



Australian Government

Department of Foreign Affairs and Trade

Osaka Expo Taskforce

AUSTRALIAN PAVILION WORLD EXPO 2025 OSAKA, KANSAI JAPAN

CONSTRUCTION AND DECOMMISSIONING OF THE AUSTRALIAN PAVILION AT EXPO 2025 OSAKA



STATEMENT OF EVIDENCE FOR PRESENTATION TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

SUBMISSION 1.0

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1 IDENTIFICATION OF THE NEED

1.1 Participation Objectives

1.1.1 Australia's participation in World Expo 2025 Osaka, Kansai (Expo) is a whole-of-government endeavor which will deliver a strong Australian presence designed to progress our national interests on a global platform in Japan.

1.1.2 Australia's participation at Expo targets the following strategic objectives, which align closely to and support implementation of key government policy priorities:

(a) Deepen Australia's relationship with Japan

- i. Strengthen strategic, economic and people-to-people ties between Australia and Japan.
- ii. Collaborate with Japan on shared regional objectives.

(b) Create new opportunities for Australia

- i. Promote Australia's dynamic and innovative economy on a global platform.
- ii. Maximise trade and investment outcomes across priority sectors
- iii. Inspire travel to Australia for leisure, business and education to grow the visitor economy.
- iv. Highlight Australia's contributions to solving global challenges, including with regional partners.

(c) Project a modern and diverse Australia

- i. Showcase Australia's vibrant, creative and inclusive society.
- ii. Embed First Nations perspectives, experiences and interests.
- iii. Reflect Australia's leadership on gender equality.

1.2 Background

1.2.1 The Department of Foreign Affairs and Trade (DFAT) has portfolio responsibility for Australia's participation in World Expositions (World Expos). This includes managing the design, construction and decommissioning of a temporary national pavilion (the works); implementing a complex program of activities; and managing the participation and involvement of a wide range of stakeholders and partners.

1.2.2 DFAT has managed a similar Australian presence at four recent World Expos: Dubai (2020 delayed to 2021), Shanghai (2010), Aichi (2005) and Hanover (2000). Australia did not participate in Milan

in 2015. Due to tight timeframes for construction, Australian pavilions at World Expos in Seville in 1992, Hanover in 2000, Aichi in 2005 and Dubai in 2020 were granted exemptions from scrutiny by the Parliamentary Standing Committee on Public Works (the Committee).

1.2.3 The decision to participate in this Expo reflects the importance of our strong and multifaceted bilateral relationship with Japan, one of Australia's most important trade and investment partners and an increasingly significant strategic partner. Japan places a high priority on this event as a major investment in its national prestige and economic impetus and has warmly welcomed Australia's participation.

1.2.4 The Expo will take place between 13 April and 13 October 2025 on the reclaimed island of Yumeshima in Osaka, Japan. The Japan Association for the 2025 World Exposition (the Expo Association) expects that:

- (a) 150 countries and 25 international organisations will participate in the Expo, as well as corporations and NGOs. As of March 2023, 142 countries and 8 international organisations had confirmed their participation. It is anticipated 50 countries will build national pavilions with the remaining countries undertaking fit-outs in buildings constructed by the Expo Association.
- (b) Approximately 28 million people will visit the Expo, with 85 per cent of the visitors expected to be Japanese. Based on previous expo experience, we expect up to 2.8 million visitors to the Australian Pavilion.

1.2.5 The Expo Association has adopted the theme of *Designing Future Society for Our Lives* for the Expo. It has identified three sub-themes: *Saving Lives*, *Empowering Lives*, and *Connecting Lives*. The Expo site is divided into these sub-themes.

1.2.6 Australia's national pavilion (the pavilion) will be located in the Connecting Lives Zone, on a large prominent plot designated for a self-built pavilion. Given the closeness of our relationship with Japan, and the importance of this project to them as host nation, a self-built national pavilion, as opposed to an Expo Association delivered pavilion, was deemed most suitable outcome to support our strategic objectives. Australia has participated with self-built pavilions other expos we have participated in – most recently Dubai (2020) and Shanghai (2010), as have our likeminded peers.

1.3 Need

1.3.1 The Expo offers a unique opportunity to pursue our diplomatic, business, cultural and soft power objectives with Japan, our closest partner in Asia and a crucial export market, with whom we share a range of interests, including in the Indo-Pacific region.

- 1.3.2 Australia's Special Strategic Partnership with Japan is deep and enduring – underpinned by significant trade and investment links, strong defence and security ties and a deep affinity between our peoples. In 2022, leaders elevated the security relationship with the signings of the Joint Declaration on Security and Cooperation and the Australia-Japan Reciprocal Access Agreement. In 2021-22, Japan was Australia's second-largest trading partner (two-way goods and services trade valued at AUD 117.2 billion), second-largest export market (valued at AUD 92.8 billion). In 2021 Japan was the second-largest source of foreign direct investment (the stock of FDI valued at AUD 133.8 billion). Prior to COVID, Japan was a major source of short-term visitors to Australia.
- 1.3.3. Participation in the Expo is supported by stakeholders across business and industry groups, state and territory government agencies, and Commonwealth agencies. In the leadup to 2025 and at the Expo, other key trading partners of Japan will be competing for market attention. Our presence and participation will need to be both commensurate with the significance of our bilateral relationship and able to cut through competition to achieve our objectives (refer paragraph 1.1).
- 1.3.4 All Australian states have in recent years increased their investment in trade posts in Japan in line with their strategies to secure deeper trade and investment links in this key market. In initial consultations, state and territory government agencies have expressed interest in participating in Australia's partnership and/or programming opportunities to benefit from the profile-building and networking potential a national pavilion offers. Shared areas of interest include: hydrogen, clean energy, international education, tourism, food and wine, and sport. Programming at the Australia pavilion will include Commonwealth-led flagship events, as well as events led by state and territory partners. Most states and territories have strong people-to-people links with Japan through decades of investment, trade, tourism, educational exchanges and sister state, city, and school relationships, and the Expo will provide an opportunity to deepen these links.

1.4 Current/Proposed Leasing Arrangement

- 1.4.1 There is no formal lease, nor cost associated with using the land to accommodate the pavilion. However, Australia must enter into a Participant Contract with the Expo Association which includes the allocation of a plot of land. Relevant approvals under the Land Acquisition Act (LAA) will be attained to acquire, and dispose of, our interest in the land.

1.5 Additional Space Request

1.5.1 Not applicable.

1.6 Description of Proposal

1.6.1 Australia proposes to construct the pavilion on our 3,504 square metres (sqm) allocated plot (plot A10) in the “*Connecting Lives Zone*” of the Expo site on Yumeshima Island, Osaka, Japan. The pavilion will provide for public exhibition and visitor experience areas, function and representational areas, cultural performance areas, commercial retail, food and beverage areas, queuing space and back of house (BoH) technical areas (Refer Attachment 1.0 Images).

1.7 Environmental Sustainability

1.7.1 DFAT is committed to ecologically sustainable development, reducing greenhouse gas emissions and responding to global climate challenges. We will integrate key Environmentally Sustainable Design (ESD) initiatives into the design, construction, and decommissioning of the pavilion as well as its operations during the duration of the event.

1.7.2 The Expo Association has mandated all pavilions must utilise the Comprehensive Assessment System for Built Environment Efficiency (CASBEE®) assessment system and achieve a Rank A or above for temporary construction. CASBEE® is a method used widely in Japan for evaluating and rating the environmental performance of buildings and the built environment. It is a comprehensive assessment of the quality of a building, evaluating features such as interior comfort and scenic aesthetics, in consideration of environmental practices that include using materials and equipment that save energy or achieve smaller environmental loads.

1.7.3 The pavilion’s design will also be developed in alignment with the Green Building Council of Australia’s (GBCA) globally recognised certification tool the Green Star Buildings (GSB). This tool also responds to the United Nations Sustainable Development Goals (UN SDG’s) and GSB framework with key areas to be addressed including:

- (a) Sustainable Management Practices;
- (b) Energy & Greenhouse Gas Emissions Reduction;
- (c) Water Efficiency & Conservation;
- (d) Metering & Monitoring;

- (e) Waste Management Practices;
- (f) Responsible Material Selections;
- (g) Healthy Indoor Environmental Quality; and
- (h) Occupant Outdoor Thermal Comfort.

1.7.4 The Expo Association will conduct an environmental impact assessment system (EAS) based on Osaka’s municipal ordinance on environmental impact assessments. The EAS will involve research, forecasting and an assessment of Expo’s impact on the environment.

1.7.5 The Expo Association has released a Sustainable Procurement Code (SPC), which aims to make Expo a role model for future international events to appropriately manage the impact on the environment and society. The construction of the pavilion will be required to comply with the SPC will also be required meet the criteria as set out in the EAS.

1.7.6 In addition to the above, the implementation and adherence to suitable noise and dust mitigation measures, traffic management arrangements, and restrictions on working hours during the construction period are being developed by the Expo Association.

1.8 Heritage and Moral Rights Considerations

1.8.1 As Yumeshima Island is reclaimed land, there are no heritage requirements for the works.

1.9 Details of Organisations Consulted

1.9.1 Ongoing external consultation with stakeholders and partners includes:

- (a) Commonwealth agencies;
- (b) state and territory government agencies;
- (c) business and industry groups;
- (d) universities and research organisations;
- (e) civil society partners;
- (f) the Expo Association; and
- (g) counterparts from other countries participating at the Expo.

1.9.2 Consultation with internal DFAT stakeholders includes:

- (a) Trade and Investment Group;
- (b) Office of the Pacific;
- (c) North and South Asia Division;
- (d) Public Diplomacy Branch;
- (e) First Nations Taskforce;
- (f) Climate Diplomacy and Development Finance Division;
- (g) Development Policy Division;
- (h) Protocol Branch;
- (i) Australian Embassy Tokyo;
- (j) Overseas Property Office & Services;
- (k) Diplomatic Security Division;
- (l) Legal Division;
- (m) Finance Division; and
- (n) Information Management Division.

1.9.3 DFAT conducted an initial round of meetings with state and territory governments in July and August 2022. The meetings outlined the proposed approach to Australia’s participation at Expo, as well as opportunities for future state and territory government engagement, including through programming and partnerships. DFAT also sought feedback from state and territory governments on the draft programming pillars (further information available in **Submission 1.1**). State and territory government agencies will be invited to join the Osaka Expo 2025 Program Advisory Committee, alongside relevant Australian Government departments, which is expected to commence in May 2023.

1.9.4 We will embed First Nations perspectives, experience, and interests as a key cross-cutting theme for all our engagement. (Other cross-cutting themes are climate and sustainability, gender equality, diversity and inclusion, and regional collaboration). In addition to the on-going consultations described in the above paragraphs, we have engaged with:

- (a) the National Indigenous Australians Agency
- (b) the Australian Institute of Aboriginal and Torres Strait Islander Studies, and
- (c) Indigenous Business Australia.

- 1.9.5 Further detailed consultations with all stakeholders will be undertaken as part of the design development process and in the development of our cultural program and strategy.

2 TECHNICAL INFORMATION

2.1 Location and Climate

- 2.1.1 Osaka is an economic hub, large regional port city and commercial centre on the Japanese island of Honshu in the Kansai region of Japan. Yumeshima Island is located southwest of the island of Maishima, in the westernmost end of Osaka City in Osaka Bay (Refer Attachment 1.0 Images).
- 2.1.2 Osaka is the capital of Osaka Prefecture, and the third most populous city in Japan, following Tokyo and Yokohama. With a population of 2.7 million, it is the second-largest metropolitan area in Japan and the tenth-largest urban area in the world with more than 19 million inhabitants.
- 2.1.3 The city is also recognised as one of the most multicultural and cosmopolitan cities in Japan. It is home to the Osaka Exchange as well as the headquarters of multinational electronics corporations such as Panasonic and Sharp. Osaka is an international centre of research and development and is home to several major universities, notably Osaka University, Osaka Metropolitan University, and Kansai University.
- 2.1.4 Osaka is located in the humid subtropical climate zone and has four distinct seasons. The Expo will start in April, which is spring in Osaka. Summer is Osaka's wettest season, with the rainy season occurring between early June and late July. Summers are very hot and humid. In August, the hottest month, the average daily high temperature reaches 33.5 Celsius, while average night-time low temperatures typically hover around 25.5 Celsius. Warm temperatures continue into autumn. Osaka experiences a second rainy period in September and early October, with tropical weather systems, including typhoons. Australia's pavilion design takes into consideration Osaka's typical weather patterns.

2.2 Scope of Work

- 2.2.1 The scope of work comprises the construction of a three-storey pavilion of approximately 2,500 sqm gross floor area (GFA) on the allocated 3,504sqm plot of land. The pavilion will accommodate:
- (a) Two spaces containing public exhibition and visitor experience areas (543sqm GFA);

- (b) functions and representational areas (330sqm internal);
 - (c) commercial retail, food and beverage areas (193sqm GFA);
 - (d) BoH including staff areas, circulation and service areas (1422sqm GFA); and
 - a) (e) external landscaping including a front forecourt, and internal courtyard of approximately 600sqm and external roof terraces totalling a further 217sqm (Refer Attachment 1.0 Images).
- 2.2.2 The pavilion will be made up of two separate pods, one containing public exhibition and visitor experience spaces; while the second pod will accommodate VIP areas, retail, and hospitality spaces. The works contains a specific arrangement where the design will be Australian origin yet completed, procured and delivered to the local standards of Japan. Australian standards and Green Star Design frameworks will form the basis of the design concept.
- 2.2.3 In addition to the pavilion's construction, the Expo Association and its appointed general contractors will be responsible for all civil, enabling and infrastructure works on the Expo site, all of which will be required to comply with the detail referenced in section 1.7. These works commenced in April 2021 and will continue (in parallel with the construction of all the country pavilions) until March 2025. Details of the works to be completed by the Expo Association are attached in **Submission 1.1**.

2.3 Zoning and Approvals

- 2.3.1 As Yumeshima Island is reclaimed land, there are no zoning restrictions which need to be considered.
- 2.3.2 The works require separate approvals through the Expo Association and the City of Osaka municipal authorities. The Expo Association's multi-stage approval process comprises:
- (a) Theme Statement approval and participant contract execution.
 - (b) Submission 1 – General Design Plan.
 - i. An application for approval of the general design plan for the pavilion
 - ii. The layout of facilities (1/200 scale)
 - iii. The ground plan, elevation, and sectional plan of the pavilion (1/100 scale)
 - iv. Building Information Modelling (BIM) data
 - v. Standards and specifications of building materials
 - vi. Technical proposal for the structure and facilities of the pavilion

- vii. Plans for facility load capacity and utilities
- viii. Schedule for design, bidding, construction, demolition and other relevant works.

(c) Submission 2 – Final Design Plan.

- i. An application for approval of the final design plan for the pavilion
- ii. The layout of facilities (1/200 scale)
- iii. The ground plan, elevation, and sectional plan of the pavilion (1/100 scale)
- iv. BIM detail
- v. Plan for the standards, specifications and procurement of building materials
- vi. Technical proposal/design plan for the structure and facilities of the pavilion
- vii. Energy and utility usage plan
- viii. Environmental plan (using CASBEE® assessment software)
- ix. Universal design plan and checklist
- x. Construction and demolition plan
- xi. Schedule for design, bidding, construction, demolition and other relevant works.

2.3.3 In parallel, the City of Osaka municipal authorities' approvals processes will run simultaneously with their multi-stage approval process comprising:

- (a) Application for Permit for Commencement of Construction
- (b) Application for inspection for Certificate of Completion
- (c) Application for Temporary Building Permit
- (d) Application for Building Permit
- (e) Certificate of Completion
- (f) Application for Permit of Commencement of Demolition/Removal Work
- (g) Application for Return of Plot inspection

2.3.4 Applications for the respective permits are anticipated to be submitted to the Expo Association and City of Osaka municipality as follows:

- (a) General Design Plan – April 2023
- (b) Final Design Plan – October 2023

(c) City of Osaka Building Applications – October 2023

2.3.5 A Japanese private certifier will be appointed to facilitate the permit and approval process with the Osaka City municipal authorities.

2.4 Land Acquisition

2.4.1 The land for the Expo site is being managed by the Expo Association. When we enter a Participant Agreement with the Expo Association, DFAT will receive the right to construct the pavilion, occupy the allocated plot for the period of the Expo and to decommission and remove the pavilion at the conclusion of the Expo.

2.4.2 No land will be permanently acquired for the works. However, for the purposes of s125(1)-(3) of the LAA, signing the Participant Agreement constitutes an acquisition of an interest in the land for the period specified in the Participant Agreement, and as such, requisite LAA approvals will be attained for the acquisition of an interest in land under the Lands Acquisition Delegation 2022.

2.5 Codes and Standards

2.5.1 The Expo Association has mandated that participants must pursue the planning, designing, and construction of Type A (self-built) pavilions in compliance with relevant Japanese laws, prefectural or municipal ordinances of Osaka, and other Japanese laws and regulations, including but not limited to the following:

- (a) Building Standards Act;
- (b) Architect Act;
- (c) Construction Business Act;
- (d) City Planning Act;
- (e) Fire Services Act;
- (f) Osaka Prefectural Ordinance on the Enforcement of the Building Standards Act; and
- (g) Basic Act for Persons with Disabilities.

2.5.2 The design of the pavilion design also takes into account the application of Australian codes and standards, where practical and where it does not conflict with Japanese laws and regulations, which take precedence.

2.5.3 The Expo Association has also mandated all pavilions comply with a range of self-generated requirements including, but not limited to, the Universal Design Guidelines and the Design

Guidelines for Type A (Self-built) Pavilions.

2.6 Site master planning

2.6.1 The Expo site will comprise the following three areas (Refer Attachment 1.0 Images):

- (a) Pavilion World - an area of activity with pavilions and other facilities;
- (b) Water World - an area of relaxation using the waterscape. This area will have food service facilities arranged on the waterside and will be used as a stage for events on the water; and
- (c) Green World – an area of greenery facing the sea to the west of the site. This area will be an open space that can accommodate a large number of people, with facilities such as an outdoor event plaza, a transport terminal and an entrance plaza.

2.6.2 Within Pavilion World, there will be three zones that respectively embody the three Expo subthemes of Saving Lives, Empowering Lives and Connecting Lives (Refer Attachment 1.0 Images).

2.6.3 The Expo Association also proposes to construct a grand timber ring (the ring) with a circumference of approximately 2 kilometres. The ring will provide shelter during inclement weather and also provide a primary circulation path through the centre of the Expo site, with a trafficable and landscaped roof. The ring will have a diameter of approximately 675 meters and continuously span an area of approximately 60,000 sqm. Upon completion it is projected to be the largest timber structure in the world (Refer Attachment 1.0 Images).

2.7 Plot Layout

2.7.1 The Expo Association guidelines for plot A10 include:

- (a) a setback of at least 10 meters from the front plot boundary facing the grand ring and a setback of at least 1 meter from the other boundaries;
- (b) a maximum building coverage of 70 percent, ensuring visitors can easily access to the pavilion from the side facing the ring;
- (c) a primary height limit of 12 meters, with an upper story allowed up to 17 meters providing it is limited to half the floor plan area of the maximum buildable area, and;
- (d) a total pavilion gross floor area to a maximum of 2.5 times the allocated plot area.

2.8 Context and Building form

2.8.1 The ring will present a significant architectural presence to all buildings in proximity, including the pavilion. The pavilion's form will respond to the ring by including a sweeping front façade creating additional landscaped space for public arrival and entry to the pavilion's visitor experience.

2.8.2 The pavilion's front pod will be three stories to establish an appropriate presence and gesture in

response to the grand ring. This pod will accommodate the functions, representational, commercial retail, and food and beverage areas. The rear pod will be two stories and accommodate some office space, support areas and the public exhibition and visitor experience comprising an immersive planetarium within a domed structure.

- 2.8.3 Sheltered between the pods will be a landscaped, semi-covered courtyard environment accommodating a stage for cultural performances and adjacent commercial retail, food, and beverage areas. The courtyard seeks to balance an external (and more economical) environment, whilst responding to Osaka’s challenging climate. Separate linking structures will unite the two pods and semi-enclose the courtyard, these links will accommodate an interactive exhibition corridor, its queuing space and also BoH areas such as plantrooms.

2.9 Architecture

- 2.9.1 The pavilion’s proposed design seeks to promote and showcase Australia through its architecture, functionality, landscaping, exhibition displays and multimedia presentations. Under the pavilion theme *Chasing the Sun*, its innovative design will draw inspiration from the beauty and diversity of Australia’s iconic native eucalypts and highlight Australia's expertise in architecture, exhibition, building engineering, interior and landscape design disciplines, reflecting the Expo 2025 Osaka theme *Designing Future Society for Our Lives*.
- 2.9.2 Our pavilion narrative allows us to share with visitors the opportunities that arise from Australia’s diverse population and welcoming society, abundant natural resources, striking landscapes, history, and lifestyle, whilst incorporating the Expo sub theme Connecting Lives. It encapsulates Australia’s connection to land, our resilience, optimism and ingenuity as we collaborate with others to design a future society utilising renewable energy and innovation, while valuing equality and environmental sustainability.
- 2.9.3 The pavilion’s concept design is based on a eucalypt gumnut with two pods being sheltered by opening shells. This metaphor for Australia represents new ideas and future generations; potential and hope; regeneration and fertility; strength and resilience; and time and growth.
- 2.9.4 Japanese people identify the eucalypt as distinctly Australian and the pavilion’s façade shells intend to capture our natural beauty through the celebration of the eucalypt as a symbol of the Australian people and psyche.

2.10 Materials and Finishes

- 2.10.1 Materials and finishes will be selected to present a high quality and representative outcome that

stands apart from adjacent pavilions and attracts Expo visitors. Where possible, materials and finishes will be selected to showcase Australia and/or be suitable for re-use elsewhere.

- 2.10.2 Subject to budget and material availability, natural materials such as timber will clad prominent external façades of the pavilion with elements of colour and movement intended to articulate its form. Less prominent façades will adopt more economical materials such as prefinished metal panelling and fibre cement sheeting.
- 2.10.3 The quality of internal finishes will be calibrated for usage with functions and representational areas to have high quality materials, whilst BoH, circulation, staffing and service areas will have a minimal level of finishes to meet their intended usage and reduce costs.
- 2.10.4 The finishes in public exhibition and visitor experience will be selected to support audio-visual (AV) displays and will also be durable for the significant daily number of anticipated visitors.

2.11 Public Exhibition and Visitor Experience

- 2.11.1 In response to our strategic objectives and the pavilion's proposed location in the Expo site's *Connecting Lives Zone*, the public exhibition and visitor experience will be based on the following three narrative pillars:

(a) Connection to Country (People & Place)

This pillar embodies the Australian spirit, which reflects the history of Australia's First Nations people, and the land, seas, and sky. It influences the values of Australian culture, binding us to all living things and to each other as we follow the sun into the future and surprise our visitors with the depth of our national story.

(b) Our Diverse Stories (People & Product)

This pillar shows our skilled people opening the door to innovation that utilises our creativity and natural resources, drives our key industries and sets our path to sustainability. The energy of Australia, driven by our diverse population, will be brought to life, creating new opportunities, and building strong partnerships.

(c) Co-creating the Future (Product & Place)

Australians are natural collaborators, optimistic and are open to trying new things. Against the backdrop of environmental harmony and designing for future societies, we invite the world to build the future dream with us.

- 2.11.2 The public exhibition and visitor experience will be accommodated in a sequential fashion through the Forecourt, Exhibition 1, Exhibition 2, and Courtyard spaces. This will be supplemented by a

commercial retail outlet selling merchandise and a food and beverage provider. A stage for cultural performances will complement the experience of visitors to the pavilion.

2.12 Mechanical Services

- 2.12.1 The pavilion’s mechanical services will be designed in accordance with the relevant Japanese standards, and Australian standards if applicable. The design will include a combination of variable air volume and constant volume systems to meet the heat/space load requirements and Osaka’s demanding climate considerations.
- 2.12.2 Heating and cooling will primarily be through air handling units supplied by chilled water supplied to plot A10 by the Expo Association and heat pumps at the rear of the pavilion. Some supplementary systems will be included for dedicated functional areas and spaces with unique requirements such as food and beverage cool rooms etc.

2.13 Hydraulic Services

- 2.13.1 The pavilion’s hydraulic services will be designed in accordance with the relevant Japanese standards, and Australian standards if applicable. The design will include wastewater and stormwater infrastructure to connect to Expo Association supplied infrastructure.
- 2.13.2 Subject to local utility capacity, retention tanks will also be included for trade waste (i.e. food and beverage grease traps) and stormwater for rainwater harvesting and reuse via landscaped irrigation, WC flushing and mechanical plant consumption.

2.14 Electrical Services

- 2.14.1 The pavilion’s electric services will be designed in accordance with the relevant Japanese standards, and Australian standards if applicable. The design will accommodate the supply of High Voltage feeds provided to plot A10 by the Expo Association.
- 2.14.2 Switch and distribution electrical infrastructure will be provisioned through the pavilion, a small generator will be included to comply with Japanese life-safety code requirements and no central uninterrupted power supply (UPS) will be included.
- 2.14.3 Lighting and metering are being designed from an ESD perspective and other provisions such as photovoltaic (PV) generation is also being factored into the design.

2.15 Fire Protection

- 2.15.1 The pavilion's fire protection services will be designed in accordance with the relevant Japanese standards. The design will include hydrants and reels in core areas and no sprinklers due to it being classified as a temporary structure under Japanese codes.
- 2.15.2 Fire detection and occupant warning systems will be incorporated into the design in a manner that accommodates the multiple concurrent uses and diverse occupants of the pavilion, including the representative function areas, the public exhibition and retail/food & beverage areas.

2.16 Information Communications Technology

- 2.16.1 The information communications technology (ICT) services will be designed in accordance with the relevant Japanese standards, and Australian standards if applicable. The design will include consolidated structured cabling and an integrated communications network supporting mechanical controls, lighting controls, security infrastructure, Wi-Fi infrastructure, AV systems, vertical transport controls, building controls and electronic point of sale systems.
- 2.16.2 DFAT's corporate ICT networks will not be installed in the pavilion. DFAT staff will primarily utilise a virtual private network connectivity through Wi-Fi to support remote working arrangements from portable devices.
- 2.16.3 A master antenna television system and infrastructure for radio communications will be included to support staff communications for operations and situational awareness.

2.17 Lightning Protection

- 2.17.1 Lightning protection is not included due to the pavilion being under 20 meters in total height.

2.18 Core / Vertical Movement

- 2.18.1 The pavilion's lifts will be designed in accordance with Japanese regulations and in response to applicable input criteria. The lifts will be fully compliant with Japanese codes for the mobility impaired.
- 2.18.2 The pavilion's front pod will have a central core and two primary staircases serving its three stories, the rear pod will not have a central core due to its bespoke spaces including the planetarium.
- 2.18.3 The pavilion will include three lifts for the purpose of moving staff, guests, goods and providing

compliant access for people with disabilities. The lifts are located across both pods to provide segregated access for the individual vertical movement types, including:

- (a) Front pod - a combined goods & staff lift for goods movement and general staff access;
- (b) Front pod - a dedicated passenger lift for visitors and dignitaries; and
- (c) Rear pod - a passenger lift for visitors and staff mobility impaired access.

2.19 Civil and Earthworks

- 2.19.1 The construction of the pavilion consists of two primary structures centred on the 3,504sqm site. This will result in limited earthworks occurring during construction and excess fill will be utilised for the courtyard's landscape terracing as the Expo Association will not permit fill to be removed from the Expo site.

2.20 Foundations and water table

- 2.20.1 The Expo site sits on newly reclaimed land within Osaka harbour, plot A10 sits on an embankment 6.0-7.0 metres in depth. The consolidation and settlement of the site is expected to continue occurring during the Expo's construction period (April 2023 - April 2025).
- 2.20.2 The land reclamation works to build the Expo site have been undertaken in stages and plot A10 is located in an area which was reclaimed in one of the earlier stages. This means the site has had longer for the ground to settle than other parts of the Expo site and is thus more stable. Further, due to original depth of the harbour, plot A10 has less depth of reclaimed material than other parts of the Expo site, allowing more flexibility with foundation designs.
- 2.20.3 The pavilion has been designed with a floating raft slab in lieu of significant coring and piling foundations required for other pavilions. This results in reduced excavation with the structural design's requirement for the floating raft slab to have a set-down of equal or less mass in proportion to the pavilion's total mass.

2.21 Structure

- 2.21.1 The pavilion's structure will primarily be structural steel comprising a bolted post and beam design. A combination of lightweight pre-cast and reinforced in-situ concrete slabs will be used for flooring with the design being advanced in accordance with the relevant Japanese standards, including stringent seismic codes.

2.21.2 The pavilion’s structural design is also being informed by the proposed demolition methodology and opportunity to recycle/reuse materials to reduce environmental impacts. Consideration will be taken of local site conditions of the reclaimed island’s exposed location including wind and other associated factors.

2.22 Floor Plate / Grid

2.22.1 The pavilion’s floor plate and grid will allow for regular shaped cores and accommodate bespoke shapes such as the hemispheric planetarium.

2.22.2 The floor plates are being designed to maximise visitor flow through the public exhibition and visitor experience, while also providing functional BoH areas to accommodate operational requirements. The functions and representational spaces will be column free where possible for unencumbered sight lines.

2.23 Pedestrian Access, Pavement and Walkways Design

2.23.1 Pedestrian access to the Expo site will be limited due to Yumeshima Island’s remote location and lack of other public attractions in the immediate vicinity.

2.23.2 Once inside the Expo site, primary access to the pavilion will be on foot with the ring being used as the main pedestrian pathway for Expo visitors and as a shelter during inclement weather.

2.23.3 The pavilion’s hard external surfaces, pavement and footpaths will be designed in accordance with the relevant Japanese standards and Australian standards if applicable. The design will provide for Japanese mobility impaired compliant access to all public, representative and staff areas of the pavilion.

2.24 Parking

2.24.1 There will be limited access to the pavilion for private vehicles, with parking for dignitary arrivals and departures to be located at the rear of the pavilion. Two parking spaces will be included in the pavilion's design with additional space for transport buggies to facilitate access to/from and around the pavilion.

2.24.2 Vehicle access around the pavilion to allow for entry and exit, parking, and drop-off manoeuvring will be designed in accordance with the relevant Japanese standards.

2.25 Public Access

- 2.25.1 During the opening hours of the Expo, the public will have free access (on a ticketed basis) to the public areas of the pavilion including the public exhibition and visitor experience, the commercial retail and food and beverage areas in the central courtyard.
- 2.25.2 The pavilion’s design promotes pedestrian flow into the public exhibition and visitor experience through an initial landscaped forecourt and queuing space. The central landscaped courtyard area facilitates an exit pathway from the public exhibition and visitor experience. Supported by commercial retail, food, beverage areas, cultural events and performance stage, the exit sequence is envisaged to be an active and enticing experience encouraging the public to engage further.

2.26 Restricted Access

- 2.26.1 Concurrent access and exit for invited guests into the functions and representational areas will be managed through a separate entry and vertical circulation path. This restricted access will include a personnel security presence and reception area to ensure access is by invited guests only. Additionally, this dedicated entrance is placed on the side of the pavilion, away from the public access route to the public exhibition and visitor experience.
- 2.26.2 There will no public access to the BoH, office, storage, service and plantroom areas. BoH areas will typically have electronic access control at its entrances to limit access, and have patrolling physical security.

2.27 Staff Access

- 2.27.1 Staff will have access to the public and relevant BoH areas of the pavilion at all times, via a separate dedicated entrance to the rear of the pavilion.

2.28 Security

- 2.28.1 The Expo site’s security is anticipated to include pedestrian barriers at all perimeters and security checkpoints at all access points. Operationally, Expo Association security personnel will patrol the Expo site on a 24-hour basis with ticketed and screened visitors able to gain access to the Expo only during the official opening hours.
- 2.28.2 Pavilion staff will have increased hours of access and will also be required to pass through the general site security. Staff hours of access are anticipated to be advised by the Expo Association.

- 2.28.3 In addition to the general Expo security, the pavilion will have a contingent of security guards working on a 24-hour basis. During Expo opening hours, these guards will be stationed throughout the pavilion including at the entrance to the functions and representational areas, entrance and exit to the visitor experience and also in the commercial retail, food and beverage courtyard.
- 2.28.4 Closed-circuit television (CCTV) coverage will be provisioned throughout relevant areas of the pavilion, including within the public exhibition and visitor experience. There will also be a dedicated security room containing the security infrastructure equipment which will be monitored 24 hours a day.

2.29 Services / Waste

- 2.29.1 Services and waste facilities will be located at the rear of the back pod with BoH access only. The pavilion's design (and operating arrangements) will be progressed to minimise waste and ensure recycling opportunities are maximised.
- 2.29.2 Further details of waste management and collection arrangements are anticipated to be provided the Expo Association.

2.30 Landscape Design

- 2.30.1 The landscape design will take advantage of the site's climate and orientation. It will also respond to the surrounding buildings in close proximity including other national pavilions and the ring. The design will in accord with Japanese mobility impaired codes with compliant ramps and gradients providing access to external areas of the pavilion.
- 2.30.2 The landscape design will complement the pavilion and seeks to provide visitors with an immersive, sensory and interactive journey through Australia's four diverse bio regions comprising Coastal Lowlands, Eastern Highlands, Central Lowlands and the Western Plateau.

2.31 Operations, Maintenance and Warranties

- 2.31.1 Operation and maintenance information will be provided by the construction contractor (CC) upon completion. The information will contain relevant equipment data, supplier identification and contacts, specifications, recommended maintenance procedures and manufacturers manuals.
- 2.31.2 Warranties and guarantees will be managed through the defects liability period with the CC responsible for maintenance during the Expo period.

2.32 Acoustics

2.32.1 Acoustic attenuation and reverberation measures will be included in the pavilion’s design in accordance with relevant Japanese codes and regulations. The final scope of acoustic works will be detailed in subsequent design phase of the works and respond to the associated functions of the pavilion including its representational and functions areas as well as the public exhibition, visitor experience and local external noise requirements.

2.33 Environmentally Sustainable Design

2.33.1 The pavilion’s design will incorporate a range of ESD initiatives and features including:

- (a) Energy and greenhouse gas emissions reduction through the pavilion’s fabric reducing heat loss/gain, shading protection and insulation, high efficiency engineering systems/electrical fittings, mixed mode mechanical ventilation with CO₂ sensors and on-site renewables through PV cells;
- (b) Water efficiency and conservation by reducing potable water usage, rainwater harvesting and reuse, selection of suitable landscaping plantings and optimising the pavilion’s performance through monitoring/metering;
- (c) Responsible material selections and waste management through construction, operations and decommissioning. Where possible, the pavilion will be designed for disassembly and reuse/recycling. Selected materials will be sustainably sourced and minimise embodied carbon to lower the pavilion’s overall environmental footprint; and

Healthy indoor environments which maximise natural daylight, external spaces that offer shade and shelter from inclement weather and excess heat and solar gain.

2.34 Provisions for mobility impaired people

2.34.1 The pavilion and external surrounds will be designed in accordance with requisite Japanese codes to make provision for mobility impaired staff and visitors, including ingress and egress routes, lifts, access toilets and other facilities.

2.35 Heritage Issues

2.35.1 There are no heritage limitations regarding the site or exiting buildings on the site.

2.36 Work Health and Safety

- 2.36.1 In accordance with the Work Health and Safety Act 2011, considerable attention will be given to WH&S during the detailed planning of the works and continued preparation of the construction contract documentation.
- 2.36.2 WH&S issues will be particularly important during the pavilion's construction and subsequent decommissioning. The CC will be required to implement a stringent WHS Management Plan including safety induction training for all workers and visitors on site.

2.37 Authorities and Local Industry Consultation

- 2.37.1 As part of the feasibility and early design development processes consultation has included:
- (a) DFAT and Tokyo based project managers regularly engaging with the Expo Association from July 2022, and;
 - (b) the appointed Lead Design Consultant's (LDC) Tokyo based sub-consultant undertaking preliminary consultation with the Osaka City municipal authorities for the Temporary Building Permit and Building Permit Application.
- 2.37.2 DFAT will continue to consult with the Expo Association and the Osaka City municipal authorities through the approval and permit process. The LDC's local sub-contractor will also continue to consult with DFAT's appointed private certifier to ensure a smooth permit process.

2.38 Childcare Provisions

- 2.38.1 Not applicable.

3 COST EFFECTIVENESS AND PUBLIC VALUE

3.1 Delivery Strategy

- 3.1.1 A key lesson learned from Australia's participation at the Dubai Expo 2020 (delayed to 2021 due to COVID-19), was the importance of early engagement of project managers to assist with feasibility, planning, costing and scheduling. Accordingly, following an open approach to market in December 2021, DFAT engaged a project management and cost planner/quantity surveyor in March 2022. This consultancy is supported by bilingual resources based in Australia and Japan with construction industry expertise in both countries.

- 3.1.2 Initial consideration of delivery options identified a Design and Construct (D&C) methodology as optimal based on familiarity and acceptance within the Japanese market. On this basis, DFAT undertook an open approach to market procurement for a LDC in June 2022. On 2 September 2022, DFAT appointed an LDC with offices and bilingual resources based in Australia and Japan to advance the pavilion’s architectural design to a 50 percent schematic design stage on the basis a D&C contractor would complete the design. The LDC is responsible for taking the exhibition and visitor experience content to 90 percent detailed design level.
- 3.1.3 In October 2022, through direct engagement with Japanese construction contractors we learned there is a critical shortage of bilingual design consultant resources in Japan due to high demand for expo-related design services and other large scale infrastructure projects being reactivated following COVID-19. Extremely tight timeframes also require us to advance the pavilion’s design work as a matter of urgency, whilst seeking concurrent documentation approval from the Committee.
- 3.1.4 As such, the D&C delivery methodology was deemed less viable, and a more traditional lump sum delivery approach was adopted. This comprises a two-stage open approach-to-market procurement with an initial Request for Expression of Interest (REOI) and a subsequent Request for Tender (RFT). The LDC’s scope was extended to continue the pavilion’s design past the 50 per cent schematic design stage.
- 3.1.5 This two-stage approach allowed design momentum to be maintained whilst preparation of this submission and subsequent committee referral processes, including seeking the committee’s approval for concurrent documentation. In December 2022, the REOI was released with the submissions evaluated and respondents shortlisted in March 2023.
- 3.1.6 Shortlisted respondents will be invited to submit responses to a subsequent RFT with a view to contracting the preferred tenderer on a pre-agreement no later than 1 July 2023, whilst the remainder of contract negotiations take place. This will enable construction to commence by November 2023.
- 3.1.7 Importantly, by utilising a pre-agreement, it will enable the ordering of long lead time building materials such as structural steel and timber. With lead times for purchase of these materials now approximately 10 months, it is critical that orders are placed for these materials as soon as possible. A failure to do so will jeopardise our ability to deliver the pavilion on time for the Expo’s opening in April 2025.
- 3.1.8 To ensure the construction contract commences by 1 July 2023, the RFT will need to be released no later than 27 April 2023. As we would not anticipate the completion of the referral process prior to that time, accordingly we will seek the Committee’s approval for concurrent documentation at the

time of referral.

3.2 Construction challenges

- 3.2.1 Pressure on Japan's construction sector is increasing with significant number of construction projects being reactivated after COVID-19 related delays. This has resulted in severe material shortages at a national level, growing lead times and significant premiums being applied to critical elements such as structural steel.
- 3.2.2 The cost of construction is increasing due to the inflation, supply chain constraints and labour shortages. Construction companies are showing a declining level of motivation, which can be seen in a number of unsuccessful tender results for Osaka Expo direct works, such as national/prefecture pavilions and other supporting buildings and infrastructure (as reported in Nikkei News, November 22, 2022).
- 3.2.3 With 49 other countries also preparing to construct national pavilions of varying scales, in addition to the Expo Association's direct works, Osaka is experiencing unprecedented escalating construction costs. Further detail on cost drivers and associated challenges is detailed in **Submission 1.1**.

3.3 Cost Estimates

- 3.3.1 The CC will be engaged after submitting a lump sum fixed price quote based on a detailed cost estimate. The out-turn cost estimate of the proposed works is approximately AUD 59.8 million including fees and contingencies. Escalation risk will be borne by the CC, but foreign currency risk remains with the Commonwealth.
- 3.3.2 The cost estimate has been developed by Tokyo based quantity surveyors and cost planners, and includes construction of the works, decommissioning and all other related elements.
- 3.3.3 The LDC, project management, cost planners and independent certifiers fees total AUD 8.34 million.
- 3.3.4 The detailed cost estimate of the proposed works is further detailed in **Submission 1.1**.

3.4 Public Value & Local Impact

- 3.4.1 Participation in the Expo will benefit Australians engaging, or looking to engage, with Japan. These will include a wide range of Australian businesses, including Indigenous businesses; Australian performers, arts and cultural organisations; as well as academic and research organisations and civil society groups.
- 3.4.2 Japan is a key trading partner and source of foreign investment (the largest from Asia) and a key technology provider. The Kansai region – of which Osaka is the commercial capital – is an important

economic hub with strong linkages to Australia. In 2019, it had a market size of approximately AUD 1.2 trillion, accounting for about 15 percent of Japan's total GDP. The region is home to major companies in sectors including electrical equipment; utilities; steel manufacturing and industrial equipment. A number of Osaka companies are investing in Australia's clean energy future, and Kobe port is the receival port for Australian hydrogen under the demonstration phase of the Hydrogen Energy Supply Chain project. Other Kansai companies are partnering with Australia on projects contributing to Australia's research and development excellence, economic growth and job creation. The pandemic has sparked interest in areas such as new drug discovery and clinical testing in Australia by Osaka-based pharmaceutical companies. Austrade's Osaka post has strong commercial relationships with these local companies and will use the Expo as a platform to strengthen these relationships and form new ones.

- 3.4.3 Australia's participation in Expo is supported by Commonwealth agencies, state and territory government agencies and business and industry groups, all of which are involved in ongoing consultations to identify and refine priority interests which inform Australia's programming. Australian states and territories have renewed their interest in Japan in recent years, in line with their strategies to raise their profiles in Japan and secure deeper trade and investment links in this key market. In initial consultations, state and territory government agencies have expressed interest in participating in Australia's partnership and/or programming opportunities at Expo 2025.
- 3.4.4 DFAT is prioritising creating opportunity for Australian companies through our participation at the Expo. This includes:
 - a) the delivery of the works through open approaches to market for project management services, design consultancy services, and construction services. For the procurements undertaken to date, Australian companies have shown interest, submitted responses, and been engaged;
 - b) providing detail to state and territory governments, Australian companies and peak representative bodies on how they can register with the Expo Association's 'List of Potential Suppliers' so the Japanese government and other participating countries can procure their services and products; and
 - c) upcoming procurement opportunities in areas including: operations, food and beverage service, retail service, event management, catering, security, information technology support, cleaning, photography and entertainment.
- 3.4.5 Japan's vision for the Expo includes a focus on decarbonization. We will promote Australia as a clean energy superpower and highlight low emissions technologies Australian industry is

developing in partnership with Japan, including hydrogen investments which are expected to be realized around 2025.

- 3.4.6 Japan was Australia’s fifth-largest tourism market prior to the COVID-19 pandemic and remains a priority market. Japan is also a priority market for education delivery, research and collaboration. Our public diplomacy and cultural program at Expo will reinvigorate interest in Australia as an attractive, multi-faceted destination by projecting a modern, dynamic image of Australia to Japanese visitors. Data collected for Expo 2020 Dubai showed a positive shift in sentiment towards Australia by visitors to the Australian Pavilion, with 75 per cent of visitors reporting that they were more likely to visit Australia for travel or study.
- 3.4.7 First Nations interests will be advanced through our participation in Expo with programming that showcases Indigenous business participation in sectors such as clean energy, space, and tourism. We anticipate Expo will host the Indigenous event Te Aratini (initiated at Expo 2020 Dubai). In consultation with First Nations stakeholders, we will also highlight the contribution of their knowledge of land and water management to our international climate change mitigation and adaptation efforts.
- 3.4.8 We anticipate a strong boost to our soft power status from participation in Expo. Strategic communications and public diplomacy initiatives will advance Australia’s interests and influence in Japan. The pavilion will provide a platform to engage with Japanese and global audiences and share Australia’s strategic messaging through business and cultural programming and collaborations, and the public visitor experience.
- 3.4.9 We will recruit Japanese-speaking Australians to staff the pavilion wherever possible, including by offering opportunities to students and alumni of the government’s New Colombo Plan.
- 3.4.10 As occurred in Dubai, we will look to co-host Pacific Island nations at our pavilion to pursue shared objectives. This will provide an opportunity to showcase Australia’s partnerships with the Pacific family.

4 PROGRAM

4.1 Works Program

- 4.1.1 A works program covering the major design, construction and demolition activities has been prepared. The program will be updated following the Committee’s inquiry, and subject to Parliamentary expediency, the current program anticipates the completion of milestones as follows:

Milestone	Anticipated Completion Date
Procurement documents to engage LDC completed.	Jun-22
Approach to market and evaluation report completed and a LDC contracted.	Sep-22
Release of REOI Documents for construction	Dec-22
Endorsement of Concept Design (typically 30%)	Feb-23
Complete assessment of construction contractor REOI submissions including detailed Quantity Surveyor's cost plan and DFAT Risk Management Template completed	Feb-23
Project referred to Parliament	Mar-23
Public Consultation Period Commences	Mar-23
PWC Hearing and approval to proceed with Concurrent Documentation granted	Apr-23
Endorsement of Schematic Design (typically 50%)	Apr-23
CC RFT released to market	Apr-23
PWC Expediency (tentative)	May-23
Submission of Design Plan #1 to Osaka Authorities	May-23
Complete assessment of RFT contractor submissions up to and including Evaluation Outcome documentation	Jun-23
Procurement of long lead time items such as structural steel (via interim agreement with CC)	Jul-23
CC appointed	Jul-23
Approval of General Design Plan by Osaka Authorities	Aug-23
Detailed Design (Architectural) (90%)	Aug-23
Detailed Design (Exhibition & Content) (90%)	Aug-23
Submission of Design Plan #2 to Osaka Authorities	Nov-23
Construction planning complete and construction commenced	Nov-23
Completion of Substructure	Feb-24
Completion of Superstructure Top-Out	Jun-24
Building Weathertight and Procurement Report	Aug-24
Completion of MEP & Finishes	Nov-24
Exhibition and Content Installation Complete	Jan-25
Practical completion issued and building fully operational	Mar-25
Approval of Decommissioning & Removal Request	Dec-25
Decommissioning and removal completed including Lessons Learnt Report	Apr-26
Post Implementation Report submitted to PWC Secretariat	April 26

EXPO 2025 OSAKA JAPAN

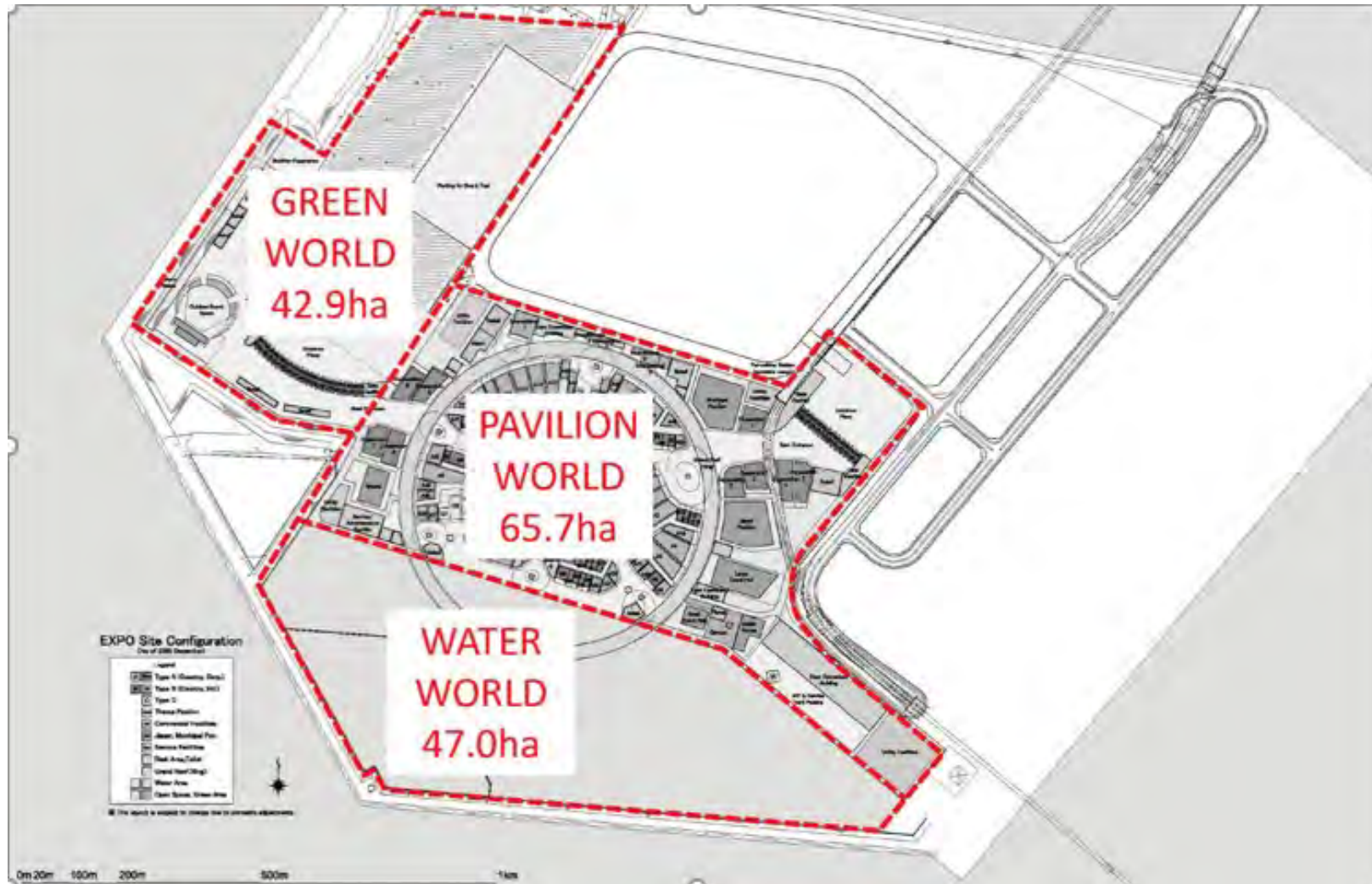
PWC - SUBMISSION 1.0

ATTACHMENT 1.0 IMAGES

Attachment 1.0 Design G - Yumeshima Island



Attachment 1.0 Design I - Site Worlds Layout



Attachment 1.0 Images B - A10 Plot Site

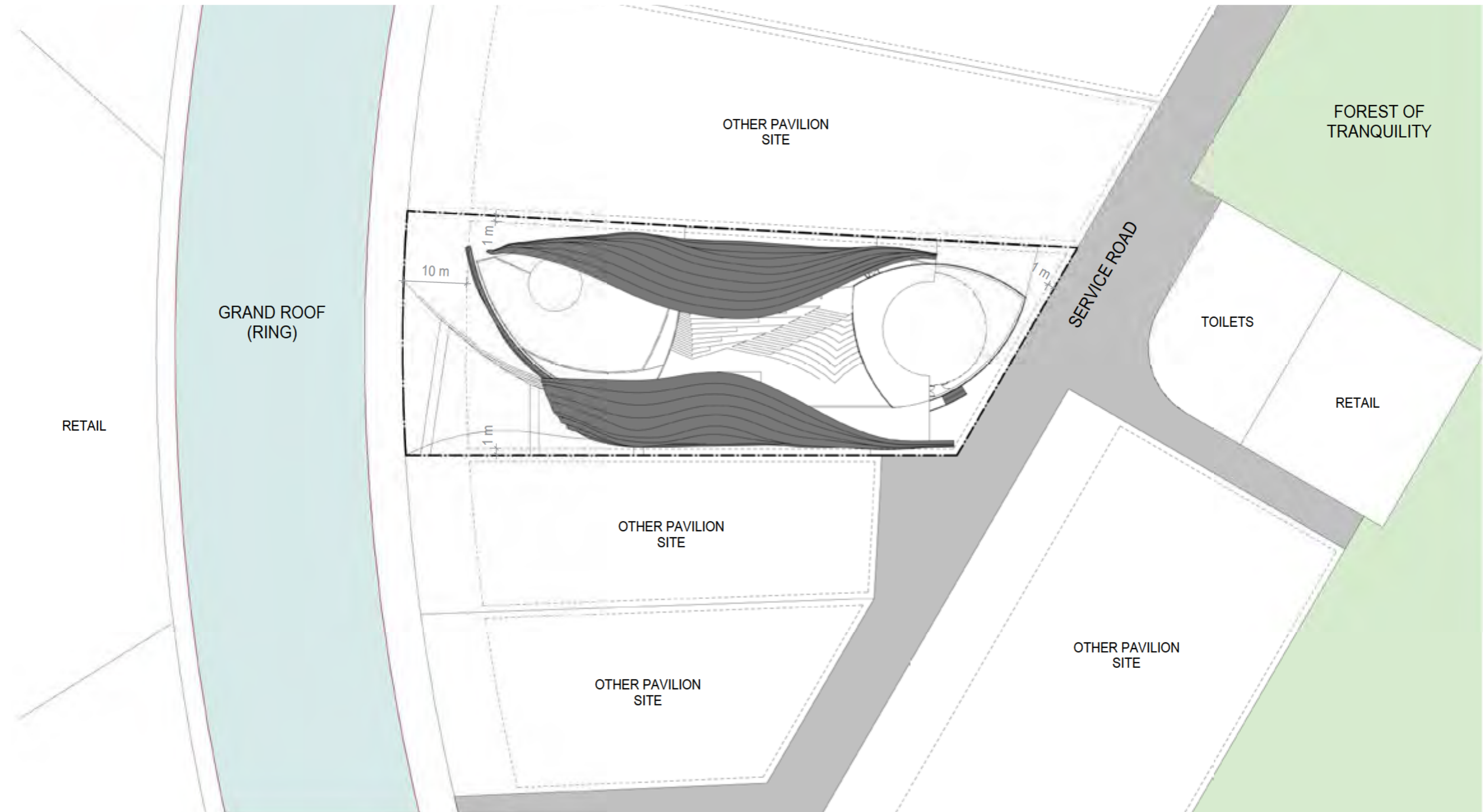


Attachment 1.0 Design K - The Grand Timber Ring

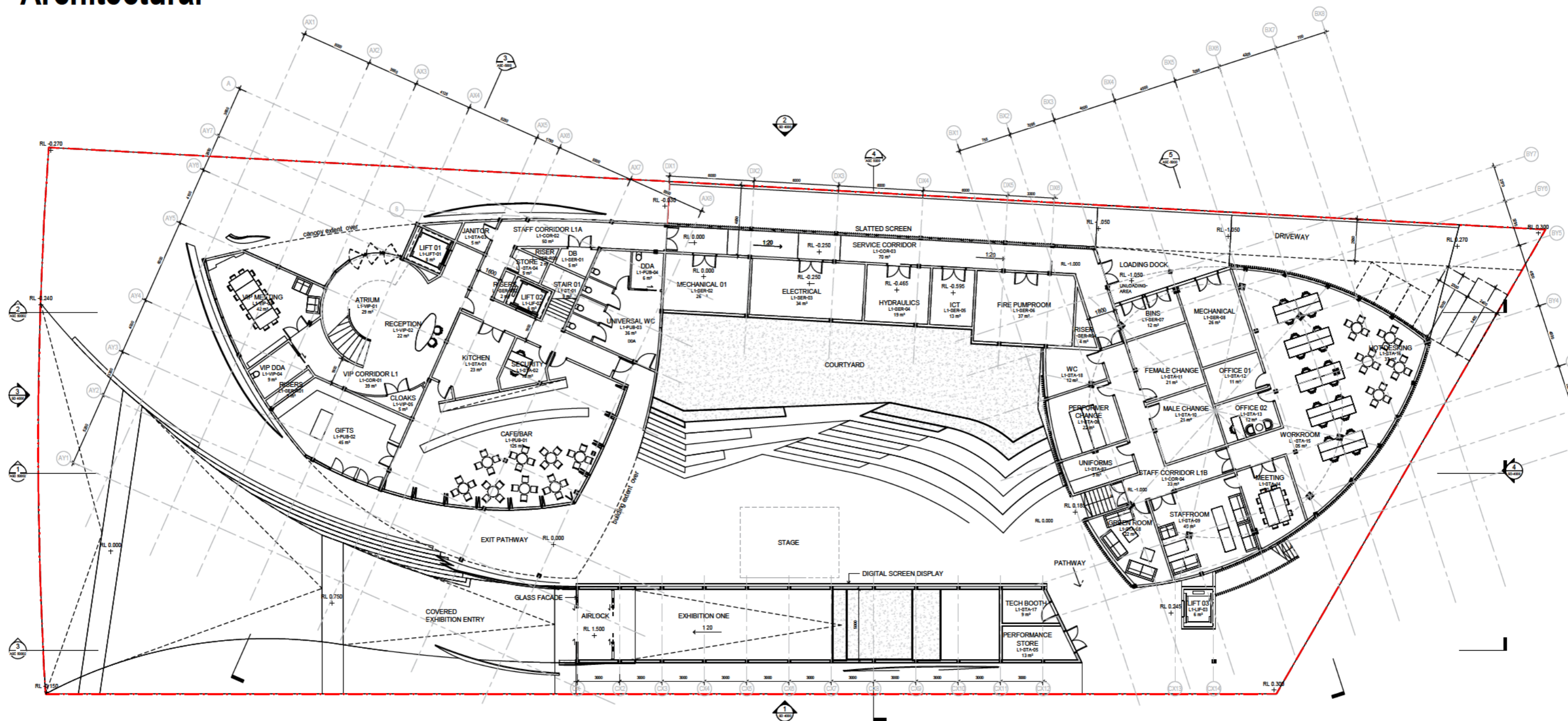




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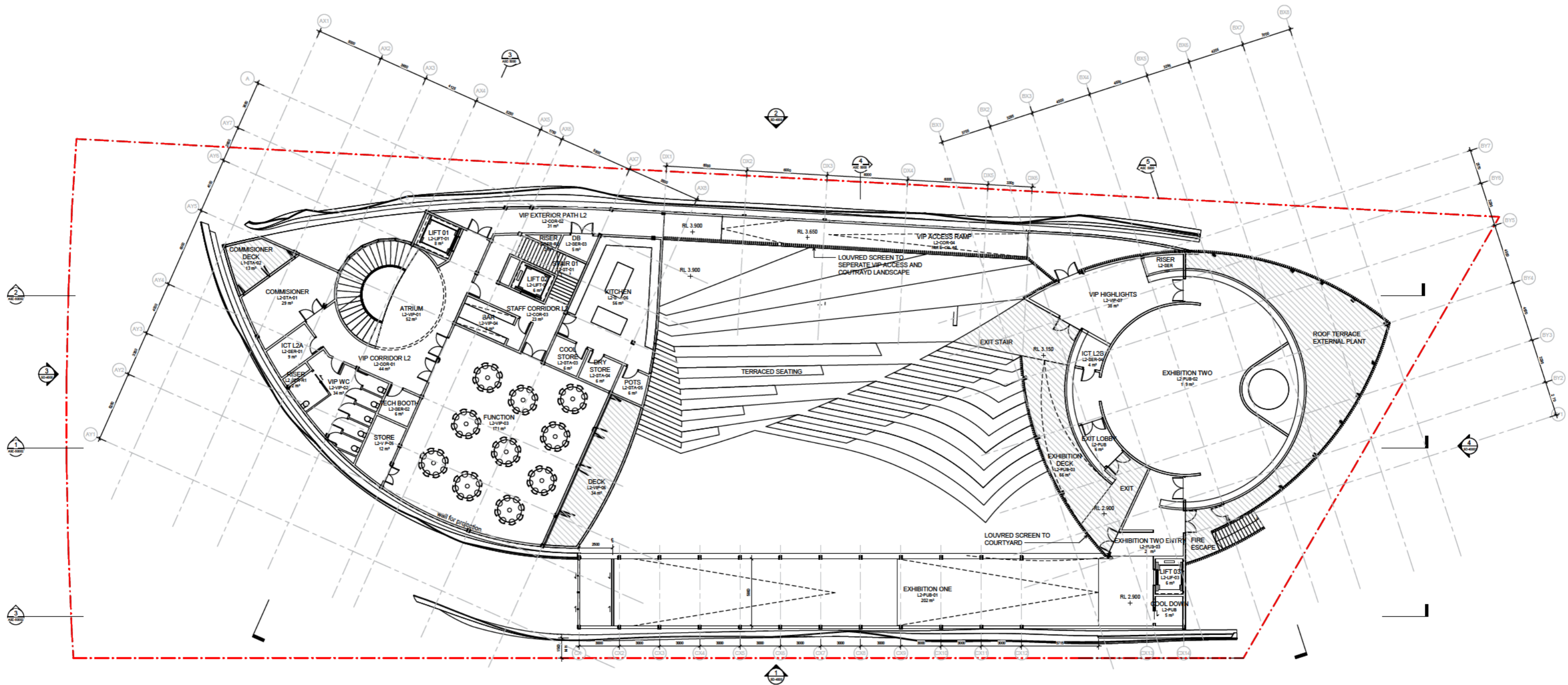


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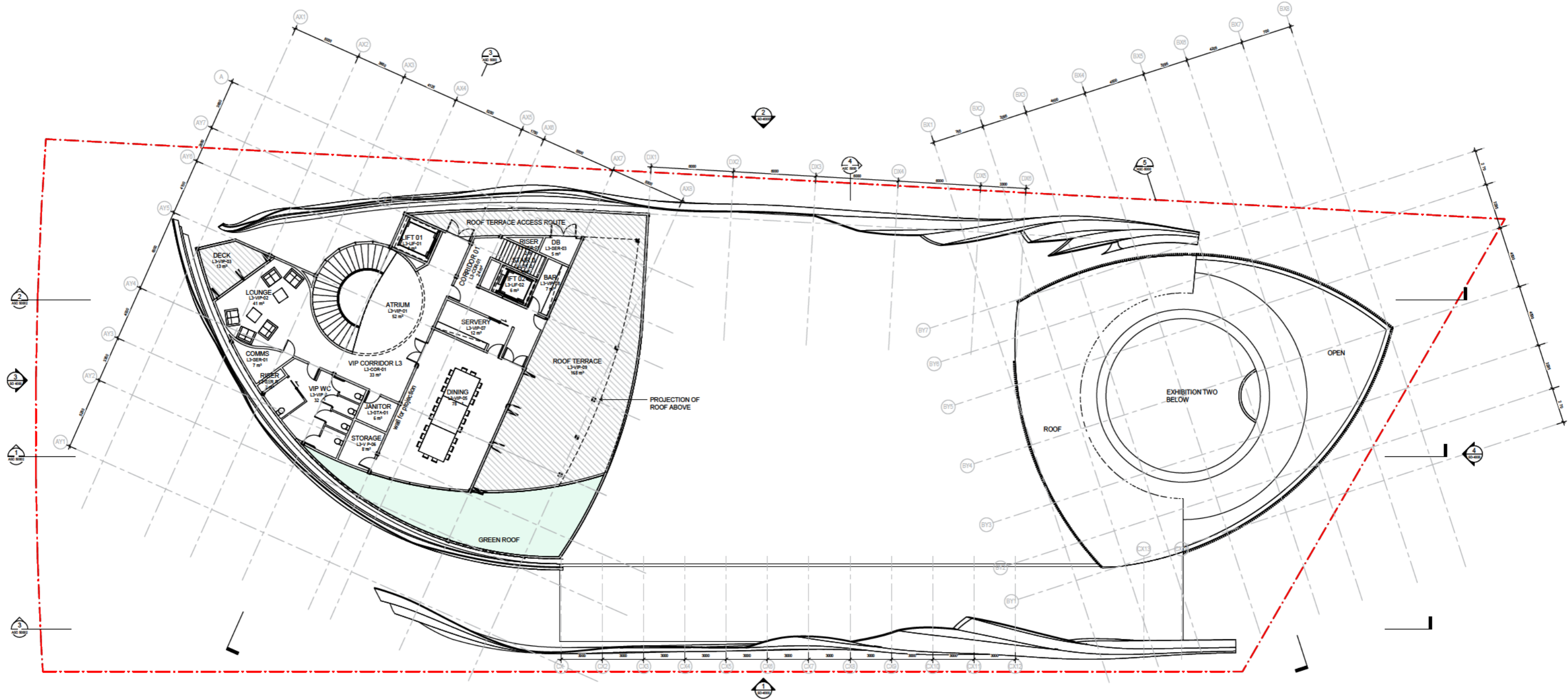
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Attachment 1.0 Images A

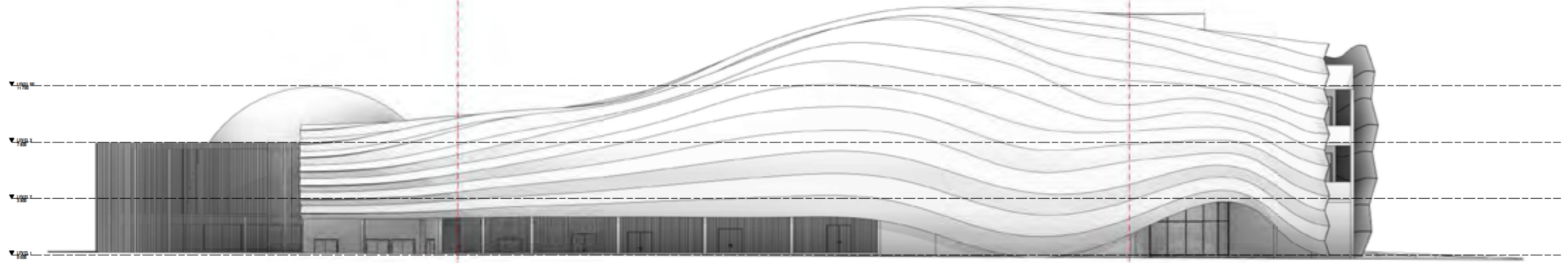
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MEDIUM QUALITY SKIN CLADDING

HIGH QUALITY SKIN CLADDING

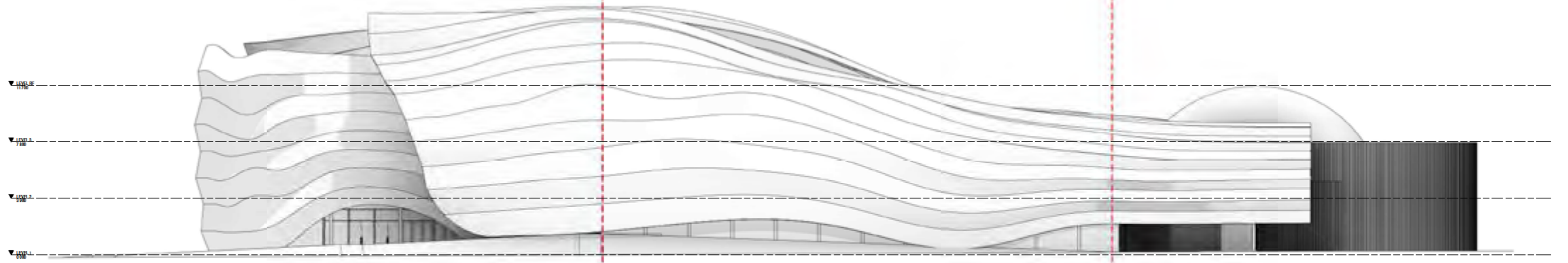


2 EAST ELEVATION

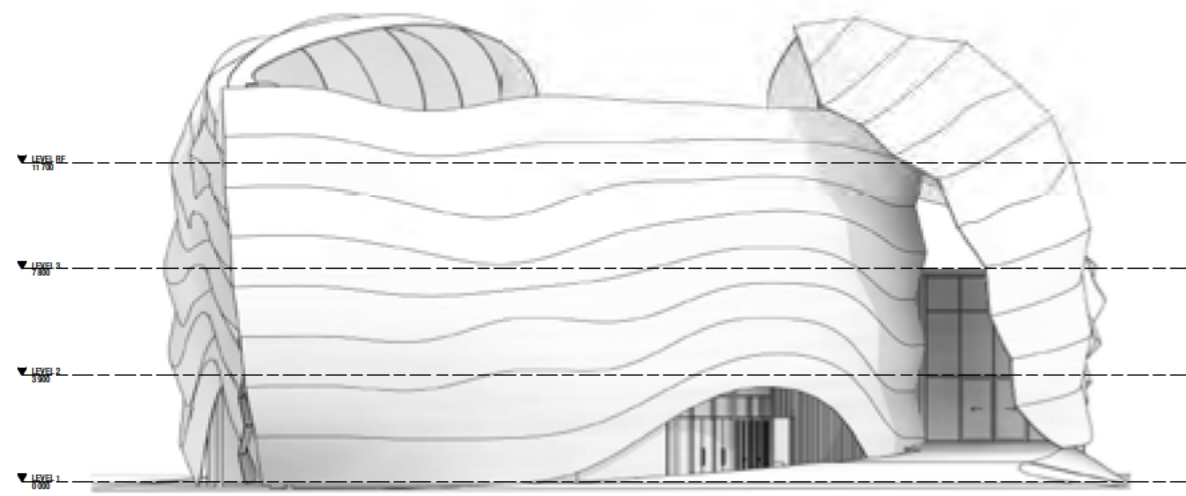
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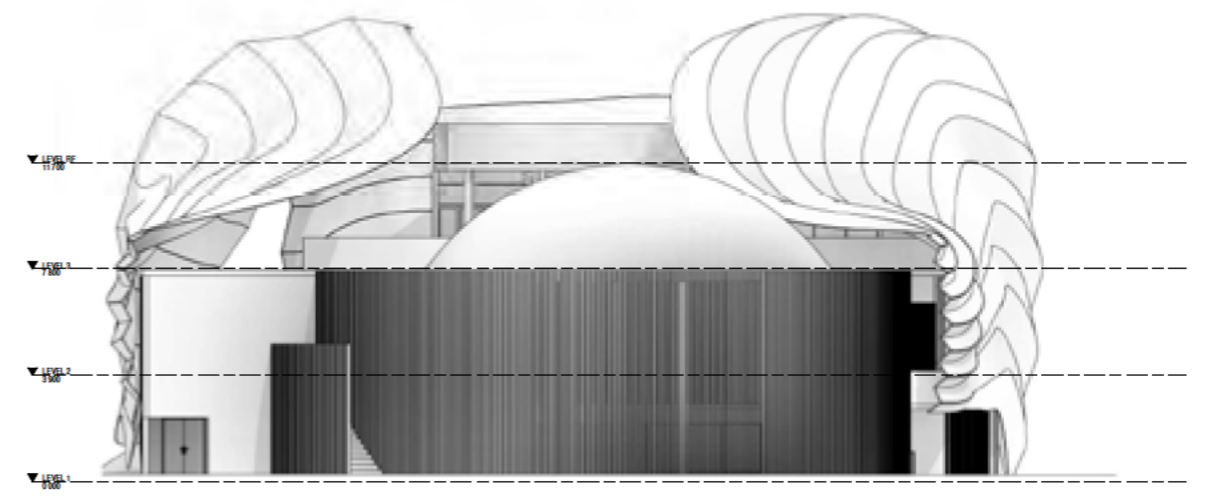
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1 WEST ELEVATION

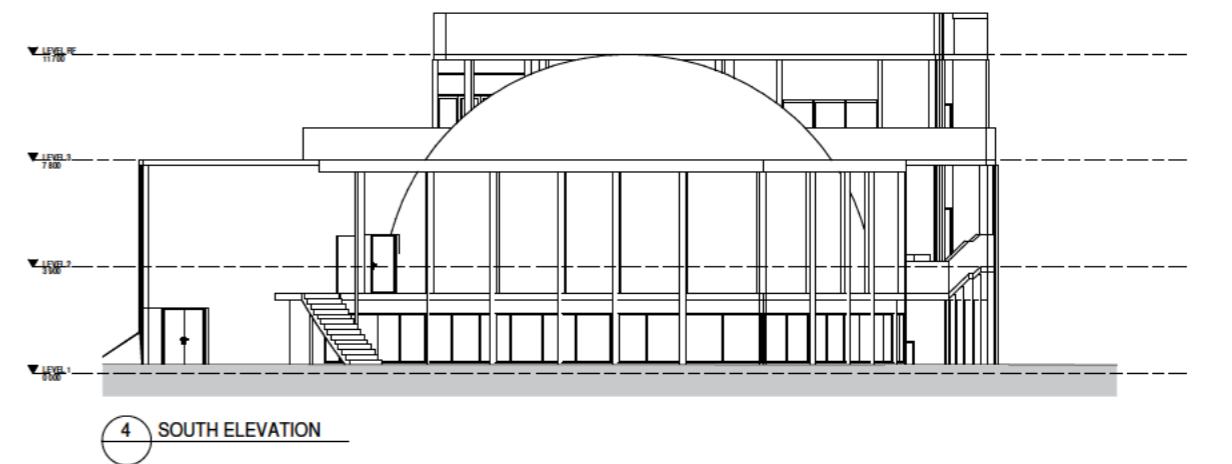
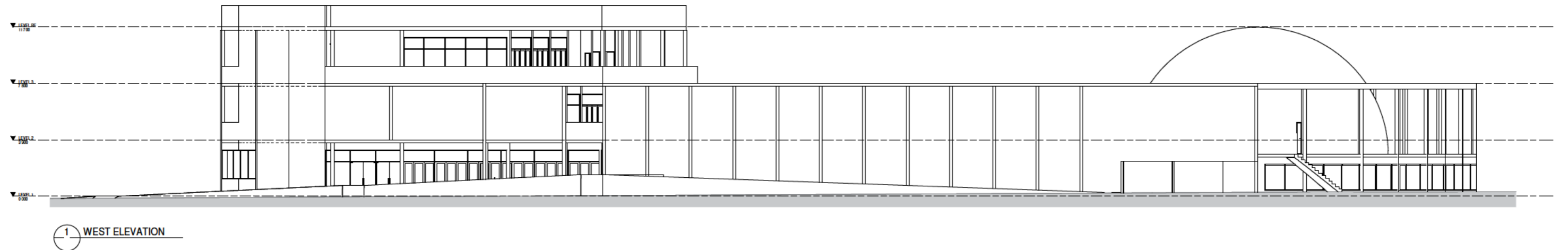
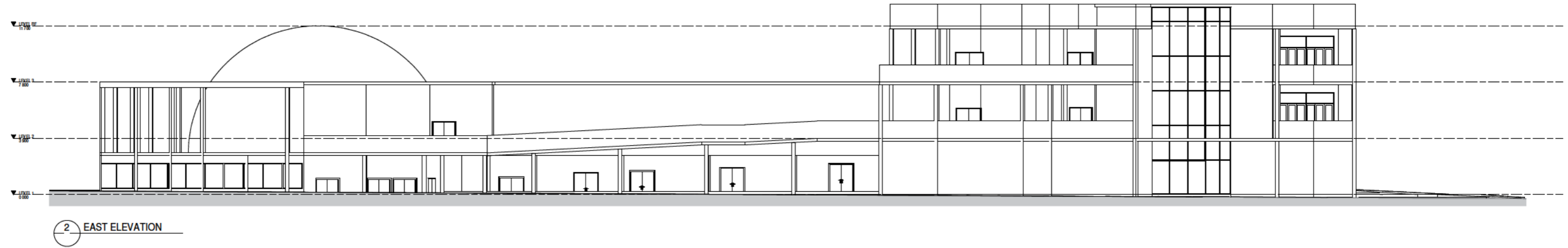


3 NORTH ELEVATION

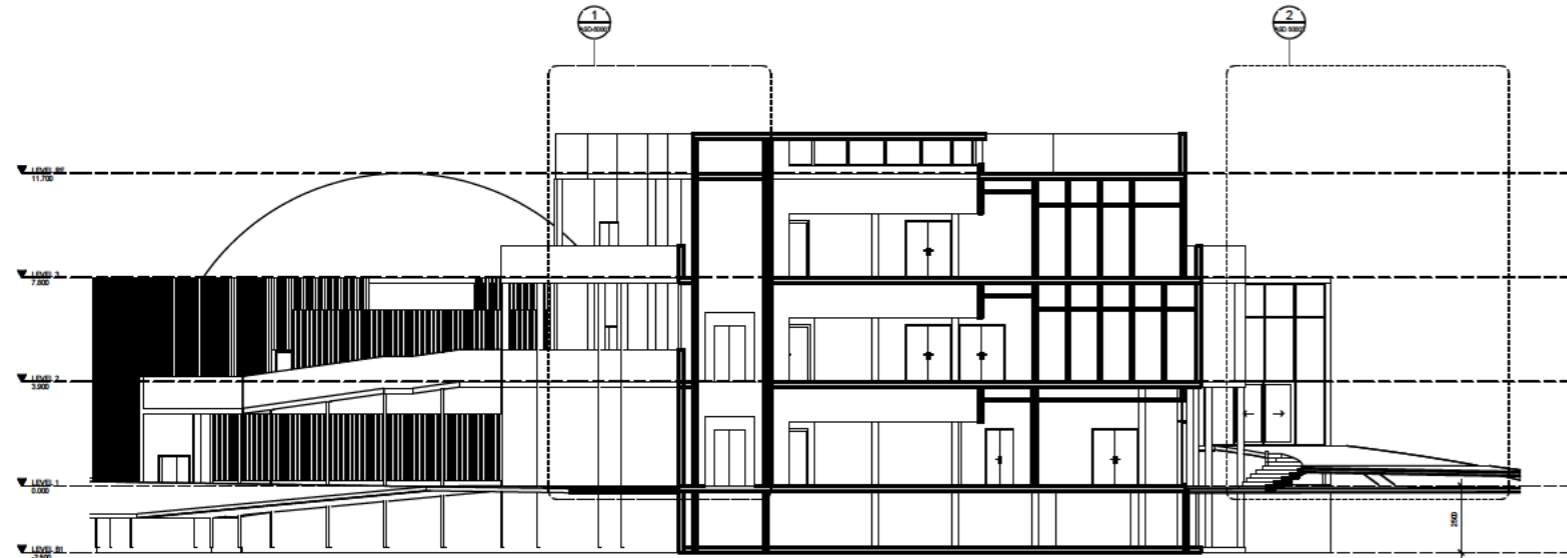


4 SOUTH ELEVATION

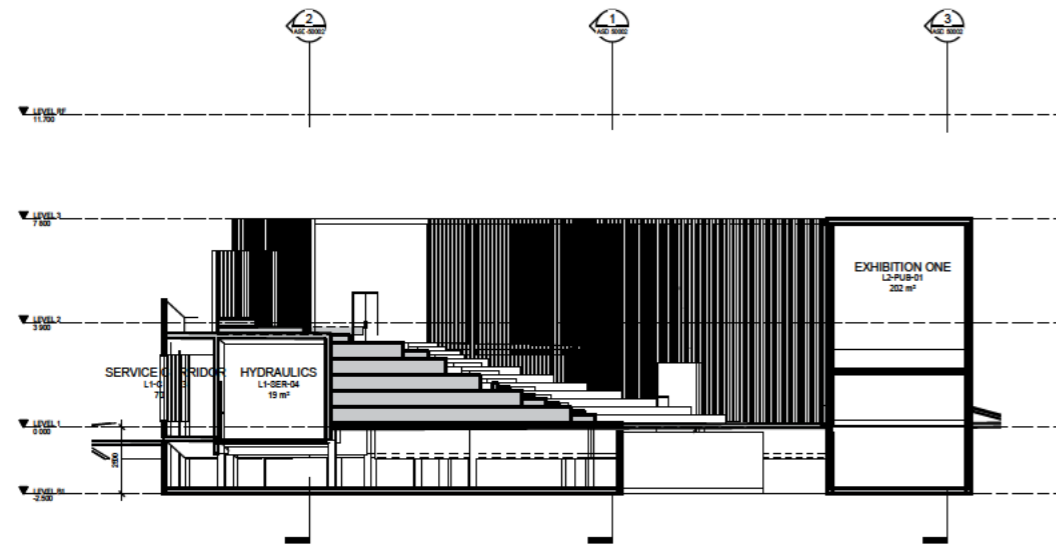
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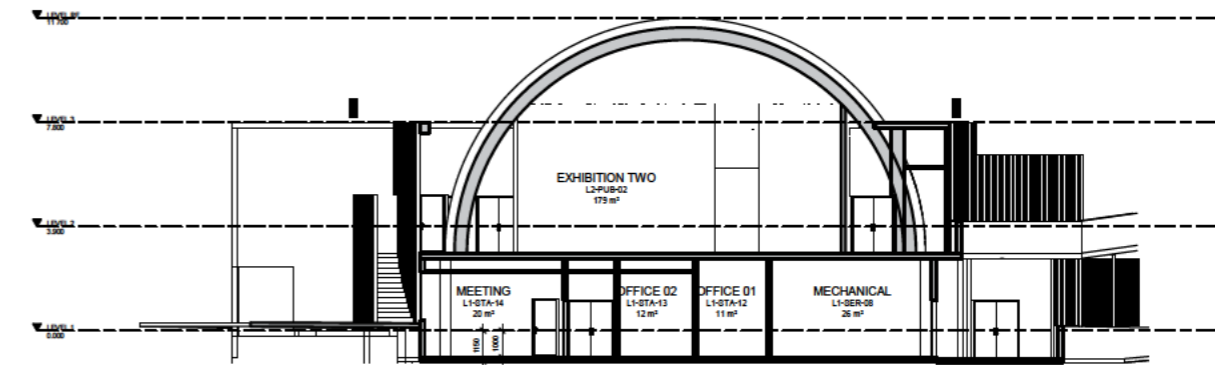
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3 SHORT SECTION A-A ATRIUM

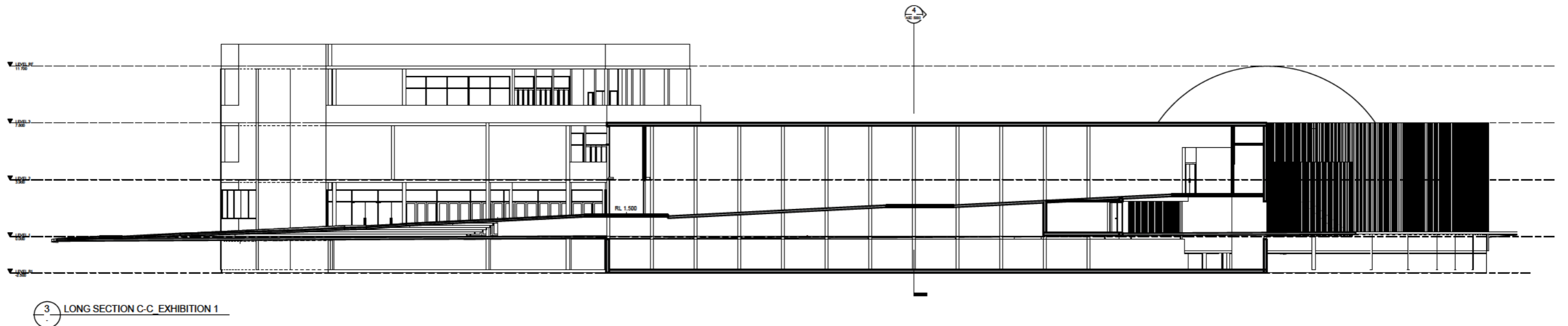
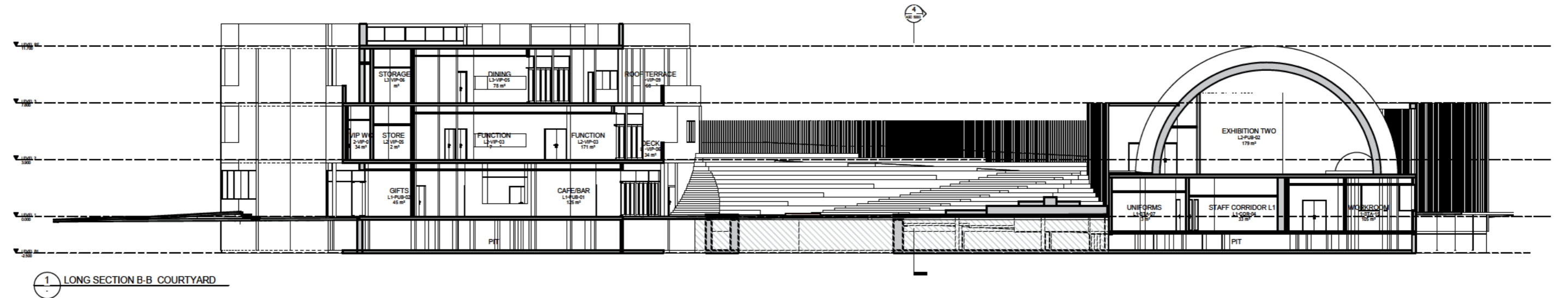
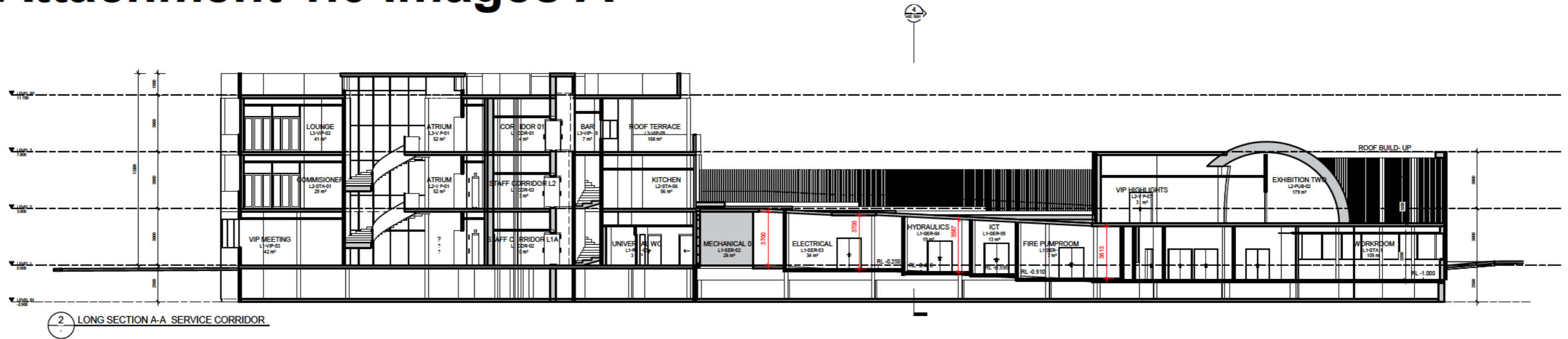


4 SHORT SECTION B-B COURTYARD



5 SHORT SECTION C-C BACK POD

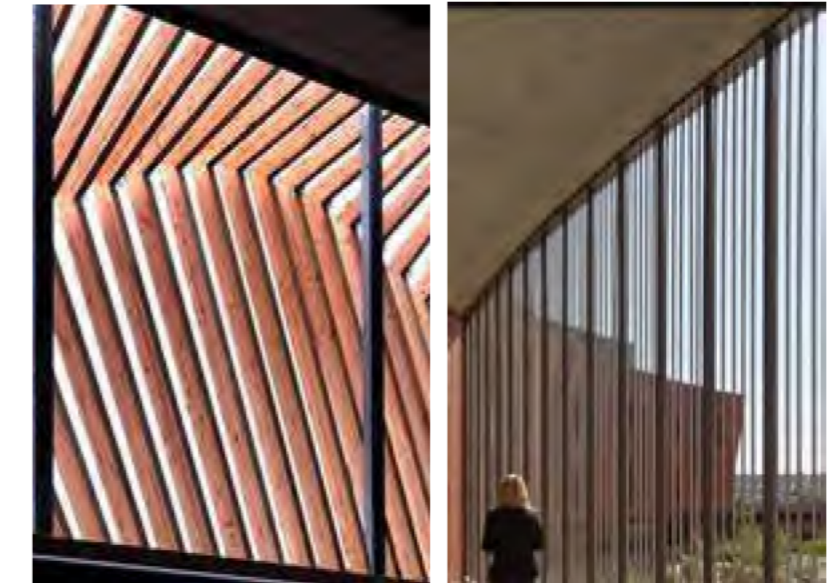
Attachment 1.0 Images A



Attachment 1.0 Images A

Skin- Design Intent

Natural daylight, views, privacy, glare protection, mixed mode, illumination



Internal Glass Facade, looking towards screen

Skin Penetrations (Battens for Light)



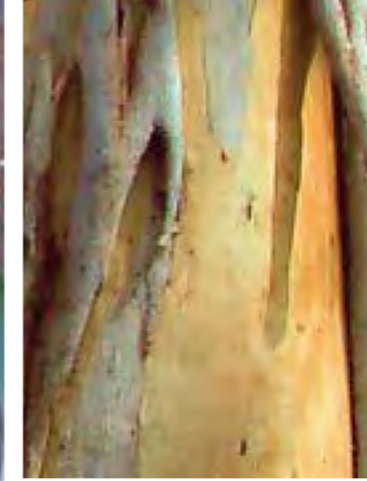
Steel structure with angulated timber slats



Attachment 1.0 Images A

Facade Design

Material/ Colours/ Vision



EUCALYPTUS TREE COLOUR RANGE

PATTERN THROUGH SPACING

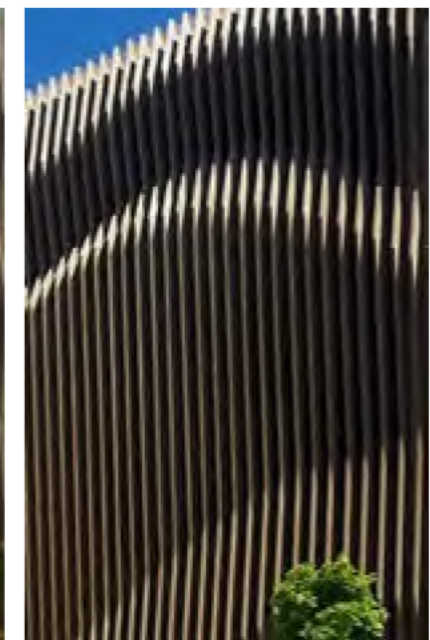


Perspective- View from Concourse forecourt area

_PARAMETRIC DESIGN

_TIMBER FACADE- GLAZING BEHIND

_ANGULATED FACADE



Timber Facade Screen, revealing solid wall and windows behind

Attachment 1.0 Images E

Courtyard Vision

Courtyard Design - Day Time



Courtyard Design - Night Time

