

# PATHWAYS SCHOOL NOIDA

LEED-EB (O+M) PLATINUM

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# DETAILS OF THE PROJECT

## PATHWAYS SCHOOL NOIDA, SECTOR 100

**Location:** Plot No. SSC-2, Sector 100, Noida

**Size:** 10 Acres

**Feature:** Sustainable Sites (21/26)

Water Efficiency (14/14)

Energy & Atmosphere (24/35)

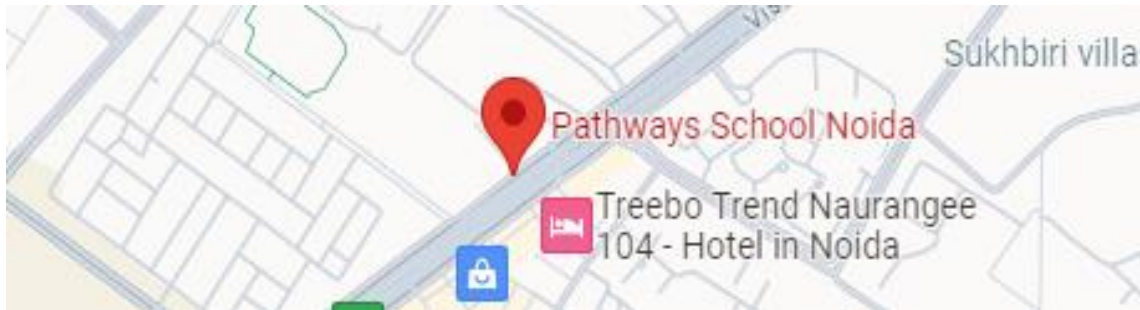
Material & Resources (10/10)

Indoor Environmental Quality (12/15)

**Owner:** Mr Pramod K Jain

**Occupants:** Institutional Building

**Certification:** LEED-EB(O+M) Platinum (V3-LEED)





# SUSTAINABLE SITES (21/26)

- ▶ **SSc2 Building exterior and hardscape Management plan (1/1):** The exteriors and hardscape of the Pathways School Noida are maintained in a sustainable manner. There is a dense plantation along the boundary walls mainly of dense and tall native trees. Exterior wall is made of bricks with air gap.
- ▶ **SSc3 Integrated pest Management, erosion control, and landscape management (1/1):** Pathways School Noida uses integrated pest management (IPM) techniques to control pests without the use of harsh chemicals. Trees planted on open areas to prevent erosion and manage the landscape in a sustainable manner.
- ▶ **SSc4 Alternative commuting transportation (15/15):** Pathways School Noida encourages students and staff to use alternative commuting transportation methods, such as walking, biking, and public transportation. It has achieved 75% reduction in conventional commuting trips.



Image Source: <https://www.pathwaysnoida.edu.in/campus>

# SUSTAINABLE SITES (21/26)

- ▶ **SSc5 Site development - protect or restore open habitat (1/1):** Pathways School Noida protects and restores open habitat. There is ground coverage of 22%-25% and rest of the areas are open spaces, playfields, plantations.
- ▶ **SSc6 Storm water quantity control (1/1):** Pathways School Noida uses the storm water drain network to collect rainwater and reduce storm water runoff.
- ▶ **SSc7.1 Heat island effect - nonroof (1/1):** Pathways School Noida reduces the heat island effect of the non-roof area like playgrounds by planting shade trees, open-grid pavements.
- ▶ **SSc7.2 Heat island effect- roof (1/1):** Pathways School Noida uses brick bats over RCC roof for insulation. China Mosaic layed on top for reflection of heat for reducing of heat island effect.



(USGBC, n.d.)

Image Source: <https://www.pathwaysnoida.edu.in/campus>



# WATER EFFICIENCY (14/14)

- ▶ **WEp1 Minimum indoor plumbing fixture and fitting efficiency (REQUIRED):** Pathways School Noida uses water-efficient plumbing fixtures and fittings, such as low-flow toilets and faucets.
- ▶ **WEc1 Water performance measurement (2/2):** Pathways School Noida has a water performance measurement system in place, which allows them to track their water use and identify areas where they can improve.
- ▶ **WEc2 Additional indoor plumbing fixture and fitting efficiency (5/5):** Pathways School Noida has exceeded the minimum requirements for water-efficient plumbing fixtures and fittings. It has achieved 30% reduction in indoor potable water use.
- ▶ **WEc3 Water efficient landscaping (5/5):** Pathways School Noida uses water-efficient landscaping practices, such as use of treated wastewater for horticulture through Sewage Treatment Plant and Irrigation System. It has achieved 100% reduction in potable landscape water use.
- ▶ **WEc4 Cooling tower water Management (2/2):** Pathways School Noida has a cooling tower water management system in place, which allows them to reduce water consumption and waste.



Image Source:

<https://www.pathwaysgurgaon.edu.in/UploadFile/News/681858589d-4d01-4ff4-a446-59fca38275ff.jpg>

# ENERGY & ATMOSPHERE (24/35)

- ▶ **EAc1 Optimize energy efficiency performance (18/18):** Pathways School Noida has achieved a significant reduction in energy consumption. It uses energy efficient lighting system- CFL & T5 lamp, cavity walls, building designed as such all rooms open into big courtyard having a huge atrium-chimney effect.
- ▶ **EAc2.1 Existing building commissioning – investigation and analysis (2/2):** Pathways School Noida conducted a thorough investigation and analysis of the building's energy systems and operations. This process helps to identify areas where energy efficiency can be improved.
- ▶ **EAc2.2 Existing building commissioning - implementation (2/2):** Pathways School Noida has implemented the recommendations from the EAc2.1 investigation and analysis to ensure that the building's energy systems are operating as efficiently as possible.
- ▶ **EAc5 Enhanced refrigerant Management (1/1):** Pathways School Noida has developed and implemented a refrigerant management plan. This plan helps to ensure that refrigerants are handled safely and responsibly.
- ▶ **EAc6 Emissions reduction reporting (1/1):** Pathways School Noida has been tracking and reporting the building's greenhouse gas emissions. This process helps to identify areas where emissions can be reduced.



Image Source:

<https://www.pathwaysnoida.edu.in/campus>

<https://www.ecoshiftcorp.com/product/led-tube-light-t5-18w-industrial-warm-white/>



# MATERIAL & RESOURCES (10/10)

- ▶ **MRc1 Sustainable purchasing - ongoing consumables (1/1):** Buying consumables like cleaning goods, and office supplies made from sustainable resources.
- ▶ **MRc2.1 Sustainable purchasing - electric-powered equipment (1/1):** This credit promotes the purchase of electrical equipment that uses less energy, such as CFLs and T5 bulbs.
- ▶ **MRc2.2 Sustainable purchasing - furniture (1/1):** This credit promotes the purchasing of furniture that is constructed from eco-friendly materials and has received certification from an independent agency.
- ▶ **MRc6 Solid waste Management- waste stream audit (1/1):** For this credit, the institution must carry out a waste stream audit to categorize and count the different forms of trash produced.
- ▶ **MRc7 Solid waste Management- ongoing consumables (1/1):** This credit encourages the school to reduce the amount of waste generated from ongoing consumables.
- ▶ **MRc9 Solid waste Management- facility alterations and additions (1/1):** This credit encourages the school to reduce the amount of waste generated from facility alterations and additions.

(GBIG, n.d.)



Image Source:  
<https://www.pathwaysnoida.edu.in/campus>

# INDOOR ENVIRONMENTAL QUALITY (12/15)

- ▶ **EQc1.1 IAQ best Management practices - IAQ management (1/1):** School has implemented best practices for IAQ management including things like having a regular maintenance schedule for HVAC systems, using non-toxic cleaning products, and educating staff and students about IAQ.
- ▶ **EQc1.3 IAQ best Management practices – increased ventilation (1/1):** School has increased ventilation in its buildings. This helps to reduce the buildup of pollutants in the air.
- ▶ **EQc1.4 IAQ best Management practices - reduce particulates (1/1):** School has taken steps to reduce particulates in the air. This may include things like using air filters, vacuuming regularly, and keeping windows closed during high pollen season.
- ▶ **EQc2.1 Occupant comfort- occupant survey (1/1):** School has conducted an occupant survey to assess the comfort of its occupants. This information can be used to identify areas where IAQ can be improved.
- ▶ **EQc3.4 Green cleaning - sustainable cleaning equipment (1/1):** School uses sustainable cleaning equipment. This kind of equipment emits fewer pollutants and requires less energy and water.



# COMMENTS ON THE BUILDING

- ▶ **1. Sustainable Sites:** The school's roof was intelligently built (it contains china mosaic and brick bats), which lessens the heat island effect and improves insulation. Additionally, the school incorporates native plants in its landscaping to save money on upkeep and water usage.
- ▶ **2. Water Efficiency:** The school uses rainwater for irrigation and other non-potable purposes and has low-flow toilets and faucets. The school also processes waste water for use in plant irrigation, among other things.
- ▶ **3. Energy & Atmosphere:** The school has insulation, energy-efficient windows (insulated and double glazed with a U value of 1.7), and employs energy-efficient equipment and lighting (CFLS and T5 bulbs). Solar panels are among the sustainable energy sources used by the institution.
- ▶ **4. Material & Resources:** The school operates and maintains its facilities using sustainable materials, such as renewable furniture and energy-efficient materials. By employing effective construction techniques and recycling resources during extensions and modifications, it also reduces waste.
- ▶ **4. Indoor Environmental Quality:** The air quality and ventilation at the school are good. Additionally, it uses non-toxic building materials and finishes.
- ▶ The highest marks in water efficiency and materials & resources go to Pathways School Noida.

(Pathways School, 2022)

# MOTIVATION FOR GB CERTIFICATION

- ▶ **Environmental commitment:** The school may be driven by a dedication to sustainability and environmental protection. Green structures can enhance air quality, conserve water and energy, and lower greenhouse gas emissions.
- ▶ **Water Efficiency:** Pathways School Noida is very much focused on water efficiency and has maximum score in Water Efficiency in the LEED certification. It employed various techniques to save water like reduction in indoor (30%) and outdoor (100%) water use and effective and efficient plumbing fixtures.
- ▶ **Financial benefits:** Green constructions may also have financial advantages, like decreased operating costs and raised property values.
- ▶ **Reputation:** Green certification can enhance the school's profile and draw in new students and employees.
- ▶ **Health benefits:** Healthy and comfortable indoor environments can be created by green buildings, which can be advantageous for students, staff, and visitors.
- ▶ **Brand Image:** Green certification can improve the school's image as an environmentally and socially conscious organization.
- ▶ According to the certificates the school has earned, water efficiency and environmental protection (including material & resource conservation) are top priorities for the institution.

(Pathways School, n.d.)



# RECOMMENDATIONS

- ▶ **Solar panels (Renewable Energy):** Solar panels use sunlight to create electricity (renewable energy). The school might use less fossil fuel and spend less on energy costs if solar panels were installed on more of its buildings. It's crucial to make investments in local renewable energy sources.
- ▶ **Energy-efficient HVAC systems:** Replace your HVAC system with one that uses less energy. The majority of the energy used by the institution is accounted for by its HVAC systems. The energy footprint of the school could be decreased by switching to more energy-efficient systems.
- ▶ **Composting program:** Composting is the breakdown of organic matter. By doing this, the school might produce less garbage and produce soil that is rich in nutrients for its plants.
- ▶ **Electric vehicle charging stations:** Install charging stations for electric vehicles. This would encourage faculty, staff, and students to use electric vehicles, thereby lowering air pollution.
- ▶ **Educational programs on sustainability:** Offer sustainability-related educational activities. Students could learn from this how important sustainability is and how to make sustainable decisions in their own life.

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**Thank You**