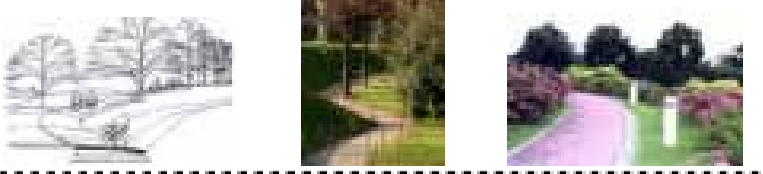
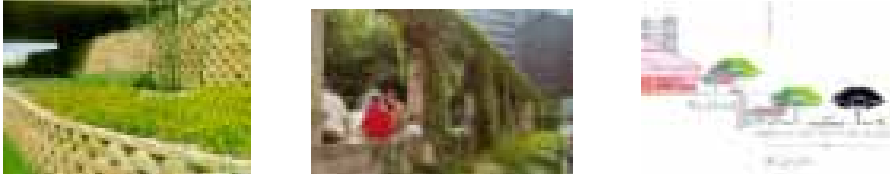

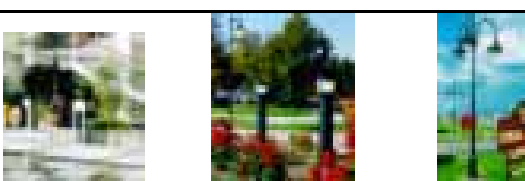
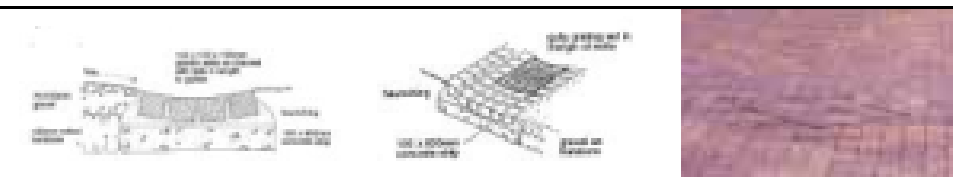







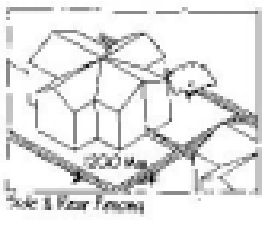
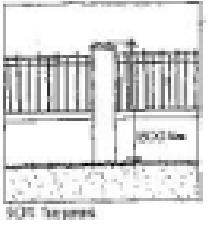
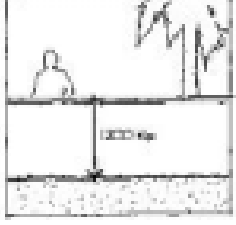



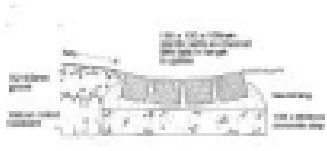
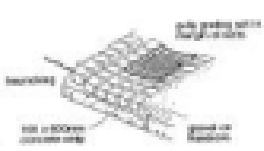





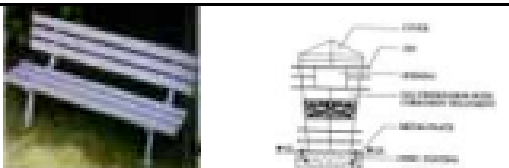

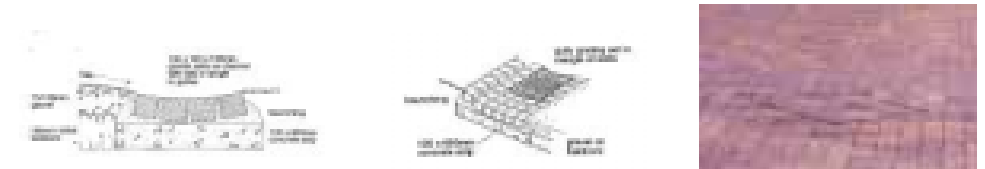

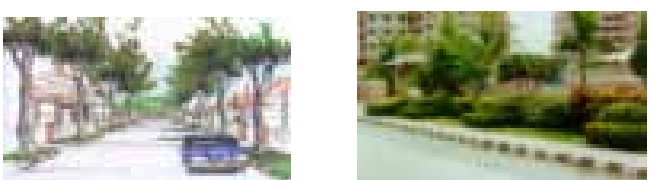



PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Condominium, Government apartment)	■ Paving / Step, Wall <input type="checkbox"/> Formal	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max-gradient of 8% – Durable	– Open space – Walkway	
		<input type="checkbox"/> Wall – Keystone – Facing Brick – Concrete etc.	– Harmonize with surrounding environment – To screen the wall with planting	– Slope areas	
	■ Site Furniture <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood	– Hardwood – Metal – Concrete	– Vandalism proof – Durable – Functional – Safe	– Open space – Resting areas	
		– Concrete – Metal – Masonry	– Max. height 4m at open areas – Max. height 10m at roadside	– Open space – Entrance with bollard – Roadside	
	■ 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	
	■ Structures and Shelter <input type="checkbox"/> Informal <input type="checkbox"/> Vernacular	– Hardwood – Concrete – Masonry – Metal	– To blend harmoniously with surrounding structure – Durable – Safe	– Open space	
	■ Signage <input type="checkbox"/> Formal <input type="checkbox"/> Informal <input type="checkbox"/> Contemporary	– Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Entrance – Open space – Pedestrian walkway	
	■ Play feature <input type="checkbox"/> Integrated <input type="checkbox"/> Bright colour	– Metal – Rubber matting – Plastic	– Conform to SIRIM standard – Safe – Attractive	– Open space	

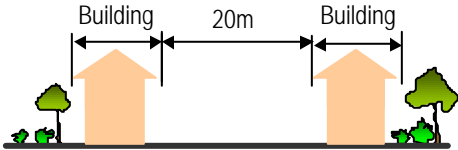
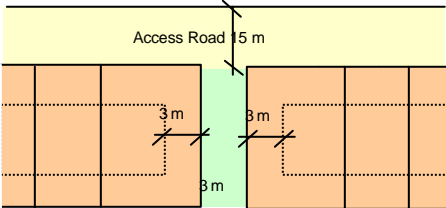
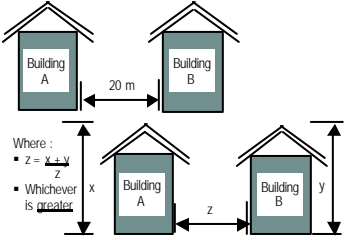
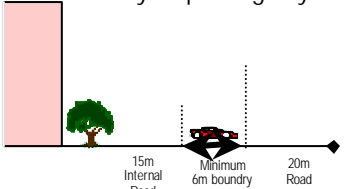
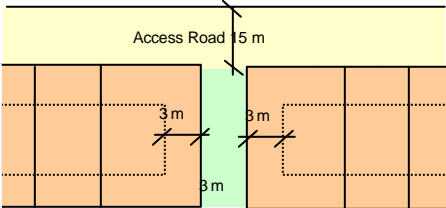
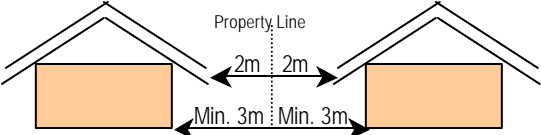
P U T R A J A Y A P R E C I N C T 1 1 L O C A L P L A N

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Landed)	■ Paving, walls and steps <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max. gradient 8% – Durable	– Building compound	
		<input type="checkbox"/> Walls – Key stone – Concrete – Fencing brick etc.	– Harmonize with surrounding – To screen the wall with planting	– 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"/> Roadside	■ Paving, walls and steps <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking paver etc. <input type="checkbox"/> Wall – Key stone – Concrete – Granite stone etc.	– Anti slippery surface – Max. gradient 8% – Max. Gradient for super elevation 2%	– Roadside	
				– Slope areas	
	■ Site Furniture <input type="checkbox"/> Contemporary	– Hardwood – Masonry – Metal	– Vandalism proof – Safe – Attractive	– Junction	
	■ Lighting <input type="checkbox"/> Robust <input type="checkbox"/> Minimal <input type="checkbox"/> Reflect character of adjacent neighbourhood	– Timber – Metal	– Max. height 4m at open areas – Max. height 10m at roadside	– Footpaths – Cycle track – Car park	
	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Visually attractive – Naturally blend with surrounding	– Open space – plaza	
	■ Signage <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Simple <input type="checkbox"/> Clear	– Masonry – Metal – Hardwood	– Clear – Vandalism proof – To following Signage and Advertisement Design Guideline Putrajaya	– Junction	
	■ Planting <input type="checkbox"/> Formal	– Shade medium size tree – Palm – Shrub	– Provide ample shade – Hardy Plants – Attractive	– Roadside	
<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	

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 – 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 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>(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> <p>(ix) Utility and service areas associated shall be suitably enclosed in structures and materials sympathetic with the design of the buildings</p> <p>(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)</p> <p>(xi) Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya</p>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 13 (PB 13)

MAIN LAND USES:	AFFORDABLE HOMES	TERRACE HOUSES	GAS PIPE RESERVE	MAIN ELECTRIC SUBSTATION
(i) Density	<ul style="list-style-type: none"> 75 units/acre 	<ul style="list-style-type: none"> 20 units/acre 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> One in PB13
(ii) Composition	<ul style="list-style-type: none"> 100% Affordable Home 	<ul style="list-style-type: none"> Government housing 		
(iii) Minimum Lot size	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> 180m² 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> 0.2 hac.
(iv) Height	<ul style="list-style-type: none"> Max. 20 storey 	<ul style="list-style-type: none"> 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 N/A Minimum 6 metres from lot boundary 20 metres setback between buildings or average of building heights 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 individual houses Where applicable minimum 3 metres Minimum 3 metres 20 metres setback between buildings or average of building heights 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

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

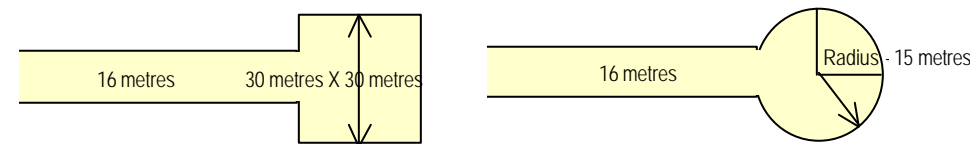
MAIN LAND USES:	AFFORDABLE HOMES	TERRACE HOUSES	GAS PIPE RESERVE	MAIN ELECTRIC SUBSTATION
(vi) Fencing As per the Fencing Design Guidelines Manual, Volume 1 and Volume 2, chapter 1, 2 and 3	<ul style="list-style-type: none"> ▪ Refer Fencing Design Guidelines Manual, Volume 2, chapter 8 	<ul style="list-style-type: 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 ▪ Generally no fencing would be encourage 	<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 childrens playground. ▪ Suitable size surau - 80%XNo of unitsX0.4m2 ▪ Community Hall ▪ Tadika ▪ Taska ▪ Corner Shops ▪ Car park to be well landscaped ▪ Min 2 metres landscape buffer to all boundaries. ▪ Service areas to be aesthetically screened. 	<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 facilities. □ Location of car parking spaces □ Location 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

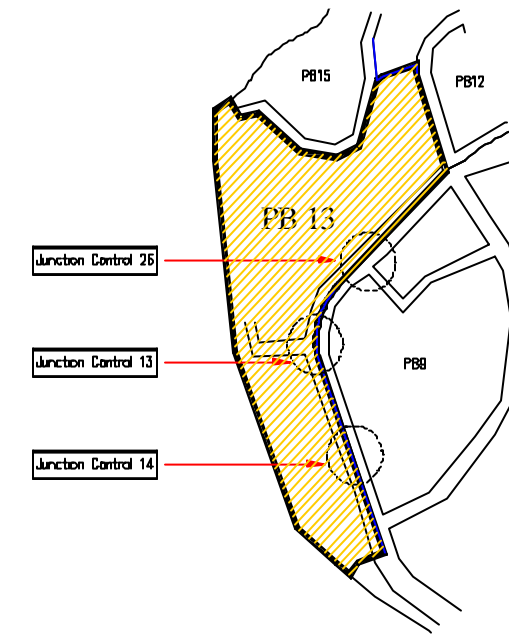
Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

(iv) Visibility Standards for Priority Junction

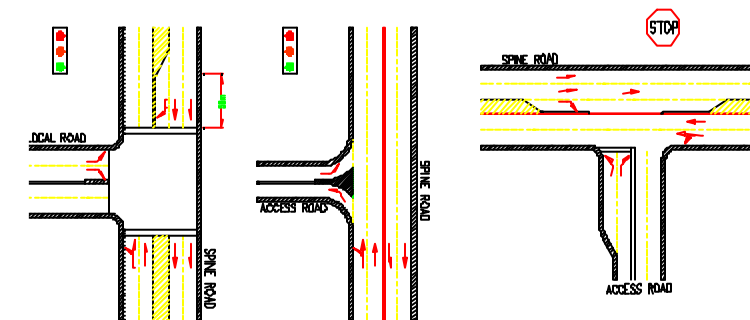
- Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given

(v) Transport Design Guide for Putrajaya

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

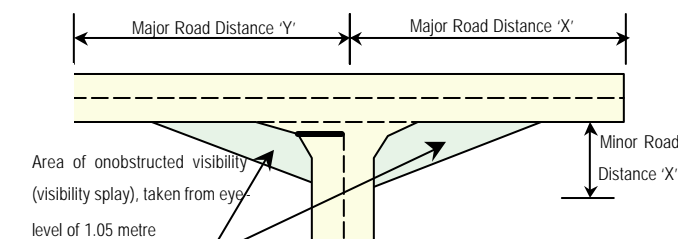


Planning Block 13 (PB 13) - Key Plan



Junction Control at 13 Junction Control at 14 Junction Control at 26
with equal controlled pedestrian crossing phases

Visibility Standards for Priority Junction



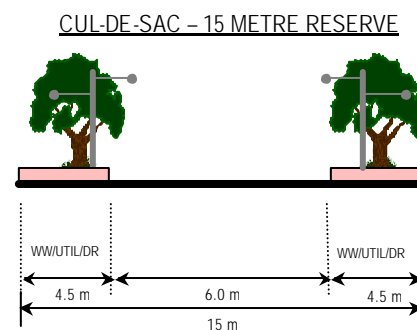
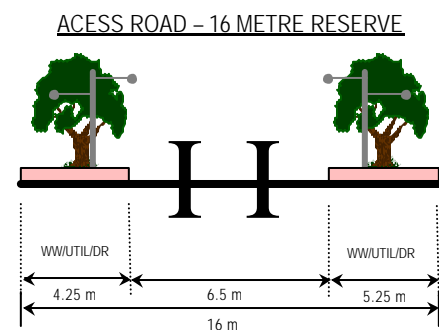
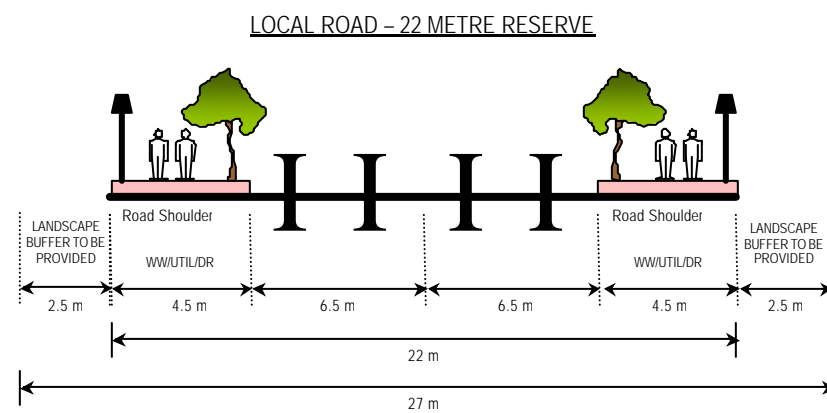
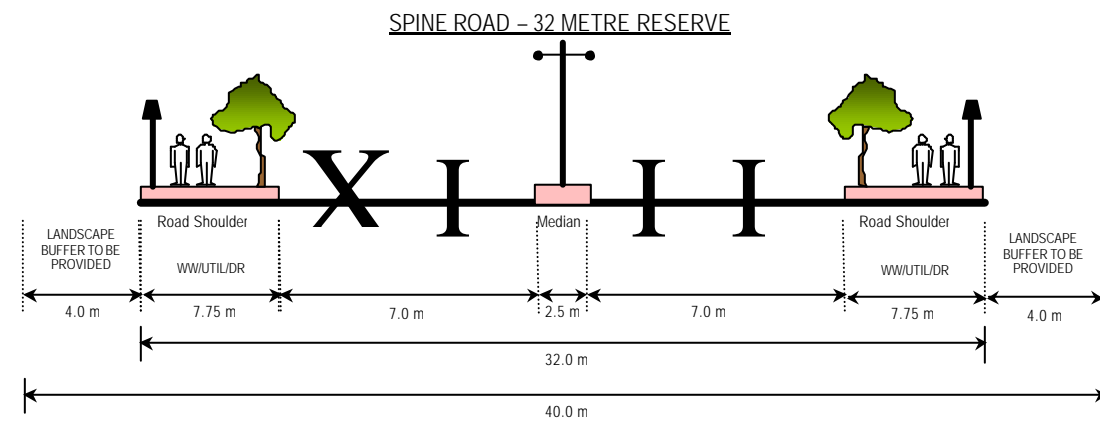
- Minor Road Distance 'X' (metre)
 - 9.0 metre most situations
 - 4.5 metre an absolute minimum on lightly trafficked roads (< 200 vph)

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 pedestrians walkway utility and drainage reserve
- Minimum cover to all utilities should be 1.5 metre
- Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
- Minimum cover to all utilities should be 1.5 metre

PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

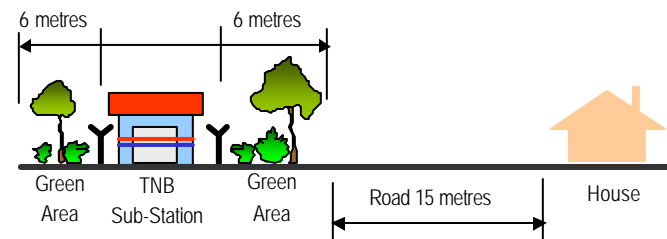
UTILITIES

(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 PB13 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 PB13 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



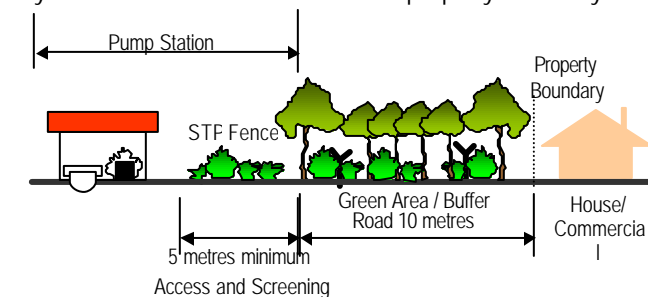
(iii) Drainage

- 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.



(vi) 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 PB13 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB13 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

(vi) Waste Disposal

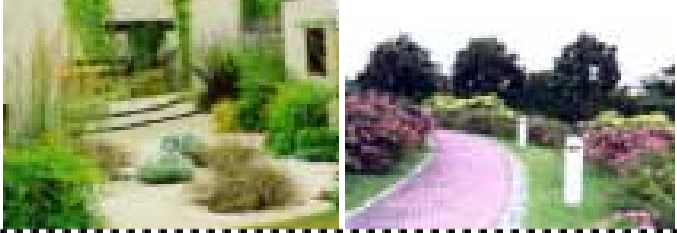
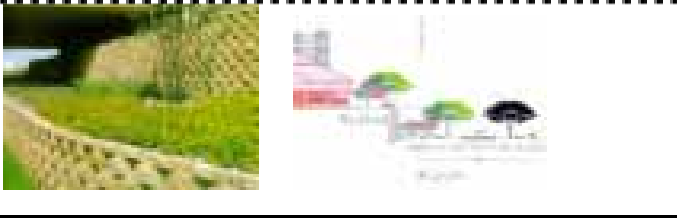
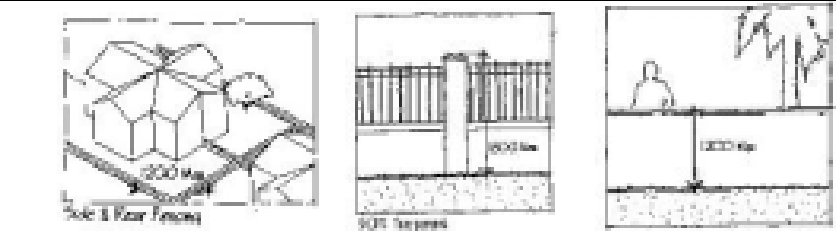

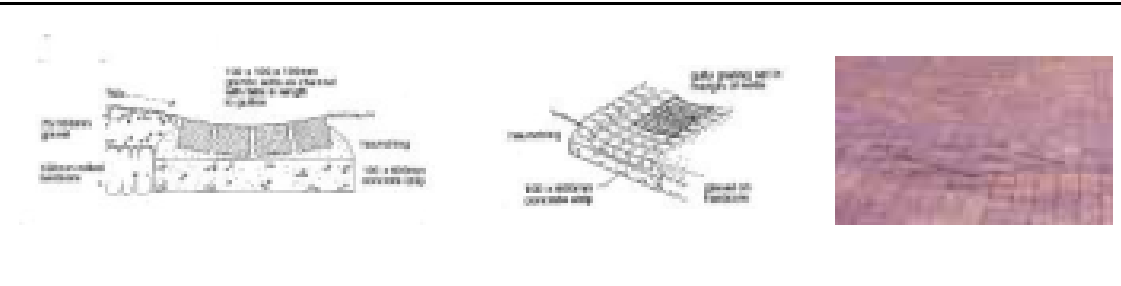

- Solid waste management in PB13 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.
- Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to 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 (flats and low cost apartment), refuse chamber have to be built at each block or group of block with the ratio one refuse chamber to two or three building block. The estimated generation of solid waste is 5 kg/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.


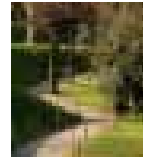







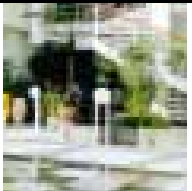




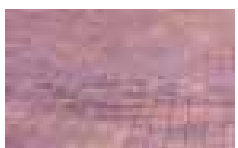




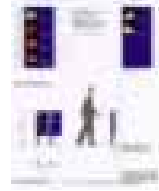




(vii) Water Supply

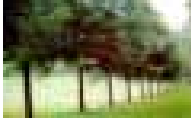
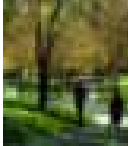






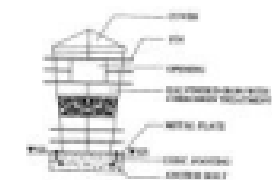
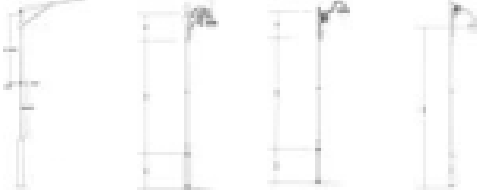

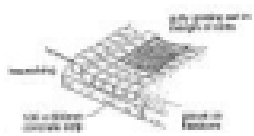




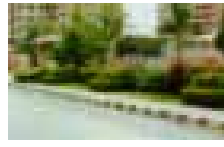
- Water supply to PB13 shall be consistent with the provision of water supply master plan for Putrajaya.
- Storage reservoir and pumping station together with the rising and falling mains shall be planned to serve this area in compliance with Jabatan Bekalan Air (JBA) requirement, and Design Criteria and Standards for Water Supply System, JKR (1989).

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

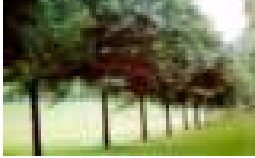

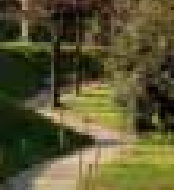


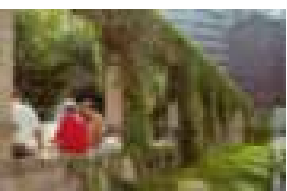





PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Landed)	■ Paving, walls and steps <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max. gradient 8% – Durable	– Building compound	
		<input type="checkbox"/> Walls – Key stone – Concrete – Fencing brick etc.	– Harmonize with surrounding – To screen the walls with planting	– 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.			

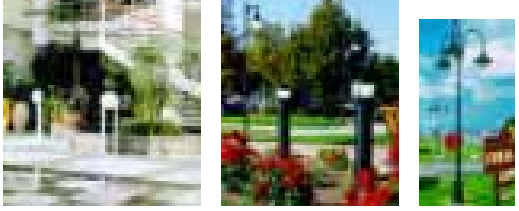
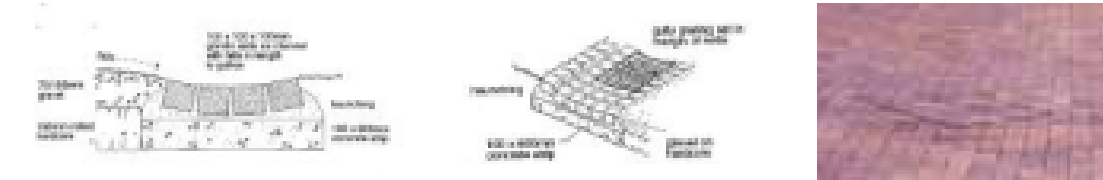

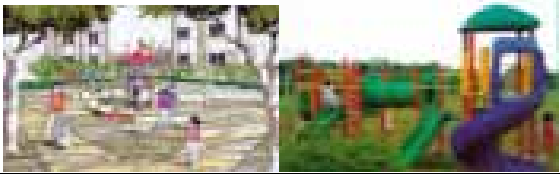

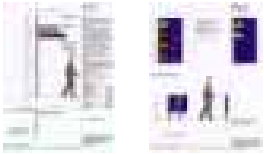

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Condominium, Government apartment)	■ Paving / Step, Wall <input type="checkbox"/> Formal <input type="checkbox"/> Informal <input type="checkbox"/> Natural	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max-gradient of 8% – Durable	– Open space – Walkway	  
		<input type="checkbox"/> Wall – Keystone – Facing Brick – Concrete etc.	– Harmonize with surrounding environment – To screen the wall with planting	– Slope areas	  
	■ Site Furniture <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood	– Hardwood – Metal – Concrete	– Vandalism proof – Durable – Functional – Safe	– Open space – Resting areas	  
	■ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood	– Concrete – Metal – Masonry	– Max. height 4m at open areas	– Open space – Entrance with bollard	  
	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Visually attractive – Naturally blend with surrounding	– Open space – Plaza	  
	■ Structures and Shelters <input type="checkbox"/> Contemporary <input type="checkbox"/> Simple <input type="checkbox"/> Informal	– Timber – Concrete – Metal	– Sustainable design – Proportion to surrounding scale	– Open space – Plaza	 
	■ Signage <input type="checkbox"/> Formal <input type="checkbox"/> Informal	– Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Entrance – Open space – Pedestrian walkway	  
	■ Play feature <input type="checkbox"/> Integrated <input type="checkbox"/> Bright colour	– Metal – Rubber matting – Plastic	– Conform to SIRIM standard – Safe – Attractive	– Open space	 

P U T R A J A Y A P R E C I N C T 1 1 L O C A L P L A N

PLANNING REQUIREMENT : LANDSCAPE						
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION		
<input type="checkbox"/> Drain reserve	<ul style="list-style-type: none"> ▪ Planting <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Natural 	<ul style="list-style-type: none"> – Palm – Tree – Shrub 	<ul style="list-style-type: none"> – Non-poisonous species – Harmonize with surrounding environment 	<ul style="list-style-type: none"> – Drain reserve 		
<input type="checkbox"/> Roadside	<ul style="list-style-type: none"> ▪ Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> <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 	   	
		<ul style="list-style-type: none"> <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 – To screen the wall with planting 	<ul style="list-style-type: none"> – Slope areas 	 	
		<ul style="list-style-type: none"> ▪ 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 	 
		<ul style="list-style-type: none"> ▪ 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 4m at open areas – Max. height 10m at roadside 	<ul style="list-style-type: none"> – Footpaths – Cycle track – Car park 	
		<ul style="list-style-type: none"> ▪ 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 	  
		<ul style="list-style-type: none"> ▪ 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 following Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> – Junction 	 
		<ul style="list-style-type: none"> ▪ Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal 	<ul style="list-style-type: none"> – Palm – Shrub – Forest species 	<ul style="list-style-type: none"> – Provide ample shade – Hardy Plants – Attractive 	<ul style="list-style-type: none"> – Roadside 	 
		<ul style="list-style-type: none"> ▪ Irrigation Strategy 	<ul style="list-style-type: none"> – Trucking 			

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	
<ul style="list-style-type: none"> <input type="checkbox"/> Gas pipe reserve 	<ul style="list-style-type: none"> ▪ Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal <input type="checkbox"/> Natural 	<ul style="list-style-type: none"> - Tree - Palm - Shrub 	<ul style="list-style-type: none"> - Non-poisonous species 	<ul style="list-style-type: none"> - Reserve areas 	
<ul style="list-style-type: none"> <input type="checkbox"/> Open space 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> <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 	  
		<ul style="list-style-type: none"> <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 - To screen the wall with planting 	<ul style="list-style-type: none"> - Slope areas 	  
	<ul style="list-style-type: none"> ▪ Water feature <ul style="list-style-type: none"> <input type="checkbox"/> Natural <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 	 
	<ul style="list-style-type: none"> ▪ 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"> - To following Signage and Advertisement Design Guideline Putrajaya 	<ul style="list-style-type: none"> - Entrance - Junction - Pedestrian - Sport areas 	 

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Open space	■ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Robust <input type="checkbox"/> Decorative	– Hardwood timber – Metal – Fiberglass	– Max. height compound lighting 4m – Max. height street lighting 10m – Anti-corrosion finishes	– Plaza – Open space – Road side	
	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Visually attractive – Naturally blend with surrounding	– Open space – plaza	
	■ Structures and Shelters <input type="checkbox"/> Contemporary <input type="checkbox"/> Simple <input type="checkbox"/> Informal	– Timber – Concrete – Metal	– Sustainable design – Proportion to surrounding scale – Durable	– Open space – Plaza	
	■ Play feature <input type="checkbox"/> Robust <input type="checkbox"/> Colorful <input type="checkbox"/> Safe	– Timber – Rubber matting – Metal	– Conform to SIRIM standard – Safe – Attractive	– Open space – Plaza	
	■ Sport feature <input type="checkbox"/> Robust <input type="checkbox"/> Colorful <input type="checkbox"/> Safe	– Timber – Rubber matting – Concrete	– Durable – Safe	– Open space	
	■ Signage <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal	– Masonry – Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Entrance – Junction – Pedestrian – Sport areas	
	■ Water feature <input type="checkbox"/> Naturalistic <input type="checkbox"/> Contemporary	– Rock, Natural – Tile finish – Metal sculpture – Concrete sculpture	– Safe – Attractive	– Entrance – Open space – Plaza	
	■ Irrigation Strategy	Pipe reticulation from pond and supported by trucking or tap from JBA main.			

PLANNING REQUIREMENT : URBAN DESIGN				
LAYOUT PLAN	BUILDING CHARACTER	HEIGHT, MASSING AND BUILDING SPACES	COLOUR TEXTURE	MISCELLANEOUS
<p>1. 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>2. Illustrate the effective and efficient integration of the pedestrian, cycle and road systems</p> <p>3. Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</p> <p>4. Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</p> <p>5. Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</p> <p>6. Illustrate that the site will be developed in a logical sequence</p> <p>7. 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>8. Where applicable, the provisions of suraus, within apartment complexes should be a freestanding building</p> <p>9. The apartment complex must include 'drop off' points for the convenience of residents</p> <p>10. 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 – 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 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>(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> <p>(ix) Utility and service areas associated shall be suitably enclosed in structures and materials sympathetic with the design of the buildings</p> <p>(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)</p> <p>(xi) Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya</p>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 14 (PB 14)

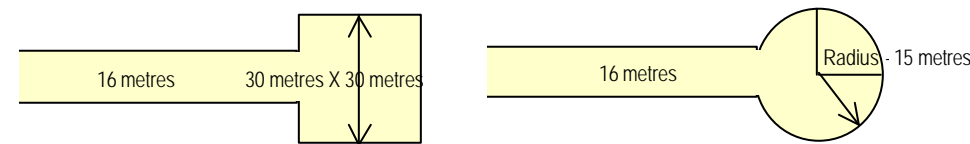
MAIN LAND USE: Government Reserve	PLANNING REQUIREMENT : BUILDING	
KEY PROVISION	BUILDING SETBACKS	CAR PARK
<p>(i) Perbadanan Reserve</p> <ul style="list-style-type: none"> ▪ Minimum lot size : 5.4 acre (2.2 hac.) ▪ Height : 3 levels on flat or gently sloping land; 2 levels on steeply sloping land ▪ Fencing : As per Fencing Design Guidelines Manual Volume 2, Chapter 10, p.86 <p>(ii) Kelab Residen</p> <ul style="list-style-type: none"> ▪ Minimum lot size : 2 acre (0.8 hac.) ▪ Height : 3 levels on flat or gently sloping land; 2 levels on steeply sloping land ▪ Fencing : As per Fencing Design Guidelines Manual Volume 2, Chapter 10, p.86 <p>(iii) Service Industry</p> <ul style="list-style-type: none"> ▪ Minimum lot size : 3.6 acre (1.4 hac.) ▪ 2 storey ▪ Fencing : As per Fencing Design Guidelines Manual Volume 2, Chapter 10, p.86 <p>(iv) Police Reserve</p> <ul style="list-style-type: none"> ▪ Minimum lot size : 4 acre (1.6 hac.) ▪ Height : Maximum 3 storey ▪ Fencing : As per FDG Manual Volume 2, Chapter 10, pg.86 <p>(v) Petrol Station</p> <ul style="list-style-type: none"> ▪ Minimum lot size : 1 acre (0.4 hac.) ▪ Single storey ▪ Fencing : As per Fencing Design Guidelines Manual Volume 2, Chapter 10, p.86 <ul style="list-style-type: none"> ▪ Plinth area – 40% max ▪ Plot ratio – 0.5 max 	<p>(i) Front / Rear Setback</p> <ul style="list-style-type: none"> ▪ Street frontage – Minimum 6 metres ▪ Rear setback – Minimum 6 metres ▪ Side setback – Minimum 6 metres <ul style="list-style-type: none"> ▪ Minimum 1 cps per 500m2 floor area <ul style="list-style-type: none"> ▪ 6m measured from the road reserve to the nearest permanent structure in the petrol station ▪ a min. landscape buffer of 5m shall be provided for petrol station located next to a residential building 	<ul style="list-style-type: none"> ▪ Minimum 1 cps per 1000m2 floor area+10% for visitors <ul style="list-style-type: none"> ▪ Minimum 1 cps per 500m2 floor area <ul style="list-style-type: none"> ▪ Minimum 1 cps per 500m2 floor area <ul style="list-style-type: none"> ▪ 1 CPS : 150 GFA

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

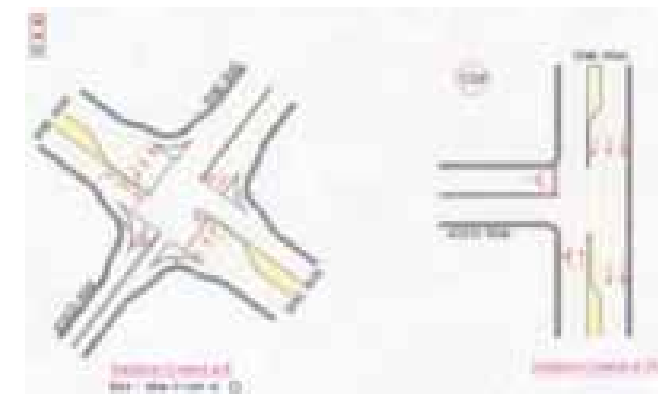
Junction Control	Total sum of 2-way traffic on the major road and heavier approach on minor road (PCU)	
	Spine Road	Local Road
Stop Control	up to 1500	up to 1500
Traffic Signal	Up to 4500	Generally not required
Grade Separation	Generally not required	Generally not required

(iv) Visibility Standards for Priority Junction

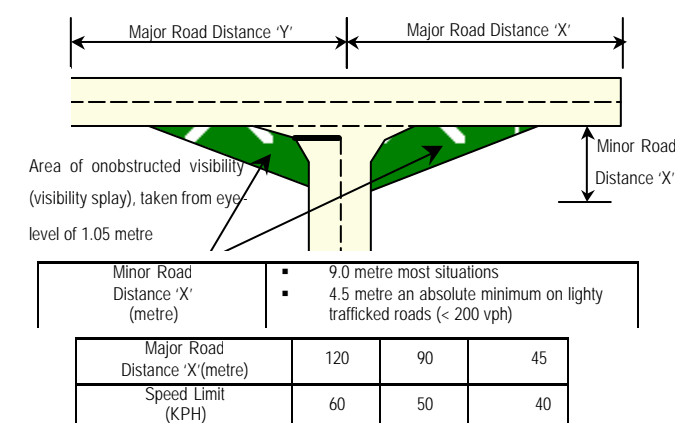
- Because minor road are uncontrolled. It is essential that adequate standards of visibility are achieved in the layout and that sight distances take account of the speed of traffic on the major road. The standards for providing clear visibility for minor road traffic are set out in the figure given

(v) Transport Design Guide for Putrajaya

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



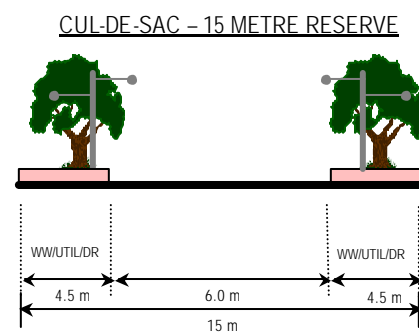
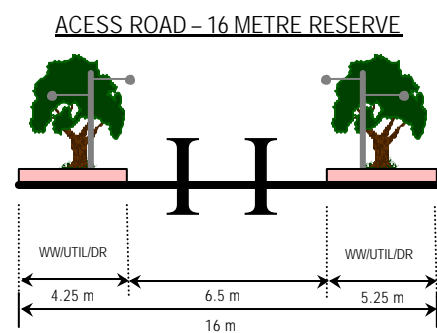
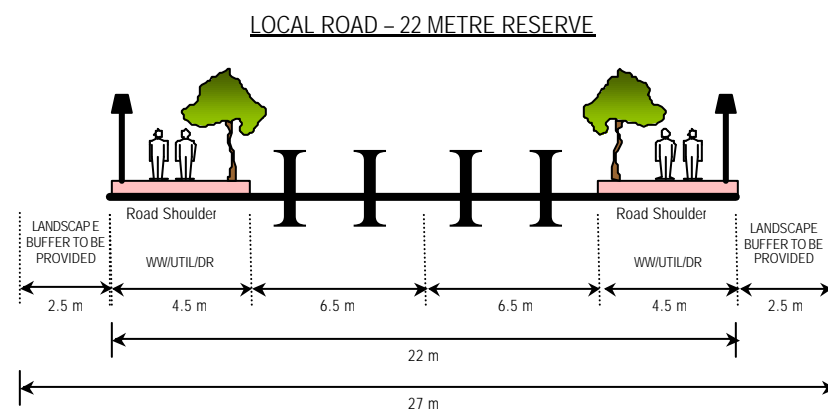
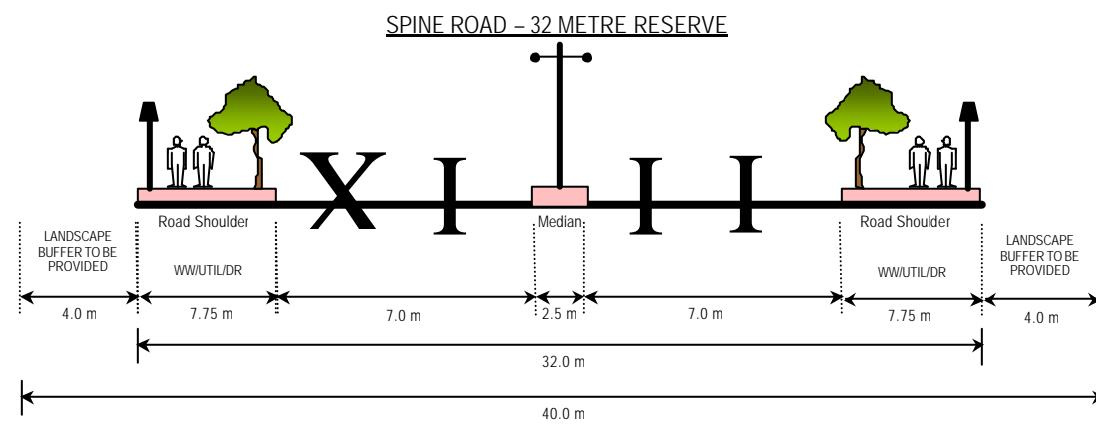
Visibility Standards for Priority Junction



PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

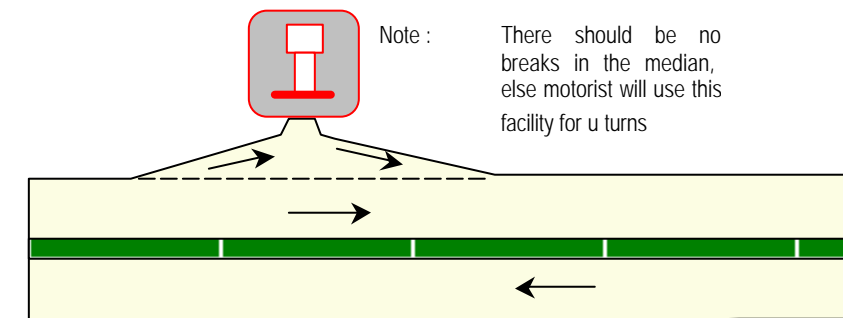
ROAD NETWORK AND DESIGN STANDARD

(v) Typical Road Cross Section



- Note:
- WW/UTIL/DR : Common pedestrians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 1.5 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 1.5 metre

(vii) Petrol Station Access



PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

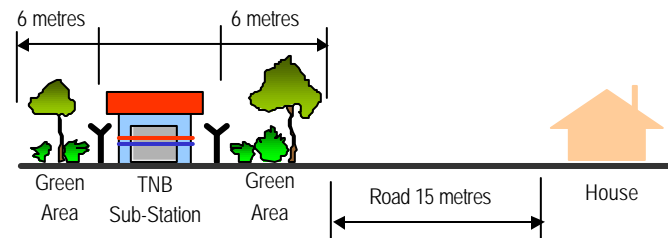
UTILITIES

(i) Environment

- A shared waste treatment facility must be provided
- 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 PB14 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 PB14 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

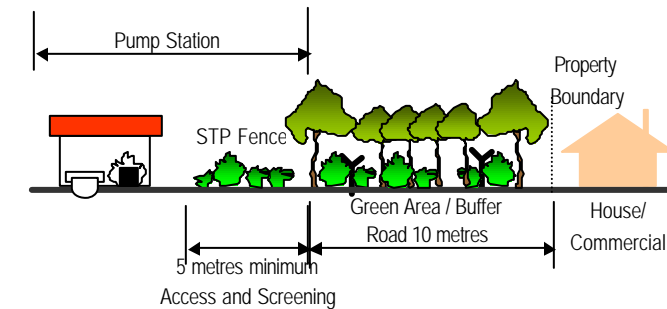


(iii) Drainage

- 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 PB14 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB14 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

(vi) Waste Disposal

- Solid waste management in PB14 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 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



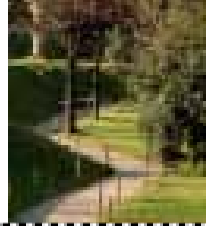




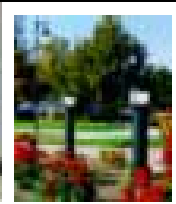

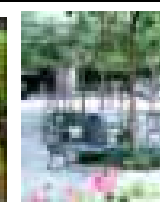
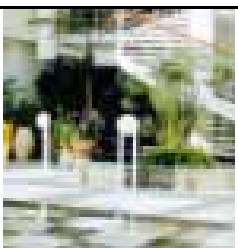

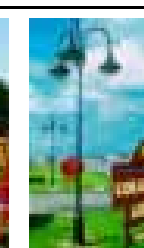
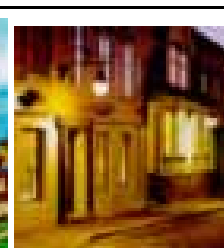
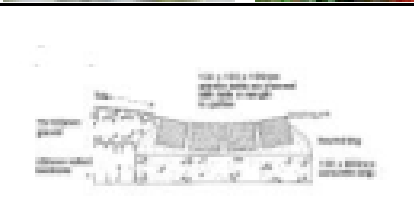
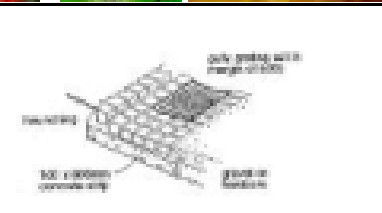
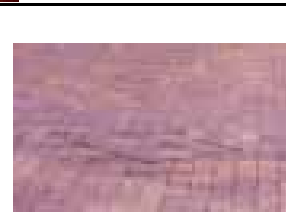

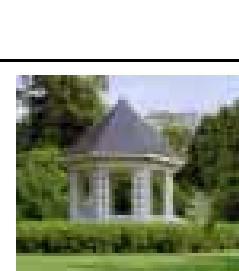
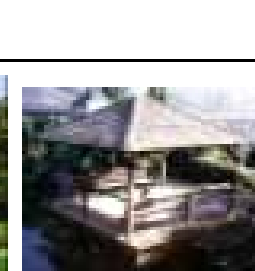





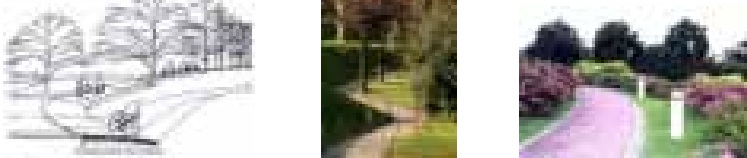
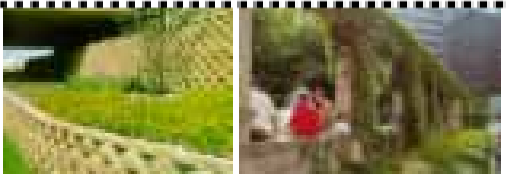

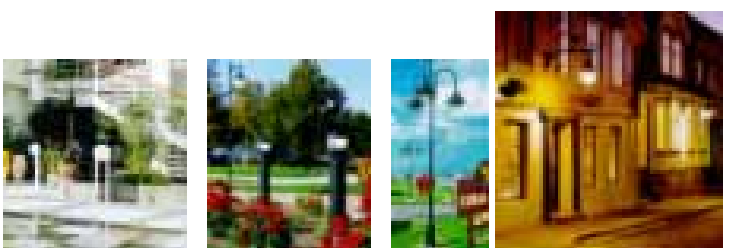
(vii) Water Supply

- Water supply to PB14 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)

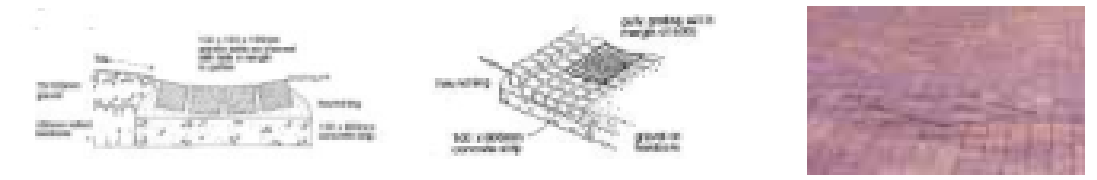
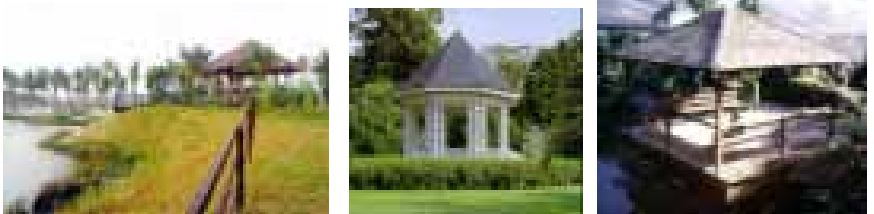





PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Government facilities	■ Paving, walls and steps <input type="checkbox"/> Informal <input type="checkbox"/> Natural	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc <input type="checkbox"/> Walls – Key stone – Concrete – Granite stone etc.	– Anti slippery surface – Max. gradient 8% – Max. gradient 2% for superelevation – Durable – Harmonize with surrounding – Visually attractive	– Open space – Plaza – Slope areas	
	■ Site Furniture <input type="checkbox"/> Simple <input type="checkbox"/> Formal	– Hardwood – Metal – Stone	– Vandalism proof – Durable – Functional – Safe	– Open space – Plaza	
	■ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Hi-tech	– Concrete – Metal – Masonry	– Max. height 4m at open areas	– Bollard at pedestrian entrance – Plaza – Road side	
	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Rock boulder – Culvert – Concrete – Granite stone wall – Drain cover on walkway to follow walkway 's material	– Preferable covered drain – Natural fence if necessary – Accessible for maintenance works – Natural landscape setting for opened monsoon drain	– All drainage system	
	■ Structures and Shelters <input type="checkbox"/> Informal, Vernacular, <input type="checkbox"/> Hi-tech	<input type="checkbox"/> Structures – Hardwood timber – Metal – Concrete – Masonry <input type="checkbox"/> Roof – Clay tile – Metal decking – Poly carbonate	– Sustainable design – Proportion to human scale and surrounding structure – Functional – To blend harmoniously with surrounding environment	– Open areas – Plaza	
	■ Irrigation Strategy	– Pipe reticulation from PHB and/or trucking			

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

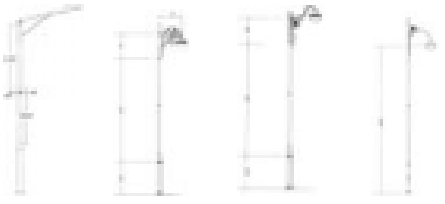
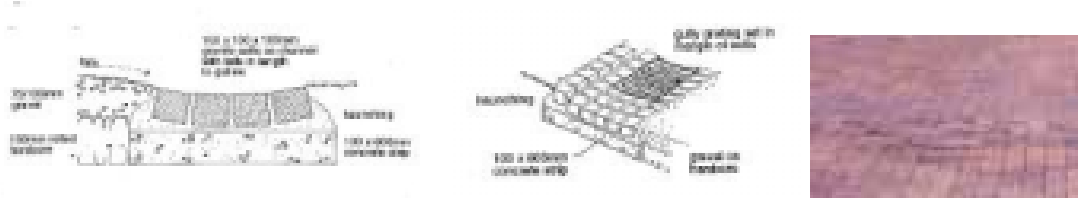
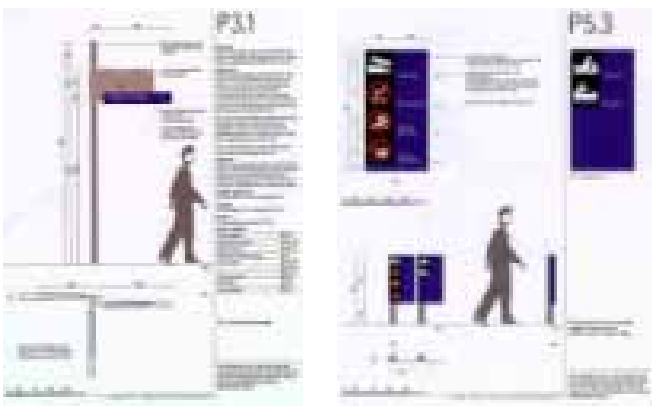


PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Government facilities	<ul style="list-style-type: none"> ▪ Play feature <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Robust <input type="checkbox"/> Bright 	<ul style="list-style-type: none"> - Steel frame - Rubber matting 	<ul style="list-style-type: none"> - Conform to SIRIM standard 	<ul style="list-style-type: none"> - Open space 	
<input type="checkbox"/> Recreation club	<ul style="list-style-type: none"> ▪ Paving / Step, Wall <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal <input type="checkbox"/> Geometric 	<ul style="list-style-type: none"> □ 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"> - Plaza 	  
		<ul style="list-style-type: none"> □ Wall <ul style="list-style-type: none"> - Key stone - Facing brick finish - Concrete finish etc. 	<ul style="list-style-type: none"> - Harmonize with surrounding structure 	<ul style="list-style-type: none"> - Slope areas 	 
	<ul style="list-style-type: none"> ▪ Site Furniture <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Hi-tech 	<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"> - Pocket space - Plaza - Roadside 	   
	<ul style="list-style-type: none"> ▪ Lighting <ul style="list-style-type: none"> <input type="checkbox"/> Contemporary <input type="checkbox"/> Hi-tech <input type="checkbox"/> Informal <input type="checkbox"/> Natural 	<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 - Roadside 	   
	<ul style="list-style-type: none"> ▪ 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"> - Harmonious with surrounding design 	<ul style="list-style-type: none"> - Plaza - Open space 	  
	<ul style="list-style-type: none"> ▪ 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 - Monsonry - Metal 	<ul style="list-style-type: none"> - To blend harmoniously with surrounding structure - Durable - Functional 	<ul style="list-style-type: none"> - Plaza - Open space 	  

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Recreation club	■ Signage <input type="checkbox"/> Hi-tech <input type="checkbox"/> Simple	– Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Plaza – Open space – Pedestrian walkway – Bicycle track	
	■ Fences, Gate and Berries <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Informal	– Engraved stone – Metal	– To suit architecture design – To blend naturally with surrounding environment – To follow Fencing Design Guideline Putrajaya	– Entrance – Boundary demarcation	
	■ Water features <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Hi-tech	– Stone – Concrete – Metal	– Safe – Attractive – Clean	– Entrance – Plaza – Open space	
<input type="checkbox"/> Service industry	■ Paving / Step, Wall <input type="checkbox"/> Formal	■ Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max-gradient of 8% – Durable	– Open space – Walkway	
		■ Wall – Keystone – Facing Brick – Concrete etc.	– Harmonize with surrounding environment	– Slope areas	
	■ Site Furniture <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal	– Hardwood – Metal – Concrete	– Vandalism proof – Durable – Functional – Safe	– Open space – Resting areas	
	■ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal	– Concrete – Metal – Masonry	– Max. height 4m at open areas – Max. height 10m at roadside	– Open space – Entrance with bollard – Roadside	

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

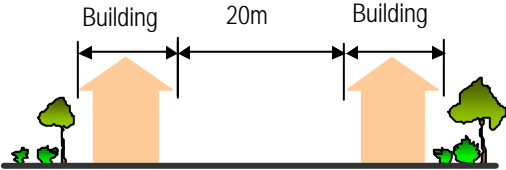
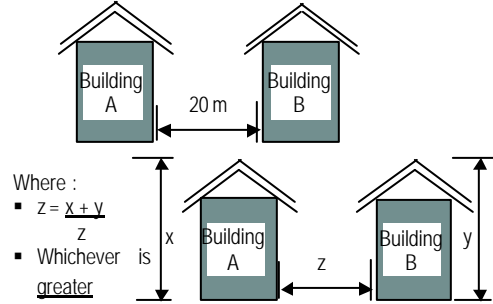
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Service industry	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Harmonious with surrounding environment	– Where necessary	
	■ Structures and Shelter <input type="checkbox"/> Formal <input type="checkbox"/> Vernacular	– Hardwood – Concrete – Monsonary – Metal	– To blend harmoniously with surrounding structure – Durable – Safe	– Open space	
	■ Signage <input type="checkbox"/> Informal <input type="checkbox"/> Formal	– Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Entrance – Open space – Pedestrian walkway	
	■ Play feature <input type="checkbox"/> Integrated <input type="checkbox"/> Bright colour	– Metal – Rubber matting – Plastic	– Conform to SIRIM standard – Safe – Attractive – Durable	– Open space	
<input type="checkbox"/> Road reserve	■ Paving, walls and steps <input type="checkbox"/> Informal and contemporary <input type="checkbox"/> Informal and natural <input type="checkbox"/> Robust	■ Paving / Step – Clay brick – Concrete – Grasscrete etc	– Anti slippery surface – Max. gradient 8% – Durable – Accessible for disable	– Open space – Plaza – Roadside	
		■ Wall – Key stone – Facing brick – Concrete – Granite stone etc.	– Visually attractive – Harmonize with surrounding environment	– Slope areas	
	■ Site Furniture <input type="checkbox"/> Robust <input type="checkbox"/> Contemporary <input type="checkbox"/> Decorative	– Hardwood timber – Concrete – Metal	– Vandalism proof – Durable – Safe	– Open space – Plaza – Roadside	

P U T R A J A Y A P R E C I N C T 1 1 L O C A L P L A N

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Road reserve	▪ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Robust <input type="checkbox"/> Decorative	– Hardwood timber – Metal – Fiberglass	– Max. height compound lighting 4m – Max. height street lighting 10m – Anti-corrosion finishes – Durable	– Plaza – Open space – Road side	
	▪ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Culvert – Concrete – Drain cover on walkway to follow walkway 's material	– Visually attractive – Naturally blend with surrounding	– Open space – plaza	
	▪ Signage <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal	– Masonry – Metal	– As per Signage and Advertisement Design Guideline Putrajaya	– Entrance – Junction – Pedestrian	
	▪ Planting <input type="checkbox"/> Tropical <input type="checkbox"/> Formal	– Palms – Trees – Shrubs – Ground covers	– Tropical species – Low maintenance	– All green area	
<input type="checkbox"/> Drain reserve	▪ Planting <input type="checkbox"/> Tropical <input type="checkbox"/> natural	– Palms – Shrubs – trees	– Tropical species – Low maintenance	– All green 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) Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</p> <p>(iii) Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</p> <p>(iv) Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</p> <p>(v) 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) 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>(ii) Building design should respect the amenity of adjoining and adjacent buildings and their residents</p> <p>(iii) Building design should interpret local image and character with new materials that are energy efficient</p> <p>(iv) Building facades should be designed to accommodate a tropical environment</p> <p>(v) Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</p> <p>(vi) 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>(vii) The development creates a visually and physically amenable work environment</p>	<p>(i) Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines</p> <p>(ii) Roof pitch and overhang should be designed to meet local environmental requirements</p> <p>(iii) Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</p> <p>(iv) Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect; blank walls to be avoided</p> <p>(v) 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) Brighter colours for specific building types will be subject to the approval of PPj</p> <p>(iv) No uncoated metals should be used for the sidings of industrial building(s) – should metal sidings be utilised, these should be coated in suitable colours, preferably earth tones</p> <p>(v) Profiled metals may be used for the sidings of industrial buildings</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 and 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) Aerials and satellite dishes shall be located to avoid adverse 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> <p>(vi) Be designed to integrate with the design of associated buildings</p> <p>(vii) Not diminish the attractiveness of the streetscape</p> <p>(viii) Buildings associated with industrial uses should:</p> <ul style="list-style-type: none"> ▪ Be reasonably compatible in appearance and scale with nearby buildings ▪ Include appropriate screening and buffering that maintains or improves the amenity of adjoining uses <p>(ix) Development associated with industrial uses must be designed to contain within the site any potential adverse visual or environmental impacts</p> <p>(x) Risks and hazards associated with the industrial development must be within acceptable levels and adequate safety measures must be in place</p> <p>(xi) Access to, parking and servicing of industrial uses must not reduce the amenity of lands in the vicinity</p> <p>(xii) Ensure that no noise emissions or vibrations from the site cause a nuisance to nearby residents</p>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 15 (PB 15)

MAIN LAND USES: Residential	PLANNING REQUIREMENT : BUILDING		
KEY PROVISION	APARTMENT	BUNGALOW	SECONDARY SCHOOL
<p>(i) Permissible Use</p> <ul style="list-style-type: none"> Apartment Bungalow <p>(ii) Height</p> <ul style="list-style-type: none"> Apartment - Maximum 12 storey Note: 17 storey upon approval from PJC Bungalow - Maximum 8 units per acre <p>(iii) Density</p> <ul style="list-style-type: none"> Apartment - 40 unit/acre Bungalow - Maximum 8 units per acre <p>(iv) Fencing</p> <ul style="list-style-type: none"> Apartment - As per Fencing Design Guidelines Manual, Volume 2, Chapter 8 Bungalow - 2 levels on flat or gently sloping land; 3 levels on steeply sloping land <p>(v) Layout Plan</p> <ul style="list-style-type: none"> A buffer of 30m between planning block and the ERL reserve 	<p>(i) Front / Rear Setback</p> <ul style="list-style-type: none"> Front setback – Minimum 3 metres Rear setback – Minimum 3 metres <p>(ii) Building to Building</p> <ul style="list-style-type: none"> Maximum 20m distance  <ul style="list-style-type: none"> 20 metres setback between building or average of building heights  <p>Where :</p> <ul style="list-style-type: none"> $z = \frac{x+y}{2}$ Which ever is greater <p>(iii) Car Park</p> <ul style="list-style-type: none"> Minimum 1 car parking space per units + 10% for visitors Disable parking at 1% of total cps Covered motorcycle parking bays at 1 : 1 <p>(iv) Community Provision</p> <ul style="list-style-type: none"> Community Hall Surau + ruang jenazah Kindergarten Day Care Centre Laundry Car Wash Area Convenient Shop Courts Sepaktakraw or Volleyball 	<p>(i) Front / Rear Setback</p> <ul style="list-style-type: none"> These setbacks apply to all bungalows <i>that do not have</i> frontage to the Taman Wetlands Promenade Total setback distance for both the front and rear setbacks must total 9 metres comprised as follows Street frontage – Minimum 3 metres Rear setback – Minimum 3 metres <p>(ii) Front / Rear Setback</p> <ul style="list-style-type: none"> These setbacks apply to all bungalows that <i>do have</i> frontage to the Taman Wetlands Promenade Total setback distance for both the front and rear setbacks must total 10 metres <p>(iii) Side Setbacks</p> <ul style="list-style-type: none"> Minimum 3 metres <p>(iv) Setback Between Roof's Eaves</p> <p>(v) Side Setback To Road</p> <p>(vi) Car Park</p> <ul style="list-style-type: none"> Min 2 cps on site CPS to be clear of min front setback 	<p>(i) Area – 13.9 acre</p> <p>(ii) Height - Maximum 4 storey</p> <p>(iii) Front/Rear setbacks</p> <ul style="list-style-type: none"> Street frontage – Minimum 6 metres Rear – Minimum 6 metres <p>(iv) Side Boundary</p> <ul style="list-style-type: none"> Minimum 6 metres <p>(v) Street Boundary</p> <ul style="list-style-type: none"> Setback from access road – 12m (min) <p>(vi) Car Park</p> <ul style="list-style-type: none"> 1 CPS : 8 staffs + 10% for visitors 1 MPS : 10 staffs 1 MPS : 20 students (form 5 & 6) 1 bicycle rack : 50 students Min. 10 car lay-bye for drop off / pick up Bus bay : min. 6 bays <p>(vii) Fencing</p> <ul style="list-style-type: none"> Refer Fencing Design Guidelines Manual, Volume 2, chapter 11 <p>(viii) Layout Plan</p> <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, car parking. 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

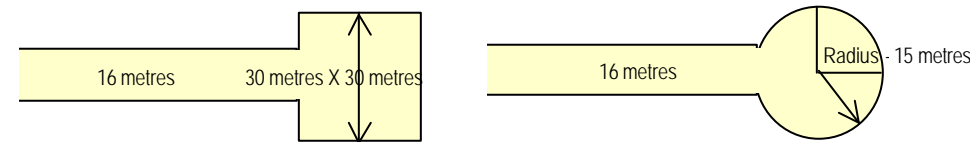
P U T R A J A Y A P R E C I N C T 1 1 L O C A L P L A N

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

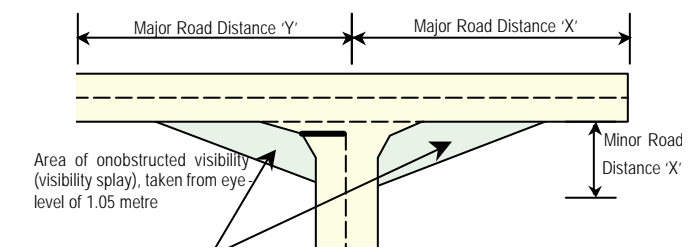
(iv) Visibility Standards for Priority Junction

- 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

(iv) Transport Design Guide for Putrajaya

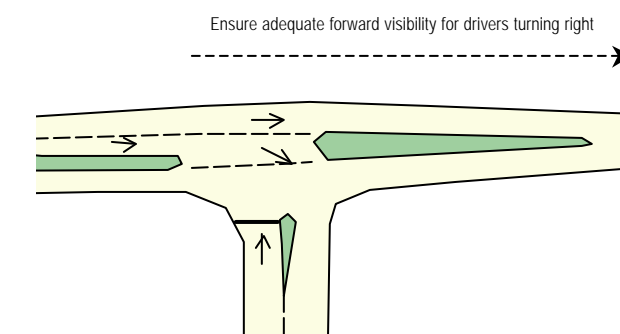
- Details on other design criteria to be referred to the Transport Design Guide for Putrajaya (1998)

Visibility Standards for Priority Junction



Minor Road Distance 'X' (metre)	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

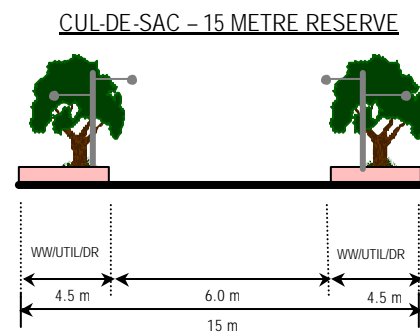
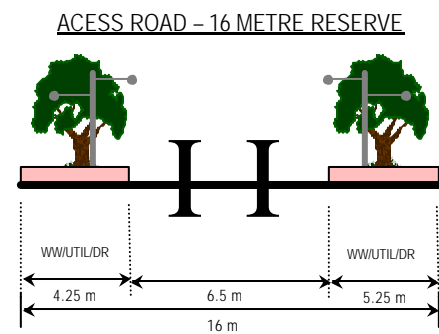
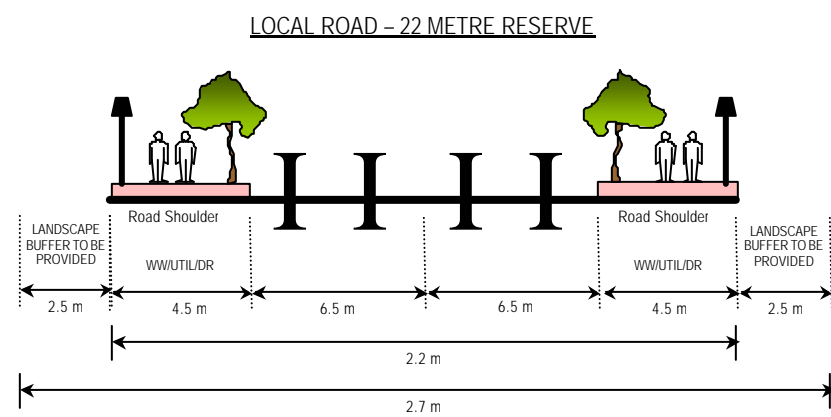
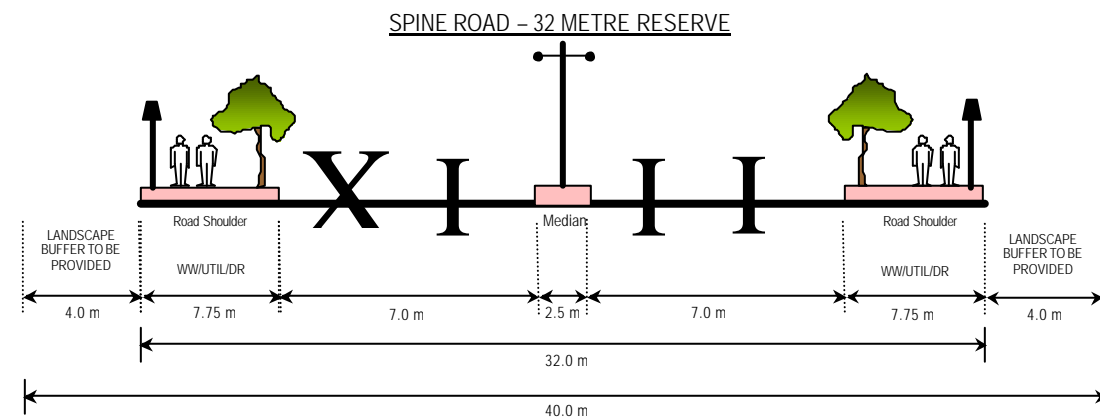
Local Dualling to Create Protected Right-Turn Lane



PLANNING REQUIREMENTS : TRAFFIC AND TRANSPORTATION

ROAD NETWORK AND DESIGN STANDARD

(iv) 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

PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

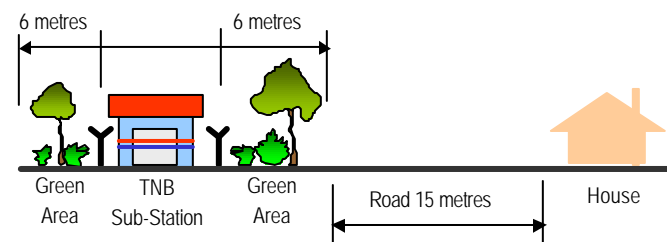
UTILITIES

(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 PB15 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 PB15 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



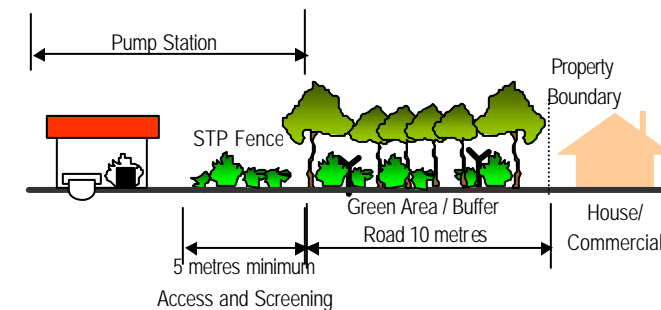
(iii) Drainage

- 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 PB15 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB15 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

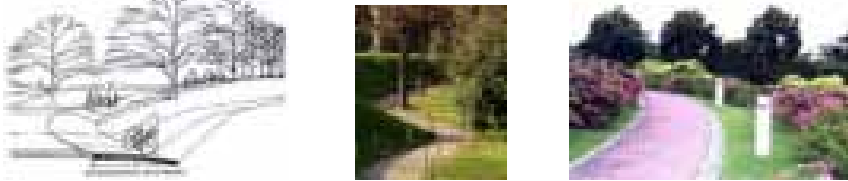




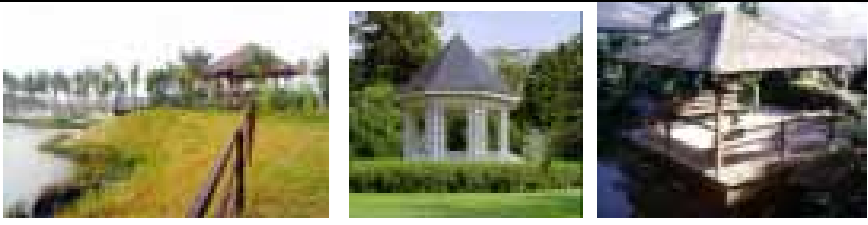
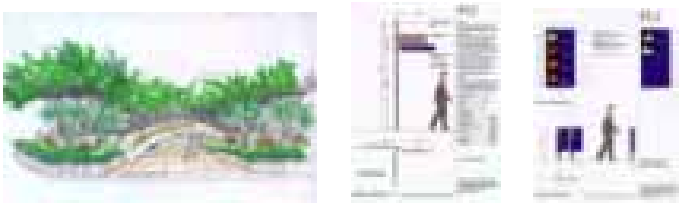
(vii) Waste Disposal

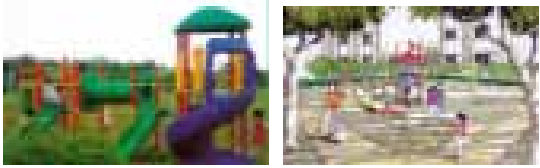
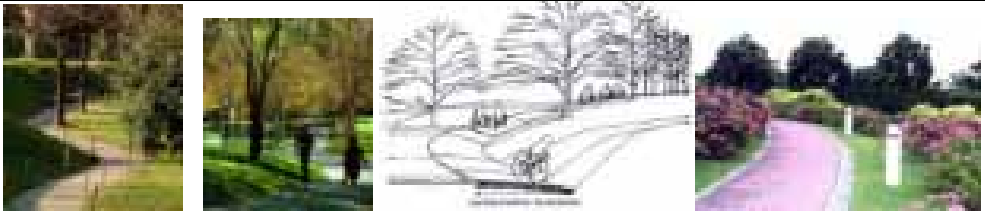


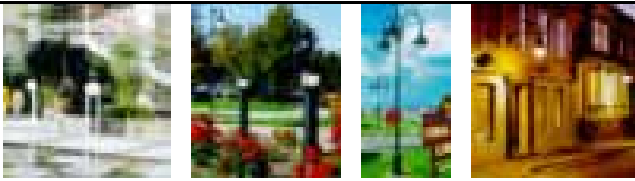


- Solid waste management in PB16 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.
- Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to 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 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.



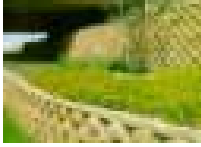

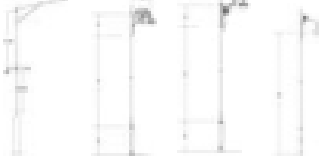




(viii) Water Supply

- Water supply to PB16 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)

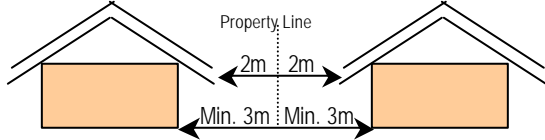
PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Residential (Condominium, Government apartment)	■ Paving / Step, Wall <input type="checkbox"/> Formal	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max-gradient of 8% – Durable	– Open space – Walkway	
		<input type="checkbox"/> Wall – Keystone – Facing Brick – Concrete etc.	– Harmonize with surrounding environment	– Slope areas	
	■ Site Furniture <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood	– Hardwood – Metal – Concrete	– Vandalism proof – Durable – Functional – Safe	– Open space – Resting areas	
	■ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Elegant formal <input type="checkbox"/> Specific design for neighbourhood	– Concrete – Metal – Masonry	– Max. height 4m at open areas – Max. height 10m at roadside	– Open space – Entrance with bollard – Roadside	
	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Covered drain	– Culvert – Concrete	– Harmonious with surrounding environment	– Where necessary	
	■ Structures and Shelter <input type="checkbox"/> Informal <input type="checkbox"/> Vernacular	– Hardwood – Concrete – Monsonary – Metal	– To blend harmoniously with surrounding structure – Durable – Safe	– Open space	
	■ Signage <input type="checkbox"/> Formal <input type="checkbox"/> Informal <input type="checkbox"/> Hi-tech	– Metal	– To following Signage and Advertisement Design Guideline Putrajaya	– Entrance – Open space – Pedestrian walkway	

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<ul style="list-style-type: none"> <input type="checkbox"/> Residential (Condominium, Government apartment) 	<ul style="list-style-type: none"> ▪ 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 	
<ul style="list-style-type: none"> <input type="checkbox"/> Park 	<ul style="list-style-type: none"> ▪ Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> <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 	
		<ul style="list-style-type: none"> <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 	
	<ul style="list-style-type: none"> ▪ Site Furniture <ul style="list-style-type: none"> <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 	
	<ul style="list-style-type: none"> ▪ Lighting <ul style="list-style-type: none"> <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 - Max. height 10m at roadside 	<ul style="list-style-type: none"> - Bollard at pedestrian entrance - Plaza 	
	<ul style="list-style-type: none"> ▪ Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Covered drain 	<ul style="list-style-type: none"> - Rock boulder - Culvert - Concrete - Granite stone wall 	<ul style="list-style-type: none"> - Preferable covered drain - Natural fence if necessary 	<ul style="list-style-type: none"> All drainage system 	
	<ul style="list-style-type: none"> ▪ Structures and Shelters <ul style="list-style-type: none"> <input type="checkbox"/> Informal, Vernacular, <input type="checkbox"/> Hi-tech 	<ul style="list-style-type: none"> <input type="checkbox"/> Structures <ul style="list-style-type: none"> - Hardwood timber - Metal - Concrete - Masonry 	<ul style="list-style-type: none"> - Sustainable design - Proportion to human scale and surrounding structure - Functional 	<ul style="list-style-type: none"> - Open areas - Plaza 	
		<ul style="list-style-type: none"> ▪ Irrigation Strategy 	<ul style="list-style-type: none"> - Top from storage tank or JBA main or tap from JBA main 		

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<ul style="list-style-type: none"> <input type="checkbox"/> Park 	<ul style="list-style-type: none"> ▪ Planting <ul style="list-style-type: none"> <input type="checkbox"/> Informal <input type="checkbox"/> Formal <input type="checkbox"/> Tropical 	<ul style="list-style-type: none"> - Trees - Palms - Shrub - Ground covers 	<ul style="list-style-type: none"> - Tropical species - Low maintenance - Attractive 	<ul style="list-style-type: none"> - All green area 	
<ul style="list-style-type: none"> <input type="checkbox"/> Road reserve 	<ul style="list-style-type: none"> ▪ Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Informal 	<ul style="list-style-type: none"> <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 	
		<ul style="list-style-type: none"> <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 	
	<ul style="list-style-type: none"> ▪ Site Furniture <ul style="list-style-type: none"> <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 	
	<ul style="list-style-type: none"> ▪ Lighting <ul style="list-style-type: none"> <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 10m at roadside 	<ul style="list-style-type: none"> - Bollard at pedestrian entrance - Plaza 	
	<ul style="list-style-type: none"> ▪ Drainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Covered drain 	<ul style="list-style-type: none"> - Rock boulder - Culvert - Concrete - Granite stone wall 	<ul style="list-style-type: none"> - Preferable covered drain - Natural fence if necessary 	<ul style="list-style-type: none"> - All drainage system 	
	<ul style="list-style-type: none"> ▪ Planting <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Informal <input type="checkbox"/> Tropical 	<ul style="list-style-type: none"> - Trees - Palms - Shrubs - Ground covers 	<ul style="list-style-type: none"> - Tropical species - Low maintenance 	<ul style="list-style-type: none"> - All green 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>(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>(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>(iv) 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</p> <p>(v) Profiled metals may be used for the sidings for bus depot buildings</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>(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 – the location of aerials and satellite dishes must not 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) Buildings associated with the bus depot should:</p> <ul style="list-style-type: none"> ▪ Be reasonably compatible in appearance and scale with nearby buildings ▪ Include appropriate screening and buffering that maintains or improves the amenity of adjoining uses ▪ The bus depot is to be designed to contain within the site any potential adverse visual or environmental impacts ▪ Access, parking and servicing of buses at the bus depot must not reduce the amenity of lands in the vicinity of the depot <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) 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>(xi) Any changes to the façade and design of buildings must seek planning permission for Perbadanan Putrajaya.</p>

PHYSICAL PLANNING REQUIREMENTS PLANNING BLOCK 16 (PB 16)

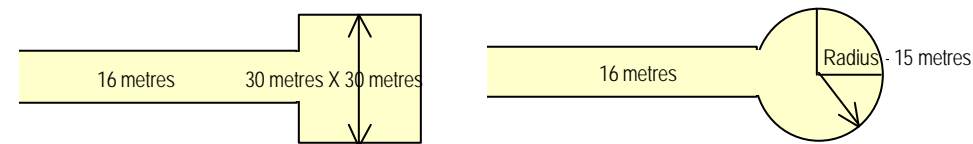
MAIN LAND USES: Residential	PLANNING REQUIREMENT : BUILDING	
KEY PROVISION	BUILDING SETBACKS	CAR PARK
<p>(i) Permissible Use</p> <ul style="list-style-type: none"> ▪ Institutional (for Taman Wetland use) <p>(ii) Height</p> <ul style="list-style-type: none"> ▪ Maximum 2 storeys <p>(iii) Fencing</p> <ul style="list-style-type: none"> ▪ As per Fencing Design Guidelines Manual, Volume 2, Chapter 10 	<p>(i) Front / Rear Setback</p> <ul style="list-style-type: none"> ▪ Front setback – Minimum 6 metres ▪ Rear setback – Minimum 6 metres ▪ Side setback – Minimum 6 metres <p>(ii) Setback Between Roof's Eaves</p> <div style="text-align: center; margin-top: 20px;">  </div>	<p>(i) Car Park</p> <ul style="list-style-type: none"> ▪ Minimum 1 cps per 1000m2 floor space

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

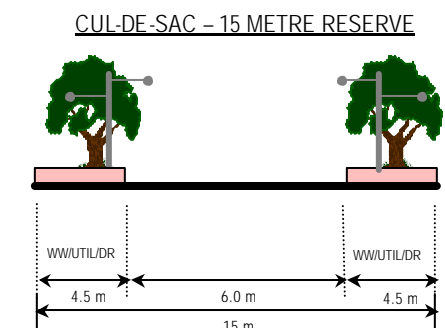
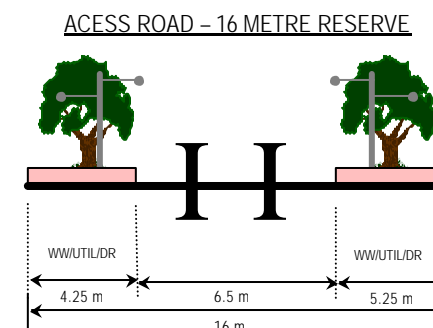
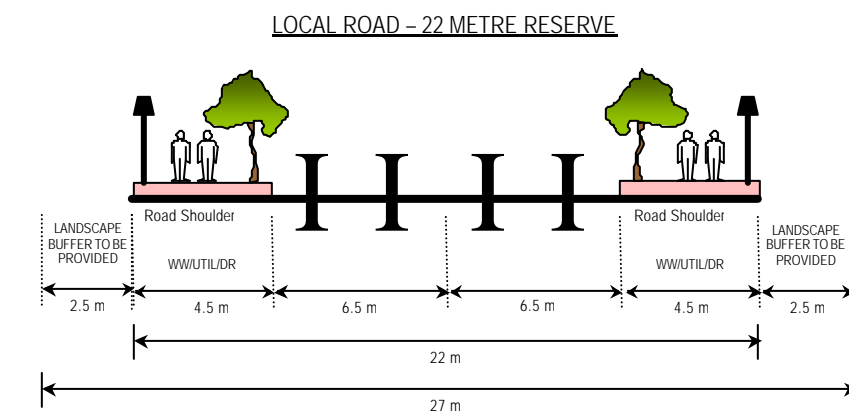
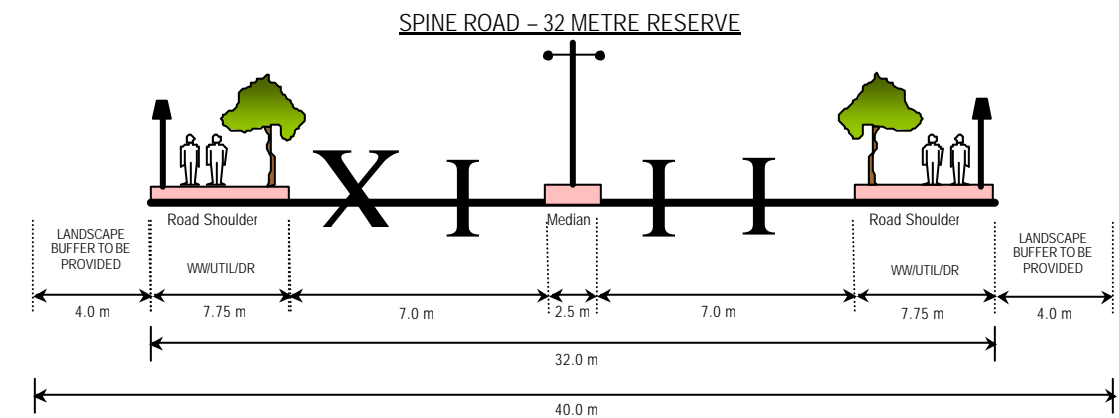
(iii) Junction Control Criteria

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) Transport Design Guide for Putrajaya

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

(iv) Typical Road Cross Section



- Note:
- WW/UTIL/DR : Common pedestrians walkway utility and drainage reserve
 - Minimum cover to all utilities should be 1.5 metre
 - Cul-De-Sac are permitted for bungalows only serving typically no more than 25 units
 - Minimum cover to all utilities should be 1.5 metre

PLANNING REQUIREMENTS : INFRASTRUCTURE AND UTILITIES

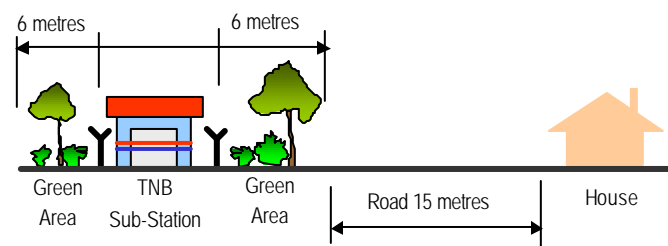
UTILITIES

(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 PB16 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 PB16 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

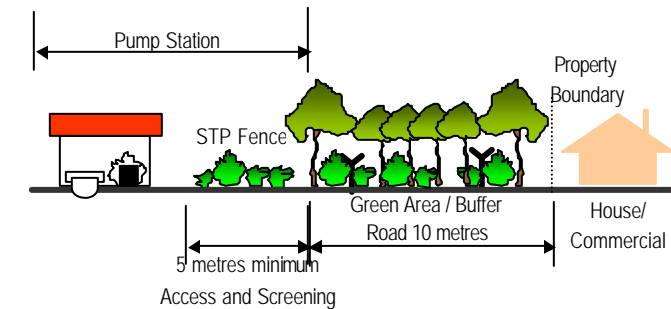


(iii) Drainage

- 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 PB16 is mostly used for residential which are approximately 80% of the total gas requirements.
- Gas supply for PB16 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

(vi) Waste Disposal

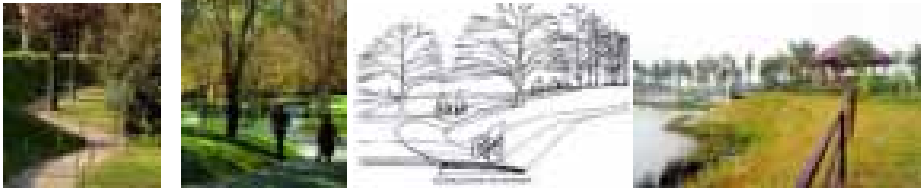
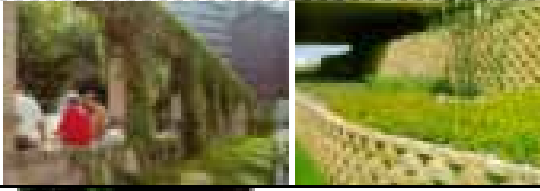

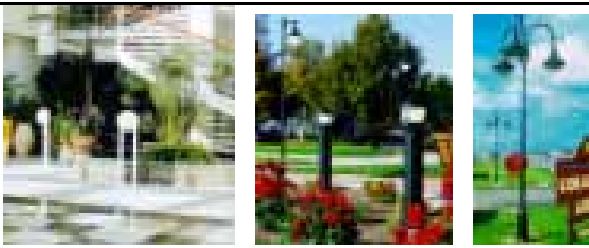
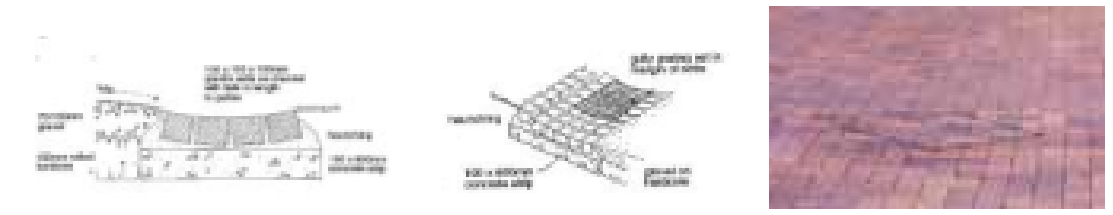

- Solid waste management in PB16 shall address reduction, reuse, recycling and recovery, the 4 R's of waste management.
- Solid waste is proposed to be separated at source, by residents or employees, into three streams; dry recycles, wet waste and rubbish (all other wastes). The dry recyclable is to 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 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.







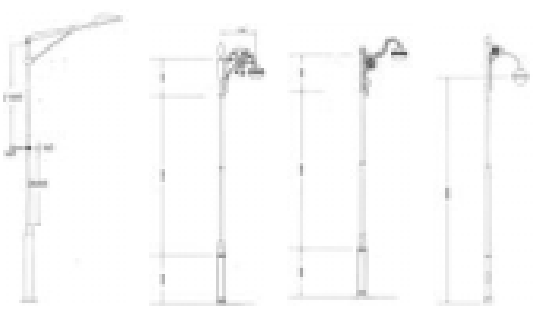
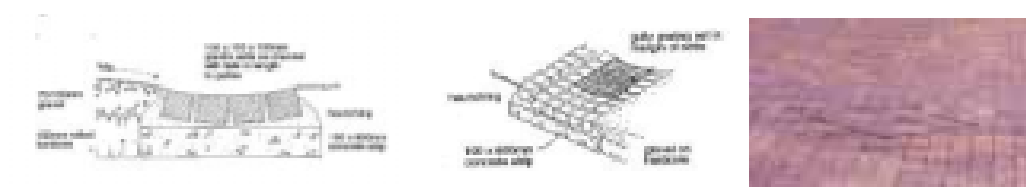
(vii) Water Supply

- Water supply to PB16 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)

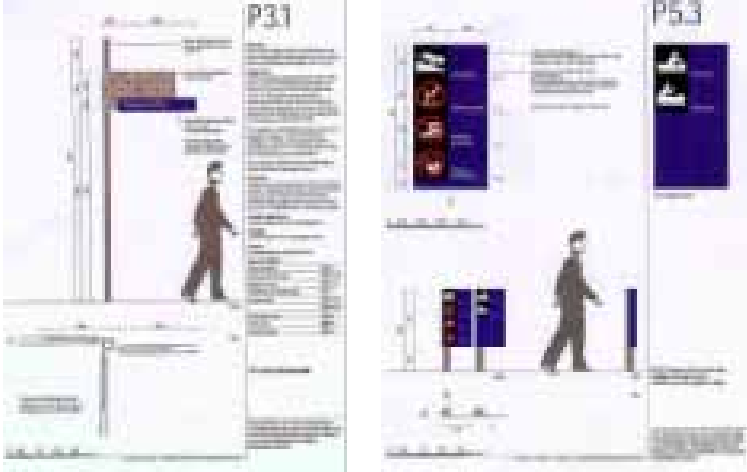
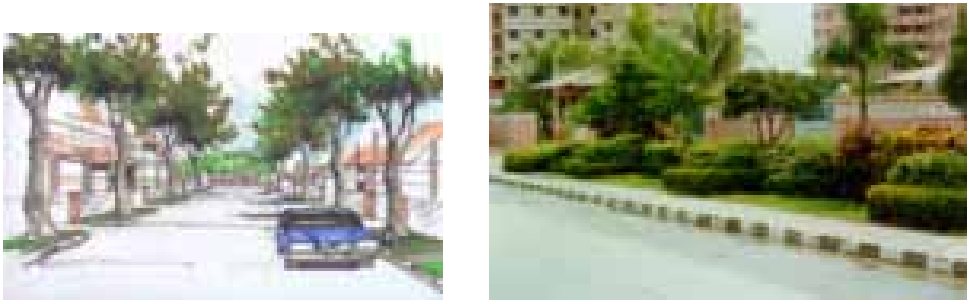
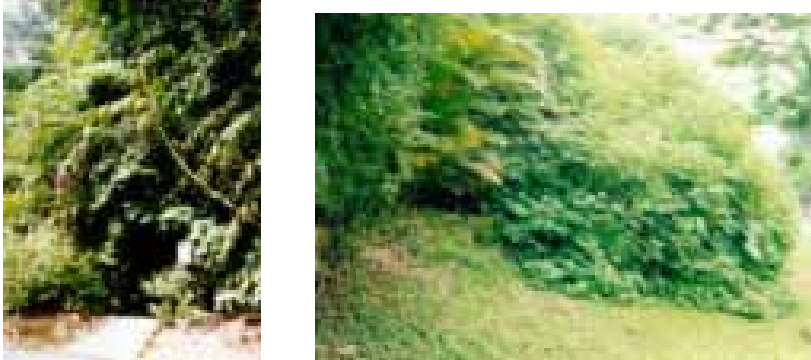
P U T R A J A Y A P R E C I N C T 1 1 L O C A L P L A N

PLANNING REQUIREMENT : LANDSCAPE					
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION	
<input type="checkbox"/> Taman wetland	■ Paving, walls and steps <input type="checkbox"/> Informal <input type="checkbox"/> Natural	<input type="checkbox"/> Paving / Step – Clay brick – Concrete – Interlocking block etc	– Anti slippery surface – Max. gradient 8% – Max. gradient 2% for superelevation – Durable	– Wetland promenade	
		<input type="checkbox"/> Walls – Key stone – Concrete – Granite stone etc.	– Harmonize with surrounding – Visually attractive	– Slope areas	
	■ Site Furniture <input type="checkbox"/> Simple <input type="checkbox"/> Informal	– Hardwood – Metal – Stone	– Vandalism proof – Durable – Functional – Safe	– Wetland promenade	
	■ Lighting <input type="checkbox"/> Contemporary <input type="checkbox"/> Hi-tech <input type="checkbox"/> Informal	– Concrete – Metal – Masonry	– Max. height 4m at open areas – Max. height 10m at roadside	– Wetland promenade	
	■ Drainage <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Concealed drains	– Rock boulder – Culvert – Concrete – Granite stone wall Drain cover on walkway to follow walkway 's material	– Preferable covered drain – Natural fence if necessary – Accessible for maintenance works	– All drainage system	
	■ Structures and Shelters <input type="checkbox"/> Informal, Vernacular,	<input type="checkbox"/> Structures – Hardwood timber – Metal – Concrete – Masonry	– Sustainable design – Proportion to human scale and surrounding structure – Functional – To blend harmoniously with surrounding environment	– Wetland promenade	

P U T R A J A Y A P R E C I N C T 1 1 L O C A L P L A N

PLANNING REQUIREMENT : LANDSCAPE						
LANDUSE	DESIGN STYLE	MATERIALS	GENERAL REQUIREMENT	USE/LOCATION		
<input type="checkbox"/> Taman wetland	<ul style="list-style-type: none"> ▪ Planting <ul style="list-style-type: none"> <input type="checkbox"/> Wetland <input type="checkbox"/> Natural 	<ul style="list-style-type: none"> - Trees - Palm - Shrubs 	<ul style="list-style-type: none"> - Water side species 	<ul style="list-style-type: none"> - Wetland promenade 		
<input type="checkbox"/> Roadside	<ul style="list-style-type: none"> ▪ Paving, walls and steps <ul style="list-style-type: none"> <input type="checkbox"/> Formal <input type="checkbox"/> Contemporary 	<ul style="list-style-type: none"> <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 		
		<ul style="list-style-type: none"> <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 		
		<ul style="list-style-type: none"> ▪ 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 	
		<ul style="list-style-type: none"> ▪ 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 4m at open areas - Max. height 10m at roadside 	<ul style="list-style-type: none"> - Footpaths - Cycle track - Car park 	
		<ul style="list-style-type: none"> ▪ rainage <ul style="list-style-type: none"> <input type="checkbox"/> Swales/Natural drain <input type="checkbox"/> Covered drain 	<ul style="list-style-type: none"> - Culvert - Concrete 	<ul style="list-style-type: none"> - Visually attractive - Naturally blend with surrounding 	<ul style="list-style-type: none"> - Open space - Paza 	

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	■ Signage <input type="checkbox"/> Contemporary <input type="checkbox"/> Formal <input type="checkbox"/> Simple <input type="checkbox"/> Clear	– Masonry – Metal – Hardwood	– Clear – Vandalism proof	– Junction	
	■ Planting <input type="checkbox"/> Formal	– Shade medium size tree – Palm – Shrub	– Provide ample shade – Hardy Plants – Attractive	– Roadside	
<input type="checkbox"/> Buffer	■ Planting <input type="checkbox"/> Natural <input type="checkbox"/> Dense	– Palm – Shrub – Bamboo – Tree	– Non-poisonous species	– Buffer zone	

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) Development is to be designed to work with site contours to avoid unnecessary cut and associated retaining structures</p> <p>(iii) Illustrate a high level of permeability between site uses within the Planning Block and with adjoining Planning Blocks</p> <p>(iv) Illustrate appropriate site building setbacks from major traffic routes or other noise generating or potentially dangerous infrastructure</p> <p>(v) 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) 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>(ii) Building design should respect the amenity of adjoining and adjacent buildings and their residents</p> <p>(iii) Building design should interpret local image and character with new materials that are energy efficient</p> <p>(iv) Building facades should be designed to accommodate a tropical environment</p> <p>(v) Designers should look to the use of innovative building materials that are less maintenance intensive and more environmentally efficient</p> <p>(vi) 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>(vii) The development creates a visually and physically amenable work environment</p>	<p>(i) Building design must comply with all provisions relating to plot ratio, plinth, building height and setbacks as contained within these guidelines</p> <p>(ii) Roof pitch should be designed to meet local environmental requirements</p> <p>(iii) Roof overhang should be designed to minimise the impact on sight lines from adjacent buildings</p> <p>(iv) Buildings should be designed to encourage facade articulation and use of design elements that reduce building bulk and provide a pleasant street aspect</p> <p>(v) 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) Brighter colours for specific building types will be subject to the approval of PPj</p> <p>(iv) No uncoated metals should be used for the sidings of industrial building(s) – should metal sidings be utilised, these should be coated in suitable colours, preferably earth tones</p> <p>(v) Profiled metals may be used for the sidings of industrial buildings</p>	<p>(i) 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</p> <p>(ii) Service ducting shall not be exposed on the external surfaces of buildings</p> <p>(iii) 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 <p>(iv) Buildings associated with industrial uses should:</p> <ul style="list-style-type: none"> ▪ Be reasonably compatible in appearance and scale with nearby buildings ▪ Include appropriate screening and buffering that maintains or improves the amenity of adjoining uses <p>(v) The gas turbine station design shall:</p> <ul style="list-style-type: none"> ▪ Ensure safety and minimise ▪ Include appropriate screening and buffering that maintains or improves the amenity of adjoining uses ▪ Ensure that no noise emissions or vibrations from the site cause a nuisance to nearby residents