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REWARDSCO BLOCK A RIDGESIDE, UMLHLANGA



REWARDSCO BLOCK A

REWARDSCO BLOCK A Ridgeside, Umhlanga

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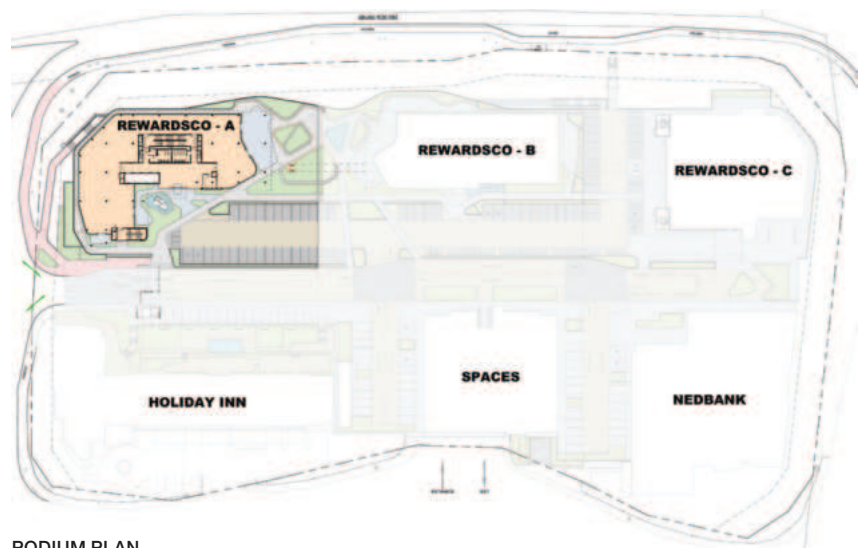
Grant Pitcher

Ridgeside is a four precinct development that occupies the sea facing triangle created by uMhlanga Rocks Drive and two major highways, the M4 and the M41. Falling under the control and management of the Tongaat Hulett Property Group, the overall Ridgeside development supplements the uMhlanga Ridge Town centre and creates a mixed used environment along the primary transport route of uMhlanga Rocks drive.

This final building completes the development of the entire 29,000m² site owned by Zenprop Property Holdings. The overall development holds arguably the most prominent sought after site in the Ridgeside precinct. Sitting on the prominent south west corner of the site adjacent to uMhlanga Rocks Drive the new Rewardsco building completes the vision initiated back in 2018. This five storey structure acts as the southern anchor to the Rewardsco campus and makes a bold architectural statement. Now completed, all three buildings occupied by Rewardsco form a new micro precinct within the site's boundaries.

Client Brief

The original design brief outlined in 2018 was to create a pair of contemporary P+ Grade buildings which would complement the existing Rewardsco building aesthetic, but should forge a new bold architectural design language. The fundamental design concept of this structure presented to the pair of clients in 2018 was further developed when new key design challenges were added to the final design brief.



PODIUM PLAN

This final building completes the development of the entire 29,000m² site owned by Zenprop Property Holdings





This building location was critical to the Rewardsco vision as it occupies the most visible corner of the site. Its location relative to uMhlanga Rocks Drive meant that all public movement along this key traffic corridor had unobstructed views of the development whether travelling north or south along the route. Excellent signage opportunities and views both into and out of the new building meant that the final architectural statement was critical to the successful realisation of the design brief outlined four years before. Rewardsco's

original vision that all three structures and the spaces which linked them would create a micro precinct was now a reality.

As with their existing facility the consultant team was given the target of obtaining a 4 star green building rating to demonstrate a commitment to environmental sustainability. Ultimately the central block has received a 5 star design rating and the project team are confident that this final development will also achieve that 5 star rating.





Design Concept

The original design concept was hugely dependent on three design items:

- Podium level micro precinct
- A new architectural language
- High level linkage of all three facilities

Along with these three key elements, the updated brief called for the glazed façades to be wrapped around the entire southern corner of the building to both complement the

podium entrance to the site as well as maximise views to the ocean.

This final phase of the development also gave the team the opportunity to complete the podium level public space. The creation of a central landscaped public open space was vital to the successful integration of the staff with the outdoor space. The various routes from the reception areas and canteen with pedestrian walkways all focus on a space filled with trees, water-features, benches and grassed surfaces.





Large planters with mounded earth and trees create physical barriers from the hardened surfaces of the podium parking area. The sculptural bridge link running between the central services building and the new building offers some shade and at night the bridge lighting casts graphic shadows across the space below.

The shaped white fins on black glass were continued onto the elongated façade of this southern block. The revised design of the podium entrance corner now meant that the organic shapes created by the white blades had to run around the perimeter façade on four sides of the building. There was no longer a front and back to the structure,

there was just a blended façade that had to encompass all orientations.

The acute approach to the site from the north and south created the architectural interaction with the public which the concept design had sought. The building was no longer black glass with white blades, it was white blades with black sculptured voids. The building had an infinite number of sides to view the structure from, not just four.

The prominent corner site also meant the Rewardsco signage had to be integrated into the façade at a suitable position, so the splayed corner with a more elevated position lent itself perfectly to the design.





As with the link between the original building A and the Central building B, the task of designing a high level bridge that links three asymmetric buildings definitely proved to be one of the biggest challenges. Designing a building with such a prominent position and successfully integrating a pedestrian link bridge at 3rd floor level needed to be meticulously detailed. Ultimately the bridge design was developed taking into account the Phase 1 bridge link as well as the Phase 2 development and pulling in graphic sweeps from the adjacent façade blade design.

The splayed column on the bridge remained and meant the illusion of a greater span between buildings could be created and also reduce the visual clutter underneath the structure. A steel and bond deck structure was framed with a series of steel ribs which carried the glazed roof and perforated aluminium side cladding. Glass balustrades also help reduce the visual mass of the structure. A fritted glass roof helped reduce the heat load on the bridge and the swooping shapes created in the façades was carried through to the aluminium side cladding. The graded pattern created by the perforations in the side cladding also helped maintain a comfortable air flow across the bridge whilst shielding staff from rain during the wet days.

The central stair case design remained as per the central block. To have multiple corners of the building obstructed by large mostly unused structures was something the team wanted to avoid at all costs. However the larger footprint and increased staffed numbers meant that having to integrate a single external escape stair at some point could not be avoided. With 360° views and a strong visual concept, the choice was made to tuck the stair on the corner of the east façade.

With limited views of the beautiful surrounds and its proximity to the podium entrance, the location worked out perfectly. The wrapped glass façade ultimately entirely concealed the escape stair and the visual and practical requirements blended together seamlessly.

Façades

There are a total of three primary façade systems which make up the various external façades on the facility. The primary upper level wrapped façades utilise a unitised flush glazed system. The reception lobby, now an extra level higher than the central services building, employs the same spider glazing system and the ground floor





canteen, parapet wall strip windows and 3rd floor balconies utilised a pressure glazed system.

The unitised system met the additional challenges of multiple curved corners and splayed façade junctions. The Solar E Plus grey fully toughened glass was retained for the upper levels and the specification varied between a double and single glazed system depending on the façade orientation. With more façade area and greater opportunities to create interest in the façade blades, the darker glass helped to create the contrast between the glass and the white powder-coated aluminium fins that was sought. The high solar performance characteristics helped deal with the high solar levels primarily on the western façades and also reduced a lot of glare into the office environment.

The darker and heavier visual effect of the upper level flush glazed façades was then offset by choosing a lighter, more see-through glass on the ground floor canteen level. The entire ground floor space is set back from the upper floor edges which provides the internal spaces with some shading from the overhangs. Due to the ground floor now operating as office space rather than the canteen in the central building, the glazing was changed from a Solar E Clear glass to a Cool-lite KN 153II double glazed specification. The increased performance over the previous specification ensured that the internal environment met all the required standards. The 4th floor balcony with its better orientated eastern sea view remained as the Solar E clear.

The central reception lobby façade, now with an additional level added, remained a key visual interface with the public. With a good orientation, and sitting nested between two dark glazed façades, this zone needed to stand out during the day and the night and ensure that the entry point into the building was clearly defined.

The Spider Glass façades in a 12mm Cool-lite ST 167 Neutral glass offered a slightly higher solar performance level than the Solar E Clear but still allowed for wonderful views both into and out of the atrium. The slight reflective nature of the external face of the glass also gave the entrance feature a bit of a silver sheen which makes it stand out from the surrounding façades.

Internal Overview

The function of the building changed from the more multi-use nature of the central building to a pure office space environment. Rewardsco occupy the top three and a half floors with an additional tenant occupying the ground floor and half of the 1st floor.

The five level volume with the sloped feature wall draws your attention down from the 4th floor ceiling level to the reception desk. The white façade fins are integrated into the sloped wall to echo the external architectural language and also assist with the acoustic properties in the volume. A sealed white oak feature wall with aluminium linear graphics runs up behind the three suspended internal bridge links to create a warm colour pallet within the space.

The north and south wings are linked together by four linear steel and concrete walkways hung from the roof structure to ensure the visual reference of these elements remained as slender as possible. The ceilings were also floated off the steel and the linear recessed LED lighting complemented the horizontal strength of these structures. Glass balustrades also meant that when looking into the volume from the external podium area the oak feature wall was more prominent than the bridge links.



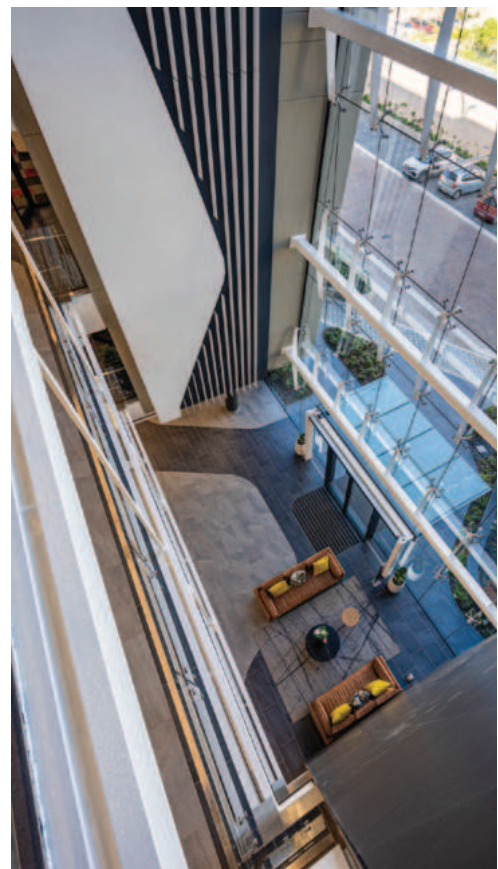


Four lifts on the southern wing of the office provide vertical access from all three levels of the basement up into the office levels, with careful analysis being done to ensure the lifts could run efficiently with the volume of staff utilising the upper floors. The ground floor office space of around 850m² has 360° glazed façades with direct access to the central landscaped gardens.

The 1st, 2nd and 3rd floor areas of around 1,250m² function as office space and each level contains its own pause area with kitchen and

seating. The 3rd level also integrates the bridge link access into its northern footprint. This link corridor also contains a day clinic which allows for access to medical facilities during working hours without having to leave the campus.

The bulk of the 1,150m² 4th floor has a similar office and pause area, but the office space also exits onto the east facing balcony. The well orientated balconies mean the external space is free from harsh midday sun and also turns its back on the wet weather.



Materials

Visually the structure is dominated by three elements: the glass façades, the steel bridge link and the RC gable wall on the north façade. The glass, aluminium and steel elements are the more reflective and crisp elements, whereas the RC gable walls linking into the horizontal eyebrow roof slabs add a more monolithic element to the structure. The selection of off-shutter RC as opposed to your more typical brick and plaster walls was more in keeping with the existing architectural language of the surrounding buildings and also avoided the concerns of excessive weathering and cracking of exposed plastered walls.

External painted surfaces were coated with Pro-struct 684/4, which was specifically mixed for this project. With the location of the building relative to the Indian Ocean and the harsh humid Durban environment, it was critical that the coating product selected address these issues. Highly visible walls such as the lift shaft where tiled in a charcoal wall tile specifically chosen for this type of external application.

The central core areas are generally tiled or clad with shop-fitted surfaces. Besides the oak feature wall, the corners of the ablution core were clad with a white, grey and charcoal HP laminate board. These high use areas, where there was always going to be a lot of touching

of walls, products offering high wear durability were required.

Office floors were carpeted with a randomly laid multicolour carpet tile, which created some visual movement in the open plan office space and complemented the furniture choices. Pause areas were finished in a vinyl tile to aid the regular cleaning and introduced a more neutral wood tone to the vibrantly coloured area. All Lobby areas retained the same light grey and charcoal floor and wall tiles used in the central building.

Mechanical Overview

The basement parking serving the entire office park is naturally ventilated. A new section of basement for Block A was constructed which restricted good ventilation so shunt-fans were installed to improve the situation. These are generally controlled by CO sensors and are also used for smoke clearance in the event of a basement fire.

Scissor-Stair Pressurisation

This type of stair requires totally independent pressurisation systems. As the building is under 30m in height, the simplest and most cost effective way is to pressurise each interwoven staircase from a single entry point. For block A this was achieved by blowing air into the first basement landings of the two fire stairs.





Air Conditioning

All buildings in the office park are served by a centralised chilled water plant located on the lowest basement level. Water for the cooling towers comes from a treatment plant taking water from the attenuation pond and condensate harvesting from all the buildings in the Park. Block A is served by multiple fan coil units mounted in the ceiling void. This maximises the available tenant space and provides excellent zonal control. Modulating, as opposed to simple open and closed chilled water valves, were used to significantly improve temperature control and further minimise complaints especially on the call-centre floors. Additional Green-Star points were achieved by increasing the preconditioned fresh air to maximum levels on all office floors. The air-conditioning system is both locally and fully centrally controlled. Temperatures can easily be adjusted from full-graphical displays on the facility manager's computer.

Sustainability

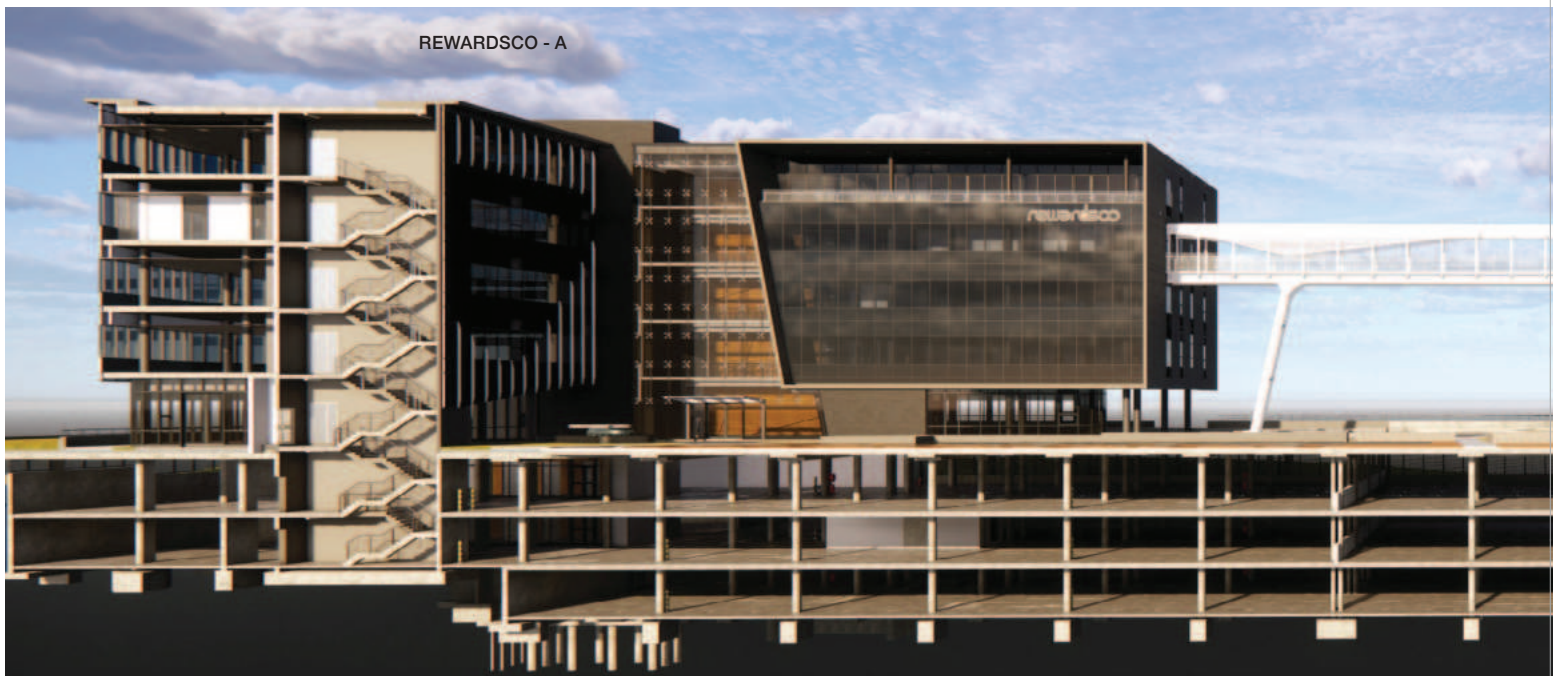
The project targets a minimum 4 Star Green Star SA Rating. This rating represents a GBCSA Best Practice recognition for the development. The office is a high-performance building with respect to Water & Energy efficiency, thereby significantly reducing its overall environmental footprint. The office spaces are healthy and productive work environments due to a focus on indoor environmental quality which impacts building occupant's wellbeing.

Energy Efficiency

The building has a modelled energy consumption of 168kWh/m²/year - far less than 227kWh/m²/year SANS10400 XA requirement. Carbon emissions have been reduced from 272 kgCo₂/m²/year to 202 kgCo₂/m²/year when compared to a building constructed to SA National standards.

This reduction in energy consumption and greenhouse gas emissions is due to the following:

REWARDSCO - A





- An optimised building façade, which includes high performance glazing where required.
- Ensuring the project only uses energy efficient LED light fixtures.
- Occupancy sensors installed for all enclosed spaces and open plan office areas no greater than 100m².
- An energy efficient HVAC system equipment.
- An efficient heat pump.
- Harvesting of natural daylight to offset electrical lighting.

Water Efficiency

The building uses non-potable rainwater which is collected through stormwater retention ponds and is pumped to several water storage tanks. Water efficient sanitary fittings have also been installed to further conserve water. This includes low flow water taps, shower roses, toilets and urinal flushing actuators. Water sub-meters and an automated monitoring mechanism are in place.

The building's sewerage outflow from occupant usage has been reduced by 50% against an average practice benchmark.

Indoor Environmental Quality

The project provides ample amounts of good quality fresh outside air to the building occupants. Specifically, the fresh air system improves on the rates per person requirements of SANS 10400-O:2011 by 66%. i.e. 12.5 litres/second/person.

Only low Volatile Organic Compound (VOC) adhesives, sealants and carpets are installed within at least 95% of the fit-out to ensure a healthy environment. Over 80% of the measured ground floor and office floor plates have direct access to external views. Provision of recreational and restorative spaces such as pause areas, prayer rooms, outdoor seating and break spaces also contribute to building occupant wellbeing.

