Creating a Skanska’s Atlanta Office

By optimizing access to direct light, Skanska achieved natural daylight that reaches 90% of its non-core space. Reducing lighting power density by 25% earned two LEED points.

By Roy Abernathy, AIA, and Rafael E. Diaz, Associate AIA

The Swedish construction giant Skanska has 25 offices in the United States. Its Atlanta office was founded in 1905 and has built much of the city’s skyline, including Centennial Olympic Park, Turner Field, the Georgia Dome and Coca-Cola’s headquarters.

As Atlanta has grown, so has Skanska. The problem was that the office expanded arbitrarily to meet growing needs and requirements. Working on multiple floors in multiple buildings, the office lacked operational effectiveness and was devoid of the global environmental culture the company had worked so diligently to achieve for others.

Today, Skanska’s high performing facility in Atlanta serves as a financial asset that builds brand identity, marketability and value. Located in one operationally efficient building, its employees are more productive working more proficiently and comfortably in substantially less space. With square footage diminishing from 85,000 square feet in multiple buildings to 41,000 square feet in one tactical location, real estate and operating expenses were dramatically reduced.

Going for ‘Gold’

The transition to a high performing facility started with a comprehensive reassessment, relocation and reorganization plan developed through a partnership with Jova/Daniels/Bushy (J/D/B), an Atlanta-based architectural, interior design and planning firm.

The guiding principles for the transition included:

- Establish brand identity and transform Skanska’s image to reflect its progressive, international reputation;
- Enhance the work environment and increase morale by creating a healthy, sustainable and flexible workplace to cultivate productivity and functionality;
- Formulate an equity neutral transition from existing location to new optimum locale;
- Exemplify Skanska’s commitment to sustainability as an integral part of their corporate culture; and
- Demonstrate community leadership through initiatives to encourage and support sustainable work practices.

The LEED® certification program provided the framework for the transition. This included an early decision to locate in a redeveloped brownfield site, which earned one LEED point for the new space at 55 Allen Plaza in downtown Atlanta. The new site, also chosen to promote transportation alternatives, is strategically positioned close to a Metropolitan Atlanta Rapid Transit Authority (MARTA) rail station.

Equipping a leased space for sustainability can be a challenge. Skanska, one of the world’s 10 largest construction companies, met this challenge when constructing the interior of its Atlanta office in a downtown high rise.

Legacy

The authors were involved in the planning, design and implementation of the Skanska project. The 25-Stop Green Tour team also included SkyDesign, Jackson Spalding Public Relations and Skanska.

By Robert Thien, Inc.

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Within the space itself, J/D/B created a strategic workplace model to establish the precise amount and types of space Skanska required. The model, designed to ascertain space allocations, was based on the number of employees, growth assumptions, work types and sharing ratios. By examining and analyzing primary work settings; “team” collaborative spaces; support spaces such as reception, conference and break room areas; and technological space requirements, J/D/B was able to allocate and customize the space to fit the essential requirements of each given area.

Adhering to sustainability principles during the build-out the new 41,000 square feet of office space, Skanska’s Atlanta office proved as challenging as new construction. With limited control of the environment as a tenant, Skanska was determined to control the space to its optimum advantage. Developing a working relationship with the landlord during the early planning stages of the project and incorporating sustainable goals and objectives into the lease agreement avoided unnecessary costs associated with the project and expedited response time for base building information.

Mutually beneficial for the landlord and tenant, the analysis and information collected throughout the process created a benchmark to launch future sustainable initiatives throughout the building. In this tenant-driven market where more tenants are demanding green features, landlords are being petitioned to either make green improvements to already leased space or to establish working relationships with tenants to assist in renovations. Underscoring the importance of early planning and cooperation throughout the process, Skanska focused on areas that generated the greatest impact and payback. Reducing the number of walls to maximize natural light, converting to ENERGY STAR® equipment, incorporating energy-efficient lighting and launching an aggressive water-savings plan made a significant impact on the project’s sustainability.
sensors and lighting amounted to 26% less energy than standard offices, achieving five LEED points; and

Efficiency. The energy use intensity of Skanska’s Atlanta office is 56.98 kBtu/square foot per year. The majority of Skanska’s conservation efforts came from:

Electrical efficiency. ENERGY STAR equipment, lighting controls,

Water conservation. Waterless urinals account for a 30% reduction in water use and an additional two LEED points; and

Creating a Legacy

Throughout the multifaceted project, J/D/B’s interior design team integrated value and representation with efficiency and functionality. Environmentally responsible finishes, materials and furnishings were used throughout the space including a dynamic ornamental cork wall, eco-friendly carpet tile designed specifically for cradle-to-cradle recycling and naturally produced rubber.

To capitalize on Skanska’s global sustainable initiatives, an educational plan was incorporated into the design to use the space to educate clients, employees and the general public about environmentally sound design. The “Green Tour” has 21 stops in the building that reflect the impact of sustainable design while demonstrating how the efficiency of buildings decreases stress on an infrastructure.

The tour is broken down into five areas: sustainable site development; water savings; energy efficiency; materials selection; and indoor environmental quality. It reflects initiatives for improving efficiency, reducing expenses, reducing carbon footprint, or improving employee comfort and health along with the applicable LEED points earned for each initiative. For Skanska, it was a testament of the company’s global stand on green building, advocating sustainability as an achievable goal.

From incremental changes in lighting to a major water conservation plan, Skanska’s walking tour maps out the varying “shades of green,” offering an obtainable plan for organizations wishing to change their carbon footprint.

Designers used renewable materials throughout the space, including this cork wall in one of the break areas.

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Skanska surmounted challenges of incorporating sustainable principles into its leased space at 55 Allen Plaza in Atlanta by working with the landlord during the early planning stages of the project.

HVAC efficiency. Seventeen percent more efficient system earned one LEED point.

**Lighting controls** were installed in each room to automatically turn lights on only when daylight is not sufficient and only when a person is in the room. This simple concept is often overlooked.

**Clean air.** Before work began at Skanska, a clean air construction management plan was implemented to ensure a safe and favorable working environment for employees. The plan addresses such issues as:

- **Air filters.** Replacement of filters each month dramatically reduces inhalable dust;
- **Cleaning of coils.** Annually cleaning saves money and improves efficiency; and
- **Weekly inspections.** A third-party inspector is used to ensure compliance with all practices outlined in the plan.

**Life-cycle analysis.** Some of the most significant innovations and technologies today are implemented as a result of life-cycle analysis of systems. Planning for reduced energy consumption is the basis for Skanska’s use of a long-term lease. This strategy allows conservation efforts to be realized and eliminates the waste associated with an office relocation.

**ENERGY STAR equipment.** To earn one LEED point, Skanska uses more than 90% ENERGY STAR equipment. The U.S. Green Building Council (USGBC) recommends 70%. Examples include printers that turn off when not in use, and shared network printers.

**Efficient lighting fixtures** are used in the space. Designers reduced the need for light fixtures by optimizing access to direct light. Skanska earned two LEED points by reducing lighting power density by 25%.

**HVAC system** is 17% more efficient than standard. This is calculated through detailed computer modeling measuring heat loading factors and how they affect the HVAC system.

**Ventilation and carbon dioxide monitoring** maintains a safe working environment for employees and guests.

**Sustainable materials.** For an additional LEED point, sustainable materials are used throughout the space including:

- **Cork.** The bark of the cork oak tree is harvested at seven years and can be harvested subsequently. Cork is used in a dynamic cork wall; and
- **Naturally produced rubber.** Produced from the sap of rubber trees, it can be collected daily, making it highly renewable.

**Natural daylight** may be difficult to accomplish. Highly tinted, multipane windows commonly used in office towers can drastically reduce the light’s positive impact. For employee satisfaction as well as energy efficiency, Skanska was able to achieve natural daylight reaching 90% of its non-core space.

**A recycling plan** was organized to properly dispose of paper, plastics, metals, glass and corrugated cardboard. Surpassing USGBC’s requirements, Skanska provides 175 square feet of recycling area and paper recycling receptacles in every office, cube and shared space.

**Recycled content of materials.** The USGBC classifies recycled content as either post-consumer or pre-consumer recycling. For example, the recycled base of the carpet tiles used represents post-consumer recycling. Plastic surplus from a plastic bottle factory is an example of pre-consumer recycling. One-hundred percent of post-consumer recycling and 50% of...
LESSONS LEARNED

Beyond Expectations
Throughout the initial planning stages of the project, solid goals directed the efforts. With the primary objective of establishing local brand identity for Skanska while transforming Skanska’s image to reflect its global initiatives, the design team targeted a mission to secure LEED certification. In retrospect, based on Skanska’s global image as a builder of sustainable design, the effort could have been pushed further to achieve a Platinum rating. With a strong, cohesive team and a solid relationship with the landlord early on in the process, the project went more smoothly than imagined. Given the opportunity, the team would have pursued an even more aggressive green initiative.

Waterless Urinals vs. Dual Flushes
With an aggressive plan to maximize water conservation, waterless urinals were used in the space. Without question, the benefits of waterless urinals far outweigh their flush counterparts. However, having to change the oil-based cartridges on a regular basis requires a frequent maintenance plan to avoid unwanted odors. The newest technology in toilets has enabled manufacturers to reduce gallons per flush even more with high-efficiency toilets (HETs), outperforming others by as much as 20%. Knowing the efficiency and stability of the newest HEVs, dual flush toilets would have been installed in place of waterless urinals.

Skanska demonstrated its commitment to sustainability by achieving LEED Gold certification for its Atlanta office.

Pre-consumer recycling calculates the space’s recycled content. Skanska achieved more than 11% recycling content surpassing the 10% required for one LEED point.

More than 20 LEED Accredited Professionals work in Skanska’s Atlanta office, and more than 90 work for Skanska nationally.

Brownfield site. The government deems a site as a brownfield when it requires some type of remediation. Selecting an office in a redeveloped brownfield site earned Skanska an additional LEED point.

Mass transit. The office location was specifically chosen with easy access to MARTA. Free monthly passes further encouraged use of public transportation.

Pedestrian traffic. To maximize the use of infrastructure, promote pedestrian traffic and minimize the need for automobiles, the development is located in a convenient, pedestrian-responsive environment.

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Training. To promote sustainability the company holds quarterly training opportunities to continue increasing the number of accredited professionals.

Construction waste. During construction of the facility, all waste was properly separated resulting in 90% of construction waste being diverted from the landfill. To obtain two additional LEED points, the USGBC requires 75%.

Regional materials. Maximum use of regional materials reduced transportation-related carbon dioxide emissions.

Waterless urinals maximized water conservation.

More than just an environment-friendly space, Skanska’s high performing facility serves as a financial asset vital to the success of its business, building brand identity, marketability and value. Not only is the space highly efficient, it has low short-term and long-term life-cycle costs, is healthy for employees and has minimal impact on the environment. The “Green Tour” mirrors Skanska’s inspiring corporate image and commitment to sustainable design successfully positioning it as a leader, educator and administrator of environmentally sound design.

ABOUT THE AUTHORS

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