

Proposed Taronga Zoo Sumatran Tiger Adventure
Built Form and Urban Design Statement

Issue 01: 13/05/2015



The Sumatran Tiger Adventure project is a key component of the Masterplan works leading up the Zoo's Centenary celebrations in 2016.

The new Visitor Experience will occupy an area of 2,000sqm and represents a significant capital investment in the Zoo's next 100 years; with a focus on building upon Taronga's contribution to conservation, science and education and enhancing visitor experiences. The proposed new Tiger exhibits themselves occupy an area of 1,500sqm, representing over 1000sqm of additional outdoor exhibit area for the Taronga Sumatran Tigers.

The design and consultation process for this new exhibit began in 2010 with the Studio Hanson/Roberts Concept Design. The Concept design was then developed by Jon Coe Design (2014), with the lahznimmo design and consultant team being awarded the Tender to develop the design in August 2014.

The project is multi-layered, dealing with a number of issues, such as:

- re-routing of existing underground services,
- heritage and cultural considerations,
- existing topography and landscape integration,
- engagement and consultation with a number of stakeholders,
- operational and attendance issues,
- site access and construction issues,
- visitor and staff safety,
- animal welfare,
- and providing an enhanced and educational visitor experience.

The proposed exhibit areas are focused around education, with Visitors being asked to engage with the continuing conservation efforts for the Sumatran Tiger by being introduced to issues that threaten their continued survival. The main conservation messages relate to consumer choices around palm oil production, summarised below as:

1. Unsustainable palm oil plantations are a major contributing factor of habitat loss for tigers.
2. Unsustainable palm oil plantations have created greater access for the tiger's most significant threat, poaching.
3. Unsustainable palm oil plantations brings local people into conflict with tigers.
4. Demanding and purchasing sustainable palm oil products are the answer, boycotting is not.

The immersive and heavily themed nature of the exhibit is a relatively new direction for the Zoo, with the exhibit aiming to be experiential, theatrical, and educational. The Project Vision for the exhibit, as stated by Taronga Conservation society is:

1. To create an iconic, adventurous and interactive carnivore exhibit that has a direct interface between the animal and visitor that encourages a intimate experience between animal and visitor in space that supports enrichment and learning;
2. To create a strong platform to convey the conservation message and improve visitor interaction;
3. To create an experience where the barriers between the animal and the visitor are removed allowing the senses to be challenged through visual, audible and smell;
4. To develop a world class, iconic and immersive animal exhibit that integrates animal and human connection;
5. To develop a unique zoo experience - something new to 'world of zoos' and exhibitory.

To assist with the theming and interpretive aspects of the exhibit Taronga have engaged a specialist Exhibition and Interpretive Design Consultant (Motherworks) to provide concept and design advice.

VISITOR EXPERIENCE

The proposed exhibit is a linear journey with the educational aspirations understood in three steps:

Connect – Understand – Act.

Visitors are asked to 'depart' from the surroundings of the Zoo and embark on a flight to Sumatra – the habitat of the Tiger. The Entry Building 'Aircraft' experience creates a space for interpretive audio visual displays, giving Visitors an introduction to conservation threats such as natural habitat loss through deforestation and urban encroachment. The Entry Building itself is modest in scale and expression, with the ramp entry acting primarily as an orientation and gathering space for the Interpretive experience within.

Visitors 'take off and land' and exit the 'Airplane' into 'Way Kambas' – a representation of the traditional Indonesian Village at the edge of "Way Kambas National Park".



Entry Building - 'Virtual Airplane' experience

"Way Kambas National Park" is one of the many partners which Taronga Zoo supports in its conservation of endangered species. Taronga aims to create a one off opportunity for visitors to be able to experience a glimpse of life in Sumatra, by creating an authentic village experience, which leads them through a replica of the Way Kambas gateway into the exhibit trail.

The 'Village' buildings are small in scale and employ a mixture of new and recycled building materials. Noted as 'shopfronts' the 'Village' building frontages are primarily facades only, which through the use of display propping, give the impression of active Village shops. On occasions the Zoo may set-up the Village for performances, bring in takeaway food carts and activate the shop fronts to sell merchandise. The 'Village' buildings also screen the new operational components of the brief, such as the new Back-of-House office areas and Tiger Dens.

Passing under the 'Way Kambas' gateway Visitors embark on the Discovery Trail, the Inbound Pathway that leads through a landscaped 'rainforest' with the tigers appearing to be roaming in their natural environment. The first Tiger viewing opportunity is the 'Tiger Patrol Camp', representing a Way Kambas National Park Ranger camp out – with a large glazed 'tent' viewing window up to the existing sandstone escarpment of Exhibit 01.

Along the Discovery Trail there are side tracks with opportunities to see traces of tigers – 'footprints', 'scratch marks' or activate a camera trap. Visitors are asked to track and log Tiger evidence along the pathways.

Continuing along the path Visitors come across a covered timber bridge with thatched roof. Open on one side to the 'Swamp Forest', the other side has glazed viewing across a new water pond, and up the existing sandstone rock face within Exhibit 01.

Further along the path the Midpoint Building or 'Ranger's Outpost' comes into view. This larger building provides not only for Visitor viewing into Exhibit 02 but also allows for Tiger access up and over the public areas from Exhibit 01 into Exhibit 02 and 03. A couple of night dens occupy the back-of-house area, allowing the Zoo the flexibility to keep Tigers close to the Exhibit areas overnight.



Midpoint Building entry - 'Rangers Outpost'
Interpretation Concept Design - Motherworks Pty Ltd

The 'Ranger's Outpost' provides another opportunity to involve and engage Visitors with the continuing conservation efforts for the Sumatran Tiger. The effects of palm oil production on tiger habitat and the role of Way Kambas rangers in protecting the tigers from poaching are to be displayed here. As well, the landscape design of Exhibit 02 tells the story of deforestation for palm oil production and Village encroachment into tiger habitat.

From the Midpoint Building Visitors return on the Outbound Path and encounter jungle viewing shacks with views into Exhibit 03, housing the large existing ficus tree. A mesh roofed exhibit like Exhibit 01, Exhibit 03 allows Visitors to see tigers engaging in natural tree climbing behavior, and the Zoo the opportunity to keep Tigers in exhibit areas overnight, providing enhanced Tiger enrichment and well-being.

Visitors head from here along the path to the rear of another Indonesian style building. Before entering there is an opportunity record data on how many Tigers were spotted, and the signs and tracks that were spotted along the 'Discovery Trail'. On entering the Exit Building visitors are surprised to find that the interior is fitted out as a western 'supermarket'. Visitors are asked to engage in virtual shopping – to choose products from companies that have committed to using sustainable palm oil. Like the Entry Building 'Aircraft' experience, this building provides a space for interpretive and educational audio visual displays. Visitors then exit the building and the Sumatran Tiger Adventure.



Interpretation Concept Design - Motherworks Pty Ltd

Exit Building - 'Virtual Supermarket'

BUILT FORM AND URBAN DESIGN

The thematic Indonesian character of the Exhibit requires the use of traditional and second-hand building materials, with the proposed buildings of a low scale, sitting within the landscape setting. Cultural sensitivity and appropriateness will be important components of the interpretation and narrative, as will authenticity in built fabric. To achieve the themed and immersive qualities desired for the Exhibit, the built form and design will serve this theatrical purpose primarily. Day-to-day functional requirements are to be concealed or downplayed as much as possible. The 'jungle' landscape is to take a dominant role, with new dense planting supplementing the extensive existing mature foliage within the site area.

Siting and topography

The proposed exhibition site sits on a relatively flat sandstone shelf (RL 42.00) between a sharply rising cliff to the north, and a smaller cliff edge (up to 4 metres high) to Birdshow Rd to the south.

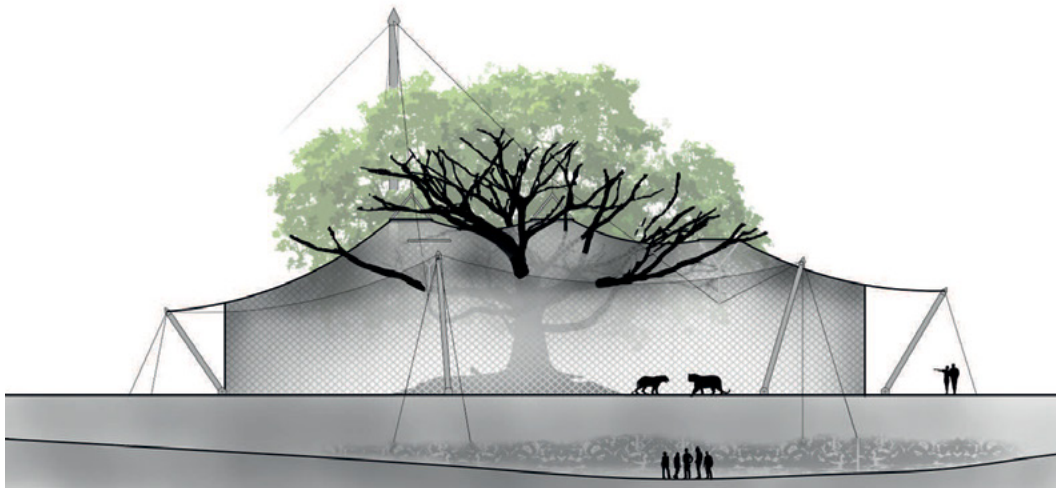
The RL of 42.00 has the site sitting approximately half way up the hill of the Taronga Zoo site – rising from RL 0.00 at the water's edge at Athol Bay Rd ferry wharf, to the top entry RL 77.00, at the corner of Whiting Beach Rd and Bradleys' Head Road. When the site is viewed from the harbour, the proposed exhibit buildings and containment fences will not project into the skyline, sitting instead within the dense existing and proposed dense landscape setting.

The flat project site makes it ideal for accessible Visitor access along the exhibit trails. Minor changes to existing ground levels are proposed within the Village area to provide a level Visitor pathways. Within Exhibit 02 new higher external levels are proposed to the perimeter line fencing area to allow improved Visitor viewing and sightlines of the Exhibit from the Midpoint Building.

Scale

As previously noted the interpretive theming of the Exhibit areas requires low scale building typologies and forms that recede into the landscape setting. All the proposed new buildings are 1-storey, noting that the Midpoint building includes the roof space Tiger transfer and Keeper accessway. The reconstruction of the back-of-house Keeper and Den building has reduced the scale of this building from the existing 2-storey configuration to a 1-storey building.

The design of the Taronga Zoo Sumatran tiger mesh enclosures have been consciously considered to recede as much as possible into the background, though the animal containment enclosures do of course have minimum heights to conform to safety requirements. The open topped animal containment areas are required by Standard to be a minimum 4500mm – being Exhibit 02 and the Tiger Off-Exhibit Holding areas.



Officium Design and Engineering

Concept Design - Taronga Sumatran Adventure

View to Exhibit 03 from Birdshow Rd

The mesh roofed enclosures to Exhibit 01 and Exhibit 02 have been kept as low as possible, by passing the enclosure mesh through the existing Fig tree in Exhibit 03 rather than over the top of the 14 metre high canopy. The existing topography within Exhibit 01 is also utilised to keep the overall heights lower, by starting the enclosure low on the high side of the existing cliff. The mesh enclosures have been designed by specialist Zoo enclosure engineers Officium, in association with Tensile design and construct.

The wall and roof height of the mesh enclosures vary as they are used to form a 3D tensile mesh structure that can free span the large distances of the Exhibits. An average height of approximately 6 metres can be given for the walls and roof mesh of Exhibits 01 and 03. The main post is the most significant structural item within the Exhibit area, although still relatively slender at 400-500mm diameter. Nominated at 16 metres height it sits approximately 2 metres higher than the canopy of the existing fig tree within Exhibit 02.

These types of mesh structures are typical of modern Zoo enclosure design and to enclosures already constructed within Taronga Zoo. As noted in 'Siting and Topography', with the land rising sharply behind the exhibits, the mesh, main post and tensile wires that attach to its peak, will not project into the skyline. When viewed from the harbour the enclosures will be effectively masked by the dense foliage that surrounds them.



Officium Design and Engineering

Ree Park, Denmark - Leopard Enclosure

Building Materials

As with building scale, building materials have been chosen to fit with the thematic and interpretive / educational requirements of the Exhibit.

Taronga Conservation Society has developed a close relationship with Way Kambas in south-east Sumatra, through supporting both community improvement projects and conservation and wildlife protection projects within Way Kambas National Park. The brief for the project was to create a unique immersive and educational experience – to give Visitors the opportunity to 'travel' to the Sumatra, to see tigers in their natural surrounds and to see firsthand the significant threats to their on-going survival.

Way Kambas Village near Lampung in south Sumatra has a varied range of architecture styles which reflect its ethnic diversity and heritage. The proposed buildings within the Village and on the Exhibit trails look to project this diversity. Tiled and corrugated metal roofing has been selected, along with a range of building materials such as rendered and painted masonry, bamboo cladding and screens, and timber weatherboards. For the project a selection of recycled materials will be employed, some recycled from the existing building, such as brickwork used for retaining walls.



Images courtesy of Motherworks Pty Ltd

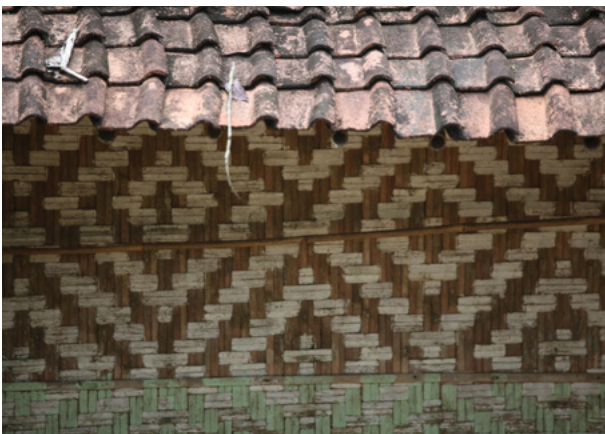


'Way Kambas Village + National Park' - look and feel

Landscape / Urban Design

Again this component of the project has been designed to fit with the thematic and interpretive / educational requirements of the Exhibit. The landscape design and exhibit trails look to reflect the natural habitat of the Sumatran tiger, as well as educate the public on the threats to this environment, such as palm oil production.

Please refer to Green and Dale Landscape Architects descriptive report and documentation for further information.



Images courtesy of Motherworks Pty Ltd



'Way Kambas Village + National Park' - look and feel