036 07/01/2023

	Rates	Fringes
SHEET METAL WORKER	$ 50.43	26.45

SUMO2020-011 10/10/2023

	Rates	Fringes
PAINTER	$ 24.14	9.67
OPERATOR: LOADER	$ 38.39	17.55

UAVGMO0001 01/01/2025

	Rates	Fringes
LABORER: MASON TENDER - BRICK	$ 34.05	15.73

UAVGMO0002 01/01/2025

	Rates	Fringes
OPERATOR: ROLLER	$ 39.61	30.15

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at

www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA", or "SC" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are

based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

�SU� wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The �SA� identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the �SA� identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that

the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

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"General Decision Number: MO20260079 05/18/2026

State: Missouri

Construction Types: Building

Counties: Missouri Counties of
Platte

Modification Number	Publication Date
1	01/30/2026
2	05/18/2026

ASBE0027-006 10/07/2024

	Rates	Fringes
HEAT & FROST INSULATOR (INCLUDES DUCT, PIPE AND MECHANICAL SYSTEMS)	$ 43.60	33.52

BRMO0015-021 06/01/2023

	Rates	Fringes
BRICKLAYER	$ 40.53	16.69

BRMO0018-003 07/05/2023

	Rates	Fringes
TILE SETTER	$ 34.09	20.36

CARP1011-005 05/01/2024

	Rates	Fringes
CARPENTER	$ 44.63	22.40

ELEC0124-012 09/01/2025

	Rates	Fringes
ELECTRICIAN	$ 54.01	27.85

ELEC0124-013 11/25/2024

	Rates	Fringes
ELECTRICIAN (COMMUNICATION TECHNICIAN)	$ 48.23	25.35

ELEV0012-005 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC. A. VACATION: EMPLOYER CONTRIBUTES 8% OF BASIC HOURLY RATE TO VACATION PAY CREDIT FOR EMPLOYEE WHO HAS WORKED IN BUSINESS MORE THAN 5 YEARS AND 6% FOR 6 MONTHS TO 5 YEARS AS VACATION PAY CREDIT. B. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS' DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING DAY AND CHRISTMAS DAY	$ 60.69	38.44

ENGI0101-052 04/01/2025

	Rates	Fringes
OPERATOR: FORKLIFT	$ 44.14	22.42

ENGI0101-053 04/01/2025

	Rates	Fringes
OPERATOR: CRANE	$ 47.29	22.42

ENGI0101-054 04/01/2025

	Rates	Fringes
OPERATOR: BOBCAT/SKID STEER/SKID LOADER	$ 45.48	22.42
OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE	$ 45.48	22.42

ENGI0513-026 05/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: OILER	$ 39.06	30.38

ENGI0513-027 05/07/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: BULLDOZER	$ 45.96	30.57

IRON0010-003 04/01/2025

	Rates	Fringes
IRONWORKER	$ 39.00	34.25

LABO0110-007 06/04/2025

	Rates	Fringes
LABORER: PIPELAYER	$ 40.82	17.56

LABO0264-009 04/01/2023

	Rates	Fringes
LABORER: COMMON OR GENERAL	$ 31.60	18.25

LABO1104-007 03/01/2025

	Rates	Fringes
LABORER: MASON TENDER - CEMENT/CONCRETE	$ 31.80	14.91

PLAS0518-015 04/01/2025

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 40.13	20.50

PLUM0008-021 06/01/2025

	Rates	Fringes
PLUMBER	$ 58.38	25.29

PLUM0533-014 06/01/2025

	Rates	Fringes
PIPEFITTER	$ 57.51	28.35

ROOF0020-023 06/01/2024

	Rates	Fringes

ROOFER.....$ 38.45 22.29

SFMO0314-002 10/01/2024

	Rates	Fringes
SPRINKLER FITTER	$ 45.85	25.50

SHEE0002-036 07/01/2023

	Rates	Fringes
SHEET METAL WORKER	$ 50.43	26.45

SUMO2020-008 10/10/2023

	Rates	Fringes
PAINTER	$ 24.14	9.67
OPERATOR: LOADER	$ 38.39	17.55

UAVGMO0001 01/01/2025

	Rates	Fringes
LABORER: MASON TENDER - BRICK	$ 34.05	15.73

UAVGMO0002 01/01/2025

	Rates	Fringes
OPERATOR: ROLLER	$ 39.61	30.15

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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