CHAPTER 6

STATION PLANNING

TABLES

FIGURES

Chapter - 6

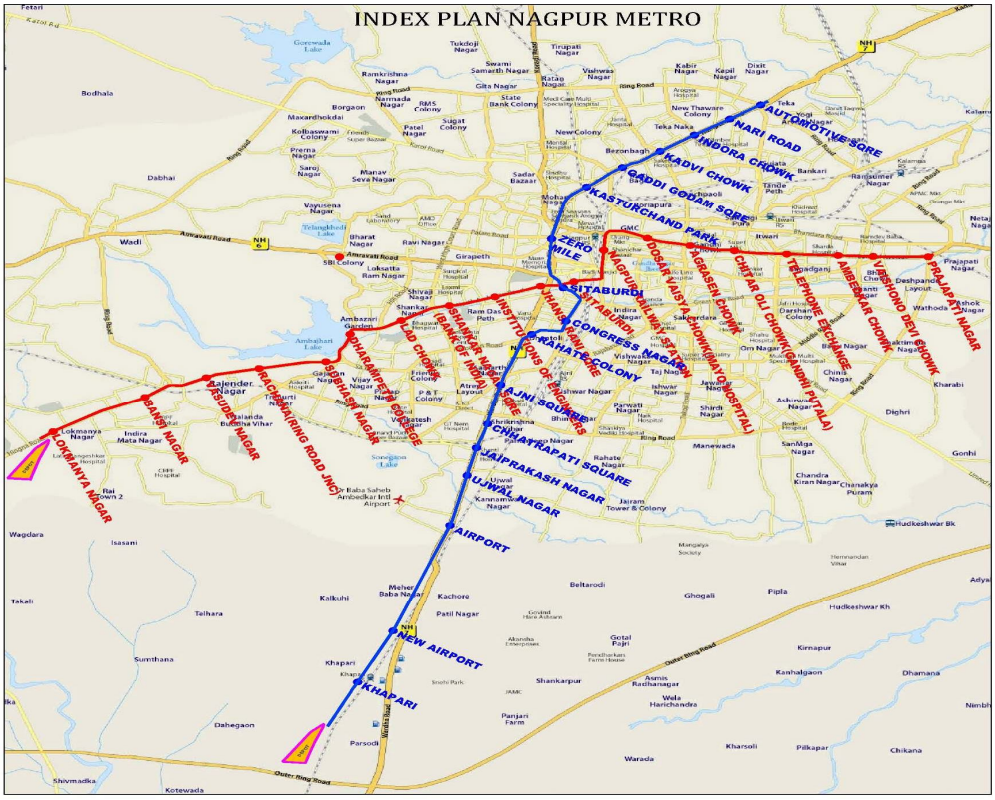
STATION PLANNING

6.1 General

The proposed metro for Nagpur consists of two corridors namely:

1. North-South Corridor : Automative Square to Khapri
2. East West Corridor : Prajapati Nagar to Lokmanya Nagar

The length of the proposed N-S corridor is 19.658km and that of E-W corridor is 18.557km from end to end. Along the proposed North-South corridor 17 stations have been planned. 19 stations have been planned along the East-West corridor. The locations of the station have been identified taking into consideration the constraints in land acquisition and congestion issues. Stations are proposed in such a way so as to attract maximum demand from the traffic nodal points.



6.2 Station Planning

6.2.1 Stations

Line – 1 starts at Automotive square an runs southwards on NH-7 through Nari Road, Indora chowk, Gaddi Godam Square, Kastrurchand Park, Zero Mile, Sitaburdi, Congress Nagar, Rahate colony, Ajni Sqr. Station, Chhatrapati Sqr. Station, Jaiprakash Nagar, Airport, New Airoort to Khapri Station. The Corridor is partly elevated and partly at grade.

Total Length of the corridor is 19.658 Km of which approximately 15.058 is elevated and 4.6 km is at Grade. There are 17 stations on this corridor of which 15 stations are elevated and 2 stations are at Grade. Sitaburdi Station is an Inter-change station.

Line -2 starts at Prajapati Nagar and runs through Vaishnodevi Chowk, Ambedkar Chowk, Telephone Exchange, Chittar Oli Chowk, Agarsen Chowk, Doser Vaisya Chowk, Nagpur Railway Station, Sitaburdi, Jhansi Rani Square, Institute of Engineers, Shankar Nagar Square, Lad chowk, Dharmpeth College, Subhash Nagar, Rachna (Ring road Junction), Vasudev Nagar, Bansi Nagar to Lomanya Nagar. The entire corridor is elevated.

The total length of the corridor is 18.557 kilometer. There are 19 stations on this corridor. All stations are elevated stations and Sitaburdi station is an Interchange Station.

6.2.2 Rail Levels and Alignment

In underground sections, the rail level is about 14.00 m below the ground level governed by a ground clearance of 2 m. and a station box of about 16 m depth. In the elevated section, rail level is generally about 13.00 m above ground in order to maintain a clearance of 5.50 m between the road and the station structure. In order to keep the land acquisition to minimum, alignment is planned generally in middle of the road and a two-level station design has been proposed in both elevated and underground sections. Entry/exit structures to the proposed stations and traffic integration areas have been planned in the open space available.

6.2.3 Platforms

In the elevated section, stations have also been planned with side platforms to avoid the viaduct structure from flaring in and out at stations, which obstructs the road traffic below. Care has been taken to locate stations on straight alignment. However, in some stations, site constraints have become the deciding criteria and a curve of 1000 meter radius has been introduced.

6.2.4 Sequence of Stations

The sequence of stations along with their respective chainages, site and platform characteristics are presented in the Table 6.1:

Table 6.1
STATION LOCATION CHARACTERISTICS

Name of Station		Chainage (in m)	Distance from previous station (in m)	Rail level (in m)	Platform type	Alignment
Line -1 (North-South Corridor) Automative Square to MIHAN Depot						
	Dead End	-408.2				
1.	AUTOMOTIVE SQRE	0.0	408.2	303.900	Side	
2.	NARI ROAD	975.8	975.8	308.900	Side	Elevated
3.	INDORA CHOWK	2139.7	1163.9	314.100	Side	Elevated
4.	KADVI CHOWK	3181.2	1041.5	318.400	Side	Elevated
5.	GADDI GODAM SQRE	4399.0	1217.8	323.200	Side	Elevated
6.	KASTURCHAND PARK	5148.6	749.6	326.300	Side	Elevated
7.	ZERO MILE	6175.5	1026.9	319.600	Side	Elevated
8.	SITABURDI	6709.2	533.7	310.900	Side	Elevated
9.	CONGRESS NAGAR	7897.2	1188.0	317.900	Side	Elevated
10.	RAHATE COLONY	8682.6	785.4	321.500	Side	Elevated
11.	AJNI SQUARE	10104.7	1422.1	315.300	Side	Elevated
12.	CHHATRAPATI SQUARE	11146.3	1041.6	319.500	Side	Elevated
13.	JAIPRAKASH NAGAR	11811.5	665.2	320.000	Side	Elevated
14.	UJWAL NAGAR	12846.6	1035.1	311.000	Side	Elevated
15.	AIRPORT	13784.9	938.3	313.300	Side	Elevated
16.	NEW AIRPORT	16184.4	2399.5	299.000	Side	At-Grade
17.	KHAPARI	18460.6	2276.2	308.700	Side	At-Grade
	Dead End	19250.0	789.4			

	Name of Station	Chainage (in m)	Distance from previous station (in m)	Rail level (in m)	Platform type	Alignment
Line -2 (East-West Corridor) Prajapati Nagar to Lokmanya Nagar						
	Dead End	-392.0				
1	Prajapati Nagar	0.0	392.0	301.0	Side	Elevated
2	Vaishno Devi Chowk	1229.3	1229.3	305.3	Side	Elevated
3	Ambedkar Chowk	1947.9	718.6	308.3	Side	Elevated
4	Telephone Exchange	3137.4	1189.5	311.6	Side	Elevated
5	Chittar Oli Chowk	3950.2	812.8	311.5	Side	Elevated
6	Agarsen Chowk	4759.8	809.6	319.5	Side	Elevated
7	Dosar Vaisya Chowk	5590.4	830.6	321.9	Side	Elevated
8	Nagpur Railway station	6464.4	874.0	319.7	Side	Elevated
9	Sitaburdi (Interchange)	7707.7	1243.3	320.1	Side	Elevated
10	Jhansi Rani Square	8354.0	646.3	313.9	Side	Elevated
11	Institute Of Engineers	9117.2	763.2	315.4	Side	Elevated
12	Shankar Nagar Square	10074.9	957.7	316.9	Side	Elevated
13	Lad Chowk	10873.1	798.2	319.1	Side	Elevated
14	Dharmpeth College	12020.7	1147.6	329.5	Side	Elevated
15	Subhash Nagar	12947.1	926.4	336.0	Side	Elevated
16	Rachna Ring Road Jn.	14201.1	1254.0	338.8	Side	Elevated
17	Vasdev Nagar	15173.9	972.8	345.2	Side	Elevated
18	Bansi Nagar	16131.6	957.7	336.3	Side	Elevated
19	Lokmanya Nagar	17792.6	1661.0	330.4	Side	Elevated
	Dead end	18165.0	372.4			

6.3 Planning and Design Criteria for Stations

1. The stations can be divided into public and non-public areas (the areas where access is restricted). The public areas can be further subdivided into paid and unpaid areas.

2. The platform level has adequate assembly space for passengers for both normal operating conditions and a recognized abnormal scenario.

3. The platform level at elevated stations is determined by a critical clearance of 5.5-m under the concourse above the road intersection, allowing 3.5-m for the concourse height, about 1-m for concourse floor and 2.2-m for structure of tracks above the concourse. Further, the platforms are 1.09-m above the tracks. This would make the rail level in an elevated situation at least 13.4 m above ground.

4. The concourse contains automatic fare collection system in a manner that divides the concourse into distinct areas. The 'unpaid area' is where passengers gain access to the system, obtain travel information and purchase tickets. On passing through the ticket gates, the passenger enters the 'paid area', which includes access to the platforms.

5. The arrangement of the concourse is assessed on a station-by-station basis and is determined by site constraints and passenger access requirements. However, it is planned in such a way that maximum surveillance can be achieved by the ticket hall supervisor over ticket machines, automatic fare collection (AFC) gates, stairs and escalators. Ticket machines and AFC gates are positioned to minimise cross flows of passengers and provide adequate circulation space.

6. Sufficient space for queuing and passenger flow has been allowed at the ticketing gates.

7. Station entrances are located with particular reference to passenger catchment points and physical site constraints within the right-of-way allocated to the MRTS.

8. Office accommodation, operational areas and plant room space is required in the non-public areas at each station. The functions of such areas are given below in Table 6.2

10. The DG set, bore well pump houses and ground tank would be located generally in one area on ground.
11. The system is being designed to maximize its attraction to potential passengers and the following criteria have been observed:

    - Minimum distance of travel to and from the platform and between platforms for transfer between lines.
    - Adequate capacity for passenger movements.
    - Convenience, including good signage relating to circulation and orientation.
    - Safety and security, including a high level of protection against accidents.

12. Following requirements have been taken into account:
    - Minimum capital cost is incurred consistent with maximising passenger attraction.
    - Minimum operating costs are incurred consistent with maintaining efficiency and the safety of passengers.

- Flexibility of operation including the ability to adapt to different traffic conditions changes in fare collection methods and provision for the continuity of operation during any extended maintenance, epair period, etc.
- Provision of good visibility of platforms, fare collection zones and other areas, thus aiding the supervision of operations and monitoring of efficiency and safety.
- Provision of display of passenger information and advertising.

13. The numbers and sizes of staircases/escalators are determined by checking the capacity against AM and PM peak flow rates for both normal and emergency conditions such as delayed train service, fire etc.

14. In order to transfer passengers efficiently from street to platforms and vice versa, station planning has been based on established principles of pedestrian flow and arranged to minimise unnecessary walking distances and cross-flows between incoming and outgoing passengers**.**

15. Passenger handling facilities comprise of stairs/escalators, lifts and ticket gates required to process the peak traffic from street to platform and vice-versa (these facilities must also enable evacuation of the station under emergency conditions, within a set safe time limit).

6.4 Typical Station

6.4.1 Typical Elevated Station

The station is generally located on the road median. Total length of the station is ~140m. All the stations are two-level stations. The concourse is planned along the whole length of the platform with staircases leading from either side of the road. The maximum width of the station at concourse is ~22m. Passenger facilities like ticketing, information, etc as well as operational areas are provided at the concourse level.

Typically, the concourse is divided into public and non-public zones. The non-public zone or the restricted zone contains station operational areas such as Station Control Room, Station Master's Office, Waiting Room, Meeting Room, UPS & Battery Room, Signalling Room, Train Crew Room & Supervisor's Office, Security Room, Station Store Room, Staff Toilets, etc. The public zone is further divided into paid and unpaid areas. Auxiliary Service station is provided on the ground under the entry/ exit structure.

Since the station is in the middle of the road, minimum vertical clearance of 5.5-m has been provided under the concourse. Platforms are at a level of about 14.5m from the road. To reduce physical and visual impact of the elevated station, stations have been designed as cantilevered structures with single column located at the central verge of the road.

With respect to its spatial quality, an elevated Metro structure makes a great impact on the viewer as compared to an At-grade station. The positive dimension of this impact

has been accentuated to enhance the acceptability of an elevated station and the above ground section of tracks. Structures that afford maximum transparency and are light looking have been envisaged. A slim and ultra-modern concrete form is proposed, as they would look both compatible and modern high-rise environment as well as the lesser-built, low-rise developments along some parts of the corridor.

Platform roofs, that can invariably make a structure look heavy, have been proposed to be of steel frame with aluminium cladding to achieve a light look. Platforms would be protected from the heat and rains by providing an overhang of the roof and sidewalls are avoided, thereby enhancing the transparent character of the station building. In order to allow unhindered traffic movement below the stations, the station structure is supported on a single column, which lies unobtrusively on the central verge.

6.4.2 Typical At-Grade Station

6.4.3 Typical Interchange Station

The Sitaburdi Station is located at the intersection of the Line-1 and Line-2 of the Nagpur Metro System. The station has an interchange type configuration, and many passengers will change from one line to the other. This interchange will provide great utility and flexibility for the system as a whole, and it will decrease the time required for travel within the city.

The easternmost Line-1 Station is Prajapati Nagar, and the line extends westward through Sitaburdi to Lokmanya Nagar. Line-2 has its northernmost station at Automotive Square, and it connects locations toward the south through the Zero Mile, Sitaburdi, Ajn Sqr., the Airport, and the finally Khapri Station.

Passengers traveling on both lines have the option to change their direction of travel at Sitaburdi, thus requiring larger concourses and platforms in the station for pedestrian movements. In addition to providing interchange connections between Line-1 and Line-2, the station accommodates a busy area of the city next to the Stadium, which will generate large numbers of passengers during special events.

The station is composed of a Concourse Level 8.00 meters above the ground. Above the Concourse is the Line-1 Platform at an elevation of 14.5 meters, and Line-2 Platform passes over Line-1 at the height of 23.9 meters.

Passengers entering Sitaburdi Station may go directly to either Line-1 or Line-2 platform from which they may board a train in any of four directions.

Passengers entering the station on a train on either Line-1 or Line-2 may transfer between lines in a direct manner by means of convenient escalators and stairs that lead to trains in the other three directions.

Table 6.2
STATION ACCOMMODATION

For Elevated and at grade Stations	
1. Station Control Room	2. Cleaner's Room
3. Station Master's Office	4. Security Room
5. Information & Enquiries	6. First Aid Room
7. Ticket Office	8. Miscellaneous Operations Room
9. Ticket Hall Supervisor & Excess Fare Collection (Passenger Office)	10. Platform Supervisor's Booth
11. Cash and Ticket Room	12. Auxillary Substation / DG Room
13. Staff Area	14. Fire Tank and Pump Room
15. Staff Toilets	16. Commercial Outlets and Kiosks
17. Station Store Room	18. UPS and Battery Room
19. Refuse Store	20. Signaling / Communication Room

6.5 Passenger Amenities

Passenger amenities such as ticketing counters/automatic ticket vending machines, ticketing gate, etc. are provided in the concourse. Uniform numbers of these facilities have been provided for system wide uniformity, although the requirement of the facilities actually varies from station to station. The same applies to provision of platform widths and staircase/escalators. Maximum capacity required at any station by the year 2031 for emergency operation has been adopted for all stations.

For this purpose, *peak minute traffic* is assumed to be 2% of the *peak hour traffic*. For checking the adequacy of platform area, stair widths and requirement additional of emergency evacuation stairs, a maximum accumulation of passengers in the station has been considered to be comprising waiting passengers at the platform (including two missed headways) and section load expected to be evacuated at the station in case of an emergency.

6.5.1 Concourse

Concourse forms the interface between street and platforms. In elevated stations, this is contained along the full length of the station. This is where all the passenger amenities are provided. The concourse contains automatic fare collection system in a manner that divides the concourse into distinct *paid* and *unpaid* areas. The *'unpaid area'* is where passengers gain access to the system, obtain travel information and purchase tickets. On passing through the ticket gates, the passenger enters the *'paid area', which* includes access to the platforms.

The concourse is planned in such a way that maximum surveillance can be achieved by the ticket hall supervisor over ticket machines, automatic fare collection (AFC) gates, stairs and escalators. Ticket machines and AFC gates are positioned to minimise cross flows of passengers and provide adequate circulation space. Sufficient space for queuing and passenger flow has been allowed in front of the AFCs.

6.5.2 Ticketing Gates

Ticketing gates' requirement has been calculated taking the gate capacity as 45 persons per minute per gate. Passenger forecast for the horizon year 2031 has been used to compute the maximum design capacity. At least two ticketing gates shall be provided at any station even if the design requirement is satisfied with only one gate. Uniform space has been provided in all stations where gates can be installed as and when required.

6.5.3 Ticket Counters and Ticket Issuing Machines (TIMs)

It is proposed to deploy manual ticket issuing in the beginning of the operation of the line. At a later stage, automatic TIMS would be used for which space provision has been made in the concourse. At present, ticket counters would be provided, which would be replaced with TIMS in future. Capacity of manual ticket vending counters is taken to be 10 passengers per minute and it is assumed that only 40% of the commuters would purchase tickets at the stations while performing the journey. The rest are expected to buy prepaid tickets or prepaid card, etc. Accordingly, the requirement of ticket counters has been calculated and the same provided for in the plans.

6.5.4 Platforms

A uniform platform width of 13 m wide is proposed for the island stations. In elevated stations, 3.5m wide side platforms have been proposed. In Interchange station the platform width is kept as 5.0m in order to cater to a large number of interchanging passengers. These platform widths also have been checked for holding capacity of the platform for worst-case scenario.

6.5.5 Stairs, Escalators and Lifts

Provisions have been made for escalators in the paid area i.e. from concourse to platforms. On each platform, one escalator has been proposed. In addition, two staircases with a combined width of 6 m are provided on each platform connecting to the concourse. These stairs and escalator together provide an escape capacity adequate to evacuate maximum accumulated passengers in emergency from platforms to concourse in 5.5 minutes. Lifts have been provided one each on either platform, to provide access for elderly and disabled. Since the rise to road from the concourse is about 8m, it is proposed to provide escalators and lifts in addition to stairs for vertical movement of passengers from street to concourse.

6.5.6 Fire Fighting Measures

Fire fighting provisions for Elevated & at Grade metro stations is in accordance with the National Building Code of India 1983 (part IV, Fire protection) amendment no. 3 under Fire protection Annexure II.

National Building Code (clause 6.4.8). Fire protection and fire fighting system for metro stations stipulates: -

1) Wet riser system
   a. Main and diesel pump of 1800 l/min capacity to support 3 to 4 hydrant at a time [station building is split into two halves. It is presumed that fire will not break in the two parts simultaneously. There are 3 hydrants in one part. Therefore pump capacity as above are proposed
   b. Jockey pump 180 l/min shall also have DG back up.

2) Internal Hydrant
   The internal hydrant is provided with 2 nos RRL hose pipes of 38 mm Ø with 63 mm standard instantaneous coupling along with associated branch pipe and cabinet and a first aid hose reel of 25 mm Ø length 45m fitted with 6.5 mm nozzle. One hydrant each at ground level, passage level and platform level in each half of the station building and so located that every part of station is within 30 m radius.

3) Sprinklers are provided in the property development area only. Additional sprinkler pump is not provided as these are not required being the integral part of the station. The two pumps already provided will take care of sprinkler flow requirements.

4) Detectors are provided in the operational areas only, and above false ceiling if the gap is > 750 mm.

5) One manual call box at each level in each half of the station building is provided.

6) The HT panels, LT panels, main LT distribution board and essential power panels shall be provided with linear heat sensing tubes with CO_2 cylinder.

7) A two way fire brigade inlet at ground level on each rising main for hydrants is provided.

8) Draw off connection is provided on the fine water tank for fire brigade.

9) Water tank of 50,000 liters capacity if planned since commercial development is restricted to 250 Sqm.

10) Portable fire extinguishers (CO_2) a set of two is provided in each of the equipment room.

Summary of passenger amenities required and proposed at stations based on projected traffic for the year 2025 is given in the Table 6.3

Table 6.3
PASSENGER TRAFFIC AND REQUIREMENT OF AMENITIES IN STATIONS (Projections for Year 2041)

Line-1 N-S corridor (Automotive Square to Khapri Station)

Station	Peak Hour Peak Direction traffic	Ticketing Gates required On each side E-R-E	TOM Required	Stairs Width (m) On Each Platform	Escalators Provided At Each Station		Provision of Lifts At Each Station
					G-C	C-P	* G - P
1. Automotive Square	5274	2 – 2 – 2	2	4.80	2	2	**2**
2. Nari Road	7815	2 – 2 – 2	2	4.80	2	2	**2**
3. Indora Chowk	9833	2 - 2- 2	2	4.80	2	2	**2**
4. Kadvi Chowk	11719	2 – 2 – 2	2	4.80	2	2	**2**
5. Gaddi Godam Square	11743	2 – 2 – 2	2	4.80	2	2	**2**
6. Kasturchand Park	13724	2 – 2 – 2	2	4.80	2	2	**2**
7. Zero Mile	14572	2 – 2 – 2	2	4.80	2	2	**2**
8. Sitaburdi	15729	4 – 4 – 4	3	4.80	2	8	**2**
9. Congress Nagar	8477	4 – 4 – 4	4	4.80	2	2	**2**
10. Rahate Colony	7149	2 – 2 – 2	2	4.80	2	2	**2**
11. NEERI Station	6185	2 – 2 – 2	2	4.80	2	2	**2**
12. Dev Nagar	5608	2 – 2 – 2	2	4.80	2	2	**2**
13. Sehkar Nagar	5179	2 - 2- 2	2	4.80	2	2	**2**
14. Old Airport	4624	2 - 2- 2	2	4.80	2	2	**2**
15. New Airport	4302	2 - 2- 2	2	6.00	2	2	**2**
16. MIHAN City	3660	2 - 2- 2	2	4.80	2	2	**2**
17. Khapri Station		2 – 2 - 2	2	4.80	2	2	2

Note: G- Ground/ street level,

C- Passage level,

P- Platform

* -Interchange station

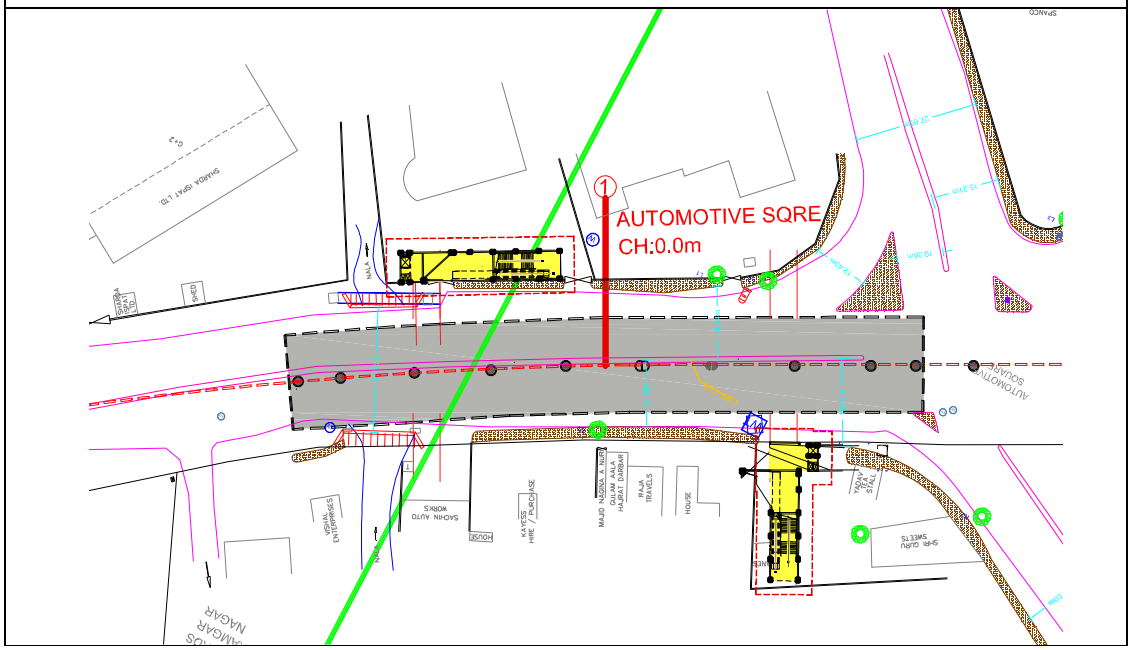
Line-2 E-W corridor (Prajapati Nagar to Lokmanya Nagar)

Station	Peak Hour Peak direction traffic	Ticketing Gates required On each side E-R-E	TOM Required.	Stairs Width (m) On Each latform	Escalators Provided At Each Station		Provision of Lifts At Each Station
					G-C	C-P	* G - P
1. Prajapati Nagar	659	2 - 2- 2	2	6.40	2	2	**2**
2. Vaishnodevi Chowk	1250	2 - 2- 2	2	4.80	2	2	**2**
3. Ambedkar Chowk	1925	2 - 2- 2	2	4.80	2	2	**2**
4. Telephone Exchange	4601	2 - 2- 2	2	4.80	2	2	**2**
5. Chittar oli Chowk	6330	2 - 2- 2	2	4.80	2	2	**2**
6. Agarsen Chowk	7386	2 - 2- 2	2	4.80	2	2	**2**
7. Dosar Vaisyan Chowk	8297	2 - 2- 2	2	4.80	2	2	**2**
8. Nagpur Railway Station	11882	2 - 2- 2	6	4.80	2	2	**2**
9. Sitaburdi	10064	4 – 4 – 4	7	4.80	2	2	**2**
10. Jhansi Rani Square	6640	4 – 4 – 4	3	8.00	2	2	**2**
11. Institute of Engineers	11528	2 - 2- 2	3	4.80	2	2	**2**
12. Shankar Nagar Square	9314	2 - 2- 2	2	4.80	2	2	**2**
13. Lad Chowk	8588	2 - 2- 2	2	4.80	2	2	**2**
14 Dharampeth College	6297	2 - 2- 2	2	4.80	2	2	**2**
15 Subhash Nagar	5871	2 - 2- 2	2	4.80	2	2	**2**
16 Rachna (Ring Road Jn.)	5341	2 - 2- 2	2	4.80	2	2	**2**
17 Vasdev Nagar	4136	2 - 2- 2	2	4.80	2	2	**2**
18 Bansi Nagar	3346	2 - 2- 2	2	4.80	2	2	**2**
19 Lokmanya Nagar		2 - 2- 2	2	4.80	2	2	**2**

1. Automotive square

Chainage	:	0.00
Inter Station Distance	:	First Station
Rail Level	:	13.11m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on Kamptee road.
Catchment Area		The main source of passengers to this station is the residents of surrounding residential colonies and the industrial areas in.

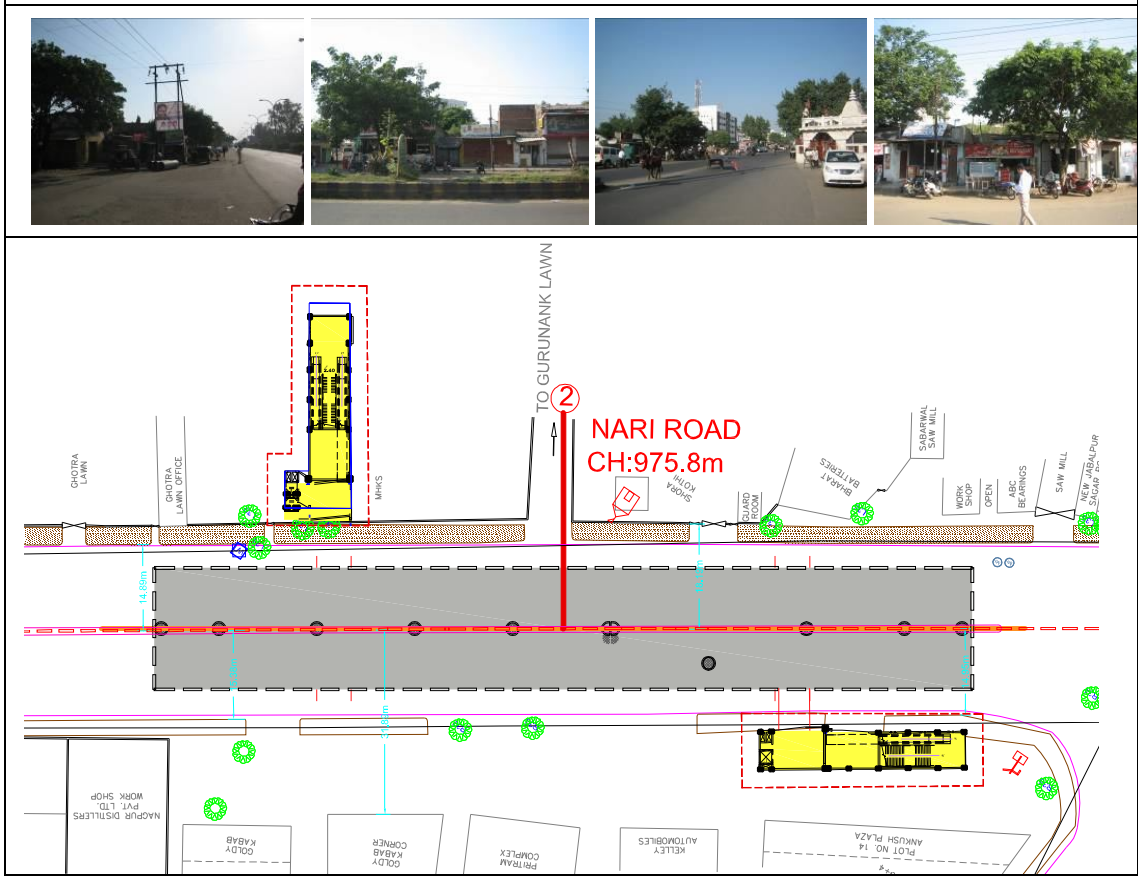
Figure 6.1: Site Conditions- Automotive square Station



2. Nari Road

Chainage	:	975.80m
Inter Station Distance	:	975.80M
Rail Level	:	12.92 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on Kamptee road.
Catchment Area		The main source of passengers to this station is the residents of Shinde Nagar, PWS College, and other surrounding residential colonies.

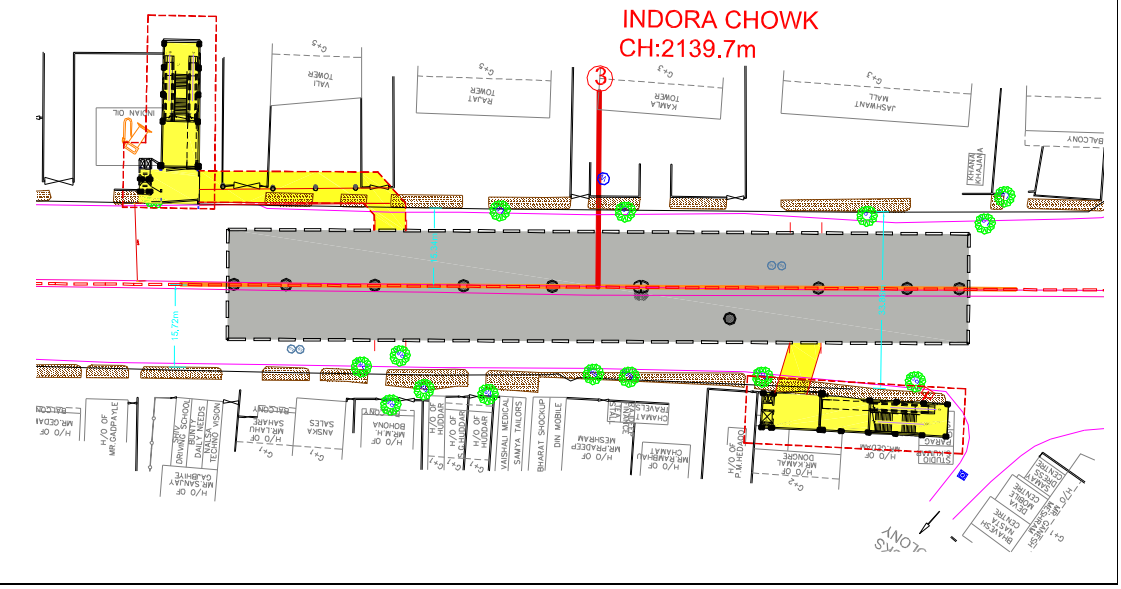
Figure 6.2: Site Conditions- Nari Road Station



3. Indora Chowk

Chainage	:	2139.70m
Inter Station Distance	:	1063.90 m
Rail Level	:	12.63 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on Kamptee road.
Catchment Area		The main source of passengers to this station is the residents of Indora Nagar, Jharipatka, Kamal Square & surrounding residential colonies.

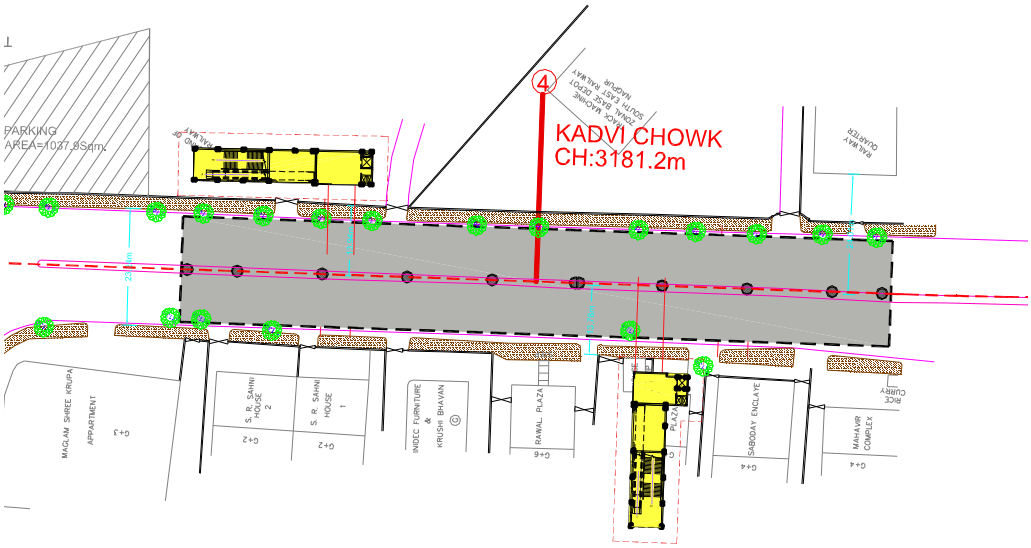
Figure 6.3: Site Conditions- Indora Chowk Station



4. Kadvi Chowk

Chainage	:	3181.20 m
Inter Station Distance	:	1041.40 m
Rail Level	:	13.67 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44.
Catchment Area		The main source of passengers to this station is the residents of Gautam Nagar, Mohan Nagar, St. Michael School and the residents of the surrounding areas.

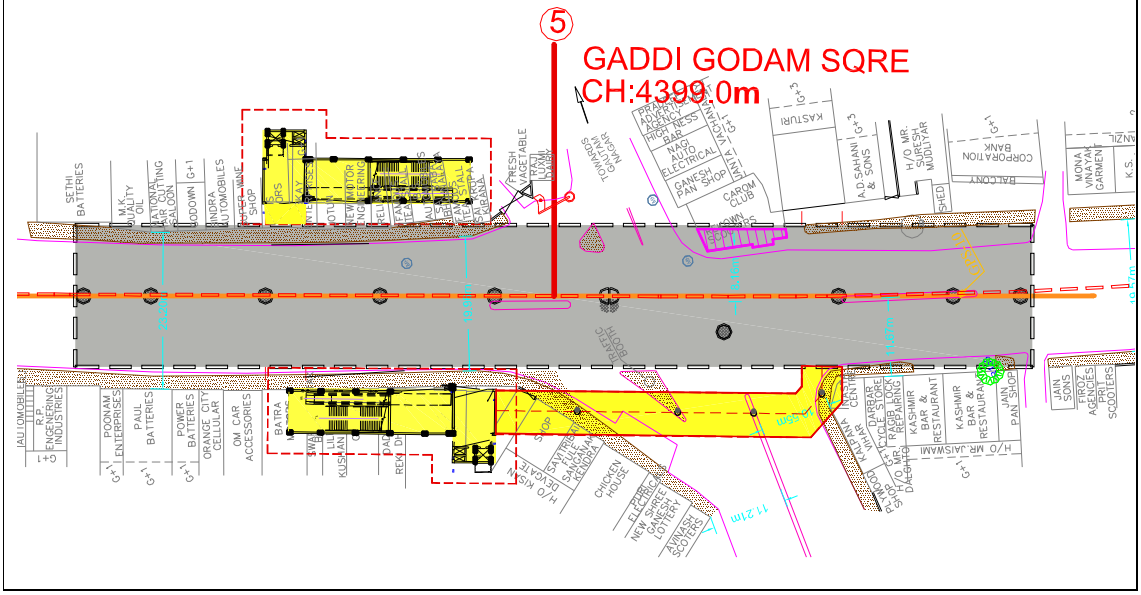
Figure 6.4: Site Conditions- Kadvi Chowk Station



5. Gaddi Godam Square

Chainage	:	4399.00 m
Inter Station Distance	:	1217.90 m
Rail Level	:	12.96 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44.
Catchment Area		The main source of passengers to this station is the residents of Gautam Nagar, Sadar, and residents of surrounding areas .

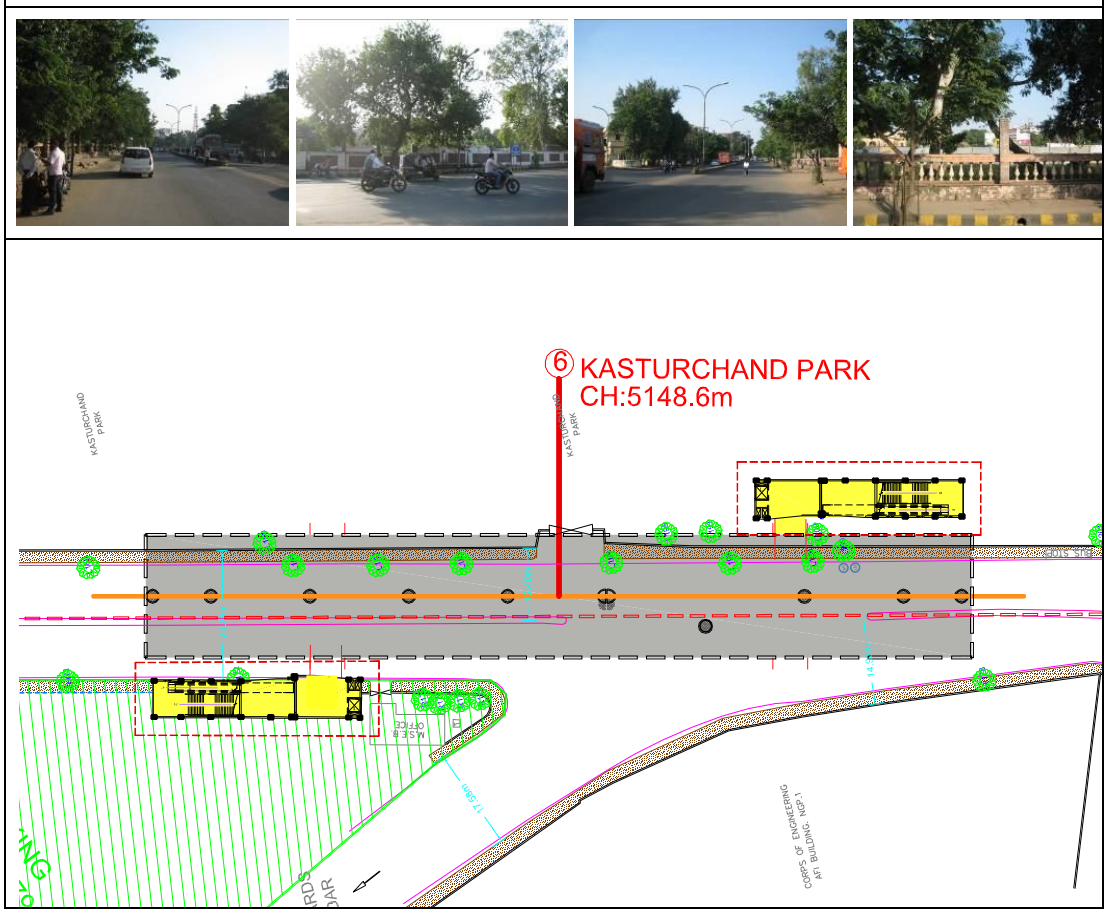
Figure 6.5: Site Conditions- Gaddi Godam Square Station



6. Kasturchand Park

Chainage	:	5148.60 m
Inter Station Distance	:	749.60 m
Rail Level	:	12.99 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44.
Catchment Area		The main source of passengers to this station is the residents of surrounding areas and people working in NMC office, Reserve Bank Of India, and other Government Offices.

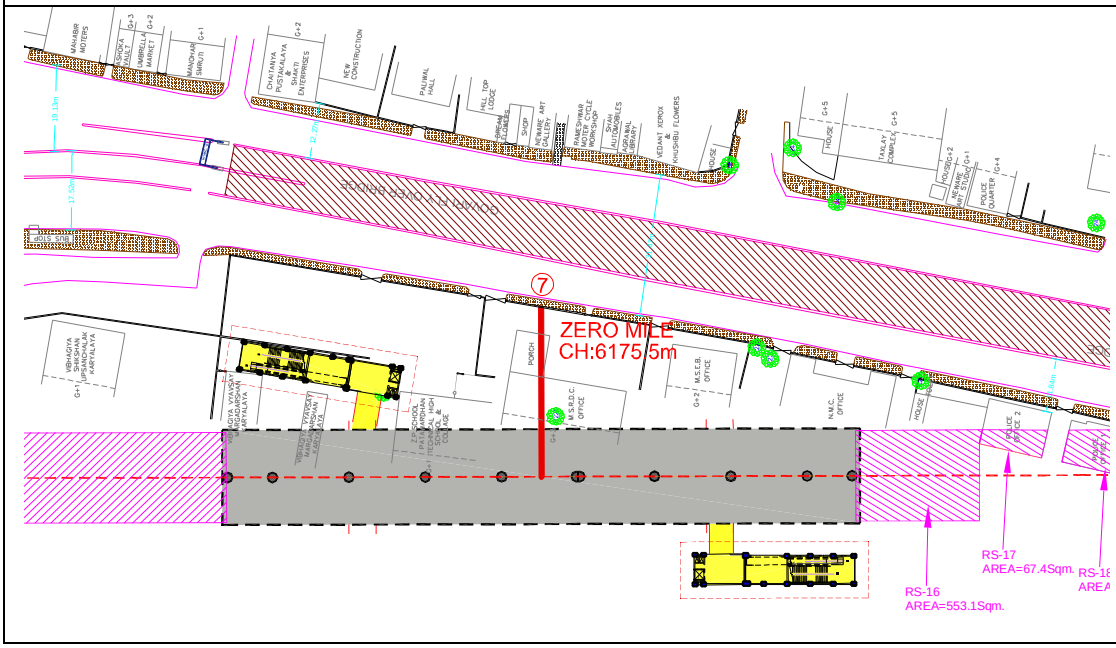
Figure 6.6: Site Conditions- Kasturchand Park Station



7. Zero Mile

Chainage	:	6175.50 m
Inter Station Distance	:	1026.90 m
Rail Level	:	13.30 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44.
Catchment Area		The main source of passengers to this station is the residents of surrounding areas and people working in NMC office, Reserve Bank Of India, and other Government Offices.

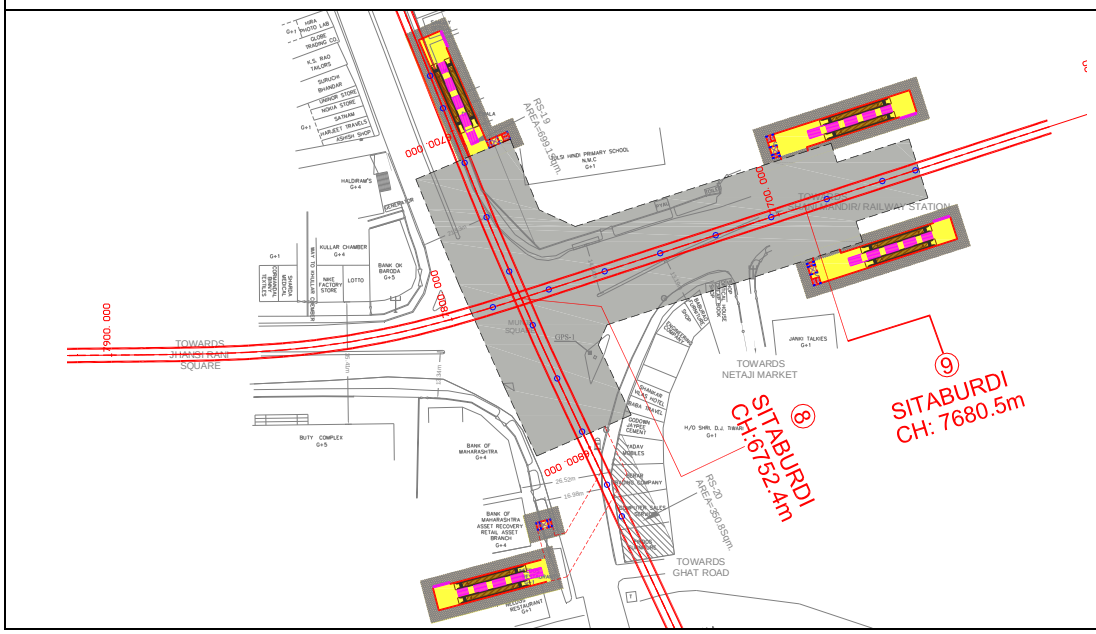
Figure 6.7: Site Conditions- Zero Mile Station



8. Sitaburdi

Chainage	:	6815.80m
Inter Station Distance	:	533.70m
Rail Level	:	12.64M
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on the crossing of NH-44 and State Highway No. 255.
Catchment Area		The main source of passengers to this station is the residents of surrounding Commercial and residential areas, People visiting Stadium during special events, interchanging from EW Line to NS line.

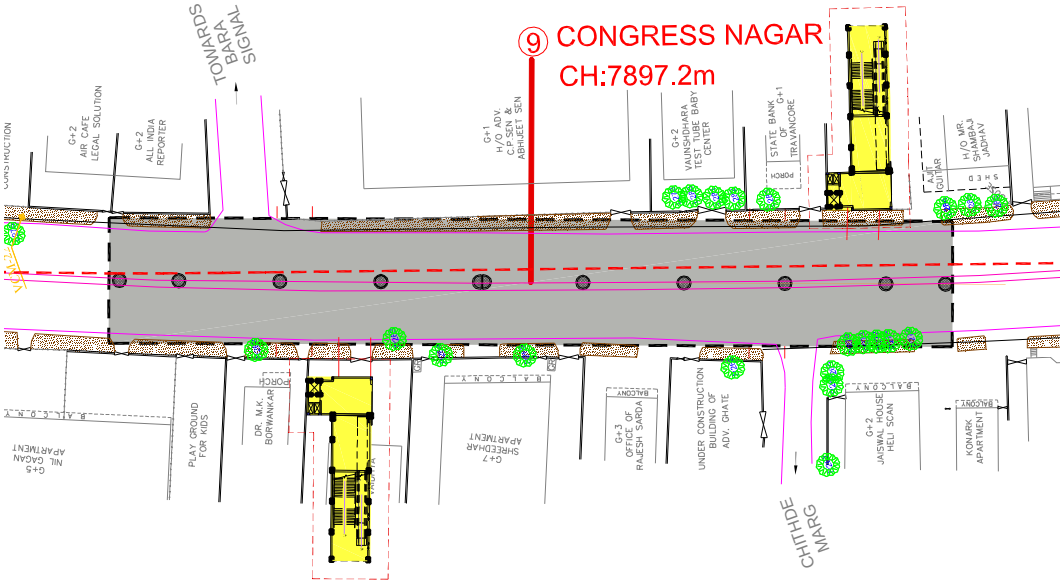
Figure 6.8: Site Conditions- Sitaburdi Station



9. Congress Nagar

Chainage	:	7897.20 m
Inter Station Distance	:	1188.00 m
Rail Level	:	12.88 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44.
Catchment Area		The main source of passengers to this station is the residents of Congress Nagar and the residents of surrounding residential colonies.

Figure 6.9 Site Conditions- Congress Nagar Station

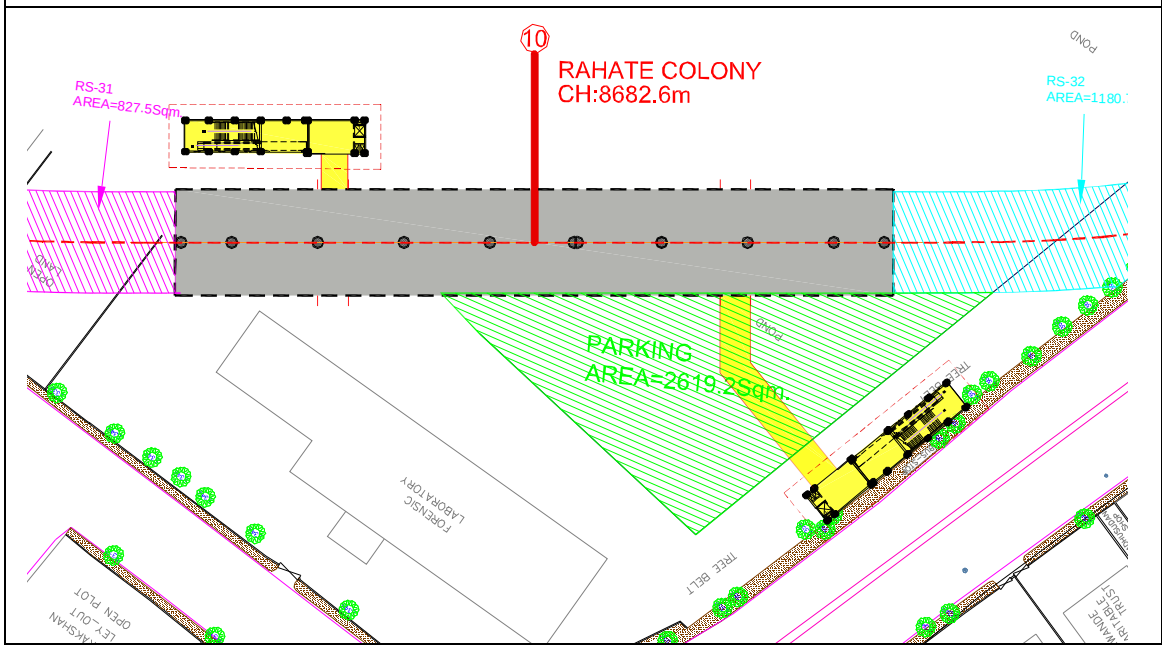


Line -1 (N-S Corridor)

10. Rahate Colony

Chainage	:	8682.60 m
Inter Station Distance	:	785.40 m
Rail Level	:	13.80 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44.
Catchment Area		The main source of passengers to this station is the residents of Rahate Colony and the residents of surrounding residential areas.

Figure 6.10: Site Conditions- Rahate Colony Station

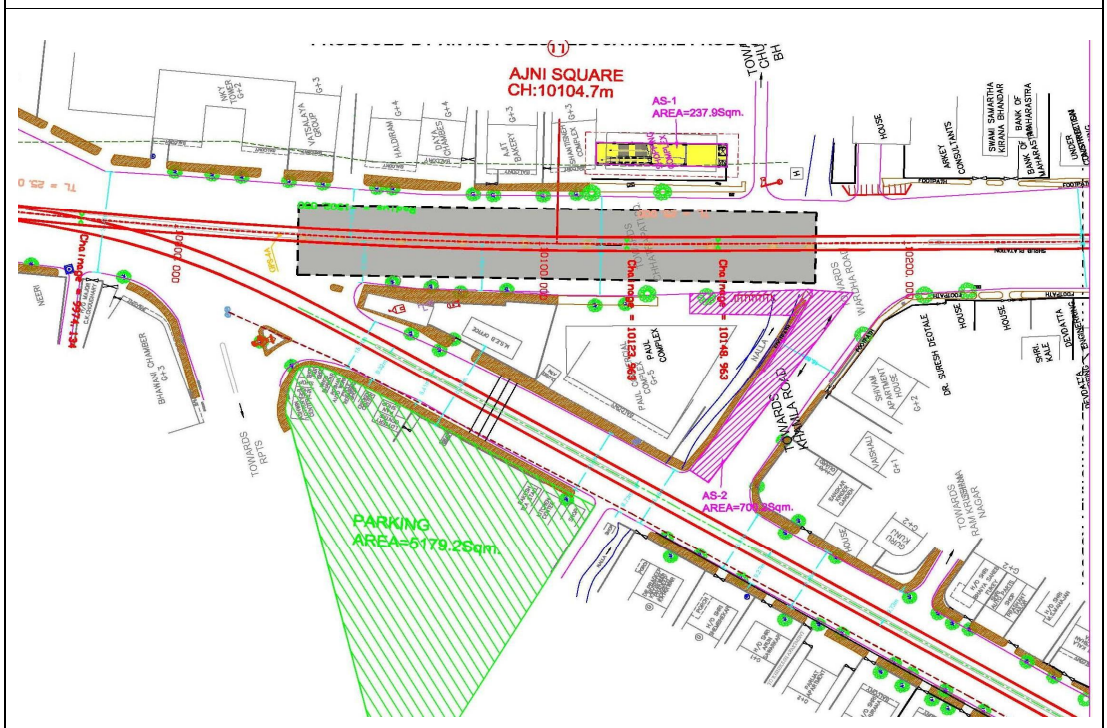


Line -1 (N-S Corridor)

11. Ajni Square

Chainage	:	10104.7 m
Inter Station Distance	:	1422.1 m
Rail Level	:	13.084 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44 near NEERI institute and Central Jail, Nagpur.
Catchment Area		The main source of passengers to this station is the residents & Students of NEERI, Modern School, and people visiting Central Jail Nagpur.

Figure 6.11: Ajni Square Station

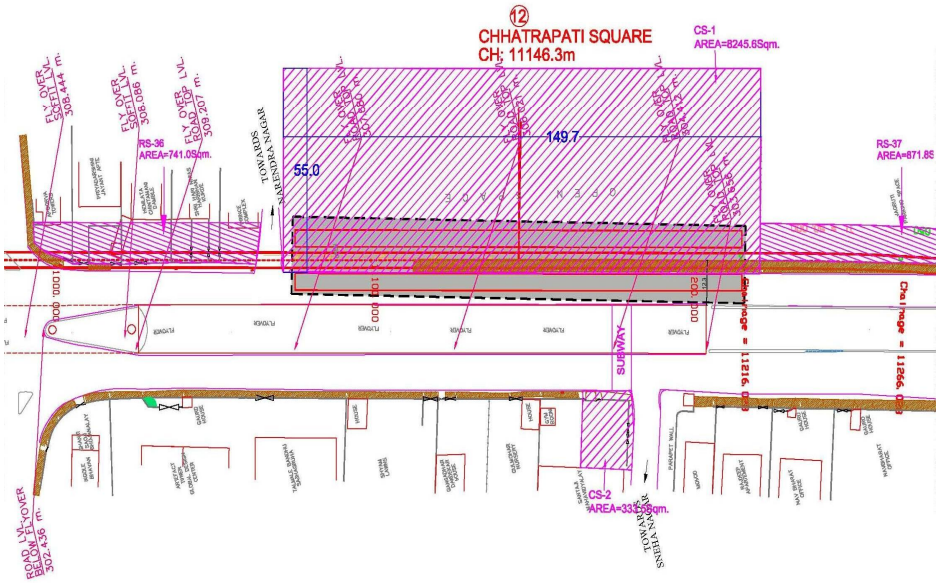


Line -1 (N-S Corridor)

12. CHHATRAPATI SQUARE

Chainage	:	11146.3 m
Inter Station Distance	:	1041.6 m
Rail Level	:	14.900 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44
Catchment Area		The main source of passengers to this station is the residents of Vivekanand Nagar, Dev Nagar, Sawarkar Nagar and residents of surrounding areas.

Figure 6.12: **CHHATRAPATI SQUARE STATION**

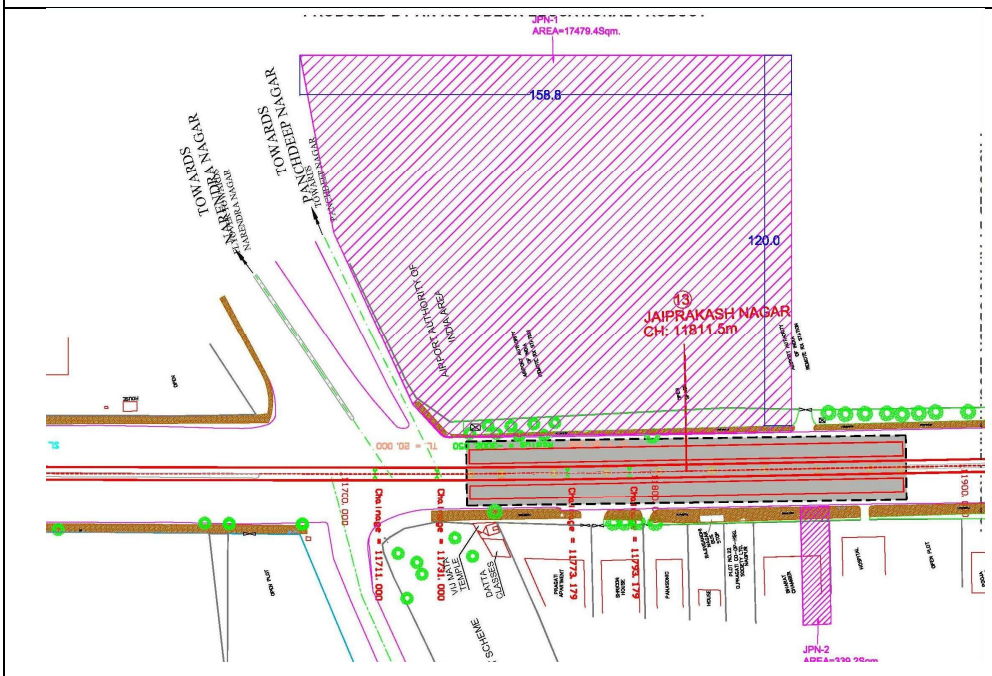


Line -1 (N-S Corridor)

13. JAIPRAKASH NAGAR

Chainage	:	11811.5 m
Inter Station Distance	:	665.2 m
Rail Level	:	12.877m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	The station is proposed on NH-44
Catchment Area		The main source of passengers to this station is the residents of Sehkar Nagar and workers of surrounding Industrial units.

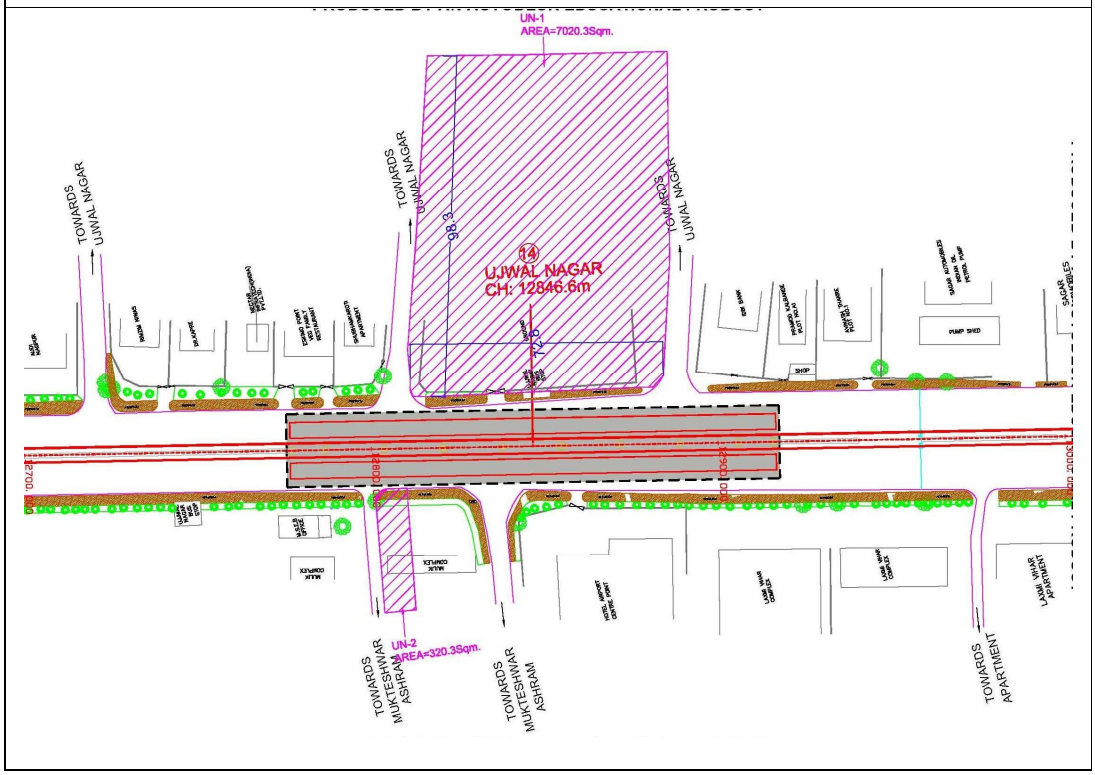
Figure 6.13: JAIPRAKASH NAGAR STATION



14. UJWAL NAGAR

Chainage	:	12846.6 m
Inter Station Distance	:	1035.1 m
Rail Level	:	12.558 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road
Location	:	Fore-court of Nagpur Airport.
Catchment Area		The main source of passengers to this station is the passengers and staff of present Airport of Nagpur.

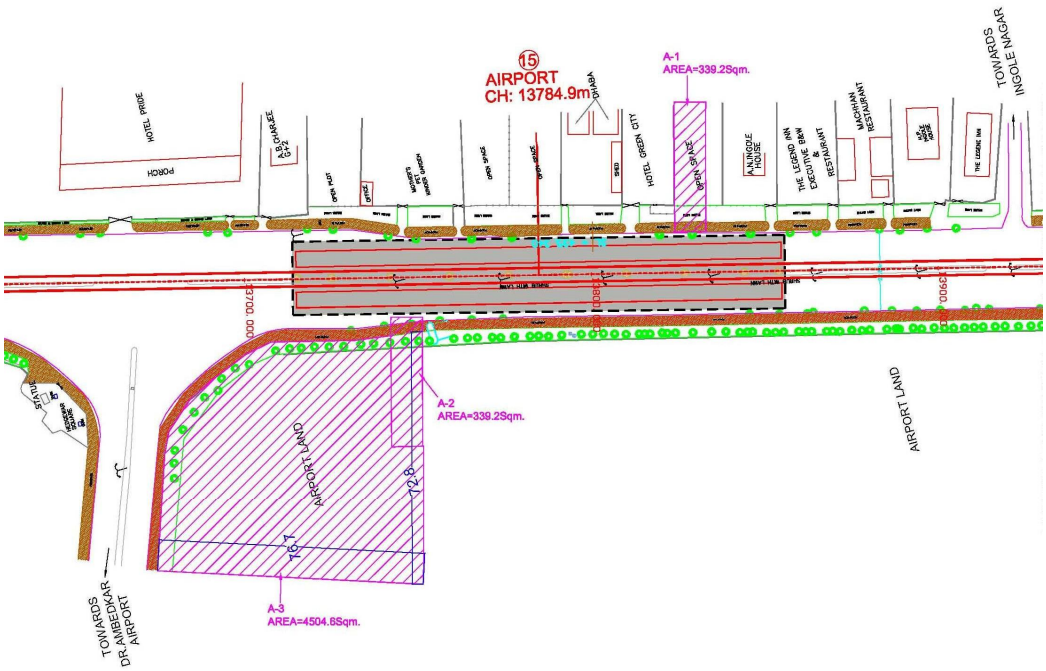
Figure 6.14: UJJAWAL NAGAR STATION



15. Airport

Chainage	:	13784.9 m
Inter Station Distance	:	938.3 m
Rail Level	:	13.480 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road.
Location	:	New Airport of Nagpur.
Catchment Area		The main source of passengers to this station is the Passengers and staff of the proposed New Airport of Nagpur.

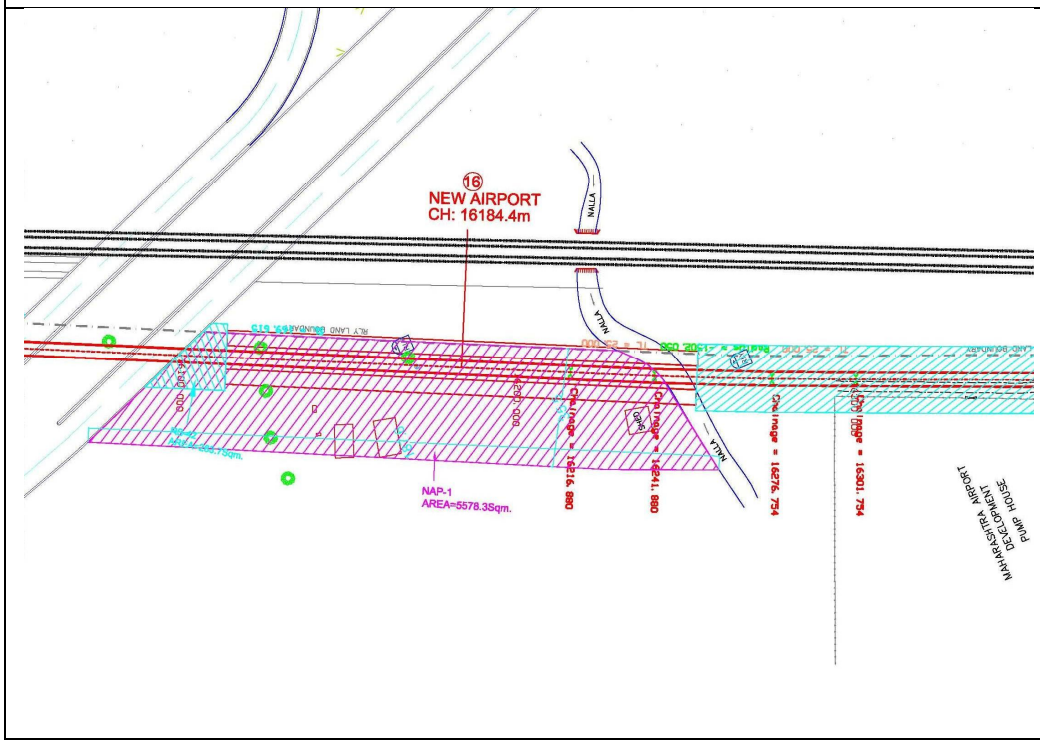
Figure 6.15: Airport Station



16. NEW AIRPORT

Chainage	:	16184.4 m
Inter Station Distance	:	2399.5 m
Rail Level	:	2.478 m
Station type	:	Elevated
Entry / Exits		On both sides of the road.
Location	:	Central Avenue of MIHAN City.
Catchment Area		The main source of passengers to this station is the residents of Newly developing MIHAN City and the people visiting MIHAN Commercial/Industrial town.

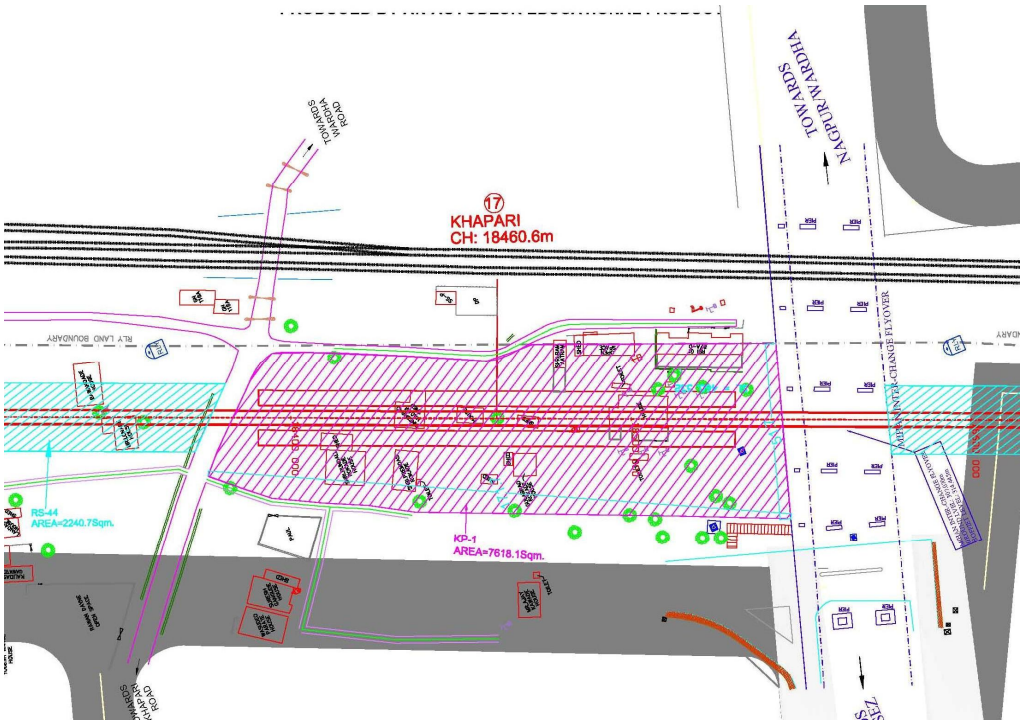
Figure 6.16: New Airport Station



17 Khapri Station

Chainage	:	21065.20 m
Inter Station Distance	:	1696.40 m
Rail Level	:	308.7 m
Station type	:	Elevated
	:	On both sides of road.
Location	:	Located on the outskirts of MIHAN city.
Catchment Area		The main source of passengers to this station is the residents of

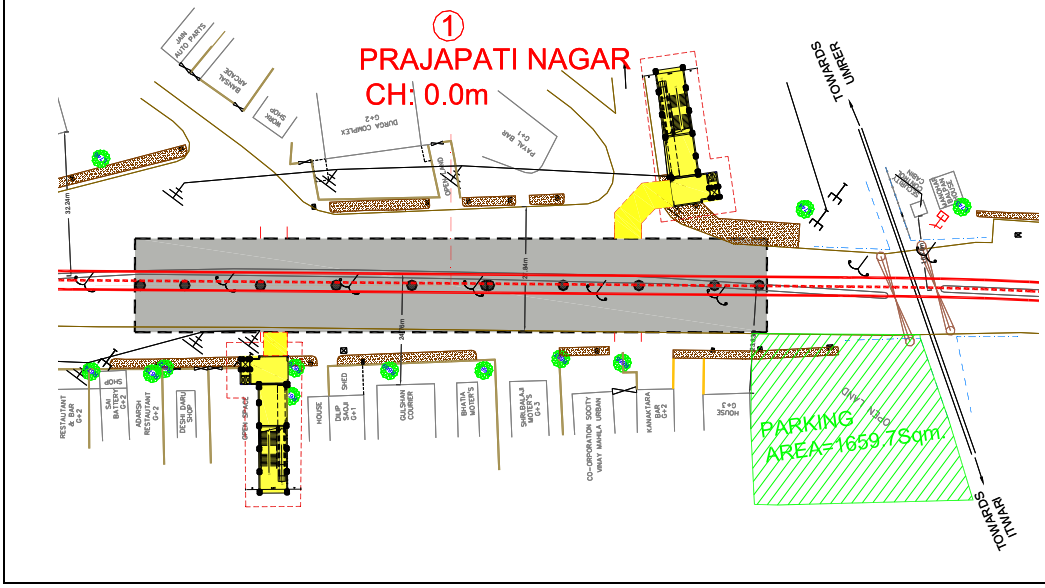
Figure 6.17: Khapri Station



1. Prajapati Nagar

Chainage	:	0.00 m
Inter Station Distance		392.00m
Rail Level	:	12.84 m
Station type	:	Elevated
Entry / Exits	:	On both sides of the road.
Location	:	The station is located on NH-6 across the railway line near Old Pardi Naka.
Catchment Area		The station is proposed in the residential area of Ramanuj Nagar, HB Town, Chandar Nagar, Ram Nagar, Surya Nagar & the residents of the surrounding colonies.

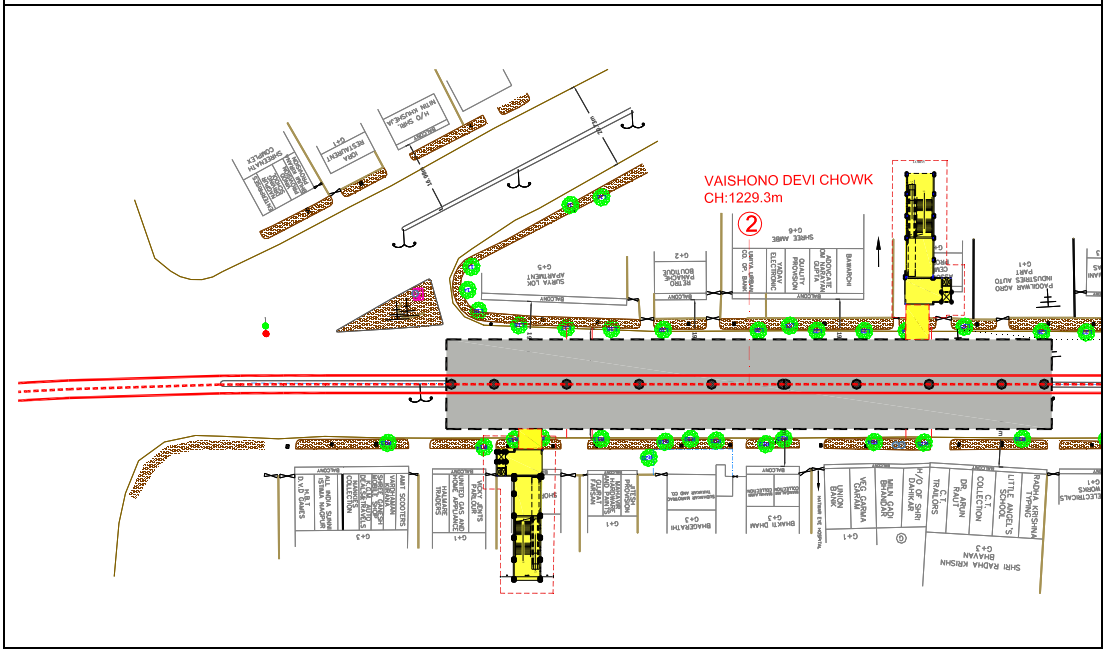
Figure 6.18: Site Conditions- Prajapati Nagar Station



2. Veshnodevi Chowk

Chainage	:	1229.30 m
Inter Station Distance	:	1229.30 m
Rail Level	:	12.52 m
Station type	:	Elevated
Entry / Exits	:	On both sides of the road.
Location	:	The station is located on NH-6 on Vaishnodevi Chowk near old Bhandra road and Mahal Road.
Catchment Area		Main source of passengers to this station is residents of the Hiwari Nagar, Surrounding residential areas and Industrial areas.

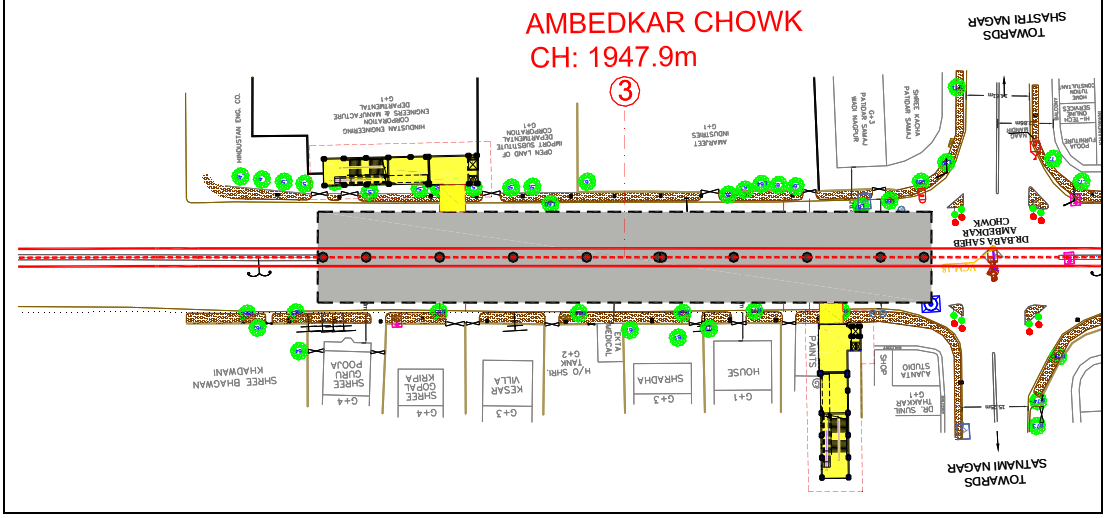
Figure 6.19: Site Conditions- Veshnodevi Station



3. Ambedkar Chowk

Chainage	:	1947.90 m
Inter Station Distance	:	718.60 m
Rail Level	:	12.82 m
Station type	:	Elevated
Entry / Exits	:	On both sides of the road.
Location	:	The station is located on NH-6 near Dr. Bhimrao Ambedkar Chowk.
Catchment Area		The main source of passengers to this station is the residents of the Satnami Nagar, Shastri Nagar, Hiwari Nagar and the other surrounding areas.

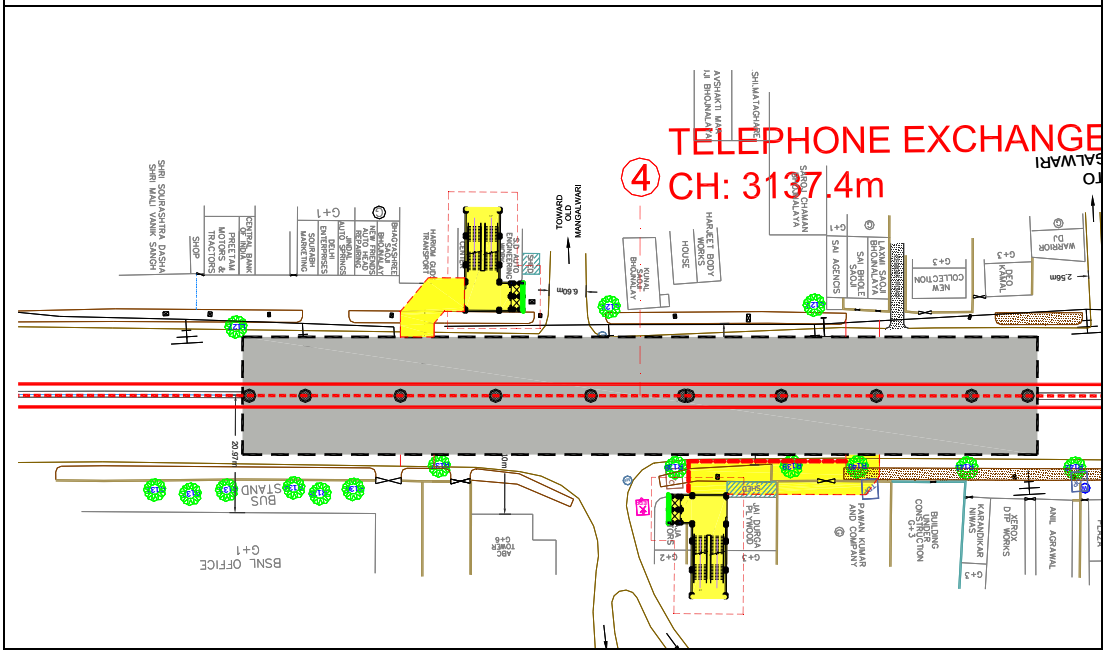
Figure 6.20 Site Conditions- Ambedkar Chowk Station



4. Telephone exchange

Chainage	:	3137.40 m
Inter Station Distance	:	1189.50 m
Rail Level	:	12.64 m
Station type	:	Elevated
Entry / Exits	;	On both sides of road.
Location	:	The station is located on NH-6 opposite Telephone exchange, Nagpur.
Catchment Area		The main source of passengers to this station is the residents of Mangal Wari, Strangi Pura, Jagnade Square, and surrounding residential & commercial areas.

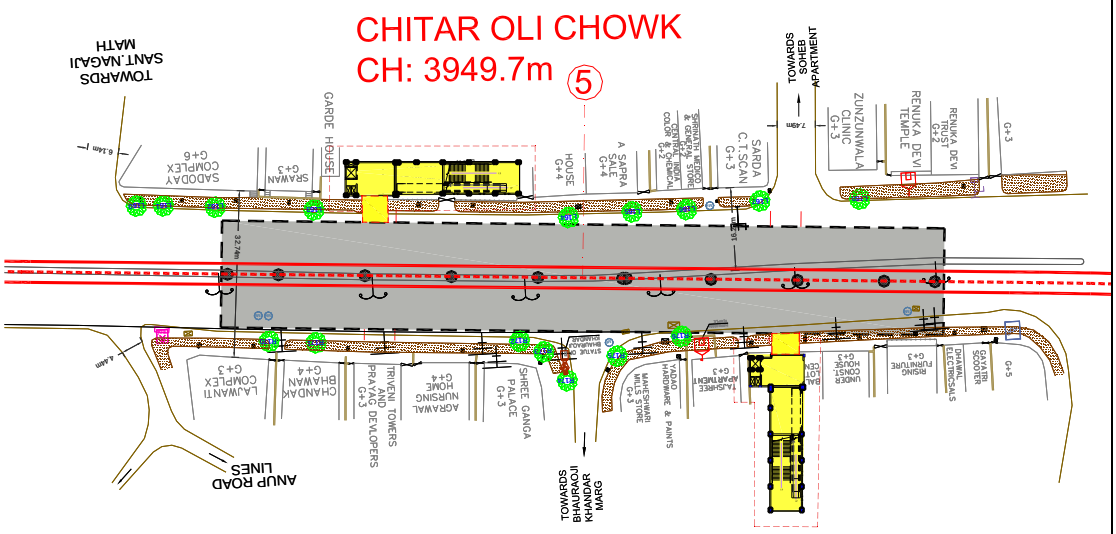
Figure 6.21: Site Conditions- Telephone Exchange Station



5. Chitar Oli Chowk (Gandhi Putala)

Chainage	:	3949.70 m
Inter Station Distance	:	812.30 m
Rail Level	:	12.55 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road.
Location	:	The station is located on NH-6 near Chitar Oli Chowk.
Catchment Area		The main source of passengers to this station is the residents of Itawari Market, Bhadkas Square, nearby Apartments and the residents of the surrounding areas.

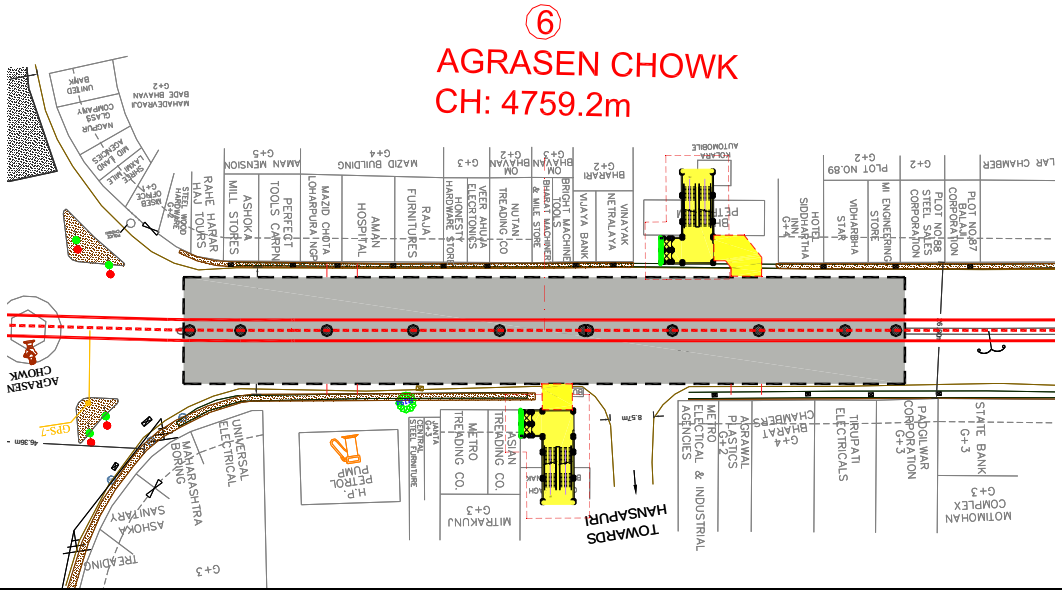
Figure 6.22: Site Conditions- Chitar Oli Chowk Station



6. Agrasen Chowk

Chainage	:	4759.20 m
Inter Station Distance	:	809.50 m
Rail Level	:	12.62 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road.
Location	:	The station is located on NH-6 near Agarsen Chowk.
Catchment Area		The main source of passengers to this station is the residents of Gandhi Bagh, Jalalpura, Hansapuri, Bhaldarpura and the residents of the surrounding residential areas.

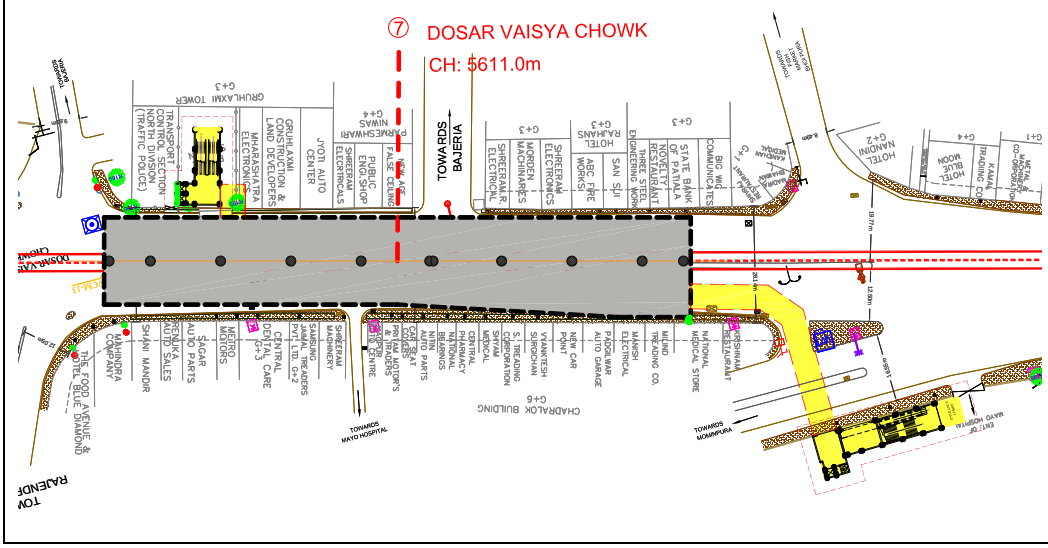
Figure 6.23: Site Conditions- Agrasen Chowk Station



7. Dosar Vaisya Chowk

Chainage	:	5611.00 m
Inter Station Distance	:	851.80 m
Rail Level	:	12.60 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road.
Location	:	The proposed station is located on NH-6 near Masjid Garib Nawaj.
Catchment Area		The station is supposed to cater the people visiting the mosque, the Medical College hostel and the Orange Market and the residential areas located in the surroundings.

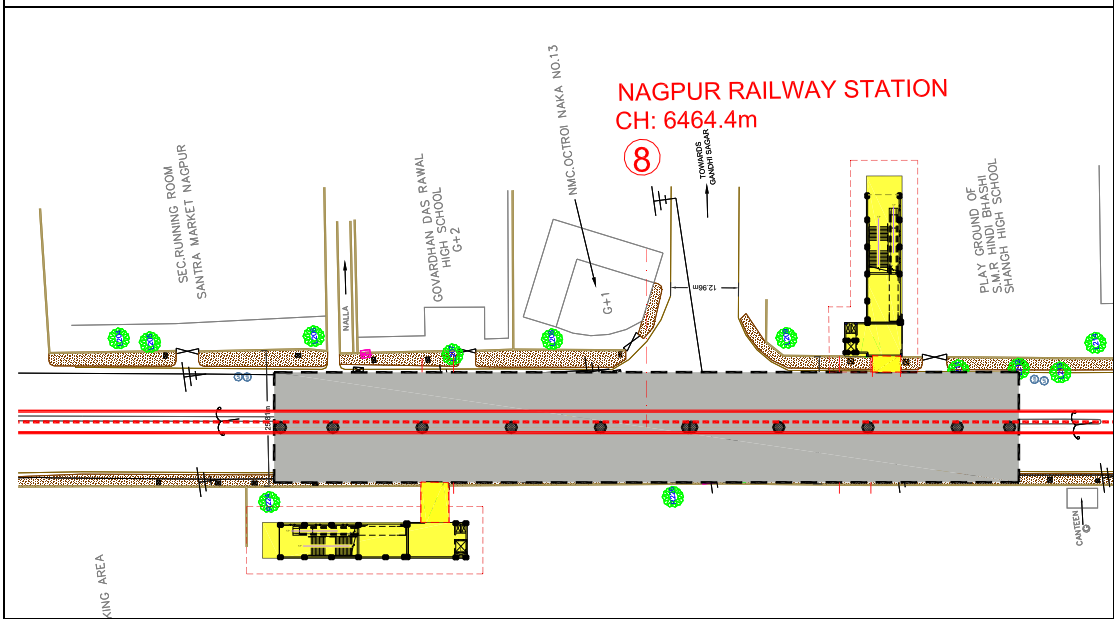
Figure 6.24: Site Conditions- Vaisya Chowk Station



8. Nagpur Railway Station

Chainage	:	6464.40 m
Inter Station Distance	:	853.40 m
Rail Level	:	12.67 m
Station type	:	Elevated
Entry / Exits	:	On both sides of road.
Location	:	The proposed station is located on the eastern side of the Nagpur Junction Railway station.
Catchment Area		Nagpur Railway station is a very busy Junction Railway station of Western railway the proposed station will cater to the passengers using the Railway station to and from the Nagpur City.

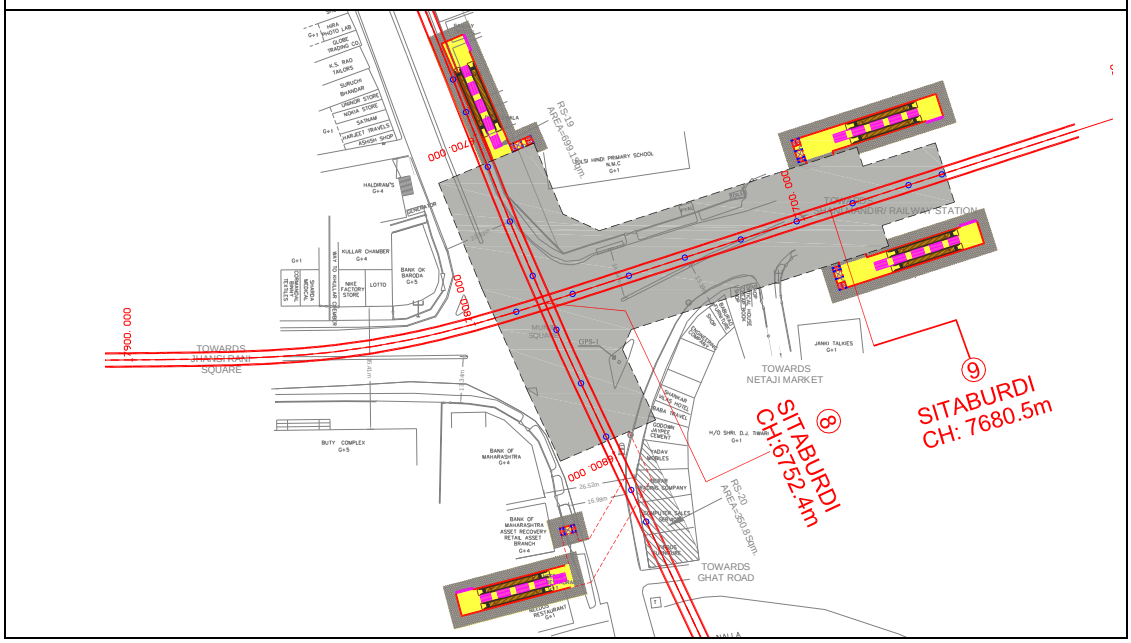
Figure 6.25: Site Conditions- Nagpur Railway Station



9. Sitaburdi

Chainage	:	7680.50 m
Inter Station Distance	:	1243.30 m
Rail Level	:	22.25 m
Station type	:	Elevated (Interchange station)
Entry / Exits		On both sides of the road
Location	:	The station is located on the crossing of NH-6 and NH-44, in the area called Sitaburdi.
Catchment Area		The main source of passengers to this station is the residents of surrounding Commercial and residential areas, People visiting Stadium during special events, interchanging from EW Line to NS line.

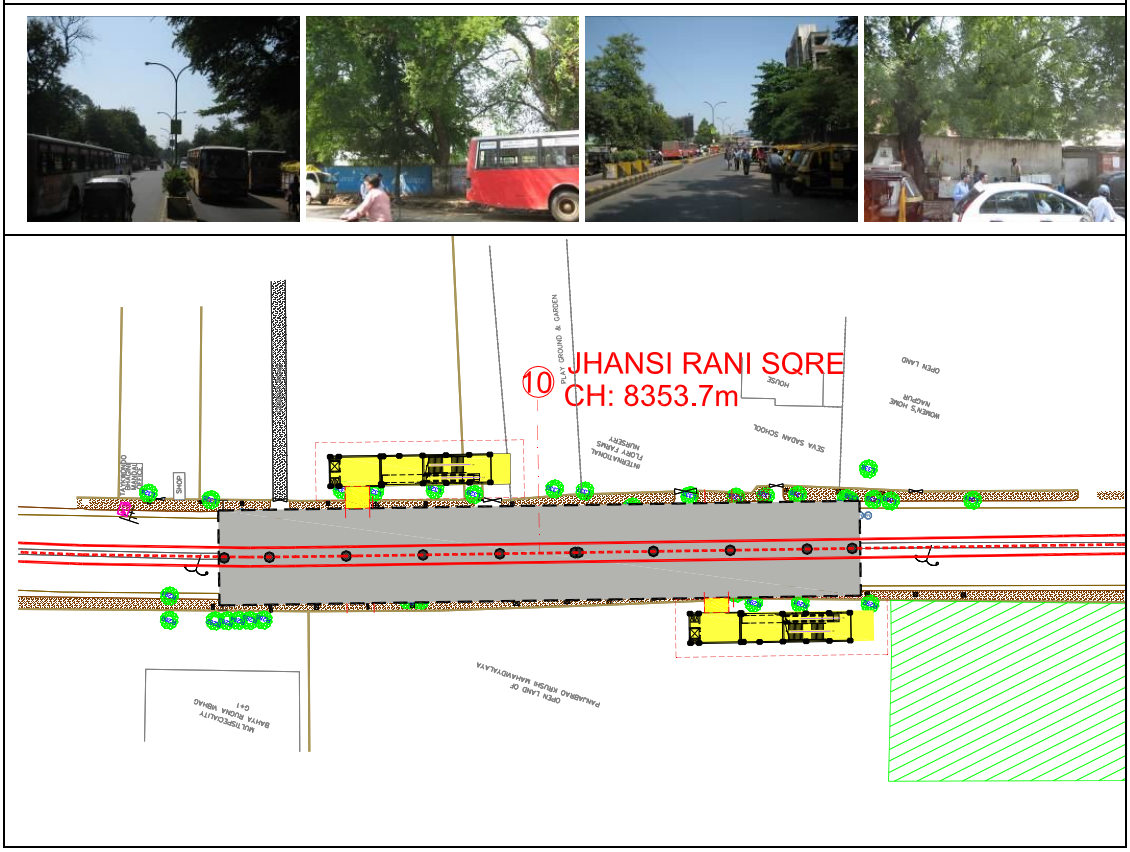
Figure 6.26: Site Conditions- Sitaburdi Station



10. Jhansi Rani Chowk

Chainage	:	8353.70 m
Inter Station Distance	:	646.00 m
Rail Level	:	13.77 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44 in the institutional area having Hospitals and other institutes.
Catchment Area		The main source of passengers to this station is the residents of surrounding areas and people visiting Matrusewa sadan, Multi-Specialty Hospital and other Institutes & school in the surroundings.

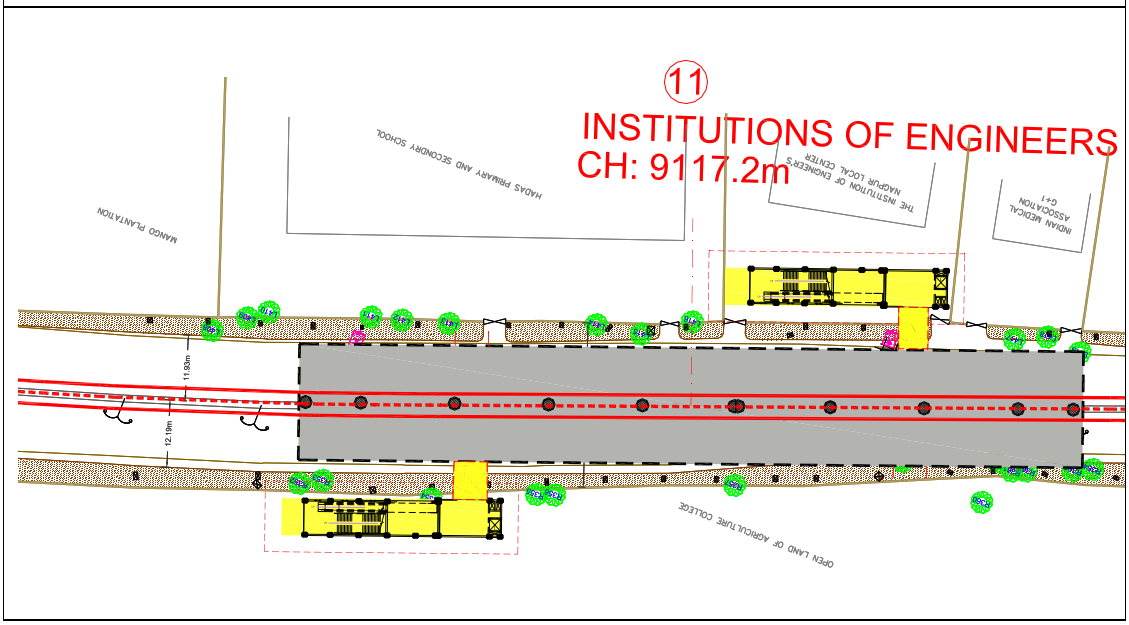
Figure 6.27: Site Conditions- Jhansi Rani Chowk Station



11. Institutions of Engineers

Chainage	:	9117.20 m
Inter Station Distance	:	763.60 m
Rail Level	:	12.58 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44 near the Institutes of Engineers and Indian Medical Association.
Catchment Area		The main source of passengers to this station is the people coming to Engineers of Engineers, Hadas school and the residents of surrounding areas.

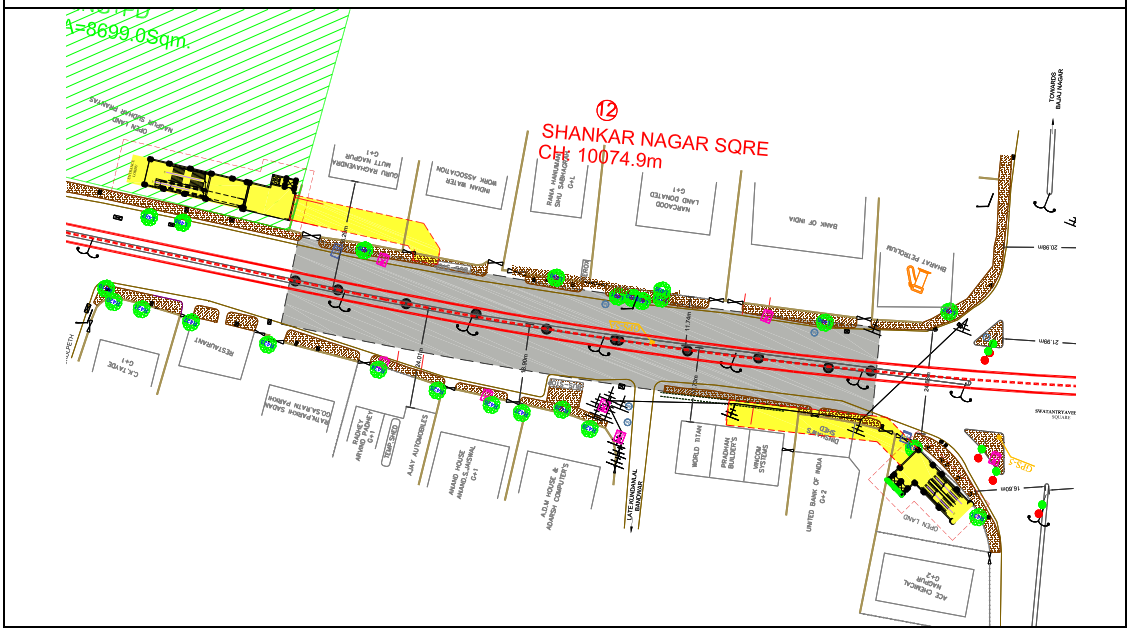
Figure 6.28: Site Conditions- Institutions of Engineers Station



12. Shankar Nagar Square (Bank Of India)

Chainage	:	10074.90 m
Inter Station Distance	:	957.70 m
Rail Level	:	12.86 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The proposed station is located near Swatantraveer Sawarkar Chowk.
Catchment Area		The main source of passengers to this station is the residents of Ram Nagar, Bajaj Nagar, Gokulpeth and residents of surrounding colonies.

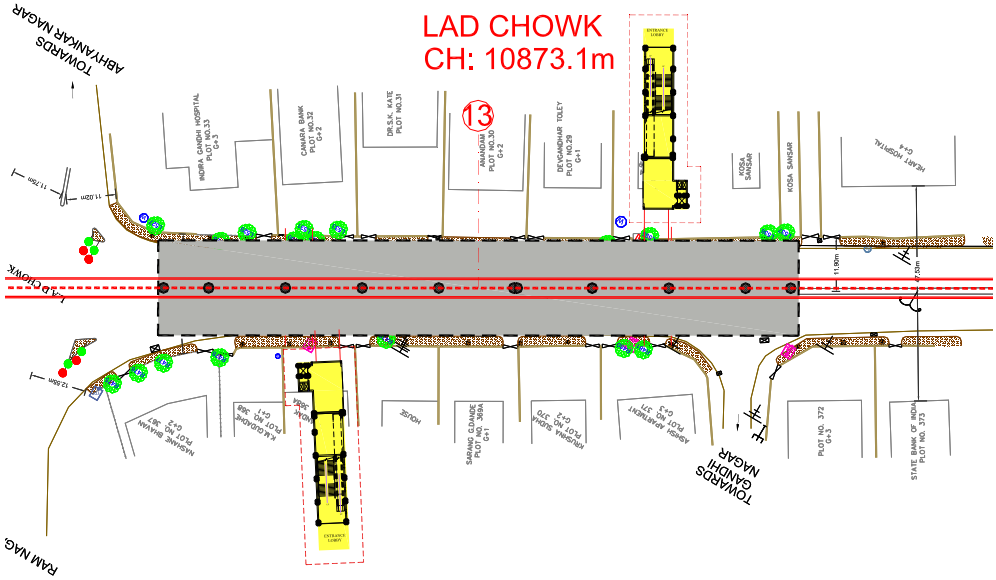
Figure 6.29: Site Conditions- Shankar Nagar Square Station



13. Lad Chowk

Chainage	:	10872.10 m
Inter Station Distance	:	798.20 m
Rail Level	:	12.61 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44 near Lad chowk crossing.
Catchment Area		The main source of passengers to this station is the residents of Abhyankar Nagar, Lad Nagar, Gandhi Nagar and the colonies in the surrounding areas.

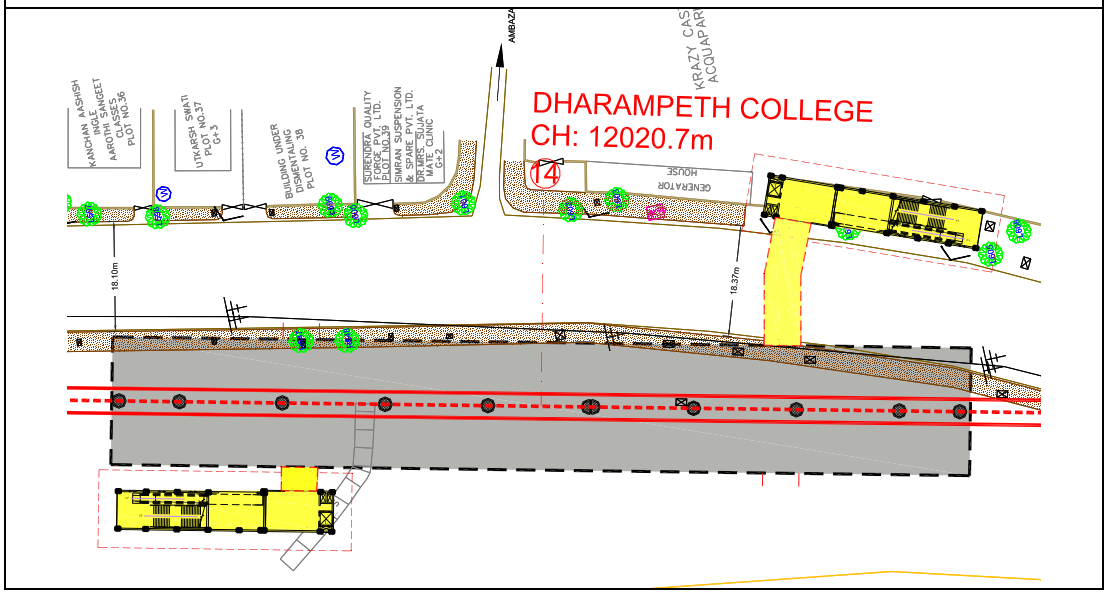
Figure 6.30: Site Conditions- LAD Chowk Station



14. Dharampeth College

Chainage	:	12020.70 m
Inter Station Distance	:	1147.60 m
Rail Level	:	13.20 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44 near Ambazari Lake.
Catchment Area		The main source of passengers to this station are the students of Dharmapeeth college, the residents of Ambazari layout and surrounding colonies.

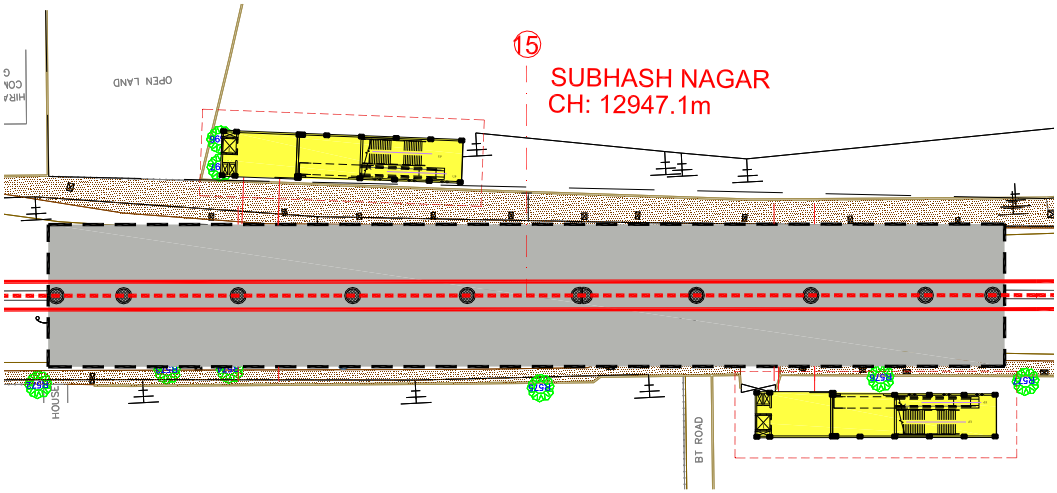
Figure 6.31: Site Conditions- Dharampeth College Station



15. Subhash Nagar

Chainage	:	12947.10 m
Inter Station Distance	:	926.40 m
Rail Level	:	12.84 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44 near CRPF Camp and Subhash Nagar.
Catchment Area		The main source of passengers to this station is the residents of Subhash Nagar, Padsoli and residents of the surrounding residential areas.

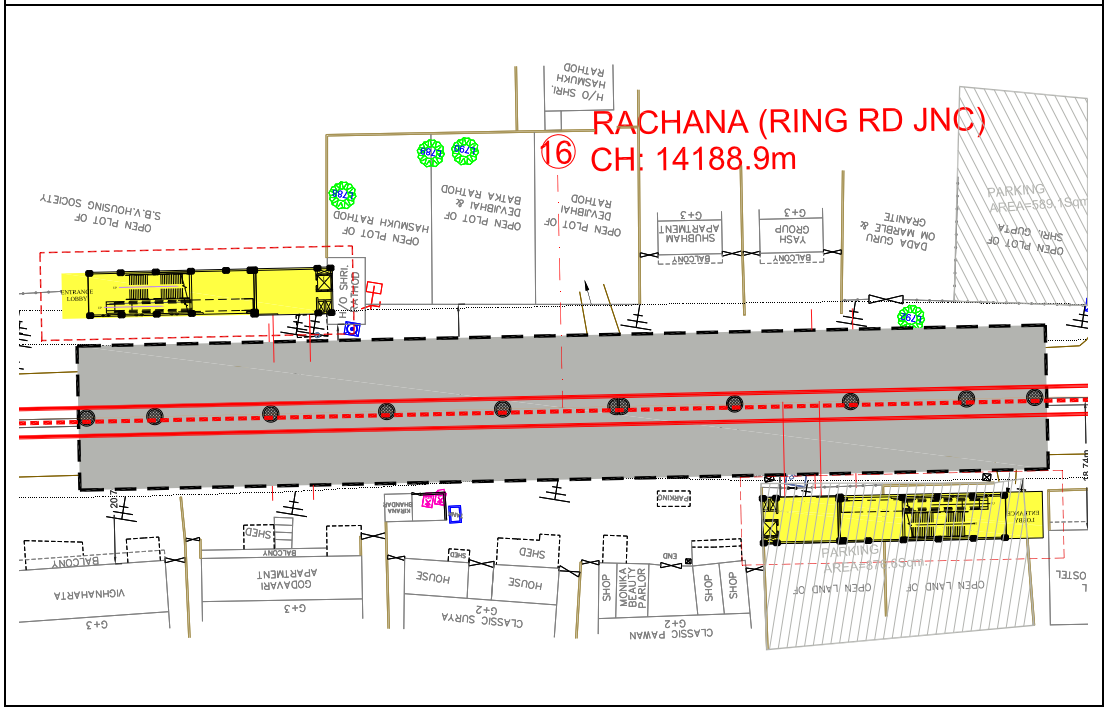
Figure 6.32: Site Conditions- Subhash Nagar Station



16. Rachna Ring Road

Chainage	:	14188.90 m
Inter Station Distance	:	1241.80 m
Rail Level	:	12.50 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44 and Ring Road SH-260 crossing.
Catchment Area		The main source of passengers to this station is the residents of Priya Vidya Vihar, surrounding industrial and residential areas.

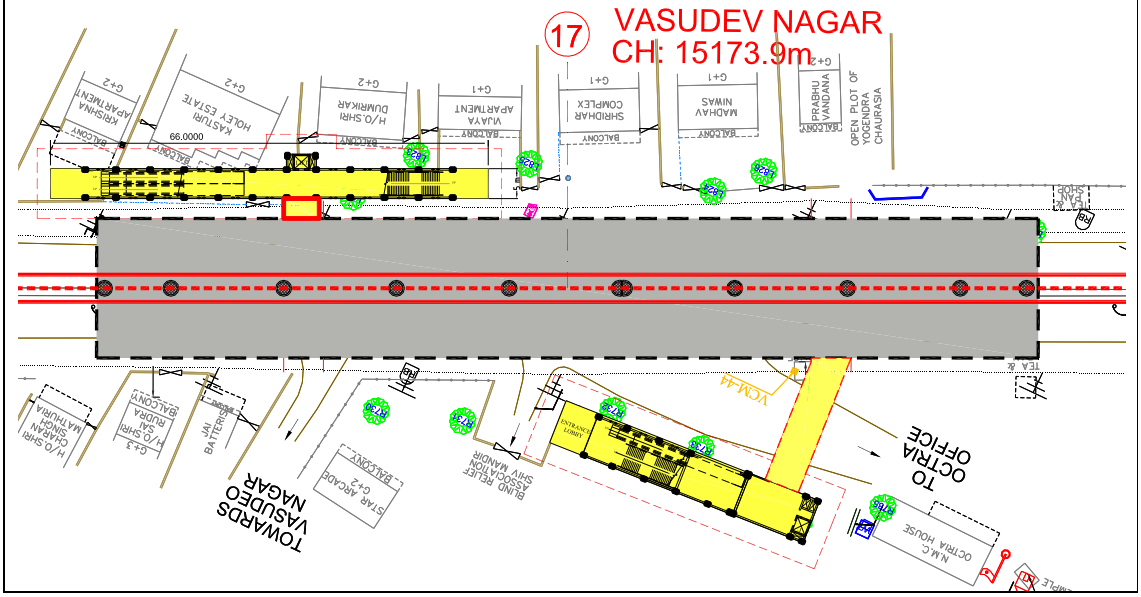
Figure 6.33: Site Conditions- Rachna Ring Road Station



17. Vasudev Nagar

Chainage	:	15173.70 m
Inter Station Distance	:	985.00 m
Rail Level	:	12.85 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44.
Catchment Area		The main source of passengers to this station is the residents of Vasdev Nagar, Vinayak Nagar and the residents of surrounding residential areas.

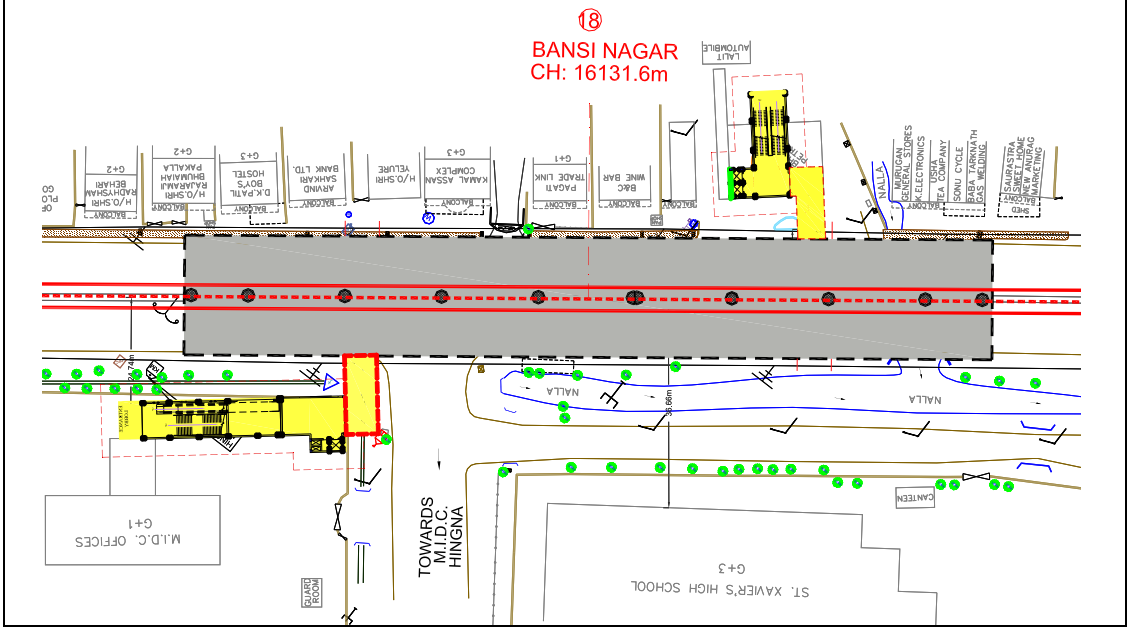
Figure 6.34: Site Conditions- Vasudev Nagar Station



18. Bansi Nagar

Chainage	:	16131.60 m
Inter Station Distance	:	957.70 m
Rail Level	:	13.00 m
Station type	:	Elevated
Entry / Exits		On both sides of the road
Location	:	The station is located on NH-44.
Catchment Area		The main source of passengers to this station is the residents of Bansi Nagar and surrounding residential colonies and commercial areas.

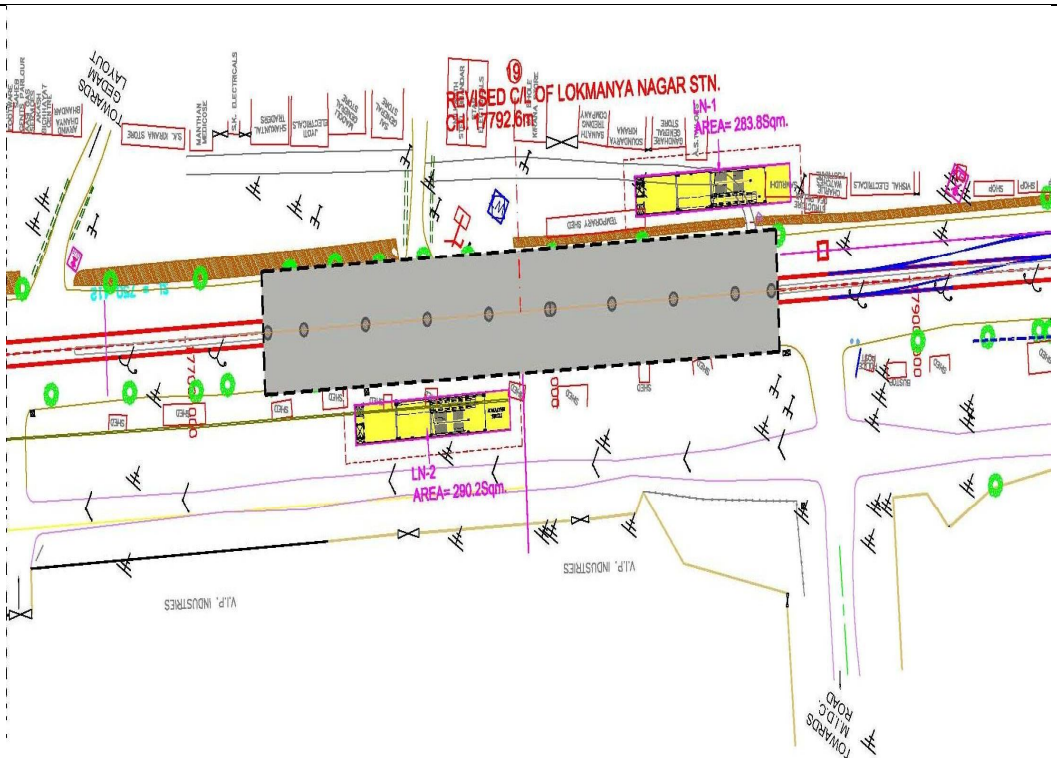
Figure 6.35: Site Conditions- Bansi Nagar Station

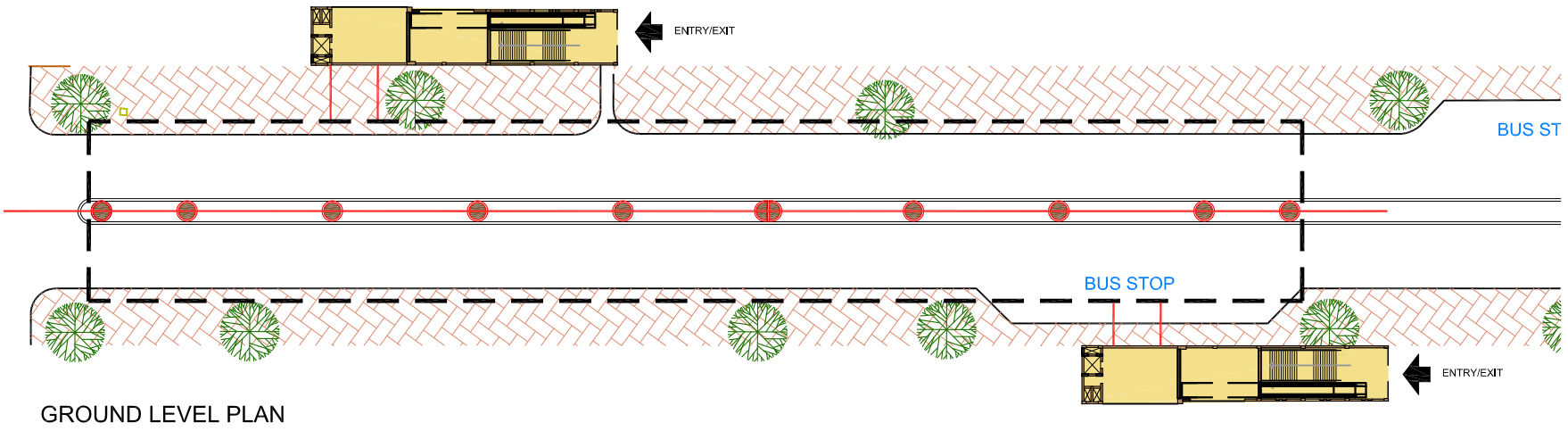


19 Lokmanya Nagar

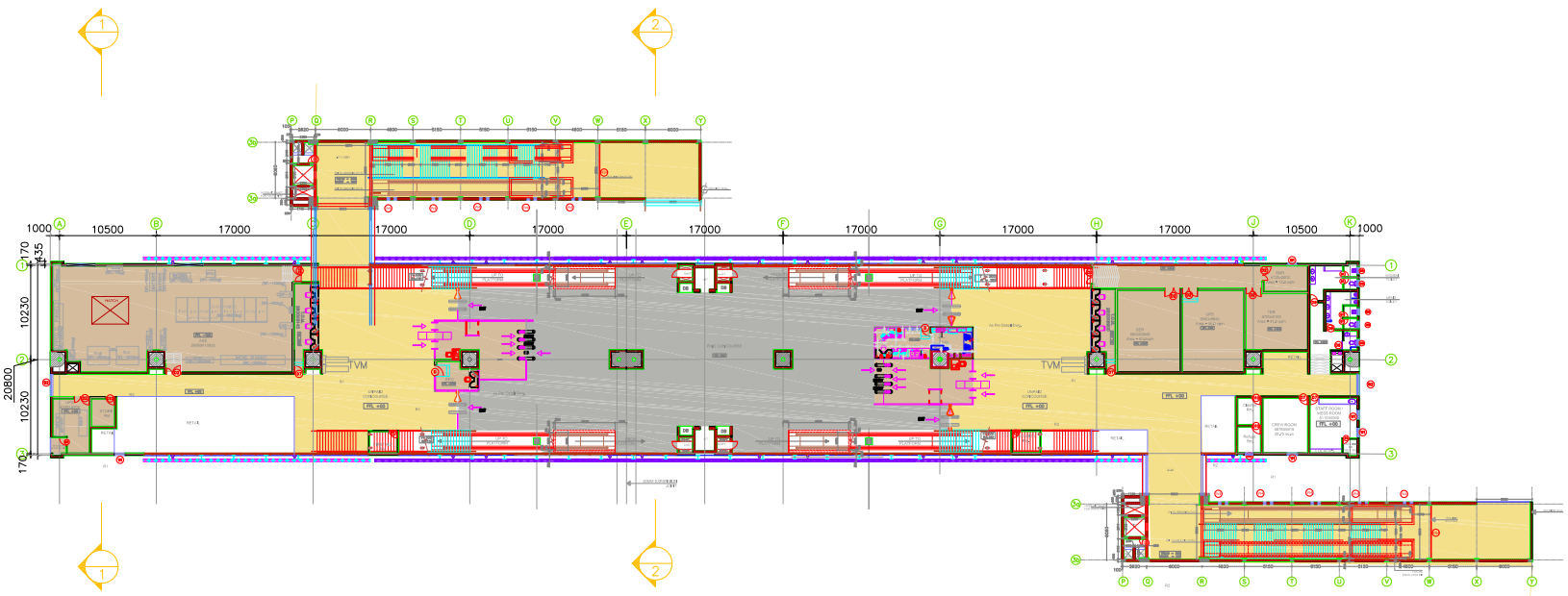
Chainage	:	17792.6 m
Inter Station Distance	:	1661 m
Rail Level	:	13.36 m
Station type	:	Elevated
Entry/ Exits	:	On both sides of the road
Location	:	The station is located on NH-44.
Catchment Area		The main source of passengers to this station is the residents & people visiting surrounding residential areas and Lata Mageshakar Hospital.

Figure 6.36: Lokmanya Nagar Station

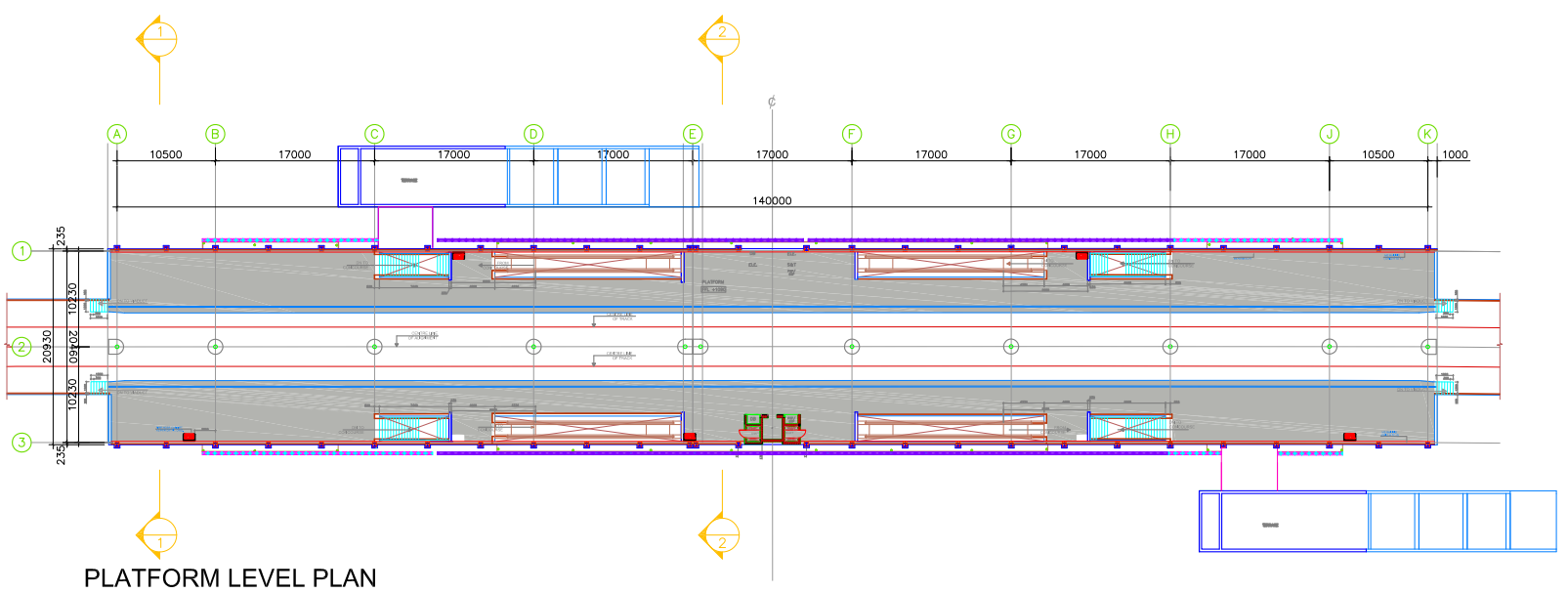




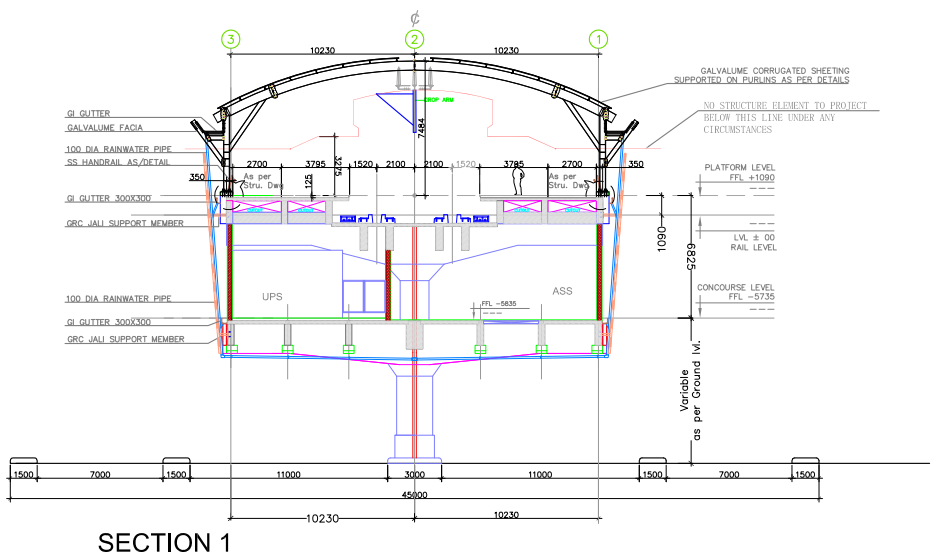
GROUND LEVEL PLAN



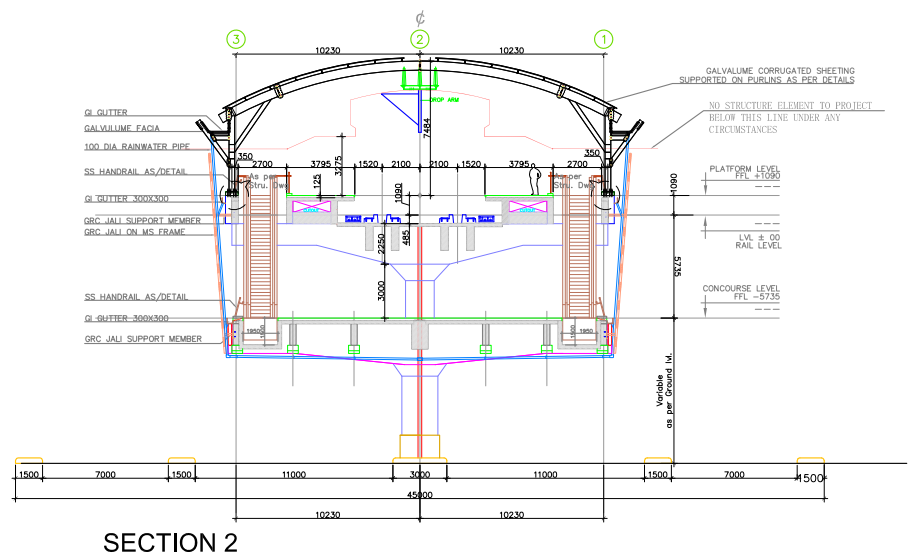
CONCOURSE LEVEL PLAN



PLATFORM LEVEL PLAN



SECTION 1



SECTION 2

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS.
2. ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE ARCHITECTS BEFORE EXECUTION OF WORK AT SITE.

LEGEND

- OPERATIONAL AREA
- UNPAID AREA
- PAID AREA

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

NAGPUR METRO RAIL PROJECT

DRAWING TITLE: TYPICAL ELEVATED STATION

STATION TYPE:

TYPE I

DRAWING NUMBER:	DATE:	SCALE:	SHEET SIZE
	SEPT. 2012	NTS	A-3

ARCHITECTURAL

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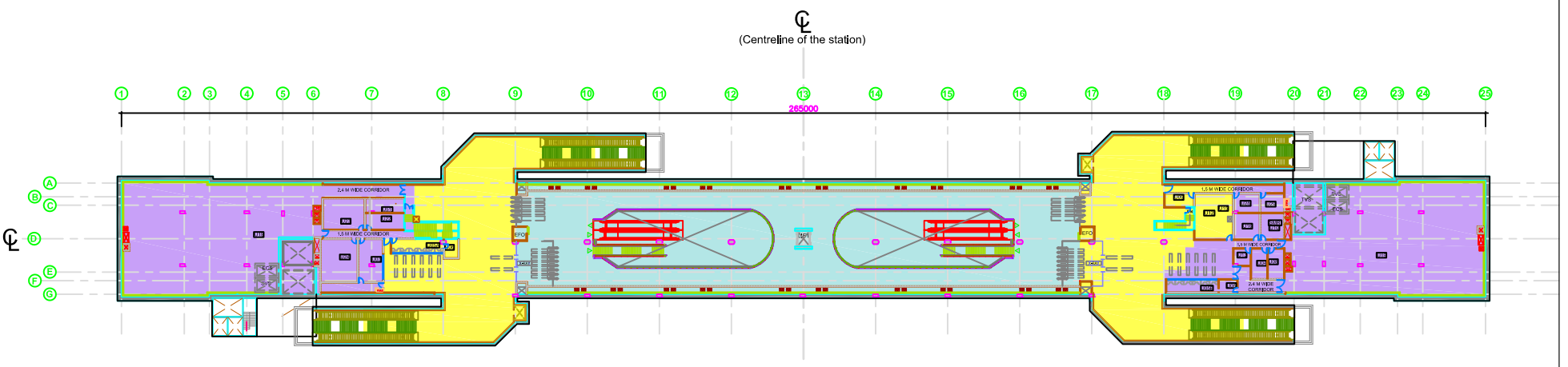
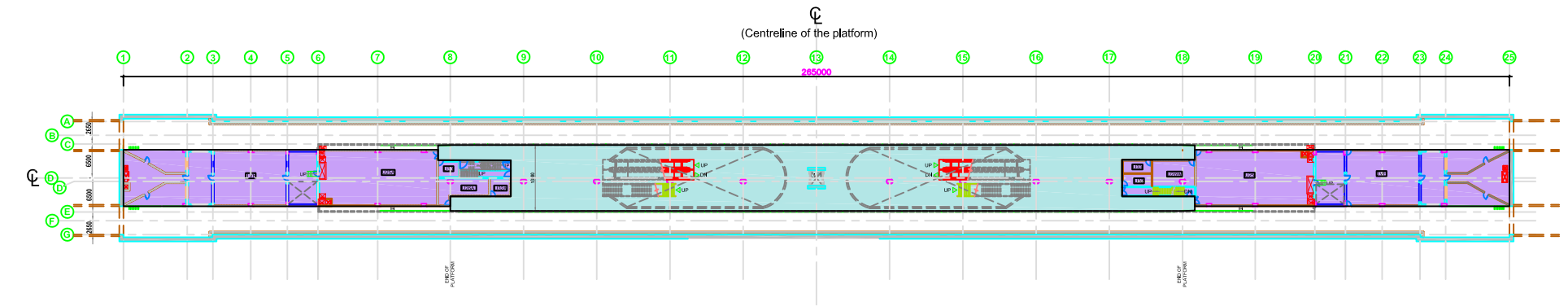
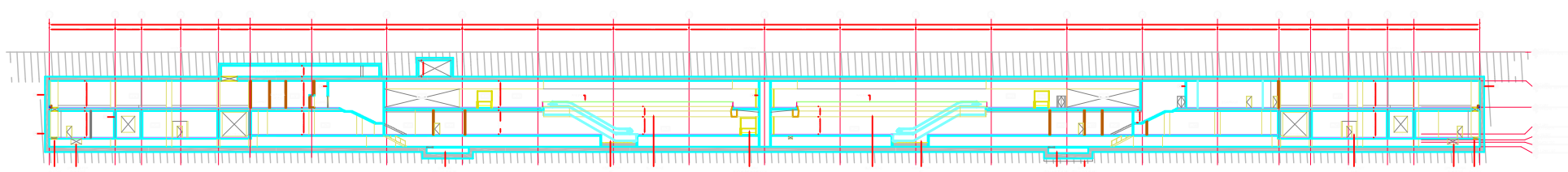


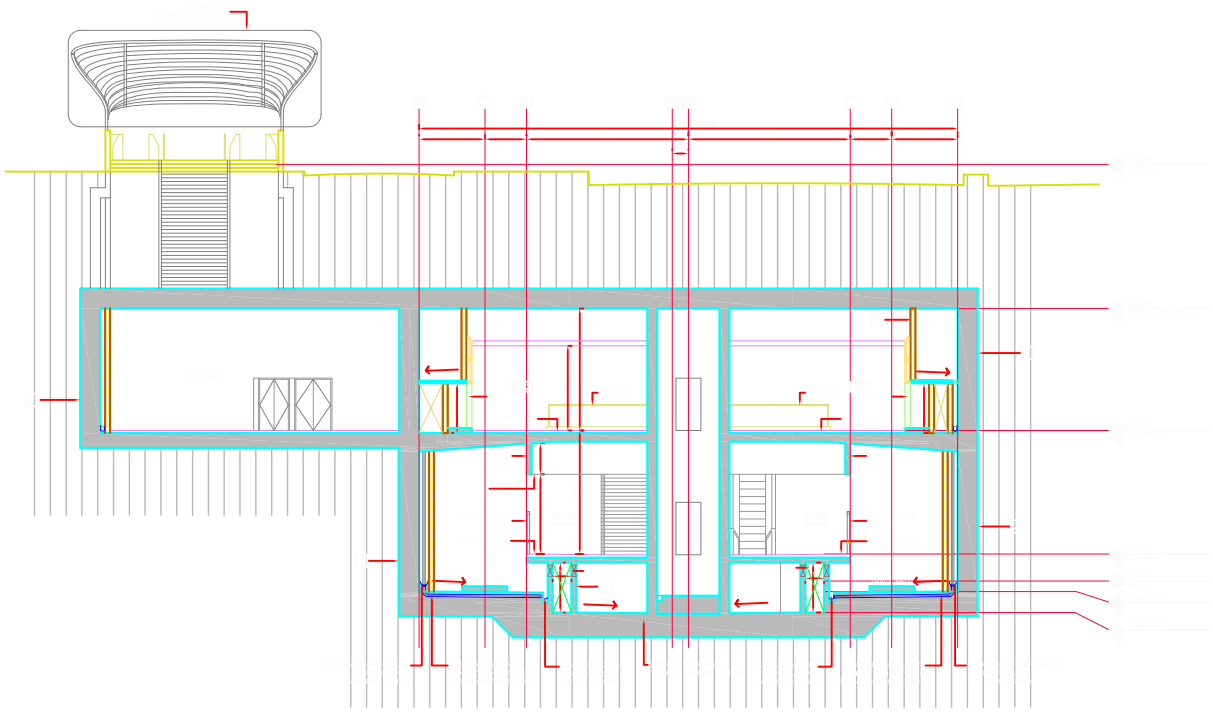
CONCOURSE LEVEL PLAN



PLATFORM LEVEL PLAN



LONGITUDINAL SECTION



CROSS SECTION

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS.
2. ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE ARCHITECTS BEFORE EXECUTION OF WORK AT SITE.

LEGEND

- OPERATIONAL AREA
- UNPAID AREA
- PAID AREA

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

NAGPUR METRO RAIL PROJECT

DRAWING TITLE: TYP. UNDERGROUND STATION

STATION TYPE:

TYPE II

DRAWING NUMBER:	DATE:	SCALE:	SHEET SIZE
	DEC. 2012	NTS	A-3

ARCHITECTURAL

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