



BUILDING EXCELLENCE

Making the grade

The GCC region's construction industry is raising the bar with regard to project quality, delivery and sustainability

Concerns about project quality, delivery and sustainability are a constant fixture of conversations on the Gulf region's project environment. Of course, consultants who have worked on projects in the UK and the US opine the region has a better track record than their own countries as well as the fast-growing economies of Asia and Africa when it comes to critical infrastructure projects. Yet the feeling lingers that the region's financial clout, underwritten by oil revenues, is not sufficient to enforce excellence in projects across infrastructure sectors, barring oil and gas.

Therefore, when an awards programme that 'aim (s) to raise the standard of business projects through benchmarking best practices specified in project briefs and excellence provided in project delivery,' enters its fifth cycle, the endurance, in itself, is a positive indicator of improvements on the ground.

"A top quality project is one that is distinguished by its vision and the extent to which this vision is shared by all those participating in delivering the project and all those affected by it," says Edmund O' Sullivan, Chairman of the judging panel of

the MEED Quality Awards for Projects, in association with Mashreq. "If there is perfect alignment, there will be a perfect project."

Since 2011, when the first MEED Quality Awards were announced, more than 200 projects have now been recognised as national, GCC and supreme winners, and the bar continues to rise.

For example, this year's UAE national winner in the category of Ramboll Sustainable Project of the Year is Al Barari (entered by Al Barari Firm Management, the project's owner). Mustafa Saaid, Developments & Projects Director, Al Barari Firm Management attributes the success to the company's vision to create one of the most desirable developments in the UAE with a strong environmental conscience. Located in Dubai, Al Barari boasts of themed gardens, naturally landscaped lakes, and freshwater streams, cascades and waterways, creating a green oasis in a city dotted with skyscrapers.

"In Dubai's climate, it is important to have plenty of green space which reduces heat build-up and breaks up reflected heat from hard surfaces, such as villas and pavements, to produce a cooling effect," says Saaid. "Through the shade they offer, trees can buffer homes from extreme heat and reduce energy consumption and air-conditioning costs."

The combination of natural shade canopy, created by the landscape's high density planting, the numerous waterways, and the clusters which were designed to direct the wind flow from the desert or sea throughout the community has created Al Barari's own microclimate, with temperatures 3-5°C below that of the surrounding developments.

"As a result, Al Barari offers improved ground water recharge, energy savings from reduced air conditioning, reduced greenhouse gas emissions, reduced urban heat stress and reduced sewer overflow," says Saaid.

Sustainability systems in place in Al Barari include shading, daylight harvesting, solar power, thermal massing, cross ventilation, composting, smart control irrigation, radiant cooling, waste management, recycling and water treatment. The benefits of these measures are lower power and water consumption, efficient energy usage, and minimal wastage, all of which are in line with the municipality's sustainability initiatives.

CHASING EXCELLENCE IN BAHRAIN

Bahrain's national winner in the Ramboll Sustainable Project of the Year category, the Muharraq Sewage Treatment Plant (STP) and Sewer Conveyance Project (owned by Bahrain's Ministry of Public Works), has a similar story of excellence to share,



Sang-Don Min Project Manager, Samsung Engineering

especially on the engineering front.

“What makes it (Muharraq STP) stand out most from similar projects is our commitment to provide the best solution with comprehensive project management skills for the entire project execution process, including implementing the sewer network using the micro-tunnelling method,” says Sang-Don Min, Project Manager, Samsung Engineering Company, the project’s Engineering, Procurement and Construction (EPC) contractor.

The project’s objective was to upgrade an existing and overloaded STP and replace a difficult-to-manage and unreliable sewage network, which regularly discharged untreated sewage into the sea.

“The completed project (which started operations in April 2014) has achieved these goals,” says Sang-Don. “The STP produces 100,000 m³/day of high quality treated sewage effluent (TSE) suitable for unrestricted reuse across Bahrain. The network capacity has been increased, made completely reliable, is easier to operate, is significantly more energy efficient and creates no environmental or public nuisance. The project was also completed on time without any lost time injury.”

Unlike many single-site engineering projects, the network element of Muharraq posed a unique challenge as it involved the construction of approximately 100 tunnel

shafts (up to 10m in diameter and seven stories deep) in busy residential areas, in some locations only 1m from existing houses and businesses. Samsung had to expend huge efforts in terms of traffic planning, and pre and post tunnel surveys to identify the impact on settlements along the tunnel route, public consultations and coordination with other projects to identify and mitigate the impact of the project work on public, business and traffic movements.

“The project was implemented to the highest environmental standards,” continues Sang-Don. “Throughout the construction phase, it was inspected and audited monthly by the Supreme Council of the Environment and the project company’s own environmental consultant to monitor compliance, and to look for ways to minimise the construction impacts on the local population.”

ESSENTIAL LEARNINGS

With regard to the scope for further improvements in the region’s project environment, Sang-Don observes that despite being a ‘first of its kind’ deal for Bahrain, the Muharraq STP project benefited from a very good set of project documents, features of which were taken from other project sectors. His comments on the key factors that helped smoothen the project’s implementation are reproduced below:

Technical requirements: These were clearly defined within a set of performance specifications and guarantees that focused on what the plant should achieve in operation rather than how it should be built. The client retained approval rights for the entire design and construction phase but was able to steer the project with a ‘light touch’ in the knowledge that the plant’s ultimate performance (for 26 years) remained at the risk of the contractor. This approach, with suitable pre-qualified contractors and a reasonable level of mutual trust and transparency, helped the project focus on the important questions, i.e. timeliness of delivery and performance, rather than the minutiae of project delivery.

Project approvals and client assistance: Approvals from other authorities or governmental bodies can often be difficult and contracts should be structured such that the contractor retains responsibility, but at the same time, assistance is

provided and resourced as required. Early on, the Muharraq project was behind schedule due to difficulties in obtaining planning permission for the network route. Twenty-seven authorities were impacted by the project and it took time for these stakeholders to understand the specific construction impacts and needs of the project.

Resolving this required significant coordination inputs from the client and Bahrain’s Central Planning Office (CPO) through public consultations and planning workshops. Although the contractor employed a Bahraini Community Liaison Officer and a Technical Interface Officer, the client’s assistance was essential to resolve some of these issues.

All three spokespersons agree that communication and collaboration are fundamental to avoiding and resolving disputes that could act as a drag on projects.

“Contracts are the papers on which disputes are raised and argued and these should have mechanisms in place to deal with disputes,” says Al Barari’s Saaid. “It is not contracts that create disputes – rather, it is the lack of a proper relationship and communication causes most disputes.”

He notes that it is the responsibility of teams on both sides of the contract to deal with problems as and when they arise by carefully considering the problem at



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