

SAMA Landscape Architects

# REJUVINATING & RESTORING NATURE

CAPGEMINI TECHNOLOGY  
SERVICES INDIA LTD., PUNE



RECIPIENT OF  
2017 ISOLA GENERAL DESIGN AWARD





**C**apgemini Technology Services India Ltd. is a development center in Hinjewadi, Pune with a site area of around 30 acres. The site shares about half of its boundary with the MIDC reserved forest land on the north and east. On the west is the MIDC transformer yard and along the south are yet undeveloped plots.

A spur of the Marunje hill turns inwards engulfing the site from the northern and eastern sides. The way the hill spur turns inwards gives rise to interesting hydrological possibilities. Part of the site on the southern side is comparatively flat with a level difference of seven meters. From the central part the contour starts rising towards the hill with a level difference of 25 meters. Native trees on site—*Azadirachata indica*, *Tamarindus indica*, *Tectona grandis*, *Pongamia pinnata*, *Bombac ceiba* and *Terminalia tomentosa*—showed stunted growth on the hill side. Throughout the site, the ground strata were hard rock up to a depth of half a metre.

## Scope and program

Out of the total site area, 20 acres was to be designed as the first phase of the campus. The first phase of the campus landscape consisted of a common podium for three buildings—Development Block, Experience Centre and Training Centre at the level of the approach road with multi-storey parking beneath. The primary scope was to create a landscape on the podium as a foreground to these three main buildings. The central area had a level difference of more than ten meters between the highest and lowest levels. A cafeteria and employees relaxation centre were planned as independent structures behind these buildings on a much lower ground. Other amenities were net games courts, cricket area and an amphitheatre.

← The eco ponds are lined using a HDP lining and extra burnt bricks. Ground covers and grasses were encouraged to grow along the edge for a natural effect.



**BIODIVERSITY AND MICRO CLIMATE**

Mass planting using indigenous shrubs and trees of bird and butterfly attracting varieties to increase biodiversity and help in micro climate creation.

**WATER SYSTEM**

A swale at the topmost level to arrest the water gushing from the hills and to prevent soil erosion on the lower slopes. Two eco-ponds located to hold the collected water for major part of the year. Water edge planting for micro climatic benefits.

**HILL SLOPES / NATURE WALK**

Slopes were first stabilised with a geomat and were planted over with ground covers and trees. The slopes were planted with native trees and shrubs and were designed as a nature walk with simple pathways.

**INCIDENTAL GREEN AREAS**

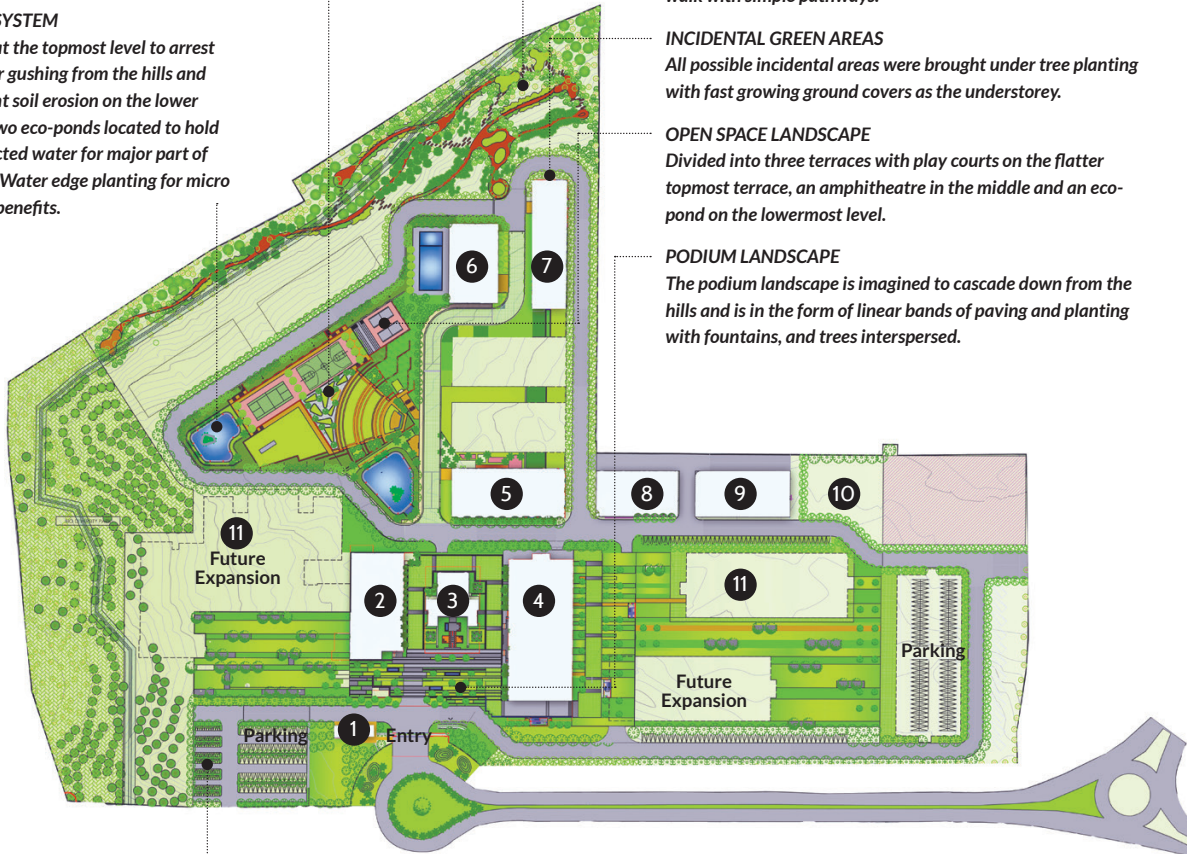
All possible incidental areas were brought under tree planting with fast growing ground covers as the understorey.

**OPEN SPACE LANDSCAPE**

Divided into three terraces with play courts on the flatter topmost terrace, an amphitheatre in the middle and an eco-pond on the lowermost level.

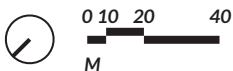
**PODIUM LANDSCAPE**

The podium landscape is imagined to cascade down from the hills and is in the form of linear bands of paving and planting with fountains, and trees interspersed.



**INCIDENTAL GREEN AREAS**

All possible incidental areas were brought under tree planting with fast growing ground covers as the understorey



**PHASE-1 LANDSCAPE PLAN**

**LEGEND**

- 1. Visitors Center
- 2. Training Center
- 3. Experience Center
- 4. Development Block
- 5. Cafeteria
- 6. Club House
- 7. Employee Relaxation Center
- 8. STP
- 9. Plumbing Block
- 10. Phase-2 Services
- 11. Phase-2 Buildings

**Concept**

The primary idea was to extend the surrounding hills in the landscape and try to merge the site with the existing surrounding contours. The surrounding 'hill slopes' were conceptualized to cascade down to the podium thus maintaining the continuity of natural green. Along with the design brief with defined activities, it was crucial to create a natural habitat on the site (which was disturbed by the construction activity). It was important to rejuvenate the environment by restoring and adding to the green cover, by creating a microclimate which was conducive to the local birds, butterflies and insects. Areas with butterfly attracting species were planned with a lot of colour and fragrance. Two eco-ponds were created which collected the rain water and were strategically located bearing in mind the natural water runoff and flow. Trees and grasses along the eco-ponds were planted to provide shelter and breeding grounds for birds. Taking into account the level difference, creating a seamless movement through the site offering varied experiences was a great challenge. Passive areas to offset the active games zone and lush areas to offset the starker ones were also planned.



## Podium

- ↑↑ *Waves in the landscape facilitate deeper soil filling to have large trees*
- ↑ *Seamless merging of the lawn with the grass paver road*
- ↗ *The podium respects the formality of buildings and is designed as a formal front for the buildings where users can gather, unwind and relax*

The podium slab covers an area of around 65,000 sqft. Drain cells and geomat on the podium were introduced for effective drainage. To bring down the soil load, a different soil mix was tried out—Poyta soil with cocopeat, peanut shells and organic compost, which helped in retaining the moisture and thus effective drainage. The fire tender road was finished with heavy grade grass pavers, thus making a large green permeable area. The approach road was kept minimum and was paved in granite slabs in shades of grey and black.

## Open space

It was obvious from the heavy contours that many areas would have to be levelled and in this process the natural character would be disturbed during the course of making roads and structures. The clients were sensitized towards maintaining the natural contours in the areas other than the buildings and we came up with a plan to make smaller terraces in the open space depending on the strata.



The thirteen meter level difference was divided into three main terraces. Making use of the terrain, a large amphitheatre was located in such a way that minimal cutting had to be done. The topmost terrace was flatter and elongated to accommodate a basketball and a tennis court. Two net games courts were located on a mid-terrace as was a cricket area with a practice net. While the main retaining walls were made in reinforced concrete, the smaller ones were constructed in basalt stone pitching. Simple rough Shahabad stone and rough Kadappa stone were used for paving while gravel was used in certain areas to allow water percolation into the ground. The eco-ponds were lined using a HDP lining and extra burnt bricks.

## Environmental challenges

The steep level difference on site and the hard rock underneath were the two main elements that needed to be handled carefully. Establishing native trees on the rocky terrain was done by digging pits of one metre depth and filling those with soil and cocopeat. The trees survived, but their growth was found to be slow and stunted. To offset this, shrub varieties of *Vitexne gundo*, *Carissa carendas*, *Caesalpinea pulcherrima*, *Tecoma stans* and bamboo were planted along the boundary for a quicker green cover. To capture the runoff from the surrounding hills during the rains, so as to prevent eroding of the loose soil and the new vegetation, a swale was strategically planned along the upper edge, silt traps were introduced and the water was collected in the two eco ponds planned at two levels.

In consultation with client, it was decided to have a mix of designed landscape near the buildings which became natural and wild as we neared the hills. Grass was minimized and was planted only where absolutely necessary. This helped in increasing the biodiversity and creating a microclimate that was totally different from the typical indoor IT office environment. Introduction of eco ponds, butterfly and bird attracting plants helped in achieving a balanced outdoor.

← The landscape 'cascading' down the hills.

↓ Simple terraces made as per site levels. Top most flatter level has the play courts, the middle level has the amphitheatre and the lowest is where the eco-pond is located.

↓ Floating fountains used for aeration help in creating a delightful movement in the water and thereby inviting more bird life. Jezebel butterflies and birds like the weaver birds and Oriental magpie-robins are now spotted regularly. ↓↓↓



Slopes were first stabilized with a geonet and then planted with ground covers and trees. Slopes towards the hills had sparse trees with stunted growth—typical of the rocky strata below—while the peripheral vegetation comprised native trees and shrubs. All possible incidental areas were brought under tree planting with fast growing ground covers as the understorey. This helped in stabilizing the denuded soil and slopes at a faster rate.

One can see few birds like the water hen, cuckoo and barbet near the water. Weaver birds, scale-breasted munias, lapwings, common iora and purple-rumped sunbirds and shrikes have also been seen nesting and feeding near the eco-ponds. The green cover is now well established and a lot of seasonal variations are seen in the planting.

The landscape creates a peaceful and serene character, and the few minimalistic elements have transformed a difficult patch of land into a user-friendly environmental delight. The strength of the design and execution lies in the use of materials and planting that blend in easily with the surroundings to create a desirable environment for humans and many other beings within an ecological framework.

Text, plan and images by SAMA Landscape Architects

Project & Location	<b>Landscape for a SEZ Campus, Hinjewadi, Pune</b>
Site Area	<b>35.00 acres (Phase-1 - 17.00 acres)</b>
Client	<b>Capgemini Technology Services India Ltd. Mahesh Dhuri &amp; Dipti Deshmukh</b>
Landscape Architect	<b>SAMA Landscape Architects, Pune Manjiri Mahajan, Sameer Duraphe, Radhika Jadhav &amp; Priyanka Avala</b>
Project Architect	<b>DSP Design Associates, Pune</b>
CONSULTANTS	
Structural & MEP	<b>Vastech Consultants Pvt.Ltd. EDRC, L &amp; T Consultants, Chennai</b>
PMC	<b>Synergy Property Development Services Pvt. Ltd., Pune</b>
Plumbing	<b>Atreya Consultant, Bengaluru</b>
Electrical	<b>Power Designs India Pvt. Ltd, Bengaluru</b>
HVAC and LEED	<b>Consulting Engineers, Bengaluru</b>
Landscape Civil, Horticulture, Fountain and Irrigation Works	<b>Aditi Irrigation, Pune L &amp; T Constructions</b>
Photography	<b>Atul Kanetkar &amp; Sameer Duraphe</b>
Status	<b>Phase-1 Completed in 2014 Phase-2 Ongoing</b>
Landscape Cost	<b>12.00 Crores</b>