Softscape Guidelines

Softscape Guidelines: Trees and Palms

1. Definition of Softscape

Softscape refers to the elements of a landscape that comprise live, horticultural elements. Softscaping can include, flowers, plants, shrubs, trees, flower beds, etc.

2. Context

For the purpose of demand estimation and fulfillment, trees and palms (*trees will be used to mean trees and palms hereafter*) are the most important softscape elements since they have the highest proportion of cost and are difficult to procure within given time and budget. Hence, we will now in-source trees and a 10 acre nursery in Dombivali will be setup for the same. The initial target is to source 70% of horticulture budget in-house. To ensure that this initiative meets it objectives

1. Nursery has to be supplied with demand estimation data for new projects and
2. Actual design (choice of trees, nos. and specs.) should use the trees procured according to 1, subject the current target of in-house sourcing

3. Guidelines for Demand estimation

3.1. After completion of landscape concept of a project, the project architect will work with landscape architect to estimate the demand for trees and palms for the project. Lodha Nursery maintains a list of plants/trees easily available with it and this should be shared with the landscape architect.

3.2. The project architect should verify that the quantities provided by landscape architect make sense. Calculation of total landscape area (including roadsides, podiums, central greens etc.) and implied average spacing between trees should be checked.

3.3. If possible, the project will be divided into clusters/phases that are planned to be given together for possession and demand for trees will be split accordingly.

3.4. Detailed specifications of the plantation- size, form and condition, should be shared to execution team to ensure quality and ready look of the landscape. The spec sheet should include photographic image of the plants. Following details shall also be provided in the spec sheet:

a. For trees/ large palms – trunk height after planting, trunk calliper(taken at 1m above ground level)
b. For shrubs – heights and look (bushy, flowering, multi branching, dwarf etc)
c. For palms and bamboos - canes per plant
d. For creepers and climbers – cuttings per plant
e. For lawns – method of plantation – dibbling or ready carpets.

3.5. For each cluster/phase the project architect should provide the following data to the horticulture in-charge within 90 days of completion of landscape concept (and min. 18 months prior to first requirements of trees at that site/phase):

a) the estimated possession date and

b) demand for trees and palms in the following format

Species	**Nos. required**	**Target height in m.**	**Demand quarter (Q1-Q4 of Financial Year)**	**Detailed specification (as per 3.4 above)**
Alstonia Scholaris	50	4-5	Q2 12 (June-Aug 12)	Multi-branching
Azadirachta Indica	100	4	Q2 12 (June-Aug 12)	Well branched, bushy
Cycas Revoulata	70	3	Q3 12 (Sept-Dec 12)	Straight trunk
…				

While finalizing the tree species, Design team should see what is available/ under growth in the nursery and use as many of such plants as feasible (this is a suggestion, not a restriction).

3.6. Post providing the above data, if there are any changes in design leading to changes in tree demand estimates, same should be communicated to the nursery minimum 6 months before the first trees for that site/phase are required on site.

4. Guidelines for Demand fulfillment

4.1. The requisition for trees will be raised by CM team and the requirement will go via the procurement team to the horticulture head – cost check (external cost v. Lodha nursery cost) to happen before order goes to nursery. Nursery will provide list of trees with their cost per unit to procurement at the start of every quarter.

4.2. In case the price offered by nursery is higher than external vendor or the quality requirements are not met, procurement shall have full freedom to procure from external vendor.

4.3. The trees will be transferred to the project at actual cost basis from the nursery. The resulting revenue will increase the nursery budget to buy replacement trees.

4.4. The horticulture head will use the nursery inventory in the earmarked list and the global floating list to satisfy demand. Unused items in earmarked inventory will be transferred to the global list so that they are available to any future projects.

5. Execution (Resp: Horticulture team)

5.1. The exact location of all underground utilities and other obstructions that may affect the work should be ascertained before start of work. Any services and obstruction encountered will be reported to the site engineer immediately. During the execution of work, all services shall be protected and maintained or all damages to be repaired, whether accidental or otherwise.

5.2. Plants in broken containers or with broken branches or injured trunks shall be rejected by site horticulture team. All plant material with its original form and branching should be used for the project – especially the specimen trees should be planted with the form in-tact.

5.3. Expected look and feel of the plants should be understood from landscape designer – plants to be trimmed and maintained as hedges, plants to droop over curbs or walls (not to be trimmed) etc.

5.4. Anti root barrier to be used for planters with large trees. For smaller shrubs and grassed surfaces, only drain cells + geo textile can be used.

5.5. Slopes of the drain cells to be maintained as per design to ensure there is no sub-soil water logging. None of the plantation works to be done in case of any water-logging conditions.

5.6. Garden soil depth for various types of plantations to be as follows:

a. For large trees – 1.2m X1.2m X1.2 m
b. For shrubs and palms – 0.45m to 0.6m
c. For all types of grasses, ground covers and lawns – 0.3m

5.7. The proportion of garden soil and manure should be 70:30 by volume at the time of development of the softscapes. The quantification done in the BoQ's can be super ceded by the actual space on the sites. Addition of coco peat is recommended to improve draining properties of garden soil.

5.8. Organic manure should be added 500 gms per sq.m at the time of development (discuss with Landscape architect).

5.9. Please refer Annexure A and B for typical sub-soil drainage for small and large lawn areas respectively.

6. Selection of species for lawn development

All lawns developed in the projects should be maintained to look green as carpets.

Species suggested to be used in various conditions:

For area with direct sunlight:-
a) Zoysia matrella (Manila Grass)
b) Cynodon dactylon (Bermuda grass)

Reference images




Area with indirect sun/ partial sunlight (at least once a day, the area has to receive)
a) Axonopus compresses (Cow Grass)
b) Axonopus compresses dwarf (Pearl Grass)

Reference images



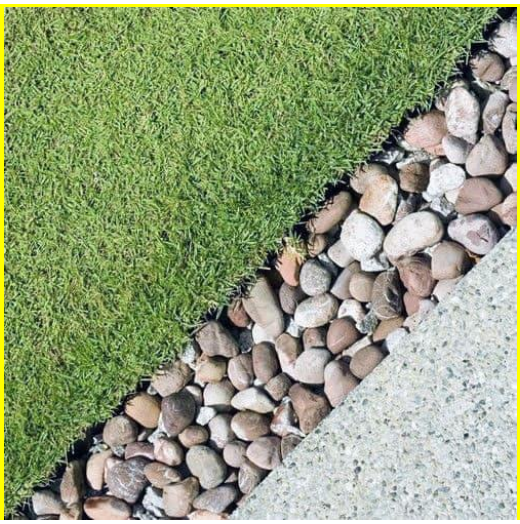

Areas with indirect Sun and less pedestrian movement / back of house areas - (texture of this grass is not as smooth - but will look green for most of the time)
Paspalum or Stenetophorum secundatum

For area with no direct sunlight and areas with impact of highly frequent pedestrian movements it is advisable to have artificial turf or Hardscape after reviewing the aesthetical suitability.

7. Best practices for better lawn maintenance over longer periods.

1. It is not advisable to drain off the surface water on the hardscapes directly into the lawns. All such water should be diverted to catch basins or storm water drains and not accumulate over the lawns
2. Minimum of 50-75mm wide layer of pebbles should be introduced at the edge of the lawn and hardscape to avoid water moving over hard surfaces to the lawns.

   Reference image:





3. Sub-base preparation for developing the lawns is an important activity which governs the quality of lawns. Refer to the methodology to be followed while developing the lawns :

8. Sub base preparation for lawns

For all lawn developments, the sub-base preparation is a very critical activity.
Suggested methodology for lawn development:

a. Cleaning of the area of unwanted materials including the weeds, stone, masonry, pieces, etc., and all such matter, which may cause damage to growth of the plant materials immediately or in future.

b. The area shall be watered profusely, in order to facilitate growth of weeds and ease of operation.

c. Three days after watering, the area shall be excavated /ploughed to a minimum depth of 300 mm or more as required with the help of cultivar drawn by a tractor/by a manual labour.

d. After ploughing /excavating, the area shall be graded as indicated on drawings or as instructed at site by the Landscape Architect..

e. Continuous weeding operations shall be done in order to have the area absolutely free from weeds of any type. No further operation shall be permitted unless the area is totally free of weeds.

f. The area shall be spread of good quality stone free garden soil, evenly as directed. The compacted soil layer shall be 300 mm deep, spread evenly on all the areas including hillock top surfaces.

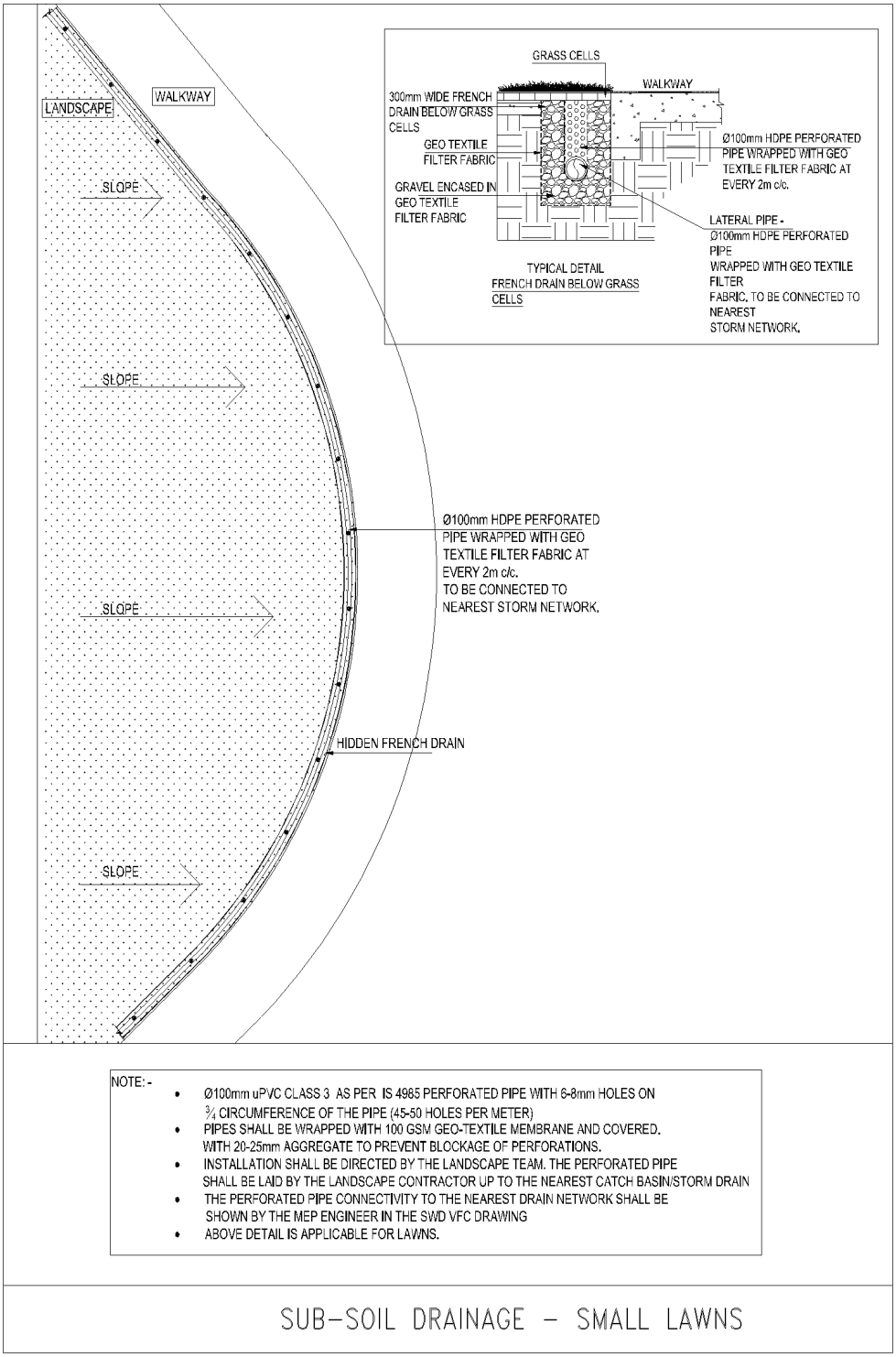
g. After spreading the good quality soil the area shall be watered, rolled with a roller (500-600 kg weight) and graded properly.

h. Also the area shall be spread and mixed of good quality F. Y. M (Farm Yard Manure) The quantity to be used shall be average layer of min. 75 mm thick all over the lawn area.The manure to be mixed properly and watered. Areas to be rolled and leveled as per the drawing

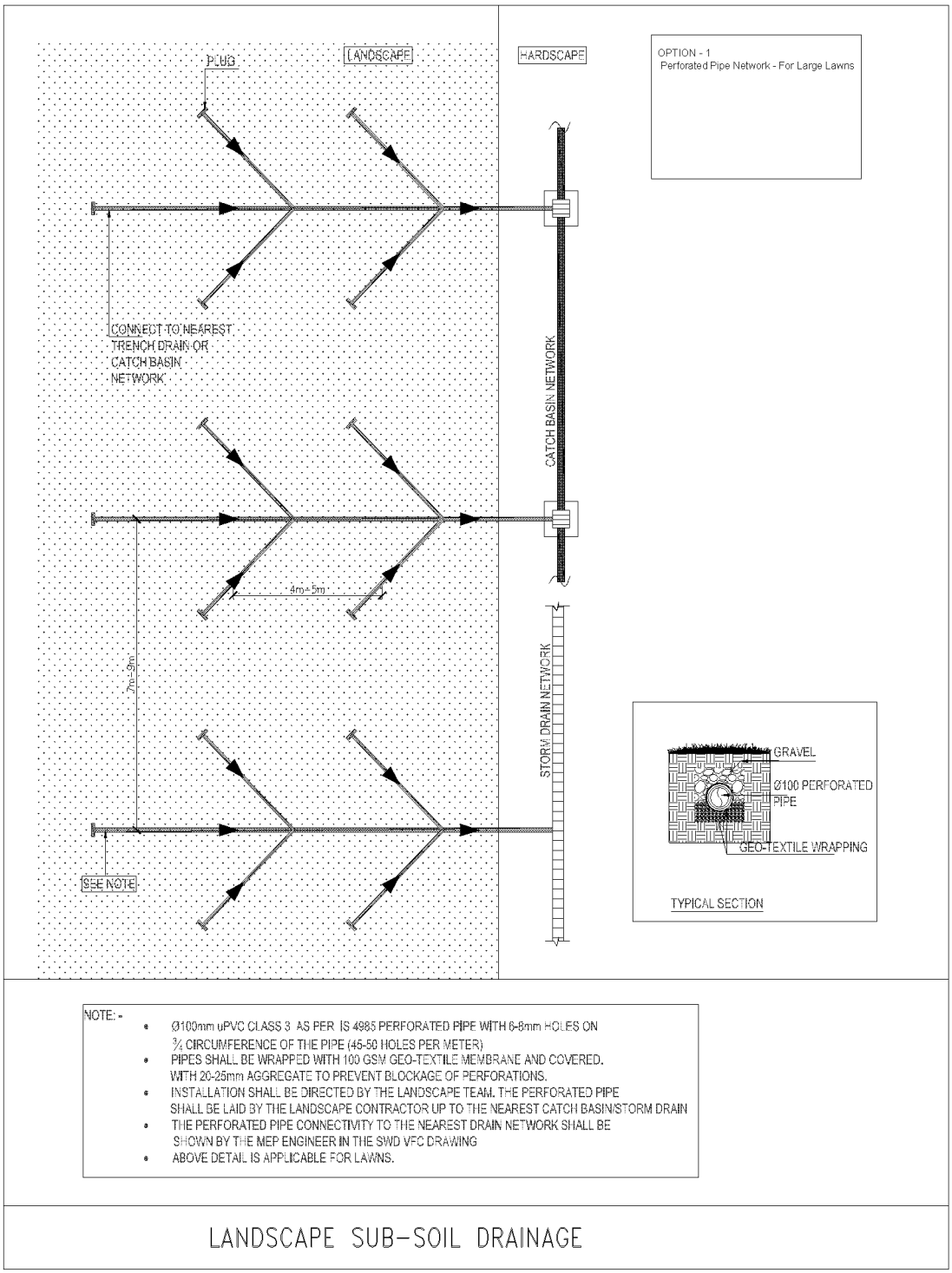
i. The plantation of lawns to be done in 2 methods – dibbling or ready carpets and the maintenance activity to be immediately initiated. No activity which impacts or disturbs the surface to be carried out for 3 months after plantation of lawns.

j. Areas with larger extents like sports fields are preferred to have designed sprinkler irrigation system for better surface maintenance

Annexure A:


LANDSCAPE
WALKWAY
SLOPE
SLOPE
SLOPE
SLOPE
Ø100mm HDPE PERFORATED PIPE WRAPPED WITH GEO TEXTILE FILTER FABRIC AT EVERY 2m c/c. TO BE CONNECTED TO NEAREST STORM NETWORK.
HIDDEN FRENCH DRAIN
GRASS CELLS
WALKWAY
300mm WIDE FRENCH DRAIN BELOW GRASS CELLS
GEO TEXTILE FILTER FABRIC
GRAVEL ENCASED IN GEO TEXTILE FILTER FABRIC
Ø100mm HDPE PERFORATED PIPE WRAPPED WITH GEO TEXTILE FILTER FABRIC AT EVERY 2m c/c.
LATERAL PIPE - Ø100mm HDPE PERFORATED PIPE WRAPPED WITH GEO TEXTILE FILTER FABRIC, TO BE CONNECTED TO NEAREST STORM NETWORK.
TYPICAL DETAIL FRENCH DRAIN BELOW GRASS CELLS
NOTE: -
• Ø100mm uPVC CLASS 3 AS PER IS 4985 PERFORATED PIPE WITH 6-8mm HOLES ON ¾ CIRCUMFERENCE OF THE PIPE (45-50 HOLES PER METER)
• PIPES SHALL BE WRAPPED WITH 100 GSM GEO-TEXTILE MEMBRANE AND COVERED. WITH 20-25mm AGGREGATE TO PREVENT BLOCKAGE OF PERFORATIONS.
• INSTALLATION SHALL BE DIRECTED BY THE LANDSCAPE TEAM. THE PERFORATED PIPE SHALL BE LAID BY THE LANDSCAPE CONTRACTOR UP TO THE NEAREST CATCH BASIN/STORM DRAIN
• THE PERFORATED PIPE CONNECTIVITY TO THE NEAREST DRAIN NETWORK SHALL BE SHOWN BY THE MEP ENGINEER IN THE SWD VFC DRAWING
• ABOVE DETAIL IS APPLICABLE FOR LAWNS.
SUB-SOIL DRAINAGE - SMALL LAWNS

Annexure B:


PLUG
LANDSCAPE
HARDSCAPE
OPTION - 1
Perforated Pipe Network - For Large Lawns
CONNECT TO NEAREST TRENCH DRAIN OR CATCH BASIN NETWORK
CATCH BASIN NETWORK
4m-5m
7m-9m
STORM DRAIN NETWORK
SEE NOTE
GRAVEL
Ø100 PERFORATED PIPE
GEO-TEXTILE WRAPPING
TYPICAL SECTION
NOTE: -
Ø100mm uPVC CLASS 3 AS PER IS 4985 PERFORATED PIPE WITH 6-8mm HOLES ON ¾ CIRCUMFERENCE OF THE PIPE (45-50 HOLES PER METER)
PIPES SHALL BE WRAPPED WITH 100 GSM GEO-TEXTILE MEMBRANE AND COVERED. WITH 20-25mm AGGREGATE TO PREVENT BLOCKAGE OF PERFORATIONS.
INSTALLATION SHALL BE DIRECTED BY THE LANDSCAPE TEAM. THE PERFORATED PIPE SHALL BE LAID BY THE LANDSCAPE CONTRACTOR UP TO THE NEAREST CATCH BASIN/STORM DRAIN
THE PERFORATED PIPE CONNECTIVITY TO THE NEAREST DRAIN NETWORK SHALL BE SHOWN BY THE MEP ENGINEER IN THE SWD VFC DRAWING
ABOVE DETAIL IS APPLICABLE FOR LAWNS.
LANDSCAPE SUB-SOIL DRAINAGE