SECURITY DESIGN GUIDELINES

This policy should be read in conjunction with the detailed design intent for commercial security systems and residential security system below.

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A. General Principles:

Deter Criminal Action through detailed design and communication of prevention systems, reduce impact of any criminal action (if it were to occur), detain criminals (by reducing no. of entries / exits and securing them).

1. Security design should be considered as a key part of concept design and integrated into design upfront (rather than a possession add-on).
2. Minimize security manpower requirement for the development to lower operational costs and reduce human dependence/intervention, through effective use of design and technology. Of course while doing this reduction the cost v. benefit tradeoff of higher capital investment v. lower operational cost (due to lower no. of security guards) needs to be weighed such that company's capital expense is not significantly increased.
3. Highest threat is from visitors / service staff. Their access and controls should be planned taking this higher threat into account.
4. Security systems should be implemented upfront and no 'exceptions' should be permitted – the long-term success of the system depends on the FM's ability to implement it and educate users of the benefits of the system.
5. Systems to ensure guests park their cars in designated parking areas only.
6. All systems to be designed after taking into account real threat to the building – no need to create a fortress out of every building.
7. Separation of all humans and vehicles into 3 categories and appropriate system to deal with each of the 3 categories differentially: Registered, Visitor, Service.
8. Limited no. and strictly controlled entry/ exit from each building (preferably 2, one for resident/ guest, other for service staff). Special attention to be paid to entry into building from parking areas. As far as possible, all users from parking areas, should be made to come to main lobby, prior to entering into any other part of building / accessing vertical transport (elevator / staircase).
9. Vehicle / Pedestrian / human checking / control at entry of project
10. Checking of vehicles and humans to be made as time-short and human-independent as practically possible / budget permits.
11. Balance to be struck between convenience of residents / registered users and security concerns.

12. No system can be 100% fail-proof. We should be sure it prevents criminal intent 95% of the time and will detain criminal, if criminal action were to occur, in the balance 5%.
13. System should rely minimally on security / control personnel acting 100% correctly all the time.

B. Design Guidelines:

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Entry/ exit to the complex	Common	1. Ensure secure access at "entrance" to complex rather than at individual buildings that optimizes security and cost. Entrance gate should always have boom-barrier followed by security cabin and then space for pedestrian access. If vehicle and pedestrian volume is high, the cabin must accommodate 2 guards - one facing boom-barrier side and the other the pedestrian side.	Y	Y	Y	Y	Y (No boom barriers)	Y
		2. Ensure holding area of at least 15 m at the main gate to avoid congestion and mechanism for return of non-authorized vehicles – exact distance based on volume and site condition.	Y	Y	Y	Y	Y	Y
		3. Standard log books to be used at the main gate to capture visitor and car details for non-registered vehicles.	Y	Y	Y	Y	N	N
		4. All human metal detectors (service lobby/main lobby as applicable) to have associated frisking station, to ensure that all that the metal detectors act effectively and those considered risky can be 'frisked'	Optional	NA	NA	NA	Y	Y

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Entry/exit to the complex		5. Biometric access control system should be used in conjunction with access card system. This system should be placed in the lifts so that the resident can scan his finger and then after a welcome message will be allowed to press the desired floor button (e.g. Bellissimo).	Y Biometric + access card for visitors	Y Access card only in lifts	NA	NA	NA	NA
	Cars	6. Controlled boom barrier access into main complex entry area for non-service vehicles. If possible, return lane should be provided for those vehicles found not-safe. Vehicle authorization shall be conducted at this point.	Y	Y	Y	Optional	N	N
	Owner	7. All owners / registered vehicles to be equipped with long range RFID cards/ remote sensors (based on cost economics), providing secure access to parking areas. Also this will ensure that owner vehicles do not get hold up at the gate.	Y	Y	Y	Optional	Y	N

	Guest	8. Guest vehicles will be allowed entry after authorization through intercom/ VDP. Cars denied entry will be asked to turn back and leave. If not enough space to turn back, security will escort the car and ensure it leaves.	Y (intercom /VDP)	Y (intercom /VDP)	Y (intercom /VDP)	Optional (through intercom)	NA	NA

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
	Pedestrians							
Entry/ exit to the complex	Owner	9. Pedestrian entry needs to be access controlled. In projects where access cards are provided to residents the same access card to be used to operate turnstiles.	Y	Y	Y	Optional#	N	N
	Guest	10. Mandatory authorization of all guests. Following are the location options for doing registration and authorization						
		a. Authorization: 1st level	Y (main entrance to complex, via intercom/VDP)	Y (main entrance to complex, via intercom/VDP)	Y (main entrance to complex, via intercom/VDP)	Optional (main entrance to complex, via intercom)	Y (registration & verification at reception desk in building, (Web based	N

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							VMS))	
		b. Authorization: 2nd level	Y (video/audio connectivity at reception desk; visitors are given access cards/equivalent for lifts which will take to designated floor only	Y (video/audio connectivity at reception desk; visitors are given access cards/equivalent for lifts which will take to designated floor only.	Y (video/audio connectivity with door release from flat VDP/Intercom; no reception desk)	Optional (video/audio connectivity with door release from flat VDP/Intercom; no reception desk)	NA	NA

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Access controlled if promised in brochure (Photo ID otherwise to be mandatory)

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Entry/ exit to the complex	Service people	11. Human scanning (metal detectors), frisking and baggage scanners for all service/visitors people entering the complex.	Y (Visitor check is optional)	Optional	Optional	NA	Y*	Y
		12. Separate dedicated service / domestic help entrance with access control	Y	Y	Optional (Only if there is separate service lobby)	NA	Y	Y
		13. Access card/ID to be provided to service people, domestic help after police verification.	Y	Y	Y (If applicable)	N	Y	N
		14. Access card to be provided in Aspirational/ CASA projects only if mentioned in brochure/ at architect's discretion with director approval. Else printed Id (with pictures) cards to be issued to residents/ service people that will be used for authorization at main gate as well as club-house.	NA	NA	Y (If applicable)	Y	NA	NA

*If space available – please refer detailed design intent for tentative space planning

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Common areas outside building	Parking	15. Resident parking area should be separate from guest parking area with single/minimal entry/exit points. In case of limited parking availability inside complex, guest/ unauthorized owner access to resident parking areas to be restricted by boom barriers at entrance to resident parking. *(Refer details for residential security systems below)*	Y	Y	Y	Y	Y	NA
		16. Either dedicated / controlled visitor parking space to be provided with a location where visitor car can enter and collect entry ticket. In case this is incorporated, appropriate space to be earmarked for guest vehicles to wait during registration process without disturbing traffic. *(Refer details for commercial security systems below)*	N	N	N	N	As applicable	Y
	Traffic movement	17. Appropriate thought to be given for drop-off location from public transportation vehicles (viz. Taxis / Rickshaws) and service vehicles, their waiting areas and their movement within the development. Generally, they can be checked like visitor vehicles and will have no access to any parking areas, except designated waiting areas (if any).	Y	Y	Y	Y	Y	Y
	Traffic movement	18. Separate service lane(s) should be provided inside large developments, if feasible. In such cases: a. Service vehicles (except fire tender) not to be allowed to enter into main road(s) / lane(s). This may be achieved through lane width controls or such other means. b. In the dedicated service lane(s), appropriate measures to be placed for stopping, checking (return for those not deemed to be authorized / safe) of every service vehicle.	Y	Y	Y	Y	Y	Y

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
	Traffic movement	19. Separate service / goods drop-off bay to be provided in every development, which should have easy access to service lifts. Often this can act as the service / domestic help entry. These areas should be especially well-monitored and have tight entry / exit controls.	Y	Optional	Optional	N	Y	Y
	Surveillance	20. Key common areas (entry/ exit gates, clubhouse, and temple) need to be monitored by CCTVs. Any key common areas (parking, podiums, and main lobby) which may be possible to be accessed by 'non-authorized / not yet authorized personnel shall be monitored by CCTV, along with adequate CCTV monitoring back-end.	Y	Y	Y	Y	Y	Y
		21. Number of CCTVs to be optimized based on the DVR channel requirement (8x, 16x), extra CCTVs to be placed in the common areas.	Y	Y	Y	Y	Y	Y
	Amenities	22.Centralized FM office with attached BMS room and stores, Separate FM day staff room, landscape equipment stores every 200m to be designed for every society	Y	Y	Y	Y	Y	Y

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Entry/ exit to the building	Common	23. Security personnel/Receptionist to be stationed at building main entrance lobby only if mentioned in brochure or at the discretion of architect with director approval. In case security personnel is there, design needs to be such that access to all flats in the building is only through the main entrance lobby (e.g., access to the upper floors from basement staircase needs to be through the entrance lobby). Also VDP/ intercom, lift alarms, panic alarms, any other alarms need to be connected to the main entrance lobby (along with centralized BMS room) in this case.	Y	Y	N	Optio nal	Y (armed security guard at entrance is optional)	Y (Security guard mandatory at building entrance)

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Entry/ exit to the building	Owner	24. Access control to the building to be provided if separate entries exist for residents and service staff. Owners will be given access cards using which they can enter through resident's entrance lobby	N	N	Y (Optional)	Y (Optional)	Y (lift lobby turnstiles)	N
	Guest	25. Controlled access to entrance lobby with human scanning (metal detectors), frisking and baggage scanners for all non-residents / non-registered users. If dedicated access for residents / registered workers not feasible as per 11 above, scanning / frisking / baggage scanner shall be applicable for them too.	Optional	N	N	N	Y	Y
	Service people	26. HFM Service staff/temporary service staff will be given access cards which allow them to enter only the building.	Y	Y	Y	Y (If provided)	Y (No for temp users)	Y(No for temp users)
Common areas inside building	Common	27. Exit only fire doors on staircases (to prevent usage of fire stairs for uncontrolled / unauthorized movement), provided there are no common use facilities in the staircase (e.g. Servant's toilet). However, all fire stairs shall have two-way doors on the refuge levels, to allow entry into refuge levels in case of fire. All others will have panic bars from lobby side.	Y	Y			Y	N

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Common areas inside building	Common	28. To deal with 2-way entry on refuge levels, special precautions to be taken on refuge levels as follows; a. Intercom facility in refuge area (generally, CCTV and panic button shall not be provided) b. CCTV monitoring of refuge area staircase door from stairwell side	Y	Y	Y (a. only)	Y (a. only)	Y	Y (a. only)
		29. Controlled Access to Lifts *(User based access restrictions apply. Please refer page no 22 for commercial, 29 for retail and 51 for residential)*	Y - operated through card readers or biometrics, either inside lift or using turnstile/equivalent (biometrics - only if promis	Y (Optional) - operated through card readers or biometrics, either inside lift or using turnstile/equivalent (biometrics - only	NA	NA	Y - Turnstiles with proximity card readers to be provided between main lobby and lift lobby to ensure access to registered users and authoriz	NA

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			ed in brochure)	if promised in brochure			ed visitors only.	
	Surveillance	30. CCTVs to be installed in buildings to ensure all travel is documented – CCTVs to be placed in all lifts OR entrance lobby and all staircases at the mid-landing below first habitable floor	Y	Y	Y		Y	N
Inside flats	Common	31. Panic button inside each residence in case of emergency (residential buildings only).	Y	Y	If stated in brochure	If stated in brochure	NA	NA
			Residential				**Commercial**	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
Inside flats	Common	32.The intercom/video doorphone voice connectivity shall be to all units within the same society (see Society formation guidelines with HFM), subject to maximum of 750 units – if there are more than 750 units in a society, further breakdown of the intercom connectivity shall be done into smaller logical groups. Further, there would be connectivity to following points in the wing / society:	Y	Y	Y	Y	Y	NA

		a. FM office (same as Society office) - Intercom/ video door-phone voice connectivity b. BMS room - All alarms (fire, lift, panic), Intercom/ video door-phone voice connectivity c. Lobby reception (in case it is manned) - Intercom/ video door-phone video connectivity one-way (i.e. camera at reception so that resident can see the guest), all alarms of that building (fire, lift, panic) d. Guardhouse at Main gate of complex - Intercom/ video door-phone video connectivity one-way (i.e. camera at reception so that resident can see the guest) e. Clubhouse / other key common areas - Intercom/ video door-phone voice connectivity f. Any other point of access control (e.g. visitor control, service staff control) - depending on specific circumstance BMS room will need to be monitored 24 hours						

			Residential				Commercial	
Area	**Sub area**	**Design principle**	**Luxury**	**Hi-end**	**Aspirational**	**Casa**	**Offices**	**Retail (Experia only)**
		33. Video door-phone at entrance to each residence. Ideally VDP's internal unit should be located close to the main gate (within 2.4 m of the unit's main gate) VDP will have multiple video (main gate entry, building lobby entry, service entry and KCA like CH entry, Kids play area).	Y	Y	Y (VDP will have a door release button for the main door lobby)	If stated in brochure	NA	NA

Design Intent for Commercial Security Systems

(Excelus, iThink, Supremus & Experia mall)

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This section below covers Excelus, iThink, Supremus and Experia mall.

Security System for Commercial Projects (Excelus, iThink and Supremus)

GUIDING PRINCIPLE

- Free and unrestricted entry for pedestrians and vehicles into the complex
- Access control for pedestrian movement into the building with turnstile control at lift lobby
- Controlled entry/exit at main parking area/floor for vehicles

Security system is an integrated solution for controlling, managing, guiding vehicles and users in & out of a commercial complex/building with safety and minimum hassle. Understanding the business environment where the solution will be used is crucial to ensure that the proposed solution meets all the requirements of both surety and ease of use.

It can be broken out into the following main components:

A. Access control systems
B. Surveillance systems
C. Auxiliary requirements

A. Access control systems

Access control system consists of hardware and software designed to control entry into selected areas and manage movement of people/vehicles within. The system is designed to increase security by defining access permissions based on area and time for each user and maintaining a log of all events. Two types of access system covered here are:

1. Vehicular access
2. Pedestrian access

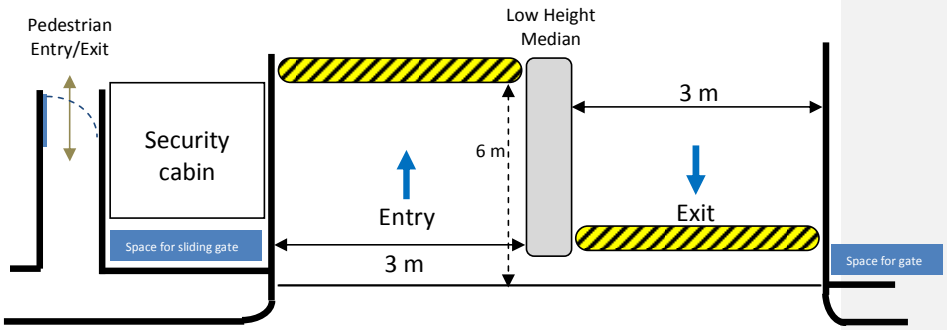
1. Vehicular access

The vehicular access system should provide easy movement of any vehicle type. The main entry for vehicles into the complex should be controlled by a sliding night gate and for pedestrians by a wicket gate. Depending upon layout at site entrance and expected traffic we can have 2 entry lanes + 1 exit or 1 Entry + 1 Exit lanes.

One entry lane and one exit lane

In this case, the security cabin should be situated near the entry lane. This security cabin will be between pedestrian entry and entry lane. A

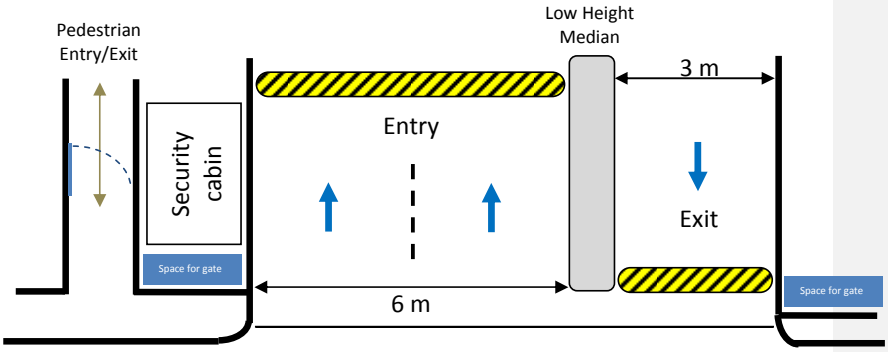
sliding night gate for both the entry/exit lanes and a wicket gate at pedestrian entry will be installed to control the movement in non-office hours. If there is very less resting space for sliding gate then foldable type gate can be planned. If designing low height median is not possible then at least permanent bollards should be placed so that the entry and exit lanes are properly defined visually.



Tentative plan for main gate with one entry & exit

<u>Two entry lanes and one exit lane</u>

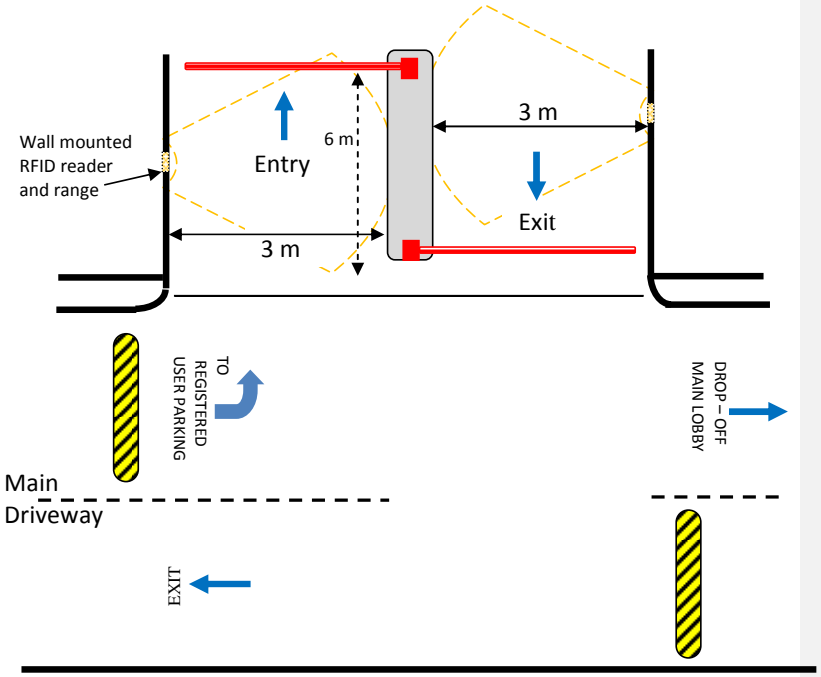
If there is enough space at the entrance and heavy traffic is expected then a double entry may be provided. For this type, the security cabin should be planned near left most entry lane only. Sliding night gate for the entries/exit lanes and a wicket gate at pedestrian entry will be installed to control the movement in non-office hours. If there space constraints for sliding gate pocket then the foldable type gate can be planned. If designing low height median is not possible then at least permanent bollards should be placed so that entry and exit lanes are properly defined.



Tentative plan for main gate with two entry lanes/one exit

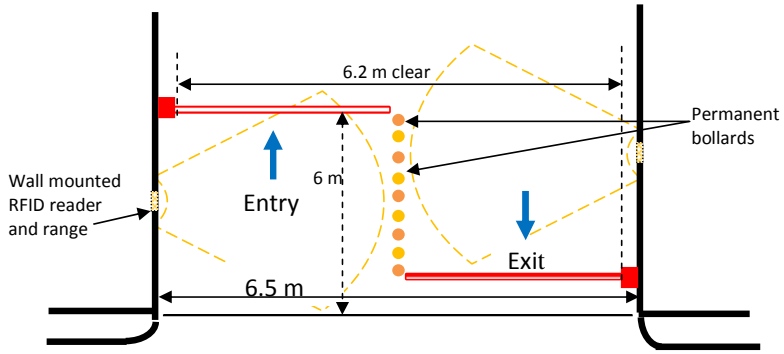
<u>Parking floor/area</u>

A separate entry/exit to the parking floors other than the main entry will be present in all the commercial establishments. Generally visitor parking is not allowed in the campus. In case visitor parking is allowed then please refer to visitor parking management section below. The entry/exit will be RFID controlled with boom barriers. Entry to parking floor for vehicles will be unmanned as only registered cars are allowed to park inside the premises. At the top of parking floor entry, height restriction signage should be planned.



Tentative plan for parking floor/area entry & exit

In case a low height median is difficult to design for separating entry and exit lanes then below arrangement can be considered.



Tentative plan for parking floor/area entry & exit

- Access card for registered vehicles
  There will be only one type of RFID access card that will allow access to parking floor/area which will be issued to the registered user. The vehicle owner (cars & two wheelers) should get a "C" branded long range (~3m) RFID card. Registered vehicles need not be checked before/after entry into the parking area. The access system should be able to show the number of registered vehicles in the building/complex at any given point of time. This data will be kept on local server for minimum 7 days. Card details will be updated annually on confirmation with the local admin department otherwise they will automatically expire after completion of 1 year from the date of issue. The data captured on the cards should include but not limited to vehicle owner name, car registration number, office name, designated floor, parking no., etc.

    - Self driven vehicle
      These users must be able to enter parking area and park their vehicle safely in the designated space. Proper signage should be provided for easy guidance.

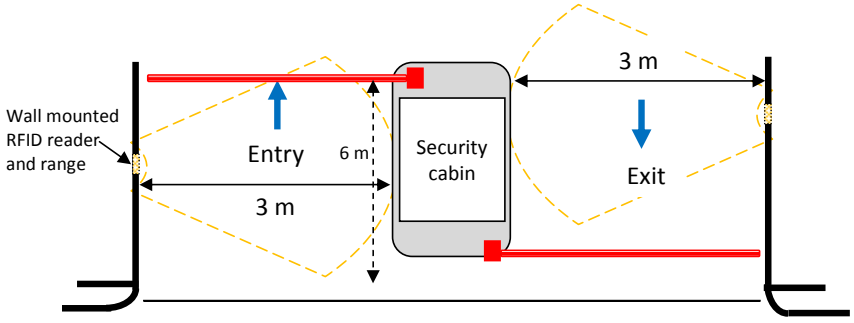
    - Chauffeur driven vehicle
      The chauffeur should be able to drop off the registered user in the drop off zone and should be able to enter the parking area and park his/her vehicle safely in the designated space. Drivers lounge and related facilities should be provided as per current policy.

- Visitor vehicle
  If visitor parking is allowed in the building/complex parking area, it should be on pay and park basis unless it is < 10 nos. The rates should

be defined as per nearest PPL/government controlled parking zone in the vicinity. Signage for these parking rates and general parking guidelines should be visible clearly at the entry to the parking area. *(Refer guidelines issued for Geeta Supremus)*

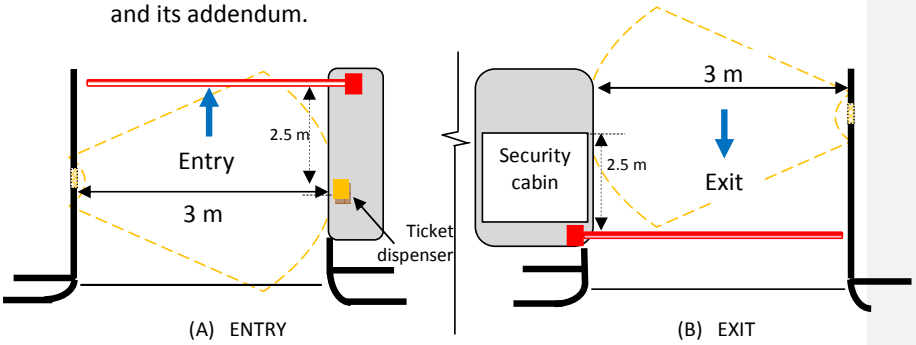
Visitor vehicle management

In case the parking entry and exit are combined, a security cabin should be planned at the median. For visitor pay and park system a programmable ticketing device will be used to issue tickets from the cabin and at exit the details of issued ticket will be scanned by the security person and receipt will be generated on a pre-programmed tariff. The ticketing machine will have an in built printer to issue slip and receipts. For ticketing machine details refer to this link below.
(http://posmachine.in/balajihandheld/products/balaji-pos.html)



Tentative plan for combined entry/exit for pay and park at parking area

In case the entry/exit lanes are not combined then there will be a ticket dispenser at entry for visitors only as the boom barrier will not open for them. At exit lane an operator will be present in a cabin which will collect the payment as per the applicable pre programmed tariff. For details regarding the setup please refer to the PPL policy and its addendum.



Tentative plan for separate entry/exit for pay and park at parking area

Note:
- Security cabin should be open type and minimum 1.5 m x 1.5 m with a small fixed desk with two lockable drawers and a chair with proper light points and ventilation
- Minimum distance of opening in security cabin from boom barrier should be 2.5 m. This will allow the operator to give tickets and also collect cash from the driver in case of visitor vehicle
- Holding area before the boom barriers should be minimum for 1 car length (Max 6 m, Min 5 m) in each lane

- Self driven vehicle
  The visitor should have an easy access to complex through the main gate. If there is no visitor parking than a suitable signage should planned indicating the same.

- Chauffer driven
  These cars should be allowed entry into the complex up to the drop off and back to the visitor parking area or outside the premises.

Movement within parking floor/area for users/chauffeurs

Separate transfer lifts should be planned for movement within the parking floors. These lifts will open at all the parking floors and at reception level only. This will help all unregistered users to authenticate at the reception desk for forward movement. Lifts which connect from parking directly to office floors should be avoided. In case it is unavoidable then access control with proper ventilation is needed in all the parking floor lift lobbies. *(Refer Geeta Supremus parking floor design).*

There should be free movement for users in between the parking floors and office floors respectively. A separate access controlled entry should be established at the first mid-landing of staircase between the first habitable floor and the parking floor. This controlled access will restrict the movement of non-registered users like driver, etc into the office floors and record movement of registered users through that door. Also, no panic bar should be installed on the staircase doors of the parking floors so as to allow a free movement within. Panic bars will be installed in the staircase doors of all the office floors towards the habitable space.

- Service user vehicle
  Service vehicles come during office hours and sometimes in non office hours. A separate manual controlled entry into the complex should be planned for these vehicles if possible. If not then they will enter from the main gate and lead towards the loading/unloading bay which should be near the service lift. Loading/unloading happens while the vehicle is stationed in the reverse direction. Efficient space

planning for the service vehicle movement needs to be planned. A security desk near the parking/service lift area would be planned to regulate and record the service user movement. The service lift will only open on the loading/unloading bay floor and the office floors. Service lift will not open at any of the parking levels.

- Public transport vehicle
  Auto/Taxi (as applicable) should have an alighting bay either outside the complex or near drop off of the building. Separate drop off outside complex for Buses should be planned for large commercial complexes with signage *(for e.g. iThink Technocampus, Simtools)*. A pedestrian walkway from the alighting bay towards main lobby should be planned if it is outside complex.

- Two wheeler
  Two wheeler parking should be planned in the parking area for 15-20% of the total four wheelers parking count. Separate space should not be allocated but space unusable for four wheelers should be used to its maximum.

2. Pedestrian access

Pedestrian access planning is mainly governed by the occupancy expected in a building/complex. At the main entry into the complex a separate pedestrian entry through wicket gate should be planned. All the pedestrians will be allowed access into the building lobby and control will be implemented at the lobby only. The pedestrian access will be monitored and controlled by providing proximity card readers at suitable entry points within the building. At any given point of time the access system should be able to show number and type of users with their details in the building. This data will be kept on server for minimum 7 days.

Following types of pedestrian access cards will be planned

- Registered user access card
  Registered user will have an open access from complex main gate to the lift lobby. The registered users should get "R" branded proximity cards. Card details will be updated annually. They will expire after completion of 1 year from the date of issue. The data captured on the card should include the assignee name, office name, designated floor, contact number and email ID. All registered users will not be frisked at the entry after the drop off if they show their "R" card. Registered user will put his/her proximity card on the turnstile to

move towards the lifts. As they swipe their card on the turnstile the system will "log-in" the user in the building.

- Visitor access paper slip

  Visitors will have an open access from complex main gate to the lift lobby. For visitors to access the desired office floor they have to compulsory reach the reception area for registering themselves and obtaining a bar coded paper slip. For managing, authenticating the visitor entry Web based visitor management solutions should be used.

  Web based visitor management system

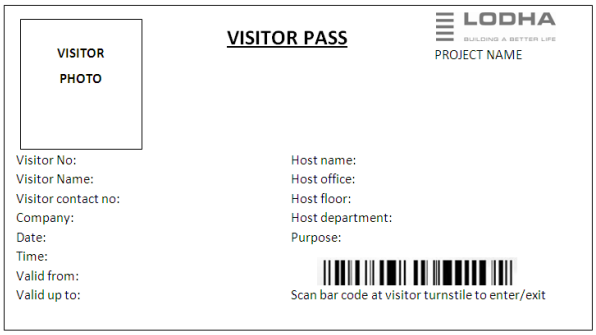
  Web based visitor management system is one of the most efficient system for regulating and authenticating visitors in the building. In this system, a website address is set up for the building and authorized users or their hosts/sponsors can go to the website and fill in the expected visitor credentials for pre-authorization. The visitor will get a SMS with a random generated code, one hour before the expected time on his/her mobile phone with a greeting message. When the visitor comes to the reception after being frisked at entry, he/she will show the SMS code to the receptionist and will be issued visitor slip. If the visitor is not pre authorized then he/she will be issued the slip after oral confirmation with the designated office. To encourage pre-authorization there should be a separate line for pre-registered and non-registered visitors. Signage of pre-registered visitors should be put up on the desk reading "Pre-registered visitors only".

  Every time a new visitor comes his/her photo and other credentials are recorded into the system. This data is always available in the internal server securely. If the visitor comes second time in the complex then he/she will get the paper slip based on pre-registration or voice confirmation with the designated office. The credentials will not be asked again for authentication as the system will show the previous details of the visitor.

  The visitor will scan the bar coded paper slip while entering the lift lobby on the turnstiles to "log-in" the building. At the time of exit the visitor will again scan the slip in the designated turnstile to "Log-out". This turnstile will be marked for visitor. Separate signage should guide visitors for the same.



Example of bi-directional turnstile with embedded bar code scanner + proximity card



Example of A7 size visitor paper slip

- Property Manager/FM
  The property manger should be able to move in the building through all access doors/entries.

- Service staff
  The service staff should be able to move in the building through all access doors/entries except the BMS/control room. Provision for their biometric attendance machine will be made in the main campus security room/FM office. Service staff cards will be issued daily from HFM/BMS room for their movement into the building, changing room and other areas.

- Temporary service user
  Temporary service users are generally courier delivery, document collectors, food delivery, etc. Their entry will be controlled and

monitored through the service gate and service lift area. They should be manually frisked at the service entry security gate.

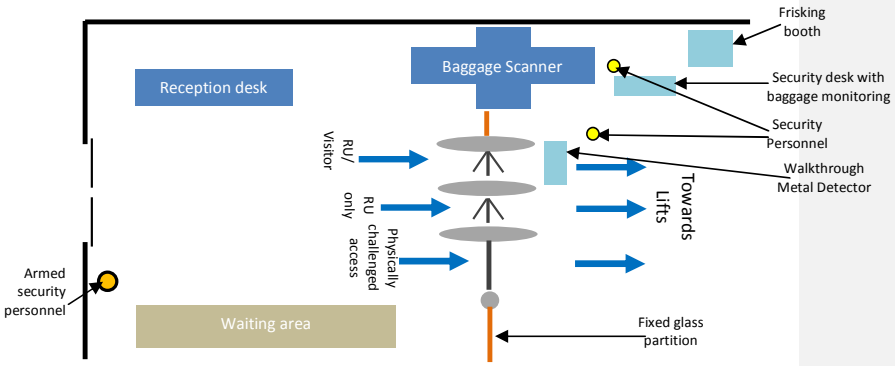
Main entrance to lobby

Main lobby entry/ exit sliding gates should be wide enough to allow ease of movement as per the expected foot falls.

Lift lobby

Lift lobby entry/exit are controlled by turnstiles. Number of turnstiles should be planned as per the expected footfalls. A compulsory access controlled flap barrier needs to be planned for allowing physically challenged user movement. As the turnstiles are unmanned a manual override switch should be given at the reception for any worst case scenario. This manual override will only open the flap barrier and no other turnstile.

There will be a metal detector and baggage scanner machine with a frisking booth adjoining the turnstiles. Registered users and their baggage will not be frisked and all other user baggage will be scanned here. If there is positive detection then a detailed frisking will be carried out by the handheld metal detector and the security should ask the visitor politely for verifying the same. There will be two security guards in the lift lobby, one Male and one Female security near the baggage scanner. These two will manage the respective frisking and baggage scanning for the incoming visitors. For increasing the overall security, depending upon location and its sensitivity, an armed security in uniform can be planned in the lobby. This will enhance the overall security but will also give a visual deterrent to the trouble makers to 'keep off' the property.



Tentative plan for entrance lobby

B. Surveillance systems

- CCTV system
- FA and PA system
- Metal detector
- Handheld metal detector
- Intercom

One intercom connection in all the floors/office (as applicable) will be provided by Lodha which will be connected with the reception.

- Baggage scanner and frisking

(Please follow existing policies for the above)

C. Auxiliary requirements

- BMS/Control room
- FM office
- Drivers toilet/Drivers lounge
- Signage

(Please follow existing policies for the above)

Design intent for Retail Security Systems (Experia mall)

Objective of security systems are to address the following risks only:
1. Theft
2. Eve-teasing
3. Act as deterrent to untrained/ novice attacker or miscreants

It is recognized, that commercial / retail security systems are not suitable to credibly deter or stop trained criminals / terrorist activities. That can only be done by the State police and hence, are not addressed in this document.

A. Securing the premise perimeter

Motorized rolling shutters provided at
- Pedestrian entrances on ground level
- At the parking entry and exit into LG/ Basement as applicable

B. Customer pedestrian entry points

1. Visitors walk through the Door Frame Metal Detector (DFMD), and carry any bags along
   - If no alarm, a person walks in without being frisked or bags checked
   - If alarm goes off, security will frisk them
   - **Men:** Visitor will stand on a step up stool (required to check lower part of body which is missed otherwise), and uniformed male guard will frisk visitor and check any bag using a hand held metal detector
   - **Women:** Visitor will go into a frisking booth (metal frame, cloth bound, with table inside) after the DFMD, and uniformed lady guard will frisk visitor and check any bag using a hand held metal detector
2. Along with uniformed guards, there will be visible bouncers (of good built) at the main entries only – gives a clear impression to trouble makers to 'lay off'
3. Prominent signage will be displayed at all entry points mentioning "This area is under CCTV surveillance". Number of entries to be covered are (as applicable)
   - Main entries
   - Lift lobby each from parking
   - Escalator lobby
   - Travelator lobbies

C. Customer vehicle entry points

1. Indicator at entrance to parking ramp on Ground level to display number car empty slots in UG, LG, Basement and Ground levels; (based on software programming of cars entering & exiting premises). Note, of the total parking spots available, some spots (to be defined by Mall mgmt) will be blocked for 2 wheelers. The display of available car spots will be using the "car only" spots
2. Entry parking levels
   - One lane for both 2 & 4 wheel vehicles
   - Automatic ticketing dispensing machine to have 2 buttons - one each for 2 & 4 wheeler vehicles - with capability to generate either a 2 or a 4 wheeler ticket
   - 2 boom barriers where smaller arm can be opened when 2 wheeler ticket button is pressed and allow only 2 wheelers, and can both arms to open when 4 wheeler ticket button is pressed
   - No security checks of vehicle. No UVS for cars or manual checking of car boot and 2-wheelers
   - Vehicle stops to get automated entry ticket. Car number plate scanner at entry, captures image of car number plate and prints it on the entry ticket
   - Corresponding boom barrier opens and vehicle moves into the designated parking level
   - Boom barrier has to be strong such that vehicle cannot push it open without getting ticket
   - Clearly demarcated bays at parking levels. No separate indicator display at floor entry will be given

3. Payment and Exit
   - Vehicle owner pay at payment booths - 1 per level in the lift lobby at LG & basement
   - Payment slip is issued. No manual intervention for person to collect monies and issue slips
   - The automated machine can be one which accepts only cash notes of select denomination + credit card
   - Boom barrier before exit to open on scanning the entry ticket (with bar code), if the payment matches with the time slot the car was parked for

- If boom barrier is not opening (malfunction in scanner/ time clock out/ customer does not have exit pass), passenger to use "call attendant" button; nearby parking attendant to come and
- Use hand-held ticket dispenser to collect payment and charge a fine of 50% of minimum applicable tariff, if payment related issue
- else manually over ride boom barrier in case of boom barrier malfunction/ time lapse of 1-2 minutes
- The exit boom barrier should be strong enough such that if a vehicle tries to drive through those without paying, significant damage will be caused to the vehicle
- The scheme of payment at a booth away from exit point, will need support of prominent signage to aid visitors; signage on parking rates to be displayed both at entry and exit

4. Payment and Exit
   - As Ground will be treated as overflow parking, no automatic payment machine will be used
   - Customer will pay at Exit at the manned booth
   - Operator will confirm the payment and open the boom barrier for exit

5. Parking analytics/ reports
   - The entry/exit system should be able to generate log of each vehicle's usage details (including time period, type of vehicle, date, day of week) and give list of all vehicles within the parking at any given point

For details on parking management, please refer to the addendum for Public Parking Lot policy.

D. Mall management, service staff & retailer staff pedestrian entry points

1. Retailer staff – can enter through main customers or service entry
   - Show retailer ID card (no access cards given to them)
   - Manual bag check during entry and noting of contents in register
   - No baggage scanners
   - Manual bag check during exit
   - No frisking of people

2. Mall management staff – allowed to enter only through service entry
   - They show access-cum-ID card, clock in/ out time
   - Manual bag check during entry and noting of contents in register
   - No baggage scanners
   - Manual bag check during exit
   - No frisking of people

Note: Service provision to be kept for installing walk in metal detector at service entry, in case required for Police NOC

E. Mall management, service staff & retailer staff vehicle entry points

Open air free parking near service entry (Dedicated for retailer staff and mall management – no customer entry)

- Only registered cars with Proximity access cards (as issued by mall management) allowed
- No security checks for vehicles
- Boom barrier with proximity card reader at service entry
- Uniformed security guard present to note numbers of registered vehicles coming in, and also can do manual over-write of switch in case of proximity car reader failure
- No payment booth and no boom barrier at service exit

F. Service/goods vehicle entry point

1. Service/goods vehicle entry gate
   - Uniformed security guard to check challan with lorry driver and then open the boom barrier at service entry
   - Security to note the vehicle number and challan number in register
   - No separate security checks for vehicles, or goods
   - Goods to be off-loaded in retailer staff presence
   - CCTV to monitor activity of checking and transporting material into mall at the two entries on Ground from the loading bays. Prominent signage for CCTV monitoring

G. Common area monitoring

- Common areas will be under CCTV monitoring; Prominent signage will be displayed mentioning "This area is under CCTV surveillance"
- Plain clothed guards to survey area in 2 atriums, outside plaza and food court
- Cameras should be tamper proof

- It is also essential to have recorded images to be stored for 7 days (no archive) of all critical areas to facilitate investigations of reported incidents
- Refer to annexure 1 for details of location, count and type of CCTV (fixed, fixed outdoors and PTZ)

H. Access Control

Tiered access card system for mall management staff; to be issued by Mall management only to authorized mall management staff. For e.g. engineering service room access only to MEP staff and senior mall management; but HK staff to have access to only BOH & cafeteria

I. Communication systems for security staff

1. Security Guards to have walkie talkies for communication with other posts across the mall - total expect 30 number of walkie talkies
2. Intercom connectivity
   - Help-desk/ reception on Ground floor atrium to have intercom connectivity with BMS room, mall management office, and the lost & found desk
   - The intercom available in the lift cars shall be able to dial only one number, that of the BMS room

Tentative BOQ for IBMS (Security)

SUMMARY OF PRICE BID

S.NO.	HEAD	DESCRIPTION		AMOUNT (Rs.)
1	A	Analogue CCTV Surveillance System		
2	B	Access Control System (ACS)		
3	C	Boom-Barrier and Turnstile		
4	D	General Items for CCTV / ACS /BB / Turnstile		
5	E	Visitor Management System (VMS)		
GRAND TOTAL (A,B,C,D,E)				
GRAND TOTAL IN WORDS:				

Note:
(1) The above BOQ may go under change as per the requirement at site and site conditions. Bidder shall supply, install and commission CCTV, Access Control System, Boom Barriers, Turnstile system, Power Distribution system, cabling and conduiting work complete in all respects to meet the system as per actual requirement for system operation. Bidder shall supply, install and commission the additional quantity of items with prior approval of EPI's In- charge at site .For any variation in quantity during execution of work over and above quantities provided in BOQ shall be supplied at unit rate of cost quoted in the tender in case of addition /deletion in quantities, rates for items indicated above shall be applicable.
(2) The specifications given in BOQ for server/WS are minimum requirements. Bidder has to ensure that their system must operate accordance to the client requirement and covering the overview of the IP system.

S.NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE (IN RUPEES)	AMOUNT (Rs.)
1A.	**Analogue CCTV Surveillance System**				
1	Design, Manufacture, Supply, Unloading, Handling, Installation, Testing & Commissioning of following equipment's for an integrated Analogue based CCTV System Complete with all accessories (inc management software, PCs, Video Wall and monitors) as per technical specifications, APPROVED schematic drawing, relevant standards & including all accessories as per site conditions to make the system fully operational.	Nos.			
	The CCTV cameras noted below to incorporate a DSP providing the following functionality, (a) Electronic shuttering, (b) White balance, (c) Electronic zooming: 5:1, and (d) Video bright light compression. Cameras connections to utilise BNC. Camera lens mount CS or Mini (12mm). Camera housings to be vandal resistant polycarbonate type. Colour sensitivity (a) colour 1 lux (b) monochrome 0.4lux. Each camera to be supplied with wall mounting bracket.				
1	Supply, Install, Testing and Commissioning of Internal Colour Static Domes c/w vary focal lenses with 2 to 10mm length, auto iris, auto wide & auto balance cameras including integrated housing. Price to include for all interconnection between PSU, camera and electrical power point.	Nos.			
2	Supply, Install, Testing and Commissioning of External Colour Static Domes c/w vary focal lenses with 2 to 10mm length, auto	Nos.			

	iris, auto wide & auto balance cameras including integrated housing. Price to include for all interconnection between PSU, camera and electrical power point.				
3	Supply, Install, Testing and Commissioning of Internal Colour PTZ Dome c/w vary focal lenses with 2 to 10mm length, auto iris, auto wide & auto balance cameras including integrated housing. Price to include for all interconnection between PSU, camera and electrical power point.	Nos.			
4	Supply, Install, Testing and Commissioning of External Colour PTZ Dome c/w veri focal lenses with 2 to 10mm length, auto iris, auto wide & auto balance cameras including integrated housing, heater and window washer. Price to include for all interconnection between PSU, camera and electrical power point.	Nos.			
5	Supply, Install, Testing and Commissioning of External Rated Colour CCTV (day light) IR Illuminated c/w veri focal lenses with 2 to 10mm length, auto iris, auto balance cameras & auto wide including integrated housing, heater and window washer. Price to include for all interconnection between PSU, camera and electrical power point.				
6.	Supply, Install, Testing and Commissioning of following rack mounted Multiplex Digital Video Recorder(s) (DVR) with in-built multiplexer & 7days continuous recording facility. Unit(s) to provide for menu driven simultaneous triplex operation with digital watermarking. Software shall be fully programmable to allow for on-screen display, auto or manual sequencing, alarm switching, camera numbering etc. Contractor shall size the DVR for 10 FPS / 4 CIF resolution (per camera), 7 days of continuous recording and submit data sheet of their storage calculation for both MPEG 4 and H.264 recording formats. The DVR should incorporate DVD-RW burning, USB and Ethernet connectivity with all necessary software. Unit(s) shall have twin monitor output and RJ45 and RS 485 port and at least one eSATA port for connection of an external storage device. OS to be fully licensed complete with original installation disk(s),. The system shall allow for fast searching of recorded information based on time, data, video motion detection, alarm input or other external events. Price to include for internal cable management within the 19" rack and termination of individual coax inputs from CCTV cameras into unit(s).				
A	16 Channel DVR	NOS			

		.			
B	4 Channel DVR	NOS.			
7	Supply, Install, Testing and Commissioning of 19" 42U 800x800 equipment cabinet c/w 2No. 8 PDUs and Ventilation Fan.	NOS.			
8	Supply, Install, Testing and Commissioning of joystick controller.	NOS.			
9	Supply, Install, Testing and Commissioning of remote 21" LCD flat screen display (1600x1200 resolutions), keyboard and mouse/joystick to provide command and control function. Price to include for all internal wiring.	NOS.			
10	Supply, Install, Testing and Commissioning of RG-6 cabling.	RM			
11	Miscellaneous components and accessories not listed here, but required for a complete the system. (Tenderer shall list out such items with quantities)	LOT			
12	Wiring, testing and commissioning of each BNC coax faceplate in M.S. box of 18 SWG as required.				
13	Supply, installation, testing and commissioning of 300-1200DPI Monochrome / Colour ink jet hard copy video printer (to include leads, power cords, shelf in 19" cabinet and B/W and colour toner cartridges)				
13	Supply, install, test and commission a heavy duty steel DVR enclosure complete with lockable front door removable top cover, plexi glass front window and fan kit.				

S.NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE (IN RUPEES)	AMOUNT (Rs.)
B.	**Access Control System(ACS)**				
	Control Part				
18	Supply, installation, testing and commissioning of TCP/IP based single door network controller/reader with 13.56 RF data transmission, RS-232 port, and 32 bit 100 MHz RISC processor as per the specification. The cost includes the cost of power supply.	Nos.			
19	Supplying, installation, testing and commissioning of single door electromagnetic * Low-profile design * Adjustable mounting bracket * Holding force 600lbs * Voltage 12 / 24 VDC on site selectable * Current draw 12V / 500ma: 24V / 250 ma * Finish Natural anodized Aluminium *	Nos.			

	Fail safe - Releases instantly when power is discontinued * Silent Operation - No annoying humming or buzzing noise * Reliability - No Mechanical moving part. Complete with Brackets (Two locks to be provided in double leaf doors and one in single leaf door as per site requirement).The lock supply to be integrated with FAS.				
20	Supplying, installation, testing and commissioning of door contact (for each lock)	Nos.			
21	Supplying, installation, testing and commissioning of Exit switch.	Nos.			
22	Smart Card readers long range reader for Boom Barriers for vehicle entry and exit.	Nos.			
23	Supplying of proximity card complete with designing and printing of cards along with lanyard and cardholders.	Nos.			
	Software and server				
24	Supply, installation, testing and commissioning of software for access control suitable for xxxx users complete with CPU at 3.33GHz and min. 4MB Cache, 1400MHz FSB with min. 8GB of RAM, HDD-1.0 TB, 22" LCD monitor, keyboard, mouse as per the specification. Card reader /writer locating at reception for Visitor card issue PC and employ card issue at IBMS room/Guard room.	Nos.			
	Cable and conduit				
25	Supplying and laying of 4 pair Category 6 UTP cable in existing surface/recess steel/PVC conduit or underground GI conduit. The cable shall consist of 23 AWG solid bare copper conductors, polyolefin insulation and with end termination as per the specification and required hardware with end connectors to devices. The cable should have flexible jacket and ripcord for easy stripability.	RM			
26	Supplying, installation, testing and laying of 1.1KV grade PVC insulated, stranded copper conductor 3 x 1.5 sq. mm. size of flexible cable in surface / recessed PVC conduit as required and making their end	RM			

	termination with glands and lugs as per relevant applicable IS -1554.				
27	Supply and fixing of 20 mm size PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recess conduit as required.	RM			
28	Supplying, installation, testing and laying of 1.1KV grade PVC insulated, stranded copper conductor 3 x 2.5 sq. mm. size of flexible cable in surface / recessed PVC conduit as required and making their end termination with glands and lugs as per relevant applicable IS-1554.	RM			
29	Supplying and fixing of suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 6A modular socket outlet and 6A modular switch, connection, painting etc. as required	Nos.			
	SUB-TOTAL (B)				

S.NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE (IN RUPEES)	AMOUNT (Rs.)
C	**Boom-Barrier and Turnstile**				
	Boom-barrier				
30	Supplying, installation, testing and commissioning of boom-barrier for outdoor application, with 3.25 up to 6mt. straight Boom, extruded, made of aluminium alloy, opening and closing time 1.5 up to 6s, 50 Hz, 230V AC, 100% duty cycle, MTBF: 2 million operations, IP 44, UL listed and complete with presence detector, control pillar and all accessories as per the specification. Boom barrier shall function in integration with RFID card based access control system as per the specification.	Nos.			
31	Supplying, installation, testing and commissioning of boom-barrier for outdoor application, with 1.5 mt. straight Boom, extruded, made of aluminium alloy, opening and closing time 1.5 up to 6s, 50 Hz, 230V AC,100% duty cycle, MTBF: 2 million operations, IP 44, UL listed and complete with loop detector,	Nos.			

	control pillar and all accessories as per the specification. Boom barrier shall function in integration with proximity card based access control system as per the specification.				
32	Supplying, installation, testing and commissioning of access control for boom barrier complete in all respect as per the specification. The access control system shall consist of TCP/IP based single door network controller cum reader with 13.56 RF data transmission,RS-232 port, 32 bit 100 bit RISC processor, installed in aluminium front plate of control pillar as per the specifications.	Nos.			
	Turnstiles				
33	Supplying, installation, testing and commissioning of bidirectional, electromechanical, tripod turnstile made of stainless steel with scotch-brite finished, equipped with an adjustable hydraulic cushion, programmable control logic, and an automatic release function for the tripod during blackouts, IP 40, 230V AC, operating temperature 20°C - +55°C and complete with all accessories including end dummy unit without turnstile and glass partition up to adjacent wall. Turnstile shall function in integration with proximity card based access control system as per the specifications.	Nos.			
34	**<u>Visitor turnstile</u>** Supplying, installation, testing and commissioning of bidirectional, electromechanical, tripod turnstile made of stainless steel with scotch-brite finished, equipped with an adjustable hydraulic cushion, programmable control logic, and an automatic release function for the tripod during blackouts, IP 40, 230V AC, operating temperature 20°C - +55°C and complete with all accessories. Turnstile shall function in integration with proximity card based access control system and bar code based access system as per the specifications. The bar code will be generated by the visitor management system they should be	Nos.	1		

	well integrated.				
35	Supplying, installation, testing and commissioning of bidirectional, electromechanical, flap barrier made of transparent light weight polymer with transparent finished, motor type, programmable control logic, and an automatic release function for the barrier during blackouts and a bypass switch at reception desk, IP 40, 230V AC, operating temperature 20°C - +55°C and complete with all accessories. Flap barrier shall function in integration with proximity card based access control system as per the specifications. The flap barrier will have a by-pass switch at the reception.	Nos.	1		
36	Supplying, installation, testing and commissioning of access control for turnstile complete in all respect as per the specification. The access control system shall consist of TCP/IP based single door network controller cum reader with 13.56 RF data ransmission,RS-232 port, 32 bit 100 bit RISC processor, installed on turnstile as per the specifications.	Nos.			
	Cable and conduit				
37	Supplying and laying of 4 pair Category 6 UTP cable in existing surface/recess steel/PVC conduit or underground GI conduit. The cable shall consist of 23 AWG solid bare copper conductors, polyolefin insulation and with end termination as per the specification and required hardware with end connectors to devices. The cable should have flexible jacket and ripcord for easy stripability.				
38	Supplying and drawing of 6 core single mode optical fibre in existing underground HDPE pipe. The work including all accessories for end termination to devices.	RM			
39	Supply, laying & fixing of 32mm dia heavy duty HDPE pipe including excavation, back filling, etc as per standard, complete with fittings and clamps including cutting and making good etc. as per IS:14930 Part II, complete as required.	RM			

40	Supply and laying of 3 core 4 sq mm PVC insulated stranded copper conductor armoured cable as per IS 1554, PVC sheathed 1100 volts grade The cost include cost of gland, lugs and end termination. The cables shall be buried as per relevant applicable standard.	RM			
41	Supplying and laying of 32 mm heavy class G.I pipe, bends, junction boxes and complete with all accessories including cost of excavation (depth of 1mt), refilling as required.	RM			
	SUB-TOTAL (C)				

S.NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE (IN RUPEES)	AMOUNT (Rs.)
D	**General Items for CCTV / ACS /BB / Turnstile**				
42	Supply, Installation, Testing and Commissioning of 5KVA online UPS (IGBT technology), AC input voltage 1 phase 230 V AC +neutral+earth, 50Hz, power factor < 0.9%, 0 - 45 deg C, up to 95% RH non-condensing, with 30 minutes battery back - up and complete in all respect as per the specifications with SMF battery. UPS & SMF Battery shall be housed in Single cabinet.	Nos.			
43	Supplying, installing, testing & commissioning of wall mounted UPS MCB DB with 1 no 40 A MCB (C series) and 4 nos outgoing 16 A single pole and neutral, consumer unit, 230V made from 2mm thick CRCA sheet, dust & vermin proof duly phosphatised & powder coated, painting etc. fixing complete with separate channel for earthing & neutral links on surface /recess as required.	Nos.			
44	Supplying and fixing Junction Box with xx nos MCB outgoing 6A, on surface /recess as required.	Nos.			
45	Supply and fixing of Flexible heavy duty PVC conduit along with accessories as required.	RM			
46	Training for 6 personnel's	LS	1		

47	Certification	LS	1		
48	Any other items and accessories which are not specifically mentioned/ included in the BOQ but required to make CCTV/ACS/BB/turnstile system operation and installation complete in all respect.	LS	1		
	SUB-TOTAL (D)				

S.NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE (IN RUPEES)	AMOUNT (Rs.)
	Visitor Management System				
49	Visitors management software as per technical specification and system PC comprising Intel core T2 Duo 2.8 GHz Processor @ L2 Cache 3 MB Intel 31 PR mother board, 2GB DDr3 RAM, 500GB HDD, Keyboard, Optical mouse, ATX P IV Cabinet with SMPS Prime Source, DVD Writer, Latest service pack with latest window operating system. The system should be supplied with 21" TFT Colour Monitor - Also, the PC shall be supplied with web camera for taking the visitor photos. - Shall be provided with temporary licence during commissioning & permanent licence during handing over to client.	Nos	2		
	SUB-TOTAL (E)				

Features of access control software

Any electronic access control system adds tremendous value to any operation of the building. There are many different technologies available at various costs and security levels but following guidelines should be the minimum in the access software we provide

i. There shall be no limitations on the number of PC workstations, readers and alarm inputs
ii. At least 3 active cards per user shall be supported
iii. At least 8 access levels per user shall be supported
iv. Access levels should be assigned to a user, not to a card, in order to help issue a new card in a fast and easy manner, without reassigning access levels
v. The software shall support at least 400 holiday dates and have automatic holiday rescheduling feature
vi. The software shall have the ability to perform scheduled automatic database maintenance and backup tasks at user selected intervals and ability to configure the amount of history stored in the active database
vii. The software shall have the ability to produce the following report types: system and alarm event reports, user reports, hardware configuration settings, access level reports, employee time and attendance reports
viii. The reports shall be available in Adobe PDF and MS Excel formats

ix. Report filters must be convenient and user friendly: allow operator preview user photos, content of access levels, hardware settings and time zone configuration
x. The software shall support an unlimited number of building floor plans
xi. Floor plan viewing interface shall have convenient zoom in/out controls by mouse wheel
xii. The software shall support "full-screen" mode that would take up 100% of the monitor area and prevent operators from starting or accessing any other programs
xiii. All configuration and user changes shall be sent to controller/pre-assigned manager immediately
xiv. The downloading/uploading data shall be done in background and not affect the normal use of the software in any way
xv. The floor plans shall display real-time status of system hardware and allow operators to immediately see the effects caused by configuration changes
xvi. Dynamic search function shall be present in all windows of the program: search results shall be narrowed automatically as a key phrase is being entered. i.e. after entering characters "xy" the program shall locate & display all records having these characters, after typing in more characters the results should refresh automatically
xvii. The software shall use an industry standard database engine released not earlier than 3 years from the date of installation at site and currently supported by the leading manufacturer/software providers
xviii. The software shall have the ability to automatically display photos and additional information about users as they enter/exit through doors at any given time
xix. The software shall be available in the English language
xx. Software shall have a modern interface, attractively designed & convenient to use
xxi. The software shall be adapted for operators who have not received any special training related to management of integrated security systems
xxii. Graphical user interface shall be intuitive
xxiii. Introducing the system to a new operator shall not take more than 30 min
xxiv. In order to reduce the amount of work done by an operator, the software shall incorporate an option to copy objects: users, doors, floor plans, time schedules, access levels and holidays
xxv. The software shall facilitate integration with other systems of the building
xxvi. The software shall have the ability to transfer entry and exit events to HR systems with the purpose of work time calculation
xxvii. The software shall store information and provide reports about visitors and appointments as per need basis
xxviii. All users data will always stay in the local server

Features of visitor management software

The system shall also support printing of custom designed visitor passes with details like expiration date, visit area, host being visited, and visit purpose. The Visitor Management Software is a closed network application that can be accessed by three kinds of users—Administrator, User and Front desk.

Administrator

xxix. The administrator of the software can enter the application only through a secured credential
xxx. The administrator can see the name of the visitor, the visitee, date, in-time as well as the out-time of the visitor when entering the site
xxxi. The admin can manage employees, view employee list along with their employee ID, Card No., phone number and designation, edit/delete/add employees from the dashboard, manage users and view or block any visitor in the system. He can sort the visitor list by first name, last name and date

User

xxxii. The registered user or the designated employee of the system is to use the front end of the application. He/she can enter the web portal application only through a secured User Login and Password
xxxiii. On login, the user needs to enter the details of the visitor in the system and the detail of the visitor gets saved in the database
xxxiv. To capture and save the image of the visitor while coming for the first time, one needs to allow the microphone and camera to be accessed from the system
xxxv. After the setting is done, the camera will be on and photo of the visitor can be captured and shown on the software
xxxvi. If the detail of a visitor is already saved in the database, the user only needs to provide the mobile number or random code received by the visitor when he/she is pre-registered
xxxvii. The visitor's detail can be seen in the form along with the picture that was captured earlier
xxxviii. The software should allow a map to be generated with the visitor and the visitee showing the details of the visits

Front desk

xxxix. Authenticating a person as having proper identification and determining that he or she is who they claim to be
xl. Enforcing visitor authorization prior to issuing card/slip
xli. Assign temporary day cards to employees who have forgotten their card and their permanent card should automatically be disabled while the temp card is active
xlii. Be able to do a visual verify of the employee to their photo at the Front Desk
xliii. The Front desk user pre-loads visitors expected for a future visit
xliv. The Front desk user enters the visitor's name, contact details, date(s) of visit, and planned host
xlv. The Front desk user can sign in expected (pre-registered) or unexpected visitors. If the visitor is unexpected, the user enters the visitor's name, contact details, end date of visit, and planned host. The visitor information is compared against the watch list, and if a match is found the user may choose whether to continue with registration or not
xlvi. Front desk user can modify visit details during the visit, including duration and change of host
xlvii. Default visitor searches support searching using the first name, last name, company name, sign-in date, and so on
xlviii. Front desk operator can register a large number of people as a group and may add multiple visitors to the group. Front desk operator may modify groups, delete groups, and import group members from a text file

General

xlix. Complete visitor registration processing within 20 seconds
l. Group/Event pre-registration, pre-loading of visitor picture, badge pre-printing and arrival instructions
li. Quick and complete capture of visitor information as an essential component for proper record keeping and security checks
lii. Recalling previous visit information (including pictures) when a visitor revisits
liii. Detecting each attempted visit and deterring potential security breaches before they affect the user facilities
liv. Importing guests ranging from disgruntled ex-employees to known felons into the watch list to alert personnel of a potential threat to the organization
lv. Delegating authorization responsibility to specific individuals
lvi. Providing a denied visitors list
lvii. Supports tight integration with access security systems that allow the assignment of access control privileges via card to visitors
lviii. Track events automatically by an accurate log as they relate to the visitor's activities on site
lix. Track the number of times the visitor signs in and signs out
lx. Ensure that visitors sign out by tracking expired visits and informing their hosts
lxi. Provide proactive checking for expired visits and network notification to hosts and visitors of expired visits

lxii. Support quick sign in and out using a random generate code via real time network messaging
lxiii. Provide web access to the visitor manifest by a local server at site
lxiv. Reports on demand, or schedule reports for regular generation and e-mail delivery
lxv. Configuration as a standalone or networked solution, single or multi-tenant facility, or single or multiple facility company
lxvi. Tailoring badge templates, notification rules, and security policies for each visitor category
lxvii. Customizing the data being tracked for each visitor category and customized report templates
lxviii. Synchronizing with online employee list through automated file import, Active Directory
lxix. Configuring user interface including, but not limited to data views, actions, field names/types/default values, custom categories, and visit types, required or read-only fields
lxx. The system shall support optional add-on licenses to install additional number of Front desk applications in the system
lxxi. The system shall support both system-managed password scheme and Windows user accounts and policies Windows passwords shall abide by Windows policies regarding user accounts. The system-managed passwords shall be encrypted and will require both alpha and numeric characters

Access control hardware features

lxxii. The hardware shall support open architecture. Communication protocols shall be available to system integrators and software development companies in order to protect end-users from being constrained to a single brand of hardware or software
lxxiii. The hardware shall support all industry standard readers that output information in Wiegand or Clock/Data formats (up to 128 bits)
lxxiv. There shall be at least 2 types of controllers: (a) for one door with an entry reader and an exit button and (b) for one door with two readers (entry and exit) or for two separate doors with entry readers and exit button
lxxv. There shall be an IP-reader available. The IP-reader shall integrate a contactless card reader and controller in a single body, designed for surface mounting on a wall or a door frame eliminating the need for enclosures
lxxvi. Each controller and IP-reader shall have a standard RJ-45 network port for communication with software and other controllers
lxxvii. Controller and IP-reader shall support standard Ethernet 10/100BaseT network and TCP/IP communication protocol
lxxviii. Systems using Ethernet converters, adapters, or terminal servers that enable network connectivity for legacy controllers by tunneling RS-232/485 serial data over Ethernet shall not be acceptable
lxxix. Single-door controller and IP-reader shall have at least 32Mb SDRAM operating memory and 8 MB Flash memory for database and events. Two-door controller shall have an option for expanding Flash memory to 32MB
lxxx. All controllers and IP-readers shall use a 32Bit 100Mhz RISC processor (or better) in order to enable fast execution of advanced functions
lxxxi. Controllers and IP-readers shall use a friendly operating system and accept firmware upgrades via network
lxxxii. All system parameters including card numbers, PINs, access levels, time schedules, holidays and operations modes shall be stored in controller and IP-reader memory and not affected in case of a power loss
lxxxiii. Single-door controller and IP-reader shall have enough memory to store at least 40,000 users. Two-door controller shall have enough memory to store at least 250,000 users
lxxxiv. In case communication with the host PC is interrupted, the controller and IP-reader must have enough memory to store at least 5000 latest events (FIFO buffer)
lxxxv. Operation of controller and IP-reader shall be completely independent of the PC or "Master controller". Should the PC or the communication link fail, the users should not be affected in any way and all functions should continue working
lxxxvi. IP-reader shall have the following inputs and outputs:
1. Exit button input
2. Door contact input

3. Auxiliary alarm input
4. Tamper sensor and tamper input
5. Inputs for monitoring AC power and backup battery state. There should be an option to reconfigure these inputs to function as general purpose inputs
6. Relay for controlling an electric lock
7. General purpose auxiliary output relay

lxxxvii. One-door controller shall have the following inputs and outputs:
1. Power output for the reader
2. Outputs for controlling LEDs and beeper of the reader
3. Wiegand or Clock/Data input
4. Exit button input
5. Door contact input
6. Auxiliary alarm input
7. Tamper input
8. Inputs for monitoring AC power and backup battery state. There should be an option to reconfigure these inputs to function as general purpose inputs
9. Relay for controlling an electric lock
10. General purpose auxiliary output relay

lxxxviii. Two-door controller shall have the following inputs and outputs:
1. Power output for two readers
2. Outputs for controlling LEDs and beepers of the readers
3. Two Wiegand or Clock/Data inputs
4. Two exit button inputs
5. Two door contact inputs
6. Two auxiliary alarm inputs
7. Tamper input
8. Inputs for monitoring AC power and backup battery state. There should be an option to reconfigure these inputs to function as general purpose inputs
9. Two relays for controlling an electric lock
10. Two general purpose auxiliary output relays

lxxxix. Relays of controllers and IP-readers should support two modes of operation: (a) dry contact and (b) powered mode, whereas power to the lock is provided via relay contacts this way simplifying wiring and eliminating the need for an additional power supply

xc. Controllers and IP-readers shall have an RS-232/485 communication port that would act as a backup communication channel in case the network connection was interrupted

xci. Controllers and IP-readers shall have a built-in PoE capability, in order to reduce wiring and provide backup power effectively. PoE feature must comply with the 802.3af standard

xcii. Controllers and IP-readers shall be capable of supplying up to 600mA @ 12VDC to peripheral devices: readers, electric locks, sirens, detectors, etc

xciii. Controllers and IP-readers shall accept the standard 12VDC power input in case an existing network infrastructure does not support PoE

xciv. In case the main PC of the system fails, controllers and IP-readers shall accept a connection from a laptop in order to diagnose the problem, change settings or control peripheral devices

xcv. In case of an alarm controllers and IP-readers shall initiate communication and provide timely notifications to operators. Hardware that does not initiate communication and needs to be polled frequently will not be acceptable due producing needless traffic on the network and processing load on the PC

xcvi. The system shall support biometric IP-readers with the following or better specifications:
1. 25,000 fingerprint template storage capacity
2. 1-to-many verification in less than 1 second (with the database of 3000 users)
3. 1-to-many verification with the database of 9000 users.
4. 500,000 event storage
5. Built-in USB, RS-232/485, LAN and WLAN communication ports
6. Selectable operation modes: fingerprint, fingerprint + card, fingerprint + PIN.

7. Door-phone function
8. Microphone, speaker and 2.5" QVGA color LCD
9. 72MB flash memory
10. Door contact and exit button inputs
11. Lock control relay

Turnstiles

xcvii. Double entry turnstiles on entrance/exit of the lift lobby in the building
xcviii. Fast operation around 4 seconds
xcix. One efficient and inbuilt Bar code reader/Proximity card for visitors and registered user respectively
c. Efficient proximity card reader for registered user entry/exit
ci. Dummy turnstile for the end having same look and feel as others
cii. Place for placing proper signage on all turnstile and flap barrier
ciii. There will not be any sharp edges and protruding device from the turnstile
civ. An industrial grade scanner should be installed which will provide superior scanning with high accuracy and speed
cv. Hydraulically dampened arm rotation with automatic arm self-centering which will offer patrons a smooth, effortless rotation experience
cvi. AC powered
cvii. Wired or Wireless Ethernet communication mechanism
cviii. Should talk to access control software in real time
cix. Concealed anchoring system
cx. Key override to manually unlock turnstile in entrance/exit direction
cxi. High intensity "Go/No Go" or arrow LED indicators green and red for patrons
cxii. If communication with access host is interrupted, turnstile should continue to operate in off-line mode
cxiii. Includes base plate, wheels, stainless steel handle and battery compartment
cxiv. Operating temperature -15 degree to 60 degree centigrade
cxv. Access width of 800mm minimum
cxvi. 3-armed turnstile made from stainless steel; fold down bars, cast aluminum hub, with release mechanism for activation via fire alarm system
cxvii. IP 54, 304 SS steel finish, thickness not less than 1.5mm
cxviii. Minimum passing speed of 50 person/min
cxix. RS 485 standard communication module
cxx. Bi-directional card/bar code reading
cxxi. Human safe: optical and mechanical anti-impact. Optical sensor detects passenger position. 100% avoid patron hurt during passing
cxxii. Direction display guide for patrons go or stop
cxxiii. Stable running with low noise

Design Intent for Residential Security Systems

(Casa, Aspirational, Hi-end and Luxury)

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This section below covers Casa, Aspiration, Hi-end and Luxury.

GUIDING PRINCIPLE FOR RESIDENTIAL

- Control at first access point to development since common areas are used by families
- For Hi-end and Luxury, threat from domestic help is important consideration and has to be mitigated
- For Hi-end and Luxury, privacy is an important consideration and hence, floor access is to be restricted

Security System

Security system is an integrated solution for controlling, managing, guiding vehicles and users in & out of complex/building with safety and minimum hassle. Understanding the business environment where the solution will be used is crucial to ensure that the proposed solution meets all the requirements of both surety and ease of use.

It can be broken out into the following main components:

A. Access control systems
B. Security steps
C. Surveillance systems
D. Auxiliary requirements

A. Access control systems

Access control system consists of hardware and software designed to control entry into selected areas and manage movement of people/vehicles within. The system is designed to increase security by defining access permissions based on area and time for each user and maintaining a log of all events. Two types of access system covered here are:

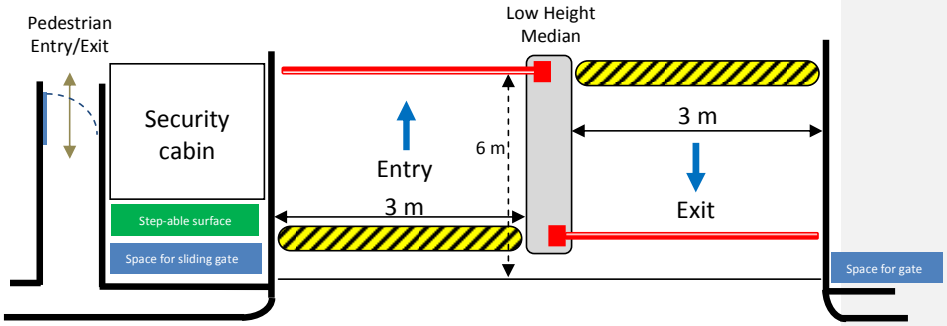
1. Vehicular access
2. Pedestrian access

1. Vehicular access

The vehicular access system should provide controlled movement of any vehicle type. The main entry for vehicles into the complex should be controlled by a long range RFID boom barriers and sliding night gate. Pedestrian movement will be controlled by a turnstile/wicket gate as applicable by project grade. Depending upon layout of site entrance, expected traffic and applicable CFO norms we can have 1 Entry + 1 Exit lanes or 2 entry lanes + 1 exit.

One entry lane and one exit lane

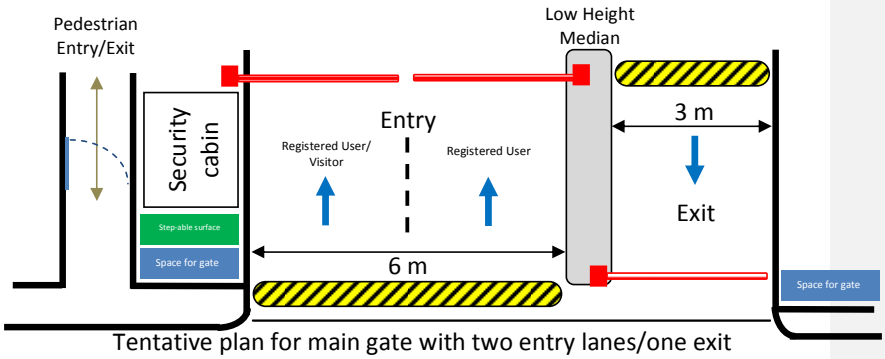
This arrangement is to be followed when there is no visitor parking in the premises and expected traffic is low (*e.g. Primero*). In this case, the security cabin should be situated near the entry lane. This security cabin will be between pedestrian entry and vehicle entry lane. An intercom connected with flats (video to flats as per project type) will placed in the security cabin. A sliding night gate for both the entry/exit lanes and a wicket gate at pedestrian entry will be installed to control the movement in late night hours. If there is very less resting space for sliding gate then foldable type gate can be planned. If designing low height median is not possible then at least permanent bollards should be placed so that the entry and exit lanes are properly defined visually. Enough space in-front of cabin should be planned for people to stand so as to be verified as per process.



Tentative plan for main gate with one entry & exit

Two entry lanes and one exit lane

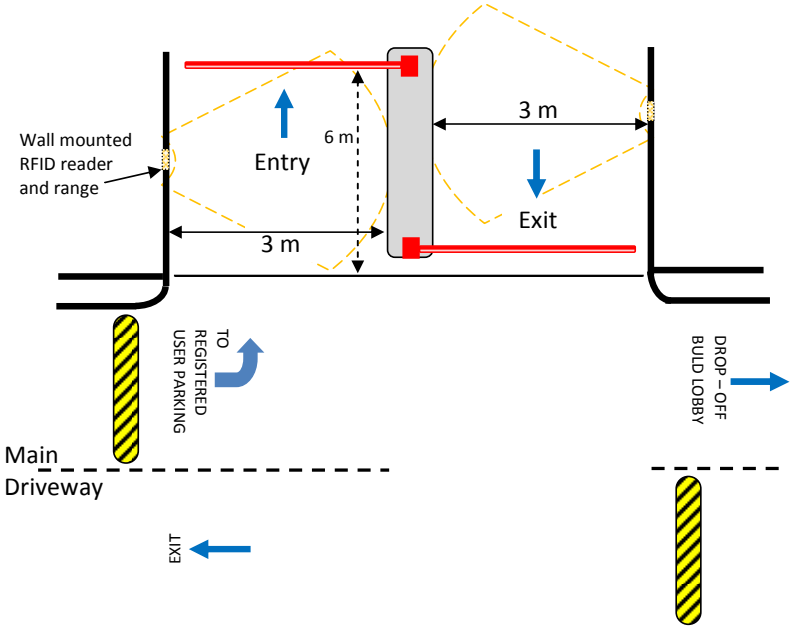
If there is only one entry/exit planned into the complex then this arrangement at the main entrance should be provided *(e.g. Luxuria)*. For this type, the security cabin should be planned near left most entry lane only. An intercom connected with flats (video to flats as per project type) will placed in the security cabin. Sliding night gate for the entries/exit lanes and a turnstile/wicket gate (as applicable) at pedestrian entry will be installed to control the movement in late night hours. If there is a space constraint for sliding gate pocket then the foldable type gate can be planned. If designing low height median is not possible then at least permanent bollards should be placed so that entry and exit lanes are properly defined. Enough space in-front of cabin should be planned for people to stand so as to be verified as per process.



Tentative plan for main gate with two entry lanes/one exit

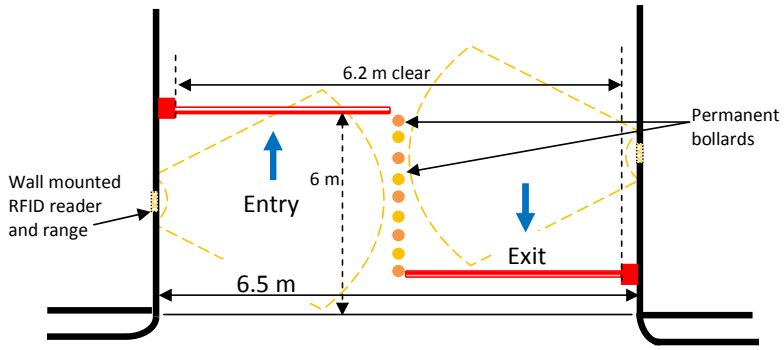
Parking floor/area

A separate one point controlled entry/exit to the parking floors/area other than the main entry can be planned inside a campus. These will be unmanned and will be controlled by long range RFID boom barriers as only registered cars are allowed to park inside this area. Generally visitor parking is not allowed in the customer parking area but safeguarding against public vehicle/visitor vehicles to park inside the customer parking should be of the essence. In case visitor parking is allowed then please refer to visitor parking management section below. At the top of parking floor entry, height restriction signage should be planned.



Tentative plan for parking floor/area entry & exit

In case a low height median is difficult to design for separating entry and exit lanes then below arrangement can be considered.



Tentative plan for parking floor/area entry & exit

- Registered vehicles
  There will be only one type of RFID access cards that will allow access to parking floor/area which will be issued to the registered user against the assigned car park slot. The vehicle owner (cars & two wheelers) should get a branded long range (~3m) RFID card. Registered vehicles need not be verified before/after entry into the complex/parking area. The access system should be able to show the number of registered vehicles in the building/complex at any given point of time. This data will be kept on local server for minimum 7 days. Card/sticker details will be checked annually by the HFM team. The data captured on the cards should include but not limited to vehicle owner name, car registration number, flat number, designated floor, parking no., etc.

  - Self driven vehicle
    These users must be able to enter parking area and park their vehicle safely in the designated space. Proper signage should be provided for easy guidance.

  - Chauffeur driven vehicle
    The chauffeur should be able to drop off the registered user in the drop off zone and should be able to enter the parking area and park his/her vehicle safely in the designated space. Drivers lounge and related facilities should be provided as per current policy.

- Visitor vehicle
  In case there is visitor parking inside the complex then the area should be well guided by signage and should be near main drop off of cluster/building. Visitor vehicle will be verified by the security guard at the entry and the process of verification is defined in the security steps below. Access to the main drop-off should be freely accessible after the controlled main entry.

  - Self driven vehicle
    The visitor should have a controlled access to complex through the main gate. If there is no visitor parking than a suitable signage should planned indicating the same.

  - Chauffer driven
    These cars should be allowed entry into the complex up to the drop off and back to the visitor parking area or outside the premises.

- Service user vehicle
  Service vehicle/users come throughout the day and should be closely monitored. A separate manual controlled entry into the complex should be planned for Luxury and optional for others categories. If service vehicles are entering from the main gate then they should be let in only after verification and should be guided to the drop off zone near the service elevator of the building. As the service entry is access controlled (Luxury, Hi-end and Aspirational) a temporary access card will be given to the service user to access a particular building. Record of the service user movement will be maintained at the security gate only. For Casa projects, service user movement will be through the main lift lobby hence their movement will be recorded by the building level security guard (if applicable). The service lift will only open on the loading/unloading bay floor, amenity floors and the residential floors. Service lift will not open at any of the parking levels.

- Public transport vehicle
  Auto/Taxi (as applicable) will be allowed inside the complex up to the main drop off of the building. The chauffer/vehicle occupant will be verified as per the security steps below and then only the vehicle will be allowed inside the complex.

- Two wheeler
  Two wheeler parking should be planned in the parking area for 15-20% of the total four wheelers parking count. Separate space should

not be allocated but space unusable for four wheelers should be used to its maximum.

2. Pedestrian access

Pedestrian access planning is mainly governed by the type of project. At the main entry into the complex a separate pedestrian entry through wicket gate should be planned. Pedestrian entry should be wide enough for two people to walk simultaneously. For Luxury, Hi-end and Aspirational projects there will be a turnstile to control and record the entry of registered users and service user if is through the same entry. In luxury projects, the service entry will be separate so the turnstile should not open for any service user.

All the pedestrians will be allowed a controlled access up to the building lobby after verification (Intercom/VDP) at the main gate. The pedestrian access will have access to the main lobby entrance and building level controls will be planned here. At any given point of time the access system should be able to show number and type of users with their details in the building. This data will be kept on server for minimum 7 days.

Following types of pedestrian access will be planned

- Registered user access

  All registered users will have a controlled access from the complex main gate through turnstiles (as applicable). The registered users should get "R" branded proximity cards (as applicable). Card details will be checked by HFM annually. The data captured on the card should include the assignee name, building no, flat number, relation to owner, assignee contact number, assignee email ID, owner contact no and owner email ID.

  For high-end and luxury, there will be a reception in the lobby and an access control will be set up in the passenger lifts. For luxury there will be an additional biometric access system in lifts which will work in conjunction to the access control system. The residents/registered workers will have access to all floors of the building.

  For Aspirational projects, the user will swipe the access card on to the access card reader of the entrance lobby and will enter the lobby which will be unmanned.

  For Casa projects, access control on lobby doors is optional.

- **Visitor access**
  Visitors will have a controlled access from complex main gate to the lift lobby after security verification at the main gate.

  In Luxury and Hi-end projects, visitors will need to reach the reception desk for second stage verification. They will be verified by the receptionist via intercom/VDP and then will be issued a programmed visitor proximity card and will be guided towards the lift. Visitor card programming facility will be with the reception computer and the visitor card should allow him to press the programmed desired floor only.

  In Aspiration projects, visitors will need to call the desired flat number from the lobby door unit. After verification from the flat occupant, he/she will press the desired button in the flat VDP unit for the main lobby door to open. If the door remains open for more than 30 sec then an alarm should be set in the lobby and BMS/security room.

  In Casa projects, visitors will be verified at main security gate via intercom and directed towards the building lobby. Credentials of visitor will be recorded at the main security gate only.

- **Long time visitor access card**
  Long time visitors will be given an access card after collecting refundable deposit as mentioned in table above. If there is visitor parking in the complex then overnight parking will be on first come basis. This card will give him access to common areas and the desired floor.

- **Property Manager/FM**
  The property manger should be able to move in the building through all access doors/entries.

- **Service staff**
  The facilities management service staff should be able to move in the building through service access doors/entries only. Provision for their biometric attendance machine will be made in the main campus security room/FM office. Service staff cards will be issued by HFM after verification of documents. Daily domestic staff will be issued cards on resident request and police verification only. Domestic help to only use service elevator with access to Residents' Floor, Club level KCA and Project Entry-Exit. These cards will expire after 1 year of date of issue and will have to be reissued.

Comment [Y5]: Revision 6

- **Temporary service user**

  Temporary service users are generally courier delivery, newspaper delivery boy, milk delivery boy, document collectors, food delivery, etc.

  For luxury, Hi-end and Aspirational projects, their entry will be controlled and monitored through the separate service gate (as applicable) and through service lift area. They should be manually frisked at the service entry as per the project category and should be given temporary access card by HFM as applicable. Temporary cards will be given against depositing photo IDs at the main security gate while entering. These ID's will be returned only if the proximity card is returned by the temporary service user at the main security gate.

  In Casa projects, they will be verified at main security gate via intercom and directed towards the building lobby. Credentials of the user will be recorded at the main security gate only.

Comment [Y6]: Revision 6

B. Security steps

Following is the summary of security steps to be used across various projects as outlined earlier.

S.No.	Security steps	Casa	Aspirational	High-end	Luxury
1	Verification of visitor (pedestrian/car) at entrance to development/complex	Optional, through intercom	Mandatory, through intercom/VDP	Mandatory, through intercom/VDP	Mandatory, through intercom/VDP
2	Control of owner cars entry to development/complex (or if multiple parking areas, then appropriately restricted to each) through RFID / equivalent	Optional	Mandatory	Mandatory	Mandatory
3	Separate Service entry to development/complex with metal detector and baggage scanner / manual bag checking. Entry and Exit control through swipe card.	NA	Optional	Optional	Mandatory
4	Building level access control through card + intercom based access control system (door connected to this system)	Optional	Mandatory	Mandatory, if 5. not implemented	NA
5	Separate service entry to building with card based access control system	NA	Optional, consider only if there is separate service lobby.	To be implemented if 3. not implemented	NA
6	Visitor check at building lobby with metal detector + baggage scanner	NA	NA	NA	Optional
7	Visitor verification at building reception through VDP; Guests are issued relevant access card for using elevators	NA	NA	Mandatory	Mandatory
8	Lifts with access control limited to relevant floors (residents - all floors, guests & authorized domestic staff – lobby, KCA floor(s) and destination floor only); Service lift: Authorized domestic and FM staff + verified other entities – lobby, KCA and destination floor only). To make this work effectively (stop use of staircase to go from one floor to another), all staircases will have panic bars from only inside (lobby side) and will have a sensor to detect if staircase kept open for > 5 minutes.	NA	NA	Mandatory* (swipe card)	Mandatory (swipe card or biometric or retina / equivalent)

* If the given stairwell has a servant toilet/shower area on the mid landing, then instead of panic bar + sensor, it will be replaced by relative button on lobby side and proximity card access control on stairwell side with magnetic sensor to detect if the staircase door is kept open for greater than 5 min. Magnetic lock shall automatically open in case of fire (fail safe)

C. Surveillance systems

- CCTV system

CCTVs to be installed in buildings to ensure all travel is documented – CCTVs to be placed in all lifts OR entrance lobby and all staircases at the mid- landing below first habitable floor. Key common areas (entry/ exit gates, clubhouse, and temple) need to be monitored by CCTVs.
Any key common areas, (parking, podiums, and main lobby) which may be possible to be accessed by 'non-authorized / not yet authorized' personnel shall be monitored by CCTV, along with adequate CCTV monitoring back-end.

- FA and PA system
- Metal detector
- Handheld metal detector
- Intercom

One VDP/intercom connection in all the flats/KCA/Security/HFM and operational rooms (as applicable) will be provided by Lodha which will be inter-connected.

- Baggage scanner and frisking

(Please follow existing policies for the above)

D. Auxiliary requirements

- BMS/Control room
- FM office
- Security cabin
- Garbage room
- Drivers toilet/Drivers lounge
- Service staff changing room with lockers
- Amenities as per brochure
- Signage

(Please follow existing policies for the above)

C. Equipment guidelines:

1. ID cards (for residents / guests / service staff etc.) must be proximity cards (depending on cost economics and life of the card as determined by contracts team). Such cards are required for Residential and office projects but not for retail projects.
2. If access control exists, then turnstiles and "manual override switch" in the security cabin (that allows guard to allow pedestrian access for guests after validation) needed.
3. Boom-barrier to be controlled by RFID or remote (depending on cost economics determined by contracts team and project brochure)
4. CCTVs should be of stationary and night vision (as required), PTZ cameras should be avoided due to significantly higher cost
5. In case VDP is provided, intercom and panic button to be integrated with the VDP.

Above guidelines to be updated based on technological innovations and security situation evolution, keeping general principles constant.

Guidelines for ID cards:

	R (Resident)	DS (Domestic Staff)	V (Visitors)	SS (Service Staff)
1 BHK	4	NA	Low cost cards only (hotel variety) with validity of 24 hours. For Long-term visitors, same cards to be issued with refundable deposit (Rs. 100/- or card cost+15%, whichever is higher) with validity of 30 days.	As required by HFM. Assume 1 per 10,000 sq. ft. of saleabale area.
1.5 BHK	4	NA		
2 BHK	5	1 (for overnight stay DS only) (0 for casa)		
2.5 BHK	5	1 (for overnight stay DS only) (0 for casa)		
3 BHK	5	1 (for overnight stay DS only) (1 for casa)		
4 BHK or larger	6	2 (for overnight stay DS only) (1 for casa)		
iThink Supremus	One every 60 sq. ft. of leasable/saleable area	As needed on cost basis as stated below – will cover all categories of outsourced	Total available – one visitor card for every 1000 sq. ft. of	As required by HFM. Assume 1

Excelus		staff like housekeeping etc.	leasable area	per 10,000 sq. ft. of saleable area.
Notes	Additional/replacement cards may be issued on chargeable basis (Rs.250 or card cost+15%, whichever is higher).	Additional/replacement cards may be issued on chargeable basis (Rs.250 or card cost+15%, whichever is higher).		
		Residential - For day only staff, proximity cards will be issued by HFM. The main entry security desk will issued day-use DS Cards (low-cost like visitor) by taking the photo ID and return the photo ID when the day staff leaves.		

- As far as possible, more than one point (max. 2) of verification / checking / issuance should be avoided for any person to avoid irritation. Further, if cards are being issued through electronic system (e.g. visitor ID card), entry into registers etc. should be avoided.
- Resident, overnight stay DS and SS cards should be durable and not easily prone to deprogramming/damage (e.g. Ones used at Lodha Excelus, Mahalaxmi).