Project Information Memorandum (PIM)
on
Development of Multi-Level Car Parking System at South Block, Bahu Plaza, Jammu

Submitted to:

National Highways & Infrastructure Development Corporation Ltd (NHIDCL)

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A Joint Venture of The Government of National Capital Territory of Delhi & The IDFC Foundation.
An ISO Certified Company

DIMTS
We help people move

8th Floor, Block-1 Delhi Technology Park,
Shastri Park, Delhi- 110053, India
Tel+91-11-43090100|Email:info@dimts.in
Website: www.dimts.in

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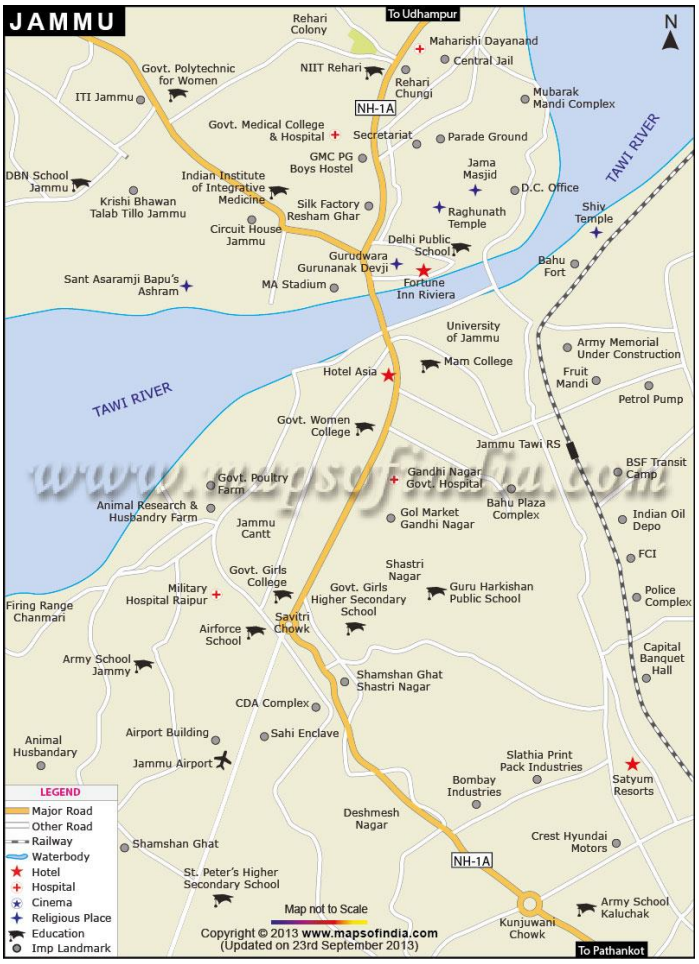
1. Introduction

1.1. About Jammu

Jammu is the winter capital and the largest city in Jammu district of the Indian union territory of Jammu and Kashmir. It lies on the banks of the river Tawi, the city of Jammu, with an area of 26.64 km2 (10.29 sq mi), it is surrounded by the Himalayas in the north and the northern-plains in the south. Jammu is the second most populous city of the union teritory.



Jammu is known as the city of Temples for its ancient temples and Hindu shrines, it is the most visited place in the union territory. Jammu city shares its borders with the neighboring Samba district. As of 2011 census, the population of Jammu city is 502,197. Males constitute 52.7% of the population; females constitute 47.3% of the population. The sex ratio of the city is 898 females per 1,000 males against the national average of 940. Jammu had an average literacy rate of 89.66%, much higher than the national average of 74.4%

1.2. Introduction to the Area and Building

Commercial Building of South Block, Bahu Plaza is situated in the heart of the city, Jammu. It has been a prominent and well known location in New Jammu. The building has Commercial establishments like offices, restaurants, retail outlets, Jewelry shops etc. The building is well connected by roads. Jammu Railway station and Airport is in the close proximity of approximately 1.5 kms and 9 kms from South Block, Bahu Plaza building.

Roads:-

a) Green Belt Road

b) Railway Road

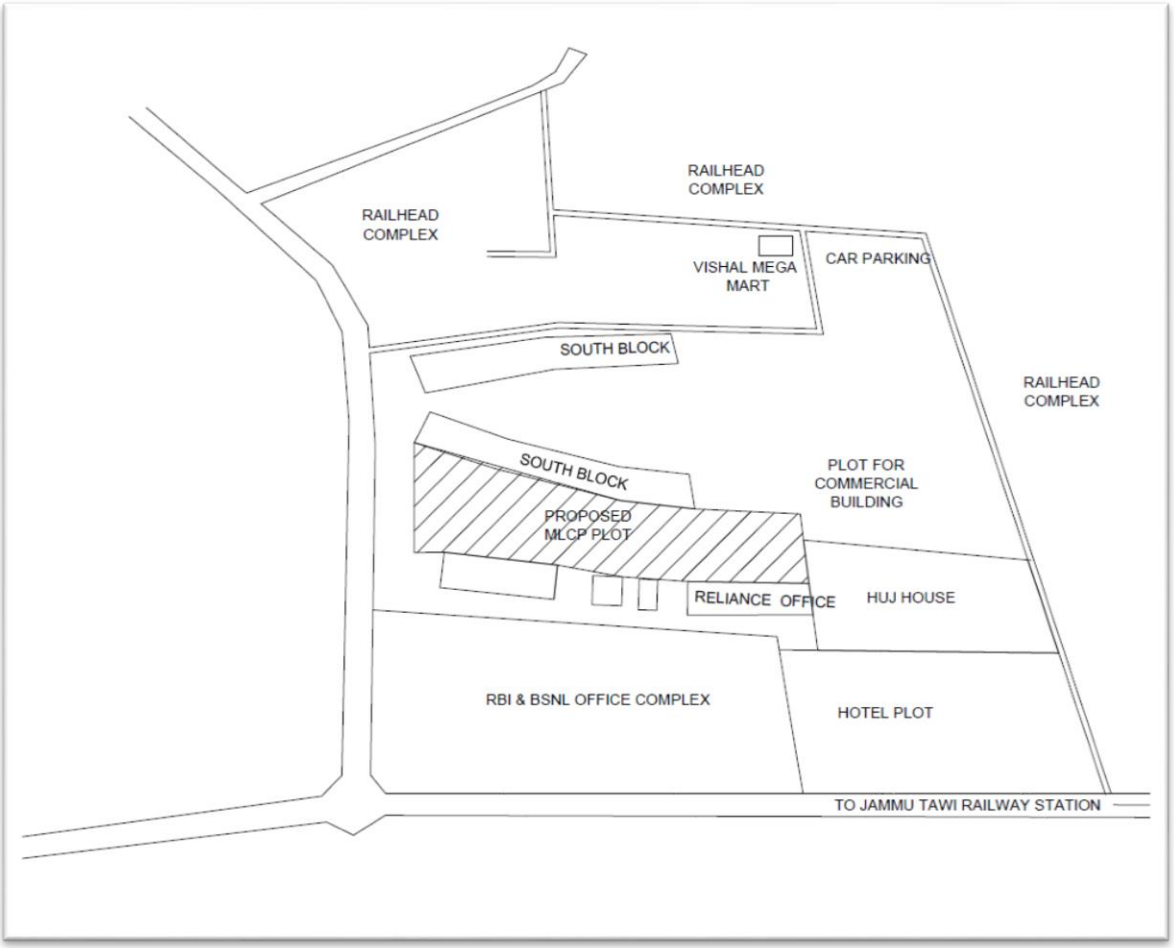
c) A 15 m wide road passes in front of the proposed parking site and connects to the above-mentioned roads

All these roads will have a significant impact on the traffic circulation to the proposed site as they are the main access roads to the site as well as the surroundings.

South Block, Jammu

Neighborhood:-

South Block, Bahu Plaza is a commercial complex which has railway station, bus stand, taxi stand and many government institutions like J&K SRTC, Udyog Bhawan, Excise and Taxation Complex, office of Divisional Commissioner Jammu, office of Directorate of Sheep Husbandry in the close proximity of the proposed site. Many guest houses, hotels (budget to 5 star) and temples are also situated nearby.



Over the years, the demand to have space for parking of more and more vehicles – both cars as well as two wheelers has made the open areas outside the South Block building congested and a safety and security hazard.

1.3. NHIDCL's Mandate

NHIDCL has decided to undertake several initiatives to undertake parking related projects in order to ease the congestion in and around several iconic structures in the country.

The objective of NHIDCL is to develop modern, space saving parking solution which are economical as well provide the best solution to alleviate the problem being faced by staff members and visitors as well to improve the overall aesthetic quality of the surrounding areas by removing congestion in terms of providing an optimized solution.

NHIDCL would like to evaluate contemporary technologies for parking solutions as well would also like to incorporate future readiness in the projects – such as related use of solar energy, charging of electric vehicles etc.

1.4. DIMTS Mandate

NHIDCL has appointed DIMTS a joint venture company of Government of NCT Delhi and IDFC foundation for preparation of Detailed Project Report for development of Automated Multi Level Car Parking System at South Block, Bahu Plaza, Jammu.

1.5. Project Description

Providing on and off-street surface parking has been the common practice, followed over the years for parking in urban areas. Due to increase in vehicular population and limitation of space for surface parking, there is a need for development of multi-level parking spaces across cities. In recent years, there is a shift, all over the world, to provide multi-level (also referred to as Multi storied) car parks. Multilevel car parks (MLCPs) require less surface area when compared to on or off-street surface parking, because in a MLCP cars get parked at multiple levels – above, at or below ground level.

1. Optimal utilization of space.
2. Can be constructed on minimum available space.
3. Lower construction cost.
4. Low maintenance and operational cost.
5. Safety of vehicle.
6. Environment friendly.
7. Benefit to a driver.
8. Benefit to builder.
9. Benefit to architects.
10. Reduction of crimes.

In its endeavour to provide additional facilities to visitors Jammu Development Authority (JDA) proposes to develop a Multi-Level Car Park at the South Block, Bahu Palza in Jammu.

1. Site Appreciation

The proposed site for development of Multilevel Car Parking is located at South Block, Bahu Plaza, Jammu. The co-ordinates of the site are 32.7045112 N 74.8737944 E

The proposed site earmarked for development of Multi Level Car parking is located adjoining to South of Bahu Plaza. Presently site is being used as surface parking. The Topographical and Traffic survey of the site were carried out from 10th February, 2020.

The MLCP concept layout plan was worked out and presented to the Principal Secretary – Urban & Housing at Jammu on 12h February, 2020. It was decided in the meeting to explore the commercial area within the MLCP to make it financially viable.

Actual Site Photographs

2. Concept Plan

The proposed site for MLCP is at south of Bahu Plaza. The available plot size for MLCP is approximately 8293 sqm, which is presently used for parking.
In the proposed MLCP building commercial block has been provided towards the main road on west side.
Commercial block has shopping area on first, second floor and a multiplex on the second-floor level. Total 3 multiplex has been proposed having capacity of approx. 200 seats per multiplex. Ground & first floor shall be connected with escalators and lifts. Each commercial floor level shall be connected to parking floor level.

Parking block has been planned with separate UP & DN ramp. Entry and Exit of vehicles to parking block is proposed from west and east side of the road to minimize congestion. Parking floor height is envisaged considering the provisions for puzzle parking and to increase the number of parkings. A total no. of 83 ECS parkings are proposed at each level at upper floors , 70 ECS at Terrace Level and 192 no. of car parkings at basement level. Provisions are kept in the structure to add puzzle type parking at each floor to enhance the parking requirement in the future.

Puzzle parking system provides independent parking spaces for cars depending upon the no. of rows & columns it can accommodate with utmost safety provisions in the system.

Parking Management System shall be installed in order to have controlled entry and exit of vehicles, provisions for automatic ticketing and a system for total no. of car parking slots available at each level is also being proposed.

The building shall have framed structure. The façade of the building shall be made of glass which will give a modern look to the building.

Firefighting provisions shall be done as per NBCC norms.

The entire building design and planning shall be done considering the area requirements, aesthetic designs in the neighbourhood buildings and latest designs and technology requirements for car parking.

2.1. Features of proposed Multi level Car Parking site

- No of Car Parkings- 83 Car Spaces at each upper floor , 192 on basement level and 70 on terrace , totaling to 593 cars.
- Front Block towards main road shall be used as commercial area and rear Block as parking area
- No of Floors- Ground +3 upper floors + 1 basement floor
- Shoppping area on ground & first floor level
- Multiplex on second floor level
- Provison of puzzle parking at each level of parking block in the future. Provision shall be done in the structure to add puzzle parking in future
- Parking & commercial area connected at each floor level
- Entry of vehicles to parking block from east and west side roads
- Food court on the terrace with dedicated parking for food court at terrace level

2.2. Design Philosophy

Design Philosophy forms the core around which the design takes shape. It is the study of assumptions, foundations and implications of design which sets out a clear objective for the design and the vision to attain the said objective. The design philosophy followed by DIMTS regarding the design of the concept of MLCP at the South Block, Jammu is set out below

2.3. Design Philosophy Tenets

- Eliminating potential barriers in design which might discourage the targeted end user
- Seamless integration of the parking facility into the existing traffic movement
- Minimising the turnaround time per ECS
- Planning and Positioning of Commercial area to avoid congestion
- Architectural Aesthetics,Economics,Function and Ergonomics
- High Degree of automation and integration of technology for security and data collection
- Architectural amalgamation with fascade of existing buildings

3. Real Estate Market Assessments

Detailed market assessment near South Block, Bahu Plaza, Jammu was carried out to understand the commercial aspects around the catchment area. A secondary research using real estate websites on the internet was also carried out to understand/ analyse the market rentals near proposed site area.

3.1. Type of Commercial activity in the area

The project site is surrounded by commercial establishments including shops, offices, hotels and restaurants, there is railway station in the close proximity of the proposed MLCP as well, the secondary research conducted with the help of various property websites also confirms the presence of shops and offices in the vicinity of the proposed MLCP.

3.2. Catchment Profile

The catchment for any particular site is observed as per the potential population that is likely to visit the project site. This will vary in quantum for residential, commercial development and retail development, as each usage define their own areas of influence. Generally, the catchments of retail developments are the smallest and have the minimum travel time, followed by catchments for place of work followed by residential.

The catchment area is considered within a distance of 1.5 Kms from the proposed site which is about 5-15 minutes driving time. The proposed site lies in one of the prominent commercial areas. The catchment area includes Offices, Restaurants, Hotels, Primary School, Banks, Retail shops etc.

3.3. Rentals and Sale Price in the area

Basis the conversation with various property dealers currently present in the vicinity of Bahu Plaza, Jammu along with secondary research conducted on various property websites, following rental & sale trends are observed near the proposed site area.

3.3.1. Retail Rentals near the proposed site

S.No.	Area	Area in sq.ft.	Rental in Rs.	Rental per sq.ft.	Present use
1	Narwal	12000	720000	60.00	Commercial Office, marble market, new Building
2	Gandhi nagar	450	150000	333.33	5-10 yrs old (triple Story)
3	Baithindi	150	20000	133.33	10 yr old shop
4	Gole Gujral Singh Complex	900	60000	66.67	Ideal for showroom
5	Trikuta Nagar	1100	44000	40.00	Bank Use
6	Panjtirthi	447	50000	111.86	0-1 yr old shop
7	Gadi Garh	3000	1000000	333.33	Good for showroom
8	Bus Stand	3000	350000	116.67	Good for showroom
9	Gandhi Nagar	1300	25000	19.23	Office
10	Bari Brahmana	800	44000	55.00	Office
11	Gangyal	4500	135000	30.00	Restaurant, Showrrom
12	Canal Road	500	30000	60.00	0-1 yr old
13	Palm Island Mall	750	37500	50.00	office space
14	Palm Island Mall	949	47450	50.00	office space
15	Bahu plaza	711	50000	70.32	Office Space
16	Nanak Nagar	1500	30000	20.00	Virmani Store

3.3.2. Retail Sale Price near the proposed site

S. no.	Area	Area in sq. ft	Sale Price in Rs.	Sale Price per sq. ft.	Remarks
1	Narwal	3200	36000000	11250	10 yr old property
2	Transport Nagar	250	6204000	24816	10 shops in a row
3	Pacca Danga	100	2800000	28000	Commercial

4	Raghunath Bazaar	3600	42000000	11667	One of the biggest property available
5	Gandhi Nagar	275	21000000	76364	Oppo. Arya Samaj Mandir
6	Residency Road	600	20000000	33334	0-1 yr old
7	Sainik Colony	250	2750000	11000	0-1 yr old
8	RS Pura	1500	1980000	1320	Road Side Plot

4. Proposed Technological Solution

4.1. Parking Technology comparison

4.1.1. Ramp based vs Semi- Automatics vs Fully Automatic Parking

Ramp based Parking and Fully Automatic Parking come with their inherent benefits and limitations. The decision-making process for the choice of technology for the MLCP solely depends on the type of site and its requirements. The following is a brief comparison of the key parameters.

Table 4.1 Ramp Vs Automatic Parking

Parameter	Ramp based Parking	Semi-Automatic Parking	Fully Automatic Parking
Area Required/ECS	35 sqm	20-25sqm	18 to 22 sqm
82Floor Height	About 3.2m	More than 4m depending on number of cars in each stack	About 2m (Car height + 100mm) for pallet and pallet-less methods
Ramps	Required	Required in case of MLCP	Not Required
Lighting at parking floors	Required	Required	Not Required
Passenger lifts/escalators	Required	Required	Not Required
Passenger stair cases	Required	Required	Not Required
Markings/Signs on parking floors	Required	Required	Not Required
Marshals for Monitoring Traffic	Required on all floors	Required on all floors	Minimal requirement

Parameter	Ramp based Parking	Semi-Automatic Parking	Fully Automatic Parking
Ventilation	Required	Required	Less Required
No. Of floors	Typically 3 to 4 floors	Typically 3 to 4 floors	No limit
Safety and security	Manpower Intensive	Cumbersome - required on all floors	Not required
O&M cost	Mainly manpower cost	Manpower cost + Electricity for operations + Equipment (Hydraulics)	Primarily Power cost + Equipment maintenance cost
Capital Cost	8-10 lakhs/ ECS	10-12 lakhs/ ECS	13-15 lakhs/ECS

4.1.2. Proposed Ramp based Multi- Level car parking system with provisions for Puzzle parking system in the future

There is an adequate availability of the Land Parcel i.e. 8293 sq.mt. It is proposed to have a Ramp Based Multi- Level Car Parking System with the provision of puzzle parking system on three floors above the ground and at the basement to cater the future demand. Parking floor height shall be at 4.0 m to accommodate two levels of puzzle parking.

Following are the advantages of Ramp Based MLCP: -

a) Safety in use
b) Clear visibility
c) Parking space marking to enable drivers to remember the location of their vehicles
d) Good natural lighting and ventilation
e) Integration into the context of town planning
f) Provide safest movement with least delay
g) Inter floor travel path completely separated from potentially conflicting parking and retrieval movements

4.2. Brief System Solution Description for Puzzle Parking

4.2.1. Brief System Solution

Puzzle parking system provides independent parking spaces for cars depending upon the no. of rows & columns it can accommodate. The platforms at top floor (TF) are moved vertically only whereas the platforms at the ground floor (GF) are moved horizontally only. At approach level (GF) one parking space is kept vacant. This vacant space is used for shifting the parking spaces sideways, thus enabling a Top floor (TF) parking space to be lowered or lifted to approach level.

All necessary safety devices shall installed for smooth functioning of the system. This consists mainly of a chain monitoring system, locking lever for platforms and electromagnetic door locks (optional). The parking bays are accessed horizontally (installation deviation ± 1%).

Noise（Db）：≤85（INSIDE) / ≤80（OUTSIDE）
Environmental conditions: Temperature range – 10 to + 50 ° C.
Relative humidity: 90 % at a maximum outside temperature of + 50 ° C.
Vehicle Size: Big Sedan and SUV
Car Platform size = Car Dimensions +300

5. Planning Norms

Zoning Regulations and Building Bye-Laws are the basic tools for implementation and enforcement of a development plan. It is done within the framework of land use proposals with the intention of achieving orderly growth and development of the town as envisaged. Zoning regulations helps in controlling density as well as land use in ensuring standards provided for the future expansion of each zone in an appropriate manner

These Regulations shall form integral part of the Master Plan of Jammu-2032 and shall be called Development Control Rules and Regulations of the Jammu LPA-2032.
Jammu Master Plans 2032 Development control & Regulations govern the development of residential, commercial and institutional infrastructure in Jammu. This chapter presents the applicable development regulations as specified in the Master plan relevant to the planning of the facilities proposed to be developed on Automated Multilevel Car Parking site.

5.1. Land Use Classifications

The Land Use Zoning Regulations contain the following classification of the broad land uses:
Residential Use: Areas earmarked as Residential in the proposed Land Use Plan.

Commercial Use: Areas earmarked as Commercial Use Zone and the Commercial Strips in the proposed Land Use Plan.

Industrial Use: Areas earmarked as Industrial Use Zone and IT Park Zone in the proposed Land Use Plan.

Institutional; Public, Semi-Public Facilities; and Public Utilities Use: Areas earmarked as Institutional Zone, Public and Semi-public Facilities Zone, and Public Utilities Zone and Religious use zone in the proposed Land Use Plan, and the sites specifically earmarked for any such public/semi-public use.

Open Space and Recreational Use: Areas earmarked as Open Space, buffers, green spaces and other recreational activities as envisaged in the proposed Land Use Plan, and

the sites specifically earmarked as Parks, Playgrounds, clubs, theatres Exhibition Grounds etc.

Plantation Use: Areas earmarked as Orchards, Nurseries, etc in the proposed Land Use Plan.

Urban Agriculture: Areas earmarked as Urban Agriculture Use in the proposed Land Use Plan.

Agriculture Zone: Areas earmarked as Agriculture Use Zone in the proposed Land Use Plan.

Transportation and Communication: All the Roads as earmarked in the proposed Land Use Plan and areas earmarked as Transport Zone, and the sites specifically earmarked for related facilities like, Roads, railways, airports, railway terminus, bus depots, truck terminals, logistic hubs and parking lots.

Forest: All Reserved Forests as notified by the Forest Department, subject to change as amended from time to time. No activity other than forest is permitted in this zone unless expressly allowed by the Forest Department. Notified forest shall be considered as forest even though shown otherwise in the proposed Land use Plan.

Water Body: Water Body Zone generally indicates all existing water bodies, i.e. Rivers, Streams, Lakes and Tanks, as indicated in the topographical sheets published by the Survey of India, or the State Irrigation Department or Revenue Department or other competent authorities. The boundary of the water bodies relate to the Full Tank Level / Flood Level as indicated in relevant maps, covering both perennial and non-perennial parts when such distinction exists.

Defence / Military Lands

Defence/Military Lands are lands under occupation of the Defence Services or otherwise earmarked for defence services. These cannot be put to other uses. The areas covered by defence lands and certain adjoining areas as may be specifically notified, may be subjected to restrictions Jammu Master Plan-2032 on constructions or on the use of lands in the interest of safety and security of the defence services or the civil population living in the contiguous areas.

5.2. Multi-Level Parking

Multi–Level Parking facility should preferably be developed in the designed parking space or in the Residential, Public/Semi-Public, Commercial, Transport node, Bus Depots etc with the following Development Controls.

Minimum number of car parking spaces: 50
Minimum Plot Area 2000 Sqm (Plain areas)
Maximum Ground Coverage 66%
Minimum approach road 15M (RoW)

Front Set back building line of road or 1/3rd of height of building or 6m whichever is more. Rear and side setbacks building line of road or 1/3rd of height of building or 3m whichever is more.

Terrace/Roof Top Parking Shall be allowed with proper Protection etc to the satisfaction of authorities.

a. In order to compensate the cost of Multi-Level Parking, a maximum 25% of Gross permissible Floor Area may be utilized as Commercial/ Office space.
b. Maximum FAR proposed for commercial spaces shall be 100 (excluding parking areas)
c. In addition to requisite parking space required for Commercial developed within the Multi-Level Parking complex (@ 3 ECS / 100M2), Three times additional space for parking components shall be provided.
d. Three Basements shall be allowed for Parking as specified in the basement norms.
e. Maximum Height shall be restricted to permissible height of the land- use in which the plot falls.
f. Shops/Offices/Commercial spaces shall be allowed on ground and first floor only for rehabilitation of project affected persons in Government comprehensive schemes.
g. In case of government comprehensive schemes, development controls including height shall be as per approved scheme

5.3. Basement

1) Minimum plot area required for basement for the purpose of parking, with respect to number of basement levels is as mentioned under:
   - Two level Basement- Min. Plot area of 2000 sq.mtr.
   - Three level Basement- Min. Plot are of 4000 sq.mtr.

2) The basement, if not meant for parking, shall be permitted up to one level irrespective of the size of plot. No residential space i.e. apartment/ flats/ residential house/ hotel rooms shall be allowed in any kind of basement. Area of basements not used for parking and building services shall be considered in computation of FAR.

3) No habitable use shall be permitted in the basement. Permitted uses in Basement are: parking, safe deposit vault, A.C. Plant, storage other than inflammable material, other utilities.

4) Front setback line to be considered for basement for parking purpose shall be minimum 6.0 mtr. from the plot line or building line of the abutting road whichever is more.

5) Setbacks on other sides to be considered for basement for parking purpose shall be as under.
   - In case of one storey (1 level) basement - 3.0 mt.
   - In case of two storey (2 level) basement - 4.5 mt.
   - In case of three storey (3 level) basement - 6.0 mt.
6) Basement shall be permitted under common plot, internal Road and internal marginal space for exclusive use of parking only.

7) Basement if used for parking and utility services shall not be considered in computation of FAR.

8) The basements shall be allowed within building envelope in individual residential houses.

9) The basements shall be allowed maximum upto 75% of plot area for parking and services only.

10) Every basement shall be in every part at least 2.4 m in height from the finished floor to the underside of the beam.

11) Adequate ventilation shall be provided for the basement. The ventilation requirements shall be the same as required by the particular occupancy according to byelaws. Any deficiency may be met by providing adequate mechanical ventilation in the form of blowers, exhaust fans, air-conditioning systems, etc;

12) The minimum height of the ceiling of any basement shall be 0.9m and the maximum, 1.2 m above the average surrounding ground level;

13) Adequate arrangements shall be made such that surface drainage does not enter the basement;

14) The walls and floors of the basement shall be watertight and be so designed that the effects of the surrounding soil and moisture, if any, are taken into account in design and adequate damp proofing treatment is given; and

15) The access to the basement shall be separate from the main and alternative staircase providing access and exit from higher floors.

16) Where the staircase is continuous in the case of buildings served by more than one staircase, the same shall be of enclosed type serving as a fire separation from the basement floor and higher floors.

17) Basement shall be permitted within the setback lines subject to clearance from local bodies/departments concerned, Municipal Corporation and Fire Department. In case basement is to be allowed where there are no setbacks, single basement should be permitted after leaving 3 m from plot boundary.

18) Ramps shall be allowed in setbacks subject to maintenance of unhindered setbacks of 6M with adjacent property.

19) The ramp to basement and parking floors shall not be less than 7.2m wide for two way traffic and 4 m wide for one way traffic, provided with Gradient of 1:10 for cars and 1:15 for heavy vehicles. At curved portions of the ramp or for circular ramps the slope should not be more than 1:12.

20) All structural design/safety aspects as per latest BIS Codes & NBC, shall be complied along with consideration of weight of Fire Engine & its manoeuvrings

5.4. Parking Norms

- Basement: 32 Sqm per ECS
- Stilts: 28 Sqm per ECS
- Open/Surface: 23 Sqm per ECS
- For calculation of parking two-wheeler shall be calculated equal to 0.25 ECS

5.5. Safety against Natural Disasters like Earthquakes

The application for seeking building permit shall be accompanied with a report of Architect/Structural Engineer certifying that the proposed structure has been designed structurally keeping in view the safety measures against earthquakes as indicated in the following Bureau of Indian Standards (B.I.S).

5.6. Water Harvesting

Water harvesting by way of storage of rainwater in all new buildings existing on plots of 1000 sq. mtr. and above, and all group housing shall be mandatory. The plans submitted to the local authority shall indicate the system of storm water drainage along with points of collection of rain water in surface reservoirs or in recharge wells.

5.7. Fire Protection and Fire Requirements

5.7.1. Fire protection requirements:

Buildings shall be planned, designed and constructed to ensure fire safety and this shall be done in accordance with Part IV Fire protection of National Building Code of India. The building schemes as such also be cleared by the District Officer of the Fire and Emergency Services Department before issuance of building permit.

5.8. Provision for Physically Challenged Persons in the Public Buildings:

5.8.1. Buildings to be designed for Ambulant Physically Challenged People (Besides Hospitals)

Higher Secondary School, Conference Hall, Dance Halls, Youth centres, Youth clubs, Sports centres, Sports pavilion, Boat club houses, Ice/roller skating rinks, Swimming pools, Police stations, Law courts, Court houses, Sports stadiums, Theatres, Concert halls, Cinemas, Auditoriums, Small offices (the maximum plinth area 1400 sq.mt.), Snack bars, Cafes and Banqueting rooms (for capacity above 50 dinners).

Note:

a. In sport stadiums provisions shall be made for non-ambulant spectators (small wheel chair) @ 1:1000 up to 10,000 spectators and additional 1:2000 for spectators above 10,000.

b. In Theatres, Concert halls, Cinemas and Auditorium provisions shall be made for non-ambulant spectators (small wheel chairs) @ 1/250 up to 1000 spectators and additional 1/500 for spectators above 1000.

5.8.2. Buildings to be designed for Non-Ambulant Physically Challenged People

Schools for physically challenged persons, cremation grounds, public/semi-public buildings, Botanical gardens, Religious buildings, Old people clubs, Village halls, Day centres, Junior training centres, post offices, Banks, Dispensaries, Railway stations, Shops, Super markets, and Departmental stores.

5.8.3. Building to be designed for Non-Ambulant Physically Challenged Persons (using small wheel chairs)

Public lavatories in Tourist spots, Club motels, Professional and Scientific institutions, Museum, Art galleries, Public libraries, Laboratories, Universities, College for further Education, Teachers Training Colleges, Technical College, Exhibition halls, Dentist surgeries, Administrative department of the Hospitals, Service stations, Car parking, Building airports terminals, Bus terminals, Factories employing handicapped for sedentary works, large offices (with plinth area above 400 sq.mt.), Tax offices, Passport offices, Pension offices, Labour offices, Cafes, Banqueting rooms and Snack bars (for capacity above 100 dinners).

5.9. Building Requirements

The following building requirements are to be provided for buildings mentioned above:-

1) Site Planning:

a. Access path from plot entry and surface parking for building to building entrance shall be minimum of 1800 mm wide having regular surface without any steps.

b. The parking of vehicles of disable people @ two equivalent car spaces (ECS) shall be provided near entrance of 30 mt. from building entrance.

2) Approach to Plinth Level:

a. Ramp shall be provided to enter the building; minimum width of ramp shall be 1800 mm with maximum gradient of 1:12 length of ramp shall not exceed 9.0 mt. having 90 mm high hand rail on both sides extending 300 mt. on both sides of ramps. Minimum gap from the adjacent wall to the handrail shall be 50 mm.

b. Entrance landing shall be provided adjacent to ramp with the minimum dimension of 1800 x 2000 mm.

c. Minimum clear opening for the entrance door shall be 1000 mm. Threshold shall not be raised more than 12 mm.

d. For stepped approach size of tread shall not be less than 275 mm and maximum rise shall be 150 mm.

3) Stairways:

Height of the riser shall not be more than 150 mm and width of the tread not less than 275 mm, nosing if provided shall not extend beyond 25 mm. Maximum number of risers on a flight shall be limited to 12.

4) Lifts:

a. Whenever lift is required as per bye-laws, provision of at least one lift will be made for non-ambulant disabled (using small wheel chairs with the following dimensions of lift).
   - Clear internal depth: 1090 mt.
   - Clear internal width: 1750 mt.
   - Entrance door width: 910 mt.

b. A handrail not less 600 mm long at 1000 mm above floor level shall be fixed adjacent to the control panel.

5) Toilets:

a. One special W.C. in a set of toilet shall be provided for the use of physically challenged persons. No additional provision of W.C. is to be made for physically challenged persons.

b. Size of the W.C. shall depend on the category of physically challenged persons for whom it has been provided.

c. All doors in W.Cs shall open outside.

d. The type of W.C. shall be European with seat height as 500 mm.

e. Handrails, where provided shall have min 25 mm dia.

6) Provision of W.Cs in building without lift:

a. Provision of special W.C. shall be made on all floors for buildings designed for ambulant physically challenged persons.

b. For buildings designed for non-ambulant physically challenged persons special W.C. shall be provided at Ground floor. Size of W.C. shall depend on the type of wheel chair used by the disabled.

7) Provision of W.Cs in building with lift:

Provision of special W.C. shall be made on all floors. Size will depend on the category of physically challenged persons for whom it has been provided.

8) Toilet Details:

a. For Toilets Designed for Ambulant Physically Challenged Persons:
- The minimum size of W.C. shall be 1075 x 1650 mm with a minimum size of 1450 mm for entry door 900 mm. Long handrail on the side closer to W.C. width between the handrails shall be 90 mm and height of handrails shall be from floor level.
- Minimum size of the clear door opening shall be 780 mm.

b. For Toilets Designed for Non-Ambulant Physically Challenged People (using Small Wheel Chair):
- The minimum size of W.C. shall be 1350 x 1500 mm with a minimum depth of 1500 mm for entry door. 900 mm long handrail on the side closer to W.C. shall be fixed towards one side to the opposite adjacent wall. The centreline of W.C. adjacent wall shall be 400 mm and minimum 950 mm from the other wall.
- Minimum size of the clear door opening shall be 780 mm.

9) For Toilets Designed for Non-Ambulant Physically Challenged Persons (using Large Wheel Chair):
- The minimum size of W.C. shall be 1500 x 1750 mm with a minimum depth of 1750 mm for entry door. 90 mm long handrail on the side wall closer to W.C. shall be provided. To provide movement space for wheel chair, W.C. seat shall be fixed towards one side of the opposite wall. The centre line of the W.C. from the adjacent wall shall be 400 mm and a minimum of 1100 mm from the other wall.
- Minimum size of the clear door opening shall be 860 mm.

6. Area Statement

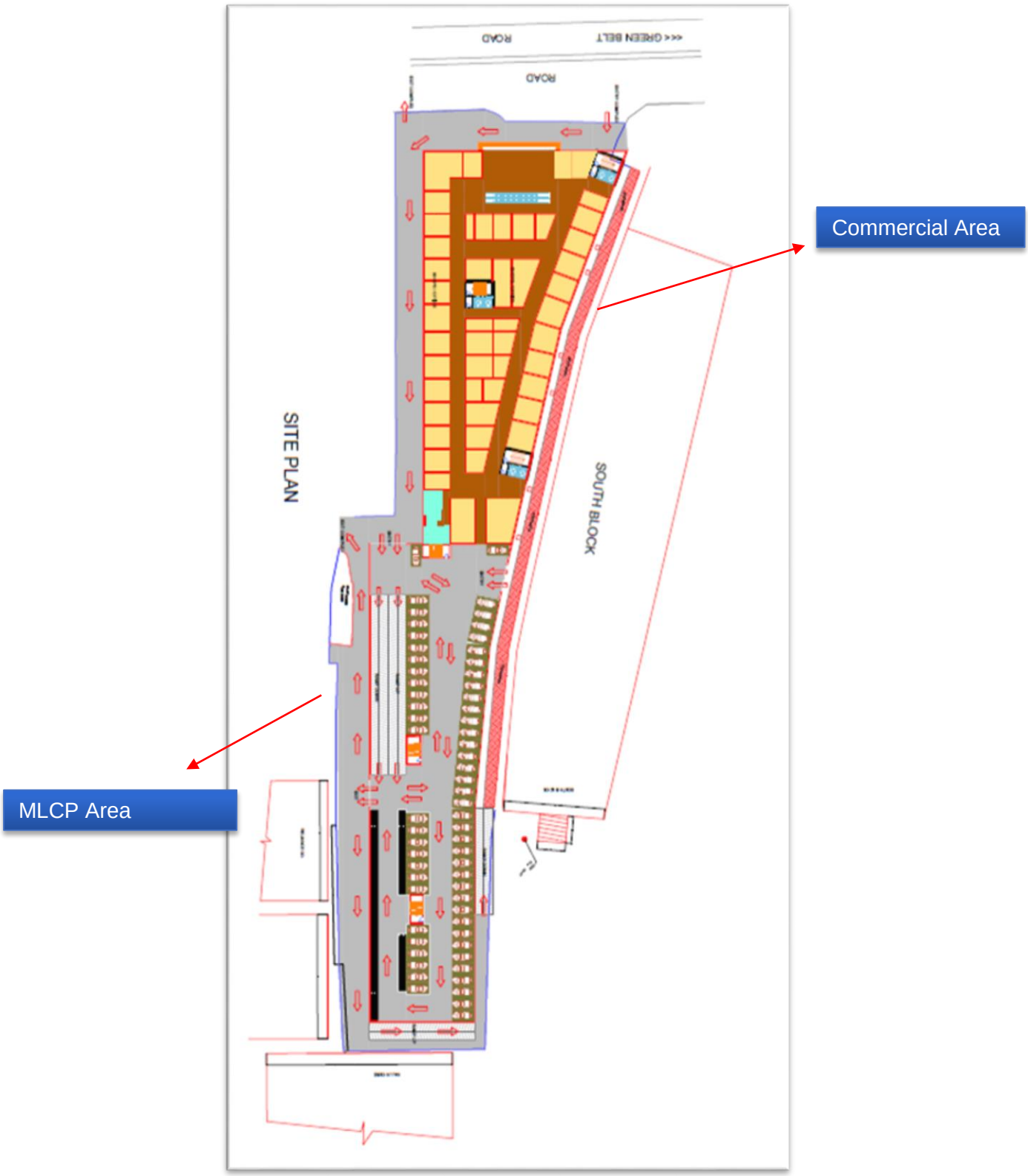
The building comprises of one Basement for parking and three upper floors. Commercial area is proposed in the front side of plot and parking shall be developed in the rear side of plot. On terrace food court is proposed with parking facility.

Floor	Usages	Area in (sq.m.)	No of Car Spaces
Basement -01	Car Parking	5380	191
Ground Floor	Commercial area	2710	
	Car Parking	2670	83
First Floor	Commercial area	2710	
	Car Parking	2670	83
Second Floor	Commercial area	2710	
	Car Parking	2670	83
Third Floor	Commercial area	00	
	Car Parking	2670	83
Terrace Floor	Food Court/ Parking		70
Total		**24190**	**593**

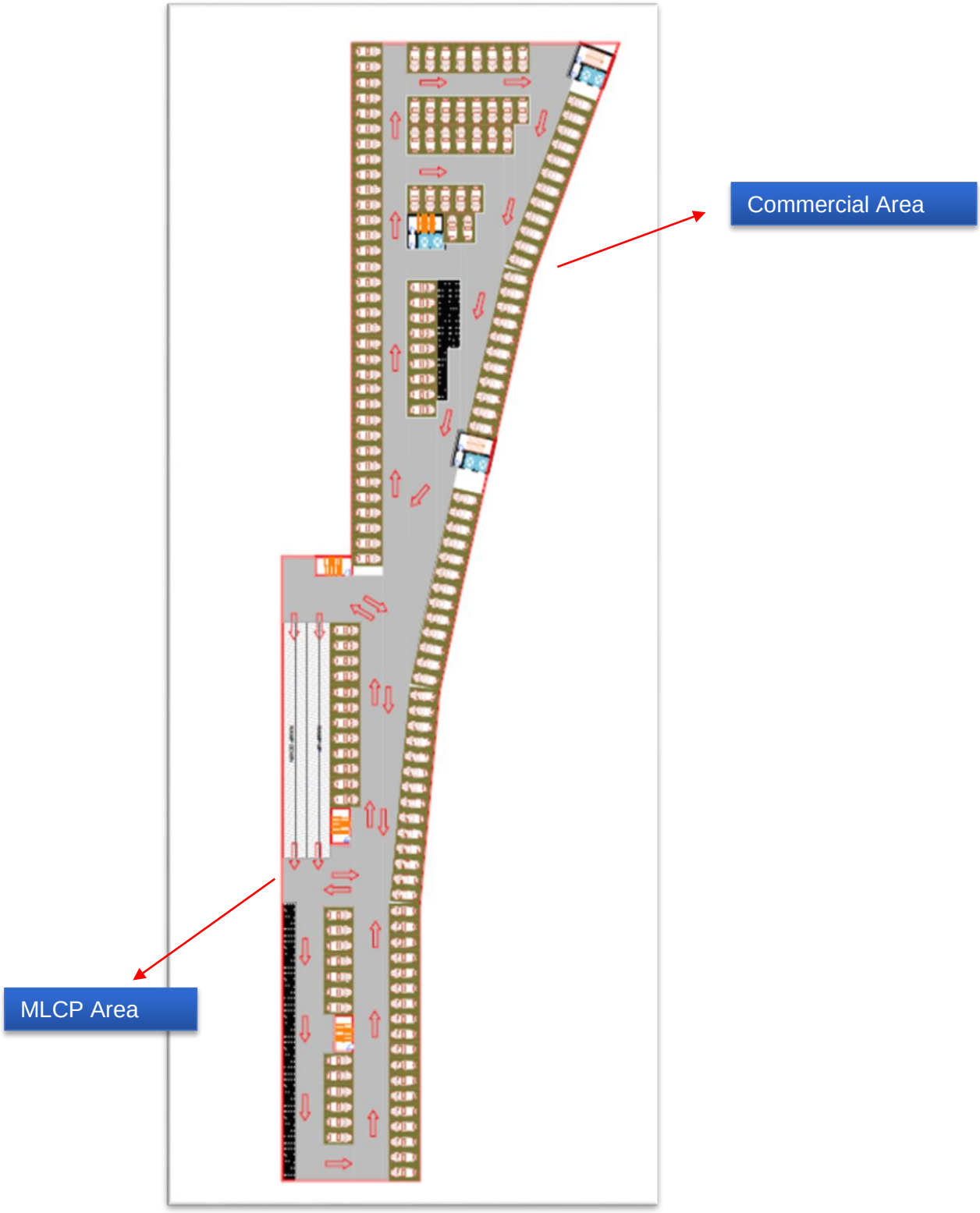
7. Drawings

Survey Plan for MLCP at South Block, Bahu Paza, Jammu

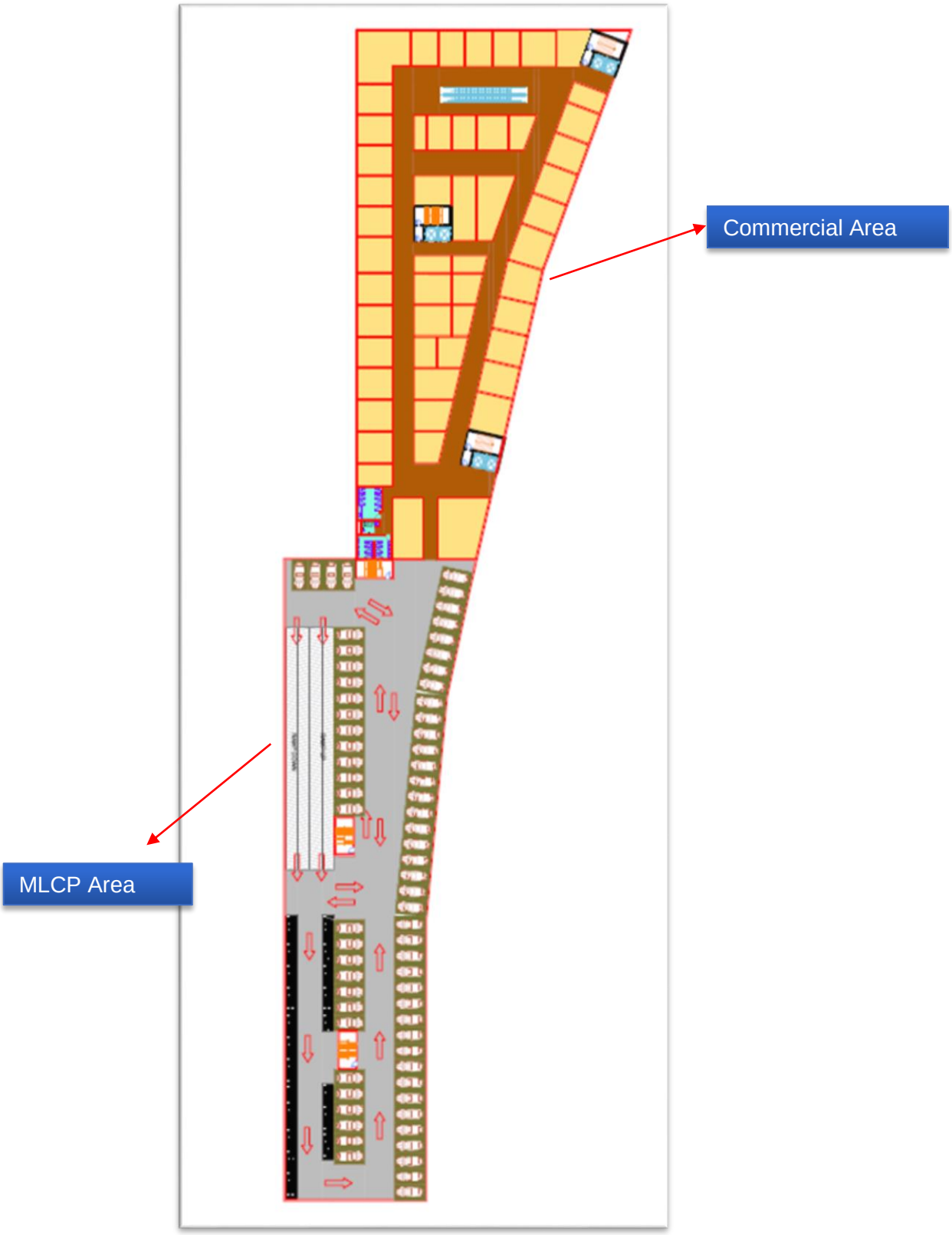
Ground Floor Plan – South Block, Bahu Plaza, Jammu



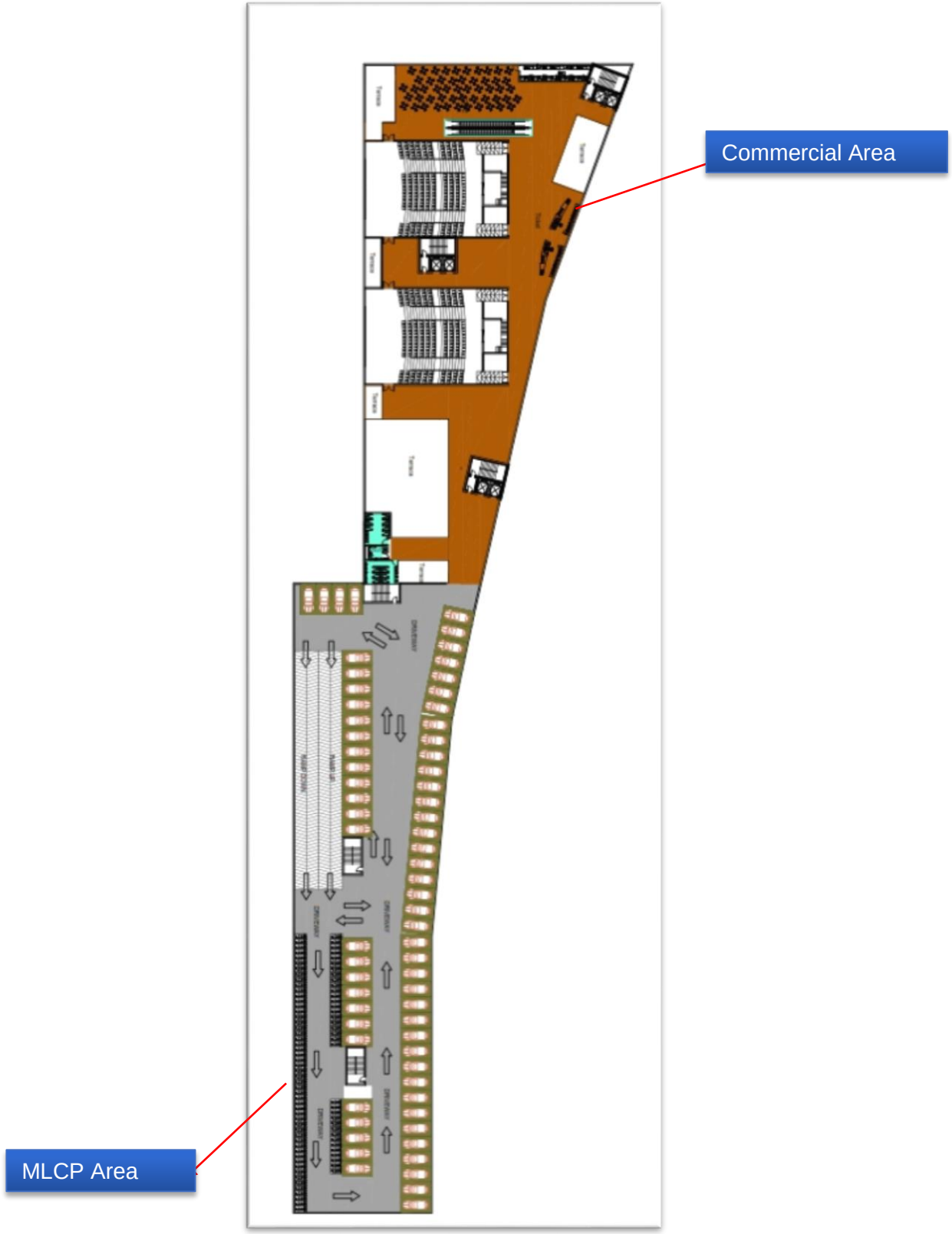
Basement Circulation Plan – South Block



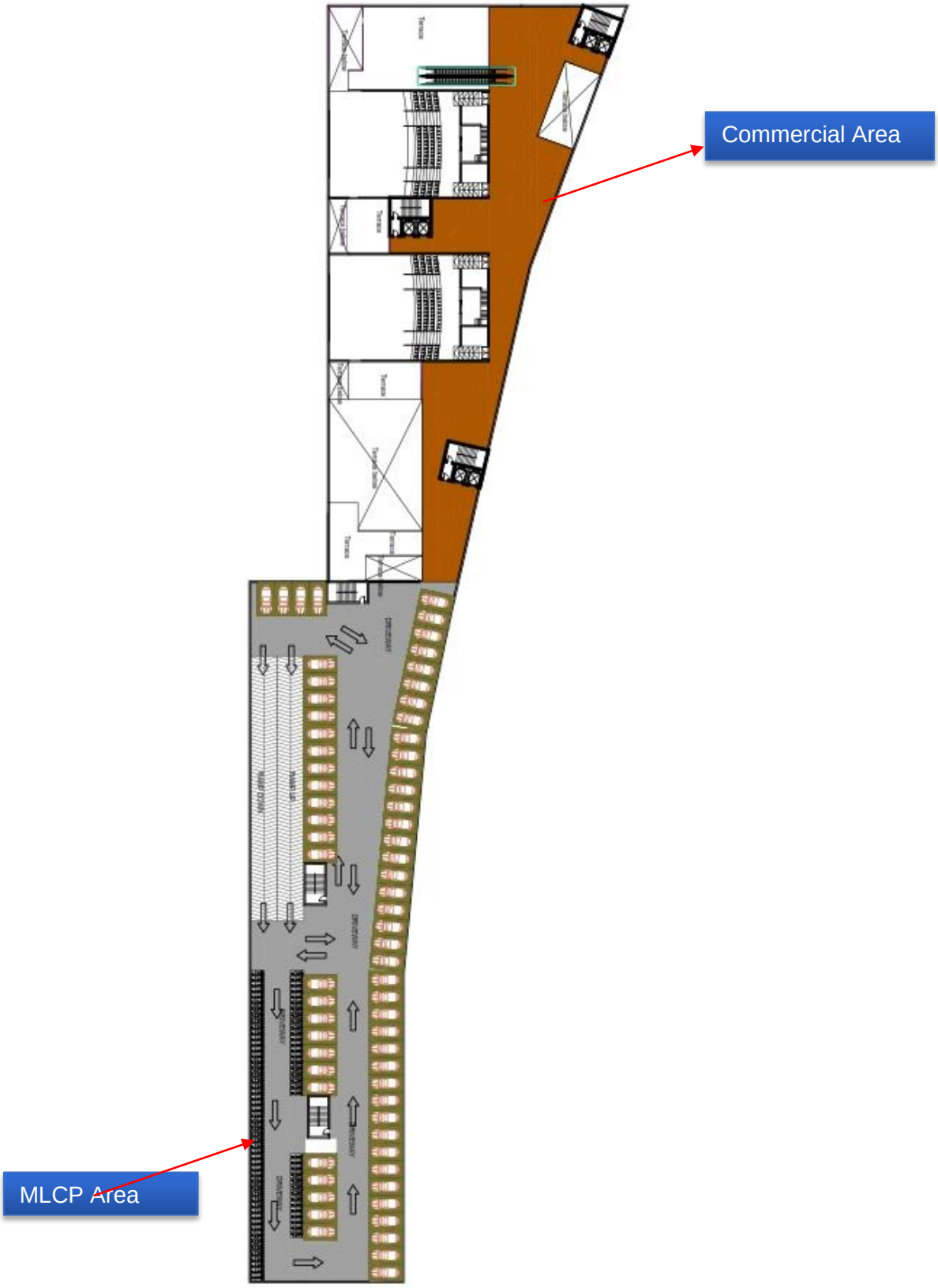
First Floor Plan – South Block



Second Floor Plan – South Block



Third Floor Plan – South Block



8. 3 D Views of South Block, Bahu Plaza, Jammu


Image3
LOCKED
STABILITY


LOCKED
STABILITY


MEGA
SALE
AMAZING
DISCOUNTS
70
OFF