

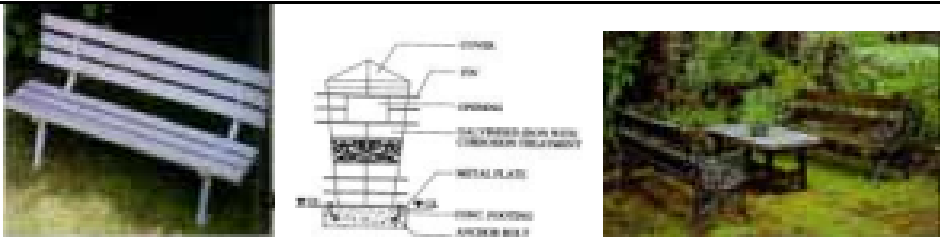
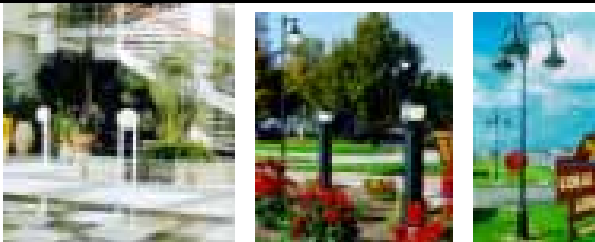
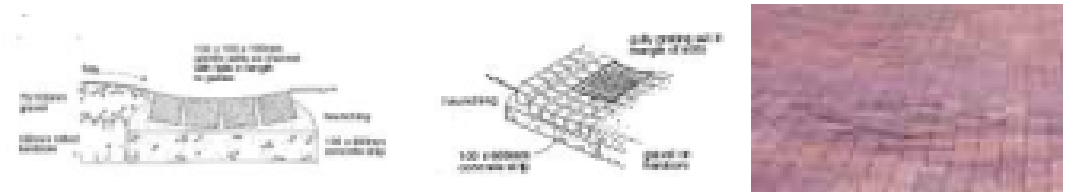
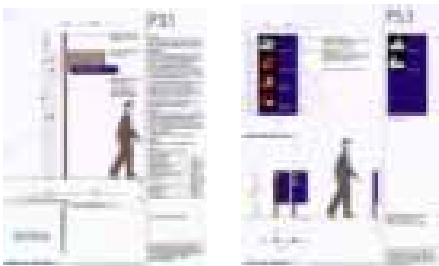

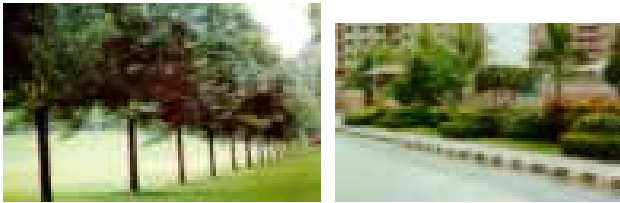
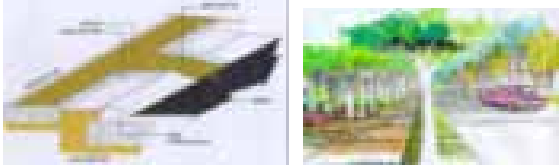

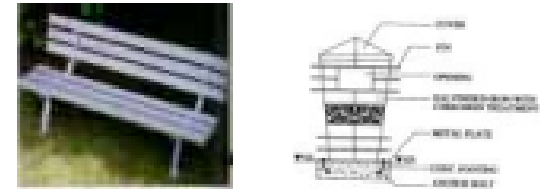
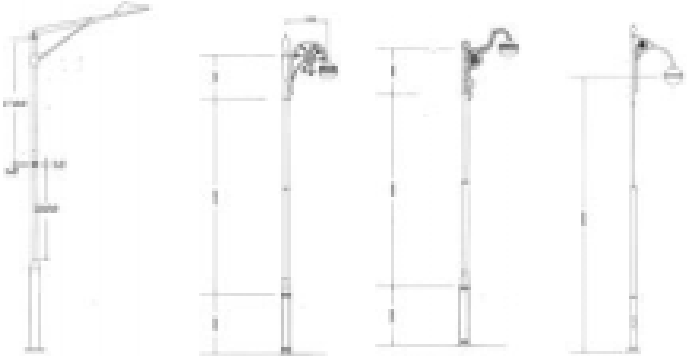
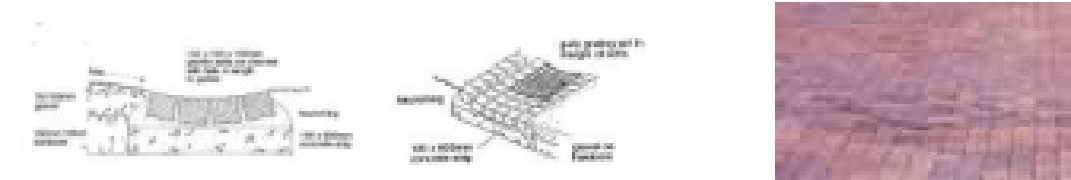


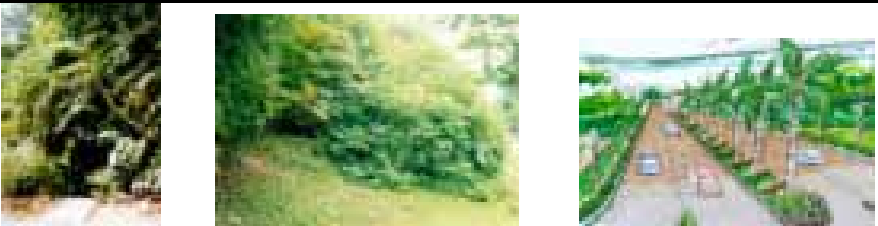
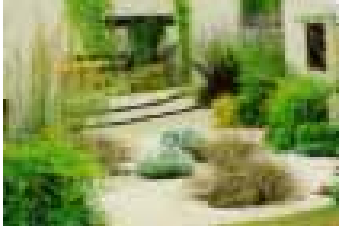

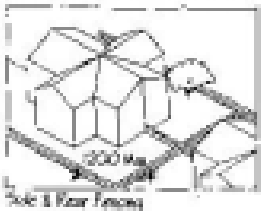
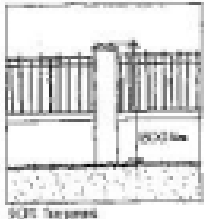
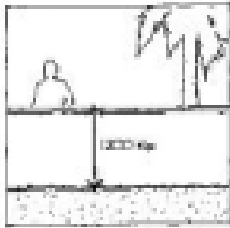



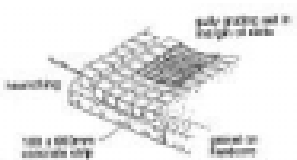
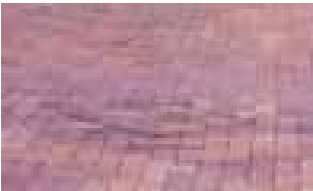
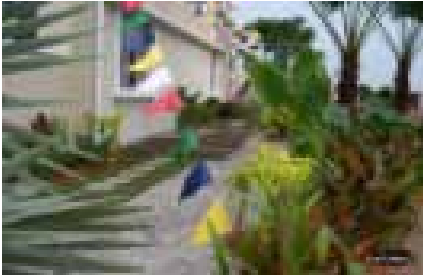



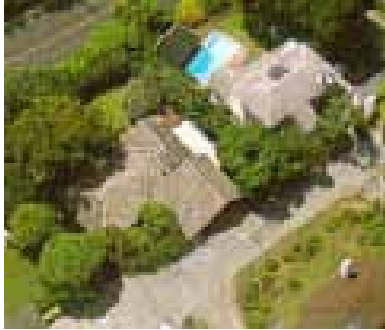

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
❑ School	▪ Paving, walls and steps ❑ Formal ❑ Contemporary	❑ Paving / Step <ul style="list-style-type: none">Clay brickConcreteInterlocking block etc	<ul style="list-style-type: none">Anti slippery surfaceMax. gradient 8%Max. gradient 2% for supper elevationDurable	<ul style="list-style-type: none">Pedestrian walkwayOpen space	
		❑ Walls <ul style="list-style-type: none">Key stoneConcreteFencing brick etc.	<ul style="list-style-type: none">Harmonize with surrounding environment	<ul style="list-style-type: none">Slope areas	
	▪ Site furniture ❑ Contemporary	<ul style="list-style-type: none">HardwoodMetalStone	<ul style="list-style-type: none">Vandalism proofDurableSafe	<ul style="list-style-type: none">Resting areasReading areas	
	▪ Lighting ❑ Contemporary ❑ Simple	<ul style="list-style-type: none">HardwoodMetalConcrete	<ul style="list-style-type: none">Max height of 4m for open spaceMax height of 10m for roadsideAttractiveSafe	<ul style="list-style-type: none">EntrancePlay fieldRoadside	
	▪ Drainage ❑ Swales ❑ Concealed drains	<ul style="list-style-type: none">CulvertConcreteDrain cover on walkway to follow walkway 's material	<ul style="list-style-type: none">To harmonize with surrounding environmentPreferable covered drain	<ul style="list-style-type: none">Where necessary	
	▪ Signage ❑ Contemporary	<ul style="list-style-type: none">MetalHardwoodConcrete	<ul style="list-style-type: none">To follow Signage and Advertisement Design Guideline Putrajaya	<ul style="list-style-type: none">EntrancePlay areas	
	▪ Irrigation Strategy	Pipe reticulation from PHB and/or trucking			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
❑ School	▪ Fences, Railings and Barriers ❑ Natural ❑ Formal ❑ Informal	– Planting – Metal – Hardwood	– To following Fencing Design Guideline Putrajaya	– Entrance – Play areas	
	▪ Planting ❑ Formal ❑	– Tree – Palm – Shrub – Groundcover – Turfing	– Able to provide shade – Non-poisonous species – Attractive	– All green areas	
❑ Roadside	▪ Paving, walls and steps ❑ Formal ❑ Contemporary	❑ Paving / Step – Clay brick – Concrete – Interlocking paver etc.	– Anti slippery surface – Max. gradient 8% – Max. Gradient for super elevation 2%	– Roadside	
		❑ Wall – Key stone – Concrete – Granite stone etc.	– Harmonize with surrounding environment	Slope areas	
	▪ Site Furniture ❑ Contemporary	– Hardwood – Masonry – Metal	– Vandalism proof – Safe – Attractive	– Junction	
	▪ Lighting ❑ Robust ❑ Minimal ❑ Reflect character of adjacent neighbourhood	– Timber – Metal	– Max. height 10m at roadside	– Footpaths – Cycle track – Car park	

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Roadside	<input type="checkbox"/> Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Naturally blend with surrounding 	<ul style="list-style-type: none"> – Open space – plaza 	
	<input type="checkbox"/> Signage <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Simple <input type="checkbox"/> Clear 	<ul style="list-style-type: none"> – Masonry – Metal – Hardwood 	<ul style="list-style-type: none"> – Clear – Vandalism proof 	<ul style="list-style-type: none"> – Junction 	
	<input type="checkbox"/> Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Palm – Tree – Shrub 	<ul style="list-style-type: none"> – Provide ample shade – Hardy Plants – Attractive 	<ul style="list-style-type: none"> – Roadside 	
	<input type="checkbox"/> Irrigation Strategy	<ul style="list-style-type: none"> – Trucking 			
<input type="checkbox"/> Buffer	<input type="checkbox"/> Planting <ul style="list-style-type: none"> <input type="checkbox"/> Natural <input type="checkbox"/> Dense 	<ul style="list-style-type: none"> – Palm – Shrub – Bamboo – Tree – Medium trees 	<ul style="list-style-type: none"> – Non-poisonous species 	<ul style="list-style-type: none"> – Buffer zone 	
<input type="checkbox"/> Residential (Landed)	<input type="checkbox"/> Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Interlocking block etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Durable 	<ul style="list-style-type: none"> – Building compound 	
		<input type="checkbox"/> Walls <ul style="list-style-type: none"> – Key stone – Concrete – Fencing brick etc. 	<ul style="list-style-type: none"> – Harmonize with surrounding 	Building compound	

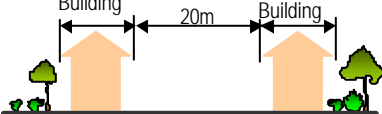
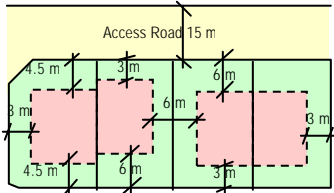
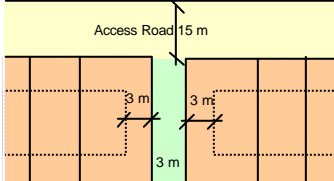
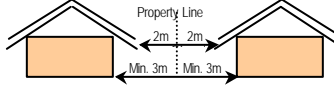
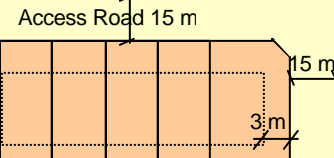
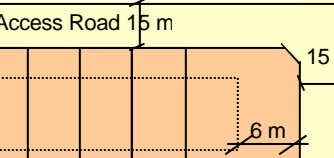
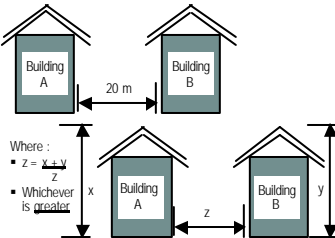
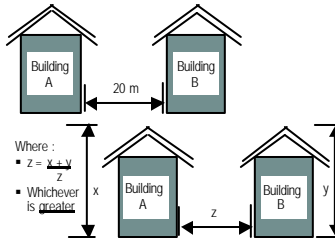
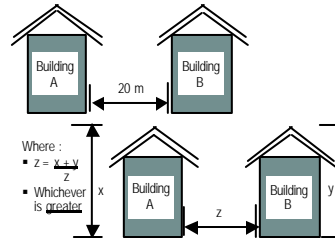
P U T R A J A Y A P R E C I N C T 11 L O C A L P L A N


PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div><input type="checkbox"/> Residential (Landed)</div>	<div><div>Fence, Gate and Barrier</div><div><div><input type="checkbox"/> Contemporary</div><div><input type="checkbox"/> Formal</div><div><input type="checkbox"/> Traditional</div></div></div>	<div><div>– Hardwood</div><div>– Metal</div><div>– Masonry</div></div>	<div><div>– To follow Fencing Design Guideline Putrajaya</div></div>	<div><div>– Boundary line</div></div>	<div><div></div><div><div></div></div><div><div></div></div></div>
	<div><div>Lighting</div><div><div><input type="checkbox"/> Contemporary</div><div><input type="checkbox"/> Informal</div><div><input type="checkbox"/> Formal</div></div></div>	<div><div>– Hardwood</div><div>– Metal</div><div>– Concrete</div></div>	<div><div>– Durable</div><div>– Attractive</div><div>– Safe</div></div>	<div><div>– Building compound</div></div>	<div><div></div><div><div></div></div></div>
	<div><div>Drainage</div><div><div><input type="checkbox"/> Swales</div><div><input type="checkbox"/> Concealed drains</div></div></div>	<div><div>– Culvert</div><div>– Concrete</div><div>– Drain cover on walkway to follow walkway 's material</div></div>	<div><div>– Visually attractive</div><div>– Concealed drains</div></div>	<div><div>– Building lot</div></div>	<div><div></div><div><div></div></div><div><div></div></div></div>
	<div><div>Planting</div><div><div><input type="checkbox"/> Formal</div><div><input type="checkbox"/> Informal</div></div></div>	<div><div>– Tree</div><div>– Palm</div><div>– Shrub</div><div>– Groundcover</div></div>	<div><div>– Non-poisonous species</div><div>– Strong branch</div><div>– Medium size trees</div></div>	<div><div>– Building compound</div></div>	<div><div></div><div><div></div></div></div>
	<div><div>Irrigation Strategy</div></div>	Tap from storage tank or JBA main or tap from JBA main			

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<p>(i) The layout plan must demonstrate that the following elements are addressed in the design:</p> <ul style="list-style-type: none"> Development appropriate to topographical features Appropriate building orientation with respect to the sun Appropriate pedestrian and vehicular access systems Site infrastructure systems are designed in a manner which enhances site development <p>(ii) Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</p> <p>(iii) Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</p> <p>(iv) Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</p> <p>(v) Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</p> <p>(vi) Illustrate that the site will be developed in a logical sequence</p> <p>(vii) The layout plan should illustrate that the form of development effectively contributes to the Planning Block's sense of place and amenity with the context of Putrajaya</p> 	<p>(i) Avoid monotonous building designs – provide a range of housing types to meet different lifestyle choices, diversity in the marketplace and opportunity for an interesting street frontage</p> <p>(ii) Ensure that buildings are designed to respect the topographical features of the site ,eg buildings should step with steeper sites – do not cut substantial benches into steep land</p> <p>(iii) Building design should respect the amenity of adjoining and adjacent buildings and their residents</p> <p>(iv) Building design should interpret local image and character with new materials that are energy efficient</p> <p>(v) Building facades should be designed to accommodate a tropical environment</p> <p>(vi) Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</p> <p>(vii) While diversity is sought in building design, buildings should be designed with a common theme that provides a linkage to the style and nature of the development area</p> <p>(viii) Building design should ensure good living environments for residents that do not adversely impact on neighbours</p> <p>(ix) The building design should incorporate landscaping that contributes to a pleasant and safe environment and integrates well with the streetscape and adjoining open space areas</p>	<p>(i) Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines, and must comply with the UDG of Precinct 11 and 13.</p> <p>(ii) Spaces on any ground level should not directly overlook dwellings on adjacent land</p> <p>(iii) Ground floor levels must be responsive to pedestrian footpaths and continuity and flow between buildings</p> <p>(iv) Building design does not significantly reduce daylight to open space and habitable rooms in adjacent development</p> <p>(v) Roof pitch and overlay should be designed to meet local environmental requirements</p> <p>(vi) Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</p> <p>(vii) Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect. Any blank wall should be avoided.</p> <p>(viii) The design of free standing buildings should be sympathetic with adjoining buildings, yet provide for local identity and character</p> 	<p>(i) Building colours should harmonise with the predominant colours of the surrounding area</p> <p>(ii) Use of earth tones shall be encouraged</p> <p>(iii) Colours for specific building types will be subject to the approval of the Perbadanan. Pastel colours are to be encouraged.</p>	<p>(i) Privacy and visual controls – overlooking to be controlled by appropriate orientation f windows and use of splay windows</p> <p>(ii) Air conditioning equipment including piping– all equipment should be contained in compartments that are designed as an integral component of the building to ensure the equipment is hidden from view</p> <p>(iii) Drying yards – building design should incorporate appropriate design for drying areas that allows for natural ventilation and light while ensuring they are hidden from public view</p> <p>(iv) Aerials and satellite dishes – in high rise buildings or multiple tenancy commercial buildings, a central reception system is to be incorporated in to the building design. On all other buildings, aerials and satellite dishes shall be located to avoid adverse impact on the amenity of adjoining buildings</p> <p>(v) Service ducting shall not be exposed on the external surfaces of buildings</p> <p>(vi) Carports and garages should:</p> <ul style="list-style-type: none"> Be designed to integrate with the design of associated buildings Not diminish the attractiveness of the streetscape Not visually dominate views of the house from the street Cover the full length of a car <p>(vii) Dwellings with green frontage must address that frontage with habitable spaces and not service areas only</p> <p>(viii) Dwelling design must provide sufficient outdoor open space that can act as an extension of the dwelling for relaxation, entertainment, recreation and children's play purposes.</p>

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<div>(vii) The location of schools and tadikas should:<ul style="list-style-type: none">Be in a highly accessible position for the communityMinimise the introduction of non-local traffic into minor residential streetsProvide safe and convenient pedestrian and cycle access to residential areas</div>	<div>(x) For school buildings:<ul style="list-style-type: none">Building design should be of a character that responds to the tropical environment and does not adversely impact on adjacent buildingsVehicle parking and pick up/set down areas should be designed and located to minimise impact on adjacent dwellings</div>			<div>(ix) The design of schools and tadikas should:<ul style="list-style-type: none">Ensure that the playground is visually interesting and environmentally safe for childrenThe play area is protected from on site and off site hazardsThe play area has adequate shade and shelter areasThe landscaping assist the educational role of the facilityBe reasonably compatible in appearance and scale with nearby buildingsInclude appropriate screening and buffering that maintains or improves the amenity of adjoining uses</div> <div>(x) For the installations of grills, residents need to abide by the guidelines on the Uniform Design and Installation of Grills for Buildings in Putrajaya (Department of Urban Services, Putrajaya)</div> <div>(xi) Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya.</div>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 7 (PB 7)

MAIN LAND USES:	CONDOMINIUM	MEDIUM COST APARTMENT	MEDIUM LOW COST APARTMENT	SEMI-DETACHED HOUSES	TERRACE HOUSES	MAIN INTAKE STATION
(i) Density	▪ 60 units per acre	▪ 70 units per acre	▪ 74 units per acre	▪ 12-18 units per acre	▪ 20 units per acre	▪ One in PB7
(ii) Composition	▪ High cost	▪ Medium Cost	▪ Medium Low Cost	▪ Government	▪ Government	
(iii) Minimum Lot Size	▪ N/A	▪ N/A	▪ N/A	▪ 300m ²	▪ 130m ²	▪ 1.54 hac.
(iv) Height	▪ Max. 8 storey Note: 17 storey upon approval from PJC	▪ Max. 12 storey Note: 17 storey upon approval from PJC	▪ Max. 12 storey Note: 17 storey upon approval from PJC	▪ 2 levels on flat or gently sloping land ▪ 3 levels on step land	▪ 2 levels on flat or gently sloping land	
(v) Setbacks:						
▪ Building to Building	<ul style="list-style-type: none"> Minimum 20 metres 	<ul style="list-style-type: none"> Minimum 20 metres 	<ul style="list-style-type: none"> Minimum 20 metres 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Street frontage – Min. 3.0 metres Rear setback – Min. 3.0 metres 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Street frontage – Min. 3.0 metres Rear setback – Min. 3.0 metres Variation of setback is permissible within a single block of terraces and not for individual buildings 	<ul style="list-style-type: none"> Street frontage – min. 6 metres Rear – min. 3 metres
▪ Side Boundary	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Minimum 3 metres 	<ul style="list-style-type: none"> Where applicable minimum 3 metres 	<ul style="list-style-type: none"> N/A
▪ Distance Between Roofs' Eaves				<ul style="list-style-type: none"> Minimum 2 metres 	<ul style="list-style-type: none"> Side setback to 15 metres road, for roads with 3 metres green buffer 	<ul style="list-style-type: none"> Minimum 3 metres
▪ Street Boundary	<ul style="list-style-type: none"> Minimum 6 metres 	<ul style="list-style-type: none"> Minimum 6 metres 	<ul style="list-style-type: none"> Minimum 6 metres 	<ul style="list-style-type: none"> Minimum 3 metres 	<ul style="list-style-type: none"> Side setback to 15 metres without 3 metres buffer 	<ul style="list-style-type: none"> Minimum 6 metres
▪ Distance Between Buildings	<ul style="list-style-type: none"> 20 metres setback between buildings or average of building heights  <p>Where : $z = \frac{x+y}{2}$ ▪ Which ever is greater</p>	<ul style="list-style-type: none"> 20 metres setback between buildings or average of building heights  <p>Where : $z = \frac{x+y}{2}$ ▪ Which ever is greater</p>	<ul style="list-style-type: none"> 20 metres setback between buildings or average of building heights  <p>Where : $z = \frac{x+y}{2}$ ▪ Which ever is greater</p>			
▪ Car Park	<ul style="list-style-type: none"> Minimum 1 cps per unit + 10% for visitors Car parking for disabled at 1% of total number of cps MPS – 50% of total housing units BPS – 1 rack : 50 housing units 	<ul style="list-style-type: none"> Minimum 1 cps per unit + 10% for visitors Covered motorcycle bays at 1:1 Car parking for disabled at 1% on top of the required parking provision or min. 2 parking spaces whichever is higher 	<ul style="list-style-type: none"> Minimum 1 cps per unit + 10% for visitors Covered motorcycle bays at 1:1 Car parking for disabled at 1% on top of the required parking provision or min. 2 parking spaces whichever is higher 	<ul style="list-style-type: none"> Min 2 CPS per unit on site CPS to be clear of minimum front setback. 	<ul style="list-style-type: none"> Min 2 CPS per unit on site CPS to be clear of minimum front setback. 	<ul style="list-style-type: none"> N/A

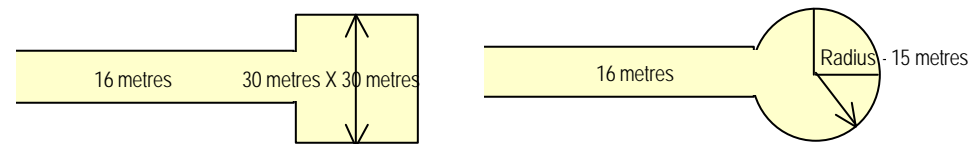
MAIN LAND USES:	CONDOMINIUM	MEDIUM COST APARTMENT	MEDIUM LOW COST APARTMENT	SEMI-DETACHED HOUSES	TERRACE HOUSES	MAIN INTAKE STATION
(vi) As per the Fencing Design Guidelines Manual, Volume 1 and Volume 2, chapter 1, 2 and 3	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 8	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 8	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 8	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 5	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 6	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 15
(vii) Layout Plan	<ul style="list-style-type: none">Provide a fenced children's playground – Minimum 500m2Club House/Community HallSuitable size surau + ruang jenazah - 50%XNo of unitsX0.4m2Car park to be well landscapedMin 2m landscape buffer to all boundaries.Service areas to be aesthetically screenedOther community provision:<ul style="list-style-type: none">KindergartenDay Care CentreLaundryCar Wash AreaConvenient ShopCourts Sepaktakraw or Volleyball	<ul style="list-style-type: none">Provide a fenced children's playground – Minimum 500m2Club House/Community HallSuitable size surau + ruang jenazah - 50%XNo of unitsX0.4m2Car park to be well landscapedMin 2 m landscape buffer to all boundaries.Service areas to be aesthetically screened.Community HallOther community provision:<ul style="list-style-type: none">KindergartenDay Care CentreLaundryCar Wash AreaConvenient ShopCourts Sepaktakraw or Volleyball	<ul style="list-style-type: none">Provide a fenced children's playground. Standard : 40%XNo of unitsX0.3m2Club House/Community HallSuitable size surau + ruang jenazah. Standard: 80%XNo of unitsX0.4m2Car park to be well landscapedMin 2 m landscape buffer to all boundaries.Service areas to be aesthetically screened.Community HallOther community provision:<ul style="list-style-type: none">KindergartenDay Care CentreLaundryCar Wash AreaConvenient ShopCourts Sepaktakraw or Volleyball	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses 	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses	<ul style="list-style-type: none">Layout plan to show the design concept including:<ul style="list-style-type: none">Location of all key facilities.Location of car parking spacesLocation of screening devices to minimise impact of noise producing machinery.Effective screening to abutting residential uses.

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(i) Network Type

- Spine Road - 32 metres reserve
- Local Road - 22 metres reserve
- Access Road - 16 metres reserve
- Cul-De-Sac - 15 metres reserve



(ii) Road Capacity

- Spine Road - 1000 pcu/hr/lane
- Local Road - 700 pcu/hr/lane

(iii) **Junction Control Criteria**

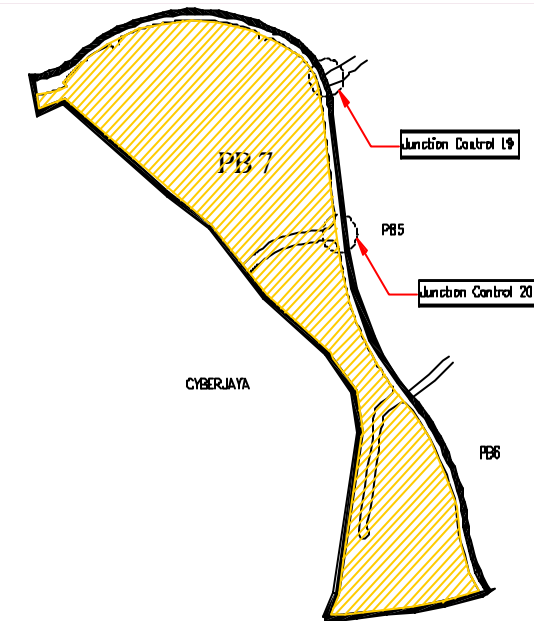
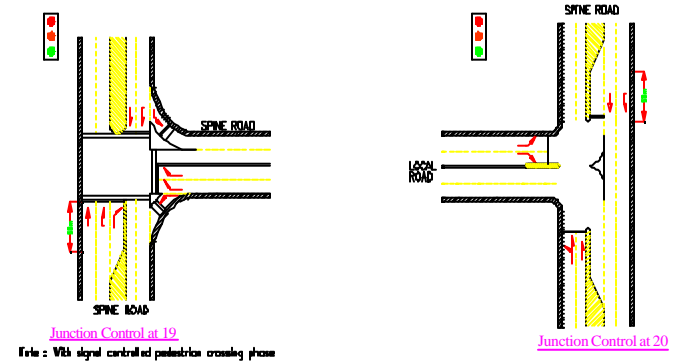
Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

(iv) **Visibility Standards for Priority Junction**

- Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given

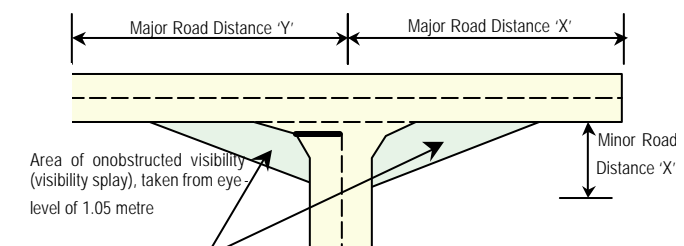
(v) **Transport Design Guide for Putrajaya**

- Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)

Planning Block 7 (PB 7) - Key Plan

Title : With signal controlled pedestrian crossing phase

Visibility Standards for Priority Junction

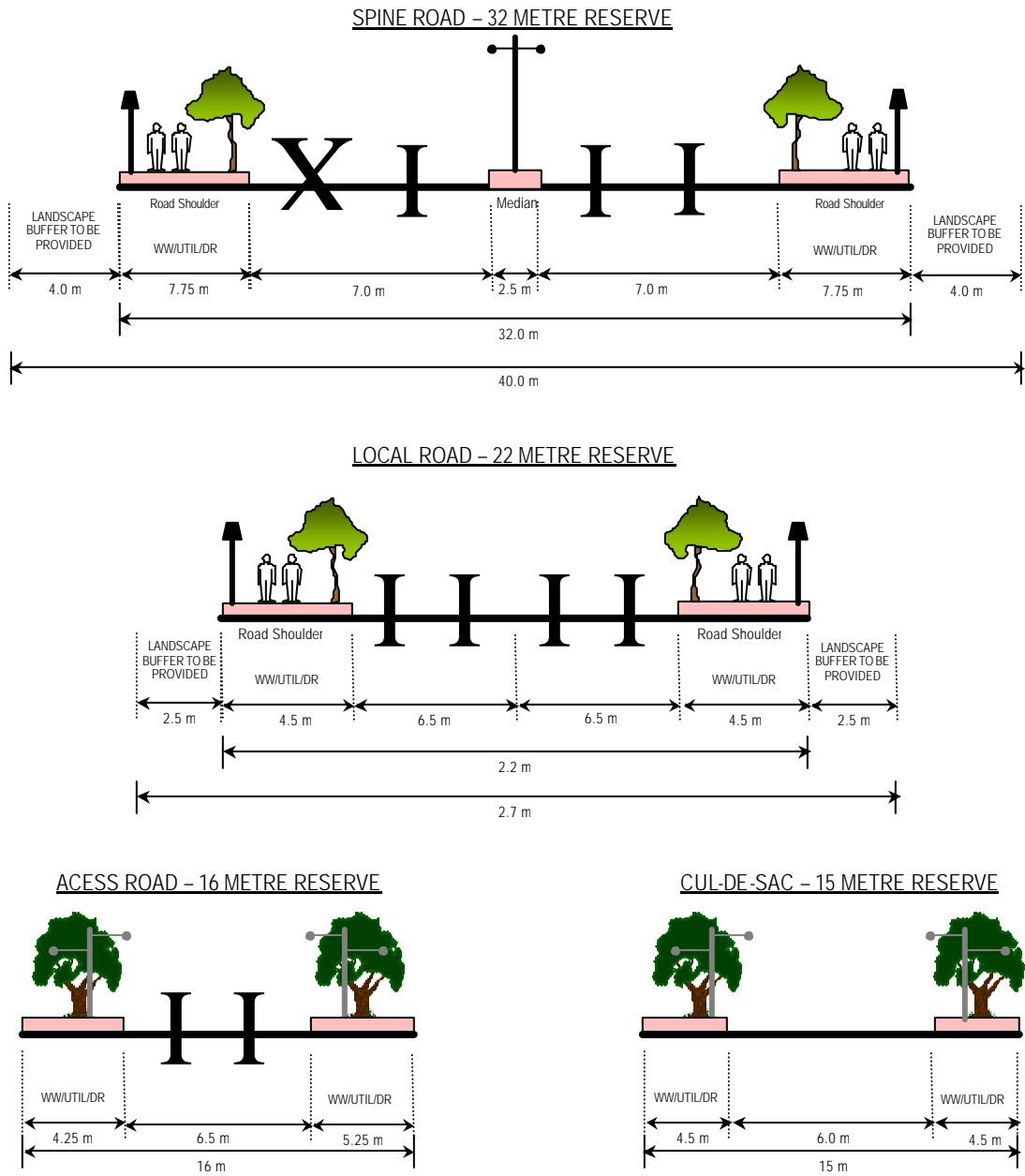


Minor Road Distance 'X' (metre)	<ul style="list-style-type: none">▪ 9.0 metre most situations▪ 4.5 metre an absolute minimum on lightly trafficked roads (< 200 vph)		
Major Road Distance 'X'(metre)	120	90	45
Speed Limit (KPH)	60	50	40

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

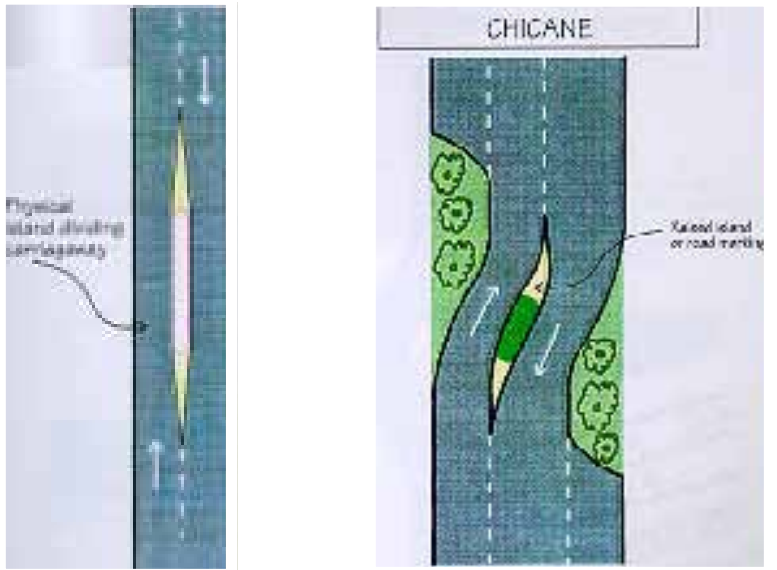
(v) Typical Road Cross Section



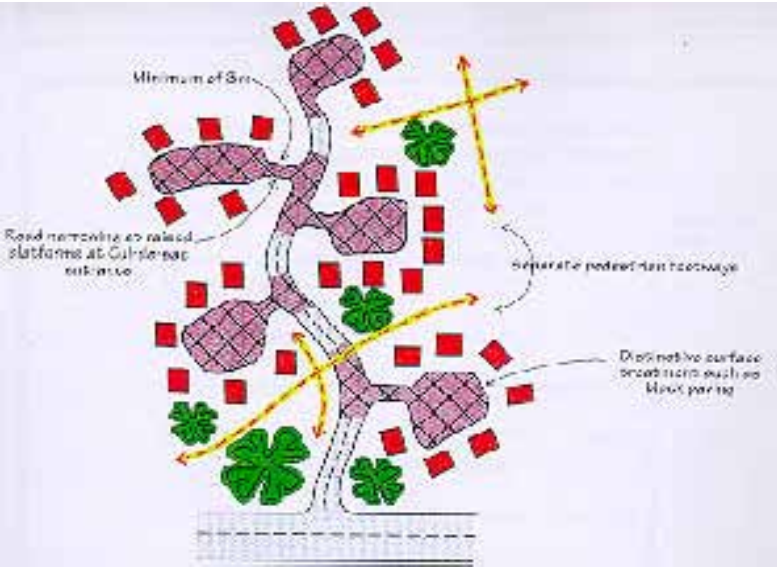
- Note:
- WW/UTIL/DR : Common pedes trians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 15 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 15 metre


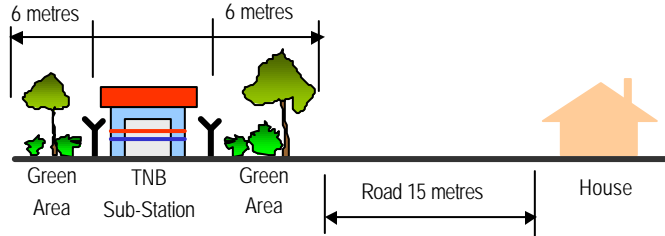
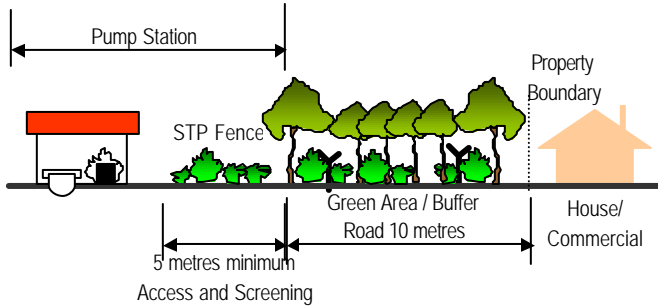
(iv) Traffic Calming


- Use Chicanes and dividers along local distributor

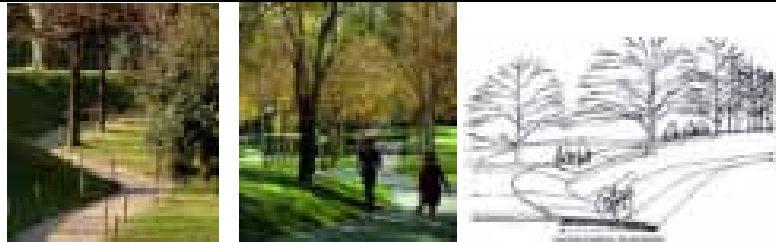


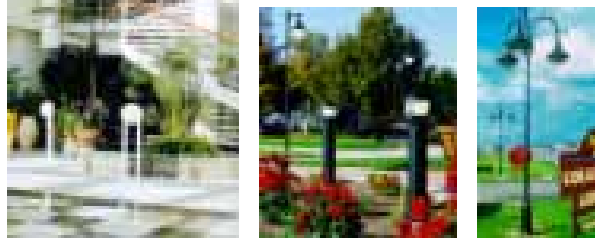









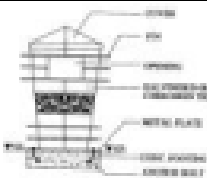

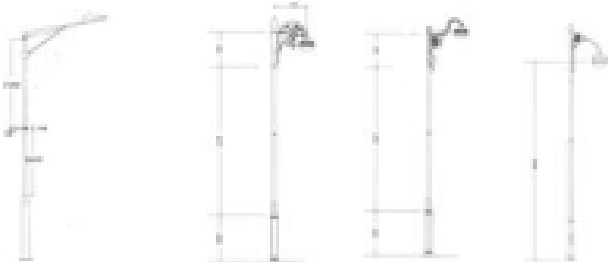
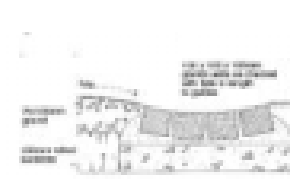
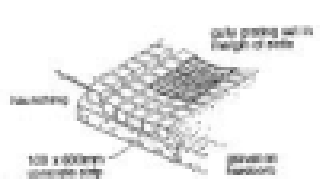
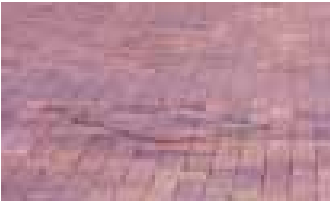
- The road naming at junction leading form local distributor roads into access roads.





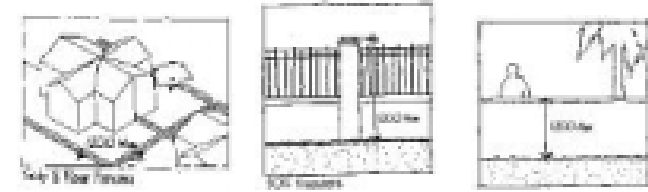
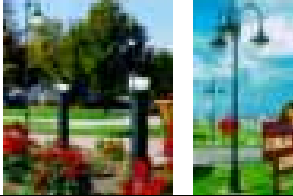





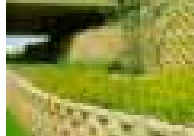

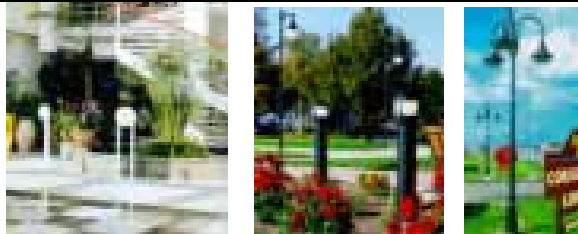

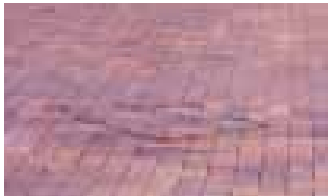


PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES	
UTILITIES	
<div> <div> (i) Environment <ul style="list-style-type: none"> This planning block contains the southern part of the Masterplan Park. Development works this park which is on steep land, must conform to the Earthwork By-Laws (Perbadanan Putrajaya 1996) The detailed platform levels shall be determined at the D.O approval stage All earthworks must comply with the Environmental Management Guidelines of Putrajaya and Earthwork By-Laws (Perbadanan Putrajaya 1996) </div> <div>  </div> </div> <div> <div> (ii) Electricity <ul style="list-style-type: none"> The electricity supply for PB7 is mostly used for residential which are approximately 90% of the total Electrical Energy required. Provision of adequate numbers of 33KV Main Distribution Station (MDS) to be supported by a series of 11 KV Sub-Stations (Single & Double Chambers) and feeder pillars at strategic locations to comply with the electricity provider's (TNB) requirement. Feeder pillars along public roads and areas shall have all doors to open away from road and public view. Electrical cabling network for overall development of PB7 shall consist of 33KV,11KV and 415V distribution network systems. The electrical cabling network system shall be placed along the utility reserves to conform to the no dig policy. All electrical cabling shall be of the underground system. Sub-Station: shall have a minimum 6 metres setback on all sides to the nearest residential building. These shall be extensively landscaped. Fencing of utility buildings shall abide by Fencing Design Guidelines-Vol 2, Chap. 15 pg 132 </div> <div>  </div> </div>	<div> <div> (iii) Drainage <ul style="list-style-type: none"> Drainage to the site shall be provided in terms of collection, conveyance and retention of flow from the site. Gross Pollutant Traps to be provided at the outlet of discharge points. The drainage design shall comply with the Putrajaya Stormwater Management Design Guidelines and Urban Stormwater Management Manual for Malaysia, (JPS, 2000) </div> <div> (iv) Sewerage <ul style="list-style-type: none"> A network of gravity sewer reticulation to collect sewage from the precinct. (Level 3 works.) From these reticulation networks, sewage will be discharged into the centralized trunk sewer system of Putrajaya (Level 1 & 2 works) at appropriate points. The trunk sewers will terminate at two pump-stations. These two pump stations are PS1 in Precinct 9 and PS9 (Levels 1 & 2 works) located at the south of precinct 11, next to Road R3. From PS1 and PS9, sewage will be conveyed via the centralized trunk sewer system to STP2 for treatment. However, STP2 is not scheduled to be ready until Year 2003. In the interim, sewage discharge will be temporary directed to the sewage switching station PS5 for onward conveyance to STP1 for treatment until the completion of STP2. The buffer for a closed STP shall be 10 m to the nearest property boundary The buffer for an open STP system shall be 30 m to the nearest property boundary </div> <div>  </div> </div>



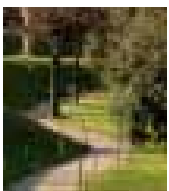
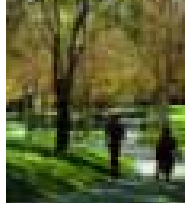
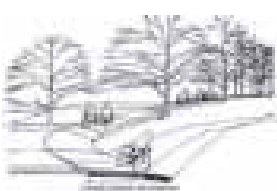

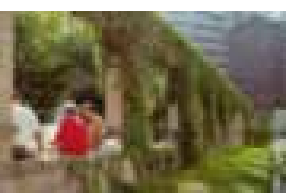

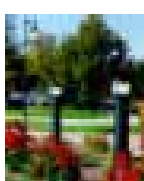


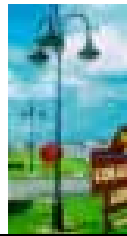
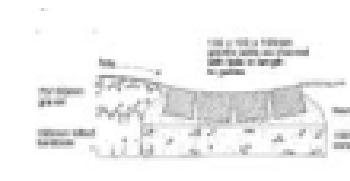
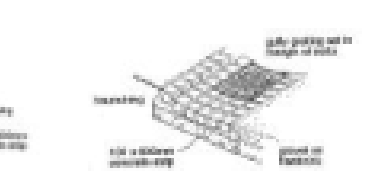
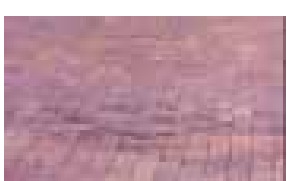


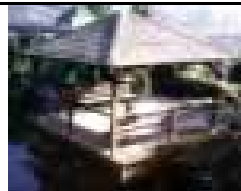
PLANNING REQUIREMENTS : INFRASTRUCTURE	
UTILITIES	
<p>(v) Gas</p> <ul style="list-style-type: none">▪ The gas supply for PB7 is mostly used for residential which are approximately 80% of the total gas requirements.▪ Gas supply for PB7 will be served from a District Gas Station located at Precinct 9 through a medium pressure gas pipeline.▪ Provisions of 4 nos. of area Gas Station are allocated within the Precinct 11 development to cater for the projected gas loading requirements, with total area reserve of 1.13 acres.▪ Low-pressure gas pipeline reticulation from the Area Gas Station is planned to serve the gas requirements for the residential, commercial and other amenities.▪ Safety provision for construction within the vicinity.▪ (For details of Gas Pipeline Reserve Design refer Appendix 1) <p>(vi) Waste Disposal</p> <ul style="list-style-type: none">▪ Solid waste management in PB7 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.▪ Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to be further separated at source into containers and fiber materials.▪ The sensitivity of the site in terms of waste management relates to the operational requirements of Precinct 11, which require that no burial of material is undertaken during the construction phase.▪ In addition to control odour nuisance to any sensitive receptors biodegradable waste cannot be left at the site for extended periods.▪ The waste management shall comply with Urban Design Guidelines and Environmental Guidelines for Putrajaya.▪ For low rise residential, refuse chamber is to be placed in front of the house, either left or right of the driveway and near to main road for the ease of mechanical collection. The estimated generation of solid waste is 5kg/unit/day.▪ The estimated generation of solid waste for recreation park/public transport stop station are 0.2 kg/visitor, 300L/1000m²(gross floor area) for shopping complex and 500L/1000m²(gross floor area) for restaurant.	<ul style="list-style-type: none">▪ Access road must be constructed for the ease of mechanical collection and public use. Obstructions to any collection vehicle's access must be disallowed at all time.  <p>(vii) Water Supply</p> <ul style="list-style-type: none">▪ Water supply to PB7 shall be consistent with the provision of water supply master plan for Putrajaya.▪ Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989).









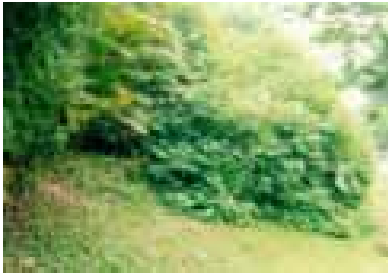
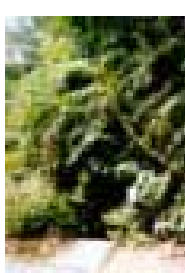

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Catchment Lake	<input type="checkbox"/> Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Natural 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Interlocking block etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Max. gradient 2% for superelevation – Durable 	<ul style="list-style-type: none"> – Open space – Plaza 	
		<input type="checkbox"/> Walls <ul style="list-style-type: none"> – Key stone – Concrete – Granite stone etc. 	<ul style="list-style-type: none"> – Harmonize with surrounding – Visually attractive 	<ul style="list-style-type: none"> – Slope areas 	
	<input type="checkbox"/> Site Furniture <ul style="list-style-type: none"> <input type="checkbox"/> Simple <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Hardwood – Metal – Stone 	<ul style="list-style-type: none"> – Vandalism proof – Durable – Functional – Safe 	<ul style="list-style-type: none"> – Open space – Plaza 	
	<input type="checkbox"/> Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Hi-tech 	<ul style="list-style-type: none"> – Concrete – Metal – Masonry 	<ul style="list-style-type: none"> – Max. height 4m at open areas – Max. height 10m at roadside 	<ul style="list-style-type: none"> – Bollard at pedestrian entrance – Plaza – Road side 	
	<input type="checkbox"/> Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Rock boulder – Culvert – Concrete – Granite stone wall – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Natural fence if necessary – Accessible for maintenance works 	<ul style="list-style-type: none"> – All drainage system 	
	<input type="checkbox"/> Structures and Shelters <ul style="list-style-type: none"> <input type="checkbox"/> Informal, Vernacular, <input type="checkbox"/> Hi-tech 	<input type="checkbox"/> Structures <ul style="list-style-type: none"> – Hardwood timber – Metal – Concrete – Masonry <input type="checkbox"/> Roof <ul style="list-style-type: none"> – Clay tile – Metal decking – Poly cabonate 	<ul style="list-style-type: none"> – Sustainable design – Proportion to human scale and surrounding structure – Functional – To blend harmoniously with surrounding environment 	<ul style="list-style-type: none"> – Open areas – Plaza 	

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div> <div></div> <div>Catchment Lake</div> </div>	<div> <div>Play feature</div> <div> <div></div>Contemporary <div></div>Robust <div></div>Bright </div> </div>	<div> <div>Steel frame</div> <div>Rubber matting</div> </div>	<div> <div>Conform to SIRIM standard</div> </div>	<div> <div>Open space</div> </div>	<div>   </div>
<div> <div></div> <div>Roadside</div> </div>	<div> <div>Paving, walls and steps</div> <div> <div></div>Formal <div></div>Contemporary </div> </div>	<div> <div>Paving / Step</div> <div> <div>Clay brick</div> <div>Concrete</div> <div>Interlocking paver etc.</div> </div> </div>	<div> <div>Anti slippery surface</div> <div>Max. gradient 8%</div> <div>Max. Gradient for super elevation 2%</div> </div>	<div> <div>Roadside</div> </div>	<div>   </div>
		<div> <div>Wall</div> <div> <div>Key stone</div> <div>Concrete</div> <div>Granite stone etc.</div> </div> </div>	<div> <div>Harmonize with surrounding environment</div> </div>	<div> <div>Slope areas</div> </div>	<div>  </div>
	<div> <div>Site Furniture</div> <div> <div></div>Contemporary </div> </div>	<div> <div>Hardwood</div> <div>Masonry</div> <div>Metal</div> </div>	<div> <div>Vandalism proof</div> <div>Safe</div> <div>Attractive</div> </div>	<div> <div>Junction</div> </div>	<div>   </div>
	<div> <div>Lighting</div> <div> <div></div>Robust <div></div>Minimal <div>Reflect character of adjacent neighbourhood</div> </div> </div>	<div> <div>Timber</div> <div>Metal</div> </div>	<div> <div>Max. height 10m at roadside</div> </div>	<div> <div>Footpaths</div> <div>Cycle track</div> <div>Car park</div> </div>	<div>  </div>
	<div> <div>Drainage</div> <div> <div></div>Swales/Natural drain <div></div>Concealed drains </div> </div>	<div> <div>Culvert</div> <div>Concrete</div> <div>Drain cover on walkway to follow walkway 's material</div> </div>	<div> <div>Visually attractive</div> <div>Naturally blend with surrounding</div> </div>	<div> <div>Open space</div> <div>Plaza</div> </div>	<div>    </div>
	<div> <div>Irrigation Strategy</div> </div>	<div> <div>Trucking</div> </div>			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Drain reserve (Covered)	Planting <input type="checkbox"/> Natural <input type="checkbox"/> Tropical	– Palm – Tree – Shrub	– Non-poisonous species – Harmonize with surrounding environment	– Drain reserve	
<input type="checkbox"/> Main Substation	Plants <input type="checkbox"/> Tropical <input type="checkbox"/> Heavy plants	– Palm – Shrub – Tree	– Non-poisonous species – Harmonize with surrounding environment	– Boundary line – Green areas	
<input type="checkbox"/> Residential (Landed)	Paving, walls and steps <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary	Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max. gradient 8% – Durable	– Building compound	
		Walls – Key stone – Concrete – Fencing brick etc.	– Harmonize with surrounding	– Building compound	
	Fence, Gate and Barrier <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Traditional	– Hardwood – Metal – Masonry	– To follow Fencing Design Guideline Putrajaya	– Boundary line	
	Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Informal <input type="checkbox"/> Formal	– Hardwood – Metal – Concrete	– Durable – Attractive – Safe	– Building compound	
	Drainage <input type="checkbox"/> Swales <input type="checkbox"/> Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Visually attractive – Concealed drains	– Building lot	
	Planting <input type="checkbox"/> Formal <input type="checkbox"/> Informal	– Tree – Palm – Shrub – Groundcover	– Non-poisonous species – Strong branch – Medium size trees	– Building compound	
	Irrigation Strategy	– Tap from storage tank or JBA main or tap from JBA main			

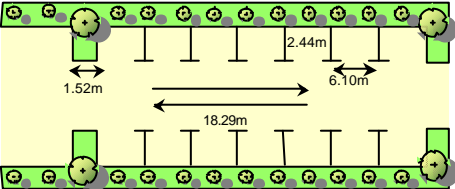
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Condominium, Government apartment)	■ Paving / Step, Wall <ul style="list-style-type: none"> <input type="checkbox"/> Formal 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Interlocking block etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max-gradient of 8% – Durable 	<ul style="list-style-type: none"> – Open space – Walkway 	
		■ Wall <ul style="list-style-type: none"> – Keystone – Facing Brick – Concrete etc. 	<ul style="list-style-type: none"> – Harmonize with surrounding environment 	<ul style="list-style-type: none"> – Slope areas 	
	■ Site Furniture <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood 	<ul style="list-style-type: none"> – Hardwood – Metal – Concrete 	<ul style="list-style-type: none"> – Vandalism proof – Durable – Functional – Safe 	<ul style="list-style-type: none"> – Open space – Resting areas 	
	■ Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood 	<ul style="list-style-type: none"> – Concrete – Metal – Masonry 	<ul style="list-style-type: none"> – Max. height 4m at open areas – Max. height 10m at roadside 	<ul style="list-style-type: none"> – Open space – Entrance with bollard – Roadside 	
	■ Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – To harmonize with surrounding environment 	<ul style="list-style-type: none"> – Where necessary 	 
	■ Structures and Shelter <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Vernacular 	<ul style="list-style-type: none"> – Hardwood – Concrete – Masonry – Metal 	<ul style="list-style-type: none"> – To blend harmoniously with surrounding structure – Durable – Safe 	<ul style="list-style-type: none"> – Open space 	
	■ Signage <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Metal 	<ul style="list-style-type: none"> – To following Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Entrance – Open space – Pedestrian walkway 	

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Condominium, Government apartment)	<input type="checkbox"/> Play feature <ul style="list-style-type: none"> <input type="checkbox"/> Integrated <input type="checkbox"/> Bright colour 	<ul style="list-style-type: none"> – Metal – Rubber matting – Plastic 	<ul style="list-style-type: none"> – Conform to SIRIM standard – Safe – Attractive – Durable 	<ul style="list-style-type: none"> – Open space 	 
<input type="checkbox"/> Open space	<input type="checkbox"/> Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal and contemporary <input type="checkbox"/> Informal and natural <input type="checkbox"/> Robust 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Grasscrete etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Durable – Accessible for disable 	<ul style="list-style-type: none"> – Open space – Plaza – Roadside 	  
		<input type="checkbox"/> Wall <ul style="list-style-type: none"> – Key stone – Facing brick – Concrete – Granite stone etc. 	<ul style="list-style-type: none"> – Visually attractive – Harmonize with surrounding environment 	Slope areas	 
	<input type="checkbox"/> Site Furniture <ul style="list-style-type: none"> <input type="checkbox"/> Robust <input type="checkbox"/> Contemporary <input type="checkbox"/> Decorative 	<ul style="list-style-type: none"> – Hardwood timber – Concrete – Metal 	<ul style="list-style-type: none"> – Vandalism proof – Durable – Safe 	<ul style="list-style-type: none"> – Open space – Plaza – Roadside 	  
	<input type="checkbox"/> Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Robust <input type="checkbox"/> Decorative 	<ul style="list-style-type: none"> – Hardwood timber – Metal – Fiberglass 	<ul style="list-style-type: none"> – Max. height compound lighting 4m – Anti-corrosion finishes – Durable 	<ul style="list-style-type: none"> – Plaza – Open space – Road side 	 
	<input type="checkbox"/> Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Naturally blend with surrounding 	<ul style="list-style-type: none"> – Open space – plaza 	  
	<input type="checkbox"/> Structures and Shelters <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Simple <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Timber – Concrete – Metal 	<ul style="list-style-type: none"> – Sustainable design – Proportion to surrounding scale – Durable 	<ul style="list-style-type: none"> – Open space – Plaza 	  
	<input type="checkbox"/> Irrigation Strategy	<ul style="list-style-type: none"> – Pipe reticulation from pond & supported by trucking or tap from JBA main 			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Open space	<div>▪ Play feature<div><input type="checkbox"/> Robust<input type="checkbox"/> Colorful<input type="checkbox"/> Safe</div></div>	<div><div>– Timber</div><div>– Rubber matting</div><div>– Metal</div></div>	<div><div>– Conform to SIRIM standard</div><div>– Safe</div><div>– Attractive</div></div>	<div><div>– Open space</div><div>– Plaza</div></div>	 
	<div>▪ Sport feature<div><input type="checkbox"/> Save<input type="checkbox"/> Informal<input type="checkbox"/> Formal</div></div>	<div><div>– Sand</div><div>– Grass</div><div>– Concrete</div></div>	<div><div>– Durable</div><div>– Safe</div></div>	<div><div>– Open space</div></div>	 
	<div>▪ Signage<div><input type="checkbox"/> Contemporary<input type="checkbox"/> Formal</div></div>	<div><div>– Metal</div></div>	<div><div>– As per Signage and Advertisement Design Guideline Putrajaya</div></div>	<div><div>– Entrance</div><div>– Junction</div><div>– Pedestrian</div><div>– Sport areas</div></div>	 
	<div>▪ Water feature<div><input type="checkbox"/> Naturalistic<input type="checkbox"/> Contemporary</div></div>	<div><div>– Rock, Natural</div><div>– Tile finish</div><div>– Metal sculpture</div><div>– Concrete sculpture</div></div>	<div><div>– Safe</div><div>– Attractive</div></div>	<div><div>– Entrance</div><div>– Open space</div><div>– Plaza</div></div>	 
<input type="checkbox"/> Buffer	<div>▪ Planting<div><input type="checkbox"/> Natural<input type="checkbox"/> Informal</div></div>	<div><div>– Palm</div><div>– Shrub</div><div>– Forest species</div><div>– Medium trees</div></div>	<div><div>– Able to Screen</div><div>– Safe</div><div>– Attractive</div></div>	<div><div>– Along Roadside</div><div>– Public utilities boundary</div><div>– Between TNB-Turbine area and Housing area</div></div>	  

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<p>(i) The layout plan must demonstrate that the following elements are addressed in the design:</p> <ul style="list-style-type: none"> Development appropriate to topographical features Appropriate building orientation with respect to the sun Appropriate pedestrian and vehicular access systems Site infrastructure systems are designed in a manner which enhances site development <p>(ii) Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</p> <p>(iii) Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</p> <p>(iv) Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</p> <p>(v) Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</p> <p>(vi) Illustrate that the site will be developed in a logical sequence</p> <p>(vii) The layout plan should illustrate that the form of development effectively contributes to the Planning Block's sense of place and amenity with the context of Putrajaya</p> <p>(viii) Where applicable, the provisions of suraus, within apartment complexes should be a freestanding building.</p> <p>(ix) The apartment complex must include 'drop off' points for the convenience of residents.</p> <p>(x) Maximum plinth for apartment building is 60% of the site</p>	<p>(i) Avoid monotonous building designs – provide a range of housing types to meet different lifestyle choices, diversity in the marketplace and opportunity for an interesting street frontage</p> <p>(ii) Ensure that buildings are designed to respect the topographical features of the site ,eg buildings should step with steeper sites – do not cut substantial benches into steep land</p> <p>(iii) Building design should respect the amenity of adjoining and adjacent buildings and their residents</p> <p>(iv) Building design should interpret local image and character with new materials that are energy efficient</p> <p>(v) Building facades should be designed to accommodate a tropical environment</p> <p>(vi) Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</p> <p>(vii) While diversity is sought in building design, buildings should be designed with a common theme that provides a linkage to the style and nature of the development area</p> <p>(viii) Building design should ensure good living environments for residents that do not adversely impact on neighbours</p> <p>(ix) The building design should incorporate landscaping that contributes to a pleasant and safe environment and integrates well with the streetscape and adjoining open space areas</p> <p>(x) For high rise buildings:</p> <ul style="list-style-type: none"> Pedestrian spaces, courts, landscape or recreation areas should be more prominent than vehicle movement and utility spaces Vehicle parking design and location should minimise impact on adjacent dwellings Safe and convenient internal access to parking, residential and service areas 	<p>(i) Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines, and must comply with the UDG of Precinct 11 and 13.</p> <p>(ii) Spaces on any ground level should not directly overlook dwellings on adjacent land</p> <p>(iii) Ground floor levels must be responsive to pedestrian footpaths and continuity and flow between buildings</p> <p>(iv) Building design does not significantly reduce daylight to open space and habitable rooms in adjacent development</p> <p>(v) Roof pitch and overlay should be designed to meet local environmental requirements</p> <p>(vi) Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</p> <p>(vii) Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect. Any blank wall should be avoided</p> <p>(viii) The design of free standing buildings should be sympathetic with adjoining buildings, yet provide for local identity and character</p>	<p>(i) Building colours should harmonise with the predominant colours of the surrounding area</p> <p>(ii) Use of earth tones shall be encouraged</p> <p>(iii) Colours for specific building types will be subject to the approval of the Perbadanan. Pastel colours are to be encouraged</p>	<p>(i) Privacy and visual controls – overlooking to be controlled by appropriate orientation of windows and use of splay windows</p> <p>(ii) Air conditioning equipment including piping – all equipment should be contained in compartments that are designed as an integral component of the building to ensure the equipment is hidden from view</p> <p>(iv) Drying yards – building design should incorporate appropriate design for drying areas that allows for natural ventilation and light while ensuring they are hidden from public view</p> <p>(v) Aerials and satellite dishes – in high rise buildings or multiple tenancy commercial buildings, a central reception system is to be incorporated into the building design. On all other buildings, aerials and satellite dishes shall be located to avoid adverse impact on the amenity of adjoining buildings</p> <p>(vi) Service ducting shall not be exposed on the external surfaces of buildings</p> <p>(vii) Carports and garages should:</p> <ul style="list-style-type: none"> Be designed to integrate with the design of associated buildings Not diminish the attractiveness of the streetscape Not visually dominate views of the house from the street Cover the full length of a car <p>(viii) Dwellings with green frontage must address that frontage with habitable spaces and not service areas only</p> <p>(ix) Dwelling design must provide sufficient outdoor open space that can act as an extension of the dwelling for relaxation, entertainment, recreation and children's play purposes</p> <p>(x) Utility and service areas associated shall be suitably enclosed in structures and materials sympathetic with the design of the buildings</p> <p>(xi) For the installations of grills, residents need to abide by the guidelines on the Uniform Design and Installation of Grills for Buildings in Putrajaya (Department of Urban Services, Putrajaya)</p> <p>(xii) Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya.</p>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 8 (PB 8)

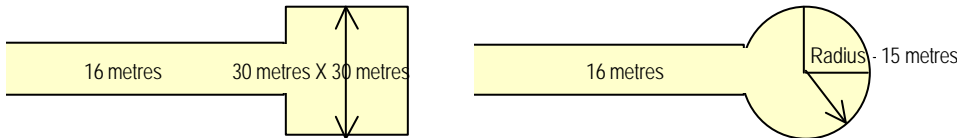
MAIN LAND USES:		PLANNING REQUIREMENT : BUILDING	
KEY PROVISION		BUILDING SETBACKS	CAR PARKS
<div><div>(i)</div><div><div>Permitted Use</div><div><ul style="list-style-type: none">Religious ReserveFencing : As per Fencing Design Guidelines Manual Volume 2, Chapter 13ReservoirMax. height : 1 storey</div></div></div>		<div><div>(i)</div><div><div>Front / Rear Setback</div><div><ul style="list-style-type: none">Setback from access road – 12m (min.)Rear setback – Minimum 6 metresSide setback – Minimum 6 metres</div></div></div>	<div><div>(i)</div><div><div>Car Parking</div><div><ul style="list-style-type: none">1 cps per 100m2Provision for cps for the handicap at 1 % of total cps</div></div><div></div><div><ul style="list-style-type: none">1 MPS : 150 GFAMin. 1 bicycle rackMin. 2 handicapped parking space</div></div>

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(i) Network Type

- Access Road - 16 metres reserve
- Cul-De-Sac - 15 metres reserve

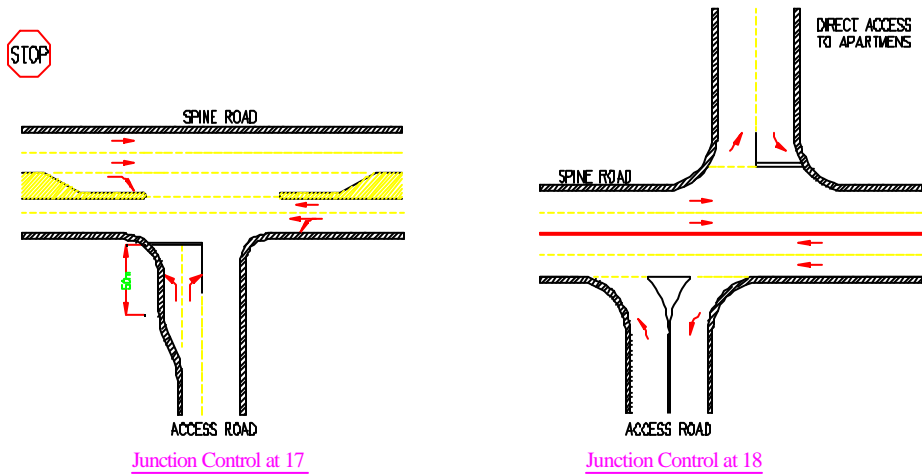
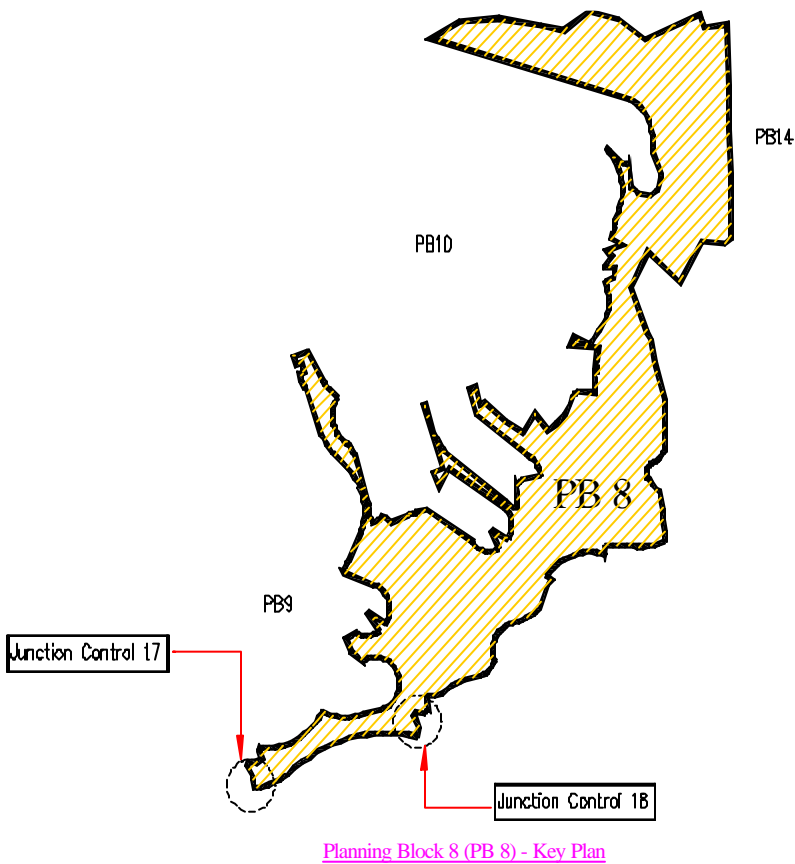


(ii) Junction Control Criteria

Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

(iii) Transport Design Guide for Putrajaya

- Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)



PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

UTILITIES

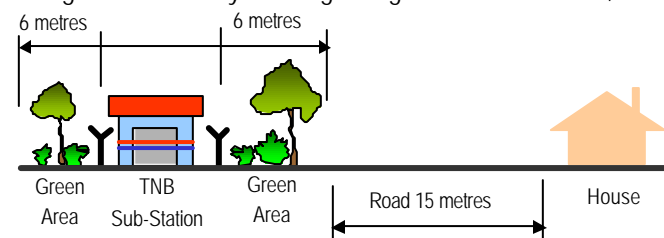
(i) Environment

- PB8 consists mainly of the Metropolitan Park (Taman Saujana). The development of this area must conform to the Habitat Creation aspects of the Urban Design Guidelines on Environment, Chapter 6
- Earthwork for building sites around the foothills of the area should not intrude into the Park. Any earthworks must be given a landscape treatment.
- The detailed platform levels shall be determined at the D.0 approval stage
- All earthworks must comply with the Environmental Management Guidelines of Putrajaya and Earthwork By-Laws (Perbadanan Putrajaya 1996)



(ii) Electricity

- The electricity supply for PB8 is mostly used for residential which are approximately 90% of the total Electrical Energy required.
- Provision of adequate numbers of 33KV Main Distribution Station (MDS) to be supported by a series of 11KV Sub-Stations (Single & Double Chambers) and feeder pillars at strategic locations to comply with the electricity provider's (TNB) requirement.
- Feeder pillars along public roads and areas shall have all doors to open away from road and public view.
- Electrical cabling network for overall development of PB8 shall consist of 33KV, 11KV and 415V distribution network systems.
- The electrical cabling network system shall be placed along the utility reserves to conform to the no dig policy. All electrical cabling shall be of the underground system.
- Sub-Station: shall have a minimum 6 metres setback on all sides to the nearest residential building. These shall be extensively landscaped.
- Fencing of utility buildings shall abide by Fencing Design Guidelines-Vol. 2, Chap. 15 pg. 132

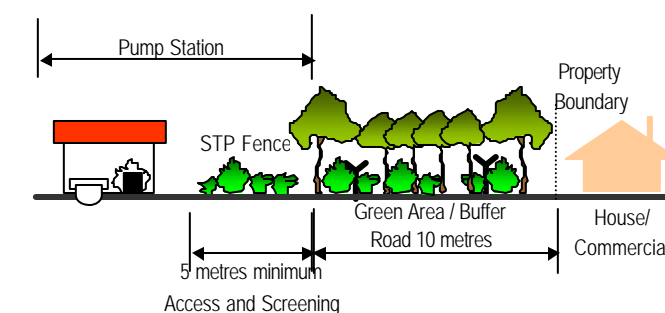


(iii) Drainage



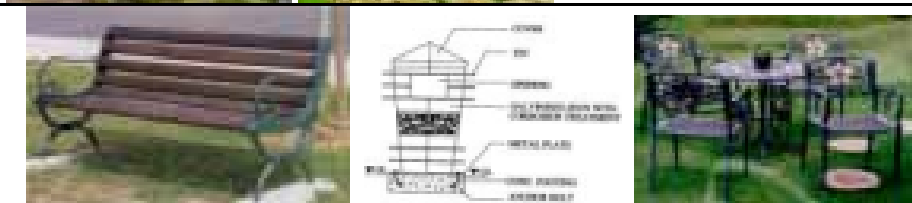
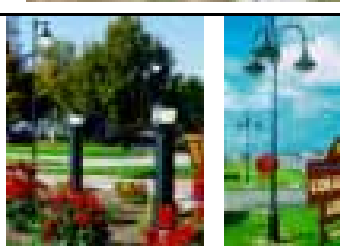
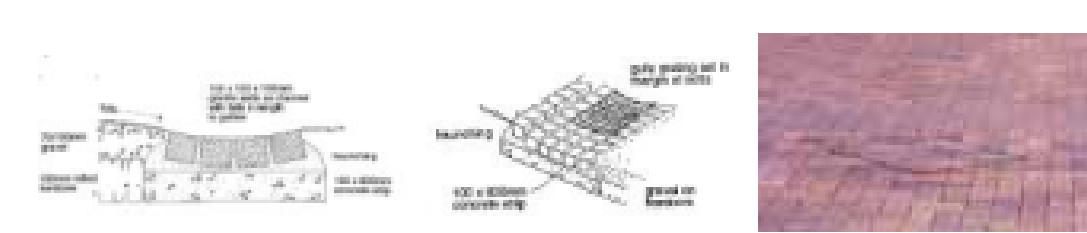
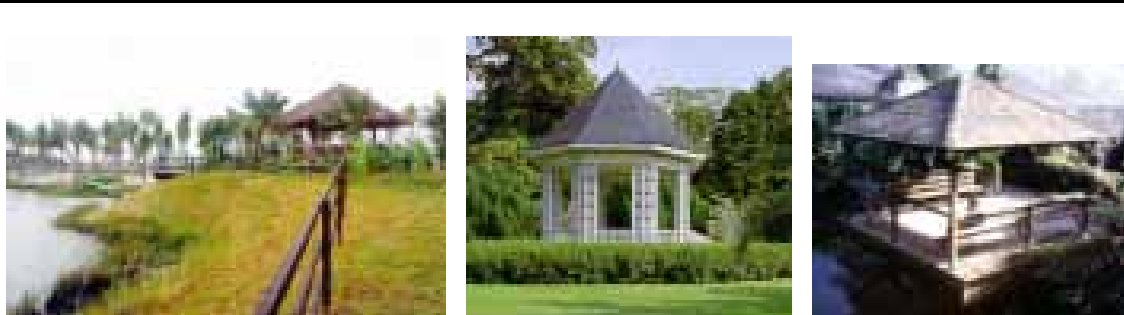
- Drainage to the site shall be provided in terms of collection, conveyance and retention of flow from the site.
- Gross Pollutant Traps to be provided at the outlet of discharge points.
- The drainage design shall comply with the Putrajaya Stormwater Management Design Guidelines (1998), Drainage Masterplan Study Report for Putrajaya (1996) and Urban Stormwater Management Manual for Malaysia, (JPS, 2000)
- Detention pond to be provided for Drainage Water discharging outside the Putrajaya area








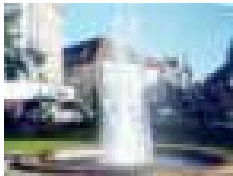


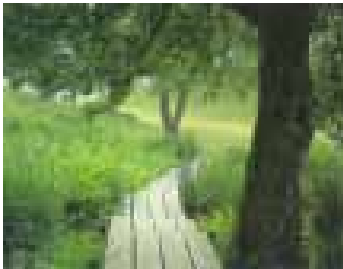

(iv) Sewerage



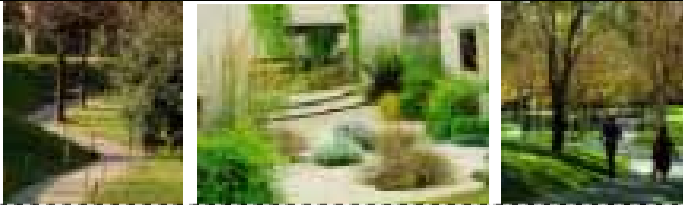

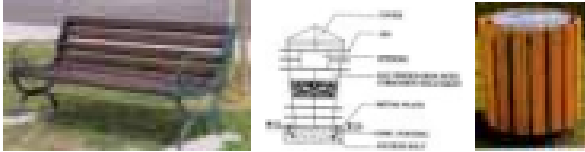
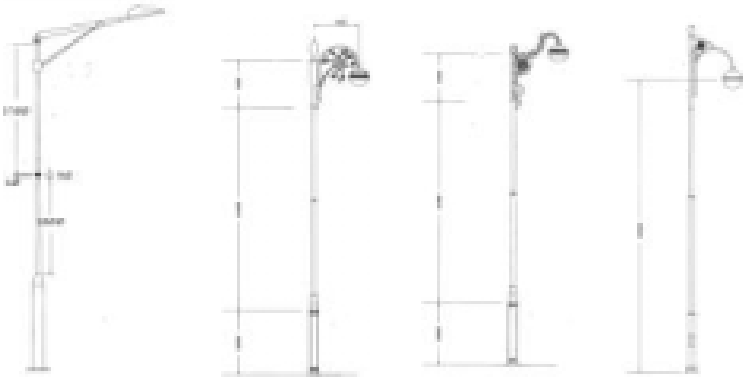
- A network of gravity sewer reticulation to collect sewage from the precinct. (Level 3 works.)
- From these reticulation networks, sewage will be discharged into the centralized trunk sewer system of Putrajaya (Level 1 & 2 works) at appropriate points.
- The trunk sewers will terminate at two pump-stations. These two pump stations are PS1 in Precinct 9 and PS9 (Levels 1 & 2 works) located at the south of precinct 11, next to Road R3.
- From PS1 and PS9, sewage will be conveyed via the centralized trunk sewer system to STP2 for treatment. However, STP2 is not scheduled to be ready until Year 2003. In the interim, sewage discharge will be temporary directed to the sewage switching station PS5 for onward conveyance to STP1 for treatment until the completion of STP2.
- The buffer for a closed STP shall be 10 m to the nearest property boundary.
- The buffer for an open STP system shall be 30 m to the nearest property boundary.


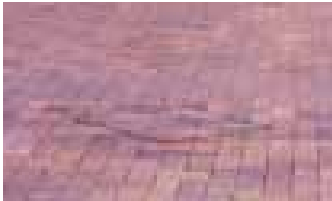
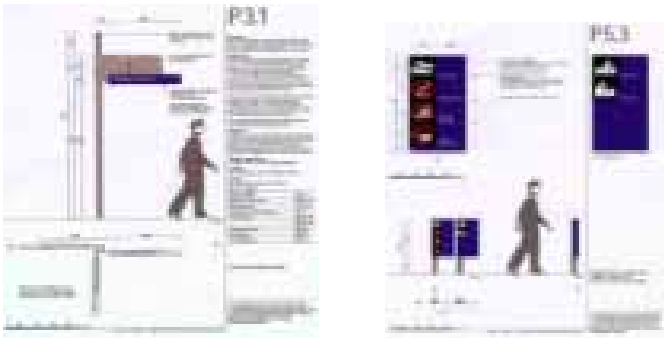




PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES	
UTILITIES	
<p>(v) Gas</p> <ul style="list-style-type: none">▪ The gas supply for PB8 is mostly used for residential which are approximately 80% of the total gas requirements.▪ Gas supply for PB8 will be served from a District Gas Station located at Precinct 9 through a medium pressure gas pipeline.▪ Provisions of 4 nos. of area Gas Station are allocated within the Precinct 11 development to cater for the projected gas loading requirements, with total area reserve of 1.13 acres.▪ Low-pressure gas pipeline reticulation from the Area Gas Station is planned to serve the gas requirements for the residential, commercial and other amenities.▪ Safety provision for construction within the vicinity.▪ (For details of Gas Pipeline Reserve Design refer Appendix 1) <p>(vi) Waste Disposal</p> <ul style="list-style-type: none">▪ Solid waste management in PB8 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.▪ Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to be further separated at source into containers and fiber materials.▪ The sensitivity of the site in terms of waste management relates to the operational requirements of Precinct 11, which require that no burial of material is undertaken during the construction phase.▪ In addition to control odour nuisance to any sensitive receptors biodegradable waste cannot be left at the site for extended periods.▪ The waste management shall comply with Urban Design Guidelines and Environmental Guidelines for Putrajaya.▪ For low rise residential, refuse chamber is to be placed in front of the house, either left or right of the driveway and near to main road for the ease of mechanical collection. The estimated generation of solid waste is 5kg/unit/day.▪ For non-residential building, refuse chamber center can be built at the ground floor / basement or apart from the main building. The estimated generation of solid waste for recreation park/public transport stop station are 0.2 kg/visitor, 300L/1000m²(gross floor area) for shopping complex and 500L/1000m²(gross floor area) for restaurant.	<ul style="list-style-type: none">▪ Access road must be constructed for the ease of mechanical collection and public use. Obstructions to any collection vehicle's access must be disallowed at all time. <div data-bbox="1973 506 2389 825"></div> <p>(vii) Water Supply</p> <ul style="list-style-type: none">▪ Water supply to PB8 shall be consistent with the provision of water supply master plan for Putrajaya▪ Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989)▪ Platform for reservoir to follow landform and earthworks required should be sympathetic to the terrain▪ Land reserve for reservoir should provide for all setback requirement and necessary slopes to be accommodated▪ The design of reservoir shall comply with Design Criteria and Standards for Water Supply Systems▪ Approach road may be designed for occasional usage▪ The reservoir structure shall not intrude into the natural state of its surrounding area

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Metropolitan Park	<input checked="" type="checkbox"/> Paving, walls and steps <input type="checkbox"/> Informal	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> Clay brick Concrete Interlocking block etc 	<ul style="list-style-type: none"> Anti slippery surface Max. gradient 8% Max. gradient 2% for superelevation Durable 	<ul style="list-style-type: none"> Open space Plaza 	
		<input type="checkbox"/> Walls <ul style="list-style-type: none"> Key stone Concrete Granite stone etc. 	<ul style="list-style-type: none"> Harmonize with surrounding Visually attractive 	<ul style="list-style-type: none"> Slope areas 	
	<input checked="" type="checkbox"/> Site Furniture <input type="checkbox"/> Contemporary <input type="checkbox"/> Informal	<ul style="list-style-type: none"> Hardwood Metal Stone 	<ul style="list-style-type: none"> Vandalism proof Durable Functional Safe 	<ul style="list-style-type: none"> Open space Plaza 	
	<input checked="" type="checkbox"/> Lighting <input type="checkbox"/> Robust <input type="checkbox"/> Contemporary	<ul style="list-style-type: none"> Concrete Metal Masonry 	<ul style="list-style-type: none"> Max. height 4m at open areas 	<ul style="list-style-type: none"> Bollard at pedestrian entrance Plaza Pedestrian walkway 	
	<input checked="" type="checkbox"/> Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	<ul style="list-style-type: none"> Rock boulder Culvert Concrete Granite stone wall Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> Preferable covered drain Natural fence if necessary Accessible for maintenance works 	<ul style="list-style-type: none"> All drainage system 	
	<input checked="" type="checkbox"/> Structures and Shelters <input type="checkbox"/> Informal, Vernacular, <input type="checkbox"/> Hi-tech	<input type="checkbox"/> Structures <ul style="list-style-type: none"> Hardwood timber Metal Concrete Masonry <input type="checkbox"/> Roof <ul style="list-style-type: none"> Clay tile Metal decking Poly cabonate 	<ul style="list-style-type: none"> Sustainable design Proportion to human scale and surrounding structure Functional To blend harmoniously with surrounding environment 	<ul style="list-style-type: none"> Open areas Plaza 	

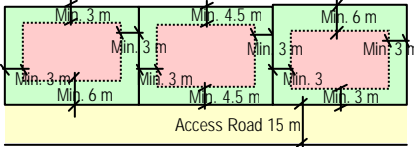
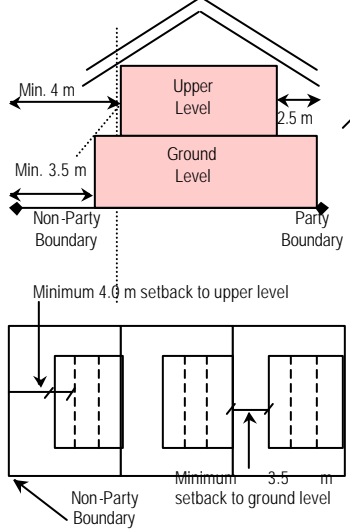
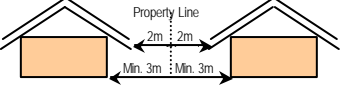
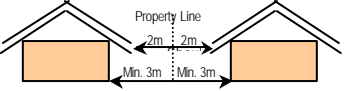
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
❑ Metropolitan Park	▪ Play feature ❑ Contemporary ❑ Robust ❑ Bright	– Steel frame – Rubber matting	– Conform to SIRIM standard	– Open space	 
	▪ Fences, Gate and Berries ❑ Contemporary ❑ Formal ❑ Informal	– Engraved stone – Metal	– To suit architectural design – To blend naturally with surrounding environment – To follow FDG Putrajaya	– Entrance – Boundary demarcation	 
	▪ Signage ❑ Informal ❑ Formal	– Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Plaza – Open space – Pedestrian walkway – Bicycle track	 
	▪ Water features ❑ Contemporary ❑ Formal ❑ Hi-tech	– Stone – Concrete – Metal	– Safe – Attractive – Clean	– Entrance – Plaza – Open space	 
	▪ Sport feature ❑ Natural ❑ Formal ❑ Informal	– Timber – Rubber matting – Concrete – Grass	– Durable – Safe	– Open space	 
	▪ Planting ❑ Formal ❑ Informal	– Tree – Palm – Shrub – Groundcover	– Non-poisonous species – Strong branch – Medium size trees	– Building compound	 
	▪ Irrigation Strategy	– No permanent irrigation facilities will be required			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div> <div></div> <div>TNB Reserve</div> </div>	<div> <div>Planting</div> <div> <div></div> <div>Heavy planting</div> </div> </div>	<div> <div>Tree</div> <div>Palm</div> <div>Shrub</div> </div>	<div> <div>Non-poisonous species</div> <div>Able to act as barrier</div> </div>	<div> <div>Boundary line</div> </div>	
<div> <div></div> <div>Gas pipe reserve</div> </div>	<div> <div>Planting</div> <div> <div></div> <div>Informal</div> </div> </div>	<div> <div>Tree</div> <div>Palm</div> <div>Shrub</div> </div>	<div> <div>Non-poisonous species</div> </div>	<div> <div>Reserve areas</div> </div>	
<div> <div></div> <div>Roadside</div> </div>	<div> <div>Paving, walls and steps</div> <div> <div></div> <div>Formal</div> <div>Contemporary</div> </div> </div>	<div> <div>Paving / Step</div> <div> <div>Clay brick</div> <div>Concrete</div> <div>Interlocking paver etc.</div> </div> </div>	<div> <div>Anti slippery surface</div> <div>Max. gradient 8%</div> <div>Max. Gradient for super elevation 2%</div> </div>	<div> <div>Roadside</div> </div>	
		<div> <div>Wall</div> <div> <div>Key stone</div> <div>Concrete</div> <div>Granite stone etc.</div> </div> </div>	<div> <div>Harmonize with surrounding environment</div> </div>	<div> <div>Slope areas</div> </div>	
	<div> <div>Site Furniture</div> <div> <div></div> <div>Contemporary</div> </div> </div>	<div> <div>Hardwood</div> <div>Masonry</div> <div>Metal</div> </div>	<div> <div>Vandalism proof</div> <div>Safe</div> <div>Attractive</div> </div>	<div> <div>Junction</div> </div>	
	<div> <div>Lighting</div> <div> <div></div> <div>Robust</div> <div>Minimal</div> <div>Reflect character of adjacent neighbourhood</div> </div> </div>	<div> <div>Timber</div> <div>Metal</div> </div>	<div> <div>Max. height 10m at roadside</div> </div>	<div> <div>Footpaths</div> <div>Cycle track</div> <div>Car park</div> </div>	


PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div> <div></div> <div>Roadside</div> </div>	<div> <div>Drainage</div> <div> <div></div>Swales/Natural drain <div></div>Concealed drains </div> </div>	<div> <div>Culvert</div> <div>Concrete</div> <div>Drain cover on walkway to follow walkway 's material</div> </div>	<div> <div>Visually attractive</div> <div>Naturally blend with surrounding</div> </div>	<div> <div>Open space</div> <div>plaza</div> </div>	<div>   </div>
	<div> <div>Signage</div> <div> <div></div>Contemporary <div></div>Formal <div></div>Simple <div></div>Clear </div> </div>	<div> <div>Masonry</div> <div>Metal</div> <div>Hardwood</div> </div>	<div> <div>Clear</div> <div>Vandalism proof</div> </div>	<div> <div>Junction</div> </div>	<div>  </div>
	<div> <div>Planting</div> <div> <div></div>Formal </div> </div>	<div> <div>Shade medium size tree</div> <div>Palm</div> <div>Shrub</div> </div>	<div> <div>Provide ample shade</div> <div>Hardy Plants</div> <div>Attractive</div> </div>	<div> <div>Roadside</div> </div>	<div>  </div>
	<div> <div>Irrigation Strategy</div> </div>	<div> <div>Trucking</div> </div>			
<div> <div></div> <div>Buffer</div> </div>	<div> <div>Planting</div> <div> <div></div>Natural <div></div>Informal </div> </div>	<div> <div>Palm</div> <div>Shrub</div> <div>Forest species</div> <div>Medium trees</div> </div>	<div> <div>Able to Screen</div> <div>Safe</div> <div>Attractive</div> </div>	<div> <div>Along Roadside</div> <div>Public utilities boundary</div> <div>Between TNB-Turbine area and Housing area</div> </div>	<div>  </div>

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<div><div>(i)</div><div>The layout plan must demonstrate that the following elements are addressed in the design:<ul style="list-style-type: none">Development appropriate to topographical featuresAppropriate building orientation with respect to the sunAppropriate pedestrian and vehicular access systemsSite infrastructure systems are designed in a manner which enhances site development</div><div>(ii)</div><div>Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</div><div>(iii)</div><div>Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</div><div>(iv)</div><div>Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</div></div>	<div><div>(i)</div><div>Ensure that buildings are designed to respect the topographical features of the site ,eg buildings should step with steeper sites – do not cut substantial benches into steep land</div><div>(ii)</div><div>Building design should interpret local image and character with new materials that are energy efficient</div><div>(iii)</div><div>Building facades should be designed to accommodate a tropical environment</div><div>(iv)</div><div>Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</div><div>(v)</div><div>The building design should incorporate landscaping that contributes to a pleasant and safe environment and integrates well with the streetscape and adjoining open space areas</div></div>	<div><div>(i)</div><div>Roof pitch and overhang should be designed to meet local environmental requirements</div></div>	<div><div>(i)</div><div>Building colours should harmonise with the predominant colours of the surrounding area</div><div>(ii)</div><div>Use of earth tones shall be encouraged</div><div>(iii)</div><div>No uncoated metals should be used for the sidings of the bus depot building(s) – should metal sidings be utilised, these should be coated in suitable colours, preferably earth tones</div><div>(iv)</div><div>Profiled metals may be used for the sidings for bus depot buildings</div></div>	<div><div>(i)</div><div>Buildings associated with the bus depot should:<ul style="list-style-type: none">Be reasonably compatible in appearance and scale with nearby buildingsInclude appropriate screening and buffering that maintains or improves the amenity of adjoining usesThe bus depot is to be designed to contain within the site any potential adverse visual or environmental impactsAccess, parking and servicing of buses at the bus depot must not reduce the amenity of lands in the vicinity of the depot</div><div>(ii)</div><div>Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya.</div></div>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 9 (PB 9)

MAIN LAND USES:	BUNGALOWS	SEMI-DETACHED HOUSES	TERRACE HOUSE	PRIMARY SCHOOL	INTEGRATED NEIGHBOURHOOD COMPLEX
(i) Density	<ul style="list-style-type: none"> 8-10 unit/acre 	<ul style="list-style-type: none"> 12-18 units/acre 	<ul style="list-style-type: none"> 20 units/acre 	<ul style="list-style-type: none"> One in PB9 Maximum Plint Area : 30% 	<ul style="list-style-type: none"> One in PB9
(ii) Composition	<ul style="list-style-type: none"> High cost 	<ul style="list-style-type: none"> 90% government housing 	<ul style="list-style-type: none"> 5% government housing 		<ul style="list-style-type: none"> Government service centre, Government Health Clinic, Petrol Station, Com. & Rec. Complex, Open Plaza, maximum 3Sorey Shop-Office
(iii) Minimum Lot size	<ul style="list-style-type: none"> 740m2 	<ul style="list-style-type: none"> 300m2 	<ul style="list-style-type: none"> 130m2 	<ul style="list-style-type: none"> 3.5 ha 	<ul style="list-style-type: none"> 13 acres
(iv) Height	<ul style="list-style-type: none"> 2 levels on flat or gently sloping land 3 levels on steep land 	<ul style="list-style-type: none"> 2 levels on flat or gently sloping land 3 levels on steep land 	<ul style="list-style-type: none"> 2 levels on flat or gently sloping land 	<ul style="list-style-type: none"> Maximum 4 storey 	<ul style="list-style-type: none"> Maximum height of 4 storey
(v) Setbacks: <ul style="list-style-type: none"> Front/Rear setbacks Non-Party/side boundary Street boundary Setback Between Roofs' Eaves 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Street frontage – min. 3.0 metres Rear setback – min. 3.0 metres  <ul style="list-style-type: none"> Minimum 3 metres  <ul style="list-style-type: none"> Minimum 3 metres <ul style="list-style-type: none"> Minimum 2 metres 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Front setback – min. 3.0 metres Rear setback – min. 3.0 metres <ul style="list-style-type: none"> Minimum 3 metres <ul style="list-style-type: none"> Minimum 3 metres <ul style="list-style-type: none"> Minimum 2 metres 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Street frontage – min. 3.0 metres Rear setback – min. 3.0 metres Any variation in setback is permissible within a single block of terraces and not for individual building Where applicable minimum 3 metres <ul style="list-style-type: none"> Side setback to 15 metres road, for roads with 3 metres green buffer Side setback to 15 metres road, without 3 metres buffer 	<ul style="list-style-type: none"> Setback from access road – 12m min. Rear – Minimum 6 metres <ul style="list-style-type: none"> Minimum 6 metres <ul style="list-style-type: none"> Setback from access road – 12m (min) 	<ul style="list-style-type: none"> Minimum 6 metres setback all around the lot boundary Minimum distance between building:20 metres <ul style="list-style-type: none"> N/A

PUTRAJAYA PRECINCT 11 LOCAL PLAN

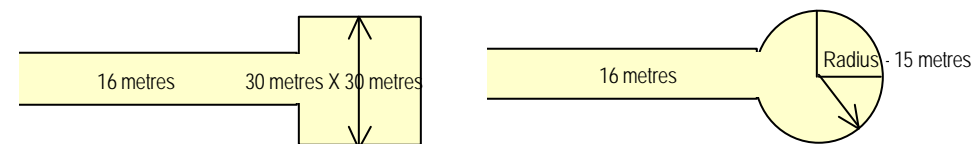
MAIN LAND USES:	BUNGALOWS	SEMI-DETACHED HOUSES	TERRACE HOUSE	PRIMARY SCHOOL	INTEGRATED NEIGHBOURHOOD COMPLEX
<ul style="list-style-type: none"> Car Park 	<ul style="list-style-type: none"> Min. 2 cps on site CPS to be clear of min. front setback. 	<ul style="list-style-type: none"> Min. 2 cps on site CPS to be clear of min. front setback. 	<ul style="list-style-type: none"> Minimum 1 cps per unit CPS to be clear of minimum front setback 	<ul style="list-style-type: none"> 1 CPS per 4 teachers + 20% visitors Parking for disabled at 1% of total cps 	<ul style="list-style-type: none"> 1 CPS per 500m2 GFA Parking for disabled at 1% of total cps
(vi) Fencing As per the Fencing Design Guidelines Manual, Volume 1 and Volume 2, chapter 1, 2 and 3	<ul style="list-style-type: none"> Refer Fencing Design Guidelines Manual, Volume 2, chapter 4 	<ul style="list-style-type: none"> Refer Fencing Design Guidelines Manual, Volume 2, chapter 5 	<ul style="list-style-type: none"> Refer Fencing Design Guidelines Manual, Volume 2, chapter 6 	<ul style="list-style-type: none"> Refer Fencing Design Guidelines Manual, Volume 2, chapter 11 	<ul style="list-style-type: none"> Refer Fencing Design Guidelines Manual, Volume 2, chapter 19
(vii) Layout Plan	<ul style="list-style-type: none"> Use the setback flexibility and building design variation to break up and vary the position of the houses. 	<ul style="list-style-type: none"> Use the setback flexibility and building design variation to break up and vary the position of the houses 	<ul style="list-style-type: none"> Use the setback flexibility and building design variation to break up and vary the position of the houses To provide for a Tadika site of 0.5 acre 	<ul style="list-style-type: none"> Layout plans to show the design concept including: <ul style="list-style-type: none"> Total gross net areas of indoor play, outdoor play, roofed shade and other outdoor shade areas. Service areas to be aesthetically screened. Site car parking to be clearly indicated. Site car parking to be landscaped. Min 2 metre landscaped buffer between car parking spaces and any boundary. Initiate stacked outdoor play areas, carparking. Indicate car parking set down/pick up areas – to be visible from road. Indicate pedestrian access to/from the site and connection to surrounding pedestrian pathways. Where boundaries aren't residential dwellings, carefully locate potentially noisy activities to minimise impacts. Show appropriate screening that protects the amenity of abutting residential uses. 	<ul style="list-style-type: none"> Layout plan to show the design concept including: <ul style="list-style-type: none"> Total gross net areas of indoor play, outdoor play, roofed shade and other outdoor shade areas. Service areas to be aesthetically screened. Site car parking to be clearly indicated. Site car parking to be landscaped. Min 2 metre landscaped buffer between car parking spaces and any boundary. Initiate stacked outdoor play areas, carparking. Indicate car parking set down/pick up areas – to be visible from road. Indicate pedestrian access to/from the site and connection to surrounding pedestrian pathways. Where boundaries aren't residential dwellings, carefully locate potentially noisy activities to minimise impacts. Show appropriate screening that protects the amenity of abutting residential uses Effective screening to abutting residential use

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(i) Network Type

- Spine Road - 32 metres reserve
- Local Road - 22 metres reserve
- Access Road - 16 metres reserve
- Cul-De-Sac - 15 metres reserve



(ii) Road Capacity

- Spine Road - 1000 pcu/hr/lane
- Local Road - 700 pcu/hr/lane

(iii) Junction Control Criteria

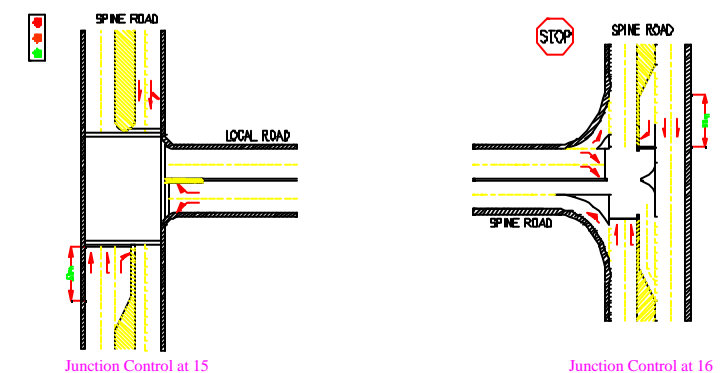
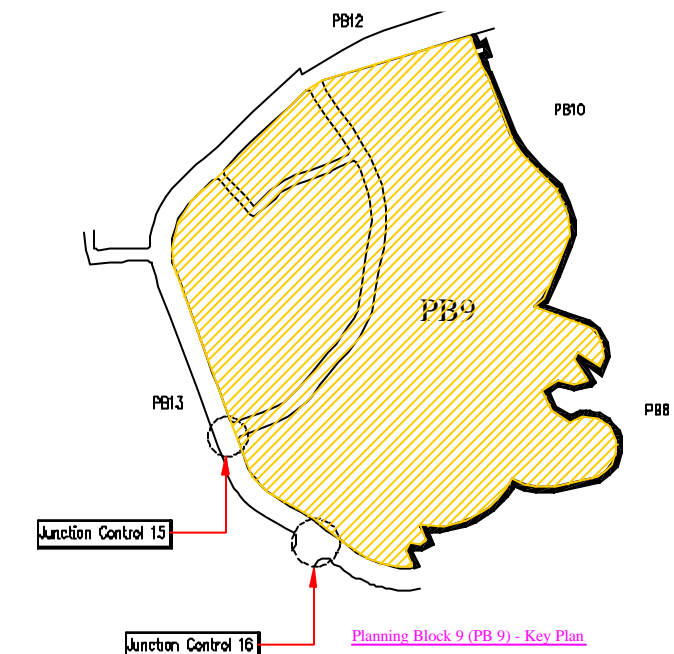
Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

(iv) **Visibility Standards for Priority Junction**

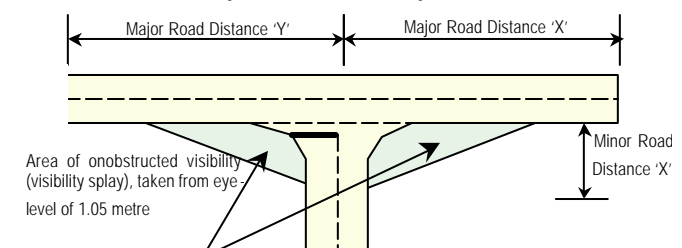
- Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given

(v) **Transport Design Guide for Putrajaya**

- Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)



Visibility Standards for Priority Junction

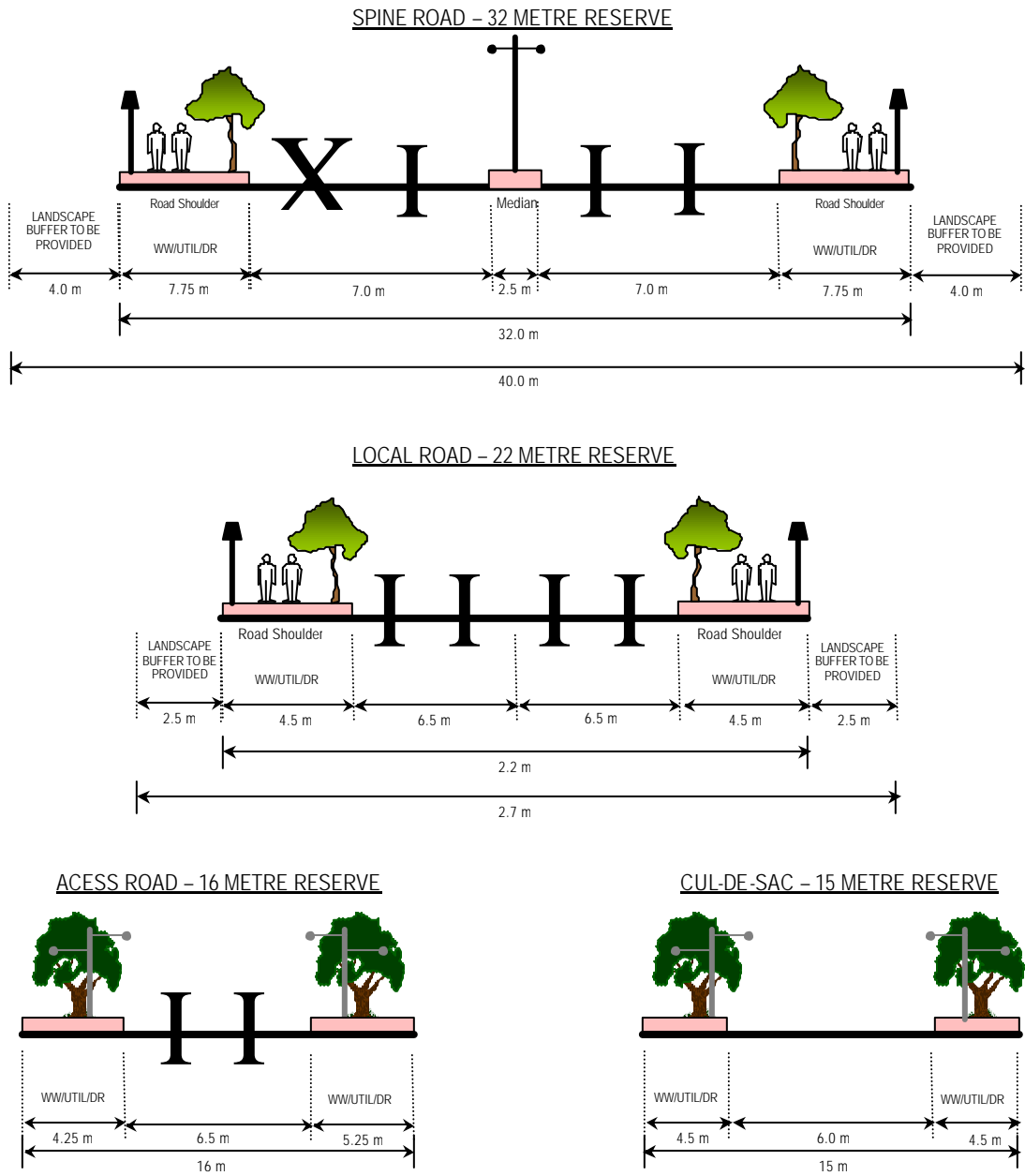


Minor Road Distance 'X' (metre)	<ul style="list-style-type: none">9.0 metre most situations4.5 metre an absolute minimum on lightly trafficked roads (< 200 vph)		
Major Road Distance 'X'(metre)	120	90	45
Speed Limit (KPH)	60	50	40

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(v) Typical Road Cross Section



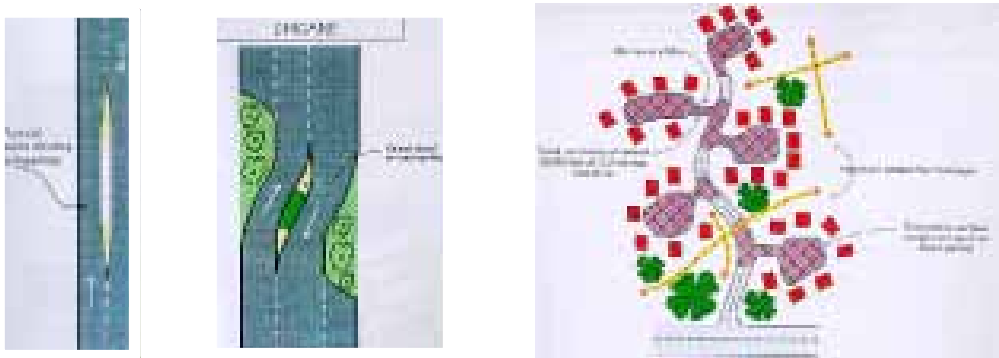
- Note:
- WW/UTIL/DR : Common pedestrians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 15 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 15 metre

(vii) Access to School

- To ensure adequate number of bus bays for drop-off and waiting school buses.
- To ensure continuity of walkway and cycle paths for PB5 and beyond to enable a high number of walk and bicycle mode trips.

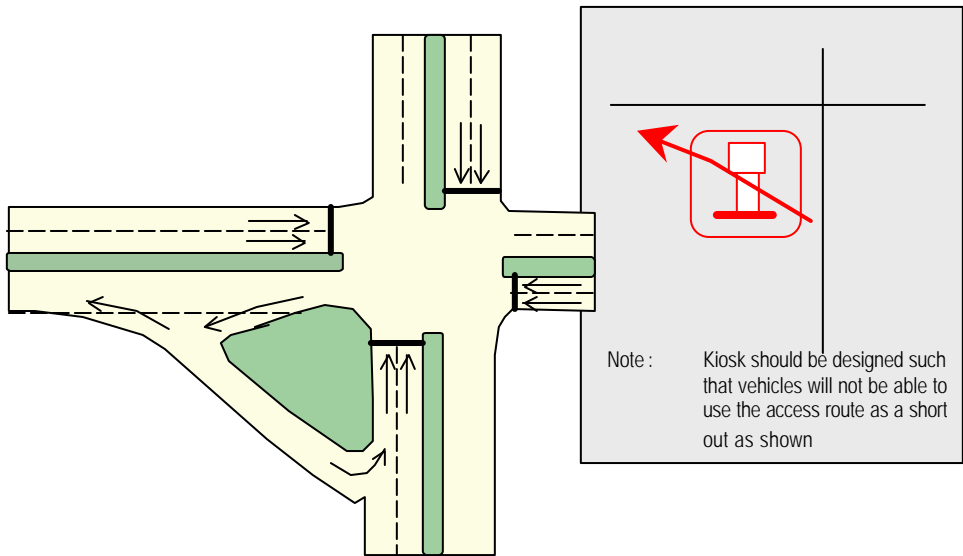
(viii) Traffic Calming

- Use Chicanes and dividers along local distributor
- The road narrowing at junction leading form local distributor roads into access roads.



(iv) Petrol Station Access

- To ensure that access egress points do not become "rat running" routes



PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

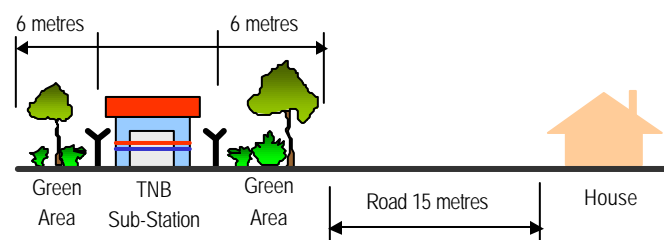
UTILITIES

(i) **Environment**

- The detailed platform levels shall be determined at the D.0 approval stage
- All earthworks must comply with the Environmental Management Guidelines of Putrajaya and Earthwork By-Laws (Perbadanan Putrajaya 1996)

(ii) Electricity

- The electricity supply for PB9 is mostly used for residential which are approximately 90% of the total Electrical Energy required.
- Provision of adequate numbers of 33KV Main Distribution Station (MDS) to be supported by a series of 11 KV Sub-Stations (Single & Double Chambers) and feeder pillars at strategic locations to comply with the electricity provider's (TNB) requirement.
- Feeder pillars along public roads and areas shall have all doors to open away from road and public view.
- Electrical cabling network for overall development of PB9 shall consist of 33KV, 11KV and 415V distribution network systems.
- The electrical cabling network system shall be placed along the utility reserves to conform to the no dig policy. All electrical cabling shall be of the underground system.
- Sub-Station: shall have a minimum 6 metres setback on all sides to the nearest residential building. These shall be extensively landscaped.
- Fencing of utility buildings shall abide by Fencing Design Guidelines-Vol 2, Chap. 15 pg 132

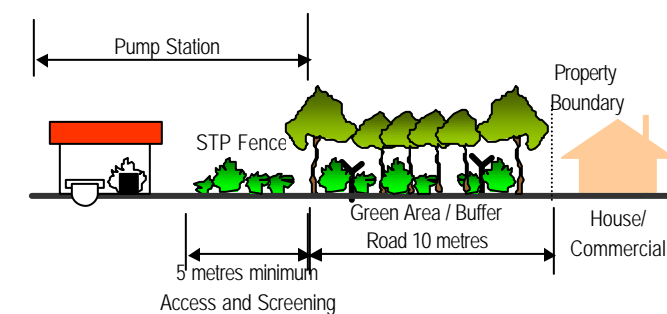


(iii) **Drainage**

- Drainage to the site shall be provided in terms of collection, conveyance and retention of flow from the site.
- Gross Pollutant Traps to be provided at the outlet of discharge points.
- The drainage design shall comply with the Putrajaya Stormwater Management Design Guidelines (1998), Drainage Masterplan Study Report for Putrajaya (1996) and Urban Stormwater Management Manual for Malaysia (JPS,2000)


(iv) Sewerage



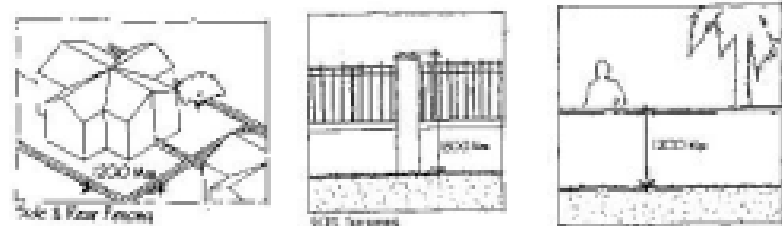
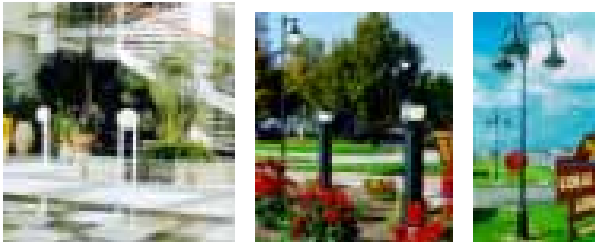
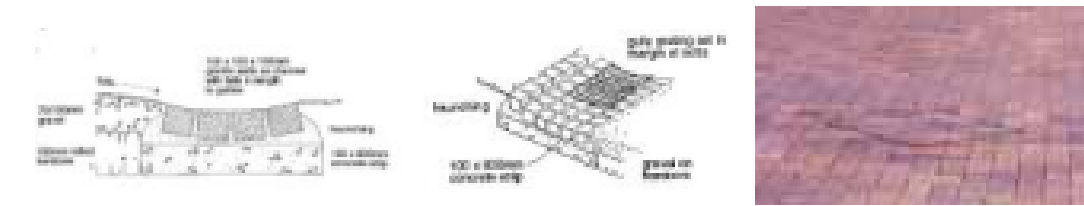

- A network of gravity sewer reticulation to collect sewage from the precinct. (Level 3 works.)
- From these reticulation networks, sewage will be discharged into the centralized trunk sewer system of Putrajaya (Level 1 & 2 works) at appropriate points.
- The trunk sewers will terminate at two pump-stations. These two pump stations are PS1 in Precinct 9 and PS9 (Levels 1 & 2 works) located at the south of precinct 11, next to Road R3.
- From PS1 and PS9, sewage will be conveyed via the centralized trunk sewer system to STP2 for treatment. However, STP2 is not scheduled to be ready until Year 2003. In the interim, sewage discharge will be temporary directed to the sewage switching station PS5 for onward conveyance to STP1 for treatment until the completion of STP2.
- The buffer for a closed STP shall be 10 m to the nearest property boundary.
- The buffer for an open STP system shall be 30 m to the nearest property boundary.

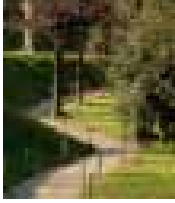
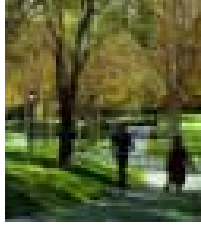
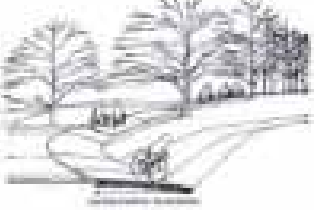




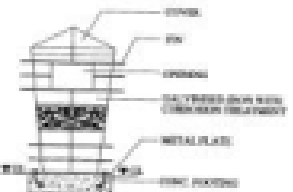
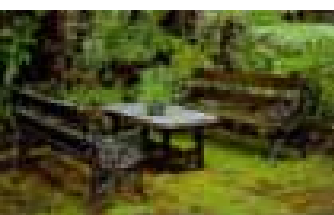
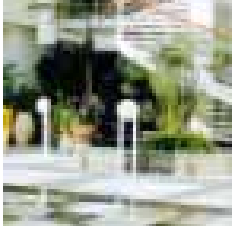


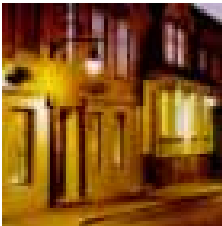
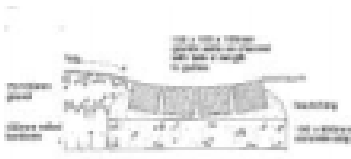







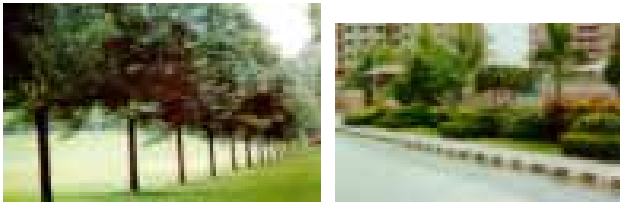
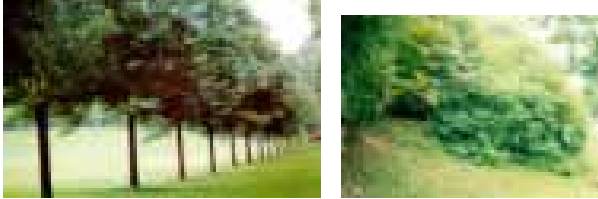


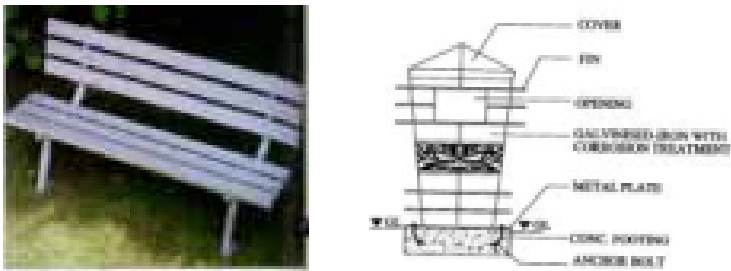
(v) Gas

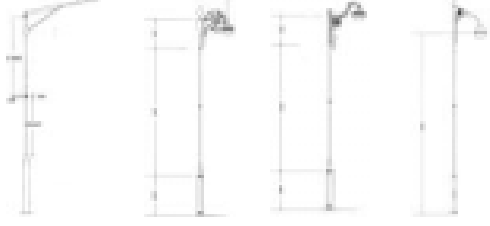
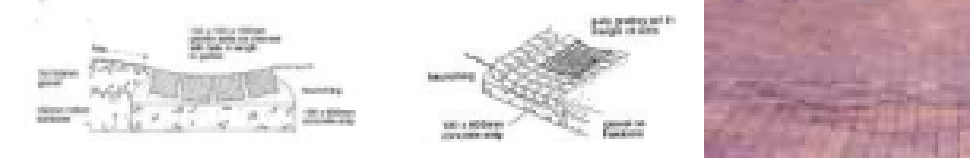

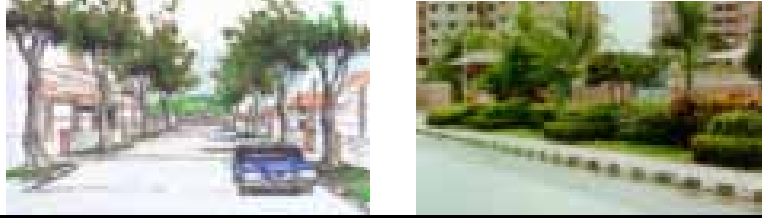

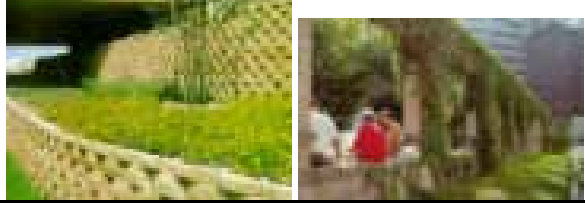

- The gas supply for PB9 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB9 will be served from a District Gas Station located at Precinct 9 through a medium pressure gas pipeline.
- Provisions of 4 nos. of area Gas Station are allocated within the Precinct 11 development to cater for the projected gas loading requirements, with total area reserve of 1.13 acres.
- Low-pressure gas pipeline reticulation from the Area Gas Station is planned to serve the gas requirements for the residential, commercial and other amenities.
- Safety provision for construction within the vicinity.
- (For details of Gas Pipeline Reserve Design refer Appendix 1)

PLANNING REQUIREMENTS : INFRASTRUCTURE	
UTILITIES	
<div><div>(vi) Waste Disposal</div><div><ul style="list-style-type: none">▪ Solid waste management in PB9 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.▪ Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to be further separated at source into containers and fiber materials.▪ The sensitivity of the site in terms of waste management relates to the operational requirements of Precinct 11, which require that no burial of material is undertaken during the construction phase.▪ In addition to control odour nuisance to any sensitive receptors biodegradable waste cannot be left at the site for extended periods.▪ The waste management shall comply with Urban Design Guidelines and Environmental Guidelines for Putrajaya.▪ For low rise residential, refuse chamber is to be placed in front of the house, either left or right of the driveway and near to main road for the ease of mechanical collection. The estimated generation of solid waste is 5kg/unit/day.▪ For non-residential building, refuse chamber center can be built at the ground floor / basement or apart from the main building. The estimated generation of solid waste for recreation park/public transport stop station are 0.2 kg/visitor, 300L/1000m²(gross floor area) for shopping complex and 500L/1000m²(gross floor area) for restaurant.▪ Access road must be constructed for the ease of mechanical collection and public use. Obstructions to any collection vehicle's access must be disallowed at all time.</div><div></div></div>	<div><div>(vii) Water Supply</div><div><ul style="list-style-type: none">▪ Water supply to PB9 shall be consistent with the provision of water supply master plan for Putrajaya.▪ Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989).</div></div>









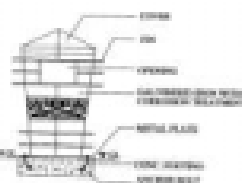

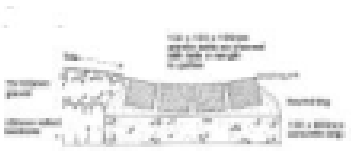
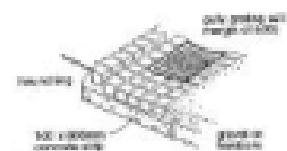



PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div> <div> <div></div> <div>Residential (Landed)</div> </div> </div>	<div> <div>Paving, walls and steps</div> <div> <div></div> Informal <div></div> Formal <div></div> Contemporary </div> </div>	<div> <div>Paving / Step</div> <div> <div>–</div> Clay brick <div>–</div> Concrete <div>–</div> Interlocking block etc </div> </div>	<div> <div>–</div> Anti slippery surface <div>–</div> Max. gradient 8% <div>–</div> Durable </div>	<div> <div>–</div> Building compound </div>	
		<div> <div>Walls</div> <div> <div>–</div> Key stone <div>–</div> Concrete <div>–</div> Fencing brick etc. </div> </div>	<div> <div>–</div> Harmonize with surrounding </div>	<div> <div>–</div> Building compound </div>	
	<div> <div>Fence, Gate and Barrier</div> <div> <div></div> Contemporary <div></div> Formal <div></div> Traditional </div> </div>	<div> <div>–</div> Hardwood <div>–</div> Metal <div>–</div> Masonry </div>	<div> <div>–</div> To follow Fencing Design Guideline Putrajaya </div>	<div> <div>–</div> Boundary line </div>	
	<div> <div>Lighting</div> <div> <div></div> Contemporary <div></div> Informal <div></div> Formal </div> </div>	<div> <div>–</div> Hardwood <div>–</div> Metal <div>–</div> Concrete </div>	<div> <div>–</div> Durable <div>–</div> Attractive <div>–</div> Safe </div>	<div> <div>–</div> Building compound </div>	
	<div> <div>Drainage</div> <div> <div></div> Swales <div></div> Concealed drains </div> </div>	<div> <div>–</div> Culvert <div>–</div> Concrete <div>–</div> Drain cover on walkway to follow walkway 's material </div>	<div> <div>–</div> Visually attractive <div>–</div> Covered </div>	<div> <div>–</div> Building lot </div>	
	<div> <div>Planting</div> <div> <div></div> Formal <div></div> Informal </div> </div>	<div> <div>–</div> Tree <div>–</div> Palm <div>–</div> Shrub <div>–</div> Groundcover </div>	<div> <div>–</div> Non-poisonous species <div>–</div> Strong branch <div>–</div> Medium size trees </div>	<div> <div>–</div> Building compound </div>	
	<div> <div>Irrigation Strategy</div> </div>	Tap from storage tank or JBA main or tap from JBA main			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
❑ School	▪ Paving, walls and steps ❑ Formal ❑ Contemporary	❑ Paving / Step <ul style="list-style-type: none">– Clay brick– Concrete– Interlocking block etc	<ul style="list-style-type: none">– Anti slippery surface– Max. gradient 8%– Max. gradient 2% for supper elevation– Durable	<ul style="list-style-type: none">– Pedestrian walkway– Open space	   
		❑ Walls <ul style="list-style-type: none">– Key stone– Concrete– Fencing brick etc.	<ul style="list-style-type: none">– Harmonize with surrounding environment	<ul style="list-style-type: none">– Slope areas	 
	▪ Site furniture ❑ Contemporary	<ul style="list-style-type: none">– Hardwood– Metal– Stone	<ul style="list-style-type: none">– Vandalism proof– Durable– Safe	<ul style="list-style-type: none">– Resting areas– Reading areas	  
	▪ Lighting ❑ Contemporary ❑ Simple	<ul style="list-style-type: none">– Hardwood– Metal– Concrete	<ul style="list-style-type: none">– Max height of 4m for open space– Max height of 10m for roadside– Attractive– Safe	<ul style="list-style-type: none">– Entrance– Play field– Roadside	   
	▪ Drainage ❑ Swales ❑ Concealed drains	<ul style="list-style-type: none">– Culvert– Concrete– Drain cover on walkway to follow walkway 's material	<ul style="list-style-type: none">– Harmonious with surrounding environment– Preferable covered drain	<ul style="list-style-type: none">– Where necessary	  
	▪ Signage ❑ Contemporary	<ul style="list-style-type: none">– Metal– Hardwood– Concrete	<ul style="list-style-type: none">– To follow Signage and Advertisement Design Guideline Putrajaya	<ul style="list-style-type: none">– Entrance– Play areas	 

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
❑ School	▪ Fences, Railings and Barriers ❑ Formal ❑ Natural	– Planting – Metal – Hardwood	– To follow Fencing Design Guideline Putrajaya	– Entrance – Play areas – Boundary	
	▪ Planting ❑ Formal	– Tree – Palm – Shrub – Groundcover – Turfing	– Able to provide shade – Non-poisonous species – Attractive	– All green areas	
	▪ Irrigation Strategy	– Pipe reticulation from PHB and/or trucking			
❑ Gas pipe reserve	▪ Planting ❑ Formal	– Tree – Palm – Shrub	– Non-poisonous species	– Reserved areas	
❑ Roadside	▪ Paving, walls and steps ❑ Formal ❑ Contemporary	❑ Paving / Step – Clay brick – Concrete – Interlocking paver etc.	– Anti slippery surface – Max. gradient 8% – Max. Gradient for super elevation 2%	– Roadside	
		❑ Wall – Key stone – Concrete – Granite stone etc.	– Harmonize with surrounding environment	– Slope areas	
	▪ Site Furniture ❑ Contemporary	– Hardwood – Masonry – Metal	– Vandalism proof – Safe – Attractive	– Junction	

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Roadside	Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Robust <input type="checkbox"/> Minimal <input type="checkbox"/> Reflect character of adjacent neighbourhood 	<ul style="list-style-type: none"> – Timber – Metal 	<ul style="list-style-type: none"> – Max. height 10m at roadside 	<ul style="list-style-type: none"> – Footpaths – Cycle track – Car park 	
	Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Naturally blend with surrounding 	<ul style="list-style-type: none"> – Road reserve 	
	Signage <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Simple <input type="checkbox"/> Clear 	<ul style="list-style-type: none"> – Masonry – Metal – Hardwood 	<ul style="list-style-type: none"> – Clear – Vandalism proof – To follow Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Junction 	
	Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Shade medium size tree – Palm – Shrub 	<ul style="list-style-type: none"> – Provide ample shade – Hardy Plants – Attractive 	<ul style="list-style-type: none"> – Roadside 	
<input type="checkbox"/> Open space	Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal and contemporary <input type="checkbox"/> Informal and natural <input type="checkbox"/> Robust 	Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Grasscrete etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Durable – Accessible for disable 	<ul style="list-style-type: none"> – Open space – Plaza – Roadside 	
		Wall <ul style="list-style-type: none"> – Key stone – Facing brick – Concrete – Granite stone etc. 	<ul style="list-style-type: none"> – Visually attractive – Harmonize with surrounding environment 	<ul style="list-style-type: none"> – Slope areas 	
	Site Furniture <ul style="list-style-type: none"> <input type="checkbox"/> Robust <input type="checkbox"/> Contemporary <input type="checkbox"/> Decorative 	<ul style="list-style-type: none"> – Hardwood timber – Concrete – Metal 	<ul style="list-style-type: none"> – Vandalism proof – Durable – Safe 	<ul style="list-style-type: none"> – Open space – Plaza – Roadside 	

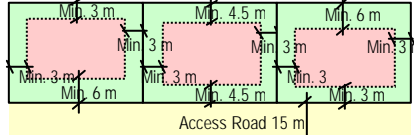
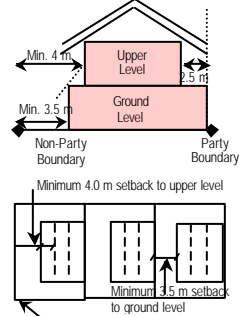
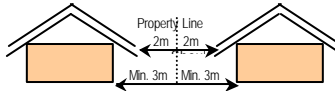
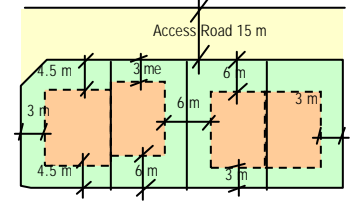
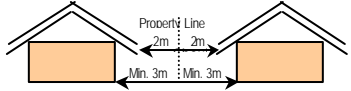
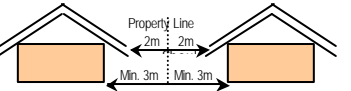
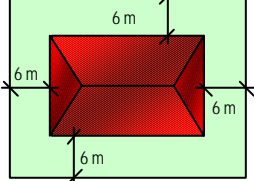
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Open space	Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Robust <input type="checkbox"/> Decorative 	<ul style="list-style-type: none"> – Hardwood timber – Metal – Fiberglass 	<ul style="list-style-type: none"> – Max. height compound lighting 4m – Anti-corrosion finishes – Durable 	<ul style="list-style-type: none"> – Plaza – Open space – Road side 	
	Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Naturally blend with surrounding 	<ul style="list-style-type: none"> – Open space – plaza 	
	Structures and Shelters <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Simple <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Timber – Concrete – Metal 	<ul style="list-style-type: none"> – Sustainable design – Proportion to surrounding scale – Durable 	<ul style="list-style-type: none"> – Open space – Plaza 	
	Play feature <ul style="list-style-type: none"> <input type="checkbox"/> Robust <input type="checkbox"/> Colorful <input type="checkbox"/> Safe 	<ul style="list-style-type: none"> – Timber – Rubber matting – Metal 	<ul style="list-style-type: none"> – Conform to SIRIM standard – Safe – Attractive 	<ul style="list-style-type: none"> – Open space – Plaza 	
	Sport feature <ul style="list-style-type: none"> <input type="checkbox"/> Robust <input type="checkbox"/> Colorful <input type="checkbox"/> Safe 	<ul style="list-style-type: none"> – Timber – Rubber matting – Concrete 	<ul style="list-style-type: none"> – Durable – Safe 	<ul style="list-style-type: none"> – Open space 	
	Signage <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Masonry – Metal 	<ul style="list-style-type: none"> – As per Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Entrance – Junction – Pedestrian – Sport areas 	
	Water feature <ul style="list-style-type: none"> <input type="checkbox"/> Naturalistic <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> – Rock, Natural – Tile finish – Metal sculpture – Concrete sculpture 	<ul style="list-style-type: none"> – Safe – Attractive 	<ul style="list-style-type: none"> – Entrance – Open space – Plaza 	
	Irrigation Strategy	<ul style="list-style-type: none"> – Pipe reticulation from pond and supported by trucking or tap from JBA main 			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div> <div>Office, Market and Putrajaya Service Centre</div> </div>	<div> <div>Paving / Step, Wall</div> <div> <div>Formal</div> <div>Geometric</div> </div> </div>	<div> <div>Paving/Step</div> <div> <div>Clay brick</div> <div>Concrete</div> <div>Interlocking block etc</div> </div> </div>	<div> <div>Anti-Slippery surface</div> <div>Max. gradient 8%</div> <div>Durable</div> </div>	<div> <div>Plaza</div> </div>	<div>    </div>
		<div> <div>Wall</div> <div> <div>Key stone</div> <div>Facing brick finish</div> <div>Concrete finish etc.</div> </div> </div>	<div> <div>Harmonize with surrounding structure</div> </div>	<div> <div>Slope areas</div> </div>	<div>   </div>
	<div> <div>Site Furniture</div> <div> <div>Contemporary</div> <div>Hi-tech</div> </div> </div>	<div> <div>Hardwood</div> <div>Metal</div> <div>Concrete</div> </div>	<div> <div>Vandalism proof</div> <div>Durable</div> <div>Functional</div> <div>Safe</div> </div>	<div> <div>Pocket space</div> <div>Plaza</div> <div>Roadside</div> </div>	<div>     </div>
	<div> <div>Lighting</div> <div> <div>Contemporary</div> <div>Hi-tech</div> </div> </div>	<div> <div>Concrete</div> <div>Metal</div> <div>Masonry</div> </div>	<div> <div>Max. height 4m at open areas</div> <div>Max. height 10m at roadside</div> </div>	<div> <div>Bollard at pedestrian entrance</div> <div>Plaza</div> <div>Roadside</div> </div>	<div>  </div>
	<div> <div>Drainage</div> <div> <div>Swales/Natural drain</div> <div>Concealed drains</div> </div> </div>	<div> <div>Culvert</div> <div>Concrete</div> <div>Drain cover on walkway to follow walkway 's material</div> </div>	<div> <div>Harmonious with surrounding design</div> </div>	<div> <div>Plaza</div> <div>Open space</div> </div>	<div>    </div>
	<div> <div>Structures and Shelter</div> <div> <div>Informal</div> <div>Vernacular</div> </div> </div>	<div> <div>Hardwood</div> <div>Concrete</div> <div>Masonry</div> <div>Metal</div> </div>	<div> <div>To blend harmoniously with surrounding structure</div> <div>Durable</div> <div>Functional</div> </div>	<div> <div>Plaza</div> <div>Open space</div> </div>	<div>   </div>

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Office, Market, and Putrajaya Service Centre	<input type="checkbox"/> Signage <ul style="list-style-type: none"><input type="checkbox"/> Formal<input type="checkbox"/> Informal	<ul style="list-style-type: none">– Metal	<ul style="list-style-type: none">– To following Signage and Advertisement Design Guideline Putrajaya	<ul style="list-style-type: none">– Plaza– Open space– Pedestrian walkway– Bicycle track	 
	<input type="checkbox"/> Fences, Gate and Berries <ul style="list-style-type: none"><input type="checkbox"/> Contemporary<input type="checkbox"/> Formal<input type="checkbox"/> Informal	<ul style="list-style-type: none">– Engraved stone– Metal	<ul style="list-style-type: none">– To suit architecture design– To blend naturally with surrounding environment– To follow Fencing Design Guideline Putrajaya	<ul style="list-style-type: none">– Entrance– Boundary demarcation	 
	<input type="checkbox"/> Water features <ul style="list-style-type: none"><input type="checkbox"/> Contemporary<input type="checkbox"/> Formal<input type="checkbox"/> Hi-tech	<ul style="list-style-type: none">– Stone– Concrete– Metal	<ul style="list-style-type: none">– Safe– Attractive– Clean	<ul style="list-style-type: none">– Entrance– Plaza– Open space	    
	<input type="checkbox"/> Irrigation Strategy	Pipe reticulation from PHB and/or trucking			
<input type="checkbox"/> Buffer	<input type="checkbox"/> Planting <ul style="list-style-type: none"><input type="checkbox"/> Natural<input type="checkbox"/> Informal	<ul style="list-style-type: none">– Palm– Shrub– Forest species– Medium trees	<ul style="list-style-type: none">– Able to Screen– Safe– Attractive	<ul style="list-style-type: none">– Along Roadside– Public utilities boundary– Between TNB-Turbine area and Housing area	  

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<div><div>(i)</div><div>The layout plan must demonstrate that the following elements are addressed in the design:<ul style="list-style-type: none">Development appropriate to topographical featuresAppropriate building orientation with respect to the sunAppropriate pedestrian and vehicular access systemsSite infrastructure systems are designed in a manner which enhances site development</div></div> <div><div>(ii)</div><div>Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</div></div> <div><div>(iii)</div><div>Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</div></div> <div><div>(iv)</div><div>Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</div></div> <div><div>(v)</div><div>Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</div></div> <div><div>(vi)</div><div>Illustrate that the site will be developed in a logical sequence</div></div> <div><div>(vii)</div><div>The layout plan should illustrate that the form of development effectively contributes to the Planning Block's sense of place and amenity with the context of Putrajaya</div></div> <div><div>(viii)</div><div>The location of schools and tadika should:<ul style="list-style-type: none">Be in a highly accessible position for the communityMinimise the introduction of non-local traffic into minor residential streetsProvide safe and convenient pedestrian and cycle access to residential areas</div></div>	<div><div>(i)</div><div>Avoid monotonous building designs – provide a range of housing types to meet different lifestyle choices, diversity in the marketplace and opportunity for an interesting street frontage</div></div> <div><div>(ii)</div><div>Ensure that buildings are designed to respect the topographical features of the site ,eg buildings should step with steeper sites – do not cut substantial benches into steep land</div></div> <div><div>(iii)</div><div>Building design should respect the amenity of adjoining and adjacent buildings and their residents</div></div> <div><div>(iv)</div><div>Building design should interpret local image and character with new materials that are energy efficient</div></div> <div><div>(v)</div><div>Building facades should be designed to accommodate a tropical environment</div></div> <div><div>(vi)</div><div>Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</div></div> <div><div>(vii)</div><div>While diversity is sought in building design, buildings should be designed with a common theme that provides a linkage to the style and nature of the development area</div></div> <div><div>(viii)</div><div>Building design should ensure good living environments for residents that do not adversely impact on neighbours</div></div> <div><div>(ix)</div><div>The building design should incorporate landscaping that contributes to a pleasant and safe environment and integrates well with the streetscape and adjoining open space areas</div></div> <div><div>(x)</div><div>For school buildings:<ul style="list-style-type: none">Building design should be of a character that responds to the tropical environment and does not adversely impact on adjacent buildingsVehicle parking and pick up/set down areas should be designed and located to minimise impact on adjacent dwellings</div></div> <div><div>(xi)</div><div>Building and landscape design in the neighbourhood centre should reinforce Putrajaya's tropical character</div></div> <div><div>(xii)</div><div>Building fenestration should be used to:<ul style="list-style-type: none">Shade buildingsReduce glareAssist in maintaining comfortable indoor temperaturesMinimise cooling loadsConserve energyEnrich the tropical characterProvide texture to building facades</div></div> <div><div>(xiii)</div><div>The architectural treatment of facades and elevations avoids large blank walls – sheer walls will not be supported by PPJ</div></div> <div><div>(xiv)</div><div>Important vistas to, from and through the neighbourhood centre are maintained and enhanced</div></div> <div><div>(xv)</div><div>Pedestrian places:<ul style="list-style-type: none">Are designed and constructed to reinforce the character of the neighbourhood centreProvide safe, convenient and comfortable movement for pedestrians and cyclistsEnhance vistas and streetscapesCan accommodate outdoor dining providing pedestrian flow is not impededProvide safe access to public transport and parking facilities</div></div>	<div><div>(i)</div><div>Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines</div></div> <div><div>(ii)</div><div>Habitable spaces above ground level should not directly overlook dwellings on adjacent land</div></div> <div><div>(iii)</div><div>Ground floor levels must be responsive to pedestrian footpaths and continuity and flow between buildings</div></div> <div><div>(iv)</div><div>Building design does not significantly reduce daylight to open space and habitable rooms in adjacent development</div></div> <div><div>(v)</div><div>Roof pitch should be designed to meet local environmental requirements</div></div> <div><div>(vi)</div><div>Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</div></div> <div><div>(vii)</div><div>Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect</div></div> <div><div>(viii)</div><div>The design of free standing buildings should be sympathetic with adjoining buildings, yet provide for local identity and character</div></div> <div><div>(ix)</div><div>Setbacks at ground level should provide for:<ul style="list-style-type: none">Connection between footpaths and public spacesSpace for convenient and comfortable movement of pedestriansStanding areas bus stops, taxi ranks and display windowsQueuing of patrons for entertainment facilitiesStreet gradient</div></div> <div><div>(x)</div><div>Openings and setbacks are used to articulate vertical building surfaces and contribute positively to the centre's streetscape</div></div>	<div><div>1.</div><div>Building colours should harmonise with the predominant colours of the surrounding area</div></div> <div><div>2.</div><div>Use of earth tones shall be encouraged</div></div> <div><div>3.</div><div>Brighter colours for specific building types will be subject to the approval of PPJ</div></div>	<div><div>(i)</div><div>Privacy and visual controls – overlooking to be controlled by appropriate orientation of windows and use of splay windows</div></div> <div><div>(ii)</div><div>Air conditioning equipment – all equipment should be contained in compartments that are designed as an integral component of the building to ensure the equipment is hidden from view</div></div> <div><div>(iii)</div><div>Drying yards – building design should incorporate appropriate design for drying areas that allows for natural ventilation and light while ensuring they are hidden from public view</div></div> <div><div>(iv)</div><div>Aerials and satellite dishes – in high rise buildings or multiple tenancy commercial buildings, a central reception system is to be incorporated in to the building design. On all other buildings, aerials and satellite dishes shall be located to avoid adverse impact on the amenity of adjoining buildings</div></div> <div><div>(v)</div><div>Service ducting shall not be exposed on the external surfaces of buildings</div></div> <div><div>(vi)</div><div>Carports and garages should:<ul style="list-style-type: none">Be designed to integrate with the design of associated buildingsNot diminish the attractiveness of the streetscapeNot visually dominate views of the house from the street</div></div> <div><div>(vii)</div><div>Dwellings with green frontage must address that frontage with habitable spaces and not service areas only</div></div> <div><div>(viii)</div><div>Dwelling design must provide sufficient outdoor open space that can act as an extension of the dwelling for relaxation, entertainment, recreation and children's play purposes</div></div> <div><div>(ix)</div><div>The design of schools and tadika should:<ul style="list-style-type: none">Ensure that the playground is visually interesting and environmentally safe for childrenThe play area is protected from on site and off site hazardsThe play area has adequate shade and shelter areasThe landscaping assist the educational role of the facilityBe reasonably compatible in appearance and scale with nearby buildingsInclude appropriate screening and buffering that maintains or improves the amenity of adjoining uses</div></div> <div><div>(x)</div><div>No building should incorporate reflective glass surfaces that could create undue nuisance, discomfort or hazard to any part of the neighbourhood centre or surrounding locality</div></div> <div><div>(xi)</div><div>The design of neighbourhood centre buildings should have strong regard for:<ul style="list-style-type: none">The tropical nature of the environment and the opportunity for outdoor living and activitiesThe impact of the sun and associated shadows – shaded areas should be designed for use around lunch times and onwardsThe effects of wind and rain need to be accommodated in the design of the buildings</div></div> <div><div>(xii)</div><div>Service station design shall:<ul style="list-style-type: none">Ensure safety, minimise pollution and maintain visual amenityBe reasonably compatible in appearance and scale with nearby buildingsInclude appropriate screening and buffering that maintains or improves the amenity of adjoining usesEnsure that no noise emissions or vibrations from the site cause a nuisance to nearby residents</div></div>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 10 (PB 10)

MAIN LAND USES:	BUNGALOWS	SEMI-DETACHED HOUSES	TERRACE HOUSES	TADIKA	WATER PUMP STATION	OTHER RELIGIOUS
(i) Density	▪ 6-12 Units/Acre	▪ 12 – 18 Units/Acre	▪ 20 Units/Acre	▪ One in PB10 ▪ Maximum Plint Area : 30%	▪ One in PB10	▪ One in PB10 ▪ Maximum Plint Area 50%
(ii) Composition	▪ High Cost	▪ Government	▪ 3% Government			
(iii) Minimum Lot size	▪ 418m2	▪ 300 m2	▪ 130 m2	▪ 0.50 acre	▪ 0.50 ha	▪ Minimum 0.6 ha
(iv) Height	▪ 2 levels on flat or gently sloping land, 3 levels on steeply sloping land	▪ 2 levels on flat or gently sloping land ▪ 3 levels on steep land	▪ 2 levels on flat or gently sloping land	▪ 2 storey (max)	▪ N/A	▪ 1 storey (max)
(v) Setbacks:	<ul style="list-style-type: none"> Front/Rear setbacks <ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Front setback – min. 3.0 metres Rear setback – min. 3.0 metres  Non-Party/side boundary <ul style="list-style-type: none"> Minimum 3 metres  Street Frontage <ul style="list-style-type: none"> Minimum 3 metres Setback Between Roofs' Eaves <ul style="list-style-type: none"> Minimum 2 metres  Car Park <ul style="list-style-type: none"> Min. 2 cps on site CPS to be clear of min. front setback. 	<ul style="list-style-type: none"> Front/Rear setbacks <ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Front setback – Minimum 3 metres Rear setback – Minimum 3 metres  Non-Party/side boundary <ul style="list-style-type: none"> Minimum 3 metres Street Frontage <ul style="list-style-type: none"> Minimum 3 metres Setback Between Roofs' Eaves <ul style="list-style-type: none"> Minimum 2 metres  Car Park <ul style="list-style-type: none"> Min. 2 cps on site CPS to be clear of min. front setback. 	<ul style="list-style-type: none"> Front/Rear setbacks <ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Front setback – min. 3.0 metres Rear setback – min. 3.0 metres Variation in setbacks is permissible only for blocks and not individual houses Non-Party/side boundary <ul style="list-style-type: none"> Where applicable – Minimum 3 metres Street Frontage <ul style="list-style-type: none"> Side setback to 15 metres road, for roads with 3 metres green buffer Side setback to 15 metres road, without 3 metres buffer  Car Park <ul style="list-style-type: none"> Min. 2 cps on site CPS to be clear of min. front setback. 	<ul style="list-style-type: none"> Front/Rear setbacks <ul style="list-style-type: none"> Front – Minimum 6 metres Rear – Minimum 6 metres  Non-Party/side boundary <ul style="list-style-type: none"> Minimum 6 metres Street Frontage <ul style="list-style-type: none"> Setback from access road – 12m (min) Car Park <ul style="list-style-type: none"> 1 cps per 500 sq ft floorspace 1 cps : 4 staffs min. 3 car length for pick up & drop off point 	<ul style="list-style-type: none"> Front/Rear setbacks <ul style="list-style-type: none"> Front – Minimum 6 metres Rear – Minimum 6 metres Non-Party/side boundary <ul style="list-style-type: none"> Minimum 6 metres Street Frontage <ul style="list-style-type: none"> Setback from access road – 12m (min) Car Park <ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Front/Rear setbacks <ul style="list-style-type: none"> Front – Minimum 6 metres Rear – Minimum 6 metres Non-Party/side boundary <ul style="list-style-type: none"> Minimum 6 metres Street Frontage <ul style="list-style-type: none"> Setback from access road – 12m (min) Car Park <ul style="list-style-type: none"> 1 cps/100m² of net floor space 1 CPS : 75 GFA (m²) 1 MPS : 150 GFA Min 1 bicycle rack Min 2 handicapped parking space

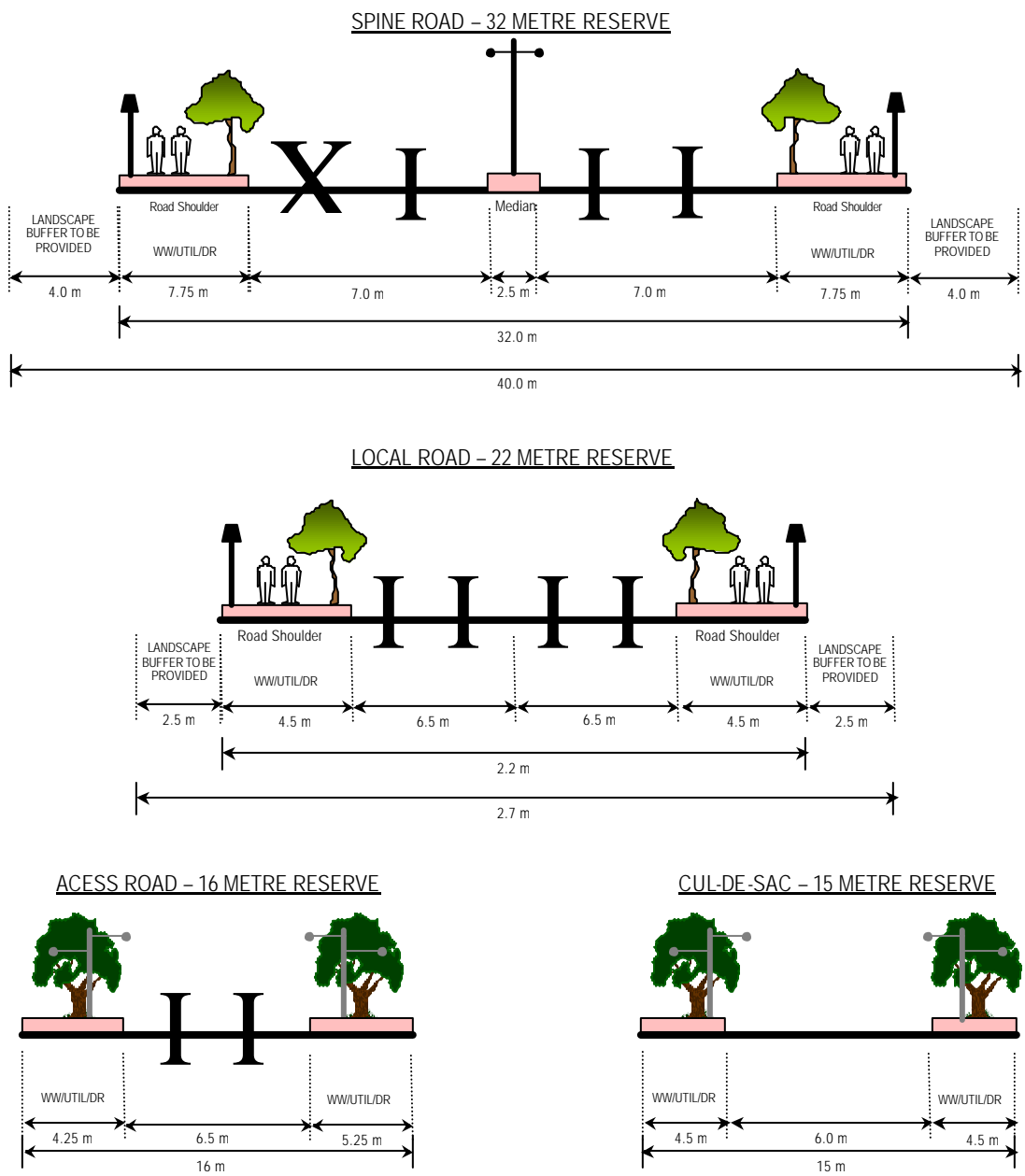
MAIN LAND USES:	BUNGALOWS	SEMI-DETACHED HOUSES	TERRACE HOUSES	TADIKA	WATER PUMP STATION	OTHER RELIGIOUS
(vi) Fencing As per the Fencing Design Guidelines Manual, Volume 1 and Volume 2, chapter 1, 2 and 3	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, Chapter 4, page 32	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 5	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 2 and 6	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 11	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 15	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 13.
(vii) Layout Plan	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses.	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses.	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses	<ul style="list-style-type: none">Layout plans to show the design concept including:<ul style="list-style-type: none">Total gross net areas of indoor play, outdoor play, roofed shade and other outdoor shade areas.Service areas to be aesthetically screened.Site car parking to be clearly indicated.Site car parking to be landscaped.Min 2m landscaped buffer between car parking spaces and any boundary.Initiate stacked outdoor play areas, carparking.Indicate set-down/pick-up areas to be visible from road and must be covered.Indicate pedestrian access to/from the site and connection to surrounding pedestrian pathways.Where boundaries are not residential dwellings, carefully locate potentially noisy activities to minimise impacts.Show appropriate screening that protects the amenity of abutting residential uses.	<ul style="list-style-type: none">Layout plan to show the design concept including:<ul style="list-style-type: none">Location of all key facilities.Location of car parking spacesLocation of screening devices to minimise impact of noise producing machinery.Effective screening to abutting residential uses.	

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION																					
ROAD NETWORK AND DESIGN STANDARD																					
<div><div>(i) Network Type</div><div><div><div>▪ Spine Road - 32 metres reserve</div><div>▪ Local Road - 22 metres reserve</div><div>▪ Access Road - 16 metres reserve</div><div>▪ Cul-De-Sac - 15 metres reserve</div></div><div><div><div><div>16 metres</div><div>30 metres X 30 metres</div></div><div><div>16 metres</div><div>Radius - 15 metres</div></div></div></div></div><div><div>(ii) Road Capacity</div><div><div>▪ Spine Road - 1000 pcu/hr/lane</div><div>▪ Local Road - 700 pcu/hr/lane</div></div></div><div><div>(iii) Junction Control Criteria</div><table><tr><th rowspan="2">Junction Control</th><th colspan="2">Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)</th></tr><tr><th>Spine Road</th><th>Local Road</th></tr><tr><td>Stop Control</td><td>up to 1500</td><td>up to 1500</td></tr><tr><td>Traffic Signal</td><td>Up to 4500</td><td>Generally not required</td></tr><tr><td>Grade Separation</td><td>Generally not required</td><td>Generally not required</td></tr></table></div><div><div>(iv) Visibility Standards for Priority Junction</div><div><div>▪ Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given</div></div></div><div><div>(v) Transport Design Guide for Putrajaya</div><div><div>▪ Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)</div></div></div></div>	Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)		Spine Road	Local Road	Stop Control	up to 1500	up to 1500	Traffic Signal	Up to 4500	Generally not required	Grade Separation	Generally not required	Generally not required	<div><div><div><div><div><div>PB11</div><div>Junction Control 10</div></div><div><div>PB12</div><div>Junction Control 27</div></div><div><div>PB9</div><div>Junction Control 11</div></div></div><div><div>PB 10</div></div></div><div>Planning Block 10 (PB 10) - Key Plan</div><div><div><div><div>LOCAL ROAD</div><div>LOCAL ROAD</div><div>SPINE ROAD</div></div><div><div>LOCAL ROAD</div><div>LOCAL ROAD</div><div>SPINE ROAD</div></div></div><div>Junction Control at 11</div><div><div><div><div>LOCAL ROAD</div><div>LOCAL ROAD</div><div>SPINE ROAD</div></div><div><div>LOCAL ROAD</div><div>LOCAL ROAD</div><div>SPINE ROAD</div></div></div><div>Junction Control at 10</div><div><div><div><div>LOCAL ROAD</div><div>LOCAL ROAD</div><div>SPINE ROAD</div></div><div><div>LOCAL ROAD</div><div>LOCAL ROAD</div><div>SPINE ROAD</div></div></div><div>Junction Control at 27</div></div><div><div>Visibility Standards for Priority Junction</div><div><div><div>Major Road Distance 'Y'</div><div>Major Road Distance 'X'</div></div><div><div>Minor Road Distance 'X'</div></div><div>Area of unobstructed visibility (visibility splay), taken from eye level of 1.05 metre</div><div><div><div>Minor Road Distance 'X' (metre)</div><div>Major Road Distance 'X' (metre)</div><div>Speed Limit (KPH)</div></div><div><div><div>9.0 metre most situations</div><div>4.5 metre an absolute minimum on lightly trafficked roads (< 200 vph)</div></div><table><tr><td>120</td><td>90</td><td>45</td></tr><tr><td>60</td><td>50</td><td>40</td></tr></table></div></div></div></div></div></div></div></div>	120	90	45	60	50	40
Junction Control		Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)																			
	Spine Road	Local Road																			
Stop Control	up to 1500	up to 1500																			
Traffic Signal	Up to 4500	Generally not required																			
Grade Separation	Generally not required	Generally not required																			
120	90	45																			
60	50	40																			

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

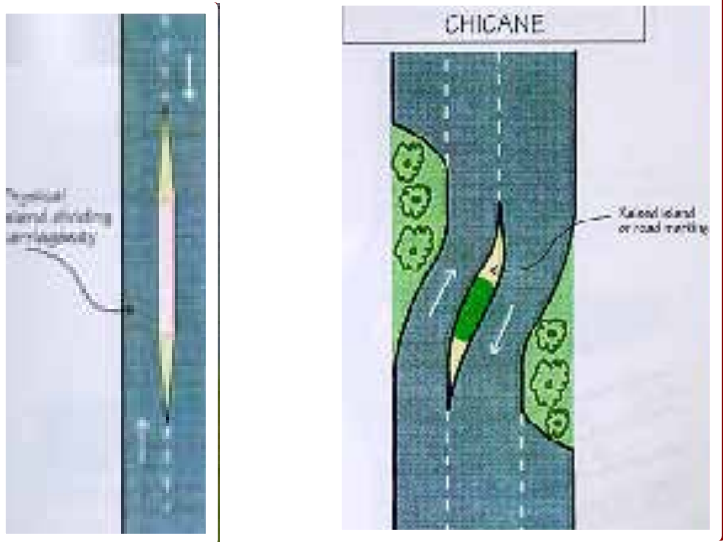
(v) Typical Road Cross Section



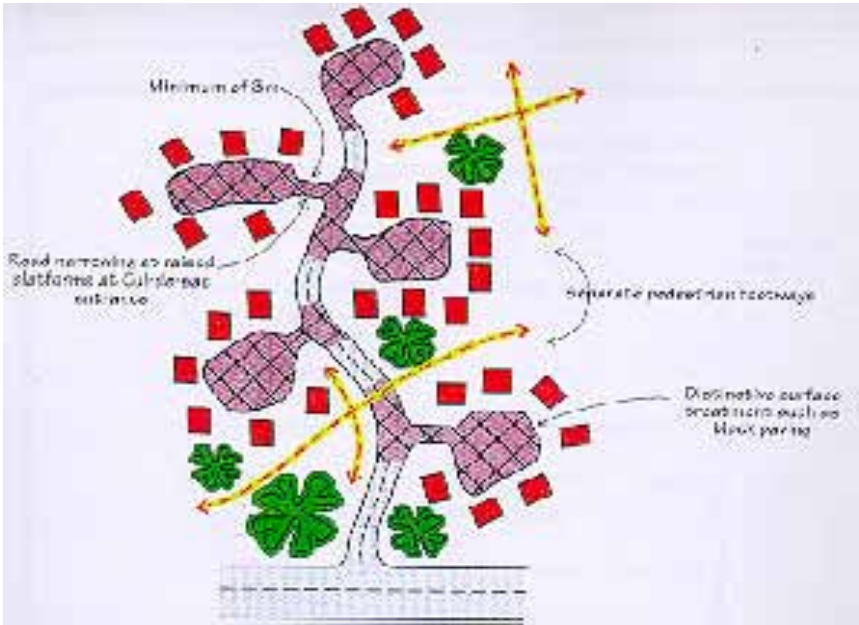
- Note:
- WW/UTIL/DR : Common pedestrians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 15 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 15 metre

(iv) Traffic Calming

- Use Chicanes and dividers along local distributor



- The road naming at junction leading form local distributor roads into access roads.



PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

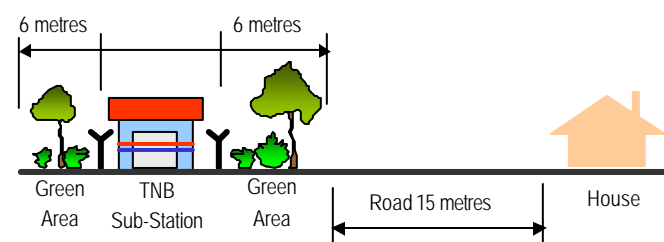
UTILITIES

(i) Environment

- The detailed platform levels shall be determined at the D.0 approval stage
- All earthworks must comply with the Environmental Management Guidelines of Putrajaya and Earthwork By-Laws (Perbadanan Putrajaya 1996)

(ii) Electricity

- The electricity supply for PB10 is mostly used for residential which are approximately 90% of the total Electrical Energy required.
- Provision of adequate numbers of 33KV Main Distribution Station (MDS) to be supported by a series of 11 KV Sub-Stations (Single & Double Chambers) and feeder pillars at strategic locations to comply with the electricity provider's (TNB) requirement.
- Feeder pillars along public roads and areas shall have all doors to open away from road and public view.
- Electrical cabling network for overall development of PB10 shall consist of 33KV, 11KV and 415V distribution network systems.
- The electrical cabling network system shall be placed along the utility reserves to conform to the no dig policy. All electrical cabling shall be of the underground system.
- Sub-Station: shall have a minimum 6 metres setback on all sides to the nearest residential building. These shall be extensively landscaped.
- Fencing of utility buildings shall abide by Fencing Design Guidelines-Vol 2, Chap. 15 pg 132

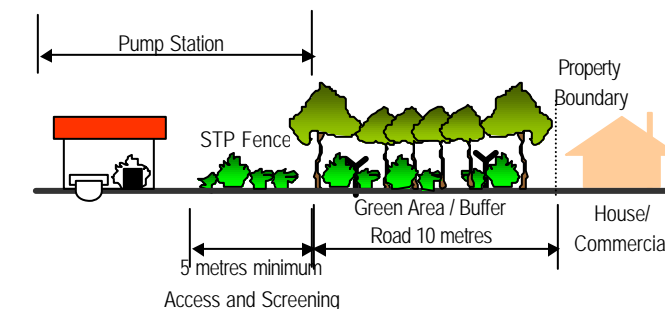


(iii) Drainage

- Drainage to the site shall be provided in terms of collection, conveyance and retention of flow from the site.
- Gross Pollutant Traps to be provided at the outlet of discharge points.
- The drainage design shall comply with the Putrajaya Stormwater Management Design Guidelines (1998), Drainage Masterplan Study Report for Putrajaya (1996) and Urban Stormwater Management Manual for Malaysia (JPS, 2000)


(iv) Sewerage

- A network of gravity sewer reticulation to collect sewage from the precinct. (Level 3 works.)
- From these reticulation networks, sewage will be discharged into the centralized trunk sewer system of Putrajaya (Level 1 & 2 works) at appropriate points.
- The trunk sewers will terminate at two pump-stations. These two pump stations are PS1 in Precinct 9 and PS9 (Levels 1 & 2 works) located at the south of precinct 11, next to Road R3.
- From PS1 and PS9, sewage will be conveyed via the centralized trunk sewer system to STP2 for treatment. However, STP2 is not scheduled to be ready until Year 2003. In the interim, sewage discharge will be temporary directed to the sewage switching station PS5 for onward conveyance to STP1 for treatment until the completion of STP2.
- The buffer for a closed STP shall be 10 m to the nearest property boundary.
- The buffer for an open STP system shall be 30 m to the nearest property boundary.




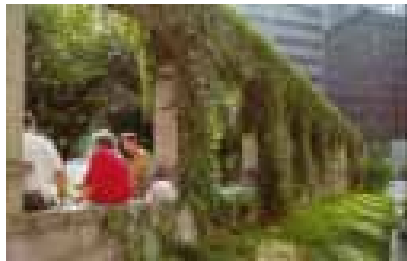



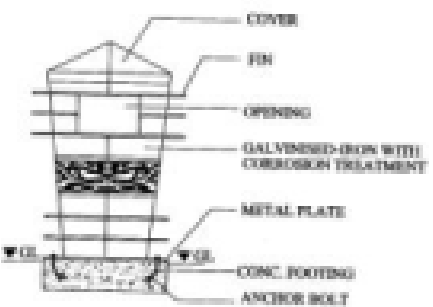
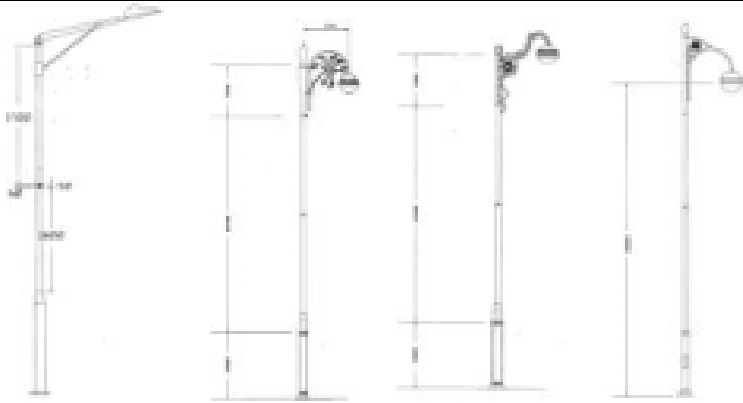


(v) Gas





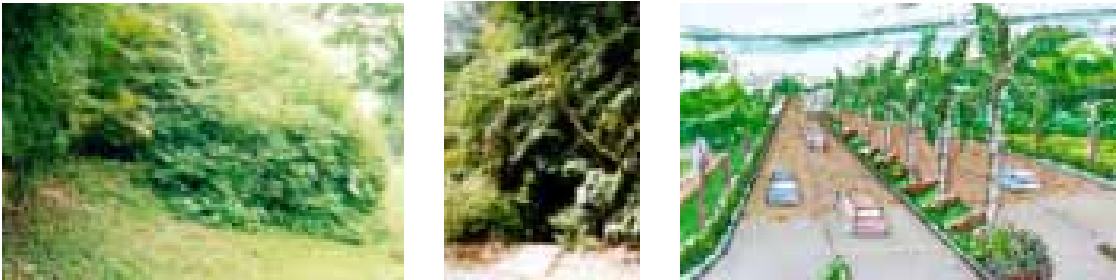
- The gas supply for PB10 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB10 will be served from a District Gas Station located at Precinct 9 through a medium pressure gas pipeline.
- Provisions of 4 nos. of area Gas Station are allocated within the Precinct 11 development to cater for the projected gas loading requirements, with total area reserve of 1.13 acres.
- Low-pressure gas pipeline reticulation from the Area Gas Station is planned to serve the gas requirements for the residential, commercial and other amenities.
- Safety provision for construction within the vicinity.
- (For details of Gas Pipeline Reserve Design refer Appendix 1)

PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES	
UTILITIES	
<div><p>(vi) Waste Disposal</p><ul style="list-style-type: none">▪ Solid waste management in PB10 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.▪ Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to be further separated at source into containers and fiber materials.▪ The sensitivity of the site in terms of waste management relates to the operational requirements of Precinct 11, which require that no burial of material is undertaken during the construction phase.▪ In addition to control odour nuisance to any sensitive receptors biodegradable waste cannot be left at the site for extended periods.▪ The waste management shall comply with Urban Design Guidelines and Environmental Guidelines for Putrajaya.▪ For low rise residential, refuse chamber is to be placed in front of the house, either left or right of the driveway and near to main road for the ease of mechanical collection. The estimated generation of solid waste is 5kg/unit/day.▪ For non-residential building, refuse chamber center can be built at the ground floor / basement or apart from the main building. The estimated generation of solid waste for recreation park/public transport stop station are 0.2 kg/visitor, 300L/1000m²(gross floor area) for shopping complex and 500L/1000m²(gross floor area) for restaurant.▪ Access road must be constructed for the ease of mechanical collection and public use. Obstructions to any collection vehicle's access must be disallowed at all time.</div> <div></div>	<div><p>(vii) Water Supply</p><ul style="list-style-type: none">▪ Water supply to PB10 shall be consistent with the provision of water supply master plan for Putrajaya.▪ Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989).</div>

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Landed)	<input type="checkbox"/> Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Interlocking block etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Durable 	<ul style="list-style-type: none"> – Building compound 	
		<input type="checkbox"/> Walls <ul style="list-style-type: none"> – Key stone – Concrete – Fencing brick etc. 	<ul style="list-style-type: none"> – Harmonize with surrounding 	<ul style="list-style-type: none"> – Building compound 	
	<input type="checkbox"/> Fence, Gate and Barrier <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Traditional 	<ul style="list-style-type: none"> – Hardwood – Metal – Masonry 	<ul style="list-style-type: none"> – To follow Fencing Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Boundary line 	
	<input type="checkbox"/> Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Informal <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Hardwood – Metal – Concrete 	<ul style="list-style-type: none"> – Durable – Attractive – Safe 	<ul style="list-style-type: none"> – Building compound 	
	<input type="checkbox"/> Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Concealed drains 	<ul style="list-style-type: none"> – Building lot 	
	<input type="checkbox"/> Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Tree – Palm – Shrub – Groundcover 	<ul style="list-style-type: none"> – Non-poisonous species – Strong branch – Medium size 	<ul style="list-style-type: none"> – Building compound 	
	<input type="checkbox"/> Irrigation Strategy	<ul style="list-style-type: none"> – Tap from storage tank or JBA main or tap from JBA main 			

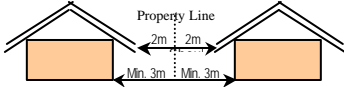
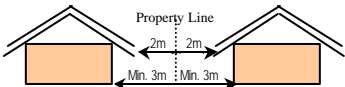
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Gas pipe reserve	<input type="checkbox"/> Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Tree – Palm – Shrub 	<ul style="list-style-type: none"> – Non-poisonous species 	<ul style="list-style-type: none"> – Reserved areas 	
<input type="checkbox"/> Roadside	<input type="checkbox"/> Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Interlocking paver etc. 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Max. Gradient for super elevation 2% 	<ul style="list-style-type: none"> – Roadside 	 
		<input type="checkbox"/> Wall <ul style="list-style-type: none"> – Key stone – Concrete – Granite stone etc. 	<ul style="list-style-type: none"> – Harmonize with surrounding environment 	<ul style="list-style-type: none"> – Slope areas 	  
	<input type="checkbox"/> Site Furniture <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> – Hardwood – Masonry – Metal 	<ul style="list-style-type: none"> – Vandalism proof – Safe – Attractive 	<ul style="list-style-type: none"> – Junction 	 
	<input type="checkbox"/> Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Robust <input type="checkbox"/> Minimal <input type="checkbox"/> Reflect character of adjacent neighbourhood 	<ul style="list-style-type: none"> – Timber – Metal 	<ul style="list-style-type: none"> – Max. height 10m 	<ul style="list-style-type: none"> – Footpaths – Cycle track – Car park 	


P U T R A J A Y A P R E C I N C T 11 L O C A L P L A N

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Roadside	<input checked="" type="checkbox"/> Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Naturally blend with surrounding 	<ul style="list-style-type: none"> – Open space – plaza 	 
	<input checked="" type="checkbox"/> Signage <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Simple <input type="checkbox"/> Clear 	<ul style="list-style-type: none"> – Masonry – Metal – Hardwood 	<ul style="list-style-type: none"> – Clear – Vandalism proof – To follow Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Junction 	
	<input checked="" type="checkbox"/> Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Shade medium size tree – Palm – Shrub 	<ul style="list-style-type: none"> – Provide ample shade – Hardy Plants – Attractive 	<ul style="list-style-type: none"> – Roadside 	
<input type="checkbox"/> Buffer	<input checked="" type="checkbox"/> Planting <ul style="list-style-type: none"> <input type="checkbox"/> Natural <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Palm – Shrub – Forest species – Medium trees 	<ul style="list-style-type: none"> – Able to Screen – Safe – Attractive 	<ul style="list-style-type: none"> – Along Roadside – Public utilities boundary – Between TNB-Turbine area and Housing area 	

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<p>(i) The layout plan must demonstrate that the following elements are addressed in the design:</p> <ul style="list-style-type: none"> Development appropriate to topographical features Appropriate building orientation with respect to the sun Appropriate pedestrian and vehicular access systems Site infrastructure systems are designed in a manner which enhances site development <p>(ii) Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</p> <p>(iii) Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</p> <p>(iv) Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</p> <p>(v) Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</p> <p>(vi) Illustrate that the site will be developed in a logical sequence</p> <p>(vii) The layout plan should illustrate that the form of development effectively contributes to the Planning Block's sense of place and amenity with the context of Putrajaya</p>	<p>(i) Avoid monotonous building designs – provide a range of housing types to meet different lifestyle choices, diversity in the marketplace and opportunity for an interesting street frontage</p> <p>(ii) Ensure that buildings are designed to respect the topographical features of the site ,eg buildings should step with steeper sites – do not cut substantial benches into steep land</p> <p>(iii) Building design should respect the amenity of adjoining and adjacent buildings and their residents</p> <p>(iv) Building design should interpret local image and character with new materials that are energy efficient</p> <p>(v) Building facades should be designed to accommodate a tropical environment</p> <p>(vi) Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</p> <p>(vii) While diversity is sought in building design, buildings should be designed with a common theme that provides a linkage to the style and nature of the development area</p> <p>(viii) Building design should ensure good living environments for residents that do not adversely impact on neighbours</p> <p>(ix) The building design should incorporate landscaping that contributes to a pleasant and safe environment and integrates well with the streetscape and adjoining open space areas</p>	<p>(i) Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines, and must comply with the UDG of Precinct 11 and 13.</p> <p>(ii) Spaces on any ground level should not directly overlook dwellings on adjacent land</p> <p>(iii) Ground floor levels must be responsive to pedestrian footpaths and continuity and flow between buildings</p> <p>(iv) Building design does not significantly reduce daylight to open space and habitable rooms in adjacent development</p> <p>(v) Roof pitch and overlay should be designed to meet local environmental requirements</p> <p>(vi) Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</p> <p>(vii) Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect. Any blank wall should be avoided.</p> <p>(viii) The design of free standing buildings should be sympathetic with adjoining buildings, yet provide for local identity and character</p>	<p>(i) Building colours should harmonise with the predominant colours of the surrounding area</p> <p>(ii) Use of earth tones shall be encouraged</p> <p>(iii) Colours for specific building types will be subject to the approval of the Perbadanan. Pastel colours are to be encouraged</p>	<p>(i) Privacy and visual controls – overlooking to be controlled by appropriate orientation of windows and use of splay windows</p> <p>(i) Air conditioning equipment including piping – all equipment should be contained in compartments that are designed as an integral component of the building to ensure the equipment is hidden from view</p> <p>(ii) Drying yards – building design should incorporate appropriate design for drying areas that allows for natural ventilation and light while ensuring they are hidden from public view</p> <p>(iii) Aerials and satellite dishes – the location of aerials and satellite dishes must not impact on the amenity of adjoining buildings</p> <p>(iv) Service ducting shall not be exposed on the external surfaces of buildings</p> <p>(v) Carports and garages should:</p> <ul style="list-style-type: none"> Be designed to integrate with the design of associated buildings Not diminish the attractiveness of the streetscape Not visually dominate views of the house from the street Cover the full length of a car <p>(vi) Dwellings with green frontage must address that frontage with habitable spaces and not service areas only</p> <p>(vii) Dwelling design must provide sufficient outdoor open space that can act as an extension of the dwelling for relaxation, entertainment, recreation and children's play purposes.</p> <p>(viii) For the installations of grills, residents need to abide by the guidelines on the Uniform Design and Installation of Grills for Buildings in Putrajaya (Department of Urban Services, Putrajaya)</p> <p>(ix) Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya.</p>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 11 (PB 11)

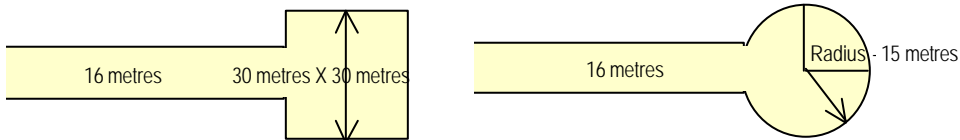
MAIN LAND USES:	SEMI-DETACHED HOUSES	TERRACE HOUSE	SCHOOL COMPLEX	SURAU	MAIN ELECTRIC SUBSTATION
(i) Density	<ul style="list-style-type: none"> 12-18 units/acre 	<ul style="list-style-type: none"> 20 units/acre 	<ul style="list-style-type: none"> One in PB11 Maximum Plint Area : 30% 	<ul style="list-style-type: none"> One in PB11 Maximum Plint Area : 50% 	<ul style="list-style-type: none"> One in PB11
(ii) Composition	<ul style="list-style-type: none"> Goverment 	<ul style="list-style-type: none"> Goverment 			
(iii) Minimum Lot size	<ul style="list-style-type: none"> 300m2 	<ul style="list-style-type: none"> 130m2 	<ul style="list-style-type: none"> 6 hac 	<ul style="list-style-type: none"> 0.2 hac 	<ul style="list-style-type: none"> 0.2 hac
(iv) Height	<ul style="list-style-type: none"> 2 levels on flat or gently sloping land 3 levels on steep land 	<ul style="list-style-type: none"> 2 levels on flat or gently sloping land 	<ul style="list-style-type: none"> Maximum 4 storey 	<ul style="list-style-type: none"> Max. 2 storey 	
(v) Setbacks: <ul style="list-style-type: none"> Front/Rear setbacks Building to building Side boundary Street boundary Setback Between Roofs' Eaves Distance Between Buildings 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Street frontage – min. 3.0 metres Rear setback – min. 3.0 metres N/A Minimum 3 metres Side setback to 15 metres road, for roads with 3 metres green buffer Minimum 2 metres 	<ul style="list-style-type: none"> Total setback distance for both the front and rear setbacks must total 9 metres Street frontage – min. 3.0 metres Rear setback – min. 3.0 metres Variation in setbacks is permissable only for blocks and not individual houses N/A Where applicable minimum 3 metres Minimum 3 metres 	<ul style="list-style-type: none"> Street frontage – Minimum 6 metres Rear – Minimum 6 metres N/A Minimum 6 metres Setback from access road – 12m (min) 	<ul style="list-style-type: none"> Front – Minimum 6 metres Rear – Minimum 6 metres N/A Minimum 6 metres Setback from access road – 12m (min) 	<ul style="list-style-type: none"> Front – min. 6 metres Rear – min. 3 metres N/A Minimum 6 metres Minimum 6 metres

MAIN LAND USES:	SEMI-DETACHED HOUSES	TERRACE HOUSE	SCHOOL COMPLEX	SURAU	MAIN ELECTRIC SUBSTATION
<ul style="list-style-type: none">Car Park	<ul style="list-style-type: none">Min. 2 cps on siteCPS to be clear of min. front setback.	<ul style="list-style-type: none">Minimum 1 cps per unitCPS to be clear of minimum front setback	<ul style="list-style-type: none">1 CPS : 8 staffs + 10% for visitors1 MPS : 10 staffs1 MPS : 20 students (form 5 & 6)1 bicycle rack : 50 studentsMin. 10 car lay-bye for drop off / pick upBus bay : min. 6 bays	<ul style="list-style-type: none">1 CPS per 250m2 floorspace1 CPS : 75 GFA (add 2 CPS for surau with KAFA class)1 MPS : 150 GFA1 rack : 50 students – min. 1 rack bicycle for surau with KAFA class	<ul style="list-style-type: none">N/A
(vi) Fencing As per the Fencing Design Guidelines Manual, Volume 1 and Volume 2, chapter 1, 2 and 3	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 5	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 6	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 11	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 13	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapter 15
(vii) Layout Plan	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses	<ul style="list-style-type: none">Layout plans to show the design concept including:<ul style="list-style-type: none">Total gross net areas of indoor play, outdoor play, roofed shade and other outdoor shade areas.Service areas to be aesthetically screened.Site car parking to be clearly indicated.Site car parking to be landscaped.Min 2m landscaped buffer between car parking spaces and any boundary.Initiate stacked outdoor play areas, carparking.Indicate car parking set down/pick up areas – to be visible from road.Indicate pedestrian access to/from the site and connection to surrounding pedestrian pathways.Where boundaries aren't residential dwellings, carefully locate potentially noisy activities to minimise impacts.Show appropriate screening that protects the amenity of abutting residential uses.	<ul style="list-style-type: none">Layout plan to show the design concept including:<ul style="list-style-type: none">Location of all key facilities.Location of car parking spacesLocation of screening devices to minimise impact of noise (for example – air conditioning equipment).Effective screening to abutting residential uses. <div></div>	<ul style="list-style-type: none">Layout plan to show the design concept including:<ul style="list-style-type: none">Location of all key facilities.Location of car parking spacesLocation of screening devices to minimise impact of noise producing machinery.Effective screening to abutting residential uses.

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

- (i) Network Type
- Spine Road - 32 metres reserve
 - Local Road - 22 metres reserve
 - Access Road - 16 metres reserve
 - Cul-De-Sac - 15 metres reserve



- (ii) Road Capacity
- Spine Road - 1000 pcu/hr/lane
 - Local Road - 700 pcu/hr/lane

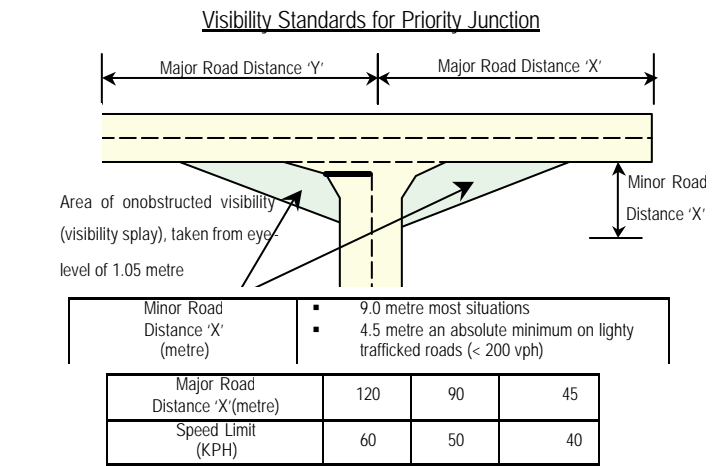
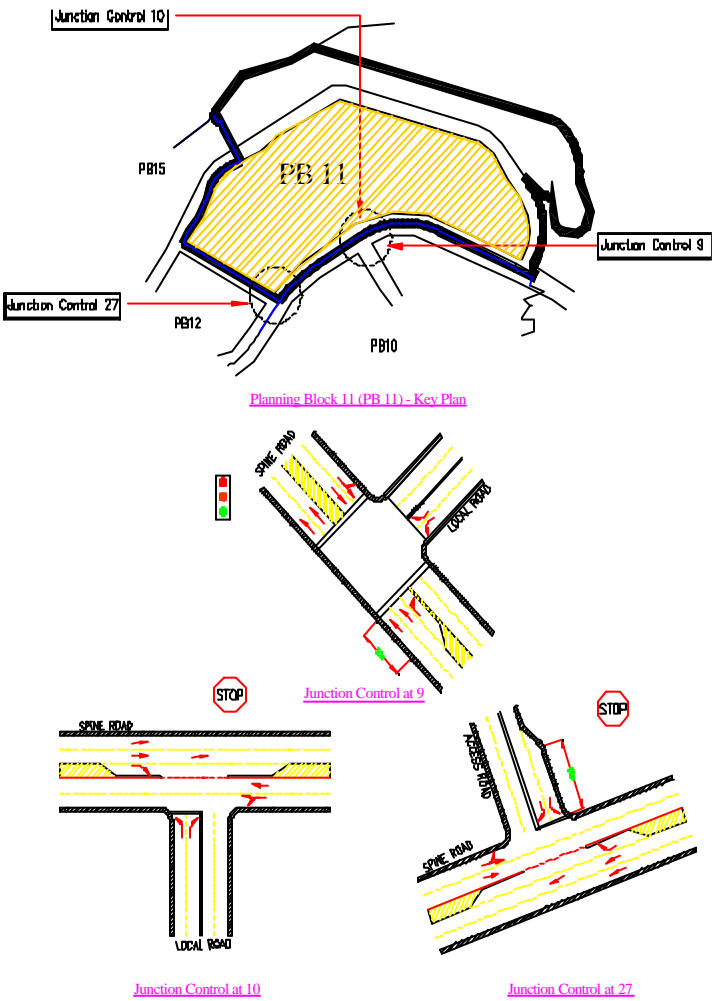
(iii) Junction Control Criteria

Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

- (iv) Visibility Standards for Priority Junction
- Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given

(v) Transport Design Guide for Putrajaya

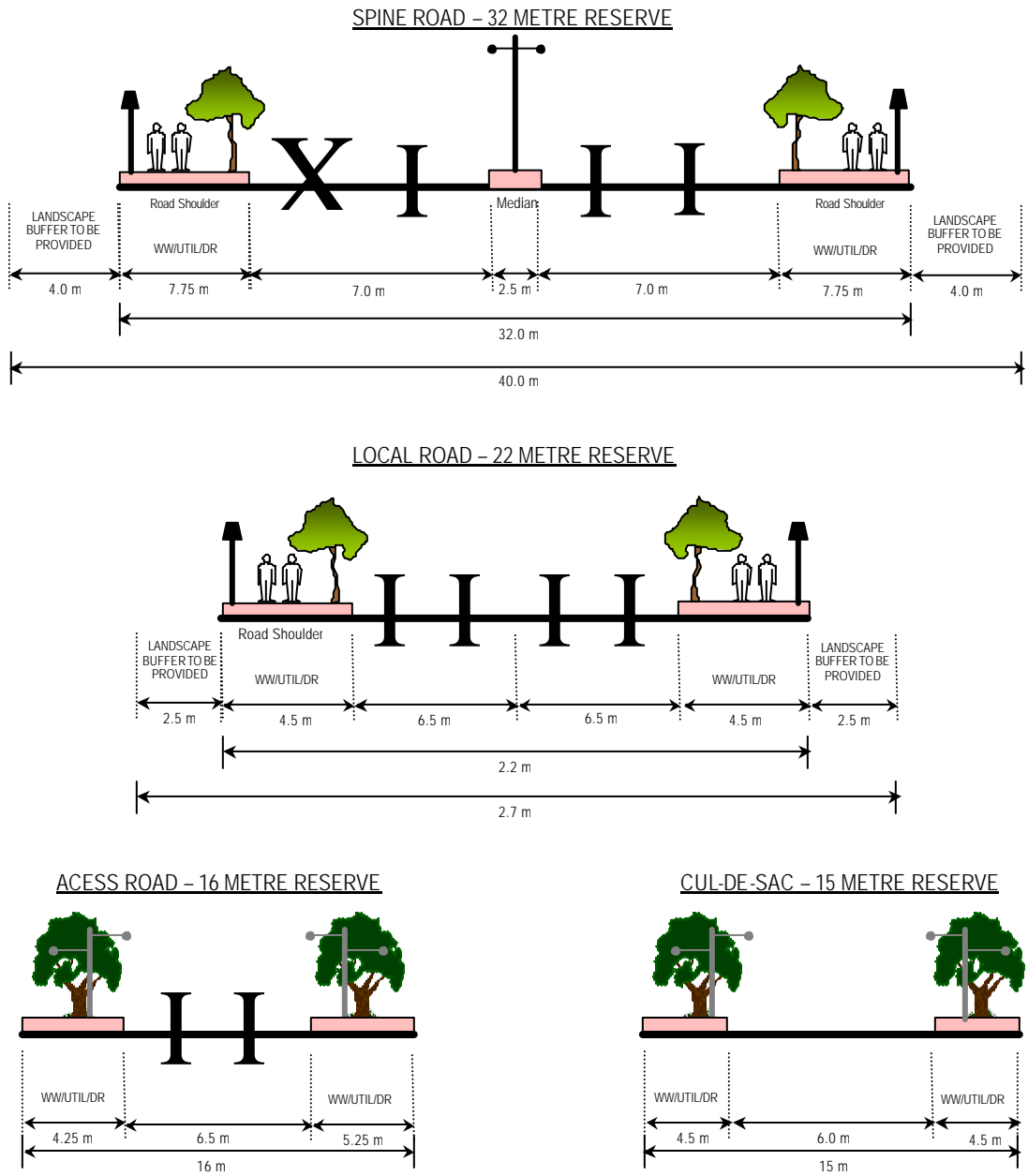
- Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)



PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(v) Typical Road Cross Section



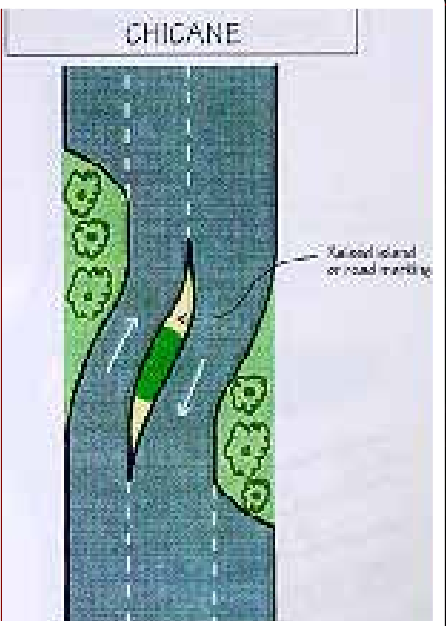
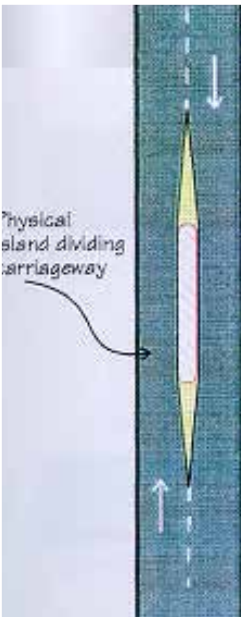
- Note:
- WW/UTIL/DR : Common pedestrians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 15 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 15 metre

(vii) Access to School

- To ensure adequate number of bus bays for drop-off and waiting school buses.
- To ensure continuity of walkway and cycle paths for PB5 and beyond to enable a high number of walk and bicycle mode trips.

(viii) Traffic Calming

- Use Chicanes and dividers along local distributor



PLANNING REQUIREMENTS : INFRASTRUCTURE

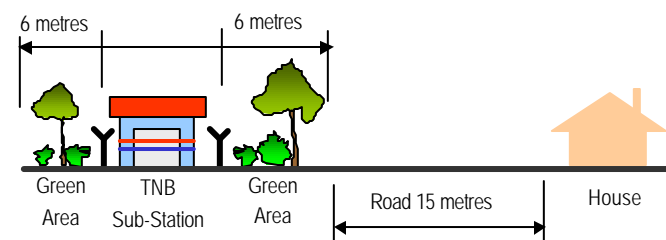
UTILITIES

(i) Environment

- The detailed platform levels shall be determined at the D.0 approval stage
- All earthworks must comply with the Environmental Management Guidelines of Putrajaya and Earthwork By-Laws (Perbadanan Putrajaya 1996)
- A planting strip of min 3 m shall be implemented around the school complex as a buffer for noise and air pollution.

(ii) Electricity

- The electricity supply for PB11 is mostly used for residential which are approximately 90% of the total Electrical Energy required.
- Provision of adequate numbers of 33KV Main Distribution Station (MDS) to be supported by a series of 11 KV Sub-Stations (Single & Double Chambers) and feeder pillars at strategic locations to comply with the electricity provider's (TNB) requirement.
- Feeder pillars along public roads and areas shall have all doors to open away from road and public view.
- Electrical cabling network for overall development of PB11 shall consist of 33KV, 11KV and 415V distribution network systems.
- The electrical cabling network system shall be placed along the utility reserves to conform to the no dig policy. All electrical cabling shall be of the underground system.
- Sub-Station: shall have a minimum 6 metres setback on all sides to the nearest residential building. These shall be extensively landscaped.
- Fencing of utility buildings shall abide by Fencing Design Guidelines-Vol 2, Chap. 15 pg 132
- The area reserved for Main Intake Station is 3 acres, 0.3 acres for Main Distribution Station and 0.1 acres for sub-station

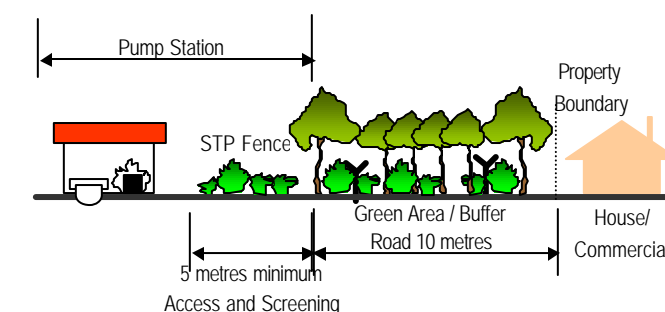



(iii) Drainage




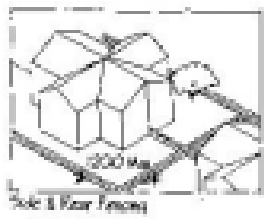
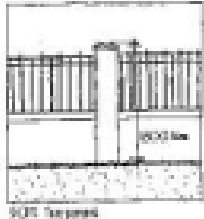
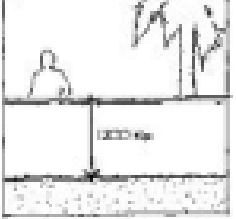

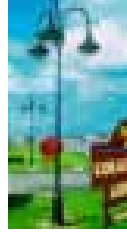

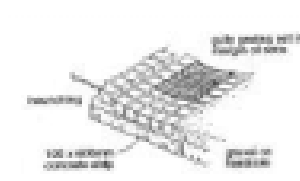

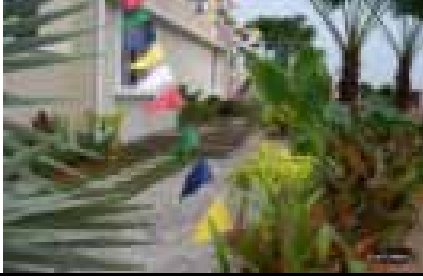

- Drainage to the site shall be provided in terms of collection, conveyance and retention of flow from the site.
- Gross Pollutant Traps to be provided at the outlet of discharge points.
- The drainage design shall comply with the Putrajaya Stormwater Management Design Guidelines (1998), Drainage Masterplan Study Report for Putrajaya (1996) and Urban Stormwater Management Manual for Malaysia (JPS, 2000)
- The hydraulic performance of Sungai Gajah shall be maintained and if required, enhanced by proper provision of adequate reserve width and access for maintenance
- Consideration to be given for the aesthetic enhancement of the Sungai Gajah and its adjacent areas and the Sungai Gajah may be channelized and closed
- In this case, approval to be obtained from Jabatan Pengairan dan Saliran, Selangor (JPS)



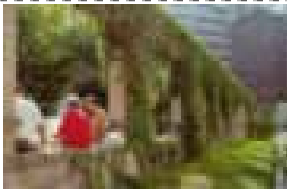



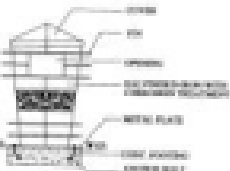
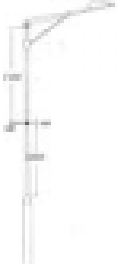

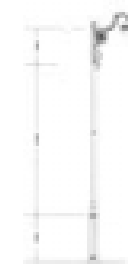

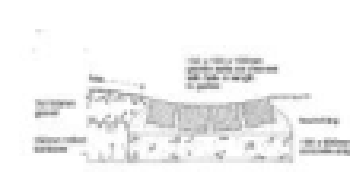
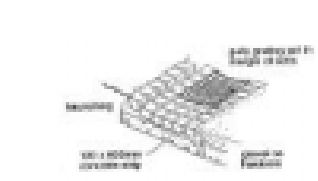





(iv) Sewerage

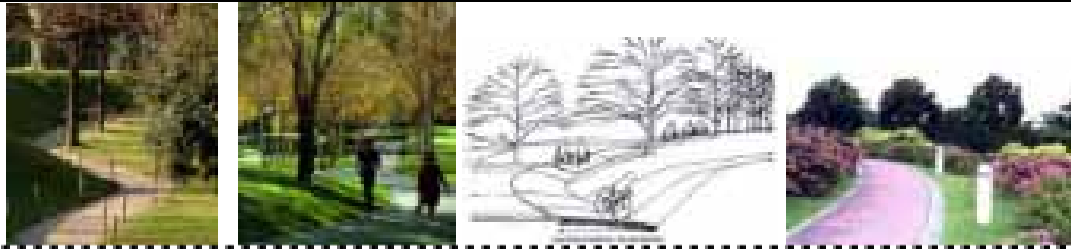
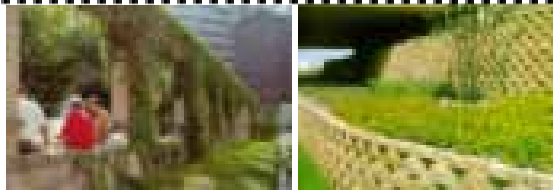
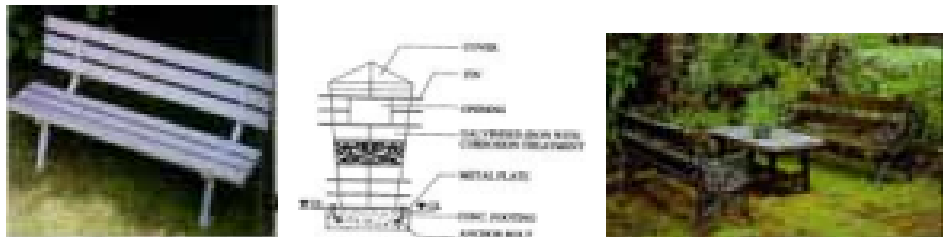
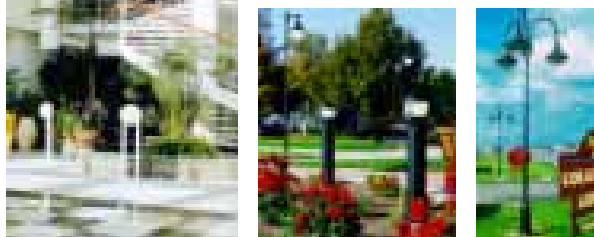
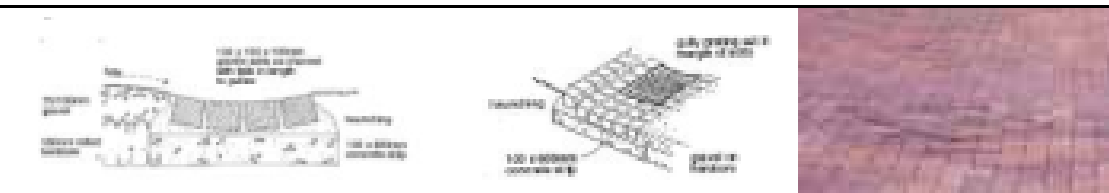
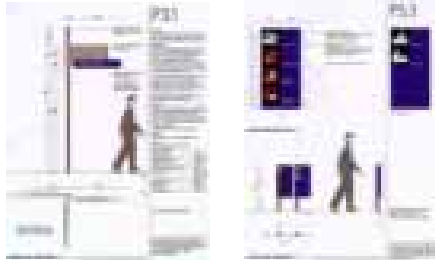
- A network of gravity sewer reticulation to collect sewage from the precinct. (Level 3 works.)
- From these reticulation networks, sewage will be discharged into the centralized trunk sewer system of Putrajaya (Level 1 & 2 works) at appropriate points.
- The trunk sewers will terminate at two pump-stations. These two pump stations are PS1 in Precinct 9 and PS9 (Levels 1 & 2 works) located at the south of precinct 11, next to Road R3.
- From PS1 and PS9, sewage will be conveyed via the centralized trunk sewer system to STP2 for treatment. However, STP2 is not scheduled to be ready until Year 2003. In the interim, sewage discharge will be temporary directed to the sewage switching station PS5 for onward conveyance to STP1 for treatment until the completion of STP2.
- The buffer for a closed STP shall be 10 m to the nearest property boundary.
- The buffer for an open STP system shall be 30 m to the nearest property boundary.




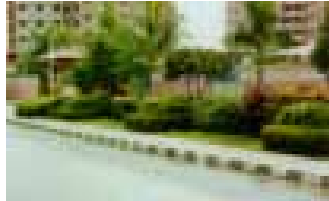


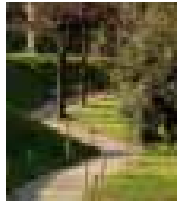


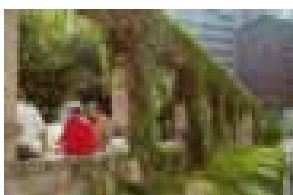


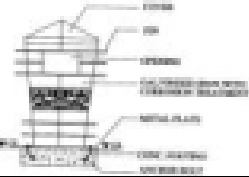
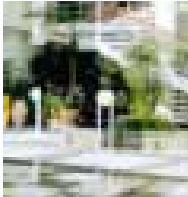

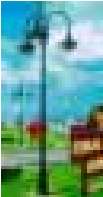
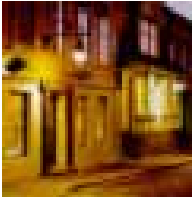


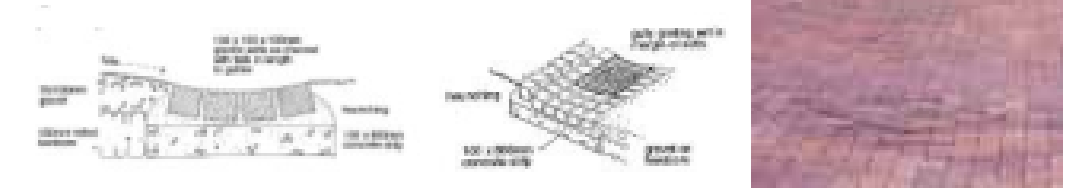
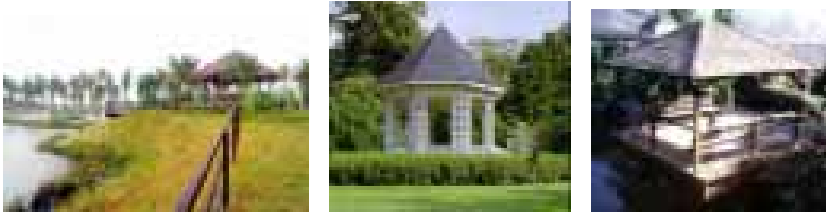
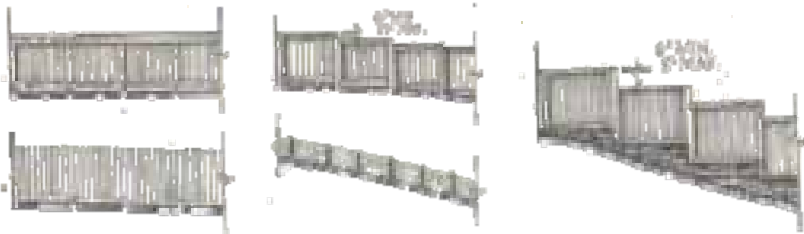

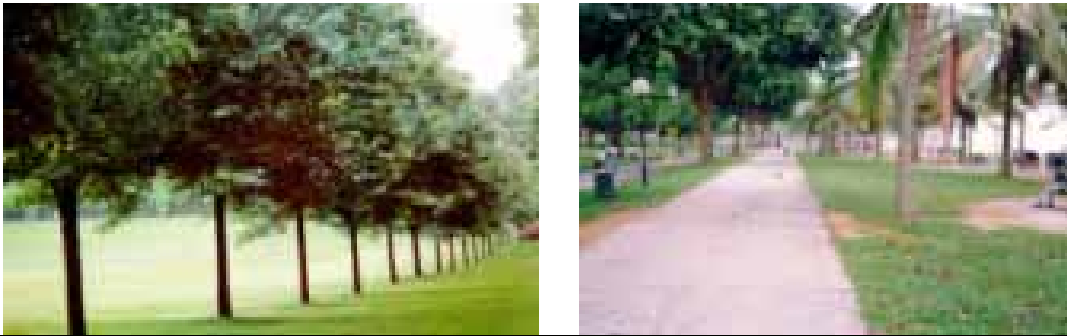
PLANNING REQUIREMENTS : INFRASTRUCTURE	
UTILITIES	
<p>(v) Gas</p> <ul style="list-style-type: none">▪ The gas supply for PB11 is mostly used for residential which are approximately 80% of the total gas requirements.▪ Gas supply for PB11 will be served from a District Gas Station located at Precinct 9 through a medium pressure gas pipeline.▪ Provisions of 4 nos. of area Gas Station are allocated within the Precinct 11 development to cater for the projected gas loading requirements, with total area reserve of 1.13 acres.▪ Low-pressure gas pipeline reticulation from the Area Gas Station is planned to serve the gas requirements for the residential, commercial and other amenities.▪ Safety provision for construction within the vicinity.▪ (For details of Gas Pipeline Reserve Design refer Appendix 1) <p>(vi) Waste Disposal</p> <ul style="list-style-type: none">▪ Solid waste management in PB11 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.▪ Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to be further separated at source into containers and fiber materials.▪ The sensitivity of the site in terms of waste management relates to the operational requirements of Precinct 11, which require that no burial of material is undertaken during the construction phase.▪ In addition to control odour nuisance to any sensitive receptors biodegradable waste cannot be left at the site for extended periods.▪ The waste management shall comply with Urban Design Guidelines and Environmental Guidelines for Putrajaya.▪ For low rise residential, refuse chamber is to be placed in front of the house, either left or right of the driveway and near to main road for the ease of mechanical collection. The estimated generation of solid waste is 5kg/unit/day.▪ For high rise residential (apartment, condominium and government's quarters), individual refuse chamber center must be placed at each block. These refuse chambers must be built on ground floor / basement. Building management team would collect the refuses from refuse chamber and place it to the refuse chamber center. The estimated generation of solid waste is 5 kg/unit/day.	<ul style="list-style-type: none">▪ For non-residential building, refuse chamber center can be built at the ground floor / basement or apart from the main building. The estimated generation of solid waste for recreation park/public transport stop station are 0.2kg/visitor, 300L/1000m²(gross floor area) for shopping complex and 500L/1000m²(gross floor area) for restaurant.▪ Access road must be constructed for the ease of mechanical collection and public use. Obstructions to any collection vehicle's access must be disallowed at all time. <div></div> <p>(vii) Water Supply</p> <ul style="list-style-type: none">▪ Water supply to PB11 shall be consistent with the provision of water supply master plan for Putrajaya.▪ Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989)

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Landed)	Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> – Clay brick – Concrete – Interlocking block etc 	<ul style="list-style-type: none"> – Anti slippery surface – Max. gradient 8% – Durable 	<ul style="list-style-type: none"> – Building compound 	
		<input type="checkbox"/> Walls <ul style="list-style-type: none"> – Key stone – Concrete – Fencing brick etc. 	<ul style="list-style-type: none"> – Harmonize with surrounding 	<ul style="list-style-type: none"> – Building compound 	 
	Fence, Gate and Barrier <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Traditional 	<ul style="list-style-type: none"> – Hardwood – Metal – Masonry 	<ul style="list-style-type: none"> – To follow Fencing Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Boundary line 	  
	Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Informal <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Hardwood – Metal – Concrete 	<ul style="list-style-type: none"> – Durable – Attractive – Safe 	<ul style="list-style-type: none"> – Building compound 	 
	Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – Visually attractive – Concealed drains 	<ul style="list-style-type: none"> – Building lot 	  
	Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> – Tree – Palm – Shrub – Groundcover 	<ul style="list-style-type: none"> – Non-poisonous species – Strong branch – Medium size 	<ul style="list-style-type: none"> – Building compound 	 
	Irrigation Strategy	<ul style="list-style-type: none"> – Tap from storage tank or JBA main or tap from JBA main 			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
❑ Roadside	▪ Paving, walls and steps ❑ Formal ❑ Contemporary	❑ Paving / Step – Clay brick – Concrete – Interlocking paver etc.	– Anti slippery surface – Max. gradient 8% – Max. Gradient for super elevation 2%	– Roadside	 
		❑ Wall – Key stone – Concrete – Granite stone etc.	– Harmonize with surrounding environment	– Slope areas	  
	▪ Site Furniture ❑ Contemporary	– Hardwood – Masonry – Metal	– Vandalism proof – Safe – Attractive	– Junction	 
	▪ Lighting ❑ Robust ❑ Minimal ❑ Reflect character of adjacent neighbourhood	– Timber – Metal	– Max. height 10m	– Footpaths – Cycle track – Car park	   
	▪ Drainage ❑ Swales/Natural drain ❑ Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Visually attractive – Naturally blend with surrounding	– Open space – plaza	  
	▪ Signage ❑ Contemporary ❑ Formal ❑ Simple ❑ Clear	– Masonry – Metal – Hardwood	– Clear – Vandalism proof – To follow Signage and Advertisement Design Guideline Putrajaya	– Junction	 
	▪ Planting ❑ Formal	– Shade medium size tree – Palm – Shrub	– Provide ample shade – Hardy Plants – Attractive	– Roadside	 
	▪ Irrigation Strategy	– Trucking			

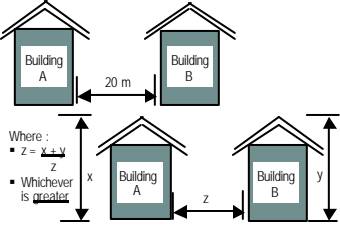
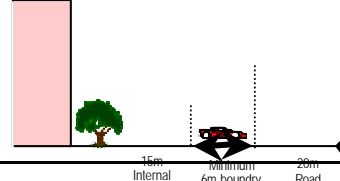
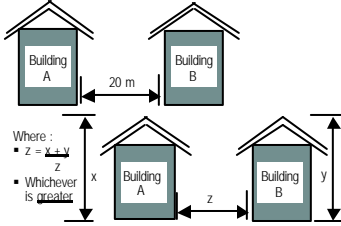
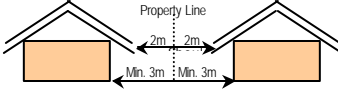
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> School	Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary 	<input type="checkbox"/> Paving / Step <ul style="list-style-type: none"> Clay brick Concrete Interlocking block etc 	<ul style="list-style-type: none"> Anti slippery surface Max. gradient 8% Max. gradient 2% for supper elevation Durable 	<ul style="list-style-type: none"> Pedestrian walkway Open space 	
		<input type="checkbox"/> Walls <ul style="list-style-type: none"> Key stone Concrete Fencing brick etc. 	<ul style="list-style-type: none"> Harmonize with surrounding environment 	<ul style="list-style-type: none"> Slope areas 	
	Site furniture <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> Hardwood Metal Stone 	<ul style="list-style-type: none"> Vandalism proof Durable Safe 	<ul style="list-style-type: none"> Resting areas Reading areas 	
	Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Simple 	<ul style="list-style-type: none"> Hardwood Metal Concrete 	<ul style="list-style-type: none"> Max height of 4m for open space Max height of 10m for roadside Attractive Safe 	<ul style="list-style-type: none"> Entrance Playfield Roadside 	
	Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> Culvert Concrete Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> Harmonious with surrounding environment Preferable covered drain 	<ul style="list-style-type: none"> When necessary 	
	Signage <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> Metal Hardwood Concrete 	<ul style="list-style-type: none"> To follow Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> Entrance Play areas 	
	Irrigation Strategy	<ul style="list-style-type: none"> Pipe reticulation from PHB and/or trucking 			

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<div> <div>School</div> </div>	<div> <div>Fences, Railings and Barriers</div> <div> <div>Formal</div> <div>Informal</div> </div> </div>	<div> <div>Planting</div> <div>Metal</div> <div>Hardwood</div> </div>	<div> <div>To following Fencing Design Guideline Putrajaya</div> </div>	<div> <div>Entrance</div> <div>Play areas</div> </div>	<div>   </div>
	<div> <div>Planting</div> <div>Formal</div> </div>	<div> <div>Tree</div> <div>Palm</div> <div>Shrub</div> <div>Groundcover</div> <div>Turfing</div> </div>	<div> <div>Able to provide shade</div> <div>Non-poisonous species</div> <div>Attractive</div> </div>	<div> <div>All green areas</div> </div>	<div>   </div>
<div> <div>Drain reserve (Covered)</div> </div>	<div> <div>Planting</div> <div>Natural</div> <div>Tropical</div> </div>	<div> <div>Tree</div> <div>Palm</div> <div>Shrub</div> </div>	<div> <div>Non-poisonous species</div> <div>Harmonize with surrounding environment</div> </div>	<div> <div>Drain reserve</div> </div>	<div>  </div>
<div> <div>Mosque</div> </div>	<div> <div>Paving / Step, Wall</div> <div>Formal</div> <div>Islamic design</div> </div>	<div> <div>Paving / Step</div> <div>Clay brick</div> <div>Concrete</div> <div>Tiles etc</div> </div>	<div> <div>Anti slippery surface</div> <div>Max. gradient of 8%</div> <div>Max. gradient 2 % for superelevation</div> <div>Durable</div> </div>	<div> <div>Open space</div> <div>Plaza</div> </div>	<div>    </div>
		<div> <div>Wall</div> <div>Keystone</div> <div>Granite stone</div> <div>Concrete etc.</div> </div>	<div> <div>Harmonize with surrounding</div> <div>Visually attractive</div> </div>	<div> <div>Slope areas</div> </div>	<div>   </div>
	<div> <div>Site Furniture</div> <div>Simple</div> <div>Islamic</div> </div>	<div> <div>Hardwood</div> <div>Metal</div> <div>Stone</div> </div>	<div> <div>Vandalism proof</div> <div>Durable</div> <div>Safe</div> </div>	<div> <div>Open space</div> <div>Plaza</div> <div>Road side</div> </div>	<div>    </div>
	<div> <div>Lighting</div> <div>Contemporary</div> <div>Islamic</div> </div>	<div> <div>Concrete</div> <div>Metal</div> <div>Masonry</div> </div>	<div> <div>Max. height 4m for open areas</div> <div>Max. height 10m for roadside</div> </div>	<div> <div>Entrance at bollard</div> <div>Roadside</div> <div>Plaza</div> </div>	<div>     </div>

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Mosque	Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains 	<ul style="list-style-type: none"> – Culvert – Concrete – Drain cover on walkway to follow walkway 's material 	<ul style="list-style-type: none"> – To harmonize with surrounding environment 	<ul style="list-style-type: none"> – All drain system 	
	Structure and Shelter <ul style="list-style-type: none"> <input type="checkbox"/> Islamic <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> – Hardwood – Metal – Concrete – Masonry – Poly cabonate etc. 	<ul style="list-style-type: none"> – Sustainable design – Proportion to human scale and surrounding structure – To blend harmoniously with surrounding environment 	<ul style="list-style-type: none"> – Plaza – Open space 	
	Fences, Gates and Barriers <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Islamic <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> – Masonry – Metal – Planting 	<ul style="list-style-type: none"> – To suit architectural design – To blend naturally with surrounding environment – To follow fencing design guideline Putrajaya 	<ul style="list-style-type: none"> – Entrance – Plaza – Open space 	
	Water feature <ul style="list-style-type: none"> <input type="checkbox"/> Islamic <input type="checkbox"/> Safe <input type="checkbox"/> Natural 	<ul style="list-style-type: none"> – Concrete – Masonry – Metal etc. 	<ul style="list-style-type: none"> – Safe – Attractive 	<ul style="list-style-type: none"> – Entrance – Plaza – Open space 	
	Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Natural 	<ul style="list-style-type: none"> – Palm – Tree – Shrub – Ground cover 	<ul style="list-style-type: none"> – Hardy – Low maintenance – Attractive – Non-poisonous species 	<ul style="list-style-type: none"> – All green areas 	
	Irrigation Strategy	<ul style="list-style-type: none"> – Tap from storage tank, trucking or JBA main 			

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<div><div>(i)</div><div>The layout plan must demonstrate that the following elements are addressed in the design:<ul style="list-style-type: none">Development appropriate to topographical featuresAppropriate building orientation with respect to the sunAppropriate pedestrian and vehicular access systemsSite infrastructure systems are designed in a manner which enhances site development</div></div> <div><div>(ii)</div><div>Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</div></div> <div><div>(iii)</div><div>Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</div></div> <div><div>(iv)</div><div>Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</div></div> <div><div>(v)</div><div>Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</div></div> <div><div>(vi)</div><div>Illustrate that the site will be developed in a logical sequence</div></div> <div><div>(vii)</div><div>The layout plan should illustrate that the form of development effectively contributes to the Planning Block's sense of place and amenity with the context of Putrajaya</div></div> <div><div>(viii)</div><div>The location of schools and tadikas should:<ul style="list-style-type: none">Be in a highly accessible position for the communityMinimise the introduction of non-local traffic into minor residential streetsProvide safe and convenient pedestrian and cycle access to residential areas</div></div> <div><div>(ix)</div><div>Where applicable, the provisions of suraus, within apartment complexes should be a freestanding building.</div></div> <div><div>(x)</div><div>The apartment complex must include 'drop off' points for the convenience of residents</div></div> <div><div>(xi)</div><div>Maximum plinth foe apartment building is 60% of the site</div></div>	<div><div>(i)</div><div>Avoid monotonous building designs – provide a range of housing types to meet different lifestyle choices, diversity in the marketplace and opportunity for an interesting street frontage</div></div> <div><div>(ii)</div><div>Ensure that buildings are designed to respect the topographical features of the site ,eg buildings should step with steeper sites – do not cut substantial benches into steep land</div></div> <div><div>(iii)</div><div>Building design should respect the amenity of adjoining and adjacent buildings and their residents</div></div> <div><div>(iv)</div><div>Building design should interpret local image and character with new materials that are energy efficient</div></div> <div><div>(v)</div><div>Building facades should be designed to accommodate a tropical environment</div></div> <div><div>(vi)</div><div>Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</div></div> <div><div>(vii)</div><div>While diversity is sought in building design, buildings should be designed with a common theme that provides a linkage to the style and nature of the development area</div></div> <div><div>(viii)</div><div>Building design should ensure good living environments for residents that do not adversely impact on neighbours</div></div> <div><div>(ix)</div><div>The building design should incorporate landscaping that contributes to a pleasant and safe environment and integrates well with the streetscape and adjoining open space areas</div></div> <div><div>(x)</div><div>For school buildings:<ul style="list-style-type: none">Building design should be of a character that responds to the tropical environment and does not adversely impact on adjacent buildingsVehicle parking and pick up/set down areas should be designed and located to minimise impact on adjacent dwellings</div></div>	<div><div>(i)</div><div>Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines, and must comply with the UDG of Precinct 11 and 13.</div></div> <div><div>(ii)</div><div>Spaces on any ground level should not directly overlook dwellings on adjacent land</div></div> <div><div>(iii)</div><div>Ground floor levels must be responsive to pedestrian footpaths and continuity and flow between buildings</div></div> <div><div>(iv)</div><div>Building design does not significantly reduce daylight to open space and habitable rooms in adjacent development</div></div> <div><div>(v)</div><div>Roof pitch and overlay should be designed to meet local environmental requirements</div></div> <div><div>(vi)</div><div>Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</div></div> <div><div>(vii)</div><div>Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect. Any blank wall should be avoided.</div></div> <div><div>(viii)</div><div>The design of free standing buildings should be sympathetic with adjoining buildings, yet provide for local identity and character</div></div>	<div><div>(i)</div><div>Building colours should harmonise with the predominant colours of the surrounding area</div></div> <div><div>(ii)</div><div>Use of earth tones shall be encouraged</div></div> <div><div>(iii)</div><div>Colours for specific building types will be subject b the approval of the Perbadanan. Pastel colours are to be encouraged</div></div>	<div><div>(i)</div><div>Privacy and visual controls – overlooking to be controlled by appropriate orientation of windows and use of splay windows</div></div> <div><div>(ii)</div><div>Air conditioning equipment – all equipment should be contained in compartments that are designed as an integral component of the building to ensure the equipment is hidden from view</div></div> <div><div>(iii)</div><div>Drying yards – building design should incorporate appropriate design for drying areas that allows for natural ventilation and light while ensuring they are hidden from public view</div></div> <div><div>(iv)</div><div>Aerials and satellite dishes –, aerials and satellite dishes shall be located to avoid adverse impact on the amenity of adjoining buildings</div></div> <div><div>(v)</div><div>Service ducting shall not be exposed on the external surfaces of buildings</div></div> <div><div>(vi)</div><div>Carports and garages should:<ul style="list-style-type: none">Be designed to integrate with the design of associated buildings<ul style="list-style-type: none">Not diminish the attractiveness of the streetscapeNot visually dominate views of the house from the streetCover the full length of a car</div></div> <div><div>(vii)</div><div>Dwellings with green frontage must address that frontage with habitable spaces and not service areas only</div></div> <div><div>(viii)</div><div>Dwelling design must provide sufficient outdoor open space that can act as an extension of the dwelling for relaxation, entertainment, recreation and children's play purposes</div></div> <div><div>(ix)</div><div>The design of tadikas should:<ul style="list-style-type: none">Ensure that the playground is visually interesting and environmentally safe for childrenThe play area is protected from on site and off site hazardsThe play area has adequate shade and shelter areasThe landscaping assist the educational role of the facilityBe reasonably compatible in appearance and scale with nearby buildingsInclude appropriate screening and buffering that maintains or improves the amenity of adjoining uses</div></div> <div><div>(x)</div><div>For the installations of grills, residents need to abide by the guidelines on the Uniform Design and Installation of Grills for Buildings in Putrajaya (Department of Urban Services, Putrajaya)</div></div> <div><div>(xi)</div><div>Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya</div></div>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 12 (PB 12)

MAIN LAND USES:	MEDIUM COST APARTMENT	GOVERNMENT APARTMENT	TERRACE HOUSES	GAS PIPE RESERVE	MAIN ELECTRIC SUBSTATION
(i) Density	▪ 70 units/acre	▪ 78 units/acre	▪ 20 units/acre	▪ N/A	▪ One in PB123
(ii) Composition		▪ 100% Government units	▪ Government housing		
(iii) Minimum Lot size	▪ N/A	▪ N/A	▪ 180m2	▪ N/A	▪ 0.2 hac.
(iv) Height	▪ Max. 12 storey Note: 17 storey upon approval from PJC	▪ Max. 12 storey Note: 17 storey upon approval from PJC	▪ 2 levels on flat or gently sloping land		
(v) Setbacks:					
<ul style="list-style-type: none"> ▪ Front/Rear setbacks ▪ Building to building ▪ Side boundary ▪ Street boundary ▪ Distance Between Building ▪ Distance Between Roof Eaves ▪ Car Park 	<ul style="list-style-type: none"> ▪ Minimum 20 metres ▪ 20 metres setback between buildings or average of building heights  <ul style="list-style-type: none"> ▪ Minimum 1 cps per unit+10% visitors ▪ CPS permitted to be within setback ▪ Disabled parking at 1% total cps 	<ul style="list-style-type: none"> ▪ Minimum 20 metres ▪ N/A ▪ Minimum 6 metres ▪ 20 metres setback between buildings or average of building heights  <ul style="list-style-type: none"> ▪ Min 1 CPS per unit+10% visitors ▪ CPS permitted to be within setback ▪ Disabled parking at 1% of total cps ▪ Covered motorcycle parking bays at 1:1 	<ul style="list-style-type: none"> ▪ Total setback distance for both the front and rear setbacks must total 9 metres ▪ Front setback – min. 3.0 metres ▪ Rear setback – min. 3.0 metres ▪ Variation in setbacks is permissible only for blocks and not individual houses ▪ N/A ▪ Where applicable minimum 3 metres ▪ Minimum 3 metres ▪ Min 2 CPS per unit on site ▪ CPS to be clear of minimum front setback. 	<ul style="list-style-type: none"> ▪ N/A 	<ul style="list-style-type: none"> ▪ Front – Minimum 6 metres ▪ Rear – Minimum 3 metres ▪ N/A ▪ Minimum 3 metres ▪ Minimum 6 metres ▪ N/A

PUTRAJAYA PRECINCT 11 LOCAL PLAN

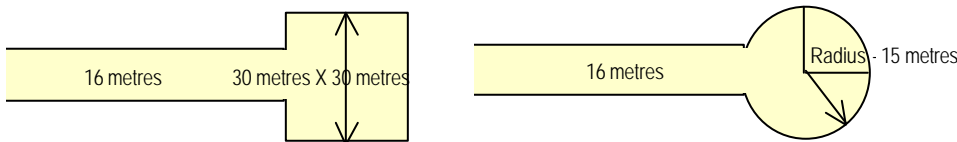
MAIN LAND USES:	MEDIUM COST APARTMENT	GOVERMENT APARTMENT	TERRACE HOUSES	GAS PIPE RESERVE	MAIN ELECTRIC SUBSTATION
(vi) Fencing As per the Fencing Design Guidelines Manual, Volume 1 and Volume 2, chapters 1, 2 and 3	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapters 8	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapters 8	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapters 6	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapters 15Generally no fencing would be encourage	<ul style="list-style-type: none">Refer Fencing Design Guidelines Manual, Volume 2, chapters 15
(vii) Layout Plan	<ul style="list-style-type: none">Provide a fenced children's playground – Minimum of 500m2Club House/Community HallSuitable size surau + ruang jenazah. Standard: 50%XNo of unitsX0.4m2Car park to be well landscapedMin 2 metres landscape buffer to all boundaries.Service areas to be aesthetically screened.Community HallOther community provision:<ul style="list-style-type: none">KindergartenDay Care CentreLaundryCar Wash AreaConvenient ShopCourts Sepaktakraw or Volleyball	<ul style="list-style-type: none">Provide a fenced childrens playground - Minimum 500m2Suitable size surau + ruang jenazah. Standard 80%XNo of unitsX0.3m2Community HallTadikaTaskaCorner ShopsCar park to be well landscapedMin 2 m landscape buffer to all boundaries.Service areas to be aesthetically screenedOther community provision:<ul style="list-style-type: none">KindergartenDay Care CentreLaundryCar Wash AreaConvenient ShopCourts Sepaktakraw or Volleyball	<ul style="list-style-type: none">Use the setback flexibility and building design variation to break up and vary the position of the houses	<ul style="list-style-type: none">Where possible, such non-buildable areas are to be green land for general recreational use.	<ul style="list-style-type: none">Layout plan to show the design concept including:<ul style="list-style-type: none">Location of all key facilitiesLocation of car parking spacesLocation of screening devices to minimise impact of noise producing machineryEffective screening to abutting residential uses

PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(i) Network Type

- Spine Road - 32 metres reserve
- Local Road - 22 metres reserve
- Access Road - 16 metres reserve
- Cul-De-Sac - 15 metres reserve



(ii) Road Capacity

- Spine Road - 1000 pcu/hr/lane
- Local Road - 700 pcu/hr/lane

(iii) Junction Control Criteria

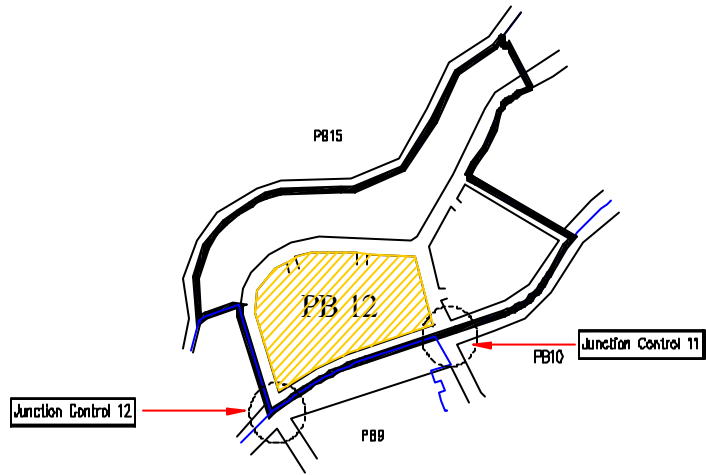
Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

(iv) Visibility Standards for Priority Junction

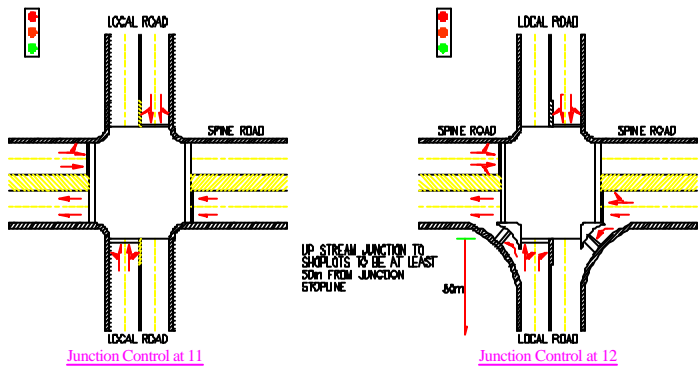
- Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given

(v) Transport Design Guide for Putrajaya

- Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)

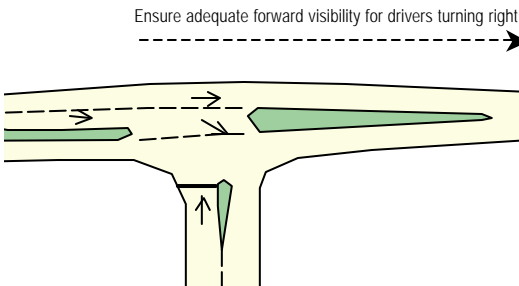


Planning Block 12 (PB 12) - Key Plan

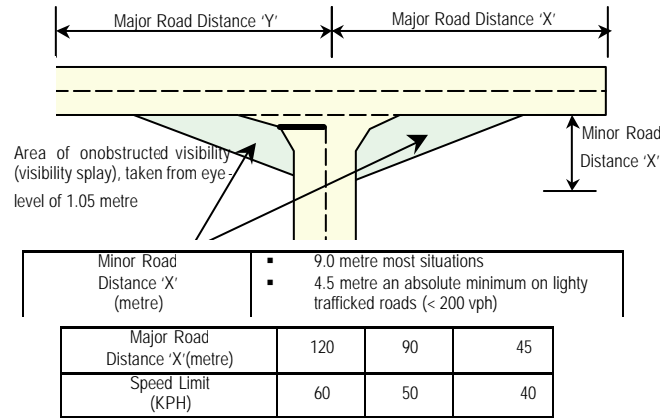


to VBI signal controlled pedestrian crossing phase

Local Dualling to Create Protected Right-Turn Lane



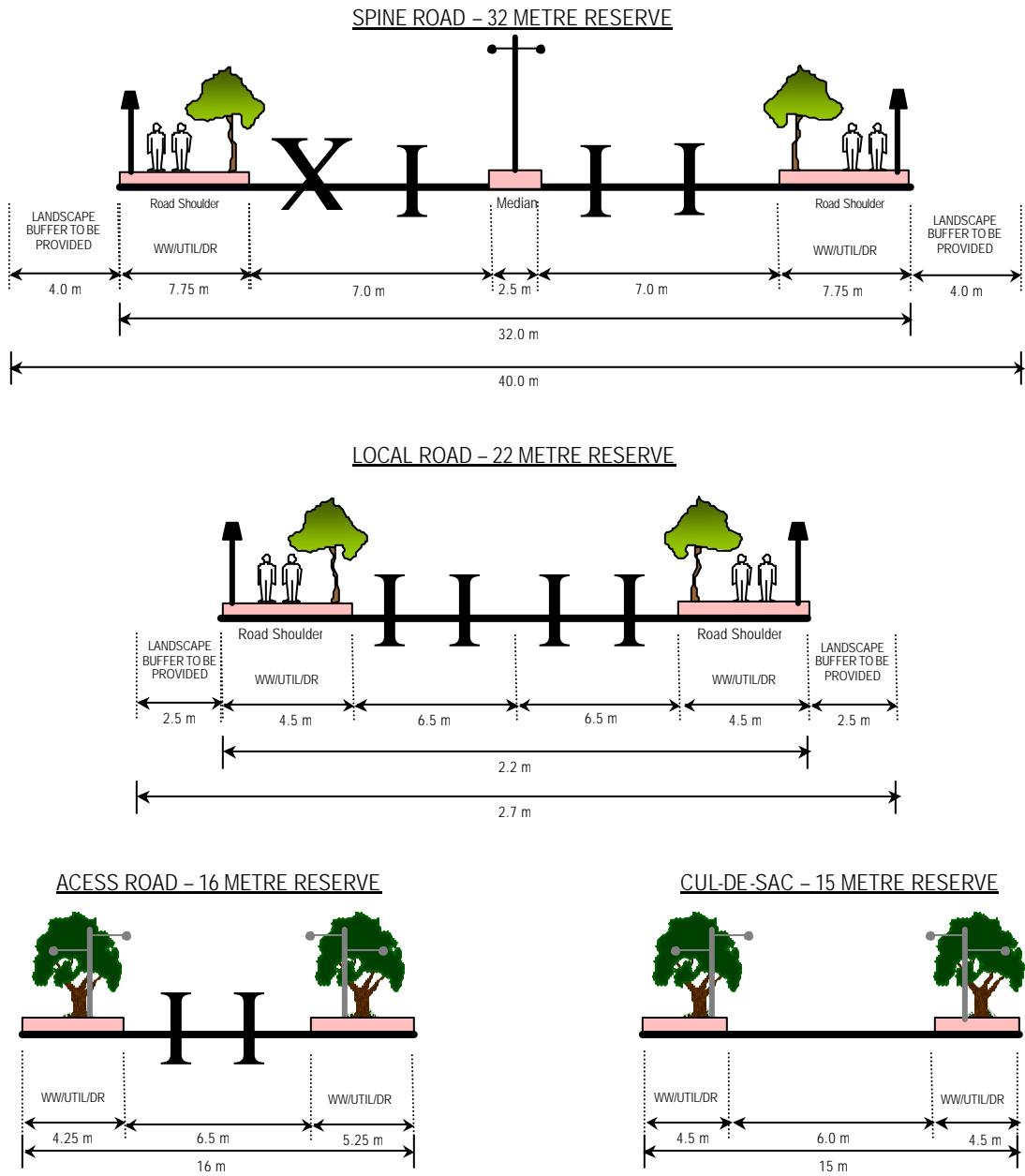
Visibility Standards for Priority Junction



PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

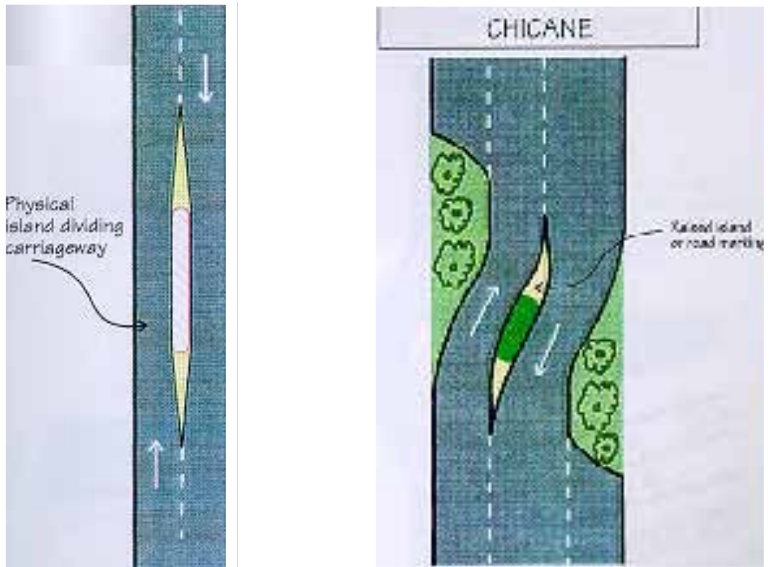
(v) Typical Road Cross Section



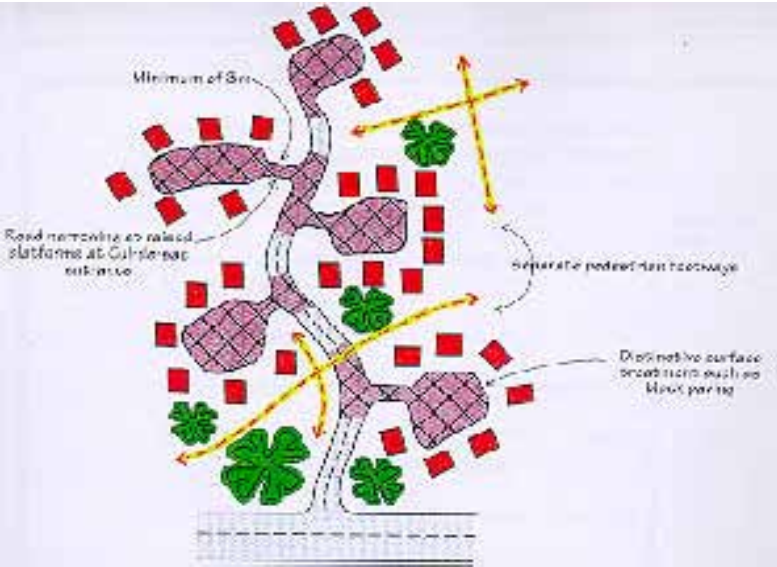
- Note:
- WW/UTIL/DR : Common pedestrians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 15 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 15 metre

(vii) Traffic Calming

- Use Chicanes and dividers along local distributor



- The road naming at junction leading form local distributor roads into access roads.



PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

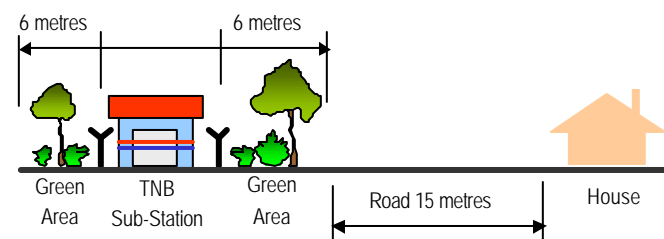
UTILITIES

(i) Environment

- The detailed platform levels shall be determined at the D.O approval stage
- All earthworks must comply with the Environmental Management Guidelines of Putrajaya and Earthwork By-Laws (Perbadanan Putrajaya 1996)

(ii) Electricity

- The electricity supply for PB12 is mostly used for residential which are approximately 90% of the total Electrical Energy required.
- Provision of adequate numbers of 33KV Main Distribution Station (MDS) to be supported by a series of 11KV Sub-Stations (Single & Double Chambers) and feeder pillars at strategic locations to comply with the electricity provider's (TNB) requirement.
- Feeder pillars along public roads and areas shall have all doors to open away from road and public view.
- Electrical cabling network for overall development of PB12 shall consist of 33KV, 11KV and 415V distribution network systems.
- The electrical cabling network system shall be placed along the utility reserves to conform to the no dig policy. All electrical cabling shall be of the underground system.
- Sub-Station: shall have a minimum 6 metres setback on all sides to the nearest residential building. These shall be extensively landscaped.
- Fencing of utility buildings shall abide by Fencing Design Guidelines-Vol. 2, Chap. 15 pg. 132



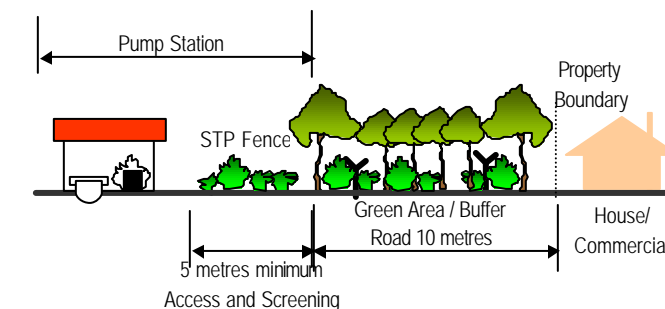
(iii) Drainage

- Drainage to the site shall be provided in terms of collection, conveyance and retention of flow from the site.
- Gross Pollutant Traps to be provided at the outlet of discharge points.
- The drainage design shall comply with the Putrajaya Stormwater Management Design Guidelines (1998), Drainage Masterplan Study Report for Putrajaya (1996) and Urban Stormwater Management Manual for Malaysia (JPS,2000)
- The Sungai Gajah may be developed as a closed drainage system with extensive landscaping




(iv) Sewerage

- A network of gravity sewer reticulation to collect sewage from the precinct. (Level 3 works.)
- From these reticulation networks, sewage will be discharged into the centralized trunk sewer system of Putrajaya (Level 1 & 2 works) at appropriate points
- The trunk sewers will terminate at two pump-stations. These two pump stations are PS1 in Precinct 9 and PS9 (Levels 1 & 2 works) located at the south of precinct 11, next to Road R3
- From PS1 and PS9, sewage will be conveyed via the centralized trunk sewer system to STP2 for treatment. However, STP2 is not scheduled to be ready until Year 2003. In the interim, sewage discharge will be temporary directed to the sewage switching station PS5 for onward conveyance to STP1 for treatment until the completion of STP2
- The buffer for a closed STP shall be 10 m to the nearest property boundary.
- The buffer for an open STP system shall be 30 m to the nearest property boundary.



(v) Gas

- The gas supply for PB12 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB12 will be served from a District Gas Station located at Precinct 9 through a medium pressure gas pipeline.
- Provisions of 4 nos. of area Gas Station are allocated within the Precinct 11 development to cater for the projected gas loading requirements, with total area reserve of 1.13 acres.
- Low-pressure gas pipeline reticulation from the Area Gas Station is planned to serve the gas requirements for the residential, commercial and other amenities.
- Safety provision for construction within the vicinity.
- (For details of Gas Pipeline Reserve Design refer Appendix 1)

PLANNING REQUIREMENTS : INFRASTRUCTURE	
UTILITIES	
<div><div>(vi) Waste Disposal</div><div><ul style="list-style-type: none">▪ Solid waste management in PB12 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.▪ Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to be further separated at source into containers and fiber materials.▪ The sensitivity of the site in terms of waste management relates to the operational requirements of Precinct 11, which require that no burial of material is undertaken during the construction phase.▪ In addition to control odour nuisance to any sensitive receptors biodegradable waste cannot be left at the site for extended periods.▪ The waste management shall comply with Urban Design Guidelines and Environmental Guidelines for Putrajaya.▪ For low rise residential, refuse chamber is to be placed in front of the house, either left or right of the driveway and near to main road for the ease of mechanical collection. The estimated generation of solid waste is 5kg/unit/day.▪ The estimated generation of solid waste for recreation park/public transport stop station are 0.2kg/visitor, 300L/1000m²(gross floor area) for shopping complex and 500L/1000m²(gross floor area) for restaurant.▪ Access road must be constructed for the ease of mechanical collection and public use. Obstructions to any collection vehicle's access must be disallowed at all time.</div><div></div></div>	<div><div>(vii) Water Supply</div><div><ul style="list-style-type: none">▪ Water supply to PB12 shall be consistent with the provision of water supply master plan for Putrajaya.▪ Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989).</div></div>