



Bangalore Metro Rail Project- PH-2A



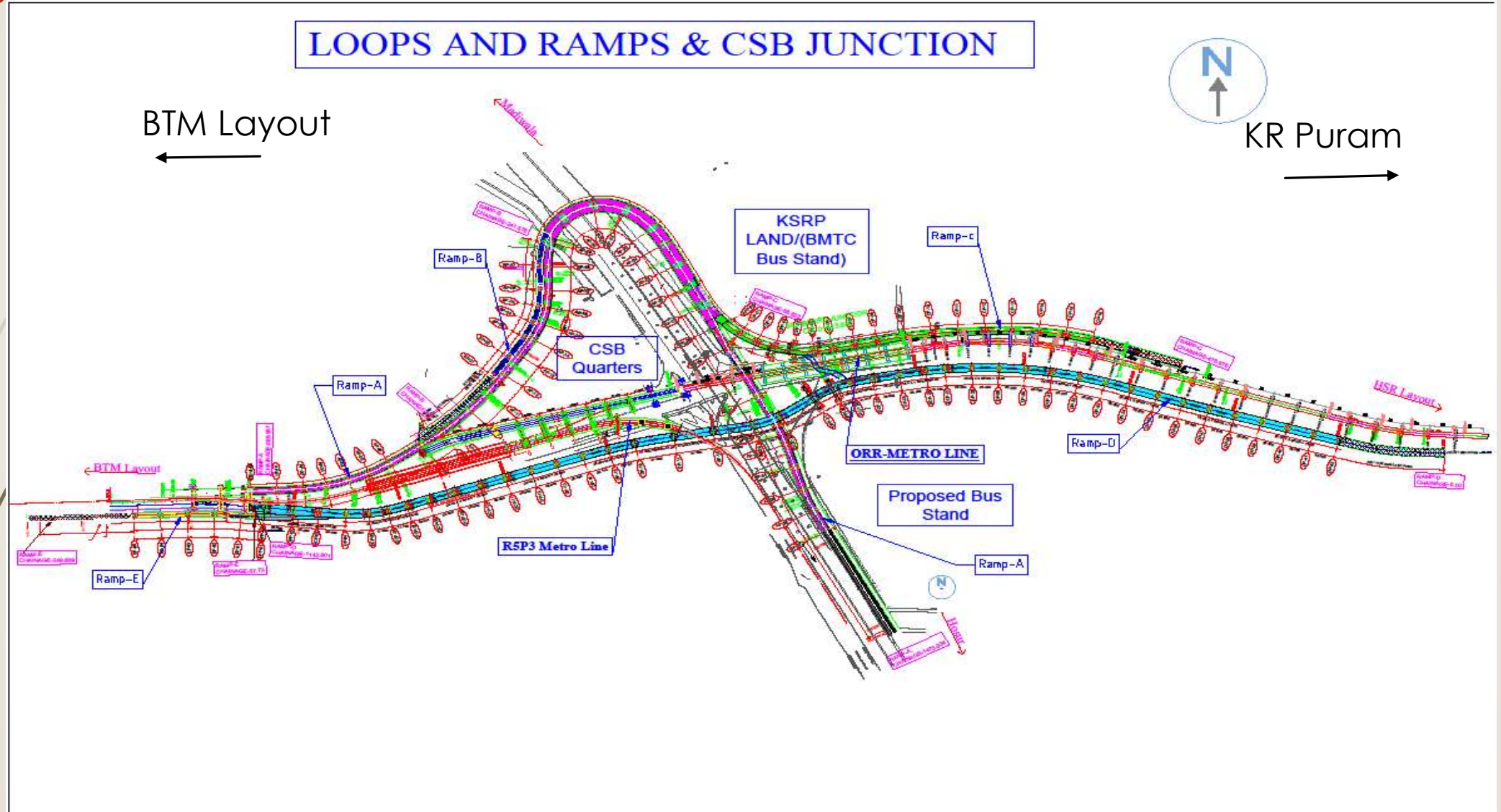
**Presentation on Innovative Financing (Walkway Construction)
Median Garden Development & Metro Piers Painting.**

Dt:10.01.2023

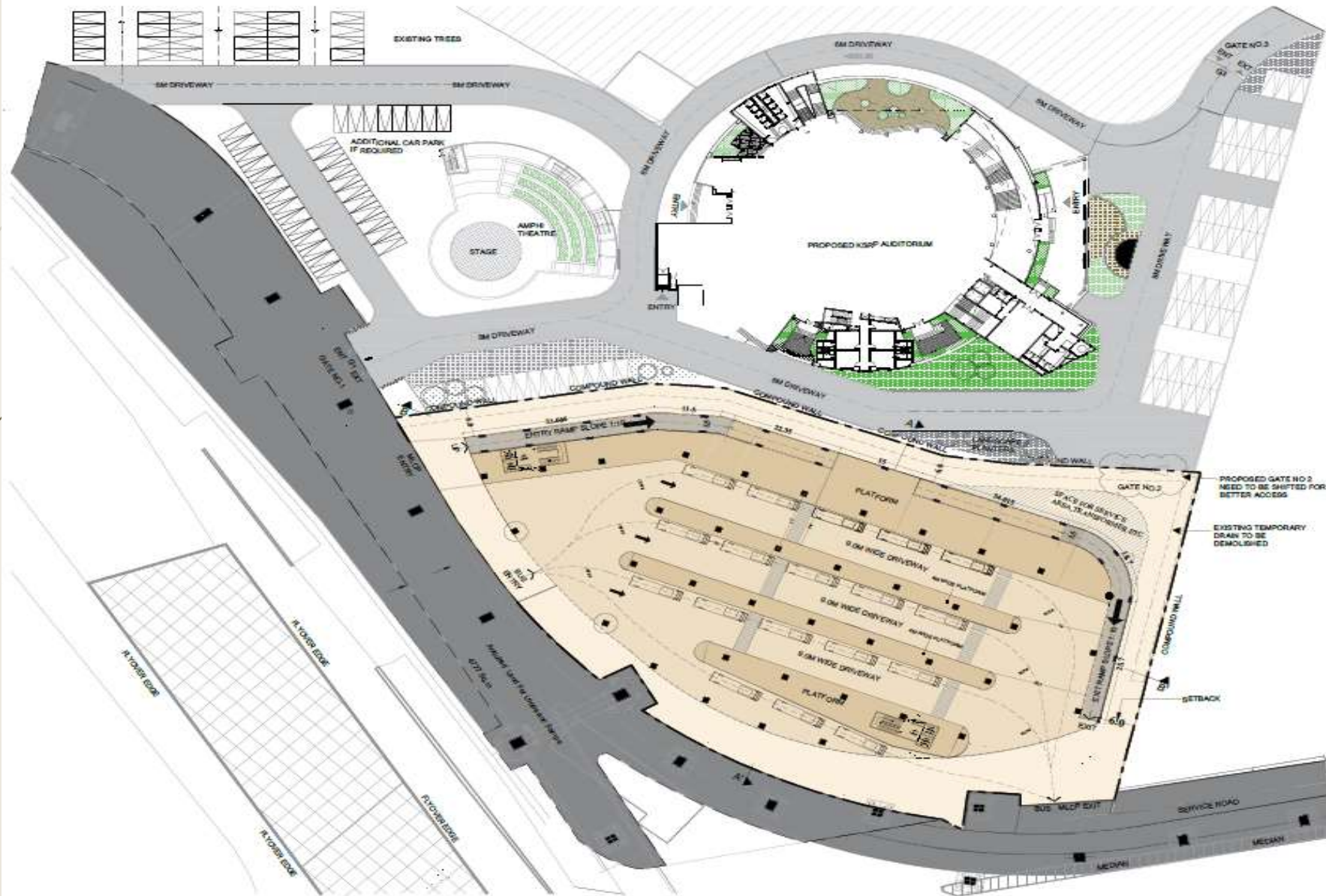
Multimodal Transit Integration (MMI)

Central Silk Board –Major Integration Junction

Elevated connectivity between Ph-2 and Ph-2A stns and Bus stand on either side of the Road.

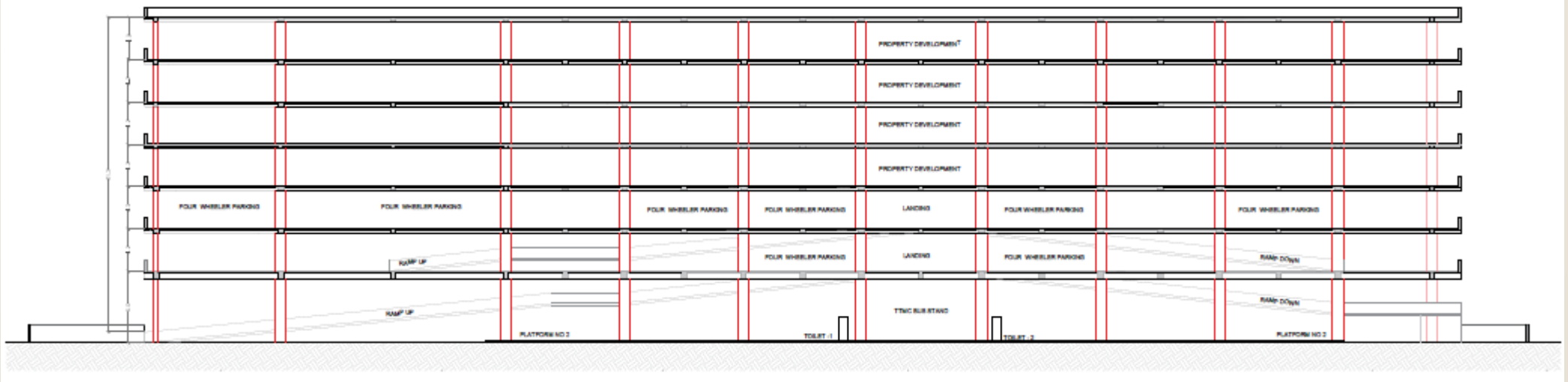
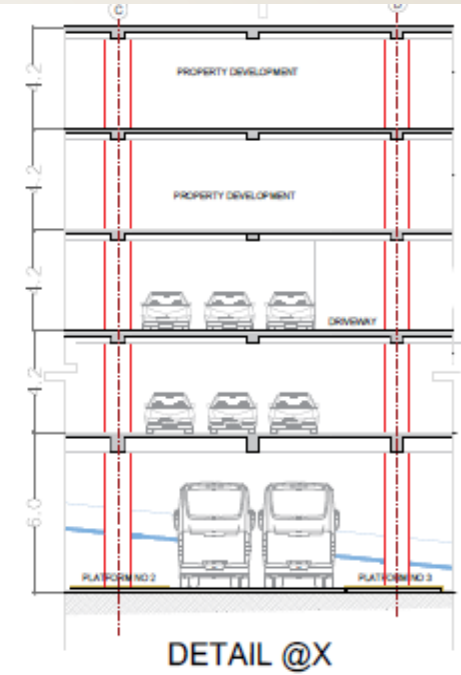
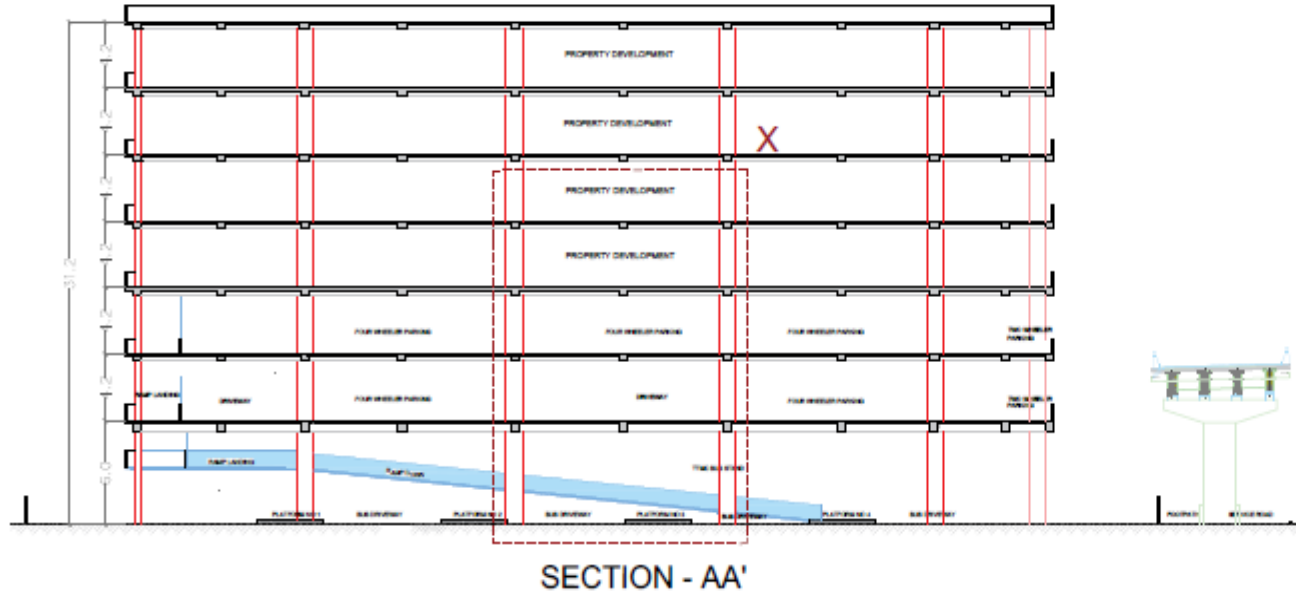


Layout of Proposed MLCP at CSB



MASTERPLAN - PROPOSED BMTc BUS TERMINAL

Section of Proposed MLCP at CSB



Salient Features of PH2A

PKG-1

- Construction of Viaduct & Stations between Central Silk Board to Kodibeesanahalli :- **Package-1**
- Contractor: **M/s Afcons infrastructure Ltd.**
- Contract Value: Rs. 785.23 Crs
- Start Date :05.07.2021 Expected Completion Date :30.06.2024
- Length of the Viaduct is 9.057 Km and Stations-810m (6Nos)

PKG-2

- Construction of Viaduct & Stations between Kodibeesanahalli to K R Puram :- **Package-2**
- Contractor: **M/s Shankaranarayana Constructions Pvt. Ltd.**
- Contract Value: Rs. 623.55 Crs
- Start Date :28.06.2021 Expected Completion Date :30.06.2024
- Length of the Viaduct is 8.834 Km and Stations-945m (7Nos)

ORR – PHASE - 2A - (CSB to K R Puram) 19.75 km VIADUCT + 13 STATIONS

Stations in PH 2A

Package-1

- 1) Central Silk Board**
- 2) HSR layout**
- 3) Agara Lake**
- 4) Ibbalur**
- 5) Bellandur**
- 6) Kadubesanahalli**

Package-2

- 7) Kodibesanahalli**
- 8) Marathahalli**
- 9) ISRO**
- 10) Doddanekundi**
- 11) DRDO Sports complex**
- 12) Saraswathi Nagar**
- 13) KR Puram**

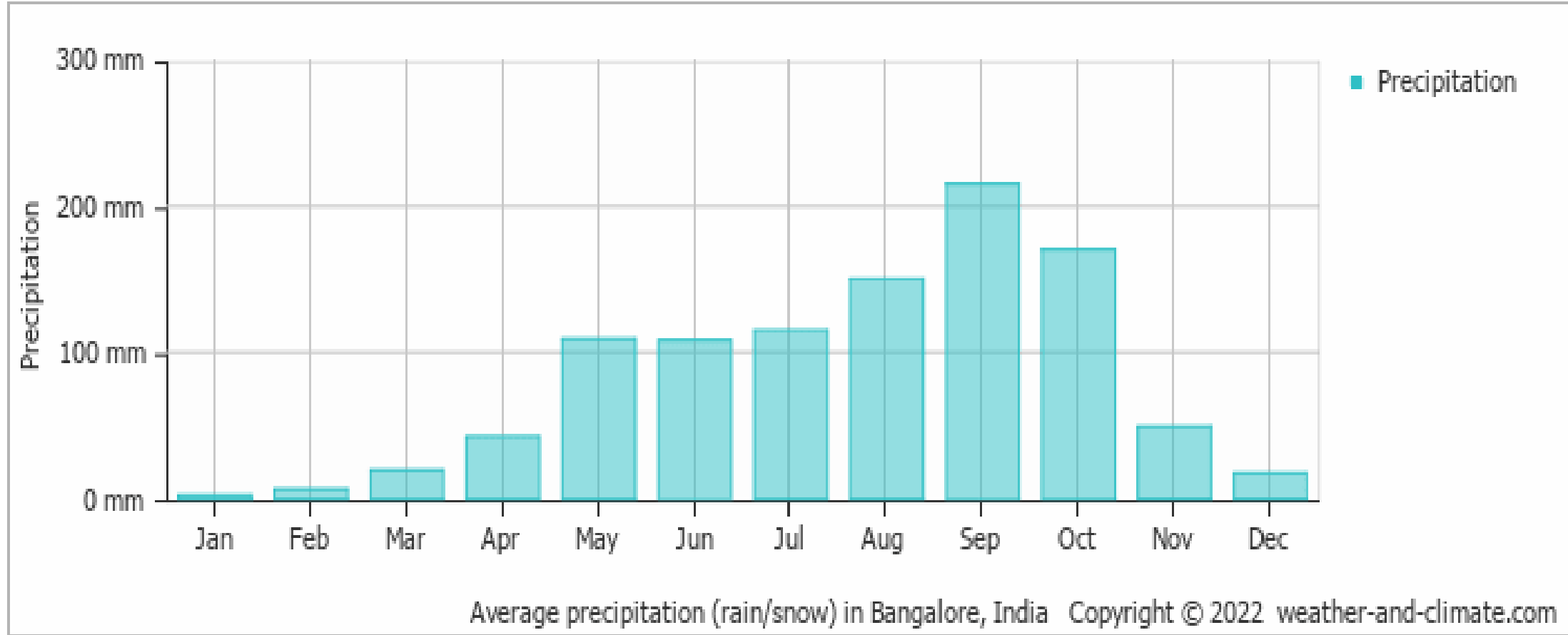
Sequence of Metro Viaduct construction Work

- Land acquisition
- Tree clearance and Translocation (Permission granted after 8 months and Translocation required 03 months from date of permission)
- Identification of Utilities & relocation (GAIL gas line shifted after 12 months from the project commencement)
- Barricading Stretch wise
- Pile foundation works
- Pile Caps
- Pier & Pier Caps
- Crash Barrier for Piers
- Launching of Girders
- Median construction
- Road Restoration works
- Stretch wise Removal of Barricades

Sequence of Metro Station construction Work

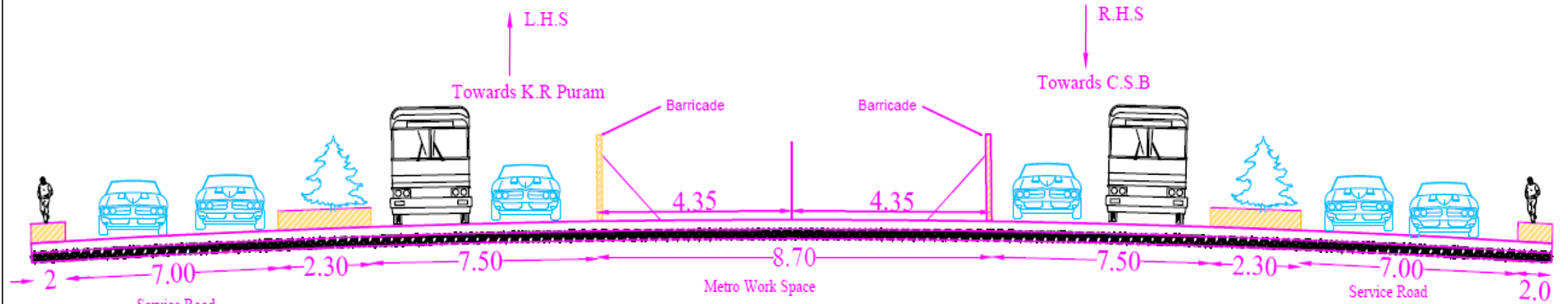
- Land acquisition
- Tree clearance and Translocation (Permission granted after 8 months and Translocation required 03 months from date of permission)
- Identification of Utilities & relocation
- Barricading Central portion of MCW
- Pile & Pile Caps
- Pier & Pier arm
- Crash Barrier for Piers
- Median construction
- Road Restoration works
- Removal of Barricades in MCW
- Barricading SR for Secondary Wing Construction
- Pile & Pile Caps
- Pier & Pier arm
- Crash Barrier for Piers
- Road Restoration works
- Removal of Barricades in SR
- Construction of Entry/Exit Structure

Bangalore City's Rainfall in 2022

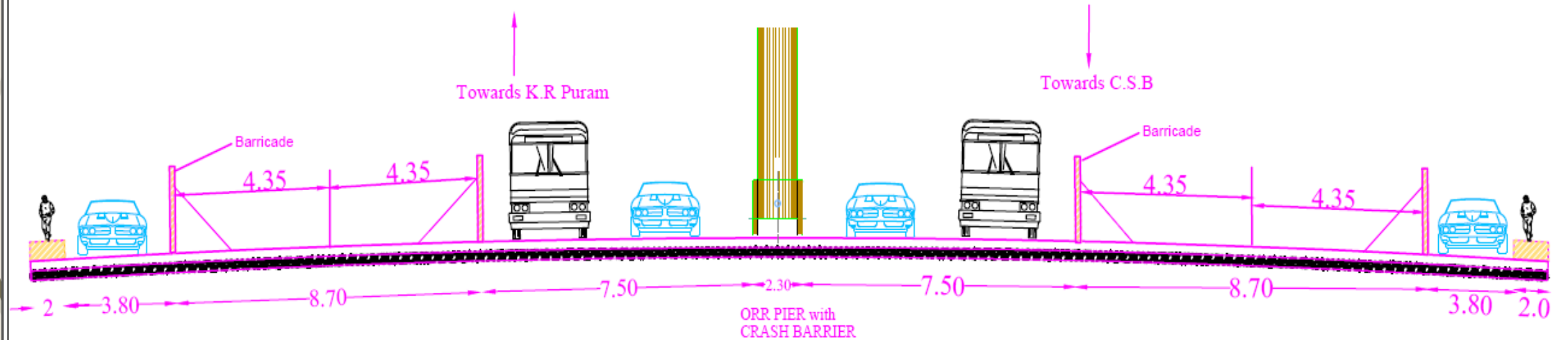


Rainfall during **2022** stood at cumulative of **1740 mm**, making it the highest ever annual rainfall figure recorded in **121 years** by the city's meteorological Centre.

Station Road Restoration-PH2A



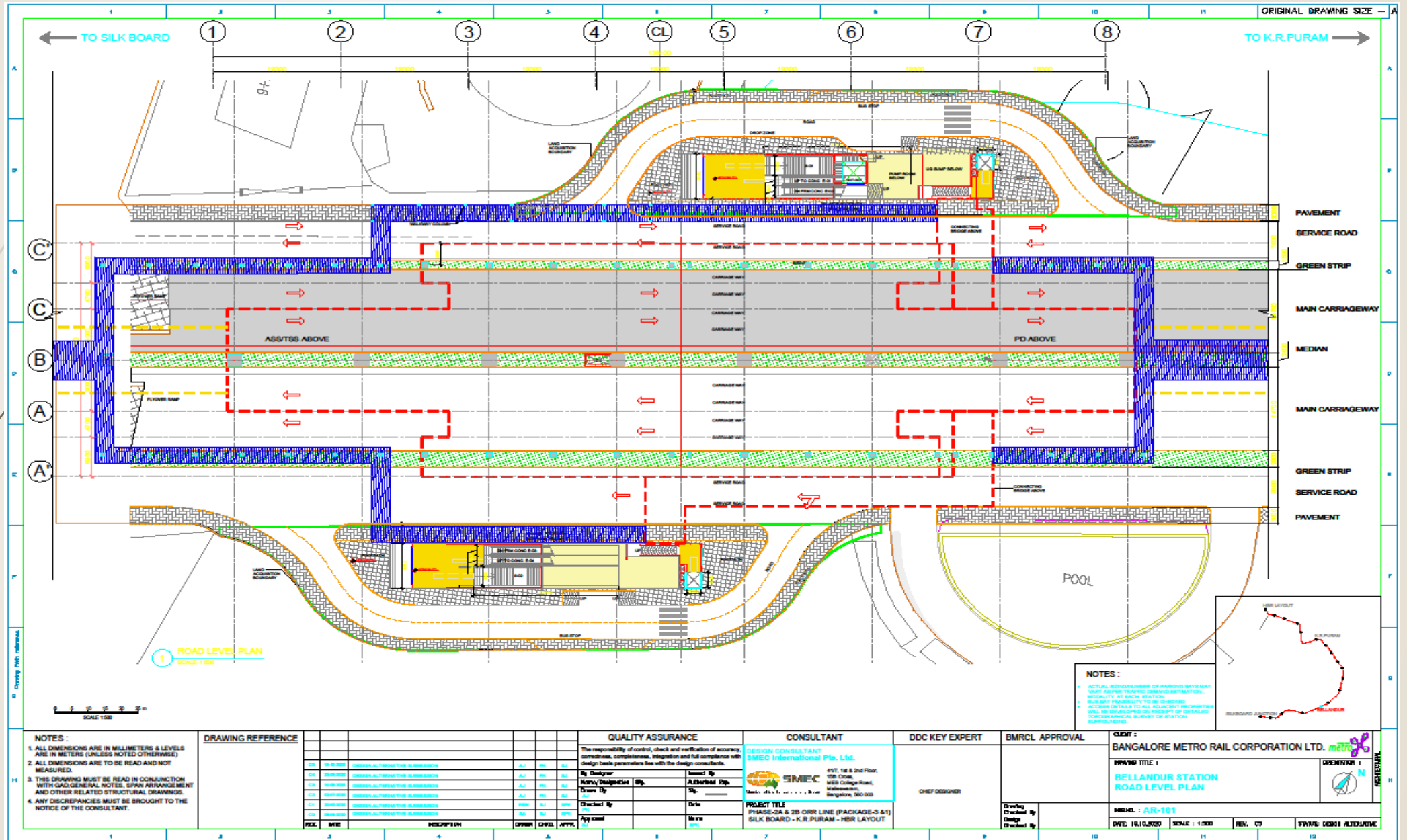
Stage 1 - Barricades & Vehicle movement during Central Pier Construction



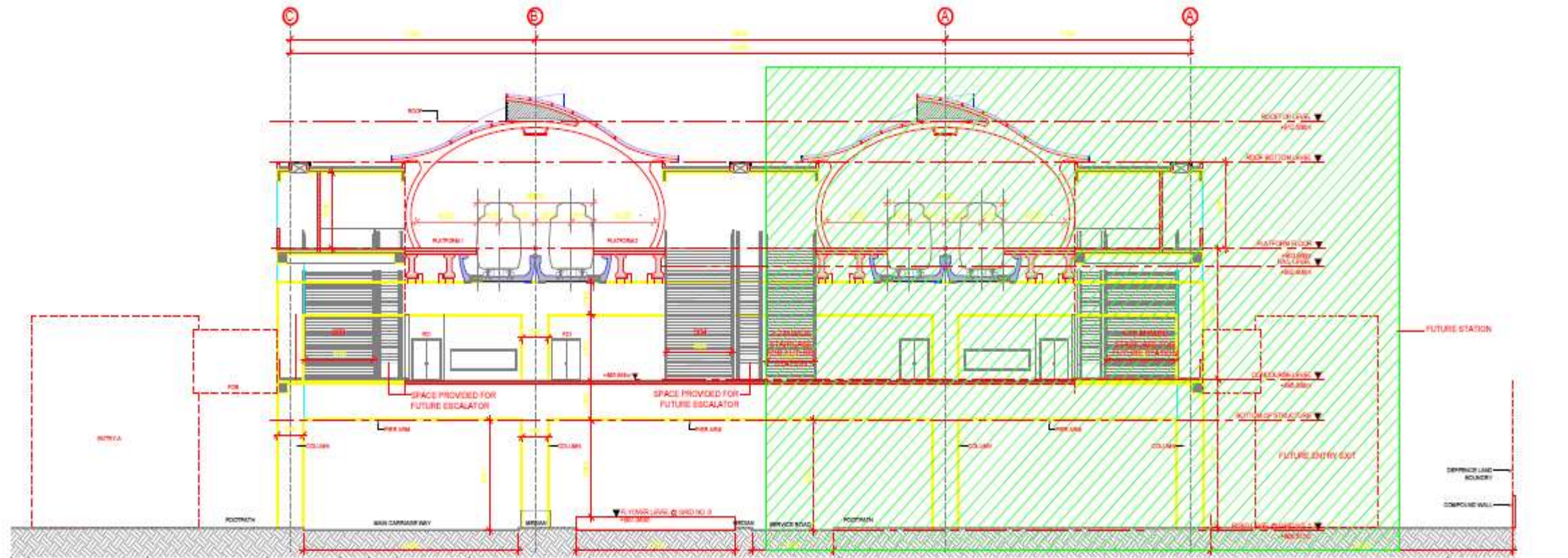
Stage 2-Barricades & Vehicle movement during secondary wing Construction

Cross Section of Station

Typical layout of Station



Ibbalur Station-Connecting PH2A & PH3A

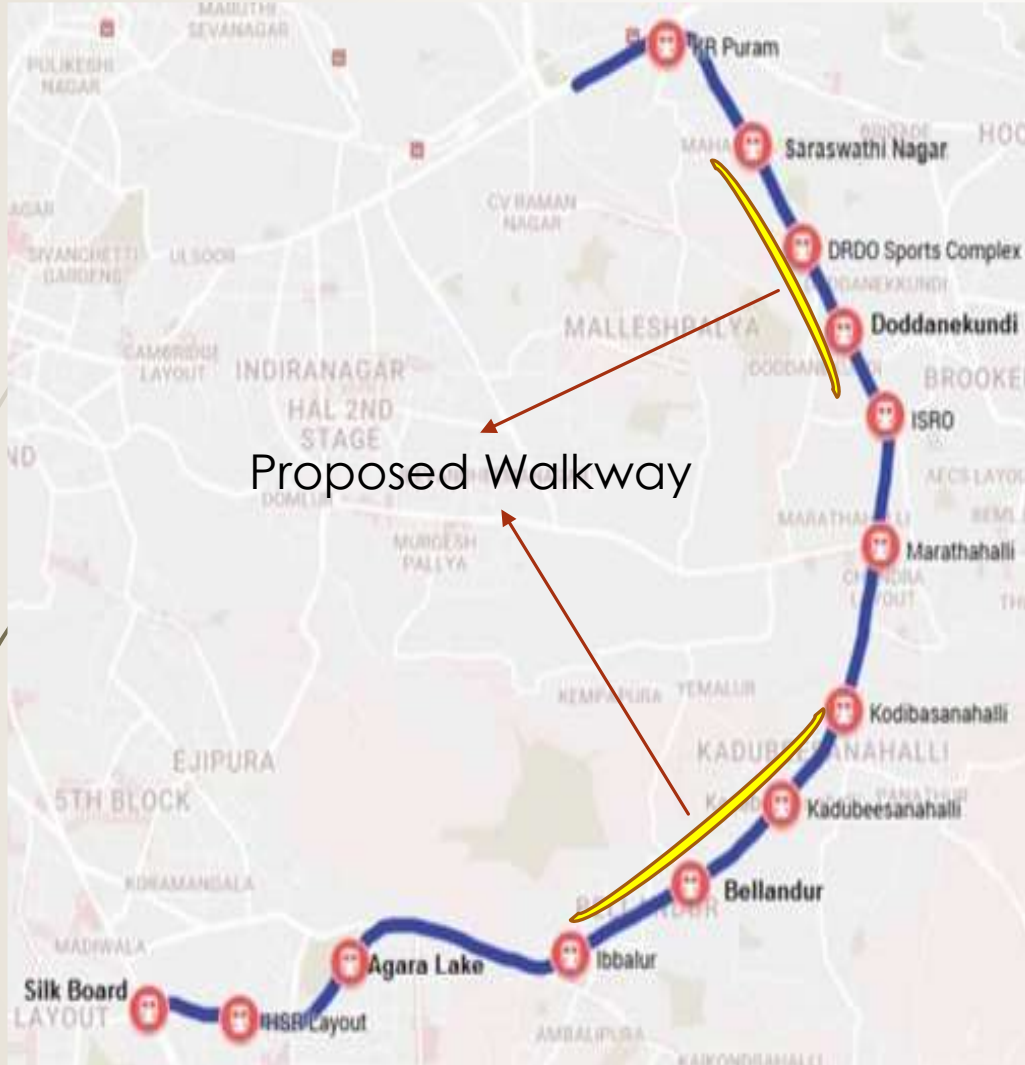


B CROSS SECTION
SCALE 1 : 150

Progress Details –PH-2A

VIADUCT			PH2A-P1		PH2A-P2		Total
Sl.No	Description	Unit	Scope	% Completion	Scope	% Completion	% Completion
1	Working Pile	Nos	1820	74%	1544	73%	74%
2	Pile Cap	Nos	333	46%	324	61%	54%
3	Pier	Nos	333	25%	324	54%	40%
4	U-Girder Casting	Nos	562	31%	544	36%	34%
5	U-Girder Erection	Nos	562	3%	544	17%	10%
6	Pier Cap Casting	Nos	237	34%	197	69%	52%
7	Pier Cap Erection	Nos	237	18%	197	43%	31%
8	Split Flyover Tie Beams Casting	Nos	88	73%	47	61%	67%
9	Split Flyover Tie Beams Erection	Nos	88	36%	47	36%	36%
10	Split Flyover Portal Beams Casting	Nos	88	25%	47	27%	26%
11	Split Flyover Portal Beams Erection	Nos	88	8%	47	2%	5%
			Over all %	35%		42%	39%
STATIONS							
1	Working Pile	Nos	288	79%	466	84%	82%
2	Pile Cap	Nos	48	44%	72	45%	45%
3	Pier	Nos	48	32%	74	33%	33%
4	U-Girder Casting	Nos	84	39%	98	0%	20%
5	I-Girder Casting	Nos	252	3%		0%	2%
			Over all %	13%		14%	14%

GENERAL ALIGNMENT OF ORR-PH2A



Walk way proposed in PH2A

- **PKG-1** –Ibbalur Station to Kodibeesanahali Station
- **PKG-2** –ISRO Station to Saraswathi Station

Walk way Provision below Viaduct

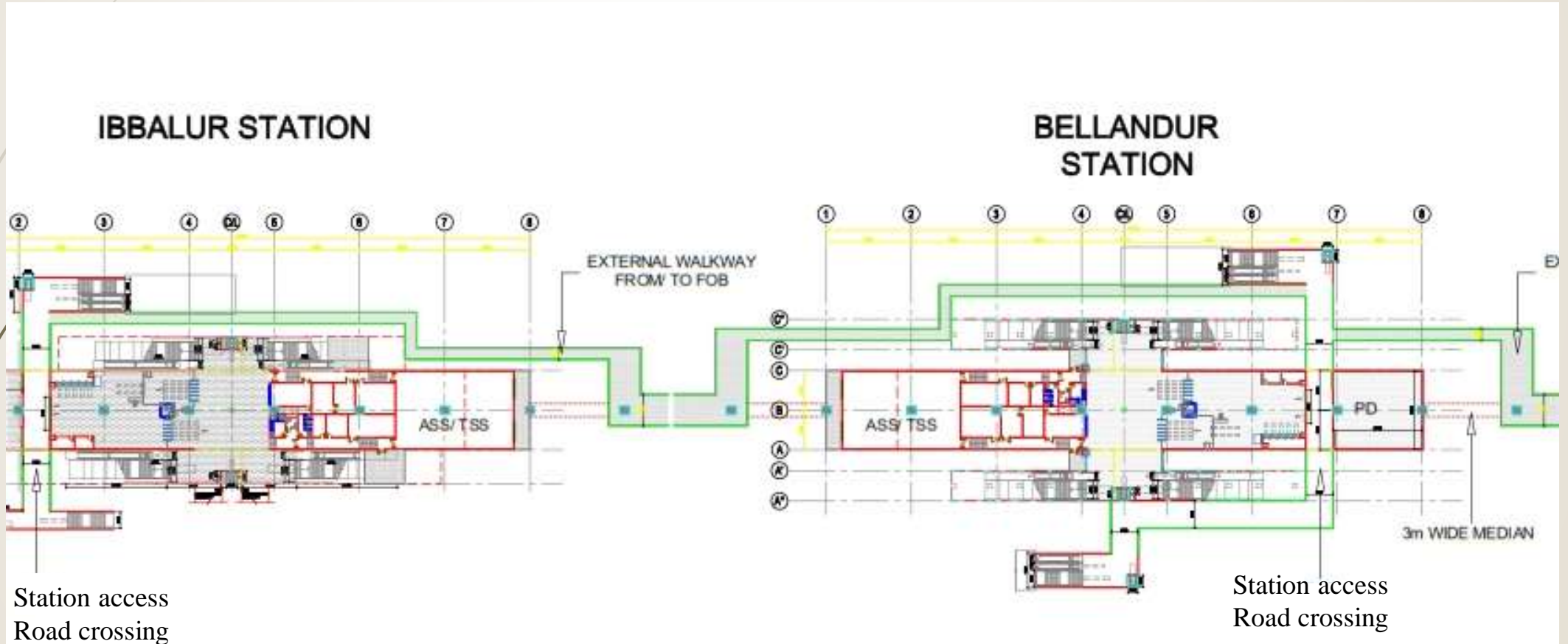


- ❖ Metro Stations facilitate as skywalks/FoB and Pedestrians can use the stations for crossing the road without Metro travel.
- ❖ To facilitate direct access from Commercial and Office spaces to the Metro Stations, provision is made for elevated walkway below the viaduct.
- ❖ Walkway below the viaduct is planned from Ibbalur to Kodibesanahalli & ISRO to Saraswathi nagar station
- ❖ Corporates may come forward for Walkway to give direct access to their premises as that construction can be completed along with Metro structures.
- ❖ Cost per Rmt of walkway shall be Approx. -2.5 Lakhs

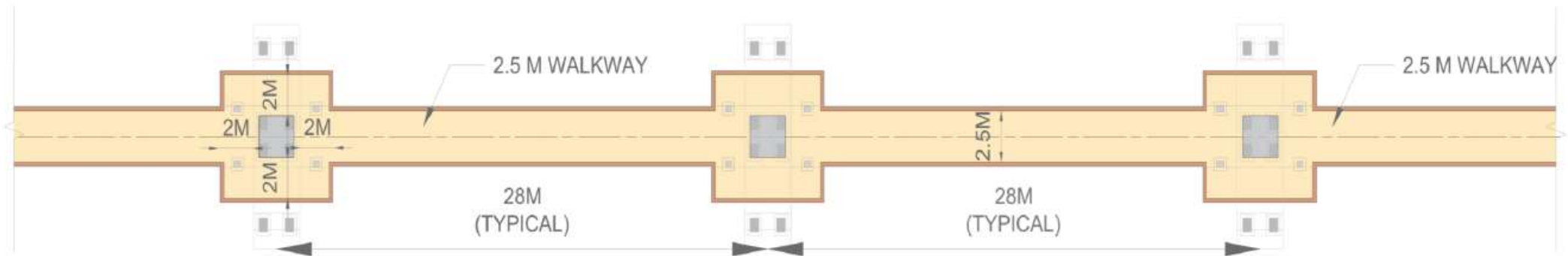
WALKWAY COLUMNS



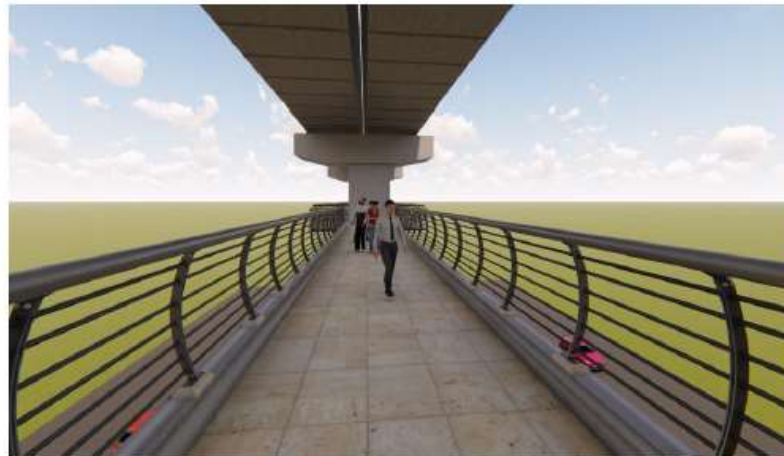
Walk way Provision at Ibbaluru and Bellandur Stations



INTER-STATION WALKWAY PROPSAL



SCHEMATIC PLAN

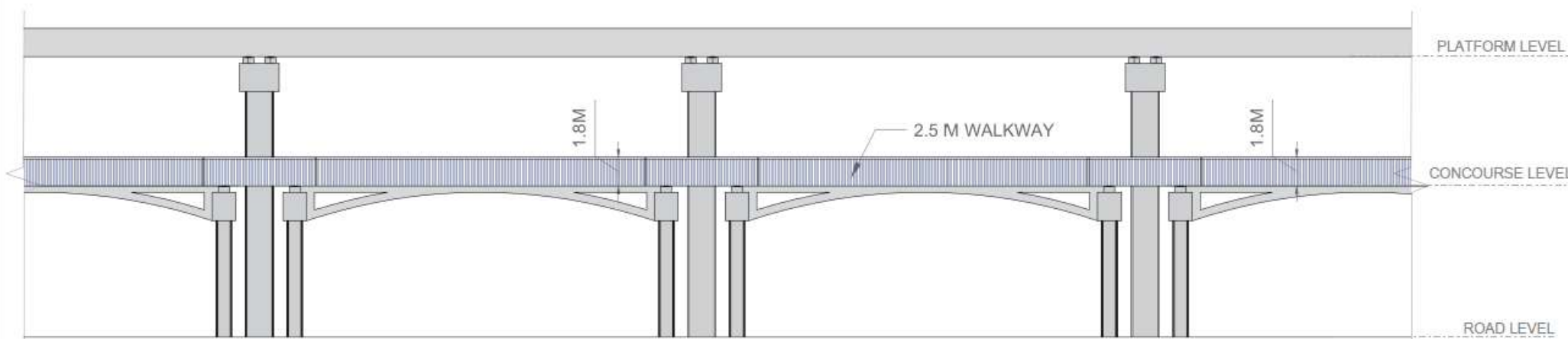


OPTION 1



OPTION 2

INTER-STATION WALKWAY PROPSAL



ELEVATION



3D VIEWS

Innovative Financing Techniques of BMRCL

G.O No. UDD 26 PRJ 2018 dated 01.03.2018 for raising Funds by BMRCL through Innovative Financing Techniques for BMRCL Project.

BMRCL offers bundle of rights for Rs. 100 Crores and also offers unbundled rights i.e., only naming rights, only direct access from the metro station. The rights offered include:

- **Naming Rights-** Any Corporate Entity can procure Naming of a Station by adding a prefix of their Brand/Name for a period of 30 yrs for **Rs.65 crore**
- 1,000 Sq.ft. of **Advertising space** and 3,000 Sq.ft. of **Commercial Space** within the Metro Station premises is offered for a period of 30 years for **Rs. 25 Crore**
- **Dedicated access** to Metro Station by way of Construction of **Walkways** by the Corporates who are located next to the Metro Station for **Rs.10 Crore**

Cost evaluation suggested by iDeCK for grant of Naming of the Station and other rights

Sl No	Facilities	Cost in Rs
1	Prefix company/ Brand name to the station name , mentions on the announcements through Television/Radio- Digital Displays for the period 30 years.	65Cr
2	Rentals of advertisement space of 1000 sq. ft. at the ground floor and 3000 sq. ft. of commercial space at concourse level for the period of 30 years.	25 Cr
3	Direct access to the metro walkway leading directly to the company premises for the period of 99 years.	10 Cr

The walkway shall be constructed by the concerned corporates at their cost.

Facilities offered by BMRCL for M/s. Infosys & Biocon Foundation

Highlights of Public Private Participation (PPP) – Finalized

<u>Sl No</u>	<u>Company Name and Station</u>	<u>Date of Signing of MOU</u>	<u>Amount</u>	<u>Facilities Provided by BMRCL</u>
1	Infosys Foundation (Konappana Agrahara Metro Station)	MoU entered on 19 th July, 2018. Grant Agreement Signed on 06th December, 2019.	Rs 100 crores	<ul style="list-style-type: none"> · Naming rights. · 30 years for commercial space leasing & Advertising Space . · 30 Years for walkway access.
2	Biocon Foundation (Hebbagodi Metro Station)	MoU entered on 08 th October, 2020. Grant Agreement Signed on 18th March, 2021.	Rs 65 crores	<ul style="list-style-type: none"> · Naming rights for 30 years.
Total			Rs. 165 Crores	

Details of MoUs signed by Corporates of ORR Metro Line

Highlights of Public Private Participation (PPP)					
<u>Sl No</u>	<u>Company Name and Station</u>	<u>Date of Signing of MOU</u>	<u>Amount</u>	<u>Amount received</u>	<u>Facilities Provided by BMRCL</u>
1	Intel Technology India Pvt. Ltd. (Bellandur Metro Station)-Ph-2A	MoU entered on 17 th January, 2018.	Rs 100 crores	Nil	<ul style="list-style-type: none"> · Naming rights. · 30 years for commercial space leasing & Advertising Space . · 99 Years for walkway access.
2	Mr. Irfan Razack- Prestige Exora business park.- Ph-2A (Kodibeesanahalli Metro Station)	MoU entered on 28 th March, 2018.	Rs 100 crores	Nil	<ul style="list-style-type: none"> · Naming rights. · 30 years for commercial space leasing & Advertising Space . · 99 Years for walkway access.
3	Embassy Property Developments Pvt. Ltd.- Ph-2A (Kadubeesanahalli Metro Station)	MoU entered on 04 th June, 2018.	Rs 100 crores	Nil	<ul style="list-style-type: none"> · Naming rights. · 30 years for commercial space leasing & Advertising Space . · 99 Years for walkway access.
Total			Rs. 300 Crores		

Details of Corporates Under Pipeline for Metro Line

Public Private Participation (PPP) – Under Pipeline

<u>Sl No</u>	<u>Company Name</u>	<u>Station</u>	<u>Concession Fee</u>	<u>MoU Signed on</u>
1	Bhagmane Tech Park.	DRDO station Naming Rights at ORR in Phase-2A and Connectivity from Sitharama palya Metro Station, Bellandur Metro Station, ISRO Metro station and Jakkur Cross Metro Station to their Bagmane campuses for a period of 30 years	Rs .70 Crore	HPC approved
2	BOSCH Limited	Lakkasandra Station (Adugodi Underground)	Rs. 10 Crore received for Connectivity from the station to BOSCH premises	Awaiting HPC approval
3	ITPB	Pattanduru Agrahara	Rs. 10 Crore for Connectivity from the station to ITPB premise	HPC approved

Median Garden Development & Pier Painting



- BMRCL has more than 1500 medians around metro corridor and we have signed MoUs with various Corporates, Hospitals and NGOs for Development and Maintenance of Median garden along Metro Corridor under their CSR initiative. The objective of this initiative is to develop and maintain the Median garden for contributing to the city's endeavour to keep it clean and green.
- The Corporate has to ensure that these Medians are planted with ornamental plants and maintained/ nurtured well so that it adds to the aesthetics and beauty to the garden city of Bangalore.
- BMRCL has also joined hands with Corporates/NGOs for pier painting to enhance the beauty of Metro Corridors under their CSR initiative with a view to maintain aesthetic beauty of column & viaduct.
- The corporates interested in Median Garden Development along with Pier Painting will be permitted to install one display board in the Median and one logo on the pier.



Median Garden Development and Maintenance along the metro alignment

BMRCL has entered into MoU with the following Companies/Corporates, Hospitals and NGOs for developing and maintaining median gardens and pier painting at various locations:

Sl. No.	Corridor	Stretch	Developed by
01.	PH-1,Reach-1	MG Road Station to SV Road Station	M/s Discovery Village LLP.
02.	PH-1,Reach-2	Magadi Road to Mysore Road	M/s Sparsh Hospital.
03.	PH-1,Reach-3	Sampige Road (Mantri Square) to Peenya	M/s Sparsh Hospital.
04.	PH-1,Reach-4	National College Station to Banashankari Station	M/s Discovery Village LLP.
05.	PH-1,Reach-4A	J P Nagar Station to Banashankari Station	M/s Cura Hospital
06.	PH-2,Reach-2A	Nayandalli to Pattangere (R.V. Collage)	M/s Sparsh Hospital.
07.	PH-2,Reach-2A	Pattangere (R.V. Collage) to Challaghatta	M/s Discovery Village LLP.
08.	PH-2,Reach-4B	Doddakallasandra Station to J P Nagar Station	M/s Astra Super Speciality Hospital.
09.	PH-2,Reach-4B	Doddakallasandra Station to Thalghattapura Station	M/s Hillside Group of Institutions.
10.	PH-2,Reach-4B	Thalghattapura Station to Anjapura Cross (Silk Institute)	M/s Astra Super Speciality Hospital.
11.	PH-2,Reach-1Ext	Whitefield Station to Kadugodi Station	M/s Sumadhura Infracon Private Ltd.
12.	PH-2,Reach-1Ext	Kadugodi Station to Pattandur Agrahara Station	M/s SBGS Unnati Foundation.
13.	PH-2,Reach-1Ext	Kunadalahalli Station to Nalluruhalli (Vydhehi) Station	M/s GE BE Pvt. Ltd.
14.	PH-2,Reach-1Ext	Nalluruhalli (Vydhehi) Station to Sadaramangala Station	M/s GE BE Pvt. Ltd.
15.	PH-2,Reach-1Ext	Kunadalahalli Station to Seetharam Palya Station	M/s SAP Labs India Pvt. Ltd.
16.	PH-2,Reach-1Ext	Garudacharapalya to Seetharam Palya Station	M/s Vision Infotech
17.	PH-2,Reach-1Ext	Mahadevpura Station to Hoodi	M/s Bhoruka Park Pvt. Ltd.
18.	PH-2,Reach-1Ext	K R Puram Station to Garducharapalya Station	M/s Hitachi Energy Technology Services Pvt. Ltd.



The ORR Corridor (Phase-2A) of Namma Metro are on offer for Median garden development and Pier Painting to Corporates

- i. Central Silk Board to HSR layout
- ii. HSR layout to Agara
- iii. Agara to Ibalur
- iv. Ibalur to Belandur
- v. Belandur to Kadubeesanahalli
- vi. Kadubeesanahalli to Kodibeesanahalli
- vii. Kodibeesanahalli to Marathahalli
- viii. Marathahalli to ISRO
- ix. ISRO to Doddanekundi
- x. Doddanekundi to DRDO
- xi. DRDO to Saraswathipura
- xii. Sarawathipura to K R Puram

For more information on development and maintenance of Median Garden you may visit our website www.bmrc.co.in for participation.

Pillars Paintings



Photos of Median Garden Development & Pier Painting



Photos of Median Garden Development & Pier Painting



ASSISTANCE FROM ORRCA

1. Pile driving activity not allowed during night hours between 10pm to 5am along ORR which is affecting foundation works. Overall, foundation works are likely to take more time (approx. 3 to 4months) than planned duration.
2. FOB at Bellandur station needs to be dismantled to facilitate station construction.

Progress Photograph –PH 2A

Pier caps Erection Completed from ORP 522 to ORP 527





U Girder erection completed ORP473-474



IBBALURU



U-GIRDER ERECTION



TIE BEAM AND PORTAL BEAM ERECTION



ORP-220

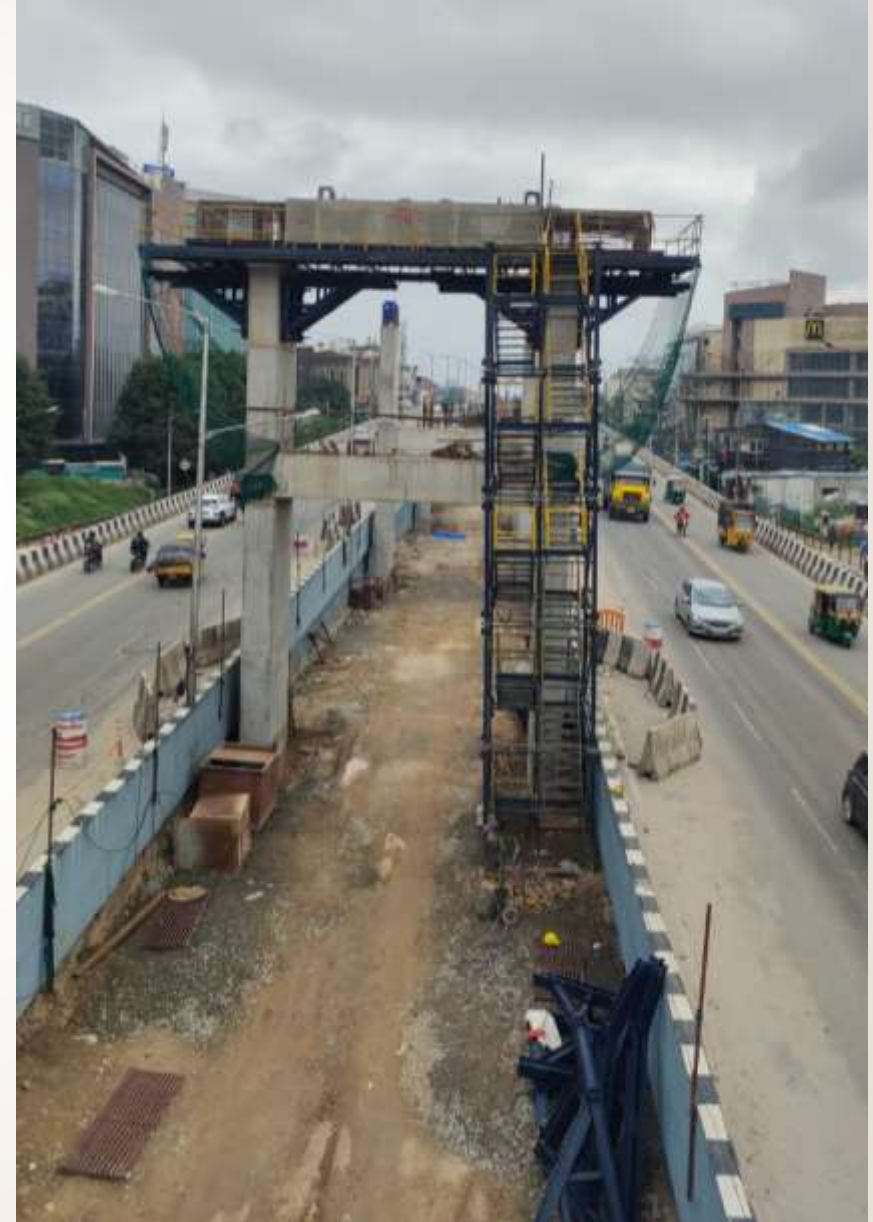


ORP-221



ORP-222

TIE BEAM AND PORTAL BEAM ERECTION



U Girder & I Girder at Casting yard





THANK YOU

