

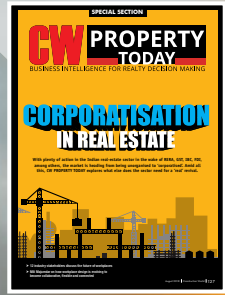
# CW<sup>®</sup>

## Construction World

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# TOP CHALLENGERS

## 2017-18

In this edition of our annual endeavour, CW handpicks the top challengers from the infrastructure and allied sectors that have managed to post growth despite every economic challenge.



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# Connectivity On Course!

With over 20 different contracting agencies involved in its development, the ₹4.6-billion Zirakhpur-Bathinda stretch of NH-64 was completed in two-and-a-half years.



Union Minister for Road, Transport and Highways Nitin Gadkari recently inaugurated the Zirakhpur-Bathinda stretch of NH 64, which covers an area between Tapa town and Bathinda City section. With a total length of 41.405 km, it has been constructed at a total cost of Rs 4.6 billion. The project is well equipped with the new development of major structures such as a three-grade separator flyover bridge, four underpasses,

one rail over-bridge, seven minor bridges over river or canal or nala and 38 culverts, among others.

### Improved connectivity

The major benefit of the newly opened upgraded highway is the improved connectivity between many major cities in Punjab, such as Chandigarh, Zirakpur, Patiala, Sangrur, Barnal, Tapa and Bathinda. The section connects Tapa town to Bathinda city, a 41.405-km stretch passing



**Arvind Vithalbhai Patel,**  
Managing Director,  
Patel Infrastructure

through highly sensitive zones from the army cantonment to one of the highest populated cities in the state. It facilitates a safer and less time-consuming journey as well as increasing commercial

movement between the many industries along the highway.

### Out-of-the-box technologies

The project highway pavement was constructed with ultra-modern technologies, such as pavement-controlled concrete by a fully automatic slip-form paver, especially imported from Germany. Also, to cater to concrete production, mega concrete production batching plants were installed with the capacity to produce 254 cu m concrete within an hour.

Again, the flyover structure, with 45 m of box-type girder component, was challenging to construct and erect. "The pavement is made up of high-grade concrete, which comprises high-grade materials to sustain heavy traffic conditions and extreme weather," says Arvind Vithalbhai Patel, Managing Director, Patel Infrastructure.

| Sr. No | Equipment             | Units |
|--------|-----------------------|-------|
| 1      | Excavator             | 8     |
| 2      | Motor grader          | 6     |
| 3      | Vibratory roller      | 11    |
| 4      | DLC or wet-mix paver  | 1     |
| 5      | Wet-mix plant         | 1     |
| 6      | PQC paver             | 1     |
| 7      | Hot-mix plant         | 1     |
| 8      | Bitumen paver         | 1     |
| 9      | Tandem roller         | 1     |
| 10     | Pneumatic tyre roller | 1     |
| 11     | Dumpers and tippers   | 73    |
| 12     | Loaders               | 4     |
| 13     | Water tanker          | 11    |
| 14     | Batching plant CP30   | 1     |
| 15     | Batching plant CP 112 | 2     |
| 16     | Transit mixers        | 7     |
| 17     | Concrete pump         | 2     |
| 18     | Kerb-laying machine   | 2     |



The Zirakhpur-Bathinda stretch of NH-64 is well equipped with a three-grade separator flyover bridge, four underpasses, one rail over-bridge, seven minor bridges over river and 38 culverts, among others.

### Equipment in use

A lot of machinery was used in the construction of this stretch, such as an excavator, motor grader, PQC paver and pneumatic tyre roller, among others (see table for complete list).

### The hurdles

The project passes through various established departmental amenities, such as army cantonments and various irrigation schemes like canals, nalas, rivers etc. "The challenge we faced was to complete the project within time by taking various approvals across departments within their rules and regulations," reveals Patel. "We had to take care of matters such as construction of canal bridges within a short closure time so that farm irrigation was not interrupted."

### Environment and safety

Patel Infrastructure took various permissions from the local and state administration to establish

### Project Details

#### Date of completion:

January 23, 2018

Project cost: ₹4.6 billion.

#### Project consultant:

AE AECOM Asia.

Website: [www.aecom.com](http://www.aecom.com)

its plants and adopt required measures as per guidelines related to safety and the environment. During the construction of the project, various diversions were constructed according to the provisions of IRC for the smooth and safe movement of road users in dense, foggy weather. To ensure safety, the project site was periodically visited by external safety and environment auditors appointed by the company. What's more, 23,350 trees were planted in the median of the road and 22,000 at the edge of the project highway to compensate for the de-vegetation that occurred during development.