

INSIGHT

FAST & GLORIOUS

Afcons completes 11 km viaduct for Nagpur Metro in record time of 28 months; Sitabuldi Interchange station in 20 months

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Taking strides, and, how!

Efficient execution has always been one of our key differentiators. We have been able to execute tough jobs with relative ease on, or, ahead of schedule, time and again. What's new about this, you would ask? To this, I say, we are becoming more experienced and accustomed to tackling complexities that come our way. Our teams are getting more responsive and braver with time.

Let's take Nagpur Metro for example. We completed Reach-3 of the project, which entailed 11km viaduct, in a record time of 28 months. The challenging Sitabuldi Interchange, one of the toughest stations in an extremely congested area in the whole project, was ready in 20 months, including the twin corridors. In many ways, Nagpur Metro has proved to be a turnaround for Afcons in elevated projects, and, this shows that we are learning fast and delivering results even faster.

Our progress, especially in the Metro segment, has been phenomenal over the past two years. The solid work we have put in has been recognised, and, we are honoured to be part of Metro Rail projects in seven cities across the country. We made a mark with our debut Metro project in New Delhi. Apart from Kolkata, Chennai, Ahmedabad and Nagpur, we are now present in Kanpur and Mumbai. Very soon, we should be in Bangalore too!

Our determined teams have been instrumental in constructing India's first underwater Metro tunnels, India's deepest Metro station, Asia's largest interchange, India's tallest interchange Metro Station, and, one of India's fastest and greenest Metro projects. Our consistent progress is a matter of great excitement, and, we should promise ourselves to grow from strength to strength in years to come.



K Subramanian

making headlines



Ambulance donation at Tirupati

Afcons donated an advanced life-saving ambulance to Tirumala Tirupati Devasthanams (TTD), at Tirupati, on August 26, 2019. Managing Director Mr S Paramasivan handed over the keys of the vehicle to Dy. EO of Sirvari Temple Sri Harindranath after conducting a special pooja. Dr Nageswara Rao, chief medical officer of TTD, was also present on the occasion. The ambulance will provide emergency medical assistance to the devotees, who visit the temple.

Metro Milestone in Kolkata

The base slab of the Howrah Metro Station, 30m, almost equivalent to a 10-storey building, below platform numbers 14 and 17 of the historic Howrah Railway Station, has been completed. The Howrah Metro Station runs so deep because it is aligned with the underwater Metro tunnels. The tunnels are almost 26m below the Hooghly riverbed. This marks another milestone for the East-West Metro project.



DG (MoRTH) visits MG Setu

Director General (MoRTH) visited MG Setu Project, Patna, on July 27, 2019. He reviewed the progress of the project, and also spent time with Afcons' team and workforce. He was accompanied by officials of MoRTH and RCD (Bihar) during the visit. Mr Vijay Singh Yadav, Vice President – Projects, and, Mr Santosh Kumar Misra, Project Manager, MG Setu project along with other site team members of Afcons were present during the occasion.

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EDITORIAL

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Green Metro for Orange City

Nagpur Metro is believed to be one of the fastest and greenest Metro projects in India; Afcons completed 11 km viaduct for Reach-3 in a record time of 28 months and Sitabuldi Station in 20 months

A Smart City needs smart mass transit solutions. Nagpur Metro, touted as one of India's fastest and greenest Metro Rail networks, is the heart of the city's transformation. Nagpur Metro Rail Corporation Ltd (NMRCL) has initiated the construction of the 41.7-km first phase of the project.

Afcons is constructing over 17 kms of elevated viaduct, along with the critical Sitabuldi Interchange Station, which is almost 50 per cent of the entire project. The company recently completed Reach-3 of the Metro project in record time of 28 months. This section, which is ready for inauguration, is the East-West corridor, with 11 kms of elevated viaduct.

Vaikunth J Pai, Project Manager, Nagpur Metro Project, Reach-3, says, "We completed the Reach 3 stretch in record time (28 months). The critical Sitabuldi Interchange was also made operational for both corridors (East-West and North-South) in just 20 months. We launched 370 spans in just 20 months, with a record peak progress of 30 spans in a single month. A total of 3,456 segments were cast in 20 months - a rare feat in any Metro job in the country."

Solid Groundwork

This is Afcons' second project in the Orange City, the first being the Cable Stayed Bridge. The site team had the knowledge of local markets such as availability of labour and construction material due to experience of working in Nagpur. A detailed geotechnical study, including soil investigation at the pre-tender stage resulted in optimised design of the foundation. The pile lengths were cut down by 2m that reduced cost estimate for foundation.

As per the project alignment, there were 19 obligatory spans set out by client mainly at junctions to suit traffic movements for Reach-3. Three obligatory steel spans of approximately 50m had to be built. However, after detailed survey of project alignment and traffic patterns, the team could reduce the obligatory span length to 37m fitting in standard segmental construction.

Given Afcons' rich experience in executing



Metro projects across India, and its strong equipment base, the company could meet the requirement of deploying five Launching Equipments. Also, approximately 547T of structural steel shuttering/staging material from New Delhi CC 15 was made available for reuse.

Customised Equipment

"In Reach-2, Afcons is constructing India's longest double-decker corridor and 1.7-km viaduct starting at Automotive Square on Kamptee Road to Sitabuldi," says Amarsinh Raut, Project Manager, Nagpur Metro Project, Reach 2. In this section, Afcons is building a Metro-cum-flyover stretch over single piers. This is a unique exercise. Afcons' design team conceptualised a Double Decker Launching Girder in-house, and the fabrication of two such girders was done in just three months.

"Double Decker Launching Girders gives better productivity as compared to the conventional ones as the spans between two piers can be erected one after the other after the completion of one auto-launching cycle. We saved 1.5 days for every span, which would not have been possible had we used conventional launching girders," explains Raut.

Future Expansion

Nagpur Metro has been planned, keeping in mind the possibility of expansion in future. The construction of a portal was proposed for this purpose. However, land was not available for the construction of one leg of the portal. Afcons ensured the portal was designed in a way that it can be accommodated in the available land, as well as expanded for future construction.

At Ambazari, construction activities were centered around a dam, and to maintain the stability of slope of the dam and avoid excavation in the area, pile cap was constructed above the ground level. Liner was used in the area while piling to avoid the vibrations of winches at the dam location. While making the segments, the team had to change the spacing of bars and by increasing the diameter of steel and keeping the quantity of reinforcement same. Also, UPV test was done on each segment.

"This project is a testimony of teamwork and dedication. I am proud of the way my team executed this challenging project," says Pai.

THE AFCONS DESIGN TEAM CONCEPTUALISED A DOUBLE DECKER LAUNCHING GIRDER IN-HOUSE, AND THE FABRICATION OF TWO SUCH EQUIPMENT WAS DONE IN JUST THREE MONTHS

THE GOWARI GAUNTLET



As part of the project, the Afcons team had to launch a segment on span over the busy Gowari flyover at Jhansi Rani Square. However, the segment could not be hoisted in the conventional method as the existing structure was causing obstruction. Therefore, a tower with single piece sliders was erected near P293 at the end of the flyover. The segment was then placed on the tower using cranes and was lifted from there using an indigenously designed and fabricated Launching Girder.

"As Gowari flyover could not be shut for a long time, we had to be really quick. We deployed three cranes of 275T, 220T and 200T capacity to erect the steel girders using the tandem lifting method. We took just four nights to erect four steel girders, followed by concreting," says Raut.

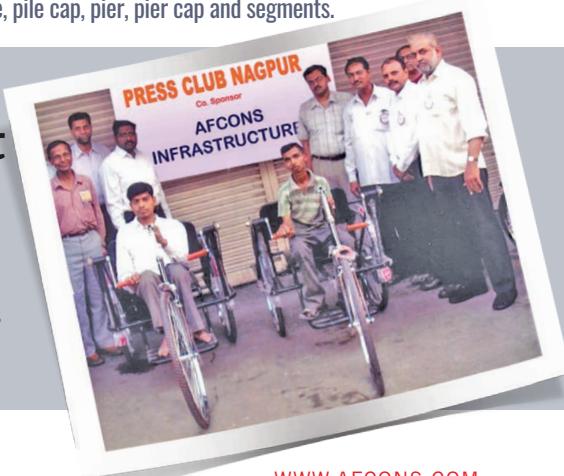
Owing to the time constraints, temporary bearings were used for the steel girder erection. The entire deck was lifted with six span jacks and the temporary bearings were replaced with the permanent ones in a single day. The span was lowered the very next day. The entire stretch was ready well within the deadline set by MMRCL.

As part of the fast-tracked activity, two piers had to be constructed on either side of a busy traffic intersection of Gowari flyover. Keeping in mind the safety and space constraints, it was not possible to erect staging from ground level to support the pier cap formwork. The site team innovated by using brackets to support the formwork. The brackets were fixed at the top of the pier with the help of bolts, which helped in avoiding any inconvenience to vehicular traffic and pedestrians.

Also, in a bid to minimise wastage of reinforcements, the team introduced fusion welding machine to weld the cut pieces at site. The welded rebars were used as earthing bars in pile, pile cap, pier, pier cap and segments.

Community Development

Afcons Nagpur Metro team donated 10 disabled-friendly cycles to ease their commute (pic right). The teams are continuously engaging with locals whenever help is needed



in conversation

UDAI VEER SINGH

“We’re one with Ghana Govt’s vision”

Afcons' maiden journey in Ghana has been that of many firsts. Apart from being the company's first-ever EPC railway project, Tema Mpakadan Railway Project is also the largest such project to be built in the west African country. Within a year of receiving the project, the team has achieved several milestones and has seamlessly assimilated with the locals to make Ghana their home.

“The government of Ghana envisages a robust rail network plan of around 5,000 kms, and our project - Tema Mpakadan Railway Project - is the first leg of the masterplan. My team is determined to fulfil this vision by delivering impeccable quality and speedy construction,” says Uday Veer Singh, Project Manager, Tema Mpakadan Railway Project.

As part of this project, Afcons established a Sleeper Plant using the Long Line Method on site for the first time in its history. “Considering the prospects and opportunities in the railway sector in Ghana, we took a swift and bold decision to set up our own Sleeper Plant. With an experienced railway team, this was possible to establish a fully functional plant with a capacity of

producing 720 sleepers per day within three months,” says Singh. At present, the plant is producing more than 15,000 sleepers a month. A total of 75,000 sleepers have been produced in five months, and the team is set to achieve the targeted number of 1,94,000 by March 2020.

“Apart from the Sleeper Plant, our project has been the custodian of several other innovations. The sleeper mould vibrator, sleeper laying machine and rail lifting and unloading system designed by our engineers resulted in improved output, saved time and cost,” he adds.

The team is making sure they are making the best of the time they have for the project to be delivered ahead of schedule. “We are constructing

a rail network of 97.7 kms. Earthworks is in completion stage, and 52 lakh cum of earthwork have been completed till September 2019. We have also taken up track works simultaneously so that no time is lost. Out of the total 159 structures, 100 have been completed so far and 23 are being built,” says Singh.

The rail project is the first of many such projects in the country that aims at refurbishing the transportation systems, mainly railways, to accelerate growth and



development. On completion, this project, being the first leg of the new multimodal transport system, will pave way for social and economic benefits of the country reducing transport costs and burden on the environment.

“Being Afcons' first EPC railway project and its first project in Ghana, it is necessary for the team to set an example of executing an overseas project most efficiently. Inclusion is a key aspect of all our projects, and our team has blended with the locals and are working with them to develop the nation that we have come to love,” concludes Singh.

Mr Uday Veer Singh is Vice President (Projects) and Project Manager of Tema Mpakadan Railway Project

engineersday

ONE EVENT, MANY CELEBRATIONS



Managing Director Mr S Paramasivan inaugurates the Engineers Day programme at Afcons House



The Kuwait road project team comes together to mark the occasion



Employees receiving prizes for their efforts towards Lusaka City Roads Decongestion Project



Teams bond over several activities during the celebrations at HO



THE WALL OF UNITY

The Lusaka City Roads Decongestion Project, Zambia, and Tema to Mpakadan Railway Line Project, Ghana, set up a wall of unity at their site premises to celebrate the diversity and vibrance that exist within Afcons. The teams splashed a wall at respective site offices with their handprints in colours inspired by the flags of both countries. This riot of colours is reflective of cultural collaboration, which is ingrained in the DNA of every Afconian. Afcons has strong presence in Africa, with footprints in over 10 countries. Along with local governments and organisations, the company has provided world class infrastructure to the continent that has historical ties with India, for over a decade now.



RUNNER-UP TITLE FOR AFCONS FC

Afcons FC ended their run at the football Corporate Cup 2019 as the Elite Division runner-up, when they were beaten by Datamatics 1-0. The match was held at Astro Park, St. Stanislaus Sports Complex, Bandra (W) on August 24. Afcons team comprised Rituraj Sawant, Ashutosh Joshi, Prasun Goswami, Yogesh Chaudhari, Sanket Rudre, Yadnesh Udas, Sumrad Bin Umar and Sagnik Dutta.



ZAMBIA PREMIER LEAGUE

The 2019 edition of Zambia Premier League (ZMPL) was flagged off at Lusaka City Roads Decongestion Project site on August 11, 2019, by Director (Operations) Mr Akhil Gupta. Six teams participated in cricket and volleyball tournaments respectively, nine in table tennis, and, 19 teams in badminton. The event aims at boosting the morale of employees, increasing their involvement in physical activities and creating healthy environment at site.



HAT-TRICK FOR AFCIONIANS IN CORPORATE TT TOURNAMENT

The 9th edition of NSportz Corporate Table Tennis Tournament was conducted at Khar Gymkhana on September 14-15, 2019. Afcons was represented by Mr Ravindra Ekande, Ms Tejaswini Joshi, and, Mr Kedar Phanse. The team secured third position in the Corporate Super Mixed team event. The highlight of the event for Afcons was the rare hat-trick by Ravindra Ekande and Tejaswini Joshi who defended their title for the third consecutive time in Corporate Super Individual Mixed doubles event.



ZAMBIA MINISTER VISITS PROJECT

Minister of Local Government Mr Charles Banda and his team visited various locations of Lusaka City Roads Decongestion project, Zambia on September 17, 2019. He reviewed the progress of the project along with his team. Various media personnel were also present on this occasion. Mr Banda expressed his satisfaction with the quality of work of the project and the progress made so far.

new projects

METRO RAIL PROJECTS IN TWO CITIES

Afcons has been awarded Metro Rail projects in Mumbai and Kanpur in recent months. Mumbai Metropolitan Region Development Authority (MMRDA) has awarded Afcons the part design and construction of elevated viaduct for integration of Line-4 to Line-5, and, seven stations of Line-5 of Mumbai Metro Rail project. Lucknow Metro Rail Corporation Ltd has assigned the company the job of building elevated viaduct and nine elevated stations as part of Phase-1 of Kanpur Metro project.

life@Afcos



Independence Day celebrations at Afcons House (top) and Gabon site

beach clean-up



Afcons, along with teams from SP Group companies, was part of a beach clean-up drive in Mumbai, on September 14, 2019.

FitIndia Movement

Afconsians joined in the Fit India Movement as they enthusiastically organised plogging runs at sites across the country. Events and activities centered around the national movement was organised during Gandhi Jayanti on October 2, 2019. Hygiene being an integral part of health, Afcons teams made the best of their jogging rounds as they picked up litter and cleaned the streets along the way. Fit India Movement has been initiated by Prime Minister Shri Narendra Modi, in a bid to encourage citizens to work towards a healthy future.



Nagpur Metro Reach 3



Mumbai Pune Expressway Missing Link Project



Tirupati Smart City



Kolkata Metro



Agra Lucknow Expressway Project



Ahmedabad Metro



Kanpur Metro

hrcorner

Civil Training Programme

Advance Primavera Training: A three-day advance level training in Primavera as part of the 'Planning Engineers Development' programme was conducted at Afcons HO from August 26-28, 2019.

Mgmt Development Programme

GTE 'CLIMB UP' & Trainees' Induction: A one-week induction programme was conducted at Afcons HO from July 8-12, 2019 as part of GTE Climb Up (Batch 4) training programme.

General Management Trainings

HSE-Lesson Learnt Workshop: "Lessons learnt - HSE" for safety awareness was conducted at various sites.

Soft Skills Training Programme

Personal Effectiveness Training: A one-day training programme on personal effectiveness was conducted at Tirupati site to enhance the personal effectiveness of participants.

new joinees

Mr Om Prakash Prasad, General Manager (HSE), Corporate Office, Mumbai

Mr Prasad has an experience of over 28 years and his last assignment was with AECOM Ltd at the level of Director - SH&E.

Mr Dimitrius John D'Mello, Vice President (Commercial), Corporate Office, Mumbai

Mr D'Mello has an experience of over 31 years and his last assignment was with ITD Cementation Ltd at the level of Chief Commercial Officer.

Mr Anil Bhatnagar, General Manager (Projects), Pakal Dul Power House site

Mr Bhatnagar has an experience of overall 40 years and his last assignment was with Jai Prakash Associates Ltd at the level of Vice President.

DUSSEHRA CELEBRATIONS



Riot of colours at Afcons House



Pooja being performed at the ground floor of Afcons House



Executive Vice Chairman Mr K Subramanian performs aarti during Dussehra pooja

Encore!



Afcons won the runner-up award for Infrastructure Company of the Year at the Construction Week India 2019 Annual Awards (top). Shapoorji Pallonji Group Chairman Mr Shapoor Mistry received the Hall of Fame Award at the ceremony held in Mumbai



HAT-TRICK!

Afcons has won the prestigious CII (Confederation of Indian Industry) Eastern Region Safety, Health & Environment (SHE) Excellence Award 2018-19 for Kolkata Metro Rail (UG1) Project for the third consecutive time. The project also won 4-star Rating Award for Excellence in SHE practices. The KMRC-1674 team received the award from Mr Suresh Kumar (IAS Additional Chief Secretary, Department of Labour, Government of West Bengal) at an award ceremony held, at Kolkata, on August 7, 2019. Afcons won the award in category of Large Scale Construction Sector



ALERTS

Afcons has a dedicated Youtube channel. Please scan the code to visit our channel and stay tuned with the latest videos

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