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ARAB ENGINEERING BUREAU

1 INTRODUCTION

1.1 GREEN CONSTRUCTION

1.1.1 Sustainable Construction

- 1 Buildings, infrastructure and the environment are inextricably linked. Energy, water, materials and land are all consumed in the construction and operation of buildings and infrastructure. These built structures in turn become part of living environment, affecting living conditions, social well-being and health. It is important to explore environmentally and economically sound design and development techniques in order to design buildings and infrastructure that are sustainable, healthy and affordable, and encourage innovation in buildings and infrastructure systems and designs.
- 2 The concept of sustainability in building and construction has evolved over many years. The initial concept was on how to deal with the issue of limited resources, especially energy, and on how to reduce impacts on the natural environment. Emphasis was placed on technical issues such as materials, building components, construction technologies and energy related design concepts. Recently non-technical issues become appreciated such as economic, social sustainability and cultural heritage aspects of the built environment. Also, there are greater attention to create more green buildings by upgrading the existing buildings through the application of new developments or the invention and use of innovative technologies for energy and material savings.
- 3 The purpose of QCS is to provide as a general technical guide for acceptable construction work practices in the State of Qatar, considering this; any addition for technology, material, specification, standard that are not mentioned in this section or their modification, shall be subject to approval as stated in the introduction of QCS (00-02)

1.1.2 Reference

- 1 The following documents are referred to in this section:

Global Sustainability Assessment System (GSAS) - v2.1 2013,
KAHRAMMAA Energy and Water Conservation Code 2016
ASHRAE 62.1, ASHRAE 90.1, ASHRAE 55, ANSI/ASHRAE/ASHE 170.
CIBSE GUIDES A & B
International Mechanical Code, IMC 2015
ISO 17772 : Energy performance of buildings — Indoor environmental quality
EN 16798 : Energy performance of buildings
Leadership in Energy and Environmental Design (LEED)
BRE Environmental Assessment Method (BREEAM)

1.1.3 Sustainable Construction Regulations and Environmental Assessment Tools

- 1 Many countries have developed their own standards for green or sustainable building or energy efficiency for buildings and Building Environmental Assessment tools. Now there are many of building rating systems tools and guidelines in the world currently in use. A new sustainability assessment system known as GSAS (GLOBAL Sustainability Assessment System) is referred to herein in this document.

1.1.4 Sustainable Building Definition

- 1 Sustainable building is the process through which buildings are designed, constructed and operated to reduce natural resources consumption, eliminate environmental degradation and enhance social and economic aspects of humans.

END OF PART