

Brunswick Street Oval

Sporting and Community Facilities – Revised Design



Project Staging

Stage 1 (west side)

New Sports Pavilion
Associated landscaping, lighting,
parking & access

Stage 2 (central/east side)

New Tennis/Community Pavilion
Relocate heritage Tennis Pavilion
Demolish current Community
Room

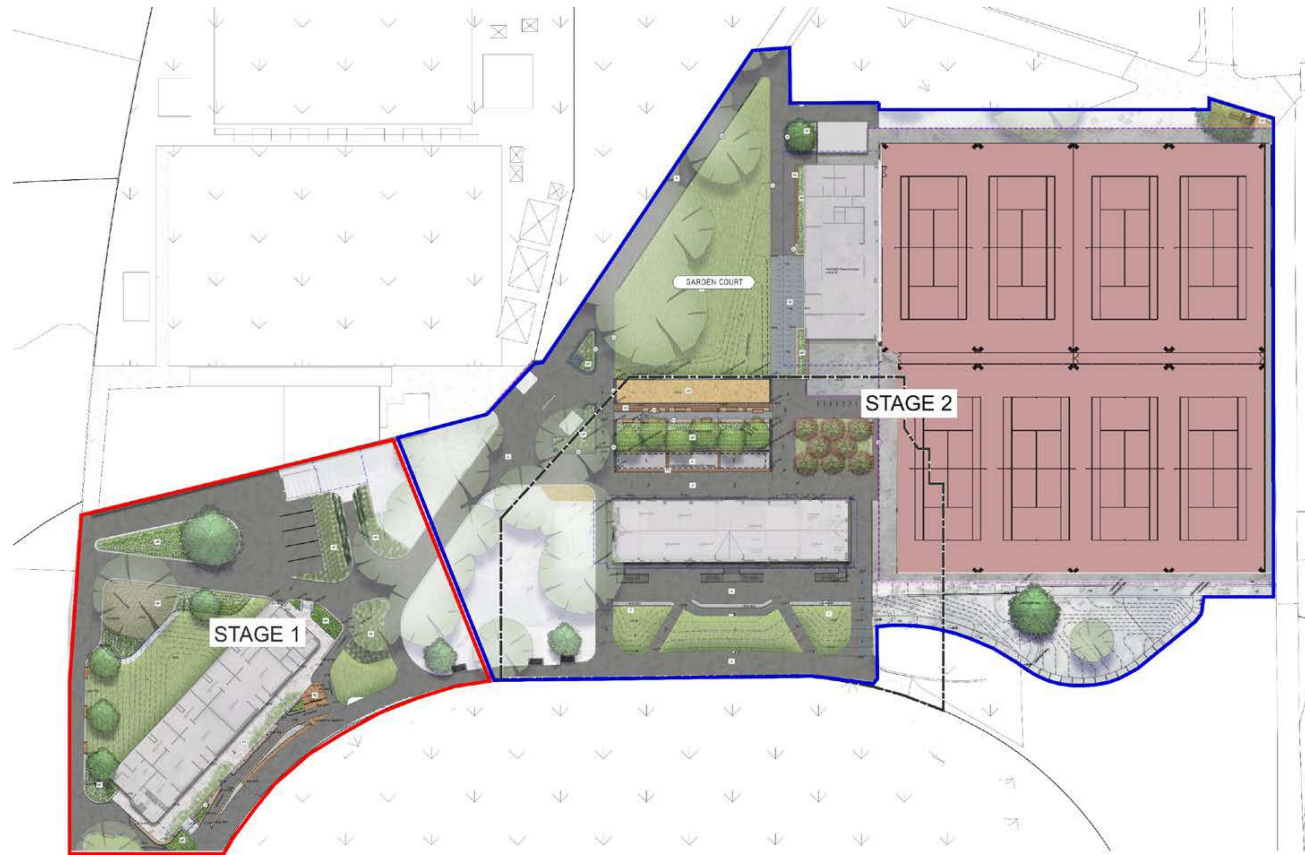
Grandstand works

- decommission change rooms
- install storerooms
- public WCs
- new stairs

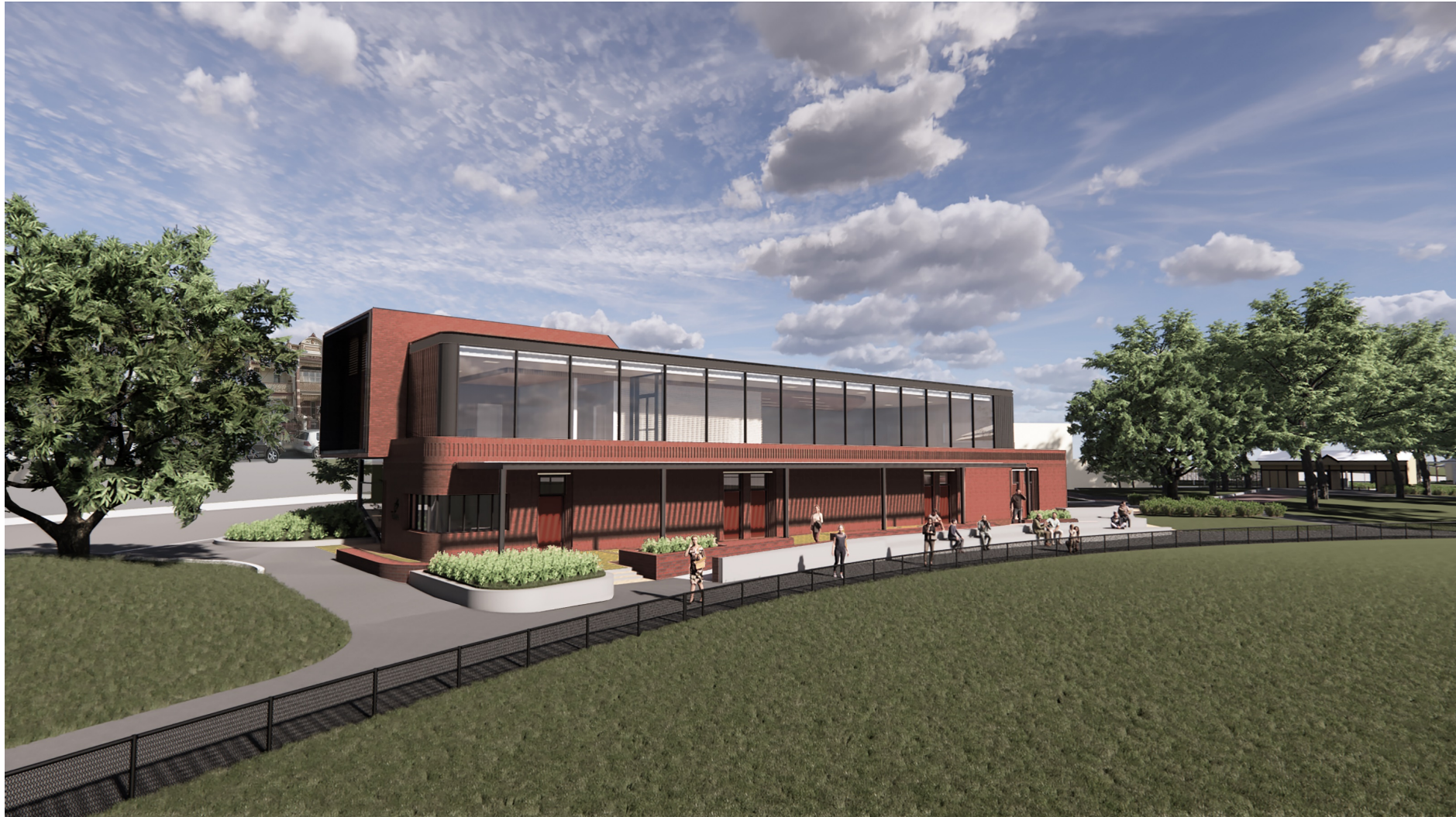
Tennis Courts

Bocce court

Associated landscaping, lighting,
parking & access



Sports Pavilion – from Oval



Sports Pavilion – Entrance



Sports Pavilion - along Brunswick Street



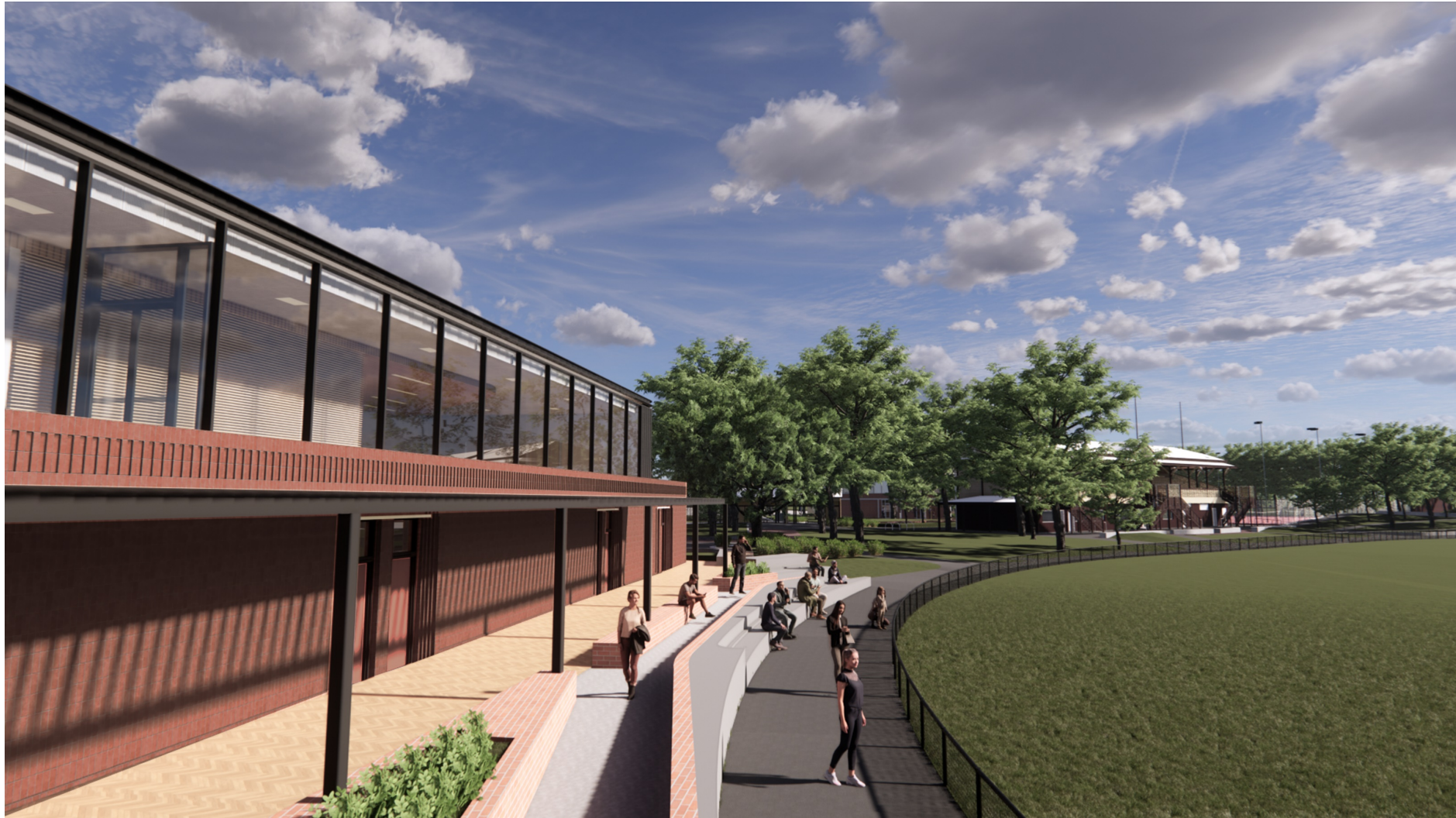
Sports Pavilion – across Brunswick Street



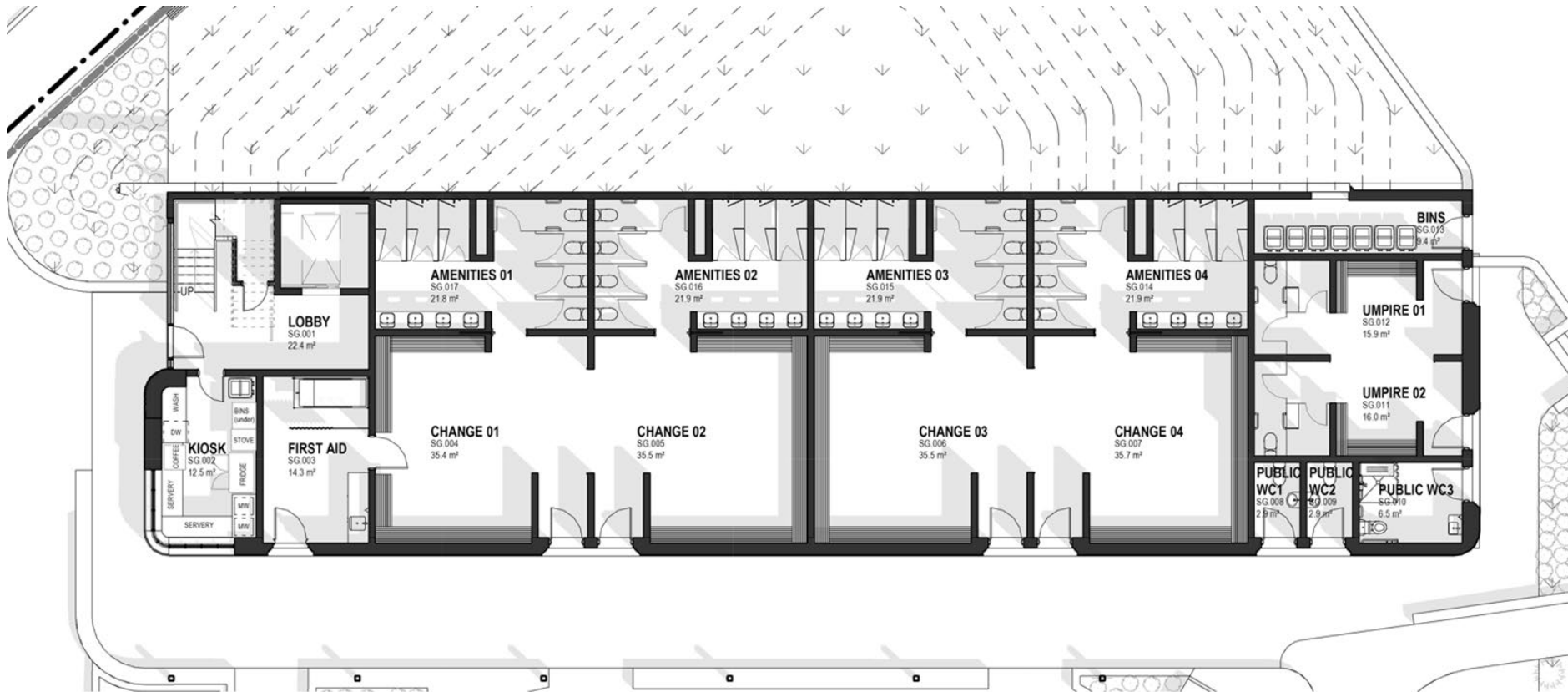
Sports Pavilion – Rear



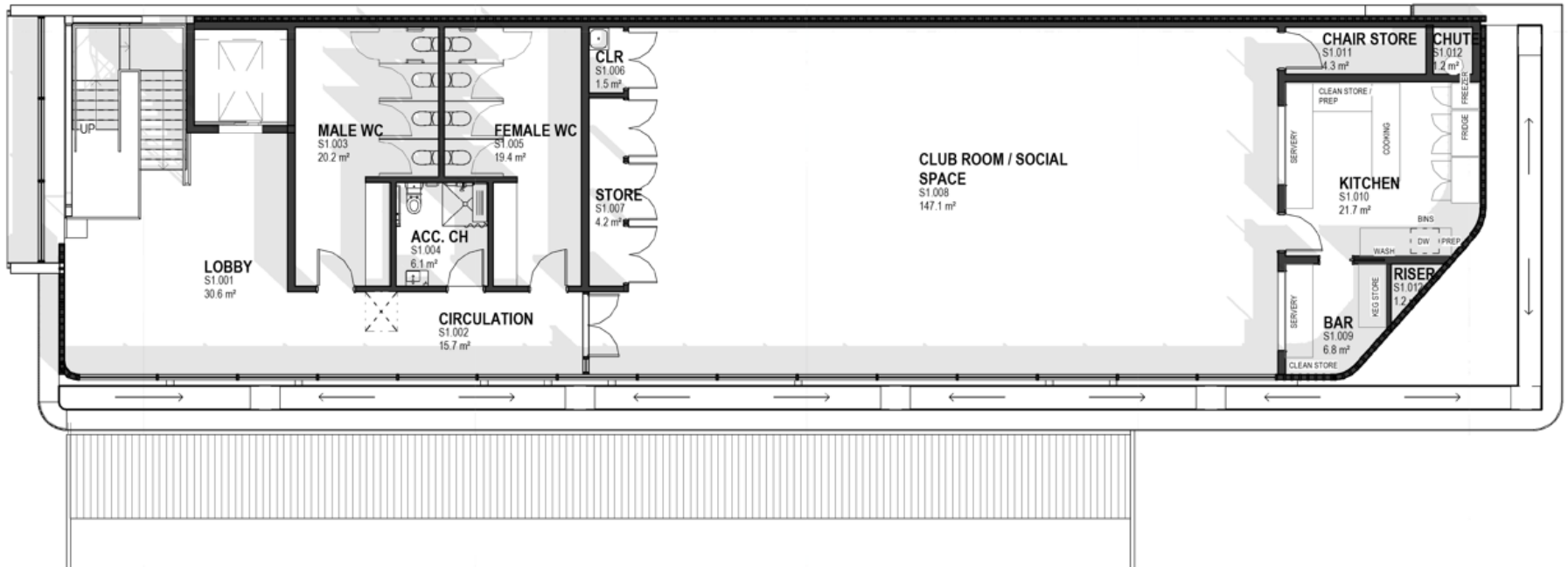
Sports Pavilion – towards Grandstand



Sports Pavilion Ground Floor



Sports Pavilion First Floor



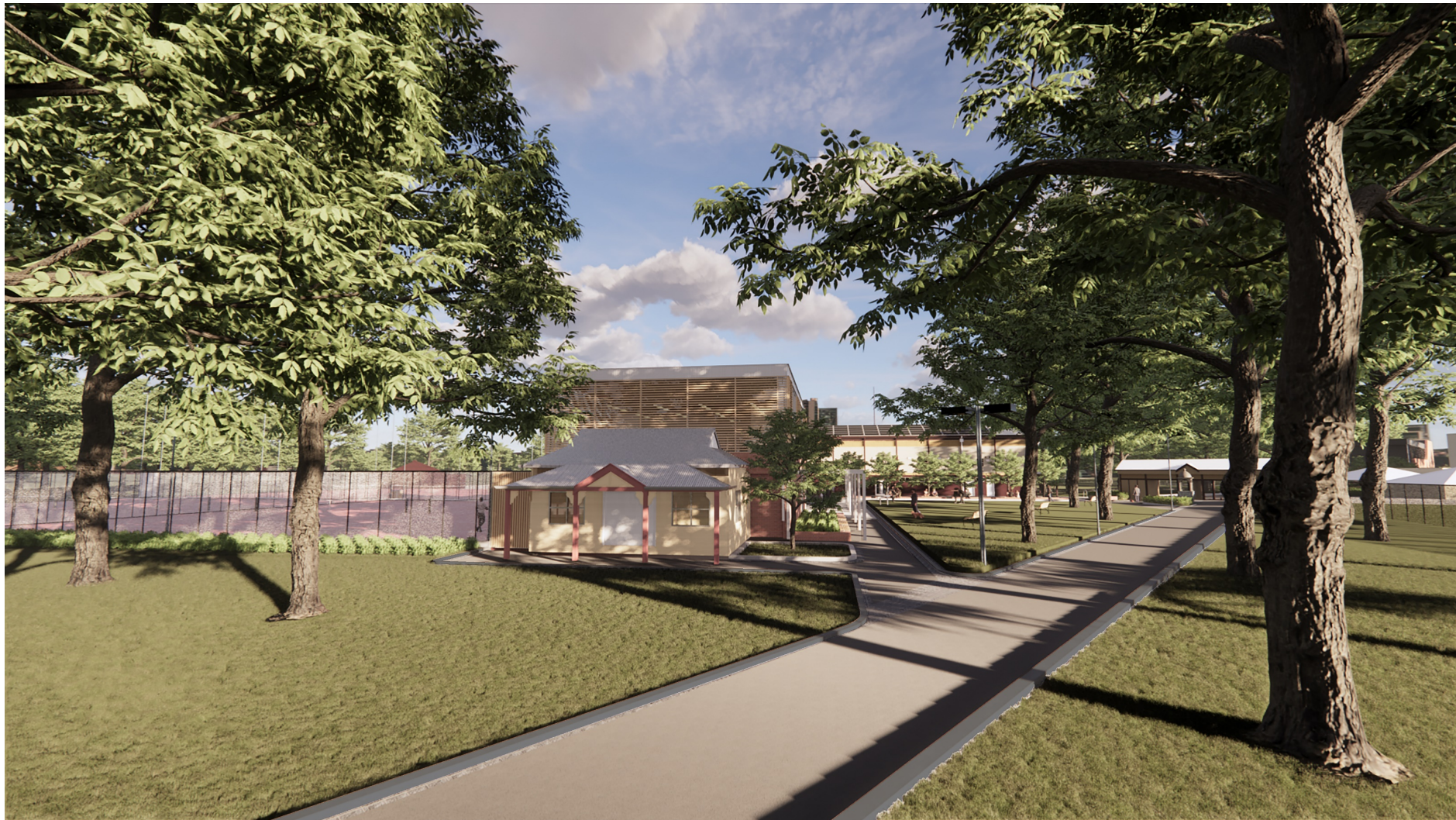
Tennis/Community Room – East side



Rear of Grandstand & Tennis/Community Room Entry



Tennis/Community Room – from North



Tennis Pavilion Ground floor



Community Room in Tennis Pavilion First Floor



Grandstand – from Oval



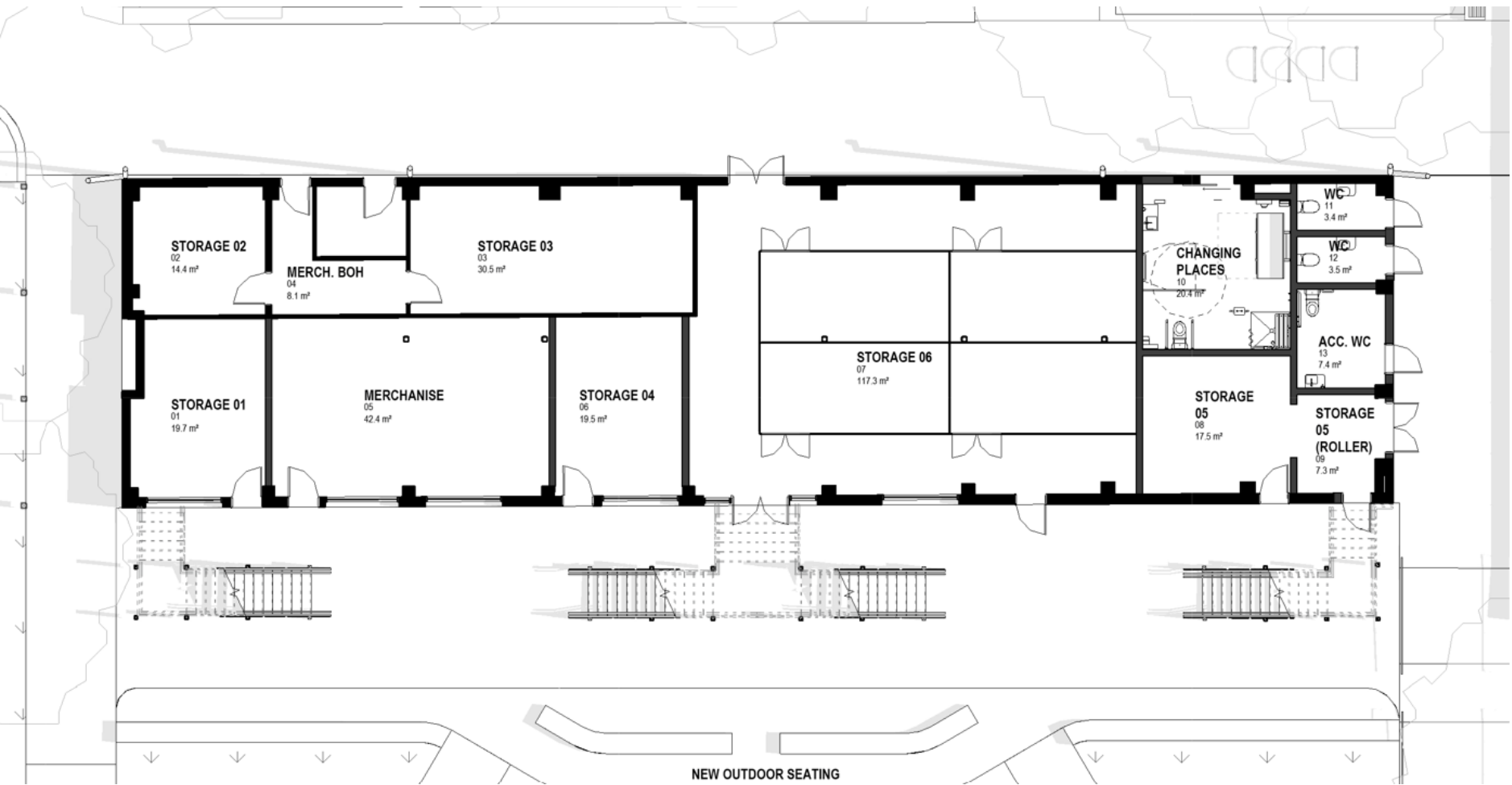
Grandstand – from Hipster Hill



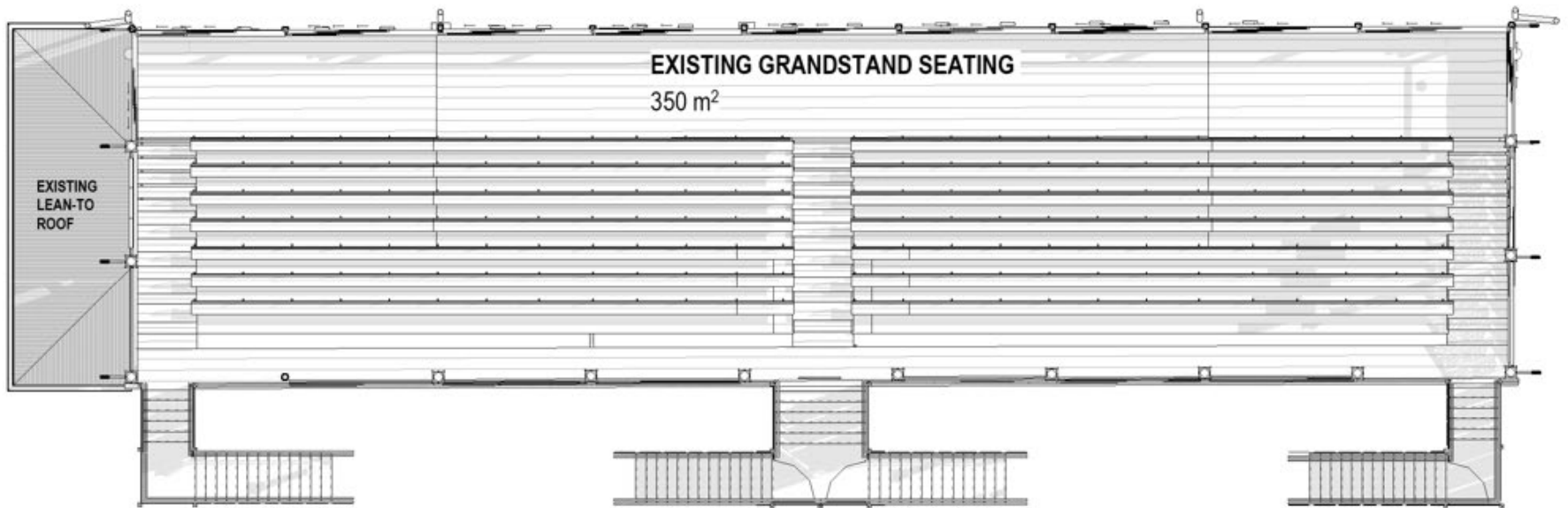
Grandstand – view to Oval



Grandstand Ground Floor



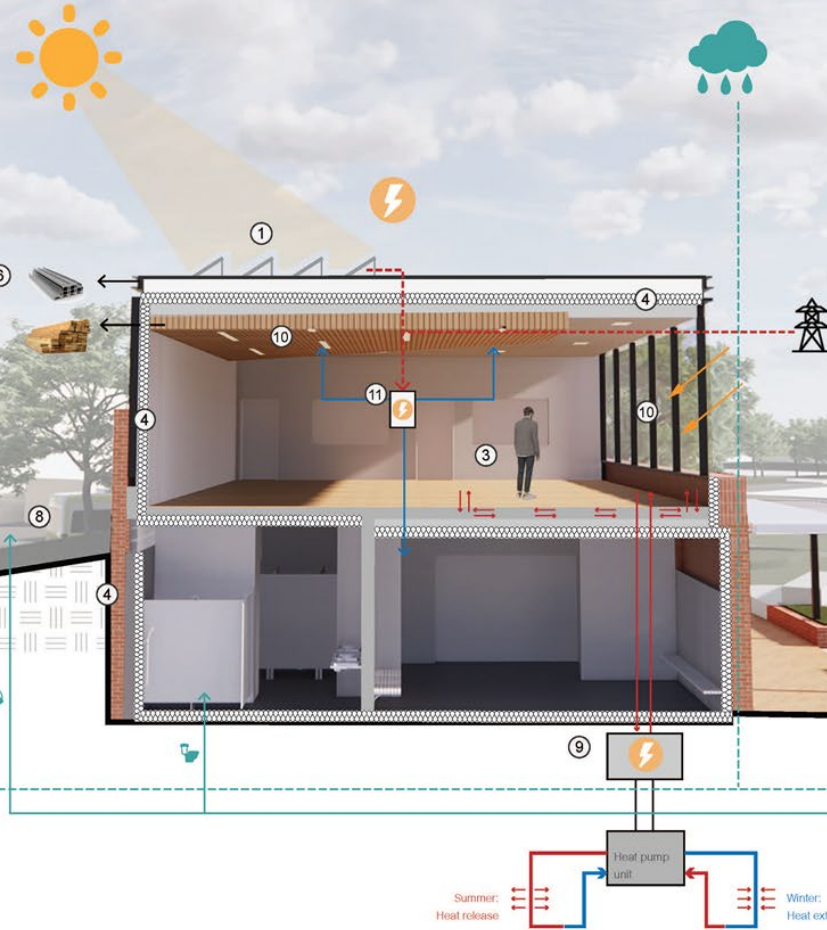
Grandstand Seating



Environmentally Sustainable Design – Sports Pavilion

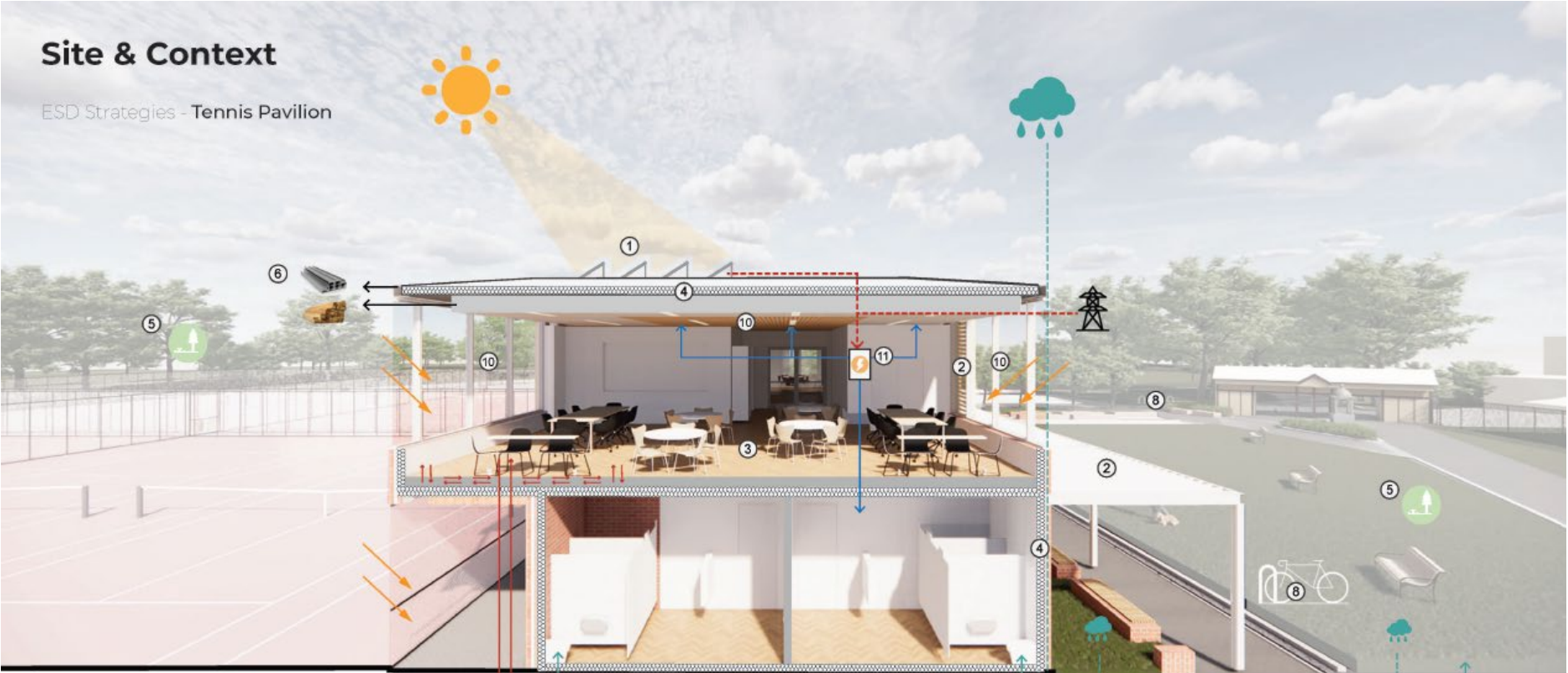
Site & Context

ESD Strategies - Sports Pavilion



- ①
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|--|---|--|--|---|---|---|-----------------------------------|-------------------------------|---|---|
| PHOTOVOLTAIC PANELS | LOUVRE SHADING | INDOOR SPACES | BUILDING ENVELOPE | LANDSCAPE ELEMENTS | MATERIAL SELECTION | RAINWATER STORAGE TANK | BIKE PARK | ELECTRIC HEAT PUMPS | BMS INTEGRATION | BATTERY SYSTEM |
| Solar PV array covering the roof of the building and provide hot water heating | Control the glare of the sunlight into the building and to the outdoor area | Designed for enhanced air quality, noise control and daylighting | High performance insulation (min. R4) and glazing to roof and walls; provide thermal separation at the mound | Reduce the impact of Urban Heat Island effect | Source building materials from sustainable supply chain | To supply WC's and landscape irrigation | Provide secure cyclist facilities | To provide energy efficiency. | Provide sensors & master switches for lighting & power abd HVAC integrated control with windows opening | Provide sustainable electricity to buildings through saved energy |

Environmentally Sustainable Design – Tennis/Community Pavilion



Site & Context
ESD Strategies - Tennis Pavilion

- ①②③④⑤⑥⑦⑧⑨⑩⑪
- PHOTOVOLTAIC PANELS** **LOUVRE SHADING** **INDOOR SPACES** **BUILDING ENVELOPE** **LANDSCAPE ELEMENTS** **MATERIAL SELECTION** **RAINWATER STORAGE TANK** **BIKE PARK** **ELECTRIC HEAT PUMPS** **BMS INTEGRATION** **BATTERY SYSTEM**
- Solar PV array covering the roof of the building and provide hot water heating

Control the glare of the sunlight into the building and to the outdoor area

Designed for enhanced air quality, noise control and daylighting

High performance insulation (min. R4) and glazing to roof and walls

Reduce the impact of Urban Heat Island effect

Source building materials from sustainable supply chain

To supply WC's and landscape irrigation

Provide secure cyclist facilities

To provide energy efficiency

Provide sensors & master switches for lighting & power and HVAC integrated control with windows opening

Provide sustainable electricity to buildings through saved energy

ESD DIAGRAM

ENVIRONMENTALLY SUSTAINABLE DESIGN STRATEGIES

CLIMATE ADAPTATION PLAN

Climate Adaptation strategies have been developed to mitigate impacts of climate change. As a community facility, it is particularly important that the development is equipped to handle these changes.



In Melbourne's climate the primary climate change risks are defined as:

- Increase in peak and average temperatures – heat wave and drought risk and
- Reduction in annual rainfall, and increase in rainfall intensity – drought risk and flood risk.

This includes provision of:

- High levels of thermal comfort as controlled with internal and external shading features, as well as light coloured roof and paving materials within the site and surrounds to mitigate impacts of increasing temperature.

- PV systems to provide on-site power generation, mitigating impacts of grid peak electricity demand (cause of blackouts); and
- Rainwater harvesting systems to capture rainwater runoff and reduce reliance on potable water sources, and provide a drought resilient facility.

5 THERMAL COMFORT

A high degree of occupant thermal comfort will be achieved through provision of energy efficient building fabric and appropriate solar radiation rejection measures. Minimum R4.0 insulation for ceilings and walls*.



6 SUSTAINABLE TRANSPORT

Sustainable transport options will be supported by providing bicycle parking and end of trip change facilities. The proposed development incorporates significant reduction in car parking, supporting sustainable transport initiatives and encouraging lower carbon modes of transport.

The development will include at least three disabled car parking spaces and above the required bicycle parks.



7 ON-SITE ENERGY GENERATION

The development will significantly reduce total peak electricity demand with on-site electricity generation (PV).

Estimated new system capacity will be 25kW and 28kW for the Sports Pavilion and Tennis Pavilion respectively.

8 MINIMISING ENERGY USE

The operational greenhouse gas (GHG) emissions from the proposed buildings will be less than those of the equivalent Benchmark Building, representing a 10% improvement on the Reference Building (per NCC2019 compliance).

The City of Yarra is committed to the transition away from fossil fuels in all council owned/operated buildings.



9 BUILDING REUSE

The proposed development includes significant retention and reuse of existing structures. The existing heritage grandstand will be retained with minor refurbishments, and the existing tennis pavilion will be relocated and reused in the context of new works.

This initiative provides significant reduction in embodied carbon of the proposed development.

10 METERING & MONITORING

Commissioning, handover and tuning activities will be undertaken to ensure the building services operate to their full potential and as designed.

Accessible metering will be provided to monitor building energy and water use both for base building and major uses.

11 CONSIDERED MATERIALS

A hazardous materials survey has been completed for the existing buildings/structures on site.

The building materials will be sourced from a sustainable supply chain including steel from a Responsible Steel Maker (RSM), timber from a certified forest certification scheme or reuse source, and PVC to the GBCA's best practice guidelines for PVC.



12 RAINWATER REUSE

The project will minimise peak stormwater outflows from the site and reduce pollutants entering the public stormwater system.

The development will include significant rainwater harvesting from roof surfaces, with connection to toilets, En-tout-cas tennis court irrigation and landscape irrigation.



13 IRRIGATION

Landscape irrigation will be connected to rainwater harvesting systems, and incorporate water efficiency systems (drip irrigation with moisture sensors).

Tanks of 20kL capacity will be provided to Tennis Pavilion and Sports Pavilion buildings. Further, tennis courts will have a further 100kL+ storage tank for irrigation, which will receive overflow from aforementioned tanks.



14 HEAT ISLAND EFFECT REDUCTION

At least 75% of the total project site area comprises building or landscaping elements that reduce the impact of the heat island effect.

This includes light coloured roofing, as specified within the community pavilion and tennis pavilion material palette, and landscape areas.

15 OPERATIONAL WASTE

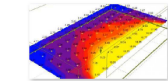
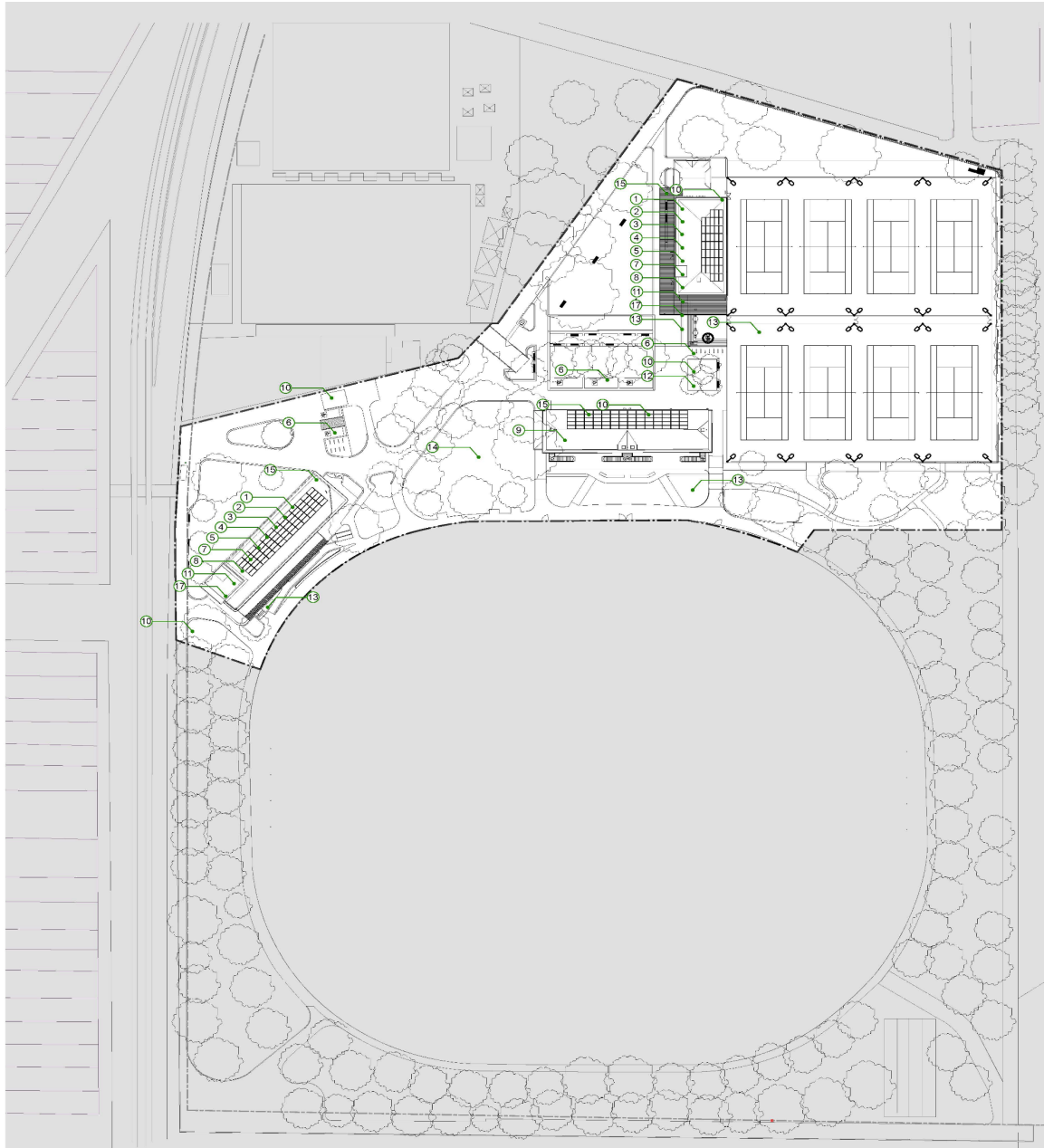
An operational waste management plan will be produced in accordance with Best Practice methodologies.

16 HEAT REJECTION

No water-based heat rejection systems will be specified. AC units will be air cooled refrigerant based systems.

17 WATER EFFICIENCY

Potable water consumption will be minimised by incorporating water efficient fixtures throughout the building and the harvesting of rainwater for use in toilets, tennis court watering, and landscape watering. A minimum WELS 5 star rating for all fixtures and fittings.



1 DAYLIGHT & ACOUSTIC COMFORT

The development achieves high quality natural light, exceeding Best Practice daylight levels with more than 60% of the non-vegetated primary areas having a Daylight Factor (DF) of at least 2%.

Spaces will be well lit through good access to daylight while control of glare is minimised. High quality internal or external views will be provided to all primary spaces. Appropriate acoustic comfort will be provided to occupants.

2 LIGHTING COMFORT

Spaces will be well lit through quality flicker free lighting with a minimum Colour Rendering Index of 80, best practice illuminance levels, glare reduction, good surface illuminance and localised lighting control.



3 LOW VOC'S & POLLUTANTS

All internally applied paints, adhesives and sealants will be considered low VOC and within maximum limits.



4 OPTIMISING INDOOR AIR QUALITY

The project will provide high indoor air quality to occupants by mitigating the entry of outdoor pollutants, a design that ensures simple maintenance, confirmation of cleaning prior to project final completion, providing additional outdoor air, mitigating generation of pollutants within the building. The buildings are designed for a high degree of air tightness with controls on HVAC when passively ventilated.

Tree Replacement Plan

TREE DIAGRAM

NEW + EXISTING RETAINED TREES

HERITAGE TREE PLANTING REPLACEMENT AND INFILL
 Total canopy coverage gain (based on mature tree size) : 1,691sqm

 **ILLAWARRA FLAME TREE (7)**
Brachychiton acerifolius
 Size: 15 H X 10 W m

 **KURRAJONG (5)**
Brachychiton populneus
 Size: 15 H X 12 W m

 **PORT JACKSON FIG (2)**
Ficus rubiginosa
 Size: 6 H X 15 W m

 **RED OAK (7)**
Quercus rubra
 Size: 20 H x 9 W m

NEW TREE PLANTING TO IMPROVE THE SPATIAL EXPERIENCE OF THE PARK.
 (Tree species reflect existing recent plantings which have been successful on site.)
 Total canopy coverage gain (based on mature tree size) : 818 sqm

 **DWARF LEMON SCENTED GUM (6)**
Corymbia citriodora 'Scentuous'
 Size: 7 H x 3 W m

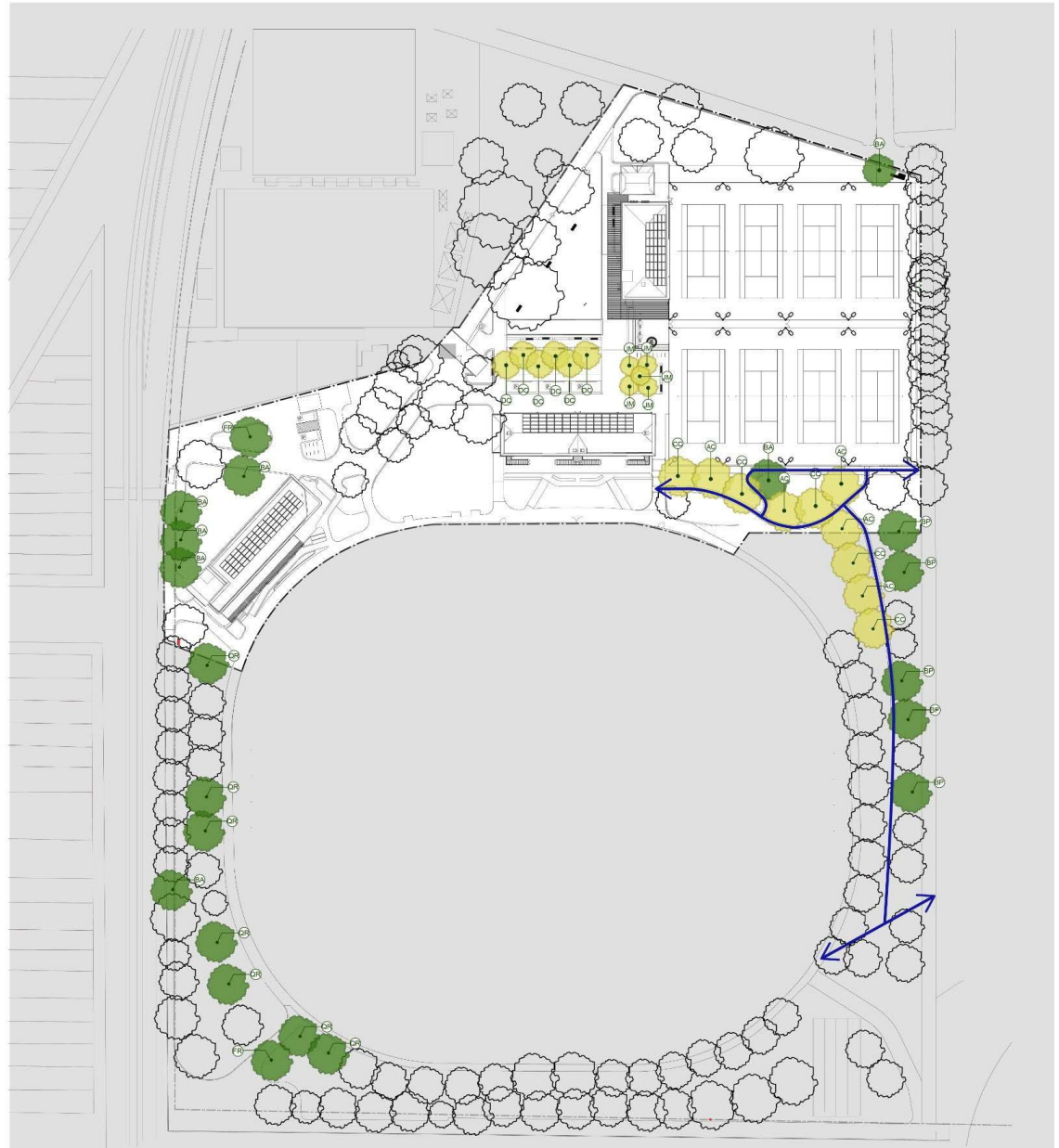
 **JACARANDA (5)**
Jacaranda mimosifolia
 Size: 6 H x 15 W m

 **LEMON SCENTED GUM (5)**
Corymbia citriodora
 Size: 6 H x 8 W m

 **SMOOTH BARK APPLE (5)**
Angophora costata
 Size: 20 H x 10 W m

 **PROPOSED FUTURE PERMEABLE
 CONNECTING PATH TO FOLLOW
 DESIRE LINES**

 Existing retained trees








Tree Removal Plan


TREE DIAGRAM



TREE REMOVAL PLAN

TREES WITH HERITAGE VALUE Total canopy coverage loss : 502 sqm

	ENGLISH ELM <i>Ulmus procera</i> Height: 12 - 20 m	Tree # ② ③ ④ ⑲ ③③	Life Expectancy < 15 < 20 > 15 < 10
	DUTCH ELM <i>Ulmus x hollandica</i> Height: 8 - 12 m	Tree # ③④	Life Expectancy < 15
	ELM <i>Ulmus sp.</i> Height: 8 - 10 m	Tree # ④③ ④④ ④⑤	Life Expectancy > 15 > 20
	PIN OAK <i>Quercus palustris</i> Height: 8 - 12 m	Tree # ④⑥ ④⑦ ④⑧	Life Expectancy > 20
	JACARANDA <i>Jacaranda mimosifolia</i> Height: 4 - 6 m	Tree # ⑤① ⑤② ⑤③ ⑤④ ⑤⑤ ⑤⑥ ⑤⑦ ⑤⑧ ⑤⑨ ⑥① ⑥② ⑥③	Life Expectancy < 15

TREES CONTRIBUTING TO THE GENERAL SPATIAL EXPERIENCE OF EDINBURGH GARDENS Total canopy coverage loss : 730 sqm

	SWEET PITTOSPORUM <i>Pittosporum undulatum</i> Height: 5 - 6 m	Tree # ③⑤ ③⑥ ③⑦	Life Expectancy > 15 > 20
	NARROW-LEAVED BLACK PEPPERMINT <i>Ulmus x hollandica</i> Height: 12 m	Tree # ③⑧	Life Expectancy > 20
	WHITE GUM <i>Eucalyptus scoparia</i> Height: 12 m	Tree # ③⑨ ④①	Life Expectancy < 10 > 15
	PORT JACKSON FIG <i>Ficus rubiginosa</i> Height: 5 - 6 m	Tree # ④②	Life Expectancy < 15

-  Existing retained trees
-  Demolished trees (insignificant value)

