LAYOUT SPECIFICATION

APPENDEX - I

SPECIFICATION AND CONDITIONS TO BE COMPLIED FOR APPROVAL OF GROUP HOUSING SCHEME LAYOUTS & RESIDENTAL COLONY LAYOUTS WITH TYPE DESIGN.

1. To execute the road network, drainage and other development works as per specifications enclosed.

2. To provide for a piped water supply system, so as to ensure availability of potable source of water at the layout site.

3. To provide for a piped common sewerage and drainage system and to connect the treated effluents/waste suitably be fore letting out the waste water into public drains.

4. Make provision for street lighting within the layout site area by depositing the estimated amount to the A.P.S.E.B. and produce the voucher to this effect from A.P.S.E.B.

5. The public open spaces earmarked in the layout shall be fenced and thereafter handed over to the local authority through a gift deed. A Certificate/letter to this effect shall be produced to this effect.

6. Avenue tree plantation along the roads in the layout have to be done as per quidelines enclosed in Appendix - III.

c) Road Formation

Depending upon the longitudinal section of the roads, either it should be formed by raising the ground level to the proposed level in case where the ground level is comparatively low. In case the level of ground is comparatively high, the roads should be formed by cutting the ground. However care should be taken that the gradients are within the specified standard and three is effective cross drainage provisions.

d) For roads involving heavy cutting/embankment, the right of way should be increased suitably as per standards and side slope and longitudinal drainage requirements.

e) The side slope should be minimum 2:1 for roads in embankment and 1:1 for other types of terrain.

f) Side Drains :

The right of way is inclusive of side drains which have to be provide for all widths of roads and suitably lined in both plain and rolling or undulating terrains. The minimum gradient for drainage should be 1%. The side drains should be constructed in the shoulder portion. Care should be taken that the minimum requisite width of the shoulder as per table in (b) is maintained. Similarly effective cross drainage shall be ensured. Care should be taken to ensure that these drains are connected finally to the nearest main or natural drains.

g) Longitudinal Gradient :

Depending upon the terrain conditions, the ruling longitudinal gradients specified are :

i) Plan / rolling terrain - 3.3%

ii) Hilly / mountainous and steep terrain - 5%

h) Camber/pavement cross - slope:

For the purpose of effective cross drainage, the roads formation should be provided with cross slopes as indicated below :

The above metailed surface of road shall be black topped with bituminous. The bituminous surface shall consist of one layer of 20 mm (3/4") thick premium quality bituminous layer (bitumen of 80-100 grade). This black top surface shall be compacted with road roller after applying tack coat. Finally over the bituminous surface. 6mm (1/4") thick seal coat shall be laid.

j) Kerb Stones :

Kerb stones shall be laid all along between the road carriageway and the shoulder (footpath). The central median where required, shall be similarly lined with kerb stones.

k) Drainage channels :

For natural water courses or streams or nalas passing through the layout site shall be properly tamed by maintaining suitable gradient. Minor streams drains should be as far as possible integrated and channeled along the road shoulder portion. However, the requisite width and depth of the drains, shall be ensured to cope up with the storm water discharge.

j) Rounding off or splay at road intersections :

At junctions or corners of the roads, intersections, suitable splay or rounding off shall be done depending on road width, sight angle, etc. The splay or rounding off shall in no case be less then 3 offset or round off.

II) SEWERAGE DISPOSAL SYSTEM :

Since there is no public sewer system available outside the city limits common sewege disposal plant or system have to be provided in the proposed layout colony areas. In such a disposal system, the design should take into consideration the number of users in the proposed layout / colony, topography / slope and the nature of soil, and in consultation with the local authority concerned so as to integrate it in future with the public drainage disposal system to be provided. A capacity of 0.215 cubic metres (internal volume) per user is recommended. For further specifications the ISI code 2470 of 1985 has to be referred to

Effluents / sullage from the septic tanks must be let out far away from the surrounding existing houses / buildings or it must be taken away and let out far away by trucks or other means. The sullage / waste water of the septic tanks should not be let off in the open or side drains of the roads, but it should be ensured that there are let out in to the nearest main or natural drains only. Arrangements must be made to clean the common septic tanks, atleast one in two years. Regarding alignment of the sewer and drainage lines, connecting each plot / house it should be as per the approved draft layout pattern, preferably along the shoulders of the roads. The diameter of pipes should be as per design and of standard material of IS 5329 and IS 1172.

III) WATER SUPPLY SYSTEM :

Since there is no public water supply system available in most of the outskirts of the city, individual piped water supply system have to be provided in the proposed layout colony areas. The provisions of a self-sufficient water supply system with overhead water tank, pipe distribution, community borewell (designed as per public health standards) are required to be provided in the proposed colony layout areas. In such a system the design should take in to consideration the number of users in the proposed layout / colony, topograph / slope, and the ground water potential etc. The system should be devised in consultation with the local authority concerned so as to integrate it with the future public supply system to be provided.

SPECIFICATIONS

Sl.NO.

1.	Iron Weld mesh	3" x 2" x 10 guage
		5 ½ x 5 ½ size - 30.25 Sq.Ft.
2.	Iron flats M.S	3 No.s - 25 mm x 3 mm
	(Circulation-top bottom & middle - 5 ½ 'length)	
3.	M.S. Angles of size 25 mm x 25 mm x 3 mm length 7' - 3 No.s	
4.	Painting the whole tree guard with red oxide.	

IV) TREE PLANTING LANDSCAPING ETC :

These should be taken up in every proposed layout / colony as per the instructions and guidelines enclosed separately. The layout open space should be clearly demarcated with boundary stones and fenced before handling over the same to the local authority for maintenance.

GUIDELINES FOR TREE PLANTATIONS & LAND SCAPING IN LAYOUT AREA

I. Planting along internal roads in colonies :

i) The planting to be in a single row, where the road width is between 9 meters (30 Ft) to 24 meters (80 Ft) The distance between plant to plant should be 5 meters.

Choice of Species :

Medium sized species with ornamental and aesthetic appearance to be planted. Preference should be given to shade giving varieties.

E.G. Kanchanam (Barhinia), Pogada, Ponna, Cassia, Jawania, Sissoo, Cassia Nodosa, Pongamia (Kanugu), Ashoke (Spreading type) Longifolia, Thespesia, Rita, Pettram, Ganthuga.

ii) Where the road width is more than 24 metres (80 Ft) tow rows of planting is to be taken up. The distance between plant to plant in the 1st fow should be 5 metres. The distance between 1st and 2nd row should be 5 metres, and plant in the row (2nd row) should be 5 metres. The 2nd row should be staggered to the 1st row plants. 2nd row plants are avenue plants.

Choice of Species :

1st row :

Kanchanam, Pogada, Cassia, Jawanica, Cassia, Nadosa, Ashoka, Silver oak, Royal palm, Bottle brush, Tecoma Arjentia etc.,

2nd row :

Pettophosum, Neem, Rain trend, Sissoo Ponmamia, Neredu, Kigalia, Pinnata, Seema chinta.

II) Fencing of open spaces in the layouts :

The fencing should be 6 strand barbed wire with stone monoliths at 3 metres inerval. Stone monolitha size is 2 metres X 0.15 metres. Barbed wire of 12 gauge x 2 ply with barbs.

III) Tree Guards :

The tree guard should be erected for each plant as per the specifications enclosed in case barbed wire fencing is not made.

N.B. The planting stock can be obtained from HUDA Nurseries at Ameerpet and Shamshabad on payment. The Director, Urban Forestry may be approached in this regard.

			Camber (cross - slope) in percentage
1)	Roads with bituminous (B.T. Surface)	-	1.7 to 2.5 %
2)	Other roads (WBM)	-	2.5 to 3.0 %

for other aspects like horizontal curvature, sight distance, turning radius, geometries of the roads etc, the relevant IRC codes should be followed :

i) Clearing of the site for road formation :

The entire right of any way of the roads shall be cleared completely of all bushes, shrubs, thorns, and hills, boulder and rocks. As far as possible, however, trees may be retained along the road sides. The debries will be removed form the road formation. Where the road to be formed in embankment, sufficient care and steps shall be ensured to receive the earthwork by cutting the slope suitable. No mud, slush be formed with layers of 22.5 cms. Thick earthwork and compacted./ consolidated by a 8-10 tonne power road roller to have compacted layers of 15 Cms., at the optimum moisture content. This procedure should be repeated till the requisite level and thickness of layer is attained. Care should be taken to maintain the side slope as specified.

After the road formation is cleared compacted an prepared as the case may be a 100 mm (4') layer of hard granite stone metal of 65mm - 75 mm size shall be laid, This shall be compacted with 8 - 10 tonne power roller to requisite thickness, of 75 mm(3') layer. Over this, gravel shall be spread for blind age and the said surface watered for 15 days.

Over this compacted metal layer, a layer of 40 mm (1.1/2") hard granite stone metal to a thickness of 100 mm (4") shall be laid and similarly compacted and consolidated with road roller in order to get the consolidated thickness of 75 mm (3") of this layer surface. Similarly, gravel has to be provided for blindage and the surface watered for 15 days.

APPENDEX - II

SPECIFICATIONS AND INSTRUCTIONS FOR UNDERTAKING EXECUTION OF DEVELOPMENT WORKS IN LAYOUTS :

1. SPECIFICATION FOR ROAD DEVELOPMENT IN LAYOUTS :

(a) All roads to be metailed and black topped :

The carriage way of all roads in the layouts should be developed as me tailed roads irrespective of their width. All internal roads must be developed with betumen (BT) surface, layouts.

(b) Carriageway :

The cross section and details of the roads proposed to be developed are as follows

Road width in the Layout (Right-of way)	Width of the carriageway to be metailed/BT surface	Width of footpath or shoulder on either side	Other requirements
(1)	(2)	(3)	(4)
Upto 9 metres (30')	3.6 metres (12')	1.2.metres (4')	--
Above 9 metres and upto 12.2 metres (40')	5.5 metres (18')	2.3.metres (6')	--
Above 12.2 metres and upto 18.3 metres (60')	7.3 metres (24')	2.3 metres (6')	--
Above 18.3 metres and less than 30 metres (100')	14.6 metres (48')	2.45 metres (8')	Central median of 4'
30 metres (100') and above	18 metres (60')	3.3 metres (10')	a) 20' service roads on either side with suitable segregator. b) Green buffer strip of 20' (6) metres on either side c) Central median of 1.2 metres (4')