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Qatar Green Building Conference 2015 - The Vision

Future cities – Qatar economic zones by MANATEQ

David McKenna

MANATEQ is Qatar's largest master developer of economic zones and is tasked with spending over QAR 20 Billion for the development of three new projects that will collectively cover an area greater than 70 square kilometers (twice the size of Lusail City). These Qatar Economic Zone (QEZ) projects are strategically located to compliment and link with Qatar's rapidly developing transportation networks and international hubs for air, sea, rail and road. Refer to <http://www.manateq.qa> for further details.

This paper explores the approach taken by ASTAD and MANATEQ to adopt sustainability principles from the outset of the planning and design stages of these projects up until their present construction stages. The economic zone projects are each following the 'GSAS Districts'. This paper also outlines some of the challenges and opportunities from our experience of implementing this sustainability rating system. The GSAS Districts system has had a major influence on key decisions during the masterplanning and engineering design stage. In particular, it helped focus and challenge our discipline engineers to deliver the most appropriate technology. It is our aim that during operational stages sub-developers will benefit from these decisions due to greater efficiency in the zones from a facilities and operational perspective, as well as reduced carbon emissions.

The QEZ projects goal is to provide a globally competitive and environmentally sustainable business environment, which delivers competitive advantage through the most modern infrastructure, most efficient utilities, most advanced communications and most effective transportation infrastructure. This paper will discuss our approach and challenges for achieving this goal while complying with GSAS Districts, as well covering the main sustainability strategies to be implemented:

Planning & Design

- Urban morphology
- Landscape and public spaces
- District cooling
- Smart grid power distribution
- Wet utilities

- Solid waste management
- Public transport
- Adopting 'Eco-Industrial Park' principles in the planning stages

Construction

- Construction materials consolidation centres
- Recycled concrete and aggregate
- Workers welfare
- Development phasing

Operational

- 'One-stop-shop' approvals centres
- Efficient public transportation vehicles
- Community Management

While the projects are pursuing 3 Stars GSAS Districts Certification, our design teams have been keen to introduce the best practice from other established rating systems, especially LEED Neighborhood. Specialist consultants were also engaged to prepare "Strategic Environmental Assessments" in order to ensure the cumulative environmental impacts of adjacent projects were predicted and proportionate mitigation measures introduced. High levels of stakeholder engagement during the design stages ensured that the projects are integrated with their surrounding districts and available utilities, many of which are also currently under development.

In addition to incorporating modern design standards, high levels of open space and amenities, the QEZ projects are strategically investing in sustainable infrastructure (power, water, transport, etc.) for the benefit of their future investors (i.e. sub-developers). This paper outlines how sustainability rating systems were used as a key tool for selecting the most sustainable solutions for the development of their economic zones, which will offer unrivalled opportunities to meet the needs of Qatar's future business leaders.