

# New campus for Cell C

Located within Midrand's Waterfall Business Estate, Cell C's 44 200m<sup>2</sup> facility includes a main head office building, a customer service centre, an operations centre, a distribution warehouse, call centre facilities and an upmarket canteen. The campus also includes ample parking and jogging trails in the rehabilitated wetland. *Lighting in Design* spoke to Chris le Roux of Eksteen & Le Roux (ELR) Electrical Engineers about his involvement in lighting this impressive establishment.

Eksteen & Le Roux's client was Attacq Waterfall Investment Company (Pty) Ltd; AWIC Business Estate, the developer of the Cell C Campus in Waterfall City. Despite Cell C's tenant status, the company was heavily involved in the project's design to ensure that the campus suited its functionality and business requirements. Bentel Associates International was the principal agent and architect.

The development was fast tracked and construction – which began in August 2012 – was completed by the third quarter of 2013, with occupation at the end of 2013. The nature and size of the development and the speed with which it was undertaken required a high level of collaboration and co-ordination between the professional teams involved. The brief from Atterbury regarding lighting was to provide energy efficient lighting in the areas under its responsibility. Although there was no requirement to attain a specific green building rating, the building itself is contemporary owing to its lightweight external framework and the modern materials that were used in its construction and there was an obligation to be judicious in the use of energy.

Le Roux explains that Atterbury was responsible for providing lighting in the common areas, includ-

ing outdoor and indoor parking spaces, common passages, stairways and toilet facilities. There was provision for lighting in the tenanted areas, though Cell C was responsible for funding lighting that exceeded the specification sanctioned in the standard tenant allowance.

ELR was required in the initial stages to provide an outline of the existing, up-to-date lighting technologies available, including those attached to fluorescent lighting. Though ELR recommended T5 lamps for the luminaires in the office areas, Cell C elected to use T8 lamps in preference. Dennis van Rooyen of Lighting and Allied Manufacturers, who was responsible for sourcing the bulk of the lighting for the entire project, explains that the recessed low brightness fittings that were chosen (T8 3 by 36 W) have good ballast and are energy efficient. These were supplied throughout the 23 000 m<sup>2</sup> of office space. Open channel, vapour proof luminaires with T8 light sources were used in the basement and substations.

Atterbury specified energy efficient light sources for the common areas and here, Le Roux explains, Softlight 800 11 W and Softlight Plus 21 W downlights using the latest LED technology were installed in the outdoor parking areas, and in the passages, toilet facilities and stairways in all the buildings.

In the common corridors in the office building, an existing Regent Lighting linear luminaire was modified to accommodate LED technology. The design of the luminaires, which ranged in length from 1.2 to 7 metres, suited the corridors and complemented

the modern design and finishes in these areas. The effect was replicated in the glass walled main staircase where the linear luminaires, using LED technology, were mounted vertically on the steel mullions of the windows. "The total effect," says Le Roux, "was exactly what we hoped to achieve and the end result of the lighting solution we adopted in the common areas was that the LEDs combined high quality and energy efficiency. Also, the long life of the LEDs used in the luminaires supplied for these areas will reduce maintenance costs throughout the life of the building."

In order to attain the required lux levels onto the vertical areas of the racks in the 14 000 m<sup>2</sup> distribution warehouse, T-Bay luminaires using 4 by 80 W T5 lamps were specified. The small diameter of the T5 makes it easier to control the light so it works well for the high mounting height of the warehouse environment.

Cell C elected not to install a building management system in the Campus so although there is a fair proportion of natural light in the main office block, which is situated around a courtyard, there is no daylight harvesting. Occupancy sensors have been installed in the common corridors, toilet facilities and offices, except where local switching or dimming was requested in areas such as meeting rooms and board rooms.

In the exterior parking areas and roadways, a purpose-made pole with a mounting height of 6 m and a square luminaire using LED sources was designed to match the simplistic lines of the buildings. The building's external aesthetics are of the campus's most attractive features. Because the 'C' in Cell C embodies the company's brand, the letter is used in creative ways across the campus (the

customer care centre incorporates a 'C' skylight for aesthetic purposes) and two C's placed on the warehouse exterior are illuminated at night, making them clearly visible from both the N1 freeway and Old Johannesburg Road.

To further enhance the night time effect, the distinctive lines of the building have been highlighted using LED strip lighting with in-ground fittings lighting up the columns. Deryl Lan of Pamboukian light-design was responsible for the striking and effective exterior lighting on the campus. He explains that his general approach was to gain an insight into the architecture and, from there, to develop a lighting proposal within budgetary conditions and bearing in mind energy consumption and environmental considerations. Using LEDs as the primary source (in total 750 m of LED lighting was used externally), the team decided to place in-ground uplighters at the guardhouse and surrounding external columns throughout the campus to highlight and emphasise their verticality. On the rest of the facades on the main campus, linear LED strip lighting was used to highlight the deep reveals. In order to draw attention to the building and the Cell C brand from the highway, the lighting team highlighted the 'flat' facades facing the highway using projectors that project a 'break-up' pattern.

Overall, le Roux is satisfied with the lighting, particularly where LED technology was used, "The general consensus of the developers, tenants and professional team is that our decision to go this route was correct and the effect is what we had envisaged."

Van Rooyen is also delighted with the end result saying that it was a pleasure to work with such a professional team, including the main electrical contractor DC Electrical and, "given the speed with which we worked, there were remarkably few problems". LID

