



# Australian Hockey Centre Development

## Development Approval Application - Planning Report

V1.1 - January 2024



TOWN OF VICTORIA PARK  
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# Document control

## Revision history

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## Approvals

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# 1. Preliminary

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## 1.1. Introduction

This development application is being submitted by the Department of Local Government, Sport and Cultural Industries (DLGSC) and the Department of Finance (Finance) for the redevelopment of the Perth Hockey Stadium into a world-class, purpose-built Australian Hockey Centre (AHC).

The project is a result of a successful Commonwealth Government bid, by the State Government in partnership with Hockey WA and the Western Australian Institute of Sport, to secure the high-performance hockey program in Perth for the next 40+ years.

The new centre will become a hockey focused entertainment precinct that supports the growth of hockey through the delivery of four hockey pitches; two of which designed to international standards, a specialist goalkeeper training facility, an indoor hockey centre accommodating the Hockey Australia High Performance Program (HAHPP) and extensive recovery, gym and support facilities. The centre will also include a modernised, fit-for-purpose replacement stadium and administrative building.

The project has focussed on appropriate integration between the AHC and Curtin University, and consideration for circulation spaces as primarily public realm.

The estimated construction cost of the works is \$108.8 million, with the project scheduled to be completed and by March 2029.

## 1.2. Public Works

The proposed development is to be undertaken as a public work under the *Public Works Act 1902*. Finance and DLGSC as public authorities are exempt under Section 6 of the *Planning and Development Act 2005* from the requirement to obtain development approval for public works under the Local Planning Scheme.

The Section 6 exemption does not extend to the requirements of a Region Planning Scheme and as such, a development approval under the Metropolitan Region Scheme (MRS) is required for the development of the AHC.

Under recently introduced planning reforms, public works were removed from the Development Assessment Panel system. Consequently, the Western Australian Planning Commission (WAPC) is now the responsible authority in the determination of development applications for public works on zoned land, regardless of value.

## 2. Site Details

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### 2.1. Location

The Australian Hockey Centre (AHC) is located on Lot 1884 on Deposited Plan 213723 (the site) in the Town of Victoria Park.

The site is bound by Hayman Road to the north/northeast, Manning Road to the south and Kent Street to the west. Residential properties exist adjacent to the southern boundary, and Collier Park Golf Course (Reserve 38794) is located adjacent to the site in the west, facing Kent Street. The Department of Biodiversity, Conservation and Attractions (Reserve 26916) is located northwest of the site.

### 2.2. Ownership and Tenure

The site is a Class C Crown Reserve, No. 27142, with the current reserve purpose being for the *Curtin University of Technology Act 1966*. The proposed works are in accordance with the existing use of the site (hockey centre).

The Management Order for the Reserve is to the Curtin University of Technology with the power to lease. A new lease, due to commence in 2028, for the designated purpose has been negotiated with Curtin University, with VenuesWest as the lessee. A copy of the Certificate of Title is at **Appendix 1**.

Proposed works to construct Karrak Drive, as the primary entrance to the AHC, and connection to the broader Curtin campus, will extend through to the Hayman Road reserve, and include road widening and turning pockets to the intersection of Karrak Drive and Hayman Road to establish an arrival experience and connectivity with the University. The Town of Victoria Park has co-signed the Form 1 accordingly.

### 2.3. Site Description

The Curtin University site extends over an area of 110.46 ha and currently accommodates the existing Perth Hockey Stadium in the northern portion of the site. The stadium is separated from the broader Curtin campus by University Boulevard, which extends from Kent Street in the west, to Brand Drive in the east.

Three public car parks exist, north of University Boulevard; positioned to the south and west of the stadium, and a third car park located to the east, separated by Dumas Road.

An existing stormwater basin is located in the northeast of the site along with existing vegetation, mostly *Pinus pinasta* (Pine trees), from a historic Pine

plantation, located along the northern, eastern and western peripheries of the existing stadium.

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The site is generally level, with a 1-2 m increase toward the western boundary. A pedestrian footpath runs parallel to the adjacent roads along the full perimeter of the existing hockey stadium. University Boulevard is noted as a cycle friendly route and is bus enabled. The majority of the site supports non-native vegetation.

### 3. Proposed Development

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The proposed redevelopment of the Australian Hockey Centre (AHC) generally includes the following:

- Demolition of the existing Perth Hockey Stadium (PHS) building.
- Retention of one existing pitch, and construction of three additional pitches (two to international standard).
- Construction of a new indoor centre, administration, and training and events building.
- Construction of a new stadium accommodating a total of 1,600 spectators and a high-performance building for the Hockey Australia High-Performance Program (HAHPP).
- Construction of a new north-south road (Karrak Drive) connecting Hayman Road to University Boulevard.
- New irrigation, fire and water tanks, service sheds, landscaping, car parking and external concourse areas.

Current site plans and sections are included at **Appendix 2.0**, architectural drawings at **Appendix 2.1** and staging plans at **Appendix 2.2**.

#### 3.1. Demolition

The proposal involves a redevelopment of the current site occupied by the PHS. With the exception of the existing maintenance shed, northern pitch (PHS 2), pitch lighting and associated grandstand building, the remainder of the existing structures and areas onsite are being demolished.

This includes:

- PHS 1 turf playing field
- Stadium building including, stadium seating (PHS 1), change rooms, first aid facilities, bar and hospitality area, office and administration workspace, storage and gym
- Pitch watering storage tank
- Electrical infrastructure, transformers and the like
- Associated car parking within the lease area
- Public car parking belonging to the university campus
- Trees and landscape banks unable to be retained.

The project has undergone several design iterations to test different site configurations and possible retention of existing structures in whole, or in part, inclusive of the existing playing fields. The requirement and extent of demolition is driven by two main factors:



- The constrained site footprint inclusive of the large southern setback from University Boulevard varying from 30-40 meters along its length, and the proposed Karrak Drive having to retain the existing alignment within the proposed setback zone adjacent to University Boulevard.
- The extent and scale of the proposed functional facilities fitting within the site lease area and achieving the certification of the Federation Internationale de Hockey (FIH) for the playing fields which dictates alignment, pitch size, runout area and surrounding infrastructure.

### 3.2. Buildings

The project includes a range of buildings and structures, organised around three new, and one existing, irrigated turf playing fields, all designed specifically for hockey. The AHC project comprises of the following major buildings:

#### Stadium building

- Community change rooms, official's change rooms, first aid, club and Hockey WA stores and event storage.
- Hospitality, social, kitchen and function space.
- HAHPP facilities, including but not limited to administration workspace, national team change rooms, recovery facilities, gym, athlete lounge, briefing and meeting rooms.
- Public amenities and toilets for patrons.
- Hockey stadium with 1,000 permanent seats.
- Outside broadcast patch room, match production suite, camera platform and studio/commentary booth.

#### Indoor building

- Community change rooms, officials change rooms, first aid, equipment stores.
- Sport Integrity Australia drug testing suite.
- Two court indoor hockey centre with 200 spectators per court.
- Public amenities and toilets for patrons.
- Board room and meeting rooms for administration and hockey club use.
- Hockey Australia/Hockey WA Administration Centre including but not limited to workspace, meeting rooms, end of trip and staff amenities.

#### Ancillary buildings & structures

- Maintenance shed.
- Screened transformer enclosure.
- Fire pump and tank enclosure.
- Pitch watering tank and shed for pumping infrastructure.

### 3.3. Pitches

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The proposal includes a total of four turf hockey playing fields, with one existing pitch (the northern pitch) to remain. The three new pitches are categorised as follows:

- **South Pitch** - Certified FIH Category 1 turf playing surface with broadcast lighting to FIH TV1 standard.
- **West Pitch** - Certified FIH Category 1 turf playing surface with broadcast lighting to FIH TV2 standard.
- **East Pitch** – FIH Category 3 turf playing surface, inclusive of relocated existing lights from existing PHS 1.

A new video scoreboard is also proposed to the south pitch, and relocation of existing video board to west pitch.

To achieve the noted FIH standard there are strict criteria around orientation, pitch size, lux levels for lighting, run out space, fencing heights and accessibility for emergency vehicles. These functional requirements have informed the position, orientation and dimensions of the pitches and surrounding areas.

There are additional hockey related operational areas included within the proposal including:

- Specialist goalkeeping training cage south of the west pitch for the use of the HAHPP. This area is an enclosed playing surface for the specific specialist training of goalkeepers. Two training spaces are included in the proposal, including covered area for coaches and training staff.
- Children's playing turf located east of the existing north pitch as part of the central landscape spine. This area is an open community use play space. The opportunity to try hockey on turf for the general public does not exist, and so this area will provide an open, accessible area for people to play hockey on turf with friends, or for families to play with children in a small, controlled environment. Located within the public spine this area is envisaged as a public realm activator.

### 3.4. Landscaping

The landscape associated with the proposed development has been carefully designed to accommodate large scale international standard events as well as everyday community-based activity.

The design of the landscape has also been informed by the 'Living Knowledge Stream Design Guidance' document prepared by Syrinx Environmental PL in collaboration with Sync7 and Dr Noel Nannup for Curtin University, which identifies

Aboriginal cultural significance relating to the broader precinct. The landscape design of the AHC considers and responds to the key themes outlined in this important guiding document such as planting and material selections to compliment adjacent landscapes in which the AHC site sits. The landscape design also incorporates opportunities to celebrate the rich cultural and ecological values of the site, integrating with existing tree canopies, as well as respecting indigenous cultural ties with water and trail networks.

The new AHC will provide a high-quality landscape precinct that creates positive and meaningful experiences for athletes, staff, and the wider community. It endeavours to resolve the complex operational requirements of the facility and its broader context with elegant design solutions. The landscape of the AHC will establish a distinctive setting that aligns with the project vision of creating a world class sporting precinct. The landscape spaces provide a welcoming and safe atmosphere capable of catering for multiple event scenarios that range from club hockey to international hockey events.

Stakeholder engagement, including input from Hockey WA, Hockey Australia and the State Design Review Panel has been pivotal to the development of the landscape design to date and will be ongoing throughout the design phase of the project.

## Key Features

- The central east-west spine provides a significant contribution to the overall site connectivity and legibility by providing key pedestrian connections to all pitches, buildings, and entry/exit points of the site. It provides an opportunity to provide a cohesive site planning approach. From small events such as local club game days through to international events such as the Hockey World Cup, the central spine will be able to provide the functional and programming requirements to successfully enable multiple activation scenarios.
- The entry road, carparks and associated pedestrian spaces present the opportunity to establish a seamless arrival experience to orientate visitors, support intuitive way finding and provide universal access. It will also need to accommodate necessary operational requirements including controlled vehicle access into the site.

## Proposed planting

The site currently contains approximately 141 mature trees comprising a mix of planted native and non-native vegetation and planted Pine plantation. The proposed works extend across most of the existing site and will necessitate the removal of some of the existing vegetation. It is anticipated that approximately 102

trees will be removed to facilitate the works. Those trees to be removed are identified in Appendix 2.0 Architectural Site Plan.

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The proposed planting strategy developed for the project identifies the significance of the 'Living Knowledge Stream Design Guidance' within the site and provides a site planting response that aims to enhance the cultural and ecological values of the area. This includes the planting of 147 new trees including Marri-Sheoak, Melaleuca and Banksia woodland within the site, which equates to a ratio of new trees to removed trees of 1.44. Further details of the landscape characteristics are included in **Appendix 3 – DA Landscape Architecture Drawings** and an Arborist's report is available at **Appendix 4**.

### 3.5. Access and Parking

#### Existing Arrangement

The existing car bays within the site will be demolished to facilitate the new construction works. This is estimated to be approximately 40% of the existing carpark within this area being demolished. The existing parking bays to the south of the AHC as well as bays to the west of Karrak Drive will be retained for use by Curtin University. There will be approximately 430 car parking bays remaining in these existing car bays.

Access to the AHC is currently via Karrak Drive. Dumas Road also provides a secondary access to the site for maintenance purposes. As part of these works, Karrak Drive will be retained and Dumas Road access will be modified to suit the AHC works.

#### Proposed Arrangement

A new, permanent access off Hayman Road will be provided as part of the proposed Karrak Drive extension. This will provide an additional access to the AHC. This is necessary to improve traffic circulation and operations on the surrounding road network.

Broadcast vehicles will be restricted to right turn only movements from University Boulevard onto Karrak Drive to the north, due to the desire to retain the existing Karrak Drive intersection in as-in conditions.

There will also be a new one-way access from the south carpark onto Dumas Road which is necessary for the movement of broadcast vehicles and the like.

#### Vehicular and Bicycle Parking

The development proposes a 60-vehicle parking capacity located across two proposed car parks which is considered to adequately accommodate the parking needs for staff and national team players, with occasional exemption for visitors

and contractors. The proposed car parking provision within the development are as follows:

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- 39 car parking bays including two ACROD bays in the northern car park, and
- 21 car parking bays including one ACROD bay at the southern car park.

Additionally, 5 parallel parking bays along Karak Drive are being provided, adjacent to the bus drop-off location.

The abovementioned car parking bays meet the geometric requirements of AS2890.1 and AS2890.6 and no non-compliance issues were identified.

A preliminary parking demand analysis was conducted by VenuesWest based on a macroanalysis of the preliminary schedules provided by Hockey WA. The analysis estimated that 350 parking bays would be adequate to accommodate potential visitors and spectators for normal activities associated with the proposed hockey facility. It is estimated that approximately 430 car parking bays would be available on the existing Curtin University car park area after the proposed development which is anticipated to be adequate to accommodate the visitor parking demand.

The proposed development also intends to provide bicycle parking facilities for staff, players, and the public. Bike store, change areas, and lockers are proposed within the indoor centre administration building. In addition, at least 20 bike racks are proposed externally and within the site's boundaries for public use. Of which, ten will be located at the western arrival plaza and a further ten will also be located at the eastern arrival plaza.

Refer to the **Appendix 5 - Transport Impact Assessment** for further details on car and bicycle parking to be provided within the development.

### 3.6. Design and Built Form

The proposal includes two major buildings, each distinct with respect to built form, envelope conditions and construction approach. The design of each structure has been considered with respect to the functional brief, the precinct relationships and the larger site context within the university campus.

The stadium building is a complex structure resulting from the nature of its different functions. Located between the two main playing pitches; it is central in the operation and experience of the site. The massing principles developed during schematic design have been tested and strengthened through design development and are described below:

- Create a permeable base which activates the edge of the building at the ground plane and enables the operational and functional elements which relate to the pitches to be in direct proximity to the playing surface.
- Lift the mass of the building to free up the ground plane and provide a strong visual statement for the precinct. Lifting the grandstand into the air separates the spectators from the field of play which is an optimal scenario for the hockey operations.
- Express the mass of the grandstand and create an interior to the large mass of the grandstand, which is activated and dynamic, expressing the functional as part of the elevation.
- Create a dynamic skin to the building which mitigates the sub-optimal climatic orientation of the building with its largest facades facing east and west.
- The building is a series of stacked floor plates which change shape at each level. This is due to the spectator seating rake and value management which has occurred through schematic design to reduce floor areas. This has resulted in a complex structure with areas of transfer required between levels and a complex façade condition.
- The massing is further refined through the composition of conditioned and un-conditioned spaces. This composition sees the thermal and weathering envelope line shift through the vertical and horizontal arrangement of spaces.
- Floor to floor heights are optimised to enable the building section and the seating plates to achieve the recommended C-Value for viewing angles from all seats.
- The building provides seamless access to the main south pitch from ground level and the lifting of the grandstand creates a sheltered undercroft for team and technical benches to be directly pitch side with no visual encroachment for spectators, which is often a compromise in small stadia.
- The roof height has been established by the depth of the roof trusses in combination with the required height of the sports lighting above the pitch which provides the vertical illumination to achieve the FIH TV1 broadcast standard which has been briefed.
- The public vertical circulation has been brought to the edges of the building for visibility, introduction of daylight and used as a precinct wayfinding device through its expression with a frame surround which brings the mass to ground at this key junction along the pedestrian spine.
- Services and plant have been located within accessible floor levels or set down into the roof behind parapet upstand walls. This provides both visual screening to maintain the aesthetic composition of the architecture as well as create a considered safety barrier for services personnel.

The indoor centre is a considerably less complex building envelope. The building is comprised of a large volume space housing the indoor courts and smaller volumes for the servicing and administration spaces. The following massing principles have informed the articulation of the built form:

- Manipulate the massing to bring a human scale to the large volume space and break down the 'box'.
- Create a series of solids and voids to create a rhythm and pattern to the façade which is complimentary to the massing of the stadium.
- Articulate the built form to reinforce the site entry and activation of the central spine.
- Open the ground floor to address the arrival and central spine to mimic a streetscape with activated and transparent functions overlooking this space.
- Refine the façade system to optimise the daylighting of the indoor courts to enable them to operate in full daylight conditions for as much of the day as practicable.
- The overall building height is determined by the clear height dimension required by the FIH for indoor hockey above the playing surface, with the habitable levels sleeved within this dimension on the south façade.
- The massing uses a parapet form to create an elegant and restrained built form and provides a strong visual presence for the precinct to the street.
- The architecture relies on mass materials at the ground level to ground the building, inverting the floating mass concept of the stadium building.
- The main entry uses a similar frame surround to the stadium building which is brought to ground through the transparent and floating volume of the office space to mark the entry within the precinct and create a dialogue with the entry to the stadium building directly opposite the spine.
- The external envelope has been manipulated through shrouds, screens and fins to optimise the climatic conditions, shade and natural ventilation.
- The courts are planned to be fully naturally ventilated with an innovative breathable skin creating an air delivery plenum.
- Plant and equipment have been located on the ground floor or the screened clerestory enclosure above the level one roof. There is no exposed plant on the roof and all areas are accessible via stairs, corridors or external paved areas.
- The building will capture rainwater from the court roof and feed into the pitch irrigation tank for top up. In future when hockey may longer be played on irrigated turf this tank will provide sufficient capacity to capture and store rainwater for landscape irrigation use.



The external building materials have been refined to a restrained palette, informed by the language of the campus precinct, including both the university and Technology Park. The proposed materials are expressed as genuine representations of their fundamental material qualities. The proposed finishes are integral to the properties of the materials.

The proposed materials fall into two distinct groups, selected to reinforce the architectural concept of mass and void, solidity and lightness:

### Concrete

- Class 2C Honed, Pre-cast concrete panels with Concrete Colour System (CCS) additive
- Class 2C off-form insitu concrete, natural grey
- Prefinished compressed fibre cement (CFC) sheet cladding, 9mm thickness, 2 colours
- Glass fibre reinforced concrete (GRC) cladding with Concrete Colour System (CCS) additive

### Metal

- Solid aluminium cassette panel cladding system, 3mm thickness, factory finished colour
- Folded perforated aluminium screen, 3mm thickness, anodised colour, 20 microns
- Open mesh grate screen, powder coat finish
- Aluminium window frames, anodised finish, 20 microns
- Hot dipped galvanised steel, natural finish
- Colourbond steel, matt finish

The proposed finishes are consistent across both buildings, albeit with varied composition based on the built form, orientation and site relationships.

## 3.7. Sustainability

The project is progressing towards a 5-star equivalency under Green Star Buildings.

Other rating systems – including WELL and Fitwel were reviewed. Certain features of these tools have been identified as stretch targets, but formal certification is not being pursued due to restraints on building operations and additional costs.

Key features include:

- Elimination of fossil fuels
- Water efficiency
- Reduced embodied and operational carbon



- Completion of a sustainable procurement risk review
- Appointment of an independent commissioning agent
- Onsite air quality and acoustic performance
- Building envelope integrity test
- Risk resilience for climate change, grid and operations resilience
- Life cycle assessment and calculations
- Significant onsite energy generation
- Mixed mode operation in some spaces
- Avoidance of air conditioning to indoor courts
- Best practice light fitting selection and light quality optimisation.

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## 4. Site Considerations

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### 4.1. Environment

#### Flora & Fauna

An Environmental Assessment and Management Plan (EAMP) (**Appendix 6 - Environmental Assessment and Management Plan**) has been prepared as supporting documentation for a development application to facilitate development of the AHC. The EAMP provides a summary of information from a range of sources regarding the environmental features, attributes and values of the site, and presents the actions required to support the management of environmental conditions and assets present across the site and present in adjacent areas.

The Australian Hockey Centre (AHC) Development Plan has been developed with consideration to the identified environmental values of the site. A number of design responses have been incorporated into the layout in this regard, including:

- Retention of approximately 1.49 ha of Carnaby's black cockatoo foraging habitat and 0.52 ha of Forest red-tailed black cockatoo foraging habitat, and retention of four black cockatoo potential nesting trees.
- Retention of all native vegetation pursuant to the *Environmental Protection Act 1986* within the site.
- Retention of selected trees throughout the site, including several *Corymbia calophylla* (marri), which are habitat trees for black cockatoos, and *Pinus pinaster* (pine), which have high amenity significance.
- Retention of the Curtin University Compensating Basin, which is a surface water feature that accepts runoff from catchments within the site and will provide flood retention capacity.
- Incorporation of native flora/vegetation species into landscaping to maximise fauna habitat and environmental value around the AHC.

Overall, the environmental attributes and values of the site have been accommodated within the design and can be managed appropriately in line with the relevant state and local government legislation, policies and guidelines and with appropriate management practices.

The project's environmental consultants have confirmed that no clearing permits are required at either the State or Commonwealth level.

#### Contamination

The site is not listed on the Department of Water and Environmental Regulation (DWER) Contaminated Sites register under the *Contaminated Sites Act 2003*. As

the register holds information only on known contaminated sites, this does not preclude the possibility that contamination exists.

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Measures will be included as part of the works contract to ensure any identified hazardous material will be managed and disposed of appropriately.

## Geotechnical

Multiple geotechnical investigations have been undertaken by Stantec to provide sufficient information to progress the relevant design aspects of the project.

The key findings and recommendations indicated that there are no serious issues that preclude the development of the site for the proposed works. The full report is available at **Appendix 7 – Geotechnical Investigation Report**.

## Acid Sulphate Soils

A desktop search of environmental factors indicates that the site is classified as having moderate to low risk of Acid Sulphate Soils (ASS) occurring generally at depths of less than 3m and that there are no wetlands or vegetation of significance identified on the site. Appropriate management measures will be taken if ASS is encountered.

## Acoustics

An acoustics report was prepared by Gabriels Hearne Farrell in November 2024 based upon the current drawings at **Appendix 2.0-2.2**. A summary of its findings are outlined in **Table 1** below.

*Table 1: Summary of noise sources and noise level criteria*

Noise source	Noise level criteria
Noise emissions from Hockey activities	Noise emissions from the existing facilities and proposed pitches has been measured, calibrated, and modelled. The results of this modelling is indicating that the predicted noise level are expected to be very similar to the existing conditions experienced by neighbours.
	Some nearby College buildings are likely to have increased noise levels where new hockey pitches are located closer than the existing turfs. It is noted that noise transmission to existing student accommodation buildings is not required to comply given that the site is confined to one Lot.

Noise breakout from Function room	Calculations of potential music breakout from the function room in the Stadium Building is likely to achieve compliance at all times of the day.
Noise Emissions from Mechanical Sources	A review of the potential noise emissions from the mechanical plant has been reviewed and compliance is expected to be achieved at all times of the day.

**Refer to Appendix 8 – DA Acoustics Report** for the full assessment.

## 4.2. Heritage

### State Heritage

The site is not listed on the State Register of Heritage Places.

### Local Heritage

The wider Curtin University site is identified on the Town of Victoria Park Local Heritage Survey 2021 (LHS) as it has cultural heritage significance for the following reasons:

- The place has aesthetic value as a collection of buildings constructed in different eras and architectural styles;
- The place has historic and scientific value as a tertiary education institution; and
- The place has social value for its influence on the neighbouring community and sense of place for attending staff and students.

The site is identified as a Management Category 3 place which is a place of some/moderate significance as it contributes to the heritage of the locality. Conservation of a Category 3 place is desirable.

The AHC site is not specifically listed on the Town's Heritage List. There is also no specific reference to, or identification of, the Hockey Stadium building proposed to be demolished as part of this application. Consultation with the Town of Victoria Park has not raised any heritage concerns.

Given the Local Heritage listing, an application has been submitted under the Government Heritage Property Disposal Process Policy for the demolition of the existing administration/stadium building. Preliminary advice from the Department of Planning, Lands & Heritage confirms that the heritage significance relates to the use of the place for hockey activities, as opposed to the physical hockey related

buildings. The proposed AHC continues and enhances the association of hockey with the Curtin University site.

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### 4.3. Servicing

#### Waste Management

The waste management strategy for this development supports both daily operations and event-specific needs, ensuring efficient, safe, and compliant waste servicing across all facilities.

Key elements include:

- Dedicated bin stores for the stadium, indoor/administration, and workshop buildings.
- Additional strategies for events, including temporary event bin stores to handle increased waste generation.
- Waste stream separation for general waste, comingled recycling, organics, cardboard, bulk waste, and Containers for Change (C4C) items.
- Direct vehicle access to each bin store, supported by swept path analysis to ensure smooth ingress and egress.
- Internal transfer systems to reduce manual handling and enhance efficiency during high-demand periods.

#### Drainage/Water Management

The existing Water Corporation basin and drainage networks have sufficient capacity to handle existing catchment from the existing facilities, hence it is assumed the existing two pitches will continue to be catered for in this basin.

New stormwater detention infrastructure will be designed to cater for the new hockey centre site to the 100year (1%AEP) capacity.

Building roof stormwater is to be collected via gutters and downpipes and discharged into in-ground stormwater retention system via hydraulic pipework.

Stormwater runoff will be conveyed via proposed pits and pipes infrastructure to the new stormwater networks within the new AHC site. Where required, a trapped manhole shall be placed at the boundary of the lot prior to entering the existing system. The proposed Karrak Drive extension will be conveyed to existing Curtin University drainage infrastructures and basin.

#### Power

Power supply to the development will be provided via a new HV/LV substation connected to the existing Curtin University high voltage network. Once the substation is established, the existing power supply to site will be decommissioned and removed to maintain a single point of connection to the site.

The new substation is proposed as an external, pad mounted substation. The position nominated for the substation is adjacent to the west pitch approximately five meters from the sites southern entrance, located on Karrak Drive.

## **Water**

Two new DN200 PE 100 water services – a non-boosted fire service and a domestic water service – are proposed to be extended from existing capped provisions in Karrak Drive off Curtin University's infrastructure. The new fire service is proposed to be extended along Karrak Drive before entering the site. The portion of pipework upstream of the site boundary will become a Curtin University asset.

New connection applications will need to be made to Curtin University for the new domestic and non-boosted fire services.

## **Sewer**

A new DN150 sewer junction is proposed to be taken off the existing DN225 PVC-U sewer running east-west in University Boulevard Avenue and terminated at the southeast corner within the site boundary. Water Corporation have reviewed the proposed sewer connection and have approved it in principle. An application for the sewer junction will need to be made to the Water Corporation.

## **Sports Lighting**

Lighting will be designed to meet relevant Standards and industry guidelines. Lighting will generally be long life and energy efficient LED to minimise energy use and maintenance costs. The lighting will be selected and arranged to facilitate mitigating spill light to the surrounding areas in accordance with AS/NZS 4282 Obtrusive Outdoor Lighting.

- TV Mode will comply with AS4282-2023: Zone TV-L1
- 500 lux Mode will comply with AS4282-2023: Zone A4-L1

Each Lighting Tower (column) will have floodlights accommodated in a headframe and at midpoints to achieve illumination needs across the pitches. Due to the proximity of the south pitch to the large stadium building, a number of lights for this pitch will be located on the leading edge of the roof structure overlooking the playing field. Floodlight towers will comprise multi-segment tapered steel structures mounted to a reinforced concrete footing. For longevity the towers and all associated headframes, supports, etc., will be Hot Dip Galvanised. Existing light towers to the North pitch will remain and existing light towers for the East pitch will be relocated to accommodate the new location of the East pitch.

## **Groundwater Bores**

The project will be applying for a stand-alone groundwater bore allocation and licence from the Department of Water and Environmental Regulation (DWER) as

the authority responsible for the State's water resources. The project will seek a licence under section 5C of the *Rights in Water and Irrigation Act 1914* and will comply with all policies and requirements of the legislation in operation. A single licence will be sought with the intent of constructing two bores.

The project has determined that it will require up to 51,500kL/year of water split between two dedicated bores as follows:

- **Bore A** - Hockey turf irrigation will require 40,000kL/year in total based on the current usage of 10,000kL/year per pitch. The increase from two to four irrigated playing surfaces will increase the water requirement. This bore will feed directly into a water holding tank, as the water cannons used for pitch irrigation have a higher output rate than can be directly extracted and sprayed simultaneously. The tank will have a float and auto-refill system to maintain sufficient water for operational requirements.
- **Bore B** – Landscape irrigation will require up to 11,500kL/year based on the surrounding site area of 1.7 hectares. The landscape bore will also provide redundancy and back up for the pitch irrigation bore and be connected to the tank as a failsafe for operational robustness.

#### 4.4. Transport and Access

A Traffic Impact Assessment (TIA) has been undertaken by Stantec Australia Pty Ltd in October 2023 to support the proposed works (**Appendix 5**). The TIA has been prepared in accordance with the Western Australian Planning Commission's (WAPC) *Transport Impact Assessment Guidelines (2016)* to assess the impact of the proposal on the site and locality. The findings of the TIA are summarised as follows:

- The swept path analysis illustrates that the design vehicles are not anticipated to encroach any fixed structures and other ancillary devices (e.g., pitch light poles) in the proposed car park accesses, aisles, parking bays, and turnaround areas.
- The broadcast truck entering the southern car park is expected to encroach the kerb and street furniture hence it is recommended that the truck movement from the north should be restricted and only entering from the south via the University Boulevard/Karrak Drive intersection.
- The HRV and waste truck swept paths shows encroachments with median on exiting the site in the southbound and northbound direction. It is recommended that consideration be given to providing mountable kerbs to address these encroachments.
- A total of 60 parking bays is proposed on the subject site. Based on the parking demand analysis, the current 60-car parking capacity would appear

to adequately accommodate the parking needs of the staff, visitors/contractors, and national team players user groups. The peak demand occurs during the early hours, before office hours, when all 60 national team players attend the training sessions. Parking occupancy decreases once these sessions end, and staff members start arriving for work.

- The trip generation for the site has been calculated using first principles and based on information provided by the client. A total of 60 vehicle trips during AM peak and 22 vehicle trips during the PM peak hour trip is anticipated. The estimated trips to be generated by the proposed development is minimal according to WAPC Transport Impact Assessment Guidelines.
- The Turn Warrant assessment will be undertaken, if required, once the final configuration and geometric design of the proposed Hayman Rd/Karrak Drive extension intersection is confirmed by the Town of Victoria Park.
- Given the configuration of the Hayman Rd/Karrak Drive extension intersection has not yet been confirmed, the traffic modelling of the surrounding intersections cannot be finalised. It is envisaged that the SIDRA traffic modelling will be finalised once the intersection configuration has been discussed and confirmed with the Town of Victoria Park.

The proposed Karrak Drive/Hayman Road intersection works have been agreed in principle with the Town of Victoria Park, and detailed design of the intersection will continue in consultation with the Town.

## Operational Traffic Management

A traffic modelling analysis was undertaken using the SIDRA software tool to assess the performance of six (6) key intersections within surrounding road network and identified by the Town of Victoria Park. The analysis assesses the capacities of these intersections to accommodate the combined estimated trips to be generated by the proposed development and the background traffic for the existing and future year scenarios.

The scenarios assessed are listed below:

- **Scenario 1** – 2024 Existing Year Traffic (Weekday AM, Weekday PM, and Weekend peaks)
- **Scenario 2** – 2029 Background Traffic with the Development-generated Traffic (Weekday AM, Weekday PM, and Weekend peaks), and
- **Scenario 3** – 2039 Background Traffic with the Development-generated Traffic (Weekday AM, Weekday PM, and Weekend peaks).

The results of the SIDRA analysis indicated that all six (6) key intersections analysed are anticipated to operate at an acceptable level of service with minor delays and minimal queuing for all scenarios assessed.



Overall, the proposed redevelopment of the AHC is expected to have minimal impact on the traffic safety, operations, and performance of the surrounding road network.

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## 5. Planning Framework

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### 5.1 Metropolitan Region Scheme

The site is zoned under the Metropolitan Region Scheme (MRS). The proposed development works are consistent with the intent of the *'Public purposes – University'* zoning under the MRS and can be approved accordingly.

#### Matters to be Considered

As a public work, the proposal is to be considered and assessed under clause 30 of the MRS which requires the Western Australian Planning Commission (WAPC) to have regard to the following factors when determining a development application:

**(i) *The purpose for which the land is zoned or reserved under the Scheme.***

The proposed works are in accordance with the existing use of the site (hockey centre). As such, the proposal is considered consistent with the *'Public purposes – University'* zoning under the MRS.

**(ii) *The orderly and proper planning of the locality.***

The proposed development work complies with the strategic and statutory planning intent for the site as outlined in the Town of Victoria Park's Local Planning Framework.

**(iii) *The preservation of amenities of the locality.***

The amenity of the locality is being enhanced through the development of the Australian Hockey Centre (AHC) by providing international-standard pitches, modern training facilities, patron experience and the revitalisation of public realm spaces connecting through to the broader university campus.

### 5.2 Local Planning Strategy and Scheme

The Town of Victoria Park's Local Planning Strategy (LPS) recognises the site as a *'Specialised Activity Centre'*. One of the identified planning directions for activity centres is to upgrade public realm and streetscapes to enhance the distinctive character and human-scale amenity offered by the main street environment as a point of difference to surrounding centres.

The site is reserved for *'Public purposes – University'* under the Town of Victoria Park's Local Planning Scheme No. 1 (LPS1).

The proposed development works are considered to be generally in accordance with these statements of intent for the precinct and consistent with both the LPS1 and Local Planning Strategy.

## 5.3 Planning Policies

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### State Planning Policy No. 7 - Design of the Built Environment

*State Planning Policy 7: Design of the Built Environment* (SPP 7) addresses the importance of design quality, and sets out the principles, processes and considerations which apply to the design of the built environment in Western Australia, across all levels of planning and development. SPP 7 establishes a set of ten 'Design Principles', providing a consistent framework to guide the design, review and decision-making process for planning proposals.

## 6. Pre-lodgement Engagement

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### 6.1 Town of Victoria Park

Finance presented the Australian Hockey Centre (AHC) Schematic Design presentation to the Town of Victoria Park in early October 2024. Discussions have been ongoing, and **Table 2** below is a summary of presentation queries raised by the Town on 11 October 2024, and corresponding comments from the AHC project team on 15 October 2024.

Table 2: Town of Victoria Park masterplan presentation queries

	Town of Victoria Park Query	AHC Team Response
<b>1.0</b>	While acknowledging the plans are still being progressed and the Town's focus is limited when it comes to the internal planning/design, floor plans have not been provided.	These will be included with the Development Application (DA) submission. The briefing was intended to be a high-level project overview.
<b>2.0</b>	Clarity required on levels across the site.	Building floor levels and RL's to the playing fields and public realm areas will be provided with the DA.
<b>3.0</b>	The pedestrian connection linking the Hockey facilities to the bus station and other Curtin facilities to the south, is critical.	The land to create this connection is outside the project site and not within the design team's control. Within the site the opportunity to make this connection has been provided.
<b>4.0</b>	<p>Tree retention – noted that there are a number of trees to be both retained and removed. DA submission should:</p> <p>(a) document how many trees to be removed; how many to be retained; and, how may new trees to be planted;</p> <p>(b) include a landscaping concept plan;</p> <p>(c) in terms of the trees to be removed, detail the species, height and general health;</p>	<p>An environmental report will be included with the DA. The master planning has taken steps and undergone several iterations to limit the need for a large amount of clearing. The vegetation which is proposed to be removed is all introduced, there is no native or remnant vegetation being cleared. Further we note the following in response:</p> <p>a) This will be outlined within the report</p> <p>b) This will be included with the DA</p>

	<p>(d) justify the tree removal and demonstrate a net increase in tree canopy;</p> <p>(e) address the impact of tree removal on cockatoo habitat – in this respect please double check any referral/ approval obligations that may exist under State or Federal legislation/guidelines.</p>	<p>c) An arborist report has been prepared and will be referenced in the DA (<b>Appendix 4</b>).</p> <p>d) The removal is required to deliver the project brief within the limited site footprint. Due to the increase in playing fields it is not possible to provide sufficient space to increase the tree canopy coverage of the site.</p> <p>e) This will be addressed in the environmental report. There are no referral obligations under the legislation as the project is below the mandatory referral threshold.</p>
<b>5.0</b>	Water usage for four artificial turfs will be significant – address.	The playing of high-performance hockey requires a wet turf surface. The intention is to manage water usage across the site and transition over the longer term in line with the FIH to playing on a dry surface.
<b>6.0</b>	Shade tree planting in the new parking areas should be considered.	This has been reviewed and in the northern carpark the team is exploring a combination of retained and new vegetation.
<b>7.0</b>	Loss of circa 1,000 parking bays is significant. However, the Town fundamentally supports a transition to alternative transport modes and a lesser reliance on private vehicles. The DA should demonstrate that the actual parking supply meets the needs of the facility, as well as the university (assuming that parking area will be shared rather than for the exclusive use of hockey patrons).	The project is providing 60 dedicated car bays for the elite athletes and staff of the Hockey Australia High Performance Program (HAHPP). Any surplus will be absorbed by Hockey WA staff. The balance of parking will use the existing public carparking across the university campus and within the vicinity of the proposed State Hockey site. The DA will detail the Traffic Impact Assessment (TIA) as well as outline the parking strategy in more detail.
<b>8.0</b>	A staging plan would be useful in understanding the staging of the project.	Refer to <b>Appendix 2.2 – Staging Plan</b> .

<b>9.0</b>	The DA submission should address the feedback from the first State Design Review Panel (SDRP) meeting (and any further meetings that may occur prior to DA lodgement). In this respect, the Town would appreciate the opportunity to be invited to any future SDRP meetings.	Included in the DA. <div style="border: 1px solid black; padding: 2px; width: fit-content;">TOWN OF VICTORIA PARK Received: 07/01/2025</div>
<b>10.0</b>	In terms of the event overlay plan, the intent to install temporary event seating for major events is noted. However, it appears that the location of light towers, particularly those central to relevant pitches, may preclude or constrain the installation of temporary seating and/or restrict views from seating.	The scale of a significant event will require a detailed overlay plan specific to each instance. The masterplan has taken a general approach to confirm that an event of a certain scale can be accommodated. Detailed event planning is outside of the project scope. Temporary seating can be installed around the lighting poles as is quite often the case for bump-in type grandstands.  An Event Management Plan will be developed at a later date.
<b>11.0</b>	Plans appear to be missing light towers for the North Pitch.	A site survey will be provided with the DA. The existing tower positions are to remain.
<b>12.0</b>	DA should provide details of lighting towers (heights; finishes; lux levels demonstrating compliance with relevant Australian Standards AS 4282 for obtrusive lighting).	The sports lighting will comply with AS4282. <ul style="list-style-type: none"><li>• TV Mode will comply with AS4282-2023: Zone TV-L1.</li><li>• 500 lux will comply with AS4282-2023: Zone A4-L1.</li></ul> Further, the project is seeking 5-star GBCA equivalency, and control of light spill within the site boundary is one of the criteria for certification.
<b>13.0</b>	Clarify scoreboard locations for each pitch.	This will be shown on the masterplan for the west and south pitches. The

		north pitch is not part of the scope and the east pitch will not have a digital scoreboard.
<b>14.0</b>	Game siren noise – I understand that in the past the Town has intermittently received some complaints regarding the noise of game sirens – with an increase to four pitches, is anything new proposed to mitigate game siren noise?	<p>We provide the following comments in response:</p> <ul style="list-style-type: none"> <li>Game sirens are intended to be heard at distance – the acoustic modelling demonstrates that adjacent properties are outside of the stipulated acoustic envelope of the site based on the regulations</li> <li>We expect the volume to be similar to the current levels, albeit there may be additional sirens due to the increased number of pitches.</li> </ul> <p>Refer to <b>Appendix 8</b>.</p>
<b>15.0</b>	Consider opportunities for windows facing Karrak Drive in the ground floor wall of the Indoor Centre building.	The internal planning and requirements for spectator seating limit the area on the ground floor for transparent windows.
<b>16.0</b>	The Town anticipates potential negative commentary from clubs if they perceive that they have not been adequately consulted and/or listened to prior to the DA lodgement.	The project has commenced engagement with clubs through Hockey WA in the form of presentations and one on one meetings.
<b>17.0</b>	Surprised that the Stadium/High Performance building does not include 'grandstand' seating overlooking the West Pitch (see Tasmanian Hockey Centre as an example) in addition to the South Pitch – the plans suggest that there may be some rows of tiered seating adjacent to the west pitch? Greater clarity on this would be useful.	The project did explore this opportunity, however the functional brief and project budget required considerable compromise/ adjustment to achieve this. The Tasmanian project is a decidedly different scale of facility.
<b>18.0</b>	Permanent shade structures to viewing areas would be really valued.	This is being explored by the landscape architects.

<b>19.0</b>	Opening of pedestrian link to University Boulevard on a permanent basis (during operational hours) would be welcomed.	See above response – item 3.0. <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-left: auto;">TOWN OF VICTORIA PARK Received: 07/01/2025</div>
<b>20.0</b>	Consider enabling vehicles travelling north on Karrak Drive to turn right into the drop-off bays (appears that a proposed median prevents this from occurring).	Vehicle movements will be outlined in the TIA.

## 6.2 Department of Planning, Lands & Heritage (DPLH)

### Planning Division

Discussions with the Planning division of DPLH have been ongoing to inform it of the project's progress and confirm the Development Approval pathway. No issues have been identified in the pre-lodgement processes or updates.

### Heritage Division

Consultation occurred with the Heritage division of DPLH regarding the GHDP application. No specific comments were received, and the outcome of the application is pending.

## 6.3 State Design Review Panel

The proposal has undergone a design review by the State Design Review Panel (SDRP). One formal meeting has been completed as part of the design review process for the project with follow up engagement with the Government Architect of Western Australia.

### SDRP Review 1

The first SDRP meeting was held on 22 August 2024. The intent of this meeting was to introduce the project and the formative master planning and design work. The panel commended the acknowledgement of the Twin Dolphin Dreaming songline incorporated into the project's design principles, including interpretative signage, identification of public art areas to recognise the story, paving treatment and landscaping selection. Also commended was the use of materials, elegant layering of the building façades and responsivity to orientation. The panel supports the proposed target of 5 Greenstar (GBCA) for the built form elements.

The panel recommended coordination with the university in respect to improvements to public realm spaces and entry points to the proposed centre.



The project team has since refined site infrastructure and car parking, accentuated the main arrival plaza at the street edge, increased the number of retained trees in the public realm and has referenced the 'Living Knowledge Stream' to inform landscaping and circulation design outcomes. The southern arrival respects the expression of the songline using the landscape treatment.

The panel encouraged consideration for making the facility more inclusive of the broader community, outside of hockey. The project team responded with the implementation of initiatives in the design, including children's playing turf, a streetside café and permeable fencing materials.

## 6.4 Aboriginal Community Engagement

Cultural engagement was undertaken through Mindeera Advisory Group (Mindeera) at the Town of Victoria Park on 30 September 2024.

Mindeera expressed the Twin Dolphin Dreaming trail (the trail) manifest's importance of being realised in a meaningful way, with every effort made to illustrate the flow of land and continuous connection across the site. The AHC project team acknowledged the trail and Living Stream document and demonstrated how the draft design shows landscaping from the northern side, pedestrian court through the middle of the site, and where the trail would be included.

It was also noted that the draft design didn't illustrate the trail in a physical sense, and Mindeera recommended it could be incorporated into the site's design through art. The AHC project team also highlighted that the materials, planting and colours from the design would connect to the landscape and draw upon Curtin University's existing design principles which reflect the trail.

Mindeera conveyed the importance of tree retention for cockatoo foraging, particularly along the northern boundary. It was discussed that this was required to accommodate services including water tanks to fulfill green rating requirements and that many trees are still being retained to support cockatoo foraging.

Dual naming of the pitches, to include Noongar reference, was discussed as an opportunity to embed culture, and Mindeera recommended an indigenous form of hockey played by Noongar people as a narrative to be explored and expressed in the interpretative works that tell the story of hockey through the site's design.

Mindeera recommended the AHC project team engage with Dr Noel Nannup and Dr Simon Forrest about the Twin Dolphin Dreaming trail to discuss the Dolphin Dreaming and the deeper history of the site. Through thoughtful design and engagement with Aboriginal partners, the project seeks to deliver a world-class

hockey centre in Perth, while honouring the site's history and heritage in a contemporary and inclusive manner.

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## 7. Conclusion

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This proposal to provide a world-class, purpose-built hockey centre and stadium, will support the growth of hockey, locally and nationally, and provide a home for the Hockey Australia High Performance Program. It will also provide a patron experience through enhanced amenities and revitalised public spaces.

Overall, the Town of Victoria Park is supportive of the project and consultation will remain open and ongoing through project development.

Having regard to the above, the proposal clearly demonstrates the suitability of the proposal to the site. Accordingly, it is requested that the proposal is considered favourably by the Western Australian Planning Commission (WAPC).

## 8. Appendices

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<b>1.0</b>	Certificate of Title LR3093-106
<b>2.0</b>	Architectural Site Plans and Sections
<b>2.1</b>	Architectural Drawings
<b>2.2</b>	Architectural Staging Plans
<b>3.0</b>	DA Landscape Architecture Drawings
<b>4.0</b>	AHC Arborist Report
<b>5.0</b>	Transport Impact Assessment
<b>6.0</b>	Environmental Assessment and Management Plan
<b>7.0</b>	Geotechnical Investigation Report
<b>8.0</b>	DA Acoustics Report