GRUBB PROPERTIES

ENERGY MANAGEMENT PLAN

Link Apartments Rosemary – 101 E Rosemary, Chapel Hill, NC

Last Updated: January 28th, 2022

CHARLOTTE 4601 Park Road, Charlotte, NC 28209 **T.** 704 372 5616 **F.** 704 372 9882
CARY 117 Edinburgh S Drive, Cary, NC 27511 **T.** 919 461 3950 **F.** 919 461 3939
WINSTON-SALEM 500 W 5th Street, Winston-Salem, NC 27101 **T.** 336 923 7650 **F.** 336 777 0624
ATLANTA 47 Perimeter Center East, Atlanta, GA 30346 **T.** 770 604 3387 **F.** 770 604 3959

grubbproperties.com

1. Contents

2. OVERVIEW 3

2.1 PROJECT PROFILE 3
2.2 EMP DESIGN AND FRAMEWORK 3

3. ENERGY MANAGEMENT GOALS 3

3.1 OBJECTIVE 3
3.2 ENERGY 3
3.3 WATER 4
3.4 ADDITIONAL ENVIRONMENTAL & SOCIAL CONSIDERATIONS 4

4. ACTION PLAN 4

4.1 EMP TEAM 4
4.1.1 EMP Director *4*
4.1.2 EMP Team Members *5*
4.2 ENERGY POLICY 5
4.2.1 Objective *5*
4.2.2 Accountability *6*
4.3 STRATEGIES 6
4.3.1 Efficient Design *7*
4.3.2 Clean Energy *7*
4.3.3 Energy Demand Management *7*
4.3.4 Materials & Environment *8*
4.3.5 Transportation Demand Management *8*

5. MEASUREMENT & VERIFICATION 9

5.1.1 Green Certification *9*
5.1.1 Modelling & Testing *9*
5.1.2 Data Collection & Management *10*
5.1.3 Data Benchmarking *10*
5.1.4 Analysis & Assessments *10*

6. RECOGNITION & REPORTING 11

6.1 INTERNAL REPORTING 11
6.1.1 Performance Reports *11*
6.1.2 Property Management Recognition *11*
6.2 EXTERNAL REPORTING 11
6.2.1 GRESB Assessment *11*
6.2.2 ENERGY STAR Portfolio Manager *12*
6.2.3 Public Performance Reporting & Recognition *12*

2. OVERVIEW

2.1 Project Profile

Link Apartments® Rosemary ("the property" or "the project") will continue the successful redevelopment of the 100 block of E. Rosemary Street, revitalizing downtown Chapel Hill. The project will provide much-needed essential housing for young professionals working in the downtown innovation district. A mix of studios, 1-bedroom, and 2-bedroom units will comprise the 150 units at East Rosemary and Columbia Streets.

To ensure environmental stewardship and community enrichment, Grubb Properties has developed this Energy Management Plan (EMP) to address priorities during development, construction, and operation of the building.

2.2 EMP Design and Framework

As this is a new construction project, this version of the EMP acts as a framework to later be updated once the property management team has been established and trained, the property achieves at least 90% occupancy, and a performance baseline has been established with twelve consecutive months of energy and water consumption data. Strategies and policies are subject to change during the development and construction process. However, Grubb Properties minimizes uncertainty and maximizes building performance in its Link Apartments® communities through an iterative, efficient design process, pursuing green building certifications, and conducting additional modelling and testing of the building's utility consumption.

This EMP has been aligned with best practices from U.S. Environmental Protection Agency (EPA) ENERGY STAR® guidance, and ISO 14001:2015 "Environmental management systems." [1] [2]

3. ENERGY MANAGEMENT GOALS

3.1 Objective

The property aims to minimize environmental impact by reducing greenhouse gas (GHG) emissions, water consumption, and waste production, as well as utilizing more sustainable materials and practices during construction and operation.

3.2 Energy

Through an integrated approach to efficient systems and third-party modelling and verification, the property will cost-effectively minimize its Energy Use Intensity (EUI), to reduce Scope 2 GHG emissions[3]. Per the results of

[1] "ENERGY STAR Guidelines for Energy Management," https://www.energystar.gov/buildings/tools-and-resources/energy-star-guidelines-energy-management, 09/22/2021.

[2] "ISO 14001:2015 Environmental management systems — Requirements with guidance for use," https://www.iso.org/standard/60857.html, 2021.

[3] "GHG Protocol Scope 2 Guidance," https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance

Duke Energy and Willdan energy modelling, recent similar Link Apartments® projects have achieved 17% - 20% EUI reduction versus North Carolina's adopted baseline reference ASHRAE 90.1-2013 value of 26.5 KBtu/ft²/yr.

3.3 Water

The property will aim to minimize water consumption in accordance with National Green Building Standard's Water Rating Index.[4] Southern Energy Management will provide water modelling during development to quantify savings and then verify after construction.

Additionally, the property will utilize EPA ENERGY STAR® Portfolio Manager® Water Score to maintain or achieve high-performance scores of at least a 75 or an alternate value that is required for a future certification threshold that ENERGY STAR® Portfolio Manager® establishes.[5]

3.4 Additional Environmental & Social Considerations

The property will take additional measures to mitigate and reduce environmental impact, including Scope 3 GHG emissions and potential emissions of the surrounding community. The project will identify opportunities to reduce environmental impact from materials and construction activities.

The project is also focused on improving the wellbeing of its future residents, by reducing their recurring costs, improving indoor environmental quality, and providing alternate mobility options to reduce dependency on single-occupancy vehicles.

4. ACTION PLAN

4.1 EMP Team

The energy management plan will be led and maintained by a dedicated EMP energy team which will institute an energy policy, establish accountability, and plan how goals and ongoing improvement will be achieved.

4.1.1 EMP Director

The EMP Director will establish energy performance as a core value and coordinate the EMP Team's activities. The Director role will be filled by a member of Grubb Properties' Sustainability Team, whose responsibilities are dedicated full-time to overseeing environmental, social and governance (ESG) initiatives across the company's operations.

[4] "Comparing Water Rating Programs: NGBS WRI Score vs. RESNET HERSH2O," https://www.homeinnovation.com/-/media/Files/Certification/Green_Building/Comparing_Water_Rating_Programs.pdf, 1/14/2022.

[5] "Water Score for Multifamily Housing," https://www.epa.gov/watersense/water-score-multifamily-housing, 11/15/2021.

The EMP Director's key duties include:

i. Coordinating and directing the overall energy program
ii. Acting as the point of contact for senior management
iii. Assuring accountability and commitment from core parts of the organization
iv. Increasing the visibility of energy management within the organization
v. Assessing the potential value of improved energy management
vi. Securing sufficient resources to implement strategic energy management
vii. Identifying opportunities for improvement and ensuring implementation (including staff training)
viii. Measuring, tracking, evaluating, and communicating results
ix. Obtaining recognition for achievements

4.1.2 EMP Team Members

The EMP Director will be supported by a team with diverse skillsets, comprised of both Grubb Properties staff and third-party support. Members will stem from the following groups:

4.1.2.1 Grubb EMP Team Members

i. Maintenance & Safety
ii. Operations
iii. Policy & Training
iv. Marketing
v. On-site Property Management Team
vi. Regional and Area Property Managers
vii. Development & Construction Coordinator
viii. Human Resources

4.1.2.2 Third-party EMP Team Members

ix. Duke Energy Business Energy Advisor
x. Willdan Energy Design Assistance manager
xi. Southern Energy Management green building & renewable energy teams
xii. Yardi YES Energy utility data specialist

4.2 Energy Policy

4.2.1 Objective

Grubb Properties is committed to designing, constructing, and operating the property in the most efficient, cost-effective, and environmentally responsible manner possible. In support of this commitment, Grubb Properties shall assess feasibility and benefits from latest high-performance building trends, maintain routine and updated training

on green operations policies, and communicate environmental priorities with Grubb employees, vendors and building tenants.

This policy applies to all activities affecting the property before, during and after construction.

4.2.2 Accountability

4.2.2.1 Communication & Continuous Improvement

EMP performance reports will be produced and reviewed quarterly by the EMP Team and senior management. Policies and expenditures related to the EMP will be reviewed by the EMP Team and senior management on an ad hoc basis, but at least annually. Any ongoing or new EMP initiatives are assigned a key lead from the EMP Team, who is responsible for executing and reporting on expected results.

The goal of regular reviews will be to evaluate and update policies to reflect changing needs and priorities for the property and the EMP. Key metrics such as energy and water consumption will be tracked, and strategies will be identified to further reduce consumption. Additional details can be found in section 6.1.

As part of the National Green Building Standard (NGBS) Green certification, the property will receive an EMP Operations & Maintenance manual and training session, to ensure that preventative maintenance, retrocommissioning, and other green building best practices continue after construction completion.

4.2.2.2 Incentives

To increase accountability, Grubb Properties incentivizes sustainability and property management teams to achieve exemplary energy and environmental performance. Both teams have financial consequences for sustainability success such as engaging in environmentally responsible behaviours and efficiently using resources. Additionally, Property Management teams also have non-financial motivation in the form of the Sterling Property Award, which recognizes one property management team annually for their excellence in multiple categories of equal weight. One category is utility reduction, which measures the impact of energy, water and waste reduction at the property, in-line with our environmental policies and goals.

4.3 Strategies

To achieve the EMP goals, the following technology and policies are currently being planned or assessed for the property. This list is not definitive, and strategies and policies are subject to change during the development and construction process. However, as green building certification is expected to be achieved regardless of other variables, many green building strategies are mandatory for the project. Green building-compulsory strategies are generally noted as such. A complete compendium of above-code deployed EMP strategies will be available later in development after the NGBS design checklist is finalized.

4.3.1 Efficient Design

4.3.1.1 Envelope

The project will utilize a "cool roof," a high albedo white thermoplastic polyolefin (TPO) membrane on the roof, which reduces heat absorption, both reducing the building's summer energy consumption and urban heat island effect.

Per National Green Building Standard, the project will deploy best practice construction and material selection, to increase envelope tightness and produce lower U-values. Insulation must have a Grade I (best) installation. Low-E glazing will be used, and roofing will utilize a minimum of R38 insulation combined with R5 insulative wall sheathing.

4.3.1.2 Mechanical & Electrical

The property extensively uses LED lighting. Dimming controls, occupancy sensors, and photocells are also used to further reduce the lighting power density across the various areas of the building. Also, depending on the floorplan, each apartment unit will enjoy significant sunlight in 50% to 75% the unit's area. The HVAC design will utilize all-electric split system heat pumps. Natural gas will also not be used for heating or cooking, thus effectively eliminating Scope 1 GHG emissions from the property. Occupancy sensors are used in the common areas to control zone temperatures. Appliances will be ENERGY STAR® certified.

4.3.1.3 Water Conservation

The property will deploy low-flow fixtures, selecting EPA WaterSense-labelled products whenever possible. Additionally, landscaping will include only regionally appropriate, drought resistant vegetation and minimize or avoid turf lawn areas. Any required irrigation will use a drip irrigation system and will utilize timers, and rain sensors if deemed suitable.

4.3.2 Clean Energy

The project is modelling a solar photovoltaic (PV) system on the roof of the building. The scope of work will be to maximize the fit thus maximizing the PV system's capacity. Additionally, Grubb Properties is assessing offsite clean energy procurement to offset property load.

4.3.3 Energy Demand Management

Grubb Properties is assessing a building-wide demand response program that residents would opt into. Residents would be financially compensated for agreeing to have their HVAC systems modified during times of peak demand on the grid to help reduce load.

4.3.4 Materials & Environment

Grubb has designed a highly efficient, dense building and floorplan design, which reduces construction time, material requirements, and waste. The physical design also increases the buildings' efficiency of conditioning spaces, reduces heating and cooling loads. Masonry will be sourced from a local vendor.

To improve indoor environmental quality, and in compliance with NGBS requirements, the project installs additional above-code measures to ensure heightened mold and mildew prevention, including enhanced moisture barriers and air sealing work to prevent living space contamination. The project also prioritizes low- or no-VOC material options for millwork and paint. Insulation will be formaldehyde-free. VOCs are also reduced by having no carpeting in apartment units. During construction, additional precautions are taken to block particulate matter from entering ductwork. To improve ventilation, the building has operable windows and bathroom exhaust fans will vent to outside of the building. Per NGBS guidelines, the above measures must be inspected and verified by a third party to ensure quality and completeness.

The project will be urban infill, constructed on a grayfield site. While Grubb Properties is prepared for the requirements of developing on a brownfield or similar status parcel, a Phase II Environmental Site Assessment found no contaminants of concern at this time. Results of groundwater assessment activities indicate that no compounds were detected at concentrations exceeding groundwater standards or the DEQ DWM Non-Residential Vapor Intrusion screening levels. In addition, no chlorinated solvents commonly used by dry cleaners were detected. Results of soil assessment activities indicated no analysed compounds exceeded Soil-to-Water, Residential, and Industrial/Commercial MSCCs. In addition, soil laboratory analytical results did not indicate the presence of PCBs above laboratory detection limits. Based on these results, additional assessment does not appear to be warranted at this time.

4.3.5 Transportation Demand Management

In pursuit of reducing Scope 3 GHG emissions from transportation, Grubb Properties deploys an integrated and innovative array of tools to provide alternate transportation options for its residents. Primary strategies include, but are not limited to, the following:

i. Tight parking ratios and shared parking areas provide parking to multiple user groups depending on the time of day.
ii. Financial incentives to residents who do not keep a car on the property.
iii. Advanced on-site bike storage and maintenance facilities, in partnership with Copenhagenize Design Co., to help create bike- and walk-first communities.[6]
iv. Electric vehicle (EV) supply equipment to provide free level 2 EV charging for residents' electric vehicles.
v. A Tesla EV available for residents to rent for minutes, hours or days at a time.
vi. Hosting an electric bike or electric scooter charging hub, if possible.

[6] https://copenhagenize.eu/

vii. Resident guidance and education regarding alternate transportation options, including the multiple bus routes available within 300 feet of the property, and nearby destinations reachable without a single-occupancy vehicle.

5. MEASUREMENT & VERIFICATION

5.1.1 Green Certification

In addition to multiple modelling and data analysis tools detailed below in this section, the primary method for ensuring the EMP goals are met is through rigorous adherence to the National Green Building Standard ICC-700 (NGBS), managed and updated by Home Innovation Research Labs. NGBS is the only green building rating system for homes and apartments approved by the American National Standards Institute (ANSI), as an American National Standard.[7] In order for the project to be NGBS green-certified, the project will undergo two separate inspection regimens by an authorized third-party verifier, including inspecting 100% of residential units.

Certifying NGBS Green requires achieving hundreds of credit topics, comprising a mix of mandatory and optional strategies that are categorized into the following areas:

i. Energy Efficiency
ii. Water Efficiency
iii. Resource Efficiency
iv. Lot Development
v. Operation & Maintenance
vi. Indoor Environmental Quality

The NGBS certification process creates a holistic and rigorous set of standards that inform decisions and actions during development, construction, and operation of the building. Home Innovation recently updated NGBS to a new, stricter 2020 version, which this project will be following. The project is on track to achieve NGBS Silver level.

5.1.1 Modelling & Testing

Pre-construction modelling will verify energy reduction targets, and will be provided by Duke Energy, in partnership with Willdan's NEO® energy model.[8] Post construction modelling and verification will be provided by Southern Energy Management and the Home Energy Rating System (HERS) Index.[9] As part of the HERS rating modelling, Southern Energy Management will conduct blower door and duct testing in apartment units.

[7] "THE NGBS GREEN PROMISE," https://www.ngbs.com/the-ngbs-green-promise, 2022.

[8] https://netenergyoptimizer.com/

[9] https://www.hersindex.com/hers-index/what-is-the-hers-index/

5.1.2 Data Collection & Management

Relevant design and development data will be stored on Grubb servers, as well as being catalogued and submitted to Home Innovation Research Labs by Southern Energy Management as part of the NGBS certification. NEO® and HERS modelling and test results will be sent to Grubb.

Once construction is complete, all owner-paid energy and whole-building water data will be retrieved from the utility providers in an automated process by Yardi YES Energy. Whole-building energy data, which includes anonymized aggregate resident usage data, will be requested from Duke Energy annually.

Data quality will be ensured through primarily automated systems to reduce user error, and data will also be verified in audits by Yardi YES Energy.

5.1.3 Data Benchmarking

Utility data will be benchmarked against internal and external groups, to verify building performance and ensure continuous improvement produces quantifiable results. Yardi YES Energy's platform supports internal utility consumption and cost benchmarking of this property against the rest of the Grubb Properties portfolio. Additionally, property data is relayed to the Yardi Asset IQ platform, which allows the property to utilize utility cost data to benchmark energy and water performance directly against comparable buildings in the same submarket, creating a highly relevant comparison controlling for building type, age, heating and cooling degree days, local infrastructure and utility services, and regulatory environment.[10]

Utility data will also be shared in both the ENERGY STAR® Portfolio Manager® and ArcSkoru. Portfolio Manager benchmarking will enable the property to be compared against national multifamily energy and water intensity, while controlling for climate and building age. ArcSkoru similarly benchmarks utility consumption, but also can benchmark waste, transportation, and human experience, in alignment with the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) standards.[11]

5.1.4 Analysis & Assessments

Through the various benchmarking platforms, Grubb Properties will build a holistic model of the property's performance against multiple standards. The property's utility data will be analysed for weather-normalized variance outside of a predetermined tolerable percent range.

Results of the NEO and HERS models will be used to estimate resident utility savings versus comparable buildings, and the results will be verified and calibrated based on real-world data after twelve months of full occupancy.

---

[10] "Yardi Asset IQ," https://resources.yardi.com/documents/asset-iq-brochure/, 3/3/2021.

[11] https://www.arcskoru.com/about

Utility performance will also be used to analyse the building's compatibility with different climate pathway scenarios, to determine climate transition risks and future capital expenditures required for the building to achieve science-based targets on GHG emission reduction.

5.1.4.1 Actionable Alerts

In addition to long-term planning and risk assessment, the property's analysis will also tie into an Actionable Alerts system from Yardi YES Energy, which can notify key members of the EMP Team in real-time about concerns in the energy and water consumption trends of the building. This system allows the EMP Team to respond to potential energy and water issues immediately to reduce and correct problems.

6. RECOGNITION & REPORTING

To verify design effectiveness, increase accountability, and ensure continuous improvement, Grubb Properties will incorporate property data analysis into multiple reporting contexts, with both internal and external stakeholders.

6.1 Internal Reporting

6.1.1 Performance Reports

Monthly reports detailing Actionable Alerts (sec. 5.1.4.1) will be reviewed by EMP Team members to ensure optimal building performance. Quarterly reports will detail any consumption variance and benchmarking analysis, both against other properties for the relevant quarter, and against the property's performance in the same time period from the previous year. The quarterly report will be reviewed by the EMP Team as well as senior management. The reports will be used to evaluate and adapt objectives and strategies, per the Energy Policy (sec. 4.2)

6.1.2 Property Management Recognition

Internal report findings will also inform the Energy Policy's incentives (sec. 4.2.2.2) for the on-site property management team. The property team has financial consequences for sustainability success such as engaging in environmentally responsible behaviours and efficiently using resources. Additionally, property teams also have non-financial motivation in the form of the Sterling Property Award, which recognizes one property management team annually for their excellence in multiple categories of equal weight. One category is utility reduction, which measures the impact of energy, water and waste reduction at the property, in-line with our environmental policies and goals.

6.2 External Reporting

6.2.1 GRESB Assessment

Grubb Properties participates annually in the GRESB assessment, a leading ESG assessment for real estate industry. GRESB "provides a consistent framework to measure the ESG performance of individual assets and

portfolios based on self-reported data. Performance assessments are guided by what investors and the wider industries consider to be material issues, and they are aligned with the Sustainable Development Goals, the Paris Climate Agreement and major international reporting frameworks. Data reported to the GRESB Assessments are validated by a third party and scored […]."[12]

Grubb Properties' GRESB score is publicly shared and can be a significant requirement by investors, thus greatly increasing accountability pertaining to the successful implementation of sustainability measures.

GRESB will score data from the property, both during development and once occupied, including:

i. Energy and water consumption
ii. Waste quantities and categorization
iii. GHG emissions
iv. Green building certifications
v. Technical assessments of utility consumption
vi. Energy, water, and waste efficiency measures
vii. Renewable energy procurement
viii. Data monitoring & verification
ix. Site design & sustainable materials procurement
x. Community engagement
xi. Occupant wellness & safety
xii. Diversity, equality & inclusion
xiii. Climate resiliency and risk

6.2.2 ENERGY STAR Portfolio Manager

Grubb Properties also discloses building benchmarking results in ENERGY STAR Portfolio Manager, both voluntarily and when required by lender and regulatory requirements. Data and results of Portfolio Manager benchmarking are third-party verified.

6.2.3 Public Performance Reporting & Recognition

Grubb Properties is committed to transparency and sharing best practices across the industry. To that end, results from any of the previously mentioned reports are shared publicly in annual investor reports and standalone ESG reports.

[12] "How we work," https://gresb.com/nl-en/about-us/, 2022.