

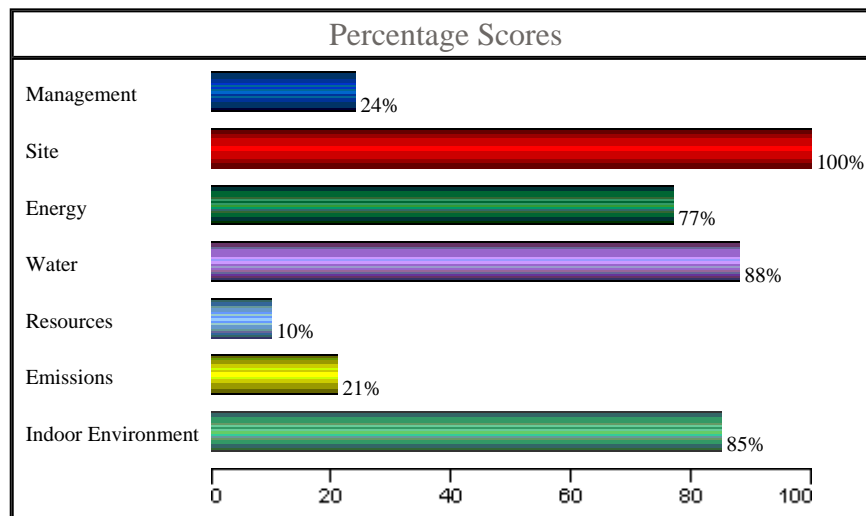
INTRODUCTION

Millennium Hall, Philadelphia, Pennsylvania is a Residence Hall/Dormitory building of approximately 102,680 ft². The client is Drexel University.

Millennium Hall is described as follows:

The 34th Street residence Hall is a 17 story concrete frame building with a combination rain screen and curtain wall facade. The floor plans feature semi traditional room layout with 8 double occupancy rooms on each side of a core area. Each set of 8 rooms has shower and toilet facilities arranged in private cubicles. The ground floor contains the security checkpoint, cleristery lit lobby, common room, Resident Director Apartment, Laundry and mail spaces as well as mechanical and service support. The 17th floor has a large common room that takes advantage of the sweeping views of the Philadelphia skyline. The building mechanical system is based on water source heat pumps with a condensor water loop. Gas fired boilers supply heat as needed and heat rejection uses a ground level cooling tower shared by the adjacent Van Rensselear Hall.

Percentage of points achieved by Millennium Hall for each module:



Summary of Your Achievement: Millennium Hall achieved an overall rating of 69%.

To find out how the performance of Millennium Hall compares to other buildings that have been assessed, and to obtain certification, the data must be verified by a licensed engineer or an architect who has undergone the Green Globes training and certification.

PROJECT MANAGEMENT POLICIES AND PRACTICES Rating Earned: 24%

This section addresses the need to: document the environmental objectives and develop a system to address them; commit to using an integrated design approach which addresses all the elements and disciplines from the very early stages of decision making; and formulate a purchasing policy early in the project.

It also includes the need to scope out commissioning activities. Commissioning is the process of verifying that all systems are interacting properly under all specified conditions (normal, emergency and seasonal). Although commissioning is done much later in the project, planning is required at several stages. At the Predesign - Project Initiation Stage, the main activity is to simply outline the commissioning activities based on the primary thought

processes and assumptions about the design.

At this stage also begins a general definition of the functional requirements of the building, such as its life expectancy, its projected occupancy, and seasonal factors. This helps those involved at each later stage of the process to understand the rationale for the building systems and to better perform their respective responsibilities regarding the design, construction or operation of the building - which also contributes to optimal functioning of the systems.

Millennium Hall achieved a score of 24% on the Green Globes™ rating scale for setting up integrated design process objectives, establish a policy of environmental purchasing, initiating a commissioning plan and defining the functional requirements.

Objective for environmental management and integrated design

Opportunities for improvement

Provide a framework and guidance for the development of an EMS at each phase and stage of the design process.

Indicate that an integrated design process will be used to achieve environmental performance objectives and targets for this project. Document a commitment that the client group will develop an environmental policy; assign financial and human resources to the integrated design program; approve the environmental objectives and targets; assign a management representative for the EMS; support participation by team members in the process; and undertake a management review.

Procurement policy

Opportunities for improvement

Establish an eco-purchasing policy that will apply to all procurement or contracting decisions related to the project. Document the commitment to select products and services that will reduce the volume of waste, the material costs and the toxicity of products, and that will support reuse and recycling. The policy should relate to the construction of the building as well as the building's future operation and maintenance.

Objective for commissioning

Summary of Your Achievements

Commissioning will address the performance of systems so that objectives will be met with respect to the following:

- energy efficiency
- water conservation
- ventilation
- moisture control
- lighting

Opportunities for improvement

Establish the degree of commissioning that will be necessary, keeping in mind the complexity of the project and its systems, the owners' needs for assurances, and the budget and time available.

Scope the overall commissioning objectives based on the primary thought processes and the assumptions about the design with respect to the following:

- on-site water treatment
- minimization of emissions and ozone-depleting substances
- pollution from storage tanks
- thermal control

- acoustic and vibration control

Functional requirements

Summary of Your Achievements

Lifecycle issues

The life expectancy of the building has been determined.

Occupancy

The anticipated number of occupants has been determined to be approximately 496.

Seasonal factors

The performance requirements of the building have been identified with respect to seasonal variations in terms of the following:

- seasonal use of facilities
- daylighting
- heating and cooling
- ventilation

Opportunities for improvement

Occupancy

Determine and document any anticipated changes in the functional needs of the building such as types of activities.

SITERating Earned: **100%**

Millennium Hall achieved a score of 100% on the Green Globes™ rating scale for setting up site design objectives and measures to minimize the impact of the building on the site and/or to enhance the site's natural features.

Identification of an appropriate area for development

Summary of Your Achievements

There is a commitment to select a site that meets sustainability criteria. The site will be a previously developed area, will minimize the impact of transportation; will avoid extending urban sprawl; will avoid land used for agriculture or parkland or which provides a natural habitat or is notable for its scenic beauty.

Objective to respond to the site's microclimate and ecology

Summary of Your Achievements

The design will be responsive to the site's microclimate and ecology.

Objective to preserve the site's watershed and groundwater and minimize stormwater run-off

Summary of Your Achievements

There is a commitment to preserve the site's watershed and groundwater and conserve and reuse stormwater.

Objective to enhance or restore the local ecosystem

Summary of Your Achievements

There is a commitment to minimize the ecological impact of the building, reduce disturbance to natural habitats and enhance the local ecosystem.

ENERGYRating Earned: **77%**

This section helps to establish objectives which will greatly affect design decisions related to energy, such as the size of

the building, the integration of energy-efficient systems, the use of renewable energy, and the promotion of energy-conserving, alternative transportation.

Millennium Hall achieved a score of 77% on the Green Globes™ rating scale for setting up design objectives for energy efficiency.

Objective to establish an energy target

Summary of Your Achievements

There is a commitment to minimize the energy consumption of the building and associated activities (such as transportation) and to establish an appropriate energy target.

Objective to minimize the building energy demand

Summary of Your Achievements

There is a commitment to optimize the building program and minimize the amount of space that needs to be heated/cooled.

There is a commitment to minimize the energy demand of the building, thereby minimizing the air pollution, global warming and depletion of fossil fuels.

Objective to integrate energy-efficient systems

Opportunities for improvement

Indicate that energy-efficient systems should be integrated in the design, thereby minimizing the total building energy consumption.

Objective to integrate renewable energy sources

Opportunities for improvement

Indicate a commitment to maximize the use of renewable energy systems where feasible.

Objective for energy-efficient transportation

Summary of Your Achievements

Alternative, energy-conserving forms of transportation will be available.

WATER Rating Earned: **88%**

This section helps to establish objectives which will greatly influence design decisions related to water conservation, such as the integration of water monitoring devices and water-conserving fixtures, landscaping considerations, and the possibility of collecting rainwater or graywater.

Millennium Hall achieved a score of 88% on the Green Globes™ rating scale for outlining objectives regarding water consumption targets and measures to minimize its use in the building and on-site, as well as measures to minimize the off-site treatment of water.

Objective to establish a water target

Summary of Your Achievements

There is a commitment to minimize the water consumption of the building and associated site activities, and to establish a water target.

Objective to minimize the demand for potable water

Summary of Your Achievements

There is a commitment to minimize the demand for potable water in the building and on-site.

Objective to minimize the need for off the-site treatment of water

Opportunities for improvement

Indicate that off-site treatment of water should be minimized.

RESOURCES, BUILDING MATERIALS AND SOLID WASTE Rating Earned: **10%**

This section helps to establish objectives to minimize the energy and other resources needed for the extraction, production, transportation, use and eventual disposal of building materials, and to provide facilities that will promote waste minimization during the building's occupancy.

Millennium Hall achieved a score of 10% on the Green Globes™ rating scale for setting out objectives regarding materials selection and waste reduction.

Objective to minimize the environmental burden and embodied energy content of building materials and component assemblies

Opportunities for improvement

Indicate a commitment to minimize the environmental burden and embodied energy content of the building materials and component assemblies during their lifecycle.

Objective to optimize the use of resources

Opportunities for improvement

Indicate a commitment to minimize the use of non-renewable resources in the construction.

Objective to minimize the waste from construction, renovation and demolition of the building

Opportunities for improvement

Indicate a commitment to minimize the waste generated from the construction, renovation, or demolition of buildings.

Objective to minimize the waste generated during building occupancy

Summary of Your Achievements

There is a commitment to provide facilities that will help to minimize the amount of waste generated during building occupancy.

EMISSIONS, EFFLUENTS AND OTHER IMPACTS Rating Earned: **21%**

This section helps to establish objectives to minimize pollution from the building into the air, land and water. Later in the design, these will influence decisions such as the selection of materials and systems; the provision of storage and ventilation for hazardous materials; and landscaping that avoids the need for pesticides.

Millennium Hall achieved a score of 21% on the Green Globes™ rating scale for establishing objectives to minimize pollution from the building into the air, land and water.

Objective to minimize air emissions

Opportunities for improvement

Indicate that appropriate combustion technologies and fuels should be used to minimize air emissions.

Objective to avoid ozone-depleting substances

Opportunities for improvement

Indicate that ozone-depleting substances should be avoided.

Objective to minimize the discharge of effluents

Opportunities for improvement

Indicate a commitment to minimize the discharge of effluents from within the building and from surface run-off.

Objective to minimize pollution on the land

Summary of Your Achievements

There is a commitment to minimize the risk of pollution from storage tanks by conforming to federal guidelines.

Opportunities for improvement

Indicate that the design should favour integrated pest management rather than the use of pesticides.

INDOOR ENVIRONMENT Rating Earned: **85%**

This section helps to establish objectives to provide an indoor environment that is healthy and comfortable. This will influence design decisions related to lighting, views, indoor air quality, hazardous materials and acoustics issues. This section will help to ensure due diligence and may help to achieve a higher level of occupant productivity.

Millennium Hall achieved a score of 85% on the Green Globes™ rating scale for establishing objectives to provide a healthy, productive and comfortable indoor environment.

Objective to provide a healthy environment for occupants

Summary of Your Achievements

There is a commitment to provide healthy indoor air.

There is a commitment to control pollutants at source.

Objective to provide an environment that enhances occupant well-being

Summary of Your Achievements

There is a commitment to integrate natural lighting and provide suitable lighting levels.

There is a commitment to provide an aesthetic environment, which integrates natural and man-made elements.

There is a commitment to provide thermal comfort to occupants.

Opportunities for improvement

Indicate that the building should have a high level of acoustic quality and privacy.