

# BASF Learning Campus (Singapore) at Rochester Park: When the Old Tree Stays

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Images as credited

Project Credits  
Location 17, 13 & 12 Rochester Park, Singapore  
Client BASF South East Asia Pte Ltd Owner JTC  
Corporation Architect Forum Architect Pte Ltd  
Landscape Architect COEN Design Pte Ltd  
Arborist Camphora Pte Ltd Civil & Structural  
Engineer Ronnie & Koh Consultants  
Mechanical & Electrical Engineer CCA &  
Partners Pte Ltd Main Contractor Towner  
Construction Landscape Contractor Universal  
Gardens Pte Ltd (Affiliate of TEHC International  
Pte Ltd) Site Area 6000m<sup>2</sup> GFA 906m<sup>2</sup>



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The BASF Learning Campus' design revival from a neglected bungalow with unmanaged vegetation into a sophisticated corporate training and retreat centre has been recognised as an exemplary conservation project precedent in Singapore.

1. Aerial view of the BASF Learning Campus (Singapore) at Rochester Park, with its covered linkway that connects the three Black and-White bungalows (Photo: Fabian Ong).

2. A mature banyan tree (*Ficus benjamina*) frames the bungalows and establishes a sense of heritage for the estate (Photo: Stephanie Gautama).

Warm morning sunlight filters through the canopy of the majestic Tembusu tree and casts its dappled glow onto a charming colonial Black and White bungalow. Said to be about 150-years old—though it is difficult to tell the age of a tropical tree for sure—this Tembusu tree has seen Singapore through its dramatic transformation from its early days as a trading port for the British to its independence and modernisation. It is now Tembusu blooming season in May, and thousands of petite ivory-coloured flowers are strewn across the bungalow's cobblestone driveway.

This special Tembusu tree flanks the gate to what is now the BASF Learning Campus (Singapore) at Rochester Park, an elegantly restored architectural compound set in verdant landscaped grounds. The BASF Learning Campus' design revival from a neglected bungalow with unmanaged vegetation into a sophisticated corporate training and retreat centre has been recognised as an exemplary conservation project precedent in Singapore. The project included the careful restoration and transformation of three black and white colonial bungalows into a total of 6,300 square meters of indoor and outdoor learning space in natural green surroundings. In 2015, Singapore Institute of Landscape Architects (SILA) honoured the project with its highest accolade of Outstanding Award of Excellence in landscape architecture, as well as Gold Award in Institutions Category. The Urban Redevelopment Authority (URA) of Singapore has also given the project a prestigious Class A URA Heritage Award for its holistic architectural and landscape restoration.



### Our design process

When we first saw the site in 2013, we knew that this project had the potential of an unpolished gem; located just five minutes away from the futuristic Star-vista complex, this hidden colonial heritage was a sprawling 6000-square-metre site with matured trees and undulating terrain. The BASF Learning Campus was envisaged to offer regional leadership development and business-related programs to its employees across Asia Pacific. The client, BASF South East Asia, had given us a brief with the theme “Connected Minds” as they envisioned the campus to be a place for meeting of minds for employees and researchers across their regional network. In response to the brief, our design connected the three bungalows, houses no. 17, 13, and 12, with a universally-accessible linkway, as well as the internal garden spaces.

We knew that much of the restoration success hinged on the sincere dialogue between the existing historical fabric and our present interventions. And it was through an open and constructive dialogue between clients, consultants, contractors, and the public that we were able to tap on the cross pollination of ideas and knowledge ensuing the richness of the project.



3,4. Before and after photos of the campus drop-off at Rochester Park house no. 17. A conserved native *Vitex pinnata* tree stands at the centre of the main entry roundabout and drop-off area (Photo: Goy Zhenru and Stephanie Gautama).

5,6. Before and after photos of Rochester Park house no. 13. The leaning sculptural umbrella tree (*Schefflera arboricola*) outside of its doorstep of the house was slated to be removed because of its decaying heartwood. However, as it was otherwise in healthy condition, it was retained with structural support (Photo: Goy Zhenru and Stephanie Gautama).

7,8. Before and after photos of the 150-year old Tembusu tree at the gate of Rochester house no. 12. The tree underwent pruning; it is seen in full bloom in the "after" picture (Photo: Goy Zhenru and Stephanie Gautama).

9. A model of the BASF Learning Campus (Singapore), which captures the undulating topography and location of the original trees (Photo: Goy Zhenru).

### Using a model as a medium of dialogue

A curious boy spotted our corrugated board site model one day when our team was taking a break at the nearby Star Vista mall, and approached us. Eyes set on the wooden sticks sowed across the model, he pulled out a stick numbered 56, and asked what it was.

We explained that he had just “removed” a 12-metres-tall *Ficus benjamina* from the site.

“It’s a big tree that can protect you from the sun when you go out and play. Are you really sure you want to get rid of it?”

The child thought about it, paused for a second—and promptly planted the tree back.

This approach towards the conservation of trees is what we tried to bring out in the project. Through the use of a site model, we demonstrated to the clients that retaining the trees and landscape was important in the conservation of its natural beauty and heritage. When Rochester Park’s last residents moved out some time in the 1990s to 2000s, it was left vacant and had fallen into disrepair. The landscape also took a toll from this abandonment. Initial investigations showed us that trees were either dead or showed signs of decay and compromised structural integrity. Through time, creepers had dominated a majority of the landscape, suffocating most of the original garden.

As we hoped to retain most of the trees without compromising public safety, we had a professionally certified arborist to carry out a tree



survey to mark out unhealthy trees. After examining each tree on site, our arborist found that 40 percent of the surveyed trees on site had health issues, and recommended that they be removed.

One of these trees was the striking fifty year old sculptural umbrella tree, or *Schefflera actinophylla*, outside house no. 13. The arborist’s resistograph and drill test indicated that the trunk of this leaning tree has considerably decayed. We could have put in an application to request permission from NParks to ask if we could remove the old tree and replace it with one or more nursery-bought tree(s). But we knew that without the presence of this old tree, the microclimate and the atmosphere of the site would be drastically altered. Using the site model, we demonstrated the empty gap that the removed trees would create by removing the sticks, which represented trees, from the model.

There is something intuitive about site models. Even though the 2-D topographical plan can provide us with useful detailed information of the site, only a physical site model allows one to intuitively and actively engage with the space. Inserting or removing any elements from the model becomes a conscious design effort. With the model, the impact of the tree’s removal was perceptible; the client and team was convinced that the signature *Schefflera actinophylla* should be kept as a natural landmark on site. Instead of removing it, we provided support to the tree so that it would not pose safety issues by adding a steel beam that would support its weight.

### Framing the old tree and the old house

Apart from conserving existing landscape and heritage trees, part of the challenge was also to encourage the use of the outdoor space. As one of the key design strategies, we strategically designed the new garden to unify the three houses into one coherent estate and frame the views from all vantage points. Every single space on site enjoys a premium view of the green. This is to ensure active engagement with the natural surroundings even when the visitors are in the seminar rooms. Outdoor pockets of intimate spaces provided platforms for



participants to engage in casual interaction and discussion. Extended verandas from the houses are expressed in forms of external decking, allowing the participants to come together in large groups after daily seminars.

As with the given brief of “Connected Minds”, the pavilion was designed for panoramic views of the gardens. We mimicked the canopy effect of the leaf foliage with two overlapping cantilever structures. This creates an intimate gathering space as an anchor, at the same time allowing users to enjoy a full visual connection with the site.

Much of the extensive work on site was also “invisible”; we replaced existing sanitary pipes and the drainage network as they had been damaged by the invasive roots of the matured trees. Our contractors also carefully coordinated the routing and location of the new pipes so that existing tree roots were not affected.



### The drinking pavers

With looming deadlines and ongoing construction, we received a surprise request from the client one day—he wanted to replace the granite pavers with polyurethane-elastomeric-binder.

“You would like to replace the granite pavers with... what?” was our response.

But whatever misgivings we had soon turned into interest as he explained that the material would allow for more effective stormwater management, while being more durable to harsh weather. The proprietary BASF polyurethane elastomeric binder is bonded with regionally-sourced stone or recycled glass aggregates, forming a porous pavement system called Elastopave. As compared to the traditional stone pavers where no permeability through the materials is possible, Elastopave is a better choice as it allows for direct surface drainage into the ground. This trademark polymer flexibility also makes it durable to harsh weather and mitigates the urban heat island effect with a Solar Reflectance Index of 29.

With the use of the Elastopave, we removed the specified 10 centimeters of lean concrete and replaced it with a layer of recycled hardcore and sand bedding. With its non-evasive foundation, we were able to route the garden path even more intimately with the existing trees. This was previously not possible with the lean concrete due to the trees’ sensitive root zones that required uncompacted earth and water. Due the raining season at the time of construction, a modular system was created such that production could be located off site, ensuring quality and efficiency in on-site installation.

As a result, the garden path now connects all three houses and the pavilion, creating spaces for contemplation and discussion, allowing closer encounters with nature and appreciation of the existing bungalows in new perspectives.





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10. Porous Elastopave allows for direct surface drainage into the ground (Photo: BASF).

11. The covered linkway was extrapolated from the trees' root setback boundaries to ensure non-intrusive routing on site (Photo: Fabian Ong).

12. Lively birdsongs can be heard from the garden in the mornings from the balcony on the second storey (Photo: Stephanie Gautama).

13. Conserved coconut palms accent the garden (Photo: Fabian Ong).

14. Architect Goy Zhenru and landscape architect Stephanie Gautama with the saga tree sapling that was replanted on site (Photo: Mathias Seidler).


15. Bright red saga seeds from the felled Rochester Park saga tree (Photo: Stephanie Gautama).

### The saga tree

Not all old trees could stay. While all efforts were taken to conserve as many trees on site as possible, trees remain transient living beings. One of the old trees that had to be removed was a stately saga tree that grew on the boundary of Rochester Park house no. 17. The tree had a generous canopy that morning walkers cherished for its cooling shade as well as its seasonal crop of festive red seeds. The

arborist diagnosed the tree with chronic basal root rot, and it had to be removed, as its structural fault had become a safety concern to the adjacent public and property.

On the day after the tree was felled, bright red seeds were scattered around the place where the tree once stood. As we went to collect a seed or two for mementos, a thought occurred to us to sow a seed at home. And so it sprouted and grew while the construction went on.

About a year later, BASF Learning Campus (Singapore) was completed, and the baby saga tree had outgrown its pot. We were searching for the perfect spot to plant the tree when it occurred to us: what better place to plant this tree other than on the site of its parent tree? And so the little sapling was replanted on site, a poetic gesture of life coming full circle for this saga tree of Rochester Park. Like the saga tree, in any heritage conservation project, there will be elements of its heritage that have to be discarded, changed, and renewed. We should cherish its history; yet not cling on it so tightly that nothing can change. Change is inevitable, and it is a beautiful thing. 



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