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A Stefanutti Stocks Publication

Benchmark

Continuous pursuit of higher levels of performance

Stefanutti Stocks

United in bridging your expectations

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Benchmark

Contents

Our passion and unwavering commitment to service excellence continually surpasses each benchmark we set, and will continue to drive the success of the Stefanutti Stocks Group.

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From the CEO

Welcome to the first issue of the new Stefanutti Stocks newsletter – Benchmark.

The name of the newsletter resonates our passion and commitment to service excellence as well as our constant pursuit of improving our levels of performance across all our disciplines.

An achievement we can be particularly proud of is our B-BBEE scorecard, where we have achieved a rating as a Level Four Contributor – this is the highest percentage score within the construction sector and puts us in 31st position of all companies on the JSE.

The current difficult economic climate has had an effect on all businesses including the major players within the engineering and construction industry. We will take advantage of this slow down to consolidate our position as a major player and also create the necessary platform to facilitate further growth once market conditions improve as we know they will.

Our position in this sector as a multi-disciplinary business (illustrated in the centre spread entitled "@Stefanutti Stocks"), will enable us to take advantage of opportunities both now and in the future.

The Stefanutti Stocks Group continues to be active in areas where government and private sector spend is concentrated, including national infrastructure development such as transport, power, township and municipal infrastructures. We have recently been awarded two prestigious projects in this arena - the Kusile Power Station project as well as the construction of a new airport in Swaziland, both in joint venture.

Although market conditions indicate that there are challenges ahead the Group's depth of management, our talented and skilled workforce and good client relationships will enable us to maximise every opportunity.

Notwithstanding the current state of the market, we will, with a positive attitude and mindset, continue to maximise the benefits to our employees, partners and stakeholders.

Stefanutti Stocks in the United Arab Emirates

Source: Lee Cochrane

In 2008 Stefanutti Stocks Gulf FZE was established in order to influence growth in the UAE with regards to our existing businesses which include electromechanical installation contractor, Zener Steward LLC and interior fit-out operation Al Tayer Stocks LLC.

We currently operate in Dubai, Abu Dhabi and Bahrain and will leverage this platform to exploit opportunities, whilst actively seeking opportunities in other construction disciplines throughout the Gulf, with the aim of establishing new business units via partnerships or LLC's

Zener Steward LLC

In 1998 we formed a private partnership with a local family owned electromechanical business, Zener Steward Electromechanical. Our relationship with Salim A. Sh. Mohd. Sharif Al Olama and his family has grown from strength to strength and in 2008 the private partnership was converted to an LLC.

"In addition to marking our 11th anniversary, we celebrated the conversion of the company to an LLC at an event in March 2009" says Steve Little of Zener Steward. "General manager, Ray Porter, looked back at over a decade of success, and the management team were given the opportunity to share their excitement and expectations of the growth prospects for the company in its new format".

Zener Steward specialises in the design and installation of electrical, mechanical and plumbing systems within the residential, financial, commercial, industrial and leisure & retail sectors in Dubai and Abu Dhabi. We are currently involved in projects at the Dubai Mall, the design and installation of all the mechanical, electrical and plumbing services within the prestigious 7-star Burj Dubai Medical Centre, Sharjah City Centre and Ducab to name a few.

Al-Tayer Stocks LLC

In 1998 we became an equity partner in interior fit-out contractor Al Tayer, to form Al Tayer Stocks in the Gulf region. Our relationship with the Al Tayer family within the business has seen us grow from strength to strength.

We undertake interior fit-out contracts for a wide variety of clients and high profile projects in the retail, residential, office accommodation, and hotel & leisure industries in Dubai, Abu Dhabi and Bahrain. Some of our current projects include Dubai Mall, Jumeirah Garden City, Al Tayer Motors workshops and showrooms and various developments for the leisure division of Majid Al Futtaim (MAF). 1

Zener Steward LLC constructed and installed all the mechanical, electrical and plumbing equipment at the Ducab Copper Rod Factory in Abu Dhabi in 2008.

Mr. Subash receives his 10-year service award from Ray Porter.

The Zener Steward Electromechanical's proud management team. Seated, from left to right: Ray Porter and Mathews Varghese. Standing, left to right: Wayne Potgieter, James Simpson and Steven Little.

Al-Tayer Stocks LLC has done the fit out for a number of Magic Planet entertainment centres for client Majid Al Futtain.

Incremental Launched Bridge Construction

Since constructing the Tugela River Bridge in 1992 Stefanutti Stocks has become the leading engineering and construction company in South Africa in the technique of incremental launching of concrete bridges.

The system involves the casting of sections of the bridge deck behind one abutment in a specially designed casting yard. After attaining the specified concrete strength, the cast segment is stressed, and then using purpose made hydraulic jacks, launched forward to clear the casting yard. The next segment is then cast and stressed to the rear of the first segment, and the two segments are then launched forward again. The whole process is repeated in what can be described as a sausage machine process, which eventually launches the entire superstructure into its final position.

To date Stefanutti Stocks has constructed the following structures using the incrementally launched construction system:

1. Ndwedwe Bridge over the Umvoti River in 1991.
2. Tugela River Bridge in 1992.
3. Klip River Bridge in 1997.
4. Southern Gateway Bridge adjacent to the Durban International Airport in 1997.
5. CTC Woodchip overhead conveyor gallery in 2002.
6. Effingham Bridge in 2004.
7. Centurion Bridge in 2007.

The Tugela River Bridge construction won the prestigious Fulton Award for excellence in the use of concrete in 1994. At that point in time this structure was the largest incrementally launched concrete box structure in the southern hemisphere. The deck is 452m long, 20.75m wide and 4m deep, comprising of 1x23m, 1x49.5m, 6x56.25m and 1x42m spans, with a final launch mass of 165 000 ton.

We are currently constructing three structures using this technique:

1. Khangela Bridge, Durban.
2. King Shaka International Airport Interchange, Durban.
3. Brakfontein Interchange, Pretoria.

The Khangela Bridge, KZN

Source: Clive Reucassel

The composite dual carriageway bridge structure comprises three different types of bridge construction:

1. 147.30m of incrementally launched bridge deck;
2. 15.90m of cast in-situ deck; and
3. 39.10m of precast beam deck.

The structure crosses the four main electrified Metrorail lines serving the south of Durban, the eight lane M4 Southern Freeway and six electrified Portnet lines taking the main goods lines into Durban harbour.

The project has progressed well with the northern incrementally launched bridge deck and precast beam decks complete and the southern incrementally launched bridge deck past the half way mark. The construction of the main approach roads are also nearing completion.

The Khangela Team: Front row : Joseph Mazibuko and George Hadebe (seated). Back row from left to right: Kurt Hillerman; Matthew Horwil; Imraan Milase; Clive Reucassel; Yugen Naicker; Pieter de Jong and Thulani Mngomezulu.

The incremental launch of this bridge is taking place above the busy Metrorail lines serving the south of Durban.

King Shaka International Airport (KSIA) – Interchange Bridges, KZN

Source: Clive Reucassel

This project involves the construction of the main interchange off the N2 freeway, taking traffic into the new King Shaka International Airport to the north of Durban.

There are two main bridges to the interchange. The Overpass Bridge which is a conventional four span voided deck structure with a length of 86m crossing over the busy N2 freeway. The second is the main Ramp Bridge which is a seven span incrementally launched bridge deck with a length of 284m crossing over the Overpass Bridge and the N2 freeway.

"The project has started well with most of the substructures complete," says Clive Reucassel, contracts director. "The main launch yard for the incrementally launched bridge deck is currently being constructed, and staging for the overpass deck is being erected".

Flying Saucer (R21) and Brakfontein Interchange

Source: Frank Oliveira

Over the past 10 years, the growth in peak hour traffic in Gauteng has led to the inevitable requirement for an upgraded road and traffic infrastructure in the province. In response the South African Roads Agency Ltd (SANRAL) proposed the Gauteng Freeway Improvement Project (GFIP), designed to improve the existing Gauteng freeway network, as well as the provision of additional infrastructure by May 2010.

An aerial view of construction underway, showing the piers and the curve the road surface of the bridge will follow.

The element of this project awarded to Stefanutti Stocks Civils comprises of the construction of a 240m bridge, to span the N1 and R21 interchange in Pretoria. The requirement for such an extensive bridge project is to eliminate considerable traffic congestion around a sub graded access loop within the interchange allowing access from the R21 (from the airport) onto the N1 North.

"Due to great spans between piers and working to a height of 17m above live traffic on the busy N1, the decision was made to construct the required bridge by means of the incremental launch bridge construction method," says Frank Oliveira, contracts director. The bridge will be constructed in 18 segments, each weighing approximately 323 ton. Each section will be "manufactured" in a casting yard where it will be launched, using hydraulic jacks, in increments into the desired final position.

The geometry of the superstructure adds to the technicality of the project. To achieve a horizontal and vertical curve of the road surface, the design of the superstructure is based on a circle with a twisted x and y axis. By twisting the axis's the circle results in an ellipse through which the global curve is achieved.

Extensive temporary works designs were carried out to cater for the powerful launching forces, great spans between piers and the dead weight of the superstructure in the construction phase. This includes the design of a launching girder, temporary piers, structural guides and a casting yard facility capable of achieving construction tolerances of 1mm (due to the stiffness of the superstructure). In addition to the tight casting cycle, an advanced early strength high durability concrete is required to achieve a minimum of 35MPa compressive strength over sixty hours prior to post tensioning and subsequent launching of a superstructure segment.

Upon completion of the superstructure, final post tensioning activities will conclude and temporary bearings positioned below the webs of the superstructure will be replaced with permanent bearings positioned on single 2m diameter columns. Completion of the bridge is scheduled for the second quarter of 2010. 2

Did you **Know?**

We have established a pre-cast yard in Olifantsfontein, Gauteng which is manufacturing and delivering precast F-shaped barriers and bridge parapets for client South African National Road Agencies Limited. We were awarded the contract in March 2008 in joint venture, and will in total be casting and delivering 71 250 precast units during the period June 2008 to December 2009.

Building & Construction of Transport Nodes: Airports

Source: Johan Brink

For the past thirteen years we have had a permanent presence at the OR Tambo International Airport in Johannesburg and in 2006 we successfully tendered on the Cape Town International Airport expansion which entails a multi-storey carpark and new terminal buildings.

Over the last decade the footfall through the airports has increased substantially and is set to rise even more, particularly during the 2010 World Cup. ACSA has been increasing the capacity of their airports in line with this expected growth.

Our spectrum of work at the airports to date has included:

1. Multi-storey carparks
2. Terminal buildings
3. Terminal upgrades
4. Terminal piers
5. Viewing decks
6. Bussing gates
7. Warehouses
8. Offices
9. Basements

Our seasoned teams of professionals who have been building airports for over a decade have an intimate knowledge of the logistics involved in airport construction.

This experience includes the efficient management of traffic around the construction site (passengers, deliveries, rental cars, construction, busses, taxis etc.); security controls; client requirements for working in public areas; confined working and lay down areas and ensuring minimal disruption to a fully operational transport node.

OR Tambo International

We have just completed the second multi-storey carpark at the OR Tambo International, which was built in two phases. The project was split so that we could handover some of the additional 5 500 additional spaces to ACSA earlier, as their immediate supply did not meet the increasing demand. As we were the only big construction project on the western side of the airport, this made our logistical management of the project slightly easier than being airside, but no less congested!

Good communication, managing our deliveries, a batch plant on site and some good signposting ensured the smooth running of the project.

We invested in a new formwork system, and by using a table system for the formwork we managed to build the slabs at an increased pace.

An aerial photograph of the multi-storey carpark with the two landmark ramp towers, with the Gautrain bridge visible on the northern side of the building. Construction of the hotel has commenced on the roof of the car-park, behind the ramp towers and to the left of the Gautrain bridge.

Our on site batch plant meant we did not have to wait for supply of materials and our three tower cranes made the handling of materials an efficient and speedy process. The overall effort and experience of our team ensured that this project was completed successfully and to ACSA's satisfaction.

In January 2009 we started work on the construction of a hotel on the roof of the car park. This upgrade had been planned for, thus the structure had been constructed accordingly.

The hotel will see a further 20 000m² of slab laid on top of the parkade, a further four storeys with 303 bedrooms and large conference facilities. All the bathrooms for the standard rooms are being pre-manufactured off site and will simply be hoisted into position and built into the rooms. This process cuts two months off the project programme, which is due for completion in March 2010.

Quantities: Carparks	CTIA	OR Tambo International
General Footprint	28 000m²	39 000m²
Concrete	36 500m³	53 908m³
Piling	10 700m	658 piles
Reinforcement	2 200 ton	2 860 ton

Cape Town International (CTIA)

There are currently two projects (in joint venture) underway at the Cape Town International Airport. The first is an enlargement of the departure facilities with the construction of a new terminal building which includes a retail facility, check in facilities, a viewing deck, airline lounges, restaurants, a control centre and an automated baggage handling facility. Secondly the departure lounge facilities and arrivals capacity will be expanded, once space and decanting of existing facilities are possible. On the landside of the airport a 770m elevated road and bridge will facilitate the separation of arrivals and departure traffic.

The new terminal is a five-storey building with intricate steel structural roofing covering the entire terminal and drop off road. The airport façade on the eastern airside is a 500m long doubled glazed glass façade to allow viewing of the entire apron. Eight additional passenger loading bridges and a link corridor to the International Terminal also form part of our scope of works.

As an operational airport, there are many existing services in place - in some cases these are unknown due to age or lack of documentation, however, we have been successful in maintaining the continuity of airport operations throughout the entire construction phase. In some cases this required the relocation of various services, including the airport main electric substation and the VIP facility.

The second project at CTIA is a multi-storey carpark. The five-storey structure is concrete with post-tensioned reinforcement and structural steel roofs. We handed over the first phase of the parkade in time for the 2008 Christmas rush. The overall project completion date is March 2010, in time for the arrival of the multitude of international sporting fans South Africa is expecting.

"Logistics on site at Cape Town International Airport are very tough – the site space is tight with literally six metres around the multi-storey carpark for materials and delivery", says Johan Brink, director of Major Projects. "We have installed five tower cranes and have two batch plants on site which supply around 90% of the concrete, and are proving very efficient in terms of logistics and time". 3

An aerial view of construction progress at the CTIA, with the multi-storey carpark in the forefront.

A Ditch Witch at work in central Johannesburg

Source: Piet Ludik

Stefanutti Stocks Roads & Earthworks is currently working on the urban upgrade of Commissioner, Market, Troye and Twists Streets for client Johannesburg Development Agency.

The new Bus Rapid Transport will provide an improved inner city transport infrastructure in time for the 2010 soccer World Cup. "We are working on providing a dedicated bus lane in the busy city centre including building a platform for eight bus stations," says Piet Ludik, contracts foreman. The route has four sleeves where additional services will be laid, and we are utilising trenchless drilling technology (Ditch Witch) at these intersections.

There are countless existing services in the established city centre and more conventional methods of digging trenches destroy tarmac and paved pedestrian areas resulting in disruptions, major repair and expensive clean up operations after the event. "By utilising this cutting-edge technology we are able to circumvent these services, thus causing minimal disruption to traffic, pedestrians and services," says Piet. 4

Did you **Know?**

The Ditch Witch drills underground in any type of soil conditions, and because it is automated only needs minor input from the operator. In addition to saving a lot of time, work is undertaken at twice the pace set by older technology. "We are one of very few companies in Southern Africa that utilises this specific horizontal directional trenchless drilling machine" says Francois Joncker, Stefanutti Stocks Roads & Earthworks foreman, "and the benefits to our client are numerous".

State of the art geotechnical equipment sets a fast pace

Source: Deon van Rensburg

Since August 2007 a team from Stefanutti Stocks Geotechnical SPG JV has been based on the Dolomitic Void Filling contract for the Gautrain project in Centurion.

The void filling contract covers the 3.8km long stretch between the N1 (John Vorster Ave) to the N14 (Jean Ave) which is notorious for the occurrence of sinkholes.

The scope of works encompasses a total of 49 pier positions (plus a section for the Centurion station), with each pier position entailing the drilling and grouting of 81 boreholes.

"On the 12 March 2009 the project achieved 500 000 LTI free hours" says contracts manager Deon van Rensburg. "A further milestone was reached on the 24 March 2009 when we had pumped a total of 73 560m³ of grout since project commencement, ten days ahead of the target Bombela had set us".

C8 crawler rig in the dolomites.

At the end of March, 34 out of the 49 piers were completed. Six teams are on site during the day, with a seventh team running night shift to assist the client in accelerating the programme. 5

Quantities to date:

Drilling:
- *99 430m*

Geotechnical Drilling:
- *11 000m of additional geotechnical investigation drilling*

Grouting:
- *74 514m³ completed, with a further 17 000m³ still to be done.*
- *Most grout pumped in one borehole: 184m³.*
- *Most grout pumped in one day by all six teams: 370m³.*
- *Deepest borehole: 72m.*

George Radar tower gets a lift

Source: Frank Oliveira

Stefanutti Stocks Civils was awarded the construction of a Radar Tower at George Airport in October 2008, with practical completion scheduled for the 7 July 2009.

The 55m high concrete radar tower is situated on the eastern side of the main runway and forms part of a national upgrade of the radar coverage throughout the country for the air traffic industry by the Air Traffic and Navigation Services Company (ATNS). The tower will be equipped with an approach radar, comprising primary and secondary radar.

Adverse weather conditions in the Western Cape as well as a tight programme led Stefanutti Stocks and the consulting engineers, Mzansi Africa Civils, to investigate various alternatives methods of construction. The most innovative and practical engineering solution was to construct the central shaft using the method of slip-forming and to construct the two external platforms at ground level. These platforms will then be lifted individually into their final position over a period of twenty days.

The Radar Tower has a total height of 55m including a spherical radome, which protects the radar antenna from the elements. The concrete shaft, with an overall plan size of 6.4x6.4m is founded on sixteen 520 diameter driven cast-in-situ piles. The 38m high shaft walls were slip-formed by the Stefanutti Stocks Civils sliding teams over a period of seven days.

Vanguard (experts in lifting and transporting heavy equipment) in conjunction with Stefanutti Stocks designed the lifting rig for the platforms. The rig consists of steel beams mounted to the top of the tower and to the underside of each platform with four lifting points each connected to a 70 ton strand jack.

Due to the limited lifting capacity of the strand jacks, each platform will be lifted into position individually. Once the two concrete platforms are hoisted to their final position, they will be connected to the shaft with shear keys through openings left in the shaft walls.

Two hoist beams supported by electric hoists are to be installed to facilitate lifting/maintenance of the radar equipment and a galvanised structural steel staircase has been provided inside the shaft for access. The generator and UPS buildings are situated at ground level adjacent to the radar tower.

The full scope of works includes the electrical reticulation, air conditioning, lightning and fire protection as well the installation of the UPS and generator.

“Having completed similar towers previously, we were prepared for the challenges and were able to make some improvements to the construction process,” said Frank Oliveira, Stefanutti Stocks Civils contracts director for the project. “Bad weather often makes operations difficult, but the site team is performing well and the project is scheduled to be completed on time”.

The George Radar tower, under construction with platform lifting in progress.

Did you **Know?**

The term RADAR originated as an acronym of “radio detection and ranging”, which has since entered the English language as the standard word: radar.

A radar system transmits electromagnetic waves which are reflected off a target and received back by the radar receiver located in the same location as the transmitter. The technology is used in many applications such as weather prediction, police and military applications, marine and ocean wave monitoring, speed monitoring and air traffic control.

Sliding a clinker storage silo for
Natal Portland Cement (NPC)

Source: Rodney Johnson

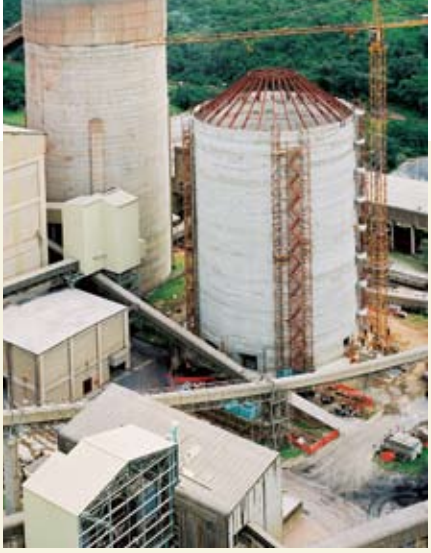
Repeat client, NPC, required an additional silo, 30m in diameter, for the storage of clinker, to be positioned 15m away from the existing clinker silo.

The construction of the base required excavating 5m deep and backfilling 3.2m over an area of 1 200m². A total of 280 ton of reinforcing and over 1800m³ of concrete completed this impressive base. The silo walls were then slid to a height of 43.95m above the ground over a 20 day period in two 12-hour shifts. The concrete was batched on site using materials supplied by NPC. 343 tons of reinforcing, 1 750m³ of concrete and 9km of post tension ducting was cast into the walls.

This project also included the construction of two tunnels, running the internal length of the silo, complete with 1m thick roof slabs. The 200mm conically shaped reinforced concrete silo roof slab sits on castellated beams which slot into the wall.

The scope of works also entailed construction of trestle bases, transfer houses and bases for the conveyors.

"One of the main challenges facing the site team was the limited access. Intense planning and coordination between Stefanutti Stocks Civil (KZN) and our sub-contractors was key," says Rodney Johnson, site agent. "The pouring of the silo base attracted a lot of interest as for many it was the biggest continuous pour they had witnessed. The continuous sliding process also required attention to detail as we had to get it right first time round".



The clinker storage silo under construction.

The wet conditions put the team under immense pressure but competence supervision and the high morale of the team helped produce work of a high standard. Work on the silo roof should be completed by the end of May which will bring an end to a challenging but extremely rewarding project. 7

Slipforming –
lift off for Stefanutti Stocks Civils (Pty) Ltd

Source: Kaare Mason

Stefanutti Stocks Civils added slipforming to their already extensive capabilities in January 2008.

Both the old sliding hands in the company and newer members of the sliding (slipforming) teams underwent intensive training, presented in South Africa by Swedish sliding specialists and equipment manufacturers Bygging-Uddemann.

2008 started with a 47m high silo at Amandelbult for client Anglo Platinum. A 37.7m high silo at Brakfontein (at the Atok Mine in Limpopo) followed, and in late 2008 two 37.4m high silos at Ngezi in Zimbabwe were completed.

On completion of the sliding of the 6 000 ton mill feed silo and 5 000 ton portal 4 silo at Ngezi, the Stefanutti Stocks sliding crew prepared to undertake the sliding of the 38m high, octagonal shaped radar tower just outside the boundary fence of George Airport in the Western Cape.

Kaare Mason (sliding contracts manager) and Waldemar Hulscher undertook the pre-planning and mobilization of the team and sliding equipment to site on 14 January 2009. The sliding platform was erected in 7 days and the sliding operation started on Friday 23 January 2009, topping out in the early hours of Saturday morning 31 January 2009.

On completion of their element of the contract the sliding team returned to Johannesburg, leaving the tower in the hands of the civils team who are currently constructing the two platforms. 8

The Amandebult Silo, completed in 2008.

Capability

The technology of sliding is an economical, rapid and accurate form of construction suitable for prismatic structures over 30m. Concrete is cast in a 24 hour operation and at an average rate of 150mm to 200mm per hour, allowing a rate of construction progress of up to 4.2m per 24 hour shift. Sliding can be used to build reinforced concrete and pre-stressed concrete structures such as silos, chimneys, building cores, lift shafts, bridge piers and water tower shafts.

Vanstadens River Pipe Bridge

Source: Leon van der Merwe

The pipe bridge over Van Stadens river mouth was originally constructed in 1978 to carry two 1.2m diameter water mains from Churchill Dam to Port Elizabeth. The bridge consists of three spans and the two piers and western abutment are supported on pairs of 860mm bored concrete piles.

From left to right: Norman Pama; Michael Mothombeni; Adam Luvalo; Jack Mzwakhe; Sfiso Ndlovu; Mlondolozi Maxhela; Isaac Moloi; Reuben Jonas; Mpundo Kilani; Philmon Skhosana; Lucky Simelane; Absalom Maseko; Hlangalethu Gcememe; Sidima Khungwayo; Mandla Mbombotho; Albert Nyakrashe; Tim Anderson; Douglas Kapp and Hannes de Wet. (Absent: Anthony Kapp).

Due to the high chloride content of the concrete in the piles the reinforcing corroded extensively resulting in large cracks developing varying from hairline to 10mm over the full exposed length of the piles. This subsequently led to large areas of spalled concrete leaving the reinforcing exposed and causing areas of inadequate cover.

Stefanutti Stocks arrived on site in January 2009 to undertake the rehabilitation of this pipe bridge for the Nelson Mandela Bay Municipality. The scope of works includes the removal of the defective concrete, exposing the corroded reinforcing, grit blasting the reinforcing in order to remove all corrosion, and applying a protective coating. Proprietary grouts and mortars will then be used to re-instate the concrete to its original profile.

On completion of the repairs to the two piers an impressed current cathodic protection system (ICCP) will be installed. This cathodic system sets up an applied electrical field between an electrode mesh (the anode) which is embedded in the concrete and the reinforcement within the concrete member which acts as the cathode.

The ICCP will protect the reinforcement in the piles from further corrosion. "A challenging element of this project is that 60% of the work is being carried out below the fluctuating water level," says Leon van der Merwe, contracts manager. "In order to create a comfortable and safe working space around the piles a purpose made watertight coffer dam was installed, extending 3m below water level". Divers removed all obstacles including old tree trunks, concrete and other debris around the piles prior to the coffer dam being placed.

The project is due for completion in June 2009. 9

Capability

Stefanutti Stocks Civils have a dynamic and experienced team who focus on structural rehabilitation, concrete repair and waterproofing projects throughout Southern Africa. The specialist division started in 1995 with the repair of the machine tower for a grain silo complex in Motala, Maputo. Since then the structural rehabilitation capability has become a key element of the business and includes clients from mining, procuring, manufacturing, marine and power generation sectors. Subsidiary Civil & Coastal Construction, a specialist marine and structural rehabilitation contractor, also offers structural concrete repairs and bridge and structural jacking.

Members of the team move the temporary working platform into position under the center piers of the pipe bridge.

The extent of the damage to the pier and commencement of construction of the temporary working chamber.

A new bulk chemical berth

Source: Wade Leaf

Stefanutti Stocks Civils KZN is currently undertaking the 280m extension of the bulk chemical liquid berth (Berth 208) for client The National Ports Authority. We started on site at the Port of Richards Bay in July 2008 and the project is due for completion in March 2010.

In addition to this being an ecologically sensitive heritage site, most of our work is done either in or on the water, working off barges and other marine vessels such as tug boats, ferry boats & rubber ducks. We are working in water depths ranging from 2 to 24m. As this is a busy port, passing barges and ships generate large wakes and to ensure the safety of our team, we maintain contact with Port Control to limit the movement of vessels particularly during sensitive operations. Strong winds in excess of 40km/hr have hindered the use of lifting equipment and at times we have had to halt lifting operations until the winds have died down.

Much of our equipment has either been specially built or adapted to perform the piling and beam placing operation. We are mainly working from a 500 ton floating barge, using two 60 ton piling rigs. The piling operation (80 steel pile casings between 700 and 800mm diameter) has established a good rhythm and we have to ensure that our concrete delivery to the piling barge meets the pace set. The steel pile casings are being driven up to 30m deep into the sea bed, accurate to within 75mm, before we excavate the mud and sand, and then fill the casings with reinforced concrete.

On top of these piles, we will construct the cast in-situ reinforced concrete pile caps that carry the precast beams and precast planks. The precast planks will carry a 300 to 400mm thick, cast in-situ reinforced concrete deck. The precast beams range in size from 20 to 25m in length and weigh in at 51 to 67 ton. We will be moving 65 of these beams by barge with the remaining five being placed from land.

Handling and moving precast elements of such size requires cranes with a high lifting capacity, and we are utilizing a 250 ton crawler crane to load out the units from the precast yard, onto a special truck. The truck moves them down to the berth where another 275 ton mammoth crane picks the beams up and lowers them onto a specially built lifting barge. The barge will then float out the beam to its final position where it is placed using two on-board derrick cranes. Seabed high spots make it difficult to float the beams in using the lifting barge and we have had to employ dredging pumps to remove high spots.

"The contract is supervised by a full time in-house project manager from Transnet" says contracts director, Wade Leaf. "He has become an integral member of our dynamic team and his contributions to our daily planning and brain-storming sessions have proven invaluable". 10

Quantities:
Concrete:
- *5 150m³.*

Rebar:
- *1 156 metric ton.*

Cased Piles:
- *78, average 30m deep.*

Precast Beams:
- *70 (51-67 ton each).*

Steel Casing:
- *3 515m of 700mm diameter.*
- *2 55m of 800mm diameter.*

Capabilities:
- *Marine; Geotechnical; Mechanical Electrical & Instrumentation.*

Marine civils specialist

Civil & Coastal at Malongo Dock

Source: Adrian Flack

Civil & Coastal Construction are currently engaged in two dock contracts for The Cabinda Gulf Oil Company in Malongo, in the Republic of Angola.

The first contract is the repair and rehabilitation to the existing Malongo Dock, which is a ± 300m long, 11m wide L-shaped dock. The second contract is the construction of the Malongo Dock Expansion, which is a 240m, 14m wide L-shaped extension to the existing Malongo Dock.

Malongo Dock Repairs

We commenced the repairs of phase one in October 2004, which were completed in April 2005. Thereafter we were awarded the contract for the repairs to the full dock. We commenced the repairs of phase two in April 2006, on a four year contract. The work entails the demolition of all the existing concrete, and removal of the existing steel stringer beams. We are installing new stringer beams, repairing the existing capping beams, blasting and painting the steelwork, installing new concrete precast slabs, and casting the in-situ deck topping. The construction is broken up into various sections, and the work per section is carried out before changing to the next section, allowing time for the concrete to cure before putting traffic onto the completed section. "The most challenging aspect of the work is that the existing dock has to stay fully operational whilst we are engaged with our works," says Adrian Flack, contracts director.

Work on this contract was halted in October 2008, and has only recently recommenced. "The biggest reason for the deferral was the clients concern with their dock crane reliability," says Adrian. "They could not run the risk of having a section of the dock closed for crane traffic, and have a crane breakdown". There are currently still 21 months of work left on this contract and on the client's request, the work has been split into smaller sections so as to allow full access at all times.

The total area of dock reconstruction and repair is 3 300m².

Malongo Dock Expansion

This contract entails the design and construction of an entirely new dock as an extension to the existing Malongo Dock. The construction methodology entails the driving of tubular structural piles (filled with reinforced concrete) and then the installation of precast concrete trough beams and precast concrete deck slabs, with in-situ infill marine grade concrete between the deck slabs. "The reason for using precast is that the concrete quality in the region is not up to standard," says Adrian. "All precast work is done in South Africa, and then shipped to Malongo". The in-situ infill concrete is cast using Dieci mini-concrete mixer trucks and using stone, cement and fly-ash shipped from South Africa.

The total dock area of new construction is 3 300m². The duration of this contract is 24 months and we are currently ahead of programme.

Our Malongo Dock team consists of approximately 40 personnel from South Africa. The majority of equipment being used belongs to Civil & Coastal Construction including two 120 ton Manitowoc 12000 Crawler cranes, one 65 ton Terex rough terrain crane, all relevant piling equipment and a number of smaller pieces of equipment. 11

Quantities:
Piles:
- *4 000m of 914mm diameter tubular structural piles.*
- *800m of 914mm diameter fender piles.*

Fenders:
- *38*

Precast Concrete:
- *720 ton in 96 trough beam sections.*
- *4 000 ton in 385 precast slabs.*

Concrete:
- *1 000m³ in-situ marine grade concrete.*
- *1 000m³ in-situ low grade concrete.*

Reinforcing Steel:
- *800 ton*

Capabilities:
- *Marine structures – dock construction; repair and rehabilitation; piling.*

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- Construction
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Lateral support for new incline shaft

Source: Marius van der Merwe

The Tumelo incline shaft project was completed over a nine month period and entailed the provision of lateral support to the Tumela coal mine in Mpumalanga.

Total Coal prescribed the design and we used resin rock bolts (spin to stall) and R25 self drilling anchors and osro-straps. The discovery of a weathered intrusion in the excavation led us install additional cable anchors and mini piles.

This project was undertaken as a subcontract to Stefanutti Stocks Earthworks (Pty) Ltd.

Due to the interaction between the geotechnical and the earthworks team, we at times had to access the site in the evenings to ensure that work could continue seamlessly the following morning.

"Strong groundwater seepage in the excavation presented a challenge by making the application of the gunite quite tricky," says Marius van der Merwe, operations manager. "We used an accelerant to speed up the setting, as well as installing wick drains and additional weep holes for the seepage".

Total Coal has since commenced mining operations and installed a permanent pump on site to manage the water levels. Their geologist has requested us to look at some of their other mines, and we are awaiting his design so that we can price on it. "We hope this is the beginning of a long term relationship between Total and our geotechnical operation," says Shaun Nell, managing director of Stefanutti Stocks Geotechnical (Pty) Ltd. 12

The incline shaft excavation at about 25m deep: the water seepage is apparent and on the right the gunite with polypropylene fibre and diamond mesh reinforcing is visible.

Quantities:
Gunite:
- *Equivalent of 15 500m³ 25MPa gunite with polypropylene fibre, 75mm thick (inclusive of void filling).*

Rock bolts:
- *2 800 resin rock bolts (1.2m and 1.8m, spin to stall).*

Anchors:
- *180 anchors (5m and 8m).*
- *120 self drilling rock bolts.*

Oslo straps:
- *130 x 4m long straps (300x400mm).*

Micro piles:
- *27 x 16m long (complete with self drilling anchors in between).*

Total depth:
- *35m*

Capabilities:
Structures:
- *Geotechnical – lateral support.*

Earthworks:
- *Bulk earthworks, road works and infrastructure.*

Dilokong furnace

Source: Mark Stannard

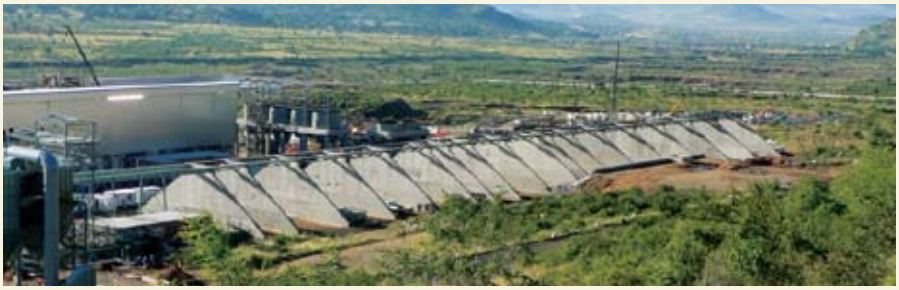
Work on the project for owner ASA Metals started in January 2008 and completed in April 2009, during which time approximately 20 000m³ of concrete was poured.

Overall project managers and engineers on the project were Tenova Pyromet (Pty) Ltd.

Stefanutti Stocks Civils in consortium with our Earthworks and Geotechnical companies carried out all piling, earthworks, civil and building work, and have all contributed to the overall success of the project, which was completed on time, within budget and with an excellent safety record.

The scope of works for the construction of two furnaces and associated works at the Dilokong Chrome Mine near Burgersfort in Mpumalanga included:

1. Material handling bunkers
2. Furnace foundations
3. Furnace building foundations
4. Conveyor foundations
5. Clarifier foundations
6. Piling and Earthworks
7. Substations
8. and other associated work



The Dilokong material handling bunkers.

Contracts director, Mark Stannard and project manager, Martin Nel were impressed with progress on site and the performance of the Dilokong site team.

"Stefanutti Stocks experienced a major growth phase in recent years, leading to a recruitment drive for new employees," says Mark. "This was one of the main challenges at the time. A new team was formed and has subsequently proved itself by completing this challenging project on time". 13

Goedgevonden Coal Mine

Source: Peter Watt

Stefanutti Stocks Civils (Pty) Ltd has been on site at Goedgevonden Coal Mine close to Ogies in Mpumalanga since September 2007.

This project, undertaken in joint venture for Australian Mining House Xstrata Coal SA is for the establishment of an entire new coal processing plant. The civil works consists of reinforced concrete structures for the following:

1. A ROM tip and primary crushing plant foundations;
2. Secondary and tertiary crushing plants foundations;
3. Surge tanks;
4. A coal processing plant building;
5. A 50m diameter thickener tank;
6. A 600m long stacker;
7. A 450m long reclaim tunnel;
8. A rejects pad;
9. Other general mine infrastructure including stores, workshops, wash bays, refuelling depot, pollution dams and plant roads.

This plant is almost an identical replica of a plant previously designed and built in Australia. "During its construction it has been interesting to see the various aspects of the design of the plant used in the process and how the Australians do it back home" says contracts director, Peter Watt. "Of particular interest is the complex nature of the CPP Building and the steel Armco culvert lining in conjunction with the circular coal valve chambers used for the reclaim tunnel construction".

The total volume of concrete required for the project is in 20 000m³, while 1 600 ton of reinforcement will be used and 250 000m³ of earthworks shifted. All the earthworks on the project including the dams and roads have been undertaken by Stefanutti Stocks Roads & Earthworks (Pty) Ltd as subcontractor to the joint venture.

The project is due for completion towards the middle of 2009. 14

Capabilities:
Structures:
- *Reinforced concrete construction, concrete water retaining structures, industrial building work and earthworks.*

Safety

Our mining clients place great emphasis on safety measures on site and our teams have successfully achieved in excess of over 1 million Lost Time Incident (LTI) free hours at both the Goedgevonden and Amandelbult projects. Our safety teams continue to work closely with the mines and the EPCM contractors to ensure safety remains a priority on our sites.

Amandelbult 75-210 KTPM Upgrade

Source: Peter Watt

Stefanutti Stocks Civils started on site at Amandebult Mine in Northern Province in August 2007.

The project, undertaken for Anglo Platinum was broken into three contracts:

1. An upgrade to the existing concentrator plant – this portion of the works consisted of the construction of a 45m high 20m diameter storage silo, fag mill plant, flotation units, an electrical substation and MCC and conveyor lines.
2. Construction of an A-frame stock pile tunnel;
3. Construction of foundations for five ISA mills units

Description

The civil works involved the use of almost 19 000m³ of concrete in a multitude of infrastructural elements. These structures are now mostly hidden from sight as they have been adorned by structural, mechanical, electrical and piping equipment.

The 45m high storage silo at Amandebult was constructed using the slipform (sliding) technique, using in-house resources.

The Amandelbult project was undertaken in a negotiated Collaboration Agreement with client Anglo Platinum and EPCM contractors Vhumbanani.

The project has been conducted successfully, and special mention must be made of the safety record on the site which is approaching 1 million LTI free hours. 15

Capabilities:
Structures:
- *Reinforced concrete construction, slipforming (sliding), industrial building, earthworks.*

Waterval Retrofit

Source: Peter Watt

In March 2007 Stefanutti Stocks Civils (Pty) Ltd successfully completed a project for Anglo Platinum at the Waterval Retrofit Concentrator Plant in Rustenburg, Northern West province. The scope of works on this project, entitled Civil Works for Waterval Retrofit, included a 60m long, 20m deep rail bunker, four 40m high by 15m wide storage silos, primary crushing plant, fag mill and cyclone plant, flotation units and a 45m wide thickener plant.

In July 2008 we returned to the Waterval Retrofit site to build a series of 5 ISA mills, specifically for ultra fine grinding of the platinum ore to get a higher yield of platinum which will complement the existing plant. The project consists of civil foundations for the ISA mills, an electrical substation, MCC and transformer bays.

This project is another project awarded as part of the Collaboration Agreement with Anglo Platinum and performed with our EPCM collaboration partners Vhumbanani.

The project is on track for completion on time and within budget in May 2009.

16

The CTP Kimberlite paste disposal facility

De Beers: Kimberley (South Africa).

ECMP's experience as operators of the facility

Source: Mike Smith, managing director, Environmental, Civil & Mining Projects (Pty) Ltd

1. Introduction

The Central Treatment Plant (CTP) in Kimberley was designed and constructed to treat 100 million ton of diamond bearing tailings scattered over many surface deposits around the city of Kimberley in the Northern Cape. These dumps are the waste product resulting from over 100 years of mining diamonds in this historic mining region of South Africa. Metallurgical testing proved the viability of re-treating these dumps for the extraction of diamonds that were not recovered by the miners of the time and as a consequence, the CTP was constructed and commissioned in 2001 to treat these materials.

The initial idea was to deposit the fine waste stream from the new CTP into the mined out open pit voids (i.e. the large mined out kimberlite pipes other than the famous Big Hole of Kimberley). If the voids were to be effectively filled with waste, then the normal kimberlite slurries would have to be thickened into a "paste" thereby ensuring that the highest possible density would be achieved in the pit with maximum water recovery in the plant. As the project planning proceeded, it was determined that the "in-pit" disposal would be delayed for a ± five year period until all mining activities in the pits were completed. This meant that a temporary surface disposal facility would be required until such time as in-pit disposal could commence.

Accordingly, a large footprint (± 390ha) as indicated in Figure 1 was selected. Discharge onto the complex is via a ± 5km high pressure pipeline from the plant to the site. At the site boundary, the pipeline is linked to two outlet points comprising a horizontal pipe section joined to a vertical riser where the paste is discharged into the disposal facility. The pipelines are designed to be able to discharge the full tonnage through either of the two risers. Figure 2 is a view of the original operating riser. Figure 3 illustrates the theoretical cone development of the dump as a result of discharging from the risers.

Figure 2 – View of Original Operating Riser.

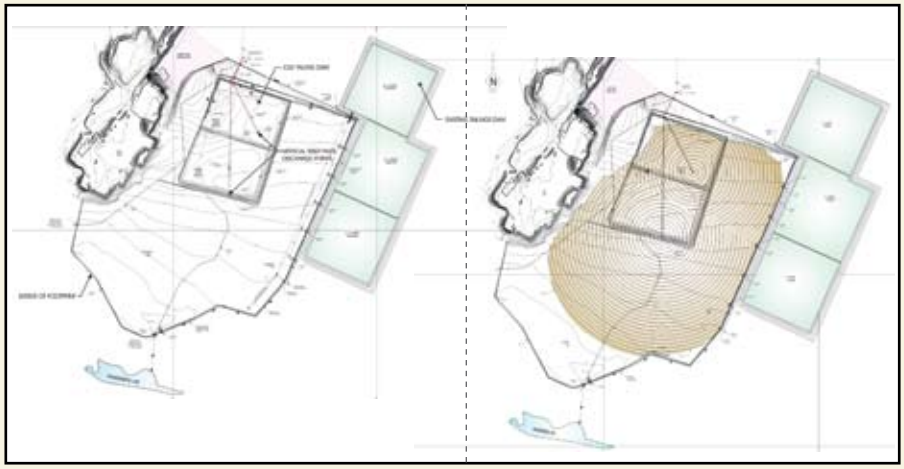


Figure 1 – Footprint of Disposal Area.

Figure 3 – Progressive Cone Development from Risers.

2. Operational Problems

2.1 Riser Operations

The design made no provision for valve interchange between Riser A and Riser B. This resulted in long periods of continuous deposition (three to six months) from each riser. Switch over could only take place during plant shutdowns. As a consequence of this modus operandi, the following beach profiles were developed:

1. Initial Beach from Riser:
   1:40 (0–100m);
2. Secondary Beach:
   1:140 (100-1 000m);
3. Tertiary Beach:
   1:200 (1 000m onwards).

2.2 Observations

1. Paste flow from the riser along the beach follows a random pattern. Paste has a "mind of its own and flows where it wants!!".
2. After four years of deposition, the paste reached the perimeter confining wall at several locations. As a consequence, outer wall raising was implemented.
3. Rate of rise calculations for wall height determination based on the measured beach profile proves to be a wrong design assumption because this measured beach profile applies to an "unconfined beach profile" that develops if there are no boundary constraints or confining perimeter walls.
4. The introduction of a confining wall results in a complete change in beach profile and paste flow behaviour. Once the tail of the tertiary beach is interrupted or stopped, then the paste flow appears to "fail through" the surface layer somewhere along the profile changing from "surface flow" to "subsurface flow".
5. This subsurface flow results in the "uplifting" of the previously dried out layer with the almost instantaneous loss of freeboard at the perimeter wall.
6. The subsurface flow appears to re-mobilise placed material resulting in the creep or movement of previously stationary beach segments. These flow paths are much larger than those typically formed by the "fresh flow channel exiting the riser". The larger flow paths have the effect of rapidly consuming existing freeboard.

3. The Solution

1. Limited perimeter wall raising was implemented.
2. Additional stormwater decant structures were installed adjacent to the perimeter wall.
3. Valves were installed to facilitate regular riser interchange.
4. A permanent access road to the risers was secured by constructing an earth fill embankment from the perimeter to each of the riser points.
5. The new ECMP riser distribution system was constructed and commissioned (ECMP wagon-wheel system as illustrated in Figure 4 below).

4. Conclusions

Figure 4 – ECMP Wagon Wheel System.

1. Since the introduction of the ECMP Wagon Wheel System in 2005, significant successful stacking of paste is occurring. This is due to the fact that the Wagon Wheel Operations allow for the controlled flow of multiple streams from each of the risers.
2. As a consequence of the above, there has been no further need to raise the perimeter walls over the past three years.
3. The wagon-wheel system and beach stacking is illustrated in Figure 5.
4. It has now become apparent that the mined out "kimberlite pipes" will not be used for waste disposal due to ongoing mining operations. This innovative ECMP modification has converted a short term high risk facility into well controlled low cost operation suitable for the life of the project. 17

Figure 5 – Aerial View of Wagon Wheel System.

A patented new generation high rate clarifier

Source: Bruce Holliday, Skelton & Plummer Group

A new generation S&P High Rate Clarifier (S&P HRC) is a consequent development of the initial clarifier developed in house by Skelton & Plummer in 1988. The S&P Clarifier was developed for dirty water treatment in gold, platinum and other base metal mines, with the objective of achieving a four to six times higher specific throughput rate, compared with conventional conical settlers.

This requirement became apparent in the mining industry as many settlers were, because of increased production, hydraulically overloaded, and the existing infrastructure could not be extended by blasting new and or bigger excavations to accommodate additional water facilities.

The clarifier has been well received by all the major mining houses in South Africa and Southern Africa for both new installations and retrofitting. To date 75 clarifiers have been installed. Its popularity is largely due to its throughput rate of up to six litres per m² per second under peak flow conditions.

The S&P HRC can be installed underground or on surface, dependent on the feed arrangements. The smaller shape and dimensions of the clarifier also means that installation can occur with only minor interruptions of the ongoing operations. In cases where the S&P HRC is used in new installations (or extensions or deepening of shaft systems) it requires only 16% of the surface area of a conventional settler. Compared with a conventional settler, with the same flow rates, the saving of the S&P HRC in excavation volume and related requirement for roof support, linings or similar measures, are more than 90% (as illustrated in Figure1). The smaller dimensions also result in less rock stresses, particularly beneficial where bad ground conditions prevail or at deep mining operations.

The S&P HRC requires no more flocculant than conventional settlers, but achieves overflow clarities of 10 ppm S.S. Because of its unique design features the S&P HRC maintains this overflow water quality over is full throughput range, from zero to design capacity. The underflow sludge density is comparable to that of conventional settlers.

An additional feature is its capability to collect, and to trap in one compartment, contaminants that are lighter than water and which are fed to the clarifier with the dirty water stream, for example: oil, grease, plastics and general debris.

Another distinctive feature of the S&P HRC is the fact that it has no moving parts, and as it accepts any feed fluctuation over the full throughput range without adjustments, the clarifier is user friendly and does not need operators input. All clarifiers are of completely bolted design, which allows hot dip galvanizing of all components. That in turn, permits easy transport to the underground installation sites and effortless erection. It also guarantees a long life expectancy at very low maintenance costs. 18

A surface installation of the Skelton & Plummer High Rate Clarifier.

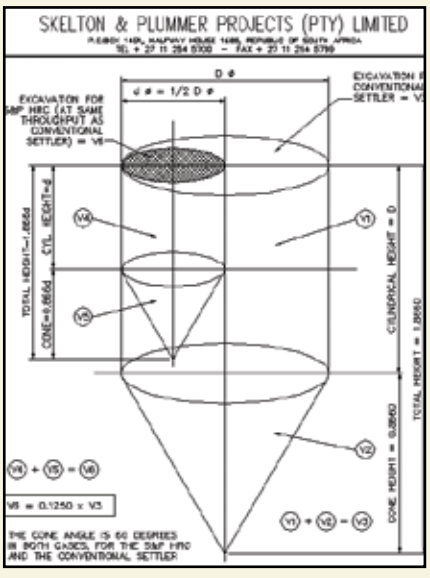


Figure 1

LUSIP Main Canal South

poverty alleviation through access to water

Source: Derek du Plessis

Mphofu Stone Masonary Dam.

The LUSIP Canal team.

The objective of the Lower Usuthu Smallholder Irrigation Project, a Swaziland Water and Agricultural Development Enterprise (SWADE) project, is to reduce poverty and improve the standard of living of the 15 000 people in the Lower Usuthu Basin, South East Swaziland.

The majority are subsistence farmers who live in the lowveld under difficult and dry conditions. By giving these farmers access to water, SWADE will enable them to farm high value irrigated crops (sugar cane and cotton).

The scheme will bring water for irrigation to 11 500ha in two phases. The first phase close to Siphofaneni covers 6 500ha and has been underway since November 2006. The second, comprising 5 000ha near Matata, will be implemented subsequently.

S&B Civils Roads, a division of the Stefanutti Stocks Group, scope of works during phase one included:

1. Earthworks, stormwater drainage works and finishings in preparation for 43.1 km of a concrete lined trapezoidal canal;
2. A 780m long invert siphon consisting of two 1.6m diameter pipes; and
3. A balancing dam across the Mphofu River, constructed in bulk stone masonry.

Phase one was completed at the end of February 2009. The canal was designed to extremely tight tolerances 1:1 000 grades i.e. 1mm in 1m, through fairly remote bushveld terrain. The first 1 600m of the canal proved to be the biggest challenge due to the very steep rocky mountainous terrain. The highest fill of the project was also in this area.

Phase one also included three district road bridges, 18 farm bridges, 23 pedestrian bridges, community water service points, two parshall flumes and numerous cross drainage structures.

This project was also highly successful in terms of skills development with many of our team earning promotions. Labourers were developed into supervisors, supervisors into junior foremen, and likewise junior foremen into foremen. “We have an incredibly motivated and dynamic team, says

The 780m long invert siphon.

Derek du Plessis, director of the Swaziland Roads & Earthworks operation. “The team has impressed our client no end, entrenching our reputation as the preferred contractor and going a long way to secure more lucrative contracts in the region”. 19

Quantities:
Site Clearance:
- *185ha*

Bulk Earthworks:
- *815 900m³*

Stormwater:
- *4 915m*

Stone Masonry:
- *9 000m³*

Siphon:
- *1 700m of 1.6m diameter siphon (Steel-mortar lined Copon coated).*

Capabilities:
Road & Earthworks:
- *Earthworks, roadworks, township infrastructure, canals, dams.*

SPAR perishables facility

Source: John Dorning

Stefanutti Stocks Building is building the Mt Edgecombe perishables facility for client Spar Group KZN.

The scope of work on the project includes:

1. Refrigeration warehouse;
2. Ancillary buildings; and
3. External works.

The refrigeration warehouse covers a total area of 8 140m², with concrete bases, columns, and a 20m high roof comprising a structural steel lattice girder arrangement with a soft roof.

The external walls are insulated cladding panels, providing insulation for the freezer section, which will operate at minus 25°C, and the fridge areas which will operate at 2°C.

The 16.2m high concrete columns for the warehouse were cast in two lifts. The first lift of 11m was followed by a 5.2m lift. We achieved this complex task successfully by utilising tremie pipes to minimize concrete segregation, special formwork releasing agents and high frequency external and internal vibration equipment. A total of 46 columns, including bases, were completed within 11 weeks.

The ancillary buildings (comprising of the office block, operations block, battery and generator rooms and plant rooms) consist of concrete frames enclosed by brickwork and large aluminum framed windows. These buildings will be decorated with face brick externally and are typically two stories high with epoxy coated floors. Our scope of works also includes the guard/gate houses, pump houses for fire protection and the storage tanks. The external earthworks are prepared for a possible future extension, with premix parking areas and large concrete hardstand areas for bulk loading and off-loading of articulated trucks.

We have completed the structural phase and are within the program target. The next section of the contract (wet trade finishing, including installation of all the specialist equipment and commissioning) is now underway.

"Our biggest challenge on this project has been the tight programme during which Beneficial Occupation dates need to be achieved," says contracts manager John Dorning. "However, with additional resources and six work-fronts running concurrently, we are within programme to achieve our completion date. The site team is highly motivated and with a positive attitude anything is possible!". 20

Office blocks and a hotel for Liberty Properties

Source: Gary Coetzee

This development for client Liberty Properties in Umhlanga Ridge consists of two phases.

Phase one is the new regional head office for Liberty Life whilst phase two consists of two separate buildings, the major portion of which is a new 220 room hotel for a major hotel group. Adjacent to this hotel is an office block, similar in size and area to the phase one office area, which will be sublet.

Phase 1

Site establishment commenced in March 2008 and the project has a practical completion date of December 2009. The project is running according to programme with the office fit-out commencing in October this year. The concrete frame including the roof should be complete by end May 2009.

The office block is being developed on the extreme edges of a 70x70m site with road access on three sides. Due to the building footprint encompassing the entire building area, lay down areas and storage space is extremely limited. The building is constructed mainly of a reinforced concrete framed structure on piled foundations, contiguous and anchored basement lateral support retaining walling, flat concrete roofs with torch-on waterproofing, natural-stone cladding fixed to aluminum support work externally with a flush glazing curtain wall system, and all associated building services.

The building itself consists of four basement parking levels, ground floor, mezzanine and first floor parking and a six storey office building totaling 29 300m² gross building area. Basement level four is 13m below ground level. “Logistically this proved challenging,” says Gary Coetzee, contracts manager. “However, we were able to access the basements from phase two as building had not started when we were working in this area”.

The four levels of office accommodation cover an area of 8 000m².

Phase 2

We commenced site establishment on this phase in October 2008. The practical completion date for the hotel is April 2010 and the office block occupation date still has to be determined. The hotel consists of training and conference rooms below ground level a ground floor/main entrance and five floors of hotel rooms.

The tight programme to meet the completion date required by the client is a huge challenge especially as the basement is four levels below ground level.

A further challenge to the onerous programme is that we have to build four levels of parking before we commence the structure to the hotel. The first of the basement slabs were cast during the first week of April 2009.

“A central portion of the Atrium slab will be left out to allow access to the basements for materials and equipment, all of which will have to be lowered by means of tower cranes,” says Gary. “We will at a later stage complete the outstanding slabs as and when the main structure has been completed”. 21

Game on at Moruleng Stadium

Source: Derick Petersen

With the Pilanesberg mountain range in the background, the Moruleng Stadium is set to become a landmark for our client, the Bakgatla-Ba-Kgafela tribe in the North West province.

Stefanutti Stocks Building in joint venture with local building contractor JST Constructions, commenced work on this project at the beginning of November 2008, with a phased handover. Since then, despite the direct bulk earthworks subcontractor being hampered by continuous summer thunder storms, progress on site has been steady.

This project is programmed over 23 weeks during which the site team will construct a soccer stadium, with seating for 20 000 spectators, complete with amenities, external parking and practice fields.

The project managers have committed to the newly established pitch being ready for the Confederations Cup during June 2009 and our 23 week programme has been accelerated to meet this new deadline. The stadium has also been earmarked as a possible practice venue for the World Cup in 2010.

From left to right: Kobus Koekemoer, Willie Retief and Thomas Herholdt.

The Moruleng Stadium is progressing well.

Contracts director Willie Retief is ensuring we don’t score any own goals, whilst site agent Thomas Herholdt is pouring concrete with the same passion he has for Manchester United and the local Pirates football team!

Stefanutti Stocks Geotechnical (Pty) Ltd executed the design and installation of the piling system supporting the main grandstand structure.

“It is a diverse team that is constructing this football stadium in the tightest of programmes,” says Derick Petersen, general manager of Stefanutti Stocks Building North West. “Our team spirit is great and extends to our relationships with our JV partners, consultants and subcontractors. Building this stadium is a challenge we will win hands down!” 22

Capabilities:
Building & Construction:
- *Stadia*

Geotechnical:
- *Piling*

One and Only in record time...

Source: Mark Fugard

Stefanutti Stocks Building Western Cape, in joint venture, has completed the One & Only, luxury hotel and spa development on the Victoria and Alfred Waterfront in Cape Town ahead of schedule.

This allowed our client, Mr Sol Kerzner of Kerzner International, to open for business several months earlier than originally planned. On 3 April 2009 an impressive opening party was attended by local and international celebrities and dignitaries. This event was preceded a week earlier by a pre-opening function for the travel and hospitality industries.

The development consists of three main areas – the Hotel situated on the main land, the Spa and Villa Islands. The hotel tower situated on the mainland houses basement parking, back of house and front of house public areas (including international restaurants Nobu and 'maze' by Gordon Ramsay), guest suites on levels one to five (including a Presidential and Imperial Suite) and three apartments on levels six and seven. The Spa Island houses a world class spa facility including treatment rooms, male and female heat experience areas, beauty rooms, salon and podiatrist facilities. The Villa Island consists of 11 Villas housing 40 guest suites surrounding a resort style swimming pool, a Mediterranean style open air restaurant and a basement back of house level.

Sol Kerzner has positioned the One & Only Cape Town at the very top of the hotel market in South Africa. This is evident in the quality and level of design and finishes produced, the extensive lush landscaping including numerous water features and sculptures and the impressive position the development commands within the V&A Waterfront.

The Stefanutti Stocks Holdings Limited Board visited the One and Only site in March 2009. Pictured from left to right are: Casper Steenkamp (managing director of Stefanutti Stocks Building W Cape), Willie Meyburgh (CEO), Kevin Eborall, Dermot Quinn, Gino Stefanutti (chairman & co-founder), Nomhle Canca, Bridgman Sithole, Antonio Cocciante, Mafika Mkwanazi, Stephen Pell & Herman Mashaba.

This completion phase does not include the completion of the apartment interiors, these are being driven by purchaser requirements and will be brought to completion later in the year.

"Looking back over the 20-month construction period, despite the numerous challenges faced by the team over this period, the overriding highlight is the superb teamwork and application that the team has shown in producing a world class project and taking on the challenge of bringing it to completion in record time" says contracts director, Mark Fugard.

On one of the two man-made islands in the V&A basin a state of the art luxury spa facility has been constructed as seen above. Visible on the left hand side is the bridge linking the spa island to the second island which has an open air restaurant, resort style heated swimming pool and 11 luxury villas with a total of 40 guest units. The mainland and islands are linked via bridges and tunnels below the canals.

An aerial view of the entire development including the hotel, the two man-made islands and the canal system surrounding the luxury hotel.

Inner Circle – rising high…

Source: Leon van Aardt

Inner Circle Morningside is an architecturally breathtaking 17-storey glass-façade building in the heart of Sandton and one of two high-rise contracts in Gauteng that Stefanutti Stocks Building is nearing completion on.

An artists impression of the Inner Circle building, by architect Mark Oates.

Partnering with the professional team on this negotiated contract we could provide valuable build ability input at the design stage, and offer cost effective solutions before work started on site. This resulted in a seamless project, one in which we have hit all programme dates, sometimes to the day, and are on schedule for completion in July 2009.

Our team established a great rhythm and discipline on site from the start, and we were completing one level of this structure every two weeks. "Working on a high-rise building can pose risks to the site team," says Leon van Aardt, contracts manager. "We were resolute in ensuring all safety regulations were complied with and this has resulted in a good safety record and no falls from height".

The 1 728 doubling glazing panels that make up the imposing façade of the building each span 3.6x2.5m and weigh an impressive 600kg. The panels were installed by a specialist façade contractor and we are now busy installing the services on the top levels. The installation of the six lifts is progressing well and the external works are underway, as well as the completion of the ramps (to seven floors of parking).

Management of logistics was to be one of our biggest challenges on the project. Efficient management of deliveries, housekeeping and movement of materials has been relatively stress free thanks to our experienced crane operators, (Xabela Xabo and Lilapa '5 Cents' Mosuoalie) who are now feeling quite at home on the south elevation of the building.

Stefanutti Stocks employees and new recruits have been exposed to an incredible learning curve on this project. In addition to our standard in house training such as first aid, scaffolding, health and safety, setting out and concrete finishing we also had six enthusiastic cadets on site, some of whom are enrolled in TJEKA NQF 2 & 4 training courses and learnership programmes.

"This contract has afforded a great opportunity to the relatively young team, to get some great construction experience and confidence whilst working on one of the landmark buildings of the Sandton area," says Leon.

Our client, Edge Properties and Oates architects, have designed an A-class office building and after numerous site visits by foreign investors China Steel, successfully concluded the sale of the building in March 2009. 24

The Inner Circle team (from left to right):

Front row: Patrick Munenyiwa; Paul Serake; Yvonne Ratshitanga; Tshepang Senotlela and Leon van Aardt.
Middle row: Patrick Chisunga; Funi Nengovhela; Lerato Maila and Dudu Ngomane.
Back row: John Owens; Tom Prentice; Moshien Sulemain; Louis Mahasha; Garry Gemishuizen; Johan van Zyl; Oriel Ramabulana and Simon Masiya.

Quantities:
Concrete:
- *17 500m³.*

Columns:
- *1 920 Concrete Columns cast.*

Reinforcing:
- *1800 ton lifted by crane.*

Pre Cast Panels:
- *300 installed by crane.*

Façade:
- *1728 panels (each 3.6 x 2.5m and weighing 600kg).*

A Holiday Inn Express in Sunnyside, Pretoria

Source: Riaan Claassen

The Holiday Inn Express team.

Stefanutti Stocks Building Gauteng has completed the conversion of an existing high rise apartment building into a trendy modern Holiday Inn Express Hotel for client Zenprop.

This inner city redevelopment took place above a fully operational shopping centre, making access, security and safety on this contract a priority. Water and sound proofing were also concerns as we had to ensure the stores and their patrons suffered as few disruptions as possible.

The building consists of 21 floors on top of a four floor podium and included in our scope of works was the replacement of all the façade windows with a modern aluminium window solution – this meant we needed to be able to access the site from inside and outside. The existing structure would not have been able to take the weight of conventional scaffolding; we therefore made use of hanging scaffolding and gondolas. "This did place stress on the programme and our workforce with only a limited amount of people able to work on a particular façade at any given time," says contracts director Riaan Claassen.

For the hotel, a total of 305 rooms over 16 floors were renovated. We upgraded and extended the entire façade to a modern "Dubai" style finish, constructed a multiple storey new entrance foyer and reception area which links into a multi-function Great Room. "The seamless interfacing of all services was very critical in this renovation," says Riaan. "Work in the Great Room was undertaken with the utmost care, so as not to disrupt the existing services that feed the shopping centre."

Currently we are renovating 75 rental apartments on the top five floor levels. To enable work access to these floors, we have converted one of the lifts into a goods lift.

"I'm very impressed with the performance of this young team" says Riaan. "They have all displayed the talent and endurance that has enabled us to complete this project on programme and without claims, whilst maintaining a good safety record".

At the time of the roof wet, held on the 26 March 2008, the hotel was already fully booked for May, June and July.

The existing structure would not have been able to take the weight of conventional scaffolding.

Setting an impressive pace at SADC

Source: Matt Sales

The impressive new SADC headquarters in Gaborone, currently under construction by Stefanutti Stocks Botswana, has attracted a lot of attention and is well on its way to becoming a city landmark.

A total quantity of 1.2 million face bricks will have been laid by project completion - 400 000 of these during the four month period November 2008 to March 2009. At present finishes in all types of disciplines are in progress and in spite of numerous disruptions caused by the recent heavy rain, the team has put in the hours to ensure the momentum is maintained.

In addition to being a construction contract, the SADC head office is also a Stefanutti Stocks concession contract, thus our project handover includes a hand over by our architect, the facility management operator (FM), and SADC's independent certifier (IC). The completion of construction is scheduled for 14 May 2009 which includes time allowed for the testing and commissioning by the FM & IC, and a further period of around one month has been set aside for the relocation of the SADC staff from a number of rented premises in Gaborone. The detail design specifications from the FM were very comprehensive, covering all areas and specifications including office layouts, heating, ventilation, air-conditioning (HVAC), sound proofing and electrical reticulation.

The snag lists are being compiled and we are working our way through them to

ensure that our client is entirely happy with the finished product – a beautiful and modern face brick office block which the Stefanutti Stocks Building Botswana team is proud to have worked on.

"We have had four visits from different Chinese delegations," says site agent Matt Sales. "They have all been amazed and impressed at the pace we have set on site – quite a compliment coming from a nation with a reputation for working at a breakneck speed". 26

Our Concessions capabilities increase

Source: Rob King

Stefanutti Stocks has been very successful in the Public Private Partnership (PPP) sector to date, having bid on eight concession contracts in the building arena, five of which were successfully awarded.

These include the Namibian government offices in Windhoek, the Mpumalanga government offices in Nelspruit, Maropeng and Sterkfontein Caves at the Cradle of Humankind and the SADC Headquarters and Plot 21 in Gaborone, Botswana. We are currently preferred bidders on the Ministry of Environment, Wildlife and Tourism offices in Botswana and have submitted a bid for the Department of Environment and Tourism offices in South Africa.

We are now leveraging our capabilities to expand our concessions offering in line with the full spectrum of the Stefanutti Stocks Group capabilities. These opportunities include toll roads, water provision, sanitation, prisons, power generation, schools, universities, accommodation and the treatment of solid waste.

"The combined capabilities of the Stefanutti Stocks Group enable us to extend our concessions offering beyond the building and construction sector," says Rob King, managing director of the business unit. "The Property & Concessions business unit can serve as an integrator across all the Group business units and capabilities".

PPPs have historically been in the domain of national governments however, the real needs are sitting at municipal levels, where for example sanitation and treatment of solid waste need to be addressed with elegant engineering solutions. "Stefanutti Stocks is capable of working on environmental initiatives whilst also addressing the most basic of South African society needs – that of clean water and sanitation" says Rob.

Sanitation and clean water supply in South Africa have recently come under the spotlight with the recent outbreaks of cholera and diarrhoea, and there is an estimated national spend of R40 billion required to bring the South African sanitation systems up to standard.

The need for alternative methods of power generation, transmission and distribution has become apparent in Africa over the past few years. The Structures and Mechanical, Electrical & Power business units are active within the Power industry and have the capabilities to design and construct a broad range of alternative power supply. We can leverage these capabilities with the objective of offering clients an integrated solution including the design and build elements as well as the facilitation and long term sustainability of their power projects.

"The current concession opportunities within South Africa particularly are incredibly exciting," says Rob. "They offer the Group the opportunity for long term investment, building on the traditional client relationship that lasts for the duration of the contract and extending this relationship to the length of the concession agreements, which can be anywhere between 10 to 30 years".

Did you **Know?**

The Stefanutti Stocks Property & Concessions business unit partners with government in the provision of facilities or services through concession contracts (Public Private Partnerships). This involves the transfer of risk to the private sector with the theory being that the private sector can deliver certain services better than the public sector. Within the concessions sector we also offer facilities management, maintenance and project funding assistance. In addition we also have the capability to facilitate EPC and turnkey contracts through our "design and build" project delivery approach for other business units within the Group.

What's new?

News Flash

Stefanutti Stocks has added Power Transmission & Distribution to its broad range of capabilities.

Power Transmission construction operations are involved in building and refurbishing high voltage overhead transmission lines for voltages from 132 kV to 400 kV. Power Distribution construction operations are involved in:

- building and refurbishing high voltage overhead lines for voltages up to and including 132 kV;
- building of distribution substations for voltages up to and including 132 kV; and
- electrification infrastructure creation and house connections.

The Mechanical, Electrical & Power business unit is headed up by Jan Oberholzer, who joined Stefanutti Stocks in January 2009.

News Flash

Stefanutti Stocks Holdings Limited has emerged from 2008 as the BEE leader in the construction sector of the JSE, achieving a Broad based BEE Level Four status.

New Appointments

- Tiaan Erasmus - Commercial Director: Stefanutti Stocks Geotechnical (Pty) Ltd.
- Greig Bastion - Director: Stefanutti Stocks Building Gauteng (Pty) Ltd.
- Jan Oberholzer - Managing Director: Mechanical, Electrical & Power Business Unit.
- Steve van der Walt - Alternate Director: Stefanutti Stocks Earthworks (Pty) Ltd.
- Jonathan Pells - Director: Stefanutti Stocks Earthworks (Pty) Ltd.
- Jan Swanepoel - Director: Stefanutti Stocks Earthworks (Pty) Ltd.
- Whitey Hiles - Director: Stefanutti Stocks Workshop (Pty) Ltd.
- Derek Salzmann - Director: Stefanutti Stocks Civils KZN (Pty) Ltd.
- Nick Pousson - Director: Stefanutti Stocks Building KZN (Pty) Ltd.
- Dave Codner - Director: Stefanutti Stocks Building KZN (Pty) Ltd.
- Zulfa Allie - Alternate Director: Stefanutti Stocks Earthworks (Pty) Ltd.

Industry Awards

- Steffanutti Stocks Earthworks (Pty) Ltd were awarded an EXCELLENCE AWARD by FEM for: Outstanding contribution towards the safety of their employees. This is the second year running that the operation has received this award.
- Stefanutti Stocks Building KZN (Pty) Ltd., the only construction company in KwaZulu-Natal to be awarded a 5-Star rating by the MBA, has won two MBA National Safety awards for the Liberty Life Offices in Umhlanga and Gottlieb in Riverhorse Valley.
- Stefanutti Stocks Building Western Cape (Pty) Ltd. was awarded a regional safety award for the best in its size and category for the prestigious Cape Town Airport project.

New Projects

- Stefanutti Stocks Building Eastern Cape has been awarded the prestigious inner city redevelopment of the South African Reserve Bank in the East London CBD.
- Stefanutti Stocks Civils (Pty) Ltd. has been awarded the Kusile Power Station in joint venture with three major construction companies.
- The Stefanutti Stocks operation in Swaziland has been awarded the prestigious new Swaziland airport in joint venture.

CSI News

Stefanutti Stocks Building Western Cape (Pty) Ltd. raised R48 000 for CANSA in the recent Shavathon held on the 20 March 2009.

Pictured from left to right are Adeliah Jacobs (CANSA), Casper Steenkamp (managing director) and Patricia Owen-Davies (HR manager).

Stefanutti Stocks Geotechnical (Pty) Ltd has committed R500 000 to a CSI initiative in Vlakfontein called Gabriel's crèche. The operation's involvement in this project extends to the erection of a crèche including classroom facilities catering for 60 children and three full-time teachers. Further the crèche also serves as a soup kitchen catering for 350 children from the local community.