

# B+G+3 School building for The Arcadia Preparatory School



Date of Certification: 04 May 2017

	50	110
SUSTAINABLE SITES	8	26
WATER EFFICIENCY	10	10
ENERGY AND ATMOSPHERE	13	35
MATERIALS AND RESOURCES	3	14
INDOOR ENVIRONMENTAL QUALITY	9	15
INNOVATION IN DESIGN	3	6
REGIONAL PRIORITY CREDITS	4	4

Points Achieved       Points Available

## FAST FACTS

EHS Certified Green Building  
 Area: 16,031 m<sup>2</sup>  
 Neighborhood: Jumeriah Village Triangle, Dubai, UAE  
 Construction Cost: \$75.10/ft<sup>2</sup>  
 Completed: May 2017

**23%** Savings on Energy Use  
**43%** Savings on Potable Water Use  
**15.87%** Materials Use with Recycled Content  
**77.19%** Regional Materials Use  
**50%** Reduction in sewage conveyance

## PROJECT BACKGROUND

Based on the resolution of implementation of green building specifications and standards in the emirates of Dubai has been issued by H.H. Sheikh Mohammed bin Rashid Al Makhtoum, Vice-President and Prime Minister of UAE and ruler of Dubai, effective from January 2008, all owners of residential and commercial buildings and properties in the emirates of Dubai must comply with the internationally recognized environment friendly specifications to turn Dubai into a sustainably developed city that meets the demands of best practices and benchmarks of environment friendly growth pattern.

In response to this resolution, we are proud to inform that “B+G+3 School building for The Arcadia Preparatory School at Plot JVT09SCP001” has been awarded with EHS Certification established by EHS TRAKHEES.

The Organization owning this building, “The Arcadia Investments Limited”, has constantly been evolving over the course of its history. The organization objective is to nurture every child to become a lifelong learner. The Organization is committed to quality, environmental sustainability and service standards.

The Arcadia Preparatory School is a new construction Facility project which was decided to target EHS certification during the design stage in 2012. The project is a B + G + 3 School Building on plot no JVT09SCP001, Jumeriah Village Triangle, Dubai, UAE. The approximate built up area of the project is 16,031m<sup>2</sup>. Design development and construction completion happened during the period 2012-2017. The structure of the building consists of a four floors with basement. The building uses energy from electricity and uses water from the municipal potable water system.

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## PROJECT PROFILE

### SUSTAINABLE SITES AND TRANSPORTATION

- ❖ Provides preferred parking and low-emitting and fuel-efficient vehicles on-site
- ❖ Optimized parking capacity promoting car/van pool strategies
- ❖ Reduced impact on night sky by optimizing external lighting

### ENERGY, WATER AND MATERIAL RECOURSE CONSERVATION

Susnomics Engineering Systems FZ-LLC as a Sustainability Consultant for The Arcadia Preparatory School, has created an energy model to evaluate the effectiveness of the building's energy conservation measures, in compliance with ASHRAE Std. 90.1-2007 Appendix G methodology.

The following are the Energy Efficiency Measures incorporated in the project:

- ❖ Giving the right orientation for the building reducing the solar heat gain
- ❖ Highly insulated building envelope elements
- ❖ Optimized glazing and incorporation of skylights
- ❖ Efficient lighting design and controls with optimal power density
- ❖ Efficient HVAC systems (Water cooled centrifugal chillers)
- ❖ Conducted enhanced commissioning to ensure results of holistic building energy system design

The following are the water and resource conservation measures incorporated in the project:

- ❖ Uses low flow fixtures in faucets, sinks and showers and dual flush water closets
- ❖ Incorporated recycled content in the building materials
- ❖ Boosting the local market and reducing the foot miles by purchasing more regional materials

### INDOOR ENVIRONMENTAL QUALITY

- ❖ The IAQ performance complies with the minimum requirements of ASHRAE Std 62.1-2007
- ❖ Developed and implemented a Construction Indoor Air Quality (IAQ) Management Plan in reference to SMACNA guidelines
- ❖ Use of building finishes materials with low emission of volatile organic compounds (VOC) for adhesives, sealants, paints and coatings and had installed carpet which is CRI certified

### THE TEAM

Owner	Arcadia Investment Limited
Architectural Consultant	Godwin Austen Johnson Architects
MEP Consultant	Godwin Austen Johnson Architects
Contractor	Team Engineering Enterprises Ltd
Green Building Consultant	Susnomics Engineering Systems FZ-LLC Dubai, UAE
LEED AP	Shyam Chandra V
Commissioning Authority	Susnomics Engineering Systems FZ-LLC Dubai, UAE