



Swan and Canning Rivers Management Act 2006

PART 5

DETERMINATION OF DEVELOPMENT APPLICATION

FILE NUMBER	:	2023/4741
APPLICANT	:	Perth Flying Squadron Yacht Club
LANDOWNER	:	City of Nedlands (Perth Flying Squadron Yacht Club) and Swan River Trust (River reserve)
LAND DESCRIPTION	:	Part Lot 300 on Plan 47450 – River Reserve Part Lot 501 on Plan 418496 – Perth Flying Squadron Yacht Club, Dalkeith
DEVELOPMENT	:	Replacement jetties, improved stormwater drainage, new storage, signage and landscaping works
VALID FORM 1 RECEIVED	:	23 August 2023
DETERMINATION	:	APPROVAL WITH CONDITIONS

The application to commence development in accordance with the information received on 23 August 2023 and through additional plans and information received on 16 November 2023, 6 May 2024, 14 May 2024, 27 June 2024, 18 July 2024, 24 July 2024, and 25 July 2024 is APPROVED subject to the following conditions:

CONDITIONS

1. Approval to implement this decision is valid for two (2) years from the date of this approval. If substantial on-site works have not commenced within this period, a new approval will be required before commencing or completing the development.
2. The applicant shall notify the Department of Biodiversity, Conservation and Attractions of the intended date to commence each stage of works. This notification shall be provided in writing not less than seven (7) days prior to the commencement of each stage of works (**Advice Note 1**).
3. Prior to the commencement of works, the applicant shall submit and obtain approval for the detailed design, including building materials and finishes, for the proposed structure to the Department of Biodiversity, Conservation and Attractions. The engineering documentation shall include but not be limited to:
 - a. pavement design
 - b. proposed plastics and other building materials
 - c. carparking layout
 - d. stormwater drainage design (**Advice Note 3**).
4. All works are to be undertaken in accordance with a Construction Environmental Management Plan which is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands, prior to commencement of works (**Advice Note 4**).
5. All works are to be undertaken in accordance with a Stormwater and Groundwater Management Plan which is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions on advice from the City of Nedlands, prior to commencement of works (**Advice Notes 5 and 6**).

6. Stormwater run-off from constructed impervious surfaces generated by small rainfall events (i.e. the first 15 mm of rainfall) shall be retained and/or detained and treated (if required) at-source as much as practical and will not be permitted to enter the river untreated (**Advice Notes 5 and 6**).
7. Installation of the permeable paving system is to be undertaken in accordance with an Installation Method Statement, which is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands (**Advice Note 7**).
8. Prior to commencement of works, a Landscape Plan is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands (**Advice Note 8**).
9. Replacement trees are to be planted at a rate of no less than three (3) for each tree removed and maintained to the requirements and satisfaction of the Department of Biodiversity, Conservation and Attractions (**Advice Note 9**).
10. Prior to commencement of use, an Environmental Management System is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions (**Advice Note 10**).
11. Monitoring and maintenance of the plastic components of the approved jetty structures shall be undertaken annually in accordance with a Maintenance and Inspection Plan which is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions prior to commencement of use (**Advice Note 11**).
12. Any fill and/or topsoil brought onto the site is to be certified clean, uncontaminated, and free from rubble, weeds and disease, and suitable for the proposed works.
13. The applicant is to ensure that adequate waste disposal facilities are available for its patrons, and that no rubbish, litter or any other deleterious matter enters the river.
14. All parking dimensions (including associated wheel stops and headroom clearance), manoeuvring areas, ramps, crossovers and driveways shall comply with Australian Standard 2890.1-2004 - Off-street car parking and Australian Standard 2890.6:2009 - Off-street parking for people with disabilities (where applicable) to the satisfaction of the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands.
15. Prior to occupation of the development, all parking bays are to be clearly line marked, drained and with visitor/staff parking clearly marked or signage provided, and maintained thereafter by the landowner to the satisfaction of the Department of Biodiversity, Conservation and Attractions, on the advice from the City of Nedlands.

ADVICE NOTES

1. Notifications can be emailed to rivers.planning@dbca.wa.gov.au.
2. To allow sufficient time for the Department of Biodiversity, Conservation and Attractions to consider and approve the plans required under this approval, the documents must be submitted to the Department of Biodiversity, Conservation and Attractions at least 42 days before the expected works commencement date.
3. Regarding **Condition 3**, the use of plastic products in the Riverpark at this location is not generally supported and alternative products for construction should be considered.

The Department of Biodiversity, Conservation and Attractions is in early scoping phase of formulating a scientific study to examine the length of time before plastic products (including recycled plastic, fibre-reinforced polymer or other composite products) start to break down or release particles into the environment. The department reserves the right to monitor, as part of a scientific study, any products within the River reserve.

In the event that plastic products are approved by the Department of Biodiversity, Conservation and Attractions in this location:

- a. all plastic products (e.g. fibre-reinforced plastic) are to include:
 - i. a manufacturers' warranty of or exceeding 15 years;
 - ii. specification for use within marine environments; and
 - iii. UV treatments, (either UV stable resins or if they are painted, a UV stable paint).
 - b. A copy of the certifications and or material specifications to ensure material longevity and reduce the risk of plastic deterioration over time are to be provided to the Department of Biodiversity, Conservation and Attractions.
4. Regarding **Condition 4**, the Construction Environmental Management Plan (CEMP) should describe how the authorised works will be managed to minimise potential environmental impacts. Guidance for preparation of a CEMP is provided in [DBCA Guidance Note 6 – Construction Environmental Management Plans](https://bit.ly/SCRMAPolicies), (<https://bit.ly/SCRMAPolicies>).
 5. Regarding **Conditions 5 and 6**, the Stormwater and Groundwater Drainage Management Plan shall describe and present plans to show how the stormwater system has been designed to prevent mobilisation of sediment, nutrients and contaminants from the site to the river. Stormwater from the authorised works should be managed in accordance with Corporate Policy Statement 49: Planning for Stormwater Management Affecting the Swan Canning Development Control Area, the Department of Water and Environmental Regulation's Stormwater Management Manual for Western Australia and Decision Process for Stormwater Management in WA, and water sensitive urban design principles.
 6. Regarding **Conditions 5 and 6**, carpark stormwater management should follow best practice and be consistent with [Water Sensitive Urban Design Carpark developments/retrofits fact sheet \(New WATER Ways 2017\)](#). The design should demonstrate the treatment of stormwater run-off and reduce the mobilisation of pollutants to receiving waterbodies (e.g. total suspended solids, hydrocarbons, heavy metals). It is recommended that a series of stormwater management systems be used, including but not limited to, tree pits, vegetated swales and pervious paving.
 7. Regarding **Condition 7**, the Installation Method Statement shall include:
 - a. technical design drawings for installation of the permeable paving system
 - b. details regarding the gravel to be used as part of the permeable paving system, which is to be clean, non-leachable, non-contaminated materials.
 8. Regarding **Condition 8**, the Landscape Plan is to include details of all landscaping, including provision of a 3m landscaped strip along the eastern boundary of the site within Paul Hasluck Reserve, planting of shade trees within the parking area at a rate of one tree per four car bays, and planting of the drainage swales and should include:
 - a. the number of plants (and species) to be removed (noting that any native plants should be relocated where possible)
 - b. the location, planting densities and species composition proposed for each area (noting that appropriate local native species should be planted in riparian zones at a ratio of 500:50:5 herbs/sedges:shrubs:trees for each 100m²)
 - c. a schedule of works
 - d. a reticulation plan, indicating type and location of sprinkler, bubbler, drippers and if bore or scheme water will be utilised
 - e. ongoing monitoring and maintenance requirements.
 9. Regarding **Condition 9**, the replacement trees must be:
 - a. locally native and suited to the soil type of the area
 - b. located within the vicinity of the plant to be removed

- c. maintained for three years and any trees that do not survive within this period shall be replaced no later than the next winter/spring planting season.
10. Regarding **Condition 10**, the Environmental Management System is to be updated in accordance with the current guidelines of the Department of Biodiversity, Conservation and Attractions and in accordance with current leasing practice is to be reviewed on an annual basis.
11. Regarding **Condition 11**, the Maintenance and Inspection Plan shall:
- commit to corrective action when the plastic products need repair and replacement
 - commit to examination of any plastic product used within the approved works
 - commit to annual inspections (at a minimum).
12. Note that the proposed works are located in a high to moderate risk acid sulphate soils risk area. The Acid Sulphate Soils Guideline Series for guidance on the identification, assessment and management of acid sulphate soils in Western Australia is available from the Department of Water and Environmental Regulation at: www.dwer.wa.gov.au. If acid sulphate soils are exposed during the works, the Department of Water and Environmental Regulation should be contacted for further advice.
13. The work site is listed on the Register of Aboriginal Sites. It is recommended that the applicant contact the Department of Planning, Lands and Heritage to seek advice relating to the authorised activity and the Aboriginal heritage values of the area, to ensure that the applicant receives approval under the Aboriginal Heritage Act 1972 for proposed activities within the boundary of Aboriginal Site ID 3536 (Swan River).
14. A building permit is required to be obtained from the City of Nedlands for the outbuilding works.
15. If public assembly areas are proposed within the development where persons assemble for a common purpose (e.g. classes, group bookings, functions) these facilities are to comply with the requirements of the Health (Public Building) Regulations 1992.
16. The reserve land is encumbered by a Memorial under the Contaminated Sites Act 2003 and has been classified as 'remediated for restricted use'. Further consultation with the Department of Water and Environmental Regulation is likely required.
17. The City of Nedlands has advised that, with regard to the land-based works, the development site is constrained by Management Order conditions, subject to a Lease, encumbered by a Memorial and part of the Land Asset Optimisation Strategy. Pursuant to the Lease agreement:
- all works shall be contained within the lease area
 - all works shall be undertaken at the Lessee's cost
 - the Lessee will be required to indemnify the City of Nedlands against any liability in connection with the resurfacing works.



Hon Reece Whitby MLA
MINISTER FOR ENVIRONMENT

Date: 28/11/24

DEPARTMENT OF BIODIVERSITY, CONSERVATION AND ATTRACTIONS REPORT

PROPOSAL	Replacement jetties, improved stormwater drainage, new storage, signage and landscaping works
LOCATION	Part Lot 300 on Plan 47450 – River Reserve Part Lot 501 on Plan 418496 – Perth Flying Squadron Yacht Club, Dalkeith
COST	\$4,500,000
APPLICANT	Perth Flying Squadron Yacht Club
LANDOWNER	City of Nedlands (Perth Flying Squadron Yacht Club) and Swan River Trust (River reserve)
LOCAL GOVERNMENT	City of Nedlands
MRS CLASSIFICATION	Parks and Recreation Reserve and Waterways
DECISION TYPE	Part 5, <i>Swan and Canning Rivers Management Act 2006</i> , Ministerial Determination
ATTACHMENTS	1A Amended application 1B Riverbed lease area and jetty mooring licence plan 1C Referral responses: <ul style="list-style-type: none"> • City of Nedlands (3 pages) • Department of Planning, Lands and Heritage (2 pages) • Department of Water and Environmental Regulation (3 pages) • Department of Transport (1 page)
RECOMMENDATION	APPROVAL WITH CONDITIONS

1. INTRODUCTION

- 1.1 The Department of Biodiversity, Conservation and Attractions (DBCA) has received an application from the Perth Flying Squadron Yacht Club (the Club), proposing replacement of several jetties, improved stormwater drainage, new storage areas, signage and landscaping works at the Club (see **Attachment 1A**).
- 1.2 The river-based works are within the Swan River (Reserve 48325), which is contained within the Waterways reservation under the Metropolitan Region Scheme. The River reserve is vested with the Swan River Trust (the Trust) and the Club leases an approximate 4.66 hectare portion of the River reserve (see **Figure 1** below, and **Attachment 1B**).
- 1.3 The land-based works are contained within Lot 254 on Plan 37070. This land is reserved for Parks and Recreation under the Metropolitan Region Scheme, and is under the care, control and management of the City of Nedlands (the City). The Club leases approximately 2.11 hectares from the City.



Figure 1: Application area for proposed development

- 1.4 The proposed development is to occur on land entirely within the Swan Canning development control area (DCA) and therefore requires an approval from the Minister for Environment in accordance with Part 5 of the *Swan and Canning Rivers Management Act 2006* (SCRM Act).
- 1.5 Under delegation from the Director General, DBCA has prepared this draft report in accordance with section 75(2) of the SCRM Act.

2. CONSULTATION

City of Nedlands

- 2.1 The application was referred to the City, which initially requested additional engineering information regarding the feasibility of the proposed permeable paving and stormwater infiltration system. The City also sought clarity on the use of the materials in the underdrain system and the potential for run-off or leaching in the river.
- 2.2 The applicant provided additional information on the stormwater infiltration system and clarified the materials to be used within the system, and in response the City provided subsequent advice and recommended conditions of approval.
- 2.3 The City's comments are provided in **Attachment 1C**.

Department of Planning, Lands and Heritage

- 2.4 The application was referred to the Department of Planning, Lands and Heritage (DPLH) for comment and the response stated that a portion of the proposed works intersects with registered Aboriginal Heritage place ID 3536 (Swan River).
- 2.5 DPLH advised that the applicant should make contact regarding the works and the Aboriginal heritage values of the area, to ensure that the applicant receives approval under the *Aboriginal Heritage Act 1972* for proposed activities within the boundary of Aboriginal Site ID 3536 (Swan River).

2.6 DPLH's comments are provided in **Attachment 1C**.

Department of Water and Environmental Regulation: Contaminated Sites

2.7 The Department of Water and Environmental Regulation (DWER) advised that it has no objections to the proposal subject to conditions and advice relating to a construction environmental management plan (CEMP) being prepared prior to works being undertaken.

2.8 DWER indicated that Lot 300 is located within a high to moderate risk of acid sulfate soils (ASS) occurring within 3m of the natural soil surface. DWER recommended an advice note to assist with the management of ASS.

2.9 DWER's comments are provided in **Attachment 1C**.

Department of Transport: Maritime

2.10 The application was referred to the Department of Transport (DoT), which requested the plans be revised to ensure they meet the minimum requirement stipulated by the *Australian Standard for Marina Design (AS3962:2020)*. Upon submission of the revised marina plans (drawing no. GTS1895-01 Rev C) DoT advised it has no objections to the proposal.

2.11 DoT's comments are provided in **Attachment 1C**.

3. PUBLIC CONSULTATION

3.1 Pursuant to the requirements of section 74 of the SCRM Act, the application was advertised on DBCA's website for at least 14 days. In this instance the proposal was advertised for 42 days commencing on 24 January 2024. No public submissions were received.

3.2 Pursuant to the requirements of section 75 of the SCRM Act, a copy of the draft report and proposed recommendation was provided to the applicant and the relevant stakeholders being the City, DPLH, DWER and DoT. A copy was also published on the DBCA website between 20 September 2024 and 8 October 2024, with an invitation for public submissions. No public submissions were received.

4. RELEVANT POLICIES AND PLANS

- State Planning Policy 2.10 – Swan-Canning River System (SPP 2.10)
- Corporate Policy Statement No. 42 – Planning for Land Use, Development and Permitting Affecting the Swan Canning Development Control Area (Policy 42)
- Corporate Policy Statement No. 43 – Planning for Marinas, Yacht Clubs and Aquatic Clubs in the Swan Canning Development Control Area (Policy 43)
- Corporate Policy Statement No. 44 – Planning for Jetties in the Swan Canning Development Control Area (Policy 44)
- Corporate Policy Statement No. 45 – Planning for Miscellaneous Structures and Facilities in the Swan Canning Development Control Area (Policy 45)
- Corporate Policy Statement No. 49 – Planning for Stormwater Management Affecting the Swan Canning Development Control Area (Policy 49)

5. ENVIRONMENTAL AND PLANNING CONSIDERATIONS

- Environmental protection
- Stormwater management
- Jetty design and navigational safety
- Visual amenity
- Public access and safety
- Use of plastics in the Riverpark
- Heritage
- Parking
- Acid sulfate soils (ASS)

6. BACKGROUND

- 6.1 The development site covers approximately 2.11 hectares of land and approximately 4.66 hectares over water (see **Figure 1**). The Club has a land-lease from the City for its land-based facilities (e.g. clubroom, carpark, storage sheds, fuel storage tank and maintenance/workshop areas) and a River reserve lease from DBCA for its river-based facilities (jetties and mooring pens).
- 6.2 In 2019, the Club obtained approval for redevelopment of the yacht club including installation of a wave attenuator, access gangway, 32 steel piles, 14 finger jetties (floating pontoons), boat lift, fencing, removal of the existing slipway, upgrades to the vessel maintenance area, and landscaping works along the foreshore including the relocation of fencing to create a publicly accessible foreshore.
- 6.3 The current application comprises two stages of works, with the stage one land-based components focusing on stormwater management to address on-site flooding issues, and stage two works including the replacement of the four end-of-life jetties within the river reserve.
- 6.4 The application, see **Figure 2a and 2b**, includes:
- removal of all asphalt on the western side of the clubhouse
 - installation of stormwater drainage infrastructure which will require regrading of the site using road profiling, covering with geofabric, and UV stabilised permeable pavers, and gravel
 - relocation of the storage sheds, tractor and bosuns shed adjacent to the marina entrance
 - installation of additional new storage sheds
 - the creation of several new garden beds and landscaped swales within the vessel storage area
 - installation of a garrison fence from the western end of the clubhouse to the western edge of the existing pedestrian access gate, to provide some separation between the vessel storage area and the clubroom area, which is used for social events
 - the incorporation of rain gardens, landscaped gardens and 12 soakwells within the asphalt area surrounding the clubhouse
 - replacement of jetties B, C, D and E with UV stabilised floating jetties (increasing the number of berths from 214 to 254) which will significantly reduce the number of piles required to secure the jetties. Old piles shall be removed, with new piles all being steel piles, sleeved and capped
 - installation of new low-level entry signage adjacent to Esplanade.

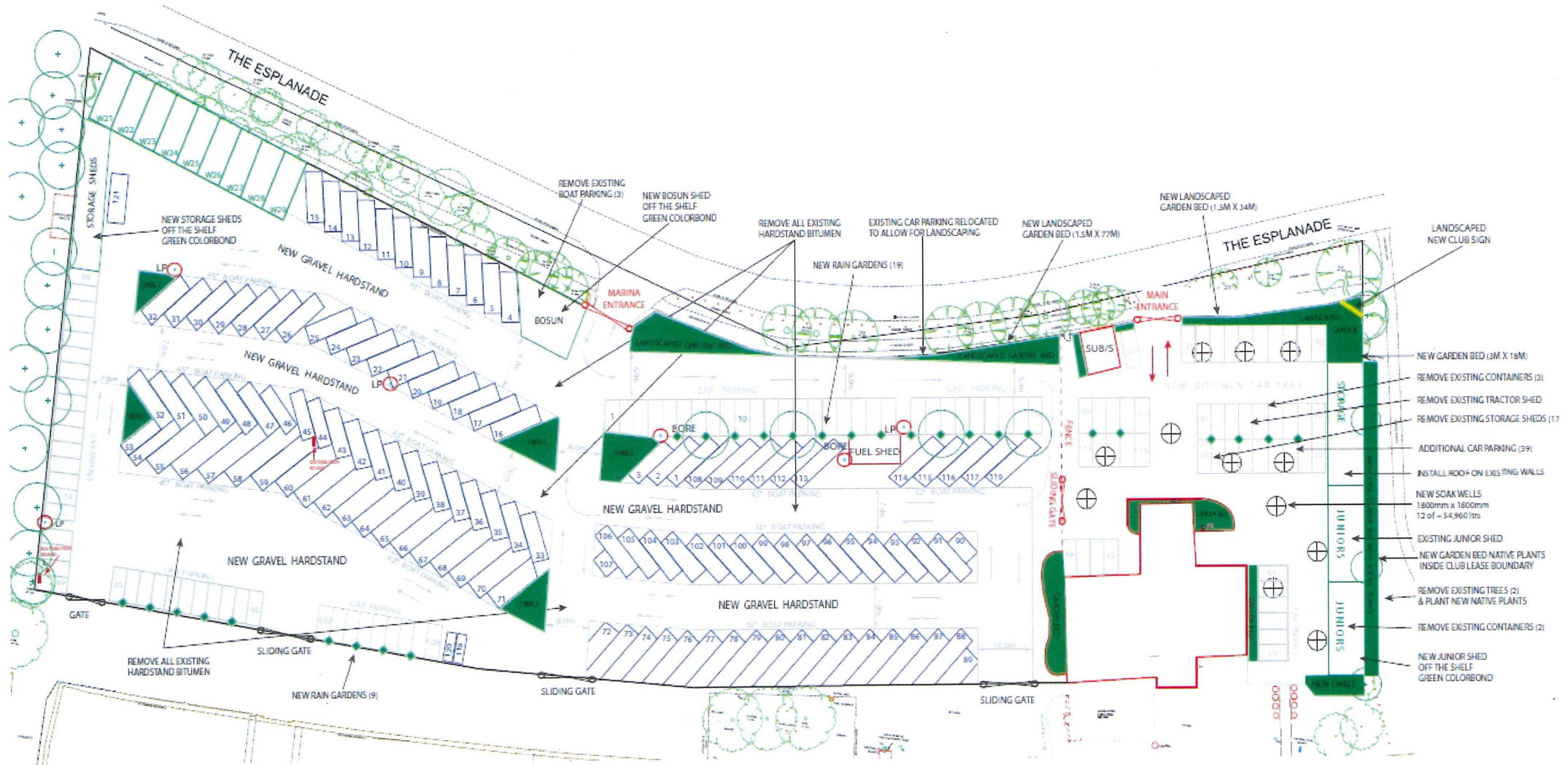


Figure 2a: Proposed development at Perth Flying Squadron Yacht Club

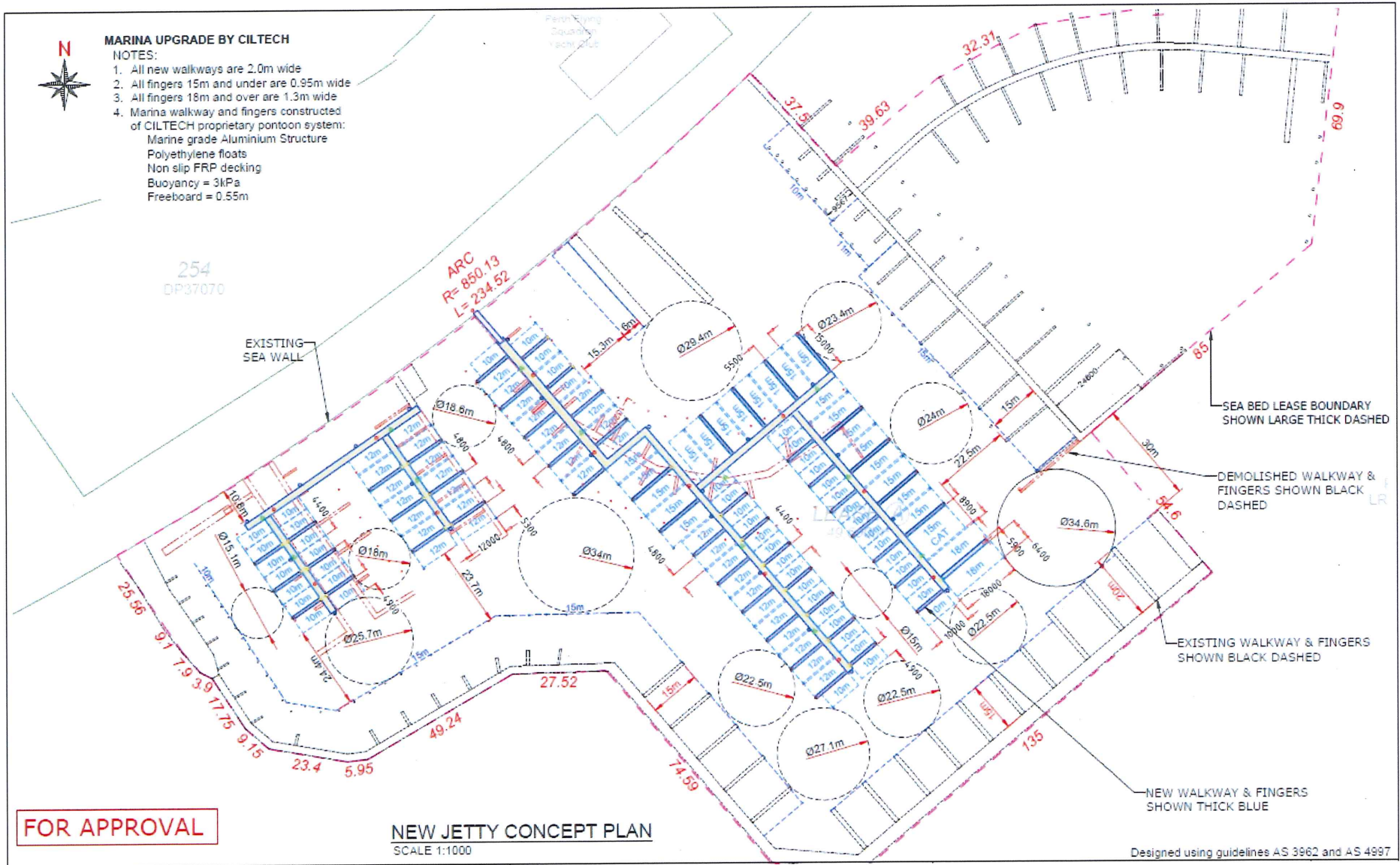


Figure 2b: Proposed new jetty layout at Perth Flying Squadron Yacht Club

7. DISCUSSION

Environmental protection

- 7.1 Policy 42 aims to ensure that land use and development on and adjacent to the river system maintains and enhances the quality and amenity of the river environment. The construction works have the potential to impact on the foreshore and waterway, including disturbance to the riverbed, water quality degradation, foreshore degradation, wildlife (noise) impacts and disruption to public access and safety.
- 7.2 To ensure that all potential environmental impacts are identified and managed appropriately, a CEMP is recommended as a condition of approval. The CEMP should include details of demolition/construction methodology, machinery, and equipment management (including refuelling), site access and management, public access and safety, waste management and spill response, foreshore protection, measures for the protection of water quality and minimisation of potential noise and vibration impacts to fauna.
- 7.3 The proposed stormwater management system (TRUEGRID) proposes to use permeable pavers (made from post-consumer recycled HDPE) containing a gravel substrate that allows the filtering and through-flow of stormwater. The gravel material should be clean, stable and not result in any leaching of materials to the river environment.
- 7.4 Any components of the TRUEGRID system can be replaced should they become damaged or degraded, thus reducing the likelihood of discharge of materials into the foreshore or River reserve.
- 7.5 Any existing vegetation on or adjacent to the site should be retained and enhanced, and canopy coverage increased to reduce heat effects. The application proposes the planting of additional trees and understorey on the foreshore, details of which will be contained in the landscape plan required as a condition of approval. Trees will also be planted within the carpark areas with understorey species planted in the swales within the vessel storage area and additional garden beds located throughout the yacht club.

Stormwater management

- 7.6 Policy 49 generally requires stormwater runoff from constructed impervious surfaces generated by minor rainfall events (i.e. first 15mm) to be managed on site, or if the local government consents, connected to the local drainage system.
- 7.7 Policy 49 also requires applications to demonstrate that development in the DCA does not result in further water quality degradation of the Swan Canning river system, and where possible, improves water quality. To ensure water quality is managed a stormwater and groundwater management plan is to be required as a condition of approval.
- 7.8 The proposed development will reduce the amount of impervious surface at the site by introducing the permeable paving system in the vessel storage areas. It is expected that the permeable pavers will have the capacity for more than 230,000 litres of stormwater prior to overland flow to the swales and foreshore.
- 7.9 Stormwater will infiltrate through the pavement surface and gravel. It is expected that suspended solids will be removed at this stage and further filtering will also occur through

the subbase and subsoils, which should provide some removal of colloidal solids and soluble pollutants.

- 7.10 The Club is also proposing to install 12 soakwells, which will store 54,960 litres of stormwater on site before overland runoff occurs.
- 7.11 It is proposed to increase the area of the Club that is vegetated by adding five new landscaped garden beds, 28 rain gardens and six vegetated swales. These areas will provide additional capacity to store stormwater on-site to improve the overall stormwater management at the site.

Jetty design and navigational safety

- 7.12 Policy 44 recognises that appropriately designed and located commercial and community boating facilities, such as jetties and boat ramps, form an integral part of the river system setting and are an important recreational and tourist resource. Policy 44 also seeks to ensure that the location of boating infrastructure does not interfere with vessel navigation.
- 7.13 Policy 44 requires jetty applications to address specific design criteria or requirements related to DoT's jetty design and navigation standards, including AS 3962-2020 Marina design and AS 4997-2005 Guidelines for the design of maritime structures. The design of the proposed jetty structures was modified from the design originally submitted to ensure it complied with AS3962-2020 Marina design.
- 7.14 The application states that four of the seven existing timber jetties are at the end of their life and are requiring annual repairs at significant cost to the Club. By replacing these timber jetties with UV stabilised floating jetties there will be a significant reduction in the number of piles at the Club. All new piles shall be steel piles, sleeved and capped to prevent corrosion, reducing future repair works. The method of pile removal will be addressed within the CEMP required as a condition of approval.
- 7.15 To ensure navigational safety, no portion of any jetty infrastructure or berthed vessels should extend beyond the existing riverbed lease area. The designs show that all changes to the jetty infrastructure are internal to other jetties, meaning that all proposed infrastructure is located within the existing lease area.

Visual amenity

- 7.16 Policy 48 seeks to protect and enhance the community's use and enjoyment of the river system. Policy 42 states that the design, materials and colour scheme of developments adjacent to the river and foreshores should complement and protect the character and landscape setting of the river.
- 7.17 The new jetty infrastructure will comprise materials, colours and finishes to match and/or complement the Club's existing style and themes.
- 7.18 The proposed new jetty layout will result in additional berths, but is within the existing footprint of the Club, and within the existing River reserve lease area and existing jetty and mooring licence area.
- 7.19 The jetties will be visually apparent, but the comparatively low-profile structures (that will not exceed the height of the existing jetty structures even at high-tide) means the apparent bulk and scale will be minimised and are a comparatively minor addition to the existing facility.

7.20 The new layout of land-based infrastructure results in the storage sheds being located at both ends of the Club, rather than the current location, which has storage sheds in the parking area of the Club. The relocation of some of the storage sheds may improve the visual amenity and accessibility across the Club as well as for those viewing the premises from the surrounding foreshore areas.

Public access and safety

7.21 Draft SPP 2.9 states that proposals should maintain and enhance public access to and along the rivers and foreshores, including through establishment of foreshore reserves.

7.22 Public access during the construction works should be maintained, unless closure (with an alternative route provided) is necessary for public safety purposes. This can be addressed as part of a CEMP.

Use of plastics in the Riverpark

7.23 The jetty components made from fibre-reinforced polymer (FRP) have the potential to degrade and expel microplastics into the river. The effective maintenance and monitoring of the gangway will ensure that any degradation of the FRP material can be detected and addressed prior to microplastics or deleterious materials entering the river.

7.24 Policy 44 states that applications for jetties need to demonstrate they are minimising and managing effects on the ecological health of the Swan Canning river system. Both the jetty and the permeable paving system comprise plastic materials.

7.25 The environmental impacts of plastics are a concern regarding the potential long-term and cumulative environmental impacts on the ecological health of the Riverpark. DBCA's Rivers and Estuaries Science program is engaged in a scientific study to examine these potential impacts and the outcomes will inform a policy review for the use of plastic infrastructure within the Riverpark.

7.26 A condition of approval is recommended to require the club to submit a maintenance and inspection plan to ensure at least annual inspection of the plastic components and commit to corrective action when the FRP needs repair or replacement. This aims to avoid any plastic particles entering the river environment within the expected lifespan of the structures.

Heritage

7.27 Policy 42 states that places of cultural and heritage significance, both Aboriginal and non-Aboriginal, and of natural heritage are to be conserved.

7.28 The proposed works are located within an area identified on the Register of Aboriginal Sites (ID 3536 Swan River). DBCA supports the recognition and protection of heritage areas, including the Swan Canning river system, which is of important spiritual and cultural significance to Whadjuk Noongar people. Pursuant to the requirements of the *Aboriginal Heritage Act 1972*, these values should be identified and protected prior to the commencement of works and will form part of the advice to the applicant.

7.29 No features within the proposal area are listed on the State Register of Heritage Places or the City's Heritage List.

Parking

- 7.30 Policy 43 requires applications for marinas, yacht clubs or other aquatic clubs to demonstrate that adequate parking is proposed, and that the provisions for parking are in accordance with the relevant local planning scheme and Australian Standards.
- 7.31 The change of layout of the jetties will provide an additional 40 berths. Further, the proposed new layout of the Club will result in a total of 118 carparking bays being located throughout the Club, which is a reduction from the 131 carparking bays currently available.
- 7.32 The proposed provision of carparking complies with the requirements of Australian Standards AS3962-2020 Marina Design.

Acid sulfate soils (ASS)

- 7.33 The proposed works are to be undertaken within a high to moderate (Swan River) and moderate to low (public foreshore reserve) acid sulfate soils (ASS) disturbance risk area within 3m of the natural surface. The proposed works will require minor ground excavation during the piling works, although likely minor in nature.
- 7.34 Included in the recommended approval is an advice note requested by DWER, Contaminated Sites regarding the risk of disturbing ASS from the proposed works.

8. SWAN RIVER TRUST

- 8.1 In accordance with section 75(3A) of the SCRM Act, the Trust considered DBCA's draft report at its meeting of 13 August 2024 and resolved to advise the Director General of DBCA that it recommends the application be approved subject to the conditions outlined in DBCA's draft report.

9. CONCLUSION

- 9.1 Policy 46 states that commercial facilities should be planned, designed, constructed and managed to enhance the community's use and enjoyment of the Swan Canning river system.
- 9.2 The proposed works are not considered excessive in scale or bulk. The Club is seeking to improve stormwater management on the site and replace aging infrastructure which is expected to improve the layout and operations of the Club.
- 9.3 Potential environmental impacts from the works can be addressed through the preparation and approval of management plans and a CEMP, required as conditions of approval.
- 9.4 For these reasons, the proposal is recommended for approval, subject to conditions and advice.

10. RECOMMENDATION – APPROVAL WITH CONDITIONS

- 10.1 That the Director General of DBCA advises the Minister for Environment that the proposal at Perth Flying Squadron Yacht Club (part of Lot 501 on Plan 418496), Dalkeith and the River Reserve (part of Lot 300 on Plan 47450) as described in the application received on 23 August 2023 and additional information received on 16 November 2023,

6 May 2024, 14 May 2024, 27 June 2024, 18 July 2024, 24 July 2024, and 25 July 2024, be approved, subject to the following:

CONDITIONS

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8. Prior to commencement of works, a Landscape Plan is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands (**Advice Note 8**).
9. Replacement trees are to be planted at a rate of no less than three (3) for each tree removed and maintained to the requirements and satisfaction of the Department of Biodiversity, Conservation and Attractions (**Advice Note 9**).
10. Prior to commencement of use, an Environmental Management System is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions (**Advice Note 10**).
11. Monitoring and maintenance of the plastic components of the approved jetty structures shall be undertaken annually in accordance with a Maintenance and Inspection Plan which is to be submitted to and approved by the Department of Biodiversity, Conservation and Attractions prior to commencement of use (**Advice Note 11**).

12. Any fill and/or topsoil brought onto the site is to be certified clean, uncontaminated, and free from rubble, weeds and disease, and suitable for the proposed works.
13. The applicant is to ensure that adequate waste disposal facilities are available for its patrons, and that no rubbish, litter or any other deleterious matter enters the river.
14. All parking dimensions (including associated wheel stops and headroom clearance), manoeuvring areas, ramps, crossovers and driveways shall comply with Australian Standard 2890.1-2004 - Off-street car parking and Australian Standard 2890.6:2009 - Off-street parking for people with disabilities (where applicable) to the satisfaction of the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands.
15. Prior to occupation of the development, all parking bays are to be clearly line marked, drained and with visitor/staff parking clearly marked or signage provided, and maintained thereafter by the landowner to the satisfaction of the Department of Biodiversity, Conservation and Attractions, on advice from the City of Nedlands.

ADVICE NOTES

1. Notifications can be emailed to rivers.planning@dbca.wa.gov.au.
2. To allow sufficient time for the Department of Biodiversity, Conservation and Attractions to consider and approve the plans required under this approval, the documents must be submitted to the Department of Biodiversity, Conservation and Attractions at least 42 days before the expected works commencement date.
3. Regarding **Condition 3**, the use of plastic products in the Riverpark at this location is not generally supported and alternative products for construction should be considered.

The Department of Biodiversity, Conservation and Attractions is in early scoping phase of formulating a scientific study to examine the length of time before plastic products (including recycled plastic, fibre-reinforced polymer or other composite products) start to break down or release particles into the environment. The department reserves the right to monitor, as part of a scientific study, any products within the River reserve.

In the event that plastic products are approved by the Department of Biodiversity, Conservation and Attractions in this location:

- a. all plastic products (e.g. fibre-reinforced plastic) are to include:
 - i. a manufacturers' warranty of or exceeding 15 years;
 - ii. specification for use within marine environments; and
 - iii. UV treatments, (either UV stable resins or if they are painted, a UV stable paint).
- b. A copy of the certifications and or material specifications to ensure material longevity and reduce the risk of plastic deterioration over time are to be provided to the Department of Biodiversity, Conservation and Attractions.
4. Regarding **Condition 4**, the Construction Environmental Management Plan (CEMP) should describe how the authorised works will be managed to minimise potential environmental impacts. Guidance for preparation of a CEMP is provided in [DBCA Guidance Note 6 – Construction Environmental Management Plans, \(https://bit.ly/SCRMAPolicies\)](https://bit.ly/SCRMAPolicies).
5. Regarding **Conditions 5 and 6**, the Stormwater and Groundwater Drainage Management Plan shall describe and present plans to show how the stormwater system has been designed to prevent mobilisation of sediment, nutrients and contaminants from the site to the river. Stormwater from the authorised works should be managed in accordance with Corporate Policy Statement 49: *Planning for*


Stormwater Management Affecting the Swan Canning Development Control Area, the Department of Water and Environmental Regulation's *Stormwater Management Manual for Western Australia* and *Decision Process for Stormwater Management in WA*, and water sensitive urban design principles.

6. Regarding **Conditions 5 and 6**, carpark stormwater management should follow best practice and be consistent with Water Sensitive Urban Design [Carpark developments/retrofits fact sheet \(New WAter Ways 2017\)](#). The design should demonstrate the treatment of stormwater run-off and reduce the mobilisation of pollutants to receiving waterbodies (e.g. total suspended solids, hydrocarbons, heavy metals). It is recommended that a series of stormwater management systems be used, including but not limited to, tree pits, vegetated swales and pervious paving.
7. Regarding **Condition 7**, the Installation Method Statement shall include:
 - a. technical design drawings for installation of the permeable paving system
 - b. details regarding the gravel to be used as part of the permeable paving system, which is to be clean, non-leachable, non-contaminated materials.
8. Regarding **Condition 8**, the Landscape Plan is to include details of all landscaping, including provision of a 3m landscaped strip along the eastern boundary of the site within Paul Hasluck Reserve, planting of shade trees within the parking area at a rate of one tree per four car bays, and planting of the drainage swales and should include:
 - a. the number of plants (and species) to be removed (noting that any native plants should be relocated where possible)
 - b. the location, planting densities and species composition proposed for each area (noting that appropriate local native species should be planted in riparian zones at a ratio of 500:50:5 herbs/sedges:shrubs:trees for each 100m²)
 - c. a schedule of works
 - d. a reticulation plan, indicating type and location of sprinkler, bubbler, drippers and if bore or scheme water will be utilised
 - e. ongoing monitoring and maintenance requirements.
9. Regarding **Condition 9**, the replacement trees must be:
 - a. locally native and suited to the soil type of the area
 - b. located within the vicinity of the plant to be removed
 - c. maintained for three years and any trees that do not survive within this period shall be replaced no later than the next winter/spring planting season.
10. Regarding **Condition 10**, the Environmental Management System is to be updated in accordance with the current guidelines of the Department of Biodiversity, Conservation and Attractions and in accordance with current leasing practice is to be reviewed on an annual basis.
11. Regarding **Condition 11**, the Maintenance and Inspection Plan shall:
 - a. commit to corrective action when the plastic products need repair and replacement
 - b. commit to examination of any plastic product used within the approved works
 - c. commit to annual inspections (at a minimum).
12. Note that the proposed works are located in a high to moderate risk acid sulphate soils risk area. The Acid Sulphate Soils Guideline Series for guidance on the identification, assessment and management of acid sulphate soils in Western Australia is available from the Department of Water and Environmental Regulation at: www.dwer.wa.gov.au. If acid sulphate soils are exposed during the works, the Department of Water and Environmental Regulation should be contacted for further advice.
13. The work site is listed on the Register of Aboriginal Sites. It is recommended that the applicant contact the Department of Planning, Lands and Heritage to seek advice

relating to the authorised activity and the Aboriginal heritage values of the area, to ensure that the applicant receives approval under the *Aboriginal Heritage Act 1972* for proposed activities within the boundary of Aboriginal Site ID 3536 (Swan River).

14. A building permit is required to be obtained from the City of Nedlands for the outbuilding works.
15. If public assembly areas are proposed within the development where persons assemble for a common purpose (e.g. classes, group bookings, functions) these facilities are to comply with the requirements of the Health (Public Building) Regulations 1992.
16. The reserve land is encumbered by a Memorial under the *Contaminated Sites Act 2003* and has been classified as 'remediated for restricted use'. Further consultation with the Department of Water and Environmental Regulation is likely required.
17. The City of Nedlands has advised that, with regard to the land-based works, the development site is constrained by Management Order conditions, subject to a Lease, encumbered by a Memorial and part of the Land Asset Optimisation Strategy. Pursuant to the Lease agreement:
 - all works shall be contained within the lease area
 - all works shall be undertaken at the Lessee's cost
 - the Lessee will be required to indemnify the City of Nedlands against any liability in connection with the resurfacing works.

FINAL REPORT ENDORSED

Signed: 

Date: 21/11/24

Stuart Smith

Director General

Attachment 1A



Department of Biodiversity,
Conservation and Attractions



SWAN CANNING
RIVERPARK

Form 1 – Application for Approval of Development

Swan and Canning Rivers Management Act 2006 – Part 5 – section 72(1)

1. Applicant details

The applicant is the person with whom the department, on behalf of the Chief Executive Officer, will correspond, unless an authorised agent has been appointed to act on behalf of the applicant, in which case correspondence will be sent direct to the agent.

Name

Position (if applicable)

Organisation (if applicable)

Contact person

Postal address

Town/Suburb State Postcode

Telephone Work Mobile

Email

I give authority for an agent (as identified at item No. 3) to act on my behalf during the assessment of the application YES NO

If 'YES', please provide Agent's details at item No. 3

Applicant signature Date

2. Landowner details

All owner(s) of the land **must sign this application**. Where land is owned by the Crown or has a management order granted to a local government or other agency, this application must be signed by the relevant landowner or management body as required under section 72(5)(a) of the Act. If there are more than two landowners, please provide the additional information and signature(s) on a separate page.

Details of first landowner

Name

Position (if applicable)

Organisation (if applicable)

Contact person

Postal address

Town/Suburb State Postcode

I consent to this application being made.

First landowner signature Date

Details of second landowner (if applicable)

Name

Position (if applicable)

Organisation (if applicable)

Contact person

Postal address

Town/Suburb State Postcode

I consent to this application being made.

Second landowner signature Digitally signed by Glen McLeod-Thorpe
Date: 2024.01.19 16:43:36 +08'00' Date



3. Authorised agent details (if applicable)

The applicant must sign the form and tick the authorisation under item No. 1 to provide authority for an appointed authorised agent to act on their behalf.

Details of authorised agent

Name			
Position (if applicable)			
Company/agency (if applicable)			
ACN/ABN (if applicable)			
Postal address			
Town/Suburb		State	Postcode
Telephone	Work	Mobile	
Email			
Authorised Agent signature		Date	

4. Location of proposed development

Certificate of title information	Volume	LR3174 and LR3151	Folio	611 and 547
	Diagram/plan/deposit plan no.	DP418496 and DP47450		
Lot No.(s)	Lots 501 and 300			
Location	Dalkeith			
Reserve No.(s) (if applicable)	17391 and 48325			
Street No.(s) and name	Esplanade Road			
Town/Suburb	Dalkeith			
Nearest road intersection	Esplanade & Bessell Avenue			

5. Details of proposed development

Please provide a written description of the proposed development (refer to the Development Application Guidelines for further details on what information to include in this section).

Estimated cost of development	\$4.5 million
Current use of land	Perth Flying Squadron Yacht Club. Boat pens, storage and maintenance. Member based not-for-profit Sporting Club.
Proposed development	Design, landscape and implement an improved storm water drainage solution to the Club's on-land leased premises whilst separating industrial activities from social activities. Replacement of four end-of-life timber jetties (B, C, D & E jetties) with more environmentally friendly UV stabilised floating jetties. Details attached - PFSYC Development Plan 2023 Attachment 1 - On-land Development Plan Attachment 2 - On-water Development Plan



Form 1 – Application for Approval of Development
Swan and Canning Rivers Management Act 2006 – Part 5 – section 72(1)

8. Signatures

Signed by Applicant

Applicant signature		
Date	12/07/2023	
Print name and position (if signing on behalf of a company or agency)	Name	Glen Deublé
	Position	General Manager


Signed by Landowner/s (if the landowner is not the applicant)

I consent to this application being made.		
Landowner signature		
Landowner signature		
Date	25/7/2023	
Print name and position (if signing on behalf of a company or agency)	Name	Michael Cole
	Position	Director Corporate Services

Signed by Authorised Agent (if you are acting for the applicant)

I have attached a copy of the written authorisation for me to act on behalf of the applicant to this application.		
Authorised Agent signature		
Date		
Print name and position (if signing on behalf of a company or agency)	Name:	
	Position:	



Property details			
Lot No: 254	Unit No:	Street No:	
Street name: Esplanade		Suburb: Dalkeith	
Proposed development			
Nature of Proposed Development	<input checked="" type="checkbox"/> Works	<input type="checkbox"/> Use	<input type="checkbox"/> Works and Use
			<input type="checkbox"/> Extension of Time (Insert Duration)
Description of proposed works and/or land use: Resurfacing of hardstand			
Existing land use (if change of use proposed):			
Cost of development (excluding GST): \$ 500,000		Estimated time of completion: 12 MONTHS	
Applicant Details			
Name: Perth Flying Squadron Yacht Club			
Postal Address: PO Box 3181 Broadway, Nedlands, WA 6009			
Phone: 9386 6437			
Email: gm@pfsyc.com.au			
Method of correspondence:		<input checked="" type="checkbox"/> Electronically	<input type="checkbox"/> Paper Hardcopy
Contact person for correspondence: Glen Deublé			
Owner details (if different from applicant)			
Name: City of Nedlands		Name:	
Signature: 		Signature:	
Date: 25/7/2023		Date:	
Postal Address: PO BOX 9 NEDLANDS WA 6909			
Phone: 92733500			
Email: council@nedlands.wa.gov.au			
Contact person for correspondence: Michael Cole			
<i>This application will not proceed without the signature of all the landowners. For the purposes of signing this application an owner(s) includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).</i>			
<i>If the development application is required to be advertised, the advertising shall be conducted in accordance with the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 64(5) and the City's Local Planning Policy – Consultation of Planning Proposals with additional fees applicable as per the City of Nedlands fees and charges.</i>			
<i>Please note that the information and plans provided with this development application will be made available on the City's website if required to be advertised for comment</i>			
<i>Please note: In addition to the Development Application Form and Checklist, an electronic or hardcopy of all plans (to scale) are required to be submitted. For New Residential Houses and Commercial Buildings an electronic copy is required.</i>			
OFFICE USE ONLY			
Planning Fees	Date:	Amount: \$	
Reference	File No.:	Receipt No.:	



Perth Flying Squadron Yacht Club Inc.

Esplanade, Dalkeith 6009
Telephone: 08 9386 6437 Fax: 08 9389 8600



DEVELOPMENT PLAN

Due to the current flooding issues that the Club is experiencing, its ageing infrastructure and the increased awareness and focus on Work Health and Safety practices, the Club is committed to undertaking a complete redevelopment of the on-land and on-water infrastructure within its Leased Premises.

The framework of this Development Plan, with proposed scope of works, budget and timelines, is as follows:

➤ Stage 1

Design, landscape and implement an improved storm water drainage solution to the Club's on-land leased Premises whilst separating industrial activities from social activities.

Removal of all existing asphalt from 12,137m² of leased premises on the western side of the Clubhouse. This area is currently used for boat hardstanding and car parking. This area will then be regraded using road profiling supplied by the City of Nedlands and then covered with geofabric for surface stability and permeability.

Once complete the area will be covered using UV stabilised permeable pavers and then filled with gravel for load bearing capacity.

Permeable pavers are a simple new green technology that is easily actionable. The implementation of permeable pavers leads to less flooding, cleaner air and water, less heat, less thermal pollution, less waste in the landfill, fewer toxins from runoff pollutants as well as coal tar & asphalt. A more natural landscape.

The permeable paver system is designed to infiltrate storm water runoff instead of shedding it off the surface. It will reduce the amount of runoff by allowing water to pass through surfaces that would otherwise be impervious. The storm water passes through the load bearing surface and is stored in the gravel layer and allowed to infiltrate into the surrounding soil (functioning like an infiltration basin).

The permeable paver is 47.7mm high and filled with gravel leaving a 40% void space to allow for storm water storage. With an area of 12,137m² this equates to more than 230,000 litres of storm water being stored within the pavers allowing infiltration into the soil before natural overland runoff occurs.

However, in order to complete this step, the existing boats in this area will need to be relocated, which means additional area is required to relocate the boats in preparation for the works. To achieve this, all sheds and containers from the area on the northern side of the Clubhouse will



be removed and this area will be used for temporary boat storage until the works are complete.

Once complete, the sheds will be relocated to the very western end of the leased premises and a garrison fence will be installed from the western edge of the Clubhouse to the western edge of the existing pedestrian access gate. This will prevent the occurrence of any unsafe work practices and possible incidents by isolating the industrial (boating) activities from the social activities. The storage sheds, tractor and Bosuns will be relocated to the industrial area of the premises.

The area north of the Clubhouse will be asphalt car parking with the installation of rain gardens, landscaped gardens and twelve 1,800mm x 1,800mm soak wells which will store 54,960 litres of storm water before natural overland runoff occurs.

Construction and installation time proposed to be completed within 11 months of receiving development approval (3 months to complete the tender process; 8 months construction and installation).

Plans attached as Attachment 1.

Budget – \$567,000

➤ **Stage 2**

Replacement of four end-of-life Jetties;

Four of the Club's seven existing timber jetties are now at the end of their life and are costing more than \$100,00 each year in repairs and maintenance. They need to be replaced with more environmentally friendly jetties with less obtrusive and longer lasting infrastructure.

B, C, D & E Jetties are to be removed and replaced with UV stabilised floating jetties. All works are within the Club's existing Lease Area.

The environmental benefit of floating jetties is the vast reduction in piles required to secure the jetties, leading to less impact on the river and less ongoing repairs and maintenance.

All piles used will be steel piles, sleeved and capped to prevent corrosion. All designs are in accordance with AS 3962:2020.

Deconstruction of existing jetties and construction and installation time proposed to be completed within 24 months from the completion of Stage 1 (3 months to complete the tender process; 8 months deconstruction and 13 months installation).

Plans attached as Attachment 2.

Budget – \$3,960,000

The Club is committed to working closely, collaboratively and consultatively with the City of Nedlands and the Department of Biodiversity, Conservation and Attractions in order to provide significant Community benefit as a result of this Development Plan.



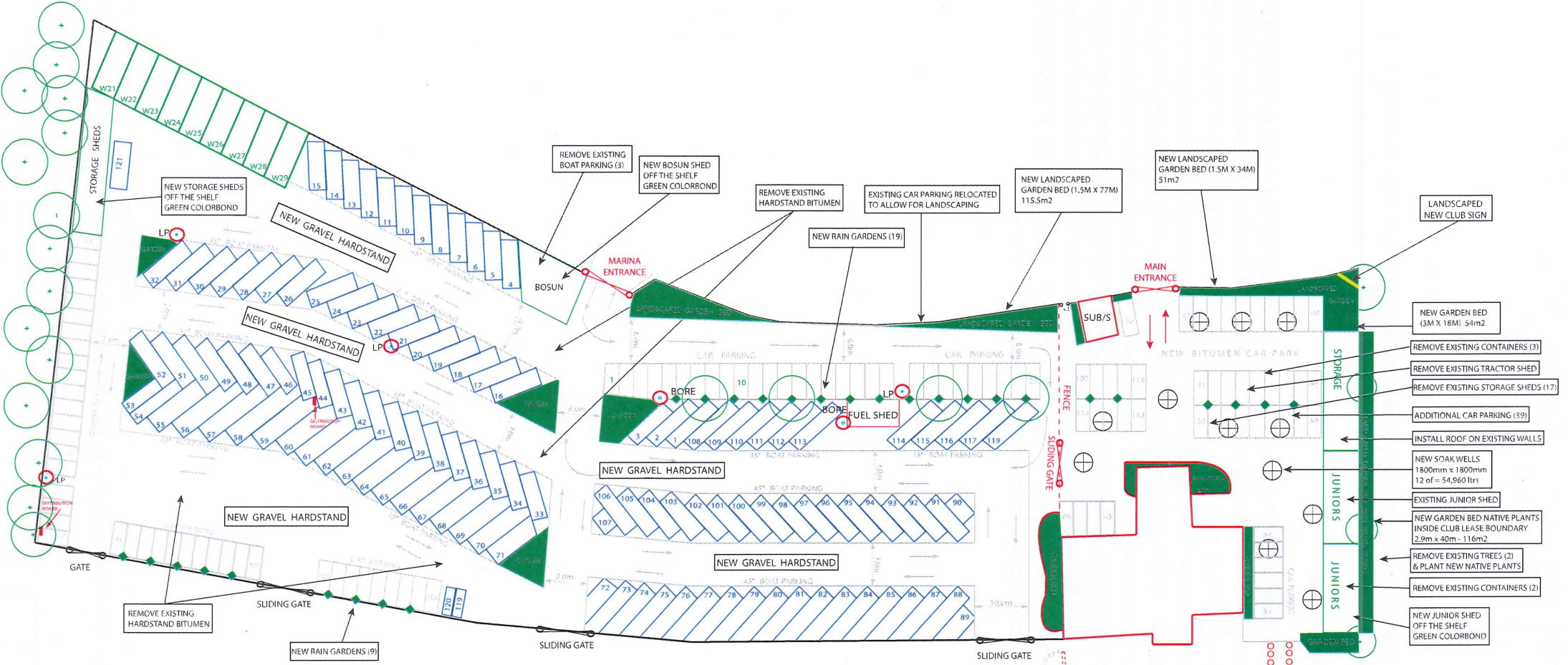
Moreover, the Club is committed to utilising state of the art design and environmentally friendly and sustainable products and equipment.

CONCLUSION

It is the intention of the Club to immediately commence the development (as stipulated in the Development Plan above) once the development approval has been received. Once the successful tenders have been selected, the successful companies will develop and submit all engineering plans, certified by a qualified and practising marine and/or civil engineer showing the design, structural and construction detail of all in-water and on-land structures for approval by the General Manager, Swan River Trust on advice from the City of Nedlands and Department of Transport. The successful companies will be bound by the relevant Australian Standards pre, during and post construction. They will also be bound by all conditions stipulated within the Development Approval.

LEASED PREMISES
1.5713ha

Constructed Impervious Surfaces
3,576m² x 15mm = 53,640l

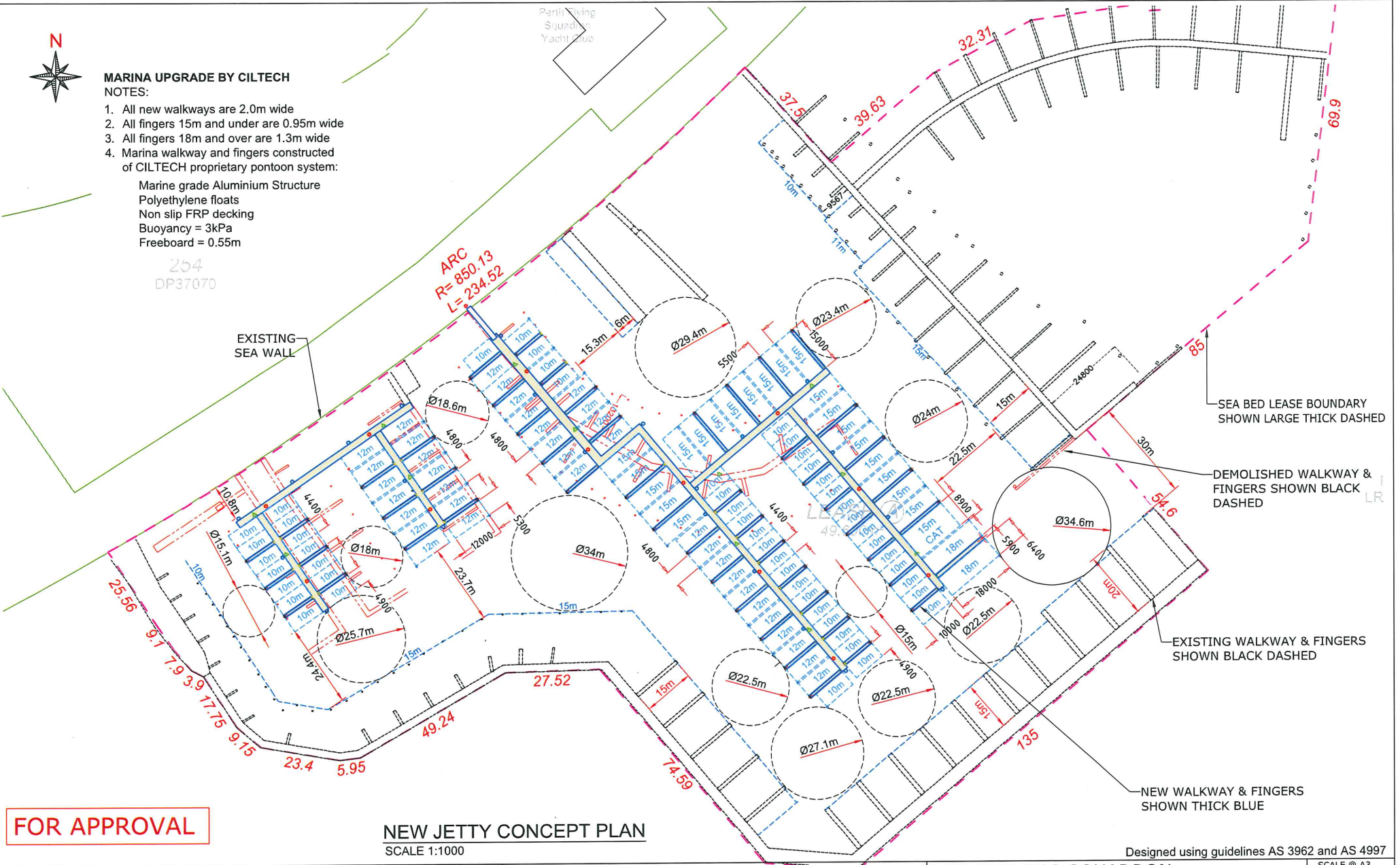




MARINA UPGRADE BY CILTECH
NOTES:

1. All new walkways are 2.0m wide
2. All fingers 15m and under are 0.95m wide
3. All fingers 18m and over are 1.3m wide
4. Marina walkway and fingers constructed of CILTECH proprietary pontoon system:
 Marine grade Aluminium Structure
 Polyethylene floats
 Non slip FRP decking
 Buoyancy = 3kPa
 Freeboard = 0.55m

254
DP37070



FOR APPROVAL

NEW JETTY CONCEPT PLAN
SCALE 1:1000

Designed using guidelines AS 3962 and AS 4997

DATE	APP.	REV.	DESCRIPTION
17/07/2024	D.G.	C	FOR APPROVAL

Ciltech
 Ciltech Pty Ltd
 26 Dellamarta Rd,
 Wangara WA 6065
 T: +61 433 749 479
 info@ciltech.com.au

www.ciltech.com.au

**PERTH FLYING SQUADRON
YACHT CLUB REDEVELOPMENT**

- FLOATING JETTY LAYOUT

Checked _____ Approved _____
 Signed _____ DATE: _____ DRAWING NUMBER: **GTS1895-01** SHEET: 1/1

SCALE @ A3 1:1000
All dimensions in m all levels in m
FORMAT A3
REVN: C

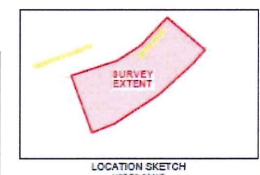


Perth Flying Squadron Yacht Club (Inc).

Esplanade, Dalkeith 6009
Telephone: 08 9386 6437



SYMBOL LEGEND	
[Symbol]	Control Point
[Symbol]	Boundary
[Symbol]	Water
[Symbol]	Vegetation
[Symbol]	Other



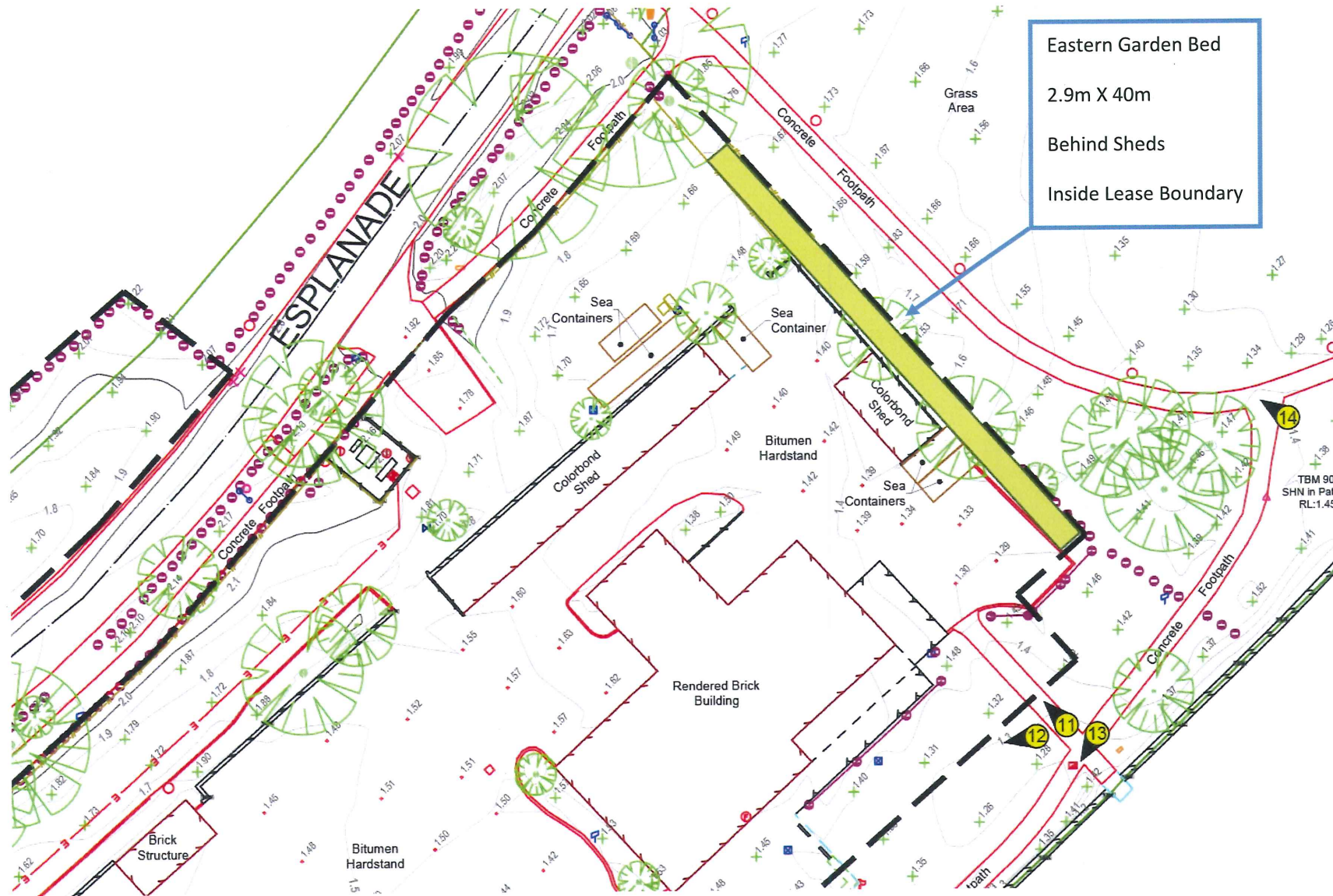
Scale @A1 1:500

NO.	DATE	BY	REVISIONS	REASON
1	12/12/2017	MSD	Issue for information	MSD/MSD/MSD/MSD/MSD

Notes:
1. Boundary plotted from Landgate 3028 digital data only.
2. True position of boundary is subject to a re-establishment survey.
3. Heights established from SSM MGRS via GPS connection.



JOB NO: 19137	TITLE: FEATURE SURVEY	DATUM: VERT: AHD	
PROJECT: PART LOT 501 ON DP418496 PERTH FLYING SQUADRON - YACHT CLUB ESPLANADE, DALKEITH, WA, 6009 LR3174-611		HORIZ: PCG94 SCALE: 1:500	
SURVEYOR(S): [DATE OF SURVEY: 07.02.2017] DRAWN BY: MSD APPROVED BY: NEW		DWG NO: 19137-F02 SHEET NO: 1 OF 1	REC: 1.0 A1



PLANTING PALETTE & SPECIFICATIONS

MASS PLANTING WITH ORGANIC MULCH

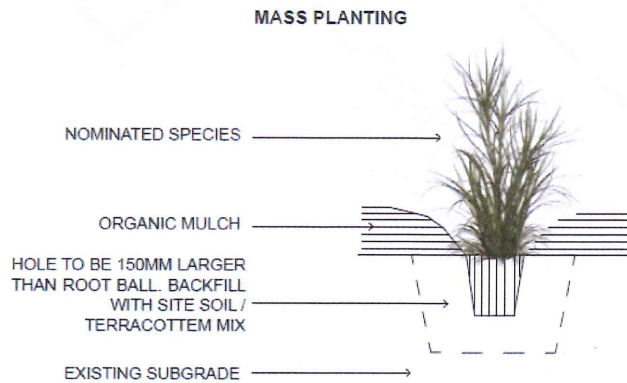
ALLOCASUARINA HUMILIS
 ANIGZANTHOS MANGLESII
 CONOSPERMUM TRIPLINERVIUM
 CONOSTYLIS ACULEATA
 EREMOPHILA GLABRA (Green form)
 FICINIA NODOSA
 HYPOCALYMYMA ROBUSTUM



MYOPORUM INSULARE
 OLEARIA AXILLARIS
 RHAGODIA BACCATA
 SCAEVOLA CRASSIFOLIA
 SPINIFEX LONGIFOLIUS
 KENNEDIA PROSTRATA
 LEPIDOSPERMA GLADIATUM



MASS PLANTING - TYPICAL DETAIL



FLYING SQUADRON YACHT CLUB – Planting per sqm

LANDSCAPING PLAN – Species numbers (mass planting areas)

RF CODE	SPECIES	QTY PER SQM	SIZE (H x W)
AHU	Allocasuarina humilis	1/sq m	1.5 -2m
ANA	Anigozanthos manglesii	2/sq m	1m H x 1.2m W
CAC	Conostylis aculeata	3/sq m	0.5m H x 0.5m W
CTR	Conospermum triplinervium	2/sq m	3-4m H x 1-2m W
EGL	Eremophila glabra (green)	3/sq m	0.3-1.5m H x 1-3m W
FNO	Ficinia nodosa	3/sq m	0.6-1.5m H x 0.6m W
HRO	Hypocalymma robustum	2/sq m	1.2m H x 1m W
KPR	Kennedia prostrata	3/sq m	0.1m H x 3m W
LGL	Lepidosperma gladiatum	2/sq m	1m H x 1m W
MIN	Myoporum insulare	2/sq m	3-5m H x 3-5m W
OAX	Olearia axillaris	2/sq m	1-2m H x 1-2m W
RDA	Rhagodia baccata	2/sq m	0.3-1.5m H X 2m W
SCR	Scaevola crassifolia	3/sq m	1.5m H x 1.5m W
SLO	Spinifex longifolius	3/sq m	0.3-1m H x 2m W



MRS Form 1 Application for Planning Approval

Owner/s details

Registered proprietor/s (landowner/s) or the authorised agent's details **must** be provided in this section. If there are more than two landowners please provide all relevant information on a separate page. Signature/s must be provided by all registered proprietors or by an authorised agent.

Alternatively, a letter of consent, which is signed by all registered proprietors or by the authorised agent, can be provided.

Full name **City of Nedlands**

Company/agency (if applicable)

ACN/ABN (if applicable)

Postal address **PO Box 9**

Town/suburb **NEDLANDS**

Postcode **6009**

Signature

Date **25/7/2023**

The landowner/s or authorised agent consents to the applicant submitting this application

Print name and position

(if signing on behalf of a company or agency)

Michael Cole, Director Corporate Services

Applicant details

Name/company

Perth Flying Squadron Yacht Club

Contact person

Glen Deublé

Postal address

PO Box 3181 Broadway

Town/suburb

Nedlands

Postcode **6009**

Phone

9386 6437

Email **gm@pfsyc.com.au**

Applicant signature

Print name and position

(if signing on behalf of a company or agency)

Glen Deublé - General Manager

Date **24/07/2023**

Property details

Certificate of title description of land:	Lot No 254	Location No Dalkeith
Plan or diagram 37070; "A" on 6 5818	Vol LR3131	Folio 762

Certificate of title description of land:	Lot No	Location No
Plan or diagram	Vol	Folio

Title encumbrances (e.g. easements, restrictive covenants)

Locality of development (house no., street name, suburb, etc)	Esplanade, Dalkeith
Nearest street intersection	Esplanade & Bessell Ave
Existing building/land use	Yacht Club
Description of proposed development and/or use	Resurfacing of hardstand for storm water drainage
Nature of any existing buildings and/or use	Clubhouse
Approximate cost of proposed development (excl. gst) \$	\$500,000
Estimated time of completion	12 months

Office use only

Acceptance officer's initials

Date received

Additional Information to be provided on the MRS Form 1

Is the development within a designated Bushfire Prone Area? Yes No

If 'yes', have bushfire hazard issues been identified and addressed (e.g. by providing a BAL Assessment(s) or BAL Contour Map and a Bushfire Management Plan with the application)? Yes No N/A

If NA is selected and the development is in a designated bushfire prone area then a short statement justifying why SPP 3.7 does not apply should be included.

Does your application require determination by a Development Assessment Panel? (DAP) Yes No

Please refer to the following website for DAP requirements: www.dplh.wa.gov.au/daps

If yes, please complete DAP Application Form as per DAP requirements.

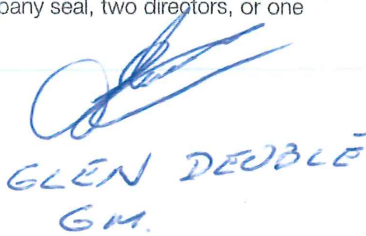
Checklist (supporting information)

Please complete the checklist below and ensure that all the relevant information is provided with the application.

1. Completed Metropolitan Region Scheme (MRS) Form 1
2. Plans at a scale not less than 1:500 (A3) showing:-
 - (i) the location of the site including street names, lot number(s), north point and the dimensions of the site;
 - (ii) the existing and proposed ground and floor levels over the whole of the land that is the subject of the application, including details of proposed cut and fill, and retaining walls;
 - (iii) the location, metric dimensions, materials, finishes and type of all existing and proposed structures, including services, on the land that is the subject of the application and all existing structures and vegetation proposed to be removed;
 - (iv) the existing and proposed use of the site, including proposed hours of operation and buildings to be erected on the site;
 - (v) the existing and proposed means of access and egress for pedestrians and vehicles to and from the site;
 - (vi) the location, number, dimensions and layout of all car parking spaces intended to be provided, including provision for the disabled;
 - (vii) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;
 - (viii) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop those areas;
 - (ix) the nature and extent of any open space and landscaping proposed for the site; and
 - (x) proposed external lighting and signage.
3. Plans, elevations and sections, as appropriate, of any building or structure proposed to be erected or altered and of any building or structure it is intended to retain;
4. Any specialist studies that the responsible authority may require the applicant to undertake in support of the application such as traffic, heritage, environmental, engineering or urban design studies;
5. Any management plans the responsible authority may require to support or implement the application; and
6. Any other plan or information that the responsible authority may require to enable the application to be determined. This may include scale models or information in digital formats.

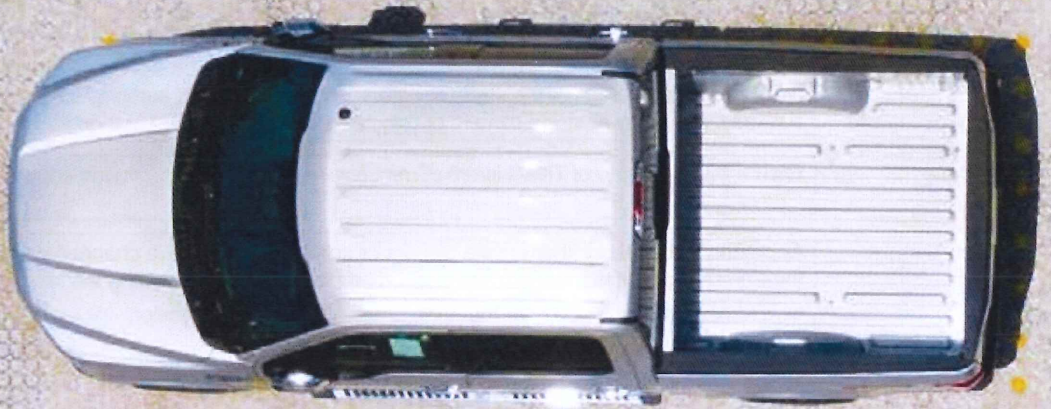
For additional information please refer to Development Control Policy 1.2
www.dplh.wa.gov.au/getmedia/37533b97-e0ad-4947-9d00-c4d62fa92746/DCP_1-2_general_principles

Development application checklist - lodgement requirements

<p>Application signatures</p>	<p>The MRS Form is to be signed by the registered proprietor/s as shown on the certificate/s of title. Where the landowner/s cannot sign, an authorised agent can sign and attach evidence of the authority. If the subject land is owned by a company, you must confirm whether it is a sole proprietorship company and state the full name/s and position/s of the company signatory/ies. Appropriate company signatory/ies include one director and the company seal, two directors, or one director and one secretary.</p> <p>Eg: _____ John F. Smith - Director Smith Pty Ltd</p> <p>_____ Peter S James - Director Smith Pty Ltd</p> <p>Or _____ John F. Smith - Sole Director Smith Pty Ltd</p> <p>If the subject land is owned by a strata company, consent can be signed by the strata company secretary or by an elected person of the strata company providing proof of authority either by letter of delegated authority, signed by all strata owners or minutes showing delegated authority.</p> 
<p>Certificate of Title</p>	<p>Ensure the Certificate of Title/s is/are current (within 6 months) and provide copy/s.</p>
<p>Change of name</p>	<p>Applications made by either private owners or companies who have changed names to that depicted on the Certificate of Title, must provide supporting documentation showing the change of name such as:</p> <ul style="list-style-type: none"> • a transfer of land document that incorporates a lodgement receipt, • a company search from the Australian Securities and Investment Commission, • a marriage certificate or • a change of name certificate.
<p>Contacts</p>	<p>A contact name, phone and email address is essential, in the event more information is required and for issuing correspondence relating to the Department's decision.</p>
<p>Contracts of sale</p>	<p>Where the land is subject to a contract of sale or offer and acceptance, evidence of landowner's consent must be provided. Relevant evidence may include;</p> <ul style="list-style-type: none"> • an express provision of consent by the vendor on the contract of sale or offer and acceptance, • a letter of consent from the registered proprietor/s giving prospective purchaser/s consent to lodge the application or • a copy of the transfer of land document that incorporates a lodgement receipt.
<p>Crown land</p>	<p>Where the land is registered in the name of the Crown, the application form must be signed by an authorised officer of the Department of Lands, stating the name and position. Alternatively, a letter of consent from the authorised Crown land officer.</p>
<p>Deceased estates</p>	<p>Where the land is registered in joint tenants, a copy of the death certificate of the deceased landowner must be provided. Where the land is registered in tenants in common, a copy of the grant of probate or endorsed enduring power of attorney must be provided.</p>
<p>Designated Bushfire Prone Area</p>	<p>If the proposed development is located within a Bushfire Prone Area according to the Map of Bush Fire Prone Areas, then bushfire hazard issues should be identified and addressed (e.g. by providing a BAL assessment(s) or BAL Contour Map and a Bushfire Management Plan with the application). If NA is selected and the development is in a designated bushfire prone area then a short statement justifying why SPP 3.7 does not apply should be included.</p>
<p>Emailed documents</p>	<p>Emailed applications or documents are acceptable, however the application must be signed by the registered proprietor/s.</p>
<p>Government agencies</p>	<p>Where the land is registered in the name of a government authority, the application form must be signed by an authorised officer of the relevant authority, stating the name and position of the signatory/s. Alternatively, a letter of consent signed by an authorised officer.</p>

TRUEGRID[®]

True to your project. True to the environment.



World's Strongest Permeable Pavers

TRUEGRIDPAVER.COM.AU

1 300 796 018

US Patent #8,734,049 | US and Foreign
Patents Pending

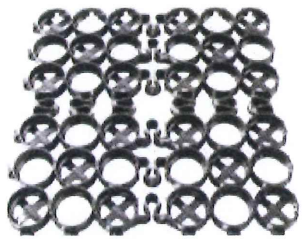


DRIVEN BY PURPOSE...

We have a clarity of purpose for our business: to challenge conventional thinking and disrupt traditional paving methods; to ultimately create a better, cleaner, less toxic environment for our kids.

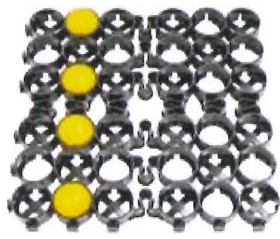
By offering a simple new technology that is easily actionable, together we can make an impact now. Less flooding. Cleaner air and water. Less heat. Less thermal pollution. Less waste in the landfill. Fewer toxins from runoff pollutants as well coal tar & asphalt. A more natural landscape.

PRO LITE



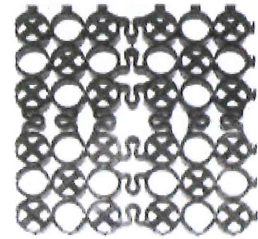
The Residential
Paver

PRO PLUS®



The Commercial
Paver

ROOT™



The Grass
Paver



DESIGN FEATURES



The robust cells allow our 1 kg grid to handle over 1 million kgs per sq metre load! No gravel migration, compaction or dust. **100% permeability.** The grid can be pressed together by hand, no tools, no clips. With the integral X-anchors, no staking is needed. A bottom flange prevents sinking. Other systems are either too flexible & weak & can't handle trucks or traffic; or too rigid because soils move and paving cracks! The S-Flex Joints solve these problems giving our grid the best of both. A versatile design for any climate or soil or weight or traffic load.

U.S. Patent No. 8,734,049

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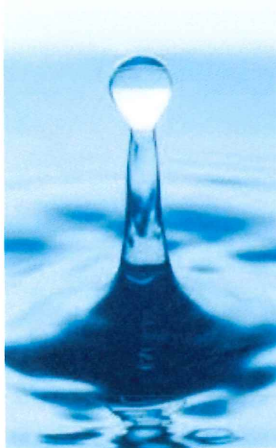


GRAVEL FILL



GRASS FILL

INTRODUCTION TO THE TRUEGRID SYSTEM

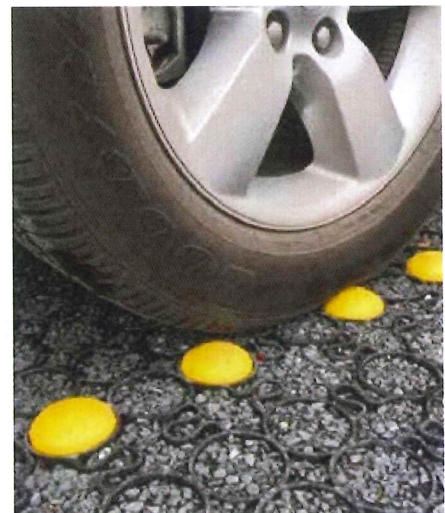


In urban watersheds, almost all of the impervious surface area is represented by building rooftops and paved surfaces. In residential areas most of the paved area is represented by the roadway system and residential driveways. Parking lots and paved industrial storage areas represent an even larger portion of the impervious surface in commercial and industrial areas. Impervious pavements can produce two-thirds of the excess runoff in an urban catchment. Runoff from impervious pavements contributes a substantial loading of hydrocarbons and heavy metal pollutants, and contributes greatly to the increased temperature of surface runoff. In most urban jurisdictions, a paved roadway system with a traditional curb and gutter configuration provides a key component of the overall urban drainage system. Surface flow from adjoining tributary watersheds is conveyed directly into catch basin inlets and connected piping systems. In these traditional impervious paved systems, the runoff coefficient (runoff volume) is increased and the time of concentration is decreased resulting in increased peak rates of runoff. TRUEGRID provides a highly permeable stabilized surfaces that can be used for the movement and parking of vehicles (automobiles, trucks, construction equipment, aircraft, etc.) and storage of materials and equipment.

Drive on the surface, drain & detain stormwater below.

Compared to conventional pavement, the TRUEGRID system is designed to infiltrate storm water runoff instead of shedding it off the surface. TRUEGRID will reduce the amount of runoff by allowing water to pass through surfaces that would otherwise be impervious. The storm water passes through the load bearing surface and aggregate sub base that are selected based upon the intended application and required infiltration rate. Runoff is stored in the stone aggregate sub base course / storage layer, and allowed to infiltrate into the surrounding soil (functioning like an infiltration basin).

A TRUEGRID surface has very high initial surface infiltration rates and can immediately infiltrate and store rainfall and runoff from high intensity rainstorms. In many cases, direct runoff is completely eliminated. The surface infiltration rates for TRUEGRID will in most cases exceed 20,320 mm/hour.



Compared to conventional pavement, the TRUEGRID system is designed to infiltrate storm water runoff instead of shedding it off the surface. TRUEGRID will reduce the amount of runoff by allowing water to pass through surfaces that would otherwise be impervious. The storm water passes through the load bearing surface and aggregate sub base that are selected based upon the intended application and required infiltration rate. Runoff is stored in the stone aggregate sub base course / storage layer, and allowed to infiltrate into the surrounding soil (functioning like an infiltration basin).

SUB-BASE CONSIDERATIONS FOR STORM WATER DETENTION

Crushed aggregate meeting ASTM No. 57 is commonly used for open-graded sub bases along with ASTM No. 2 to No. 4. These materials are widely available and they are recommended for most TRUEGRID Permeable Paver applications. These materials will have a nominal porosity (volume of voids/total volume of base) over 0.32 and a storage capacity in the void space (volume of voids/volume of aggregate) approaching 40%. A 40% void space provides 0.4 cubic feet of storage capacity for each cubic foot of aggregate (the volume of the base will need to be 2.5 times the volume of water to be stored).

Sub-Base for Grass Infill Installations. Should be a 19mm minus, sandy gravel road base. Although reducing the stormwater storage capacity to around 20%, this base will grow grass, support heavy loads, and drain.

CHART A: PERMEABLE BASE

AASHTO #57 PERMEABLE SUB-BASE MATERIAL DEFINED AS:

SIEVE SIZE		PERCENT PASSING	
MM	IN	#57	TYPICAL
37.5	1½	100	100
25	1	95 - 100	97
19	¾		75
12.5	½	26 - 60	45
9.5	¾		25
4.75	#4	0 - 10	5
2.36	#8	0 - 5	2

ENDLESS GRAVEL FILL OPTIONS



THE VALUE TO THE TRUEGRID SYSTEM

Runoff volume reduction/elimination is achieved when TRUEGRID is placed over in situ soils and a defined volume of the water passing through the pavement is infiltrated into the angular stone base and soil subgrade below.

Peak runoff rate reduction is achieved when the volume of water passing through the TRUEGRID surface is "detained" for a defined period of time within the pavement cross-section and the open graded aggregate sub base beneath the pavement. The effective infiltration rate for the watershed is increased by trapping the water in the permeable surfaces and effectively increasing the time of concentration in the catchment area.

Pollutant removal. Infiltration of storm water runoff through the pavement surface will provide a degree of suspended solids removal followed by additional removal of colloidal solids and soluble pollutants in the aggregate sub base and sub soils. Sorption of metals to colloidal solids and within the pavement void matrix is another removal function. Soluble organic pollutants adsorbed within the pavement void matrix and the open graded aggregate sub base will be exposed to biodegradation over time.

TYPICAL POLLUTANT REMOVAL (%)

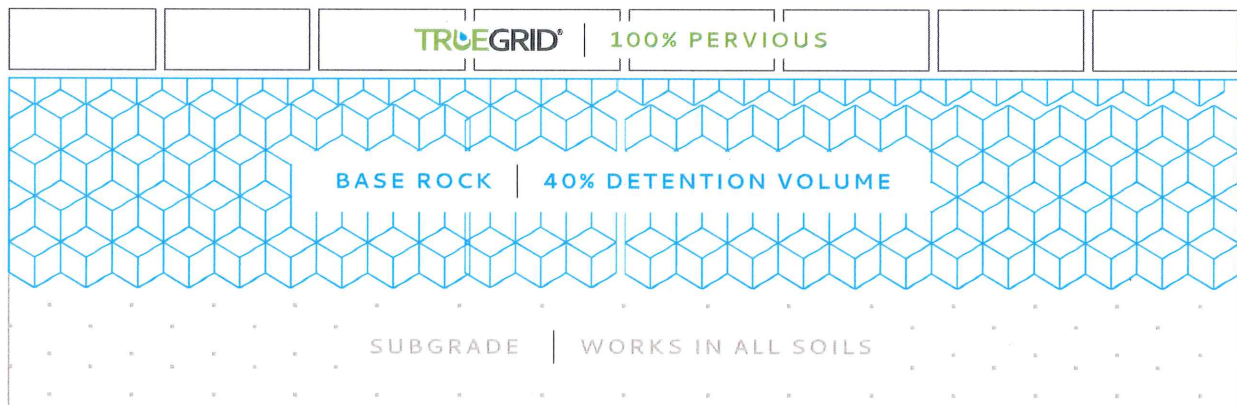
BMP TYPE	SUSPENDED SOLIDS	NITROGEN	PHOSPHOROUS	PATHOGENS	METALS
TRUEGRID	65 - 100	65 - 100	30 - 65	65 - 100	65 - 100
Dry Retention Basins	30 - 65	15 - 45	15 - 45	< 30	15 - 45
Retention Basins	50 - 80	30 - 65	30 - 65	< 30	50 - 80
Constructed Wetlands	50 - 80	< 30	15 - 45	< 30	50 - 80
Infiltration Basins	50 - 80	50 - 80	50 - 80	65 - 100	50 - 80
Infiltration Trenches / Dry Wells	50 - 80	50 - 80	15 - 45	65 - 100	50 - 80
Grassed Swales	30 - 65	15 - 45	15 - 45	< 30	15 - 45
Vegetated Filter Strips	50 - 80	50 - 80	50 - 80	< 30	30 - 65
Surface Sand Filters	50 - 80	< 30	50 - 80	< 30	50 - 80

Reduces Heat Island Effect. Heat Island Effect occurs in areas such as a city and industrial sites that have consistently higher temperatures than surrounding areas because of greater retention of heat. This retention of heat is due to buildings, concrete, and asphalt. Using TRUEGRID in these "hot spot" areas for pathways, parking lots, driveways, roofs...etc., reduces the absorbability of solar rays and thus helps steady and cool the natural environment.

High load bearing capacity. TRUEGRID is designed with the highest load capacities of any grid system and can withstand significant structural loads. TRUEGRID provides a stable and continuous load-bearing surface throughout parking areas.

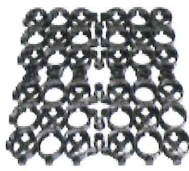
COMPETITION COMPARISON

SPECIFICATION	TRUEGRID	ROLL-OUT PLASTIC PAVERS	CONCRETE PAVERS
Strength (filled)	9510 psi	5730 psi	5000
Flexural Strength	High	None (rolled paver)	High
Weight (kg/m2) Tensile	6.44	2.05	180.65
Strength	1294 kgs	208lbs	NA
Fill rock size	Up to 25 mm	Up to 9.5 mm	NA
Staking	Not Required	Required	NA
Installation	100 sq mt/hr	NA	Slow
Recycled content	100% post consumer	100%	0
Porosity	90%	90%	37%
Wall thickness	6.4 mm	2.6 mm	NA
Paver depth	45.7 mm	25.4 mm	50 mm
Cell Size (ID)	81.3 mm	54.6 mm	NA
Flexibility	Rigid w/ Flex joints	Flexible	Rigid
Adjoining cell walls	Yes	No	No
Flex joints	Yes	No	No
Joint type	Tab	Snap	None
Shear Transfer Strength	High	Low	None



SUSTAINABILITY

TRUEGRID Permeable Pavers are designed to provide design professionals with an alternative to concrete and asphalt and other impervious surfaces. Similar systems have been used in Europe for over 40 years and have been highly effective and accepted as a better alternative to impervious surfaces. TRUEGRID improved upon this concept and developed a stronger, more durable, USA made version that can handle any load and rigors concrete can handle....while being 100% permeable.



Made from 100% post-consumer recycled HDPE.

100% Permeable.

Impact Scorecard

MEASURE THE DIFFERENCE



14,000 SQ MT
600 Car Lot

CO2 AVOIDED

877

TONNES



PLASTIC RECYCLED

92,000

KG



STORMWATER DETAINED

1,133

m³



Sustainability Credit Opportunities

With **TRUEGRID**



STORMWATER
MANAGEMENT



RECYCLED
CONTENT



INNOVATION
& DESIGN



MATERIALS
& RESOURCES

Tons of CO2 emissions from the manufacturing of cement are Avoided. Thousands of Kg of plastic are kept out of landfill and recycled from a consumable to a 40+ year life cycle useful product. Detention is added and flooding from stormwater is reduced. Coal tar & asphalt toxins are eliminated.

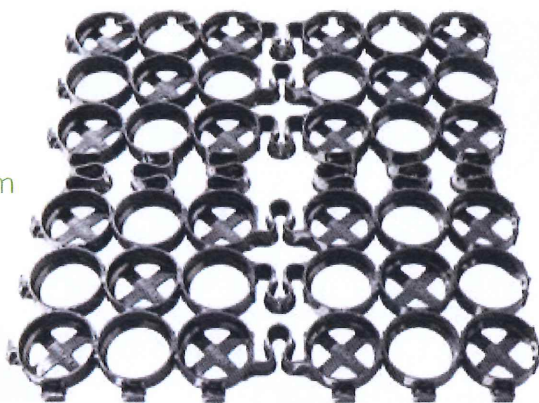
TRUEGRID has kept more than **200,000 KG** of plastic out of landfills ...so far

PRODUCTS

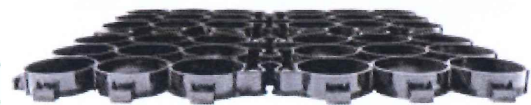
TRUEGRID® PRO LITE

THE RESIDENTIAL PAVER

601 mm



25.4 mm



- Superior Patented Design
- Excellent Compression Strength. Best-in-class.
- Low traffic applications
- H20, HS20 Rated

SPECIFICATIONS:

- Dimensions: 601 mm x 601 mm x 25.4 mm (0.36 m²)
- Pre-Assembled: 1.44 m² sheet of 4 grids
- Compression Strength: 6200 psi filled.
- Permeability: 100%
- Material: 100% Post-Consumer Recycled HDPE
- Color: Black with UV Stabilizer (Other Colors Available)

MORE:

- No Staking or Clips
- Works in All Climates & Soils
- May be Saw Cut
- Grass or Gravel Fill
- High Heel Friendly



SUPERSPOT® AVAILABLE

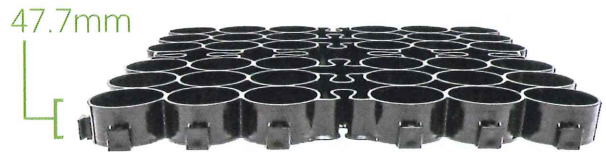
APPLICATIONS:

- Driveways
- Parking lots
- Event Parking
- Firelanes
- Grass Overflow Parking
- Community Green-Space
- Golf Cart Paths
- Walk/Bike Trails
- Pathways

PRODUCTS

TRUEGRID® PRO PLUS

THE COMMERCIAL PAVER



- Works with SuperSpot® Parking Markers
- Superior Patented Design
- Engineered for Heavy Loads & Heavy Traffic
- Industry-Best Strength.
- Industrial or Commercial Applications
- Rated 20 Tonne per axle



SUPERSPOT® AVAILABLE

COMMERCIAL APPLICATIONS:

- Parking Lots
- Equipment & Truck Yards
- Storage Yards
- Construction Sites
- Event Parking
- Emergency Access for Easements
- Distribution centres

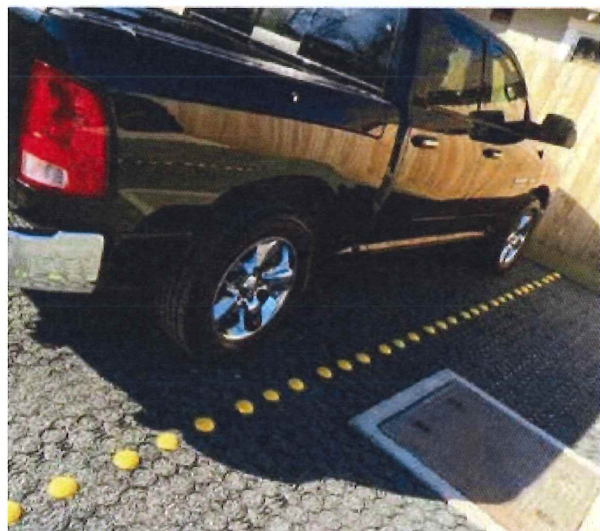
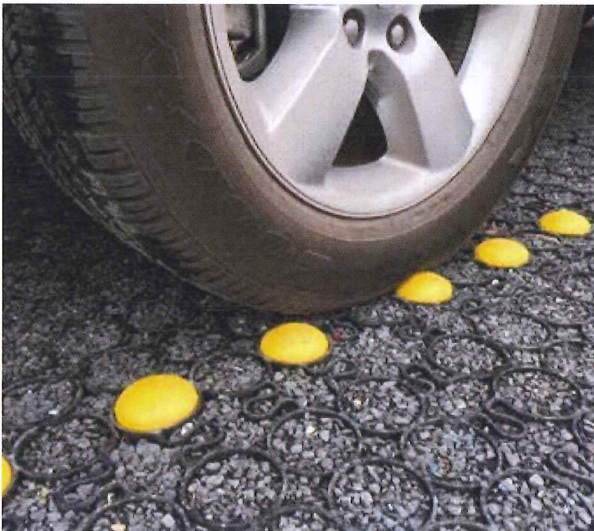
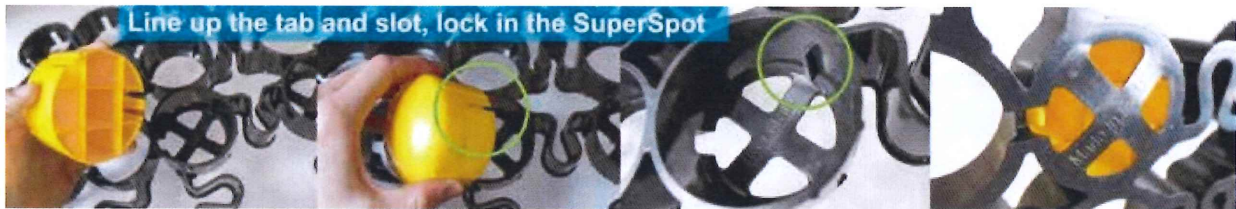
SPECIFICATIONS:

- Dimensions: 601x 601 x 45.7 (0.36 m²)
- Pre-Assembled: 1.44 m² sheet of 4 grids
- Compression Strength: 9510 psi filled.
- Permeability: 100%
- Material: 100% Post-Consumer Recycled HDPE
- Color: Black with UV Stabilizer

MORE:

- No Staking or Clips
- Works in All Climates & Soils
- May be Saw Cut





SuperSpot® for TRUEGRID PRO PLUS

- Maintenance-Free Parking Markers
- Delineate Parking for Max Efficiency
- Create Arrows & Traffic Flow Markers
- High Visibility Profile
- Heavy Loads, Heavy Traffic
- Easy Snap-Lock Installation
- Never Line Mark Again

SPECIFICATIONS:

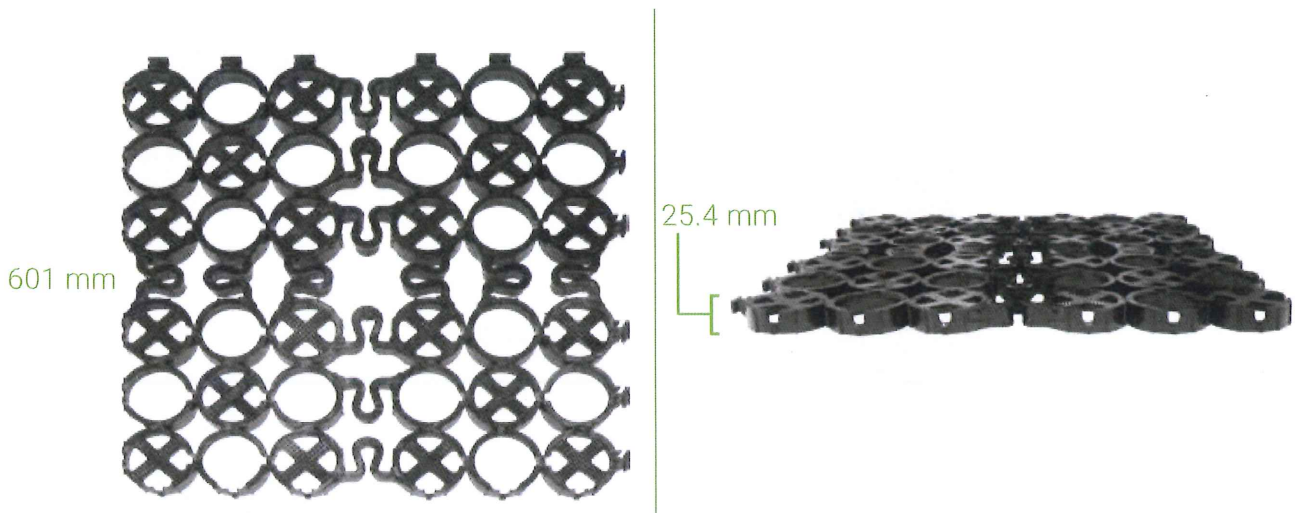
- Support Ribs for Strength
- 22.86 mm Domed Profile
- UV Stabilized

PRODUCTS

TRUEGRID® ROOT™

 NEW PRODUCT

THE GRASS PAVER



- Advanced Patented Design
- Protects Grass from Rutting
- Fast, Easy Installation
- Usually Costs Less than Asphalt

SPECIFICATIONS:

- Dimensions: 601 mm x 601 mm x 25.4 mm (0.36 m²)
- Pre-Assembled: 1.44 m² sheet of 4 grids
- Strength: Holds up to 4,536 kg GW
- Permeability: 100%
- Material: 100% Post-Consumer Recycled HDPE
- Color: Black with UV Stabilizer (Other Colors Available)

MORE:

- Only Available Immediate Heavy Load Grass System
- Stabilized Grass Drains. No Runoff.
- 100% Recycled Plastic
- Little or No Maintenance
- 40+ Year Lifespan

APPLICATIONS:

- Grass Parking for Cars & Trucks
- Festival Site Protection
- Light Aircraft Runways & Taxiways
- Event Centers
- Paths & Trails
- Slope & Scour Protection
- RV & Boat Storage & Access
- Showground Turf Support

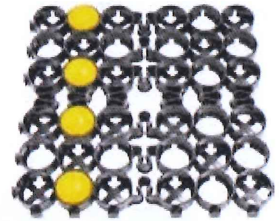


ACCESSORIES

SUPERSPOTS®

MAINTENANCE-FREE PARKING DELINEATORS

Delineate your parking spots with easy-to-pop-in SuperSpot parking markers. No-restriping. Long-term UV resistance. Multiple color options for standard parking, fire lanes, handicapped designated spaces. Highly visible.



PRO PLUS



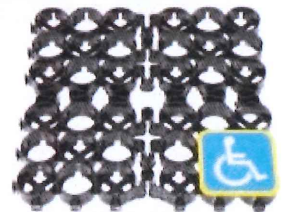
PRO LITE



The Plate™

EASY-TO-USE PARKING SPOT IDENTIFIER FOR PRO PLUS

Identify your spaces with easy-to-pop-in PLATE markers. Long-term UV resistance. Multiple color options for standard signs. Highly visible. *Patent Pending*



7.5"



ARCHITECTS



“Man is a phase of nature, and only as he is related to nature does he matter, does he have any account whatever above the dust.”

Frank Lloyd Wright

Endless Gravel Fill Options:



- Beauty
- Performance
- Sustainability

Achieve harmony & balance development with nature. Gain space for inspired functionality & green, creative livability. Retain & reuse stormwater onsite. Natural, upscale aesthetic. Design with TRUEGRID.

DEVELOPERS



- 100% Land Utilization
- Durable & Pervious Cover
- Dollars

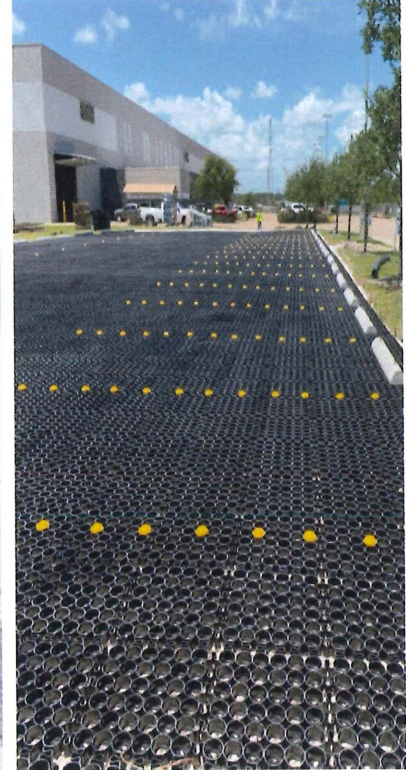
Save land & eliminate or reduce detention ponds. Drive on surface with detention under your parking lot. Low maintenance 40+ year lifespan. Heavy traffic, heavy loads. TRUEGRID counts as 100% pervious cover. Construction costs up to 30% less than concrete. Sustainable, upscale natural aesthetic. Build with TRUEGRID.



“Buy land, they’re not making it anymore.”

Mark Twain

ENGINEERS



- Detention
 - Durability
 - Dollars
-

“Some people don’t like change, but you need to embrace change if the alternative is disaster.”

Elon Musk

Control flooding and manage stormwater. Best-in-class, engineered strength, structure & soil stabilization with TRUEGRID. Heavy traffic, heavy loads. H20, HS20 rated. 25+ year life. Save on construction costs (up to 50%) and land. Specify TRUEGRID.

CITY WSUD OPTIONS



- Stormwater Management
- Urban Heat Island (UHI) Reduction
- Functional Green-Space

Reduce flooding and manage stormwater with TRUEGRID. Added detention volume. 100% pervious cover. Improved water quality & more parking. Cooler than asphalt or concrete. No gravel migration.

1. Stormwater Detention Underneath



UNDERPASS PROJECT

2. Drive on Durable Surface



CONTRACTORS



- Advantageous Price & Service Differentiator
 - Easy-to-Install
-

Gain a cost and speed advantage over conventional paving. Differentiate from competitors as a preferred TRUEGRID installer with a pervious, less expensive paving system. Pave the way to a sustainable future with TRUEGRID.

1. Grade the site



2. Lay, compact base



3. Drop the grid



4. Fill the grid



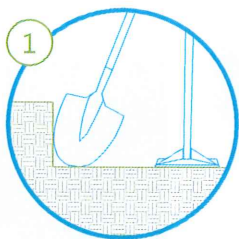
HORSE, LIVESTOCK, & FARM



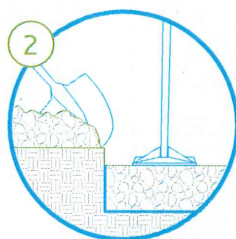
- Stops Mud in Paddocks. Maintenance-Free.
- Thrush-Free Healthy Hooves.
- No Standing Water. Drains Instantly.

TRUEGRID PRO PLUS® for Equine, Farm, & Livestock use offers an advanced patented design. Strong for heavy loads. Clydesdales to John Deere. Patented S-flex joints allow "crowning" of paddock surface for instant water draining. Stops digging. No ruts, mud or dust. Drains instantly. No standing water. Keeps area level or crowned as desired. Urine drains, reducing odor. Keeps bedding dry. No bacteria buildup. Supports heavy equipment loads & traffic.

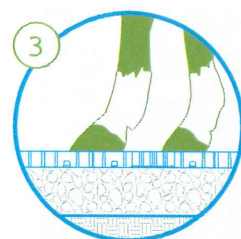
- 1.** Scrape back, level, compact the area.



- 2.** Lay filter fabric and ¾" minus base rock.



- 3.** Lay PRO PLUS grid. Fill with soil.



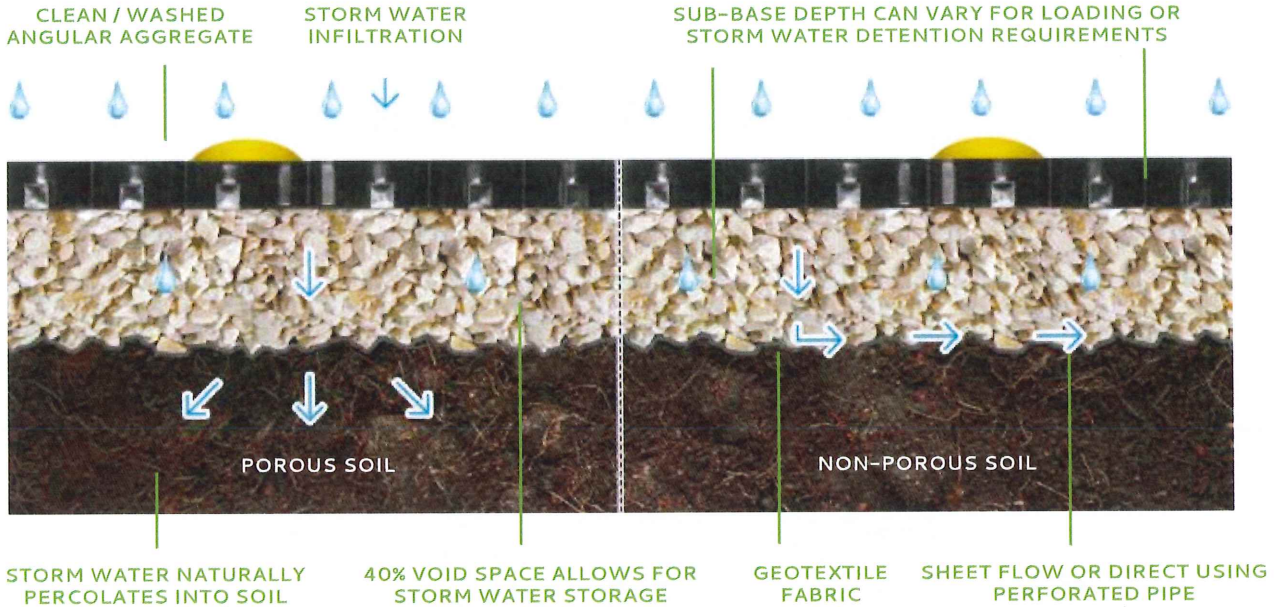
WORKS IN ALL CLIMATES AND SOILS

STORM WATER DETENTION

 100% PVIOUS COVER

 20+ METRES/HOUR INFILTRATION RATE

 0.0 - 0.05 RUNOFF COEFFICIENT



HOW TO CALCULATE STORM WATER DETENTION CAPACITY

Detention Capacity = TRUEGRID Area (A) x Total Aggregate Depth (d) x 40% Void Space = A x d x 0.40

WHERE:

d = Depth of Sub-base + TRUEGRID Height

EXAMPLE:

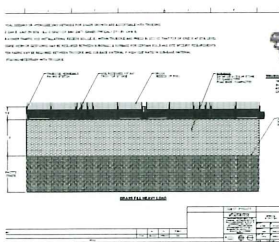
1 Acre Lot, TRUEGRID PRO PLUS, 200 mm Sub Base Fill & Sub Base - 3/4" Clean/Washed Angular Stone
 Detention Capacity = A x d x 0.40

WHERE:

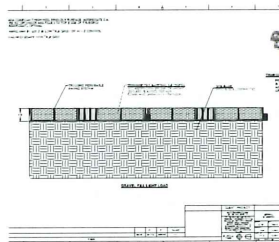
A = 1 Acre = 2000 m²
 d = 200 mm + 45.7 mm = 0.246 m
 Detention Capacity = 2000 x 0.2457 x 0.4 = 197 m³

Go to TECHNICAL INFO on TRUEGRIDpaver.com.au for typicals. Call for site specific questions: 1 300 796 018

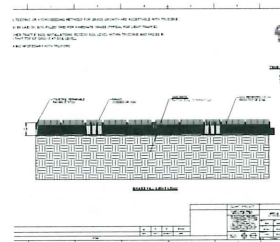
1. Grass Fill Heavy Load



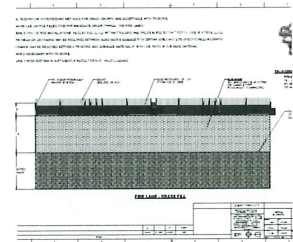
2. Gravel Fill Light Load



3. Grass Fill Light Load



4. Fire Lane

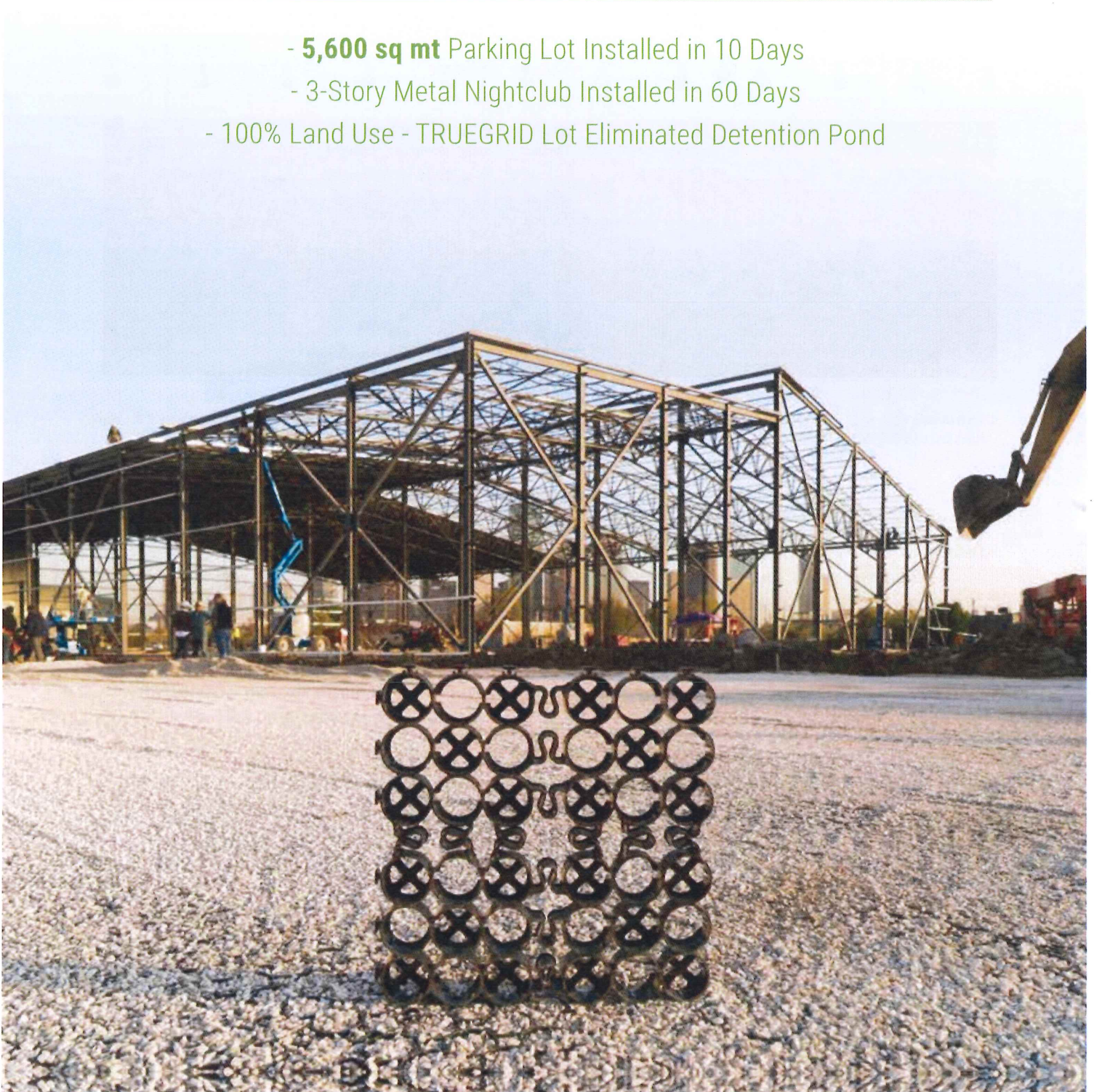




PROJECTS

SUPERBOWL LI® – CLUB NOMADIC® POP-UP NIGHT CLUB

- **5,600 sq mt** Parking Lot Installed in 10 Days
- 3-Story Metal Nightclub Installed in 60 Days
- 100% Land Use - TRUEGRID Lot Eliminated Detention Pond



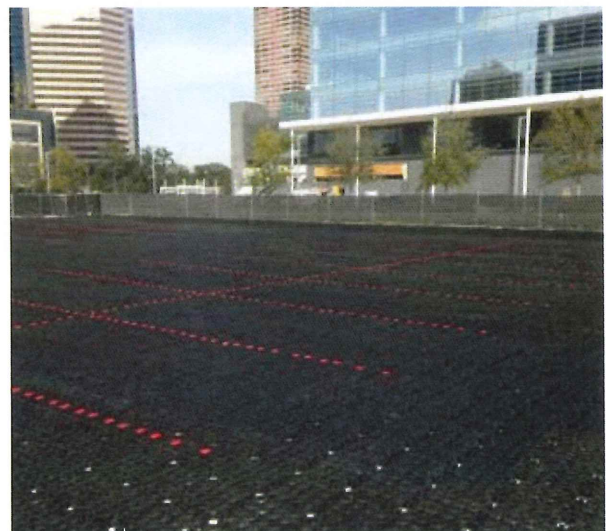
PROJECTS



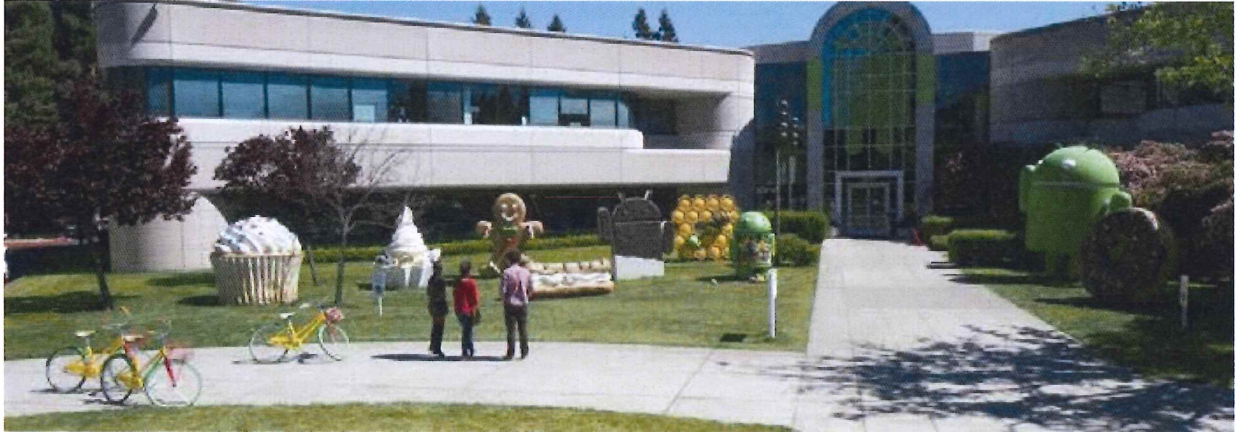
Whole Foods Market®

"Great product. Went in quick. Our ADA compliant lot was down in time for the holidays."

John Fox (Construction Supervisor)



PROJECTS



Google®

FACT

TRUEGRID was tested and chosen over all other paving options by site engineers for Google at the Mountain View campus. Sustainable, durable and 100% permeable.



Pocono Raceway®—NASCAR®

“The new installed walkways were a huge success with our fans. The ease of installation and maintenance... we intend to once again use TRUEGRID Pavers throughout. It’s a great product and fits in with our sustainability efforts.”

Brandon Igdalsky – CEO

PROJECTS



Fire Lane

"We've completed all the tests. As far as supporting the truck as a driving material, we didn't have any issues there. When we set the outriggers up, in a normal operation with the pads underneath the outrigger, we were able to take the truck to its extreme test with all the weight all on one side. So that test was a success. We then took the outriggers without the pads and to increase the concentrated load on the system. It even supported those."

Fire Chief McCaskill



Self-Storage

"We got pervious cover credit for our entire lot and eliminated the entire 2.5 acre detention pond."

Hank Daughtry - New Braunfels Self Storage

PROJECTS



U.S. Military

"They spec TRUEGRID because of the its eco-friendliness as well as strength to handle anything."

Chris Smith- Gilmore Environmental Consulting



Industrial

"Our trucks and equipment don't get stuck anymore when it rains. The grid keeps us working."

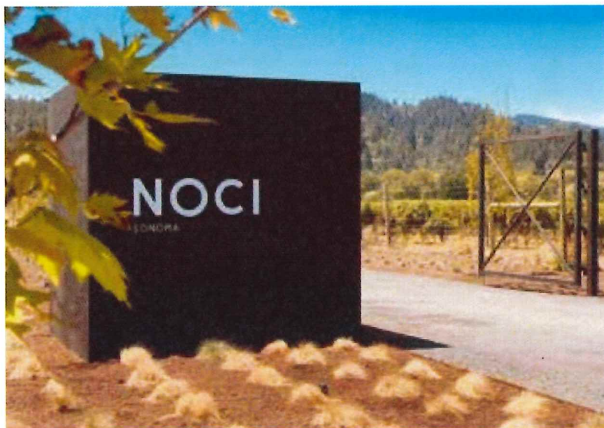
David Bourgeois – (Purchasing Manager) Petrochem

PROJECTS



ROCKSTAR Energy Bike Park

The North Houston ROCKSTAR Energy Bike Park is the Largest BMX bike park in North America. 150K sf of PRO PLUS were spec'd and installed for 100% pervious cover, stormwater detention and the natural aesthetic that compliments the park.



NOCI Sonoma Edible Garden

TRUEGRID works in harmony with nature on a beautiful California site to blend seamlessly while allowing the site to meet stormwater management code requirements. TRUEGRID was used on the roadways, work areas, pathways and patios.

PROJECTS



Snowplowing - Cold Climate Use

FACT

Snow melts faster on TRUEGRID and there is less ice buildup. TRUEGRID can be easily plowed, snow-blown or shoveled.



Wellington Aero Park

This aero club community stabilized their grass taxiways and perpendiculars to keep flying in all seasons and weather conditions. A better solution than asphalt, the grass-filled TRUEGRID looks naturally beautiful while supporting plane traffic.

TRUEGRID® CASE STUDY PARKING LOT EXPANSION

AutoNation® car dealership increases inventory lot space while saving almost half a million dollars.

PROBLEM:

Design a solution that will allow AutoNation to expand its current car inventory lot without spending more money on land.

CHALLENGES:

High cost for concrete, detention pond and drainage system cost, maximize land utilization for space challenged dealership, stormwater detention requirements for site for flood prone areas.

SOLUTION:

100 extra spaces is a grand slam to the dealership. The entire detention pond was eliminated with the 100% pervious TRUEGRID system and by transferring all of the required stormwater detention volume into the base and the gravel filled grid. Rain infiltrates the surface at over 20 mtrs/hr and there is no runoff. SuperSpot parking markers were used instead of striping paint for maintenance free striping.

TRUEGRID® VS. CONCRETE

- Land Savings: 2320 sq mt.
- Construction Cost Savings: \$480k
- Elimination of separate detention pond
- 100% Pervious Cover Credit
- 100% Land Utilization
- Zero Stormwater Runoff
- 100 extra parking spaces gained on the 500 space lot



ESTIMATED SAVINGS USING TRUEGRID

CONSTRUCTION COSTS (m2 OVER ENTIRE SITE VS. CONCRETE)	DETENTION POND & DRAINAGE CONSTRUCTION SAVINGS	TOTAL SAVINGS
\$360,000	\$120,000	\$480,000

TRUEGRID® CASE STUDY

WORLD'S LARGEST PERMEABLE PARKING LOT

Manheim Auto saves four acres and improves urban heat and flood drainage conditions for Texas Hobby Clients and Community.

PROBLEM:

With a concrete design 4 acres of the 15.5-acre site were needed for a detention pond which would limit car storage capacity. Design a solution that will allow for more vehicle storage, combat concrete/asphalt heat and provide stormwater drainage relief in flood-prone Houston.

CHALLENGES:

To mitigate localized flooding, stormwater management code requires on-site detention. Not only does this limit land use, the high cost for concrete, detention pond construction and drainage is high. How to maximize land utilization for on-site vehicle storage, and meet stormwater detention requirements.

SOLUTION:

All 15.5 acres are now utilized for parking by using the PRO PLUS system with Stormwater detention under the parking surface. The 4-acre pond was eliminated. Manheim Texas Hobby now holds 1,000 more vehicles than before -- a significant advantage for clients who do business at the location. And, since no runoff reduces the chance of flooding, clients' investments in their vehicles are better protected. The TRUEGRID solution leaves no runoff and filters naturally to remove harmful hydrocarbons and pollutants which protects local aquifers.

TRUEGRID® VS. CONCRETE

- Total Land Available 58065 m²
- Total Land Utilized 58065 m²
- Land savings by eliminating detention pond: 1.62 Hectares

- 100% Pervious Cover Credit
- 100% Land Utilization
- Zero Stormwater Runoff

- 1,000 Additional Vehicles Stored On-Site
- Less absorbed and reflected solar radiation

ESTIMATED SAVINGS USING TRUEGRID

CONSTRUCTION COSTS
(SQ FT OVER ENTIRE SITE VS. CONCRETE)

\$754,000

DETENTION POND & DRAINAGE
CONSTRUCTION SAVINGS

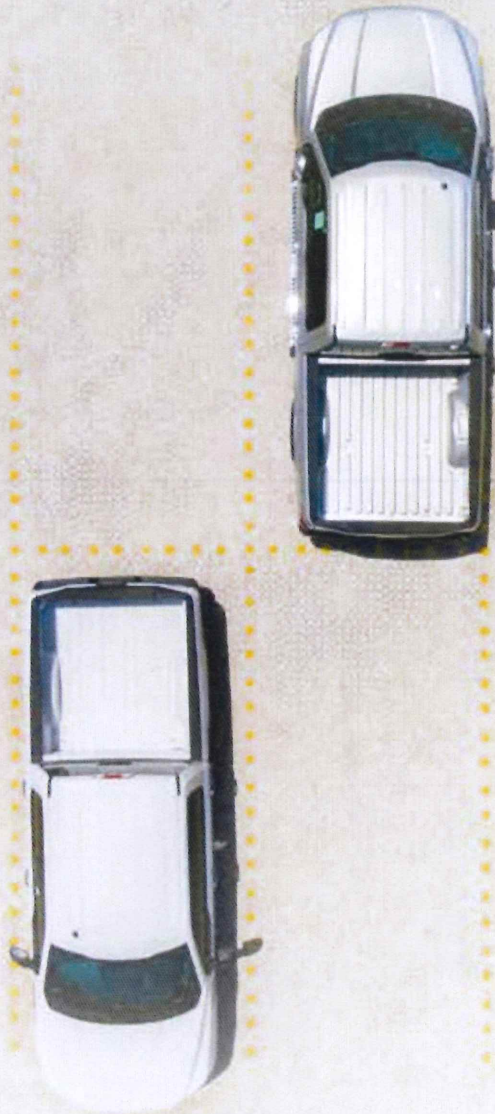
\$265,000

TOTAL SAVINGS

\$1,019,000

“Design is not just what it looks like and
feels like. Design is how it works.”

STEVE JOBS



TRUEGRID[®]
True to your project. True to the environment.

TRUEGRID Pavers Australia
email: sales@truegridpaver.com.au
ABN: 36 659 153 287
© 2021

21/7 Activity Cres
Molendinar
Qld 4214

TRUEGRIDPAVER.COM.AU

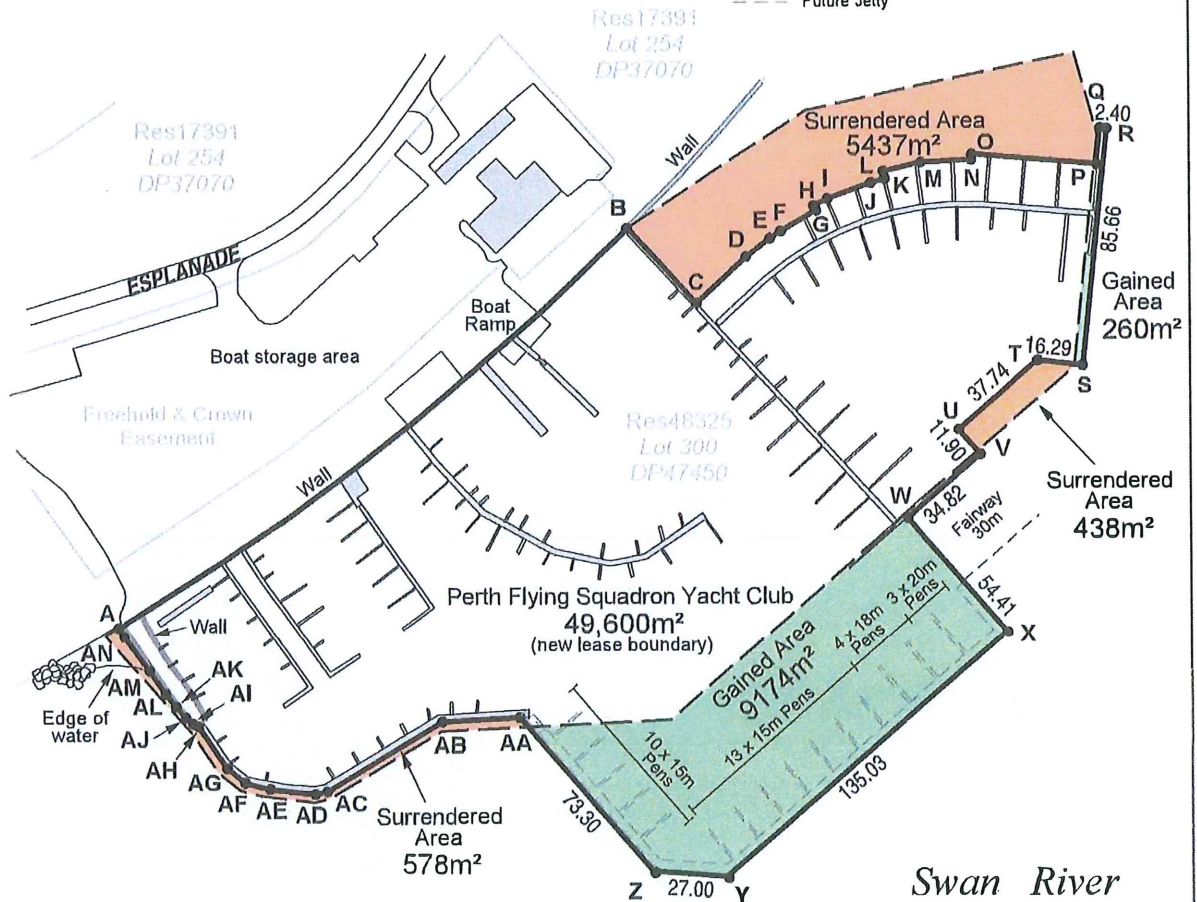
1 300 796 018

SWAN RIVER PERTH FLYING SQUADRON YACHT CLUB RIVERBED LEASE SITE PLAN

THAT PORTION OF RESERVE 48325 ALSO KNOWN AS pt.LOT 300 ON
DP47450 AND SHOWN OUTLINED ON PLAN 585-02-01-C COMPRISING A
TOTAL AREA OF 49,600 SQUARE METRES (4.96 HECTARES)

Legend

- Existing Riverbed Lease
- Gained Area
- Surrendered Area
- New Riverbed Lease Boundary (as per survey)
- Cadastral Boundaries
- Future Jetty



Boundary Corner Coordinates
Datum GDA 94 (MGA Zone 50)

Point	Eastling	Northing	Point	Eastling	Northing	Point	Eastling	Northing
A	387442.97	6458762.06	O	387753.95	6458931.89	AB	387560.80	6458727.78
B	387628.52	6458905.76	P	387798.75	6458928.27	AC	387518.73	6458702.75
C	387653.50	6458878.58	Q	387800.12	6458941.34	AD	387514.33	6458701.83
D	387671.53	6458895.37	R	387802.50	6458941.09	AE	387497.96	6458703.68
E	387680.17	6458901.97	S	387793.54	6458855.92	AF	387488.93	6458705.99
F	387684.16	6458904.52	T	387777.34	6458857.63	AG	387482.30	6458711.26
G	387697.12	6458911.90	U	387748.83	6458832.92	AH	387472.00	6458726.20
H	387696.25	6458913.67	V	387756.62	6458823.93	AI	387469.97	6458727.21
I	387701.21	6458916.12	W	387730.32	6458801.13	AJ	387467.27	6458729.45
J	387717.19	6458921.76	X	387765.86	6458759.94	AK	387463.79	6458733.54
K	387722.36	6458923.22	Y	387663.64	6458671.75	AL	387460.07	6458737.97
L	387721.77	6458925.84	Z	387636.71	6458673.73	AM	387454.20	6458746.49
M	387735.55	6458928.97	AA	387588.80	6458729.18	AN	387445.10	6458758.88
N	387753.79	6458929.90						

Surveyed by JBA Surveys 16/01/2020
Files : 19137-LA02-2.0.dwg, 19137-LA03-2.0.dwg

PREPARED BY
CARTOGRAPHIC SERVICES
1 ESSEX STREET FREMANTLE



Drawn by: S Salgado
Date: 21 January 2020

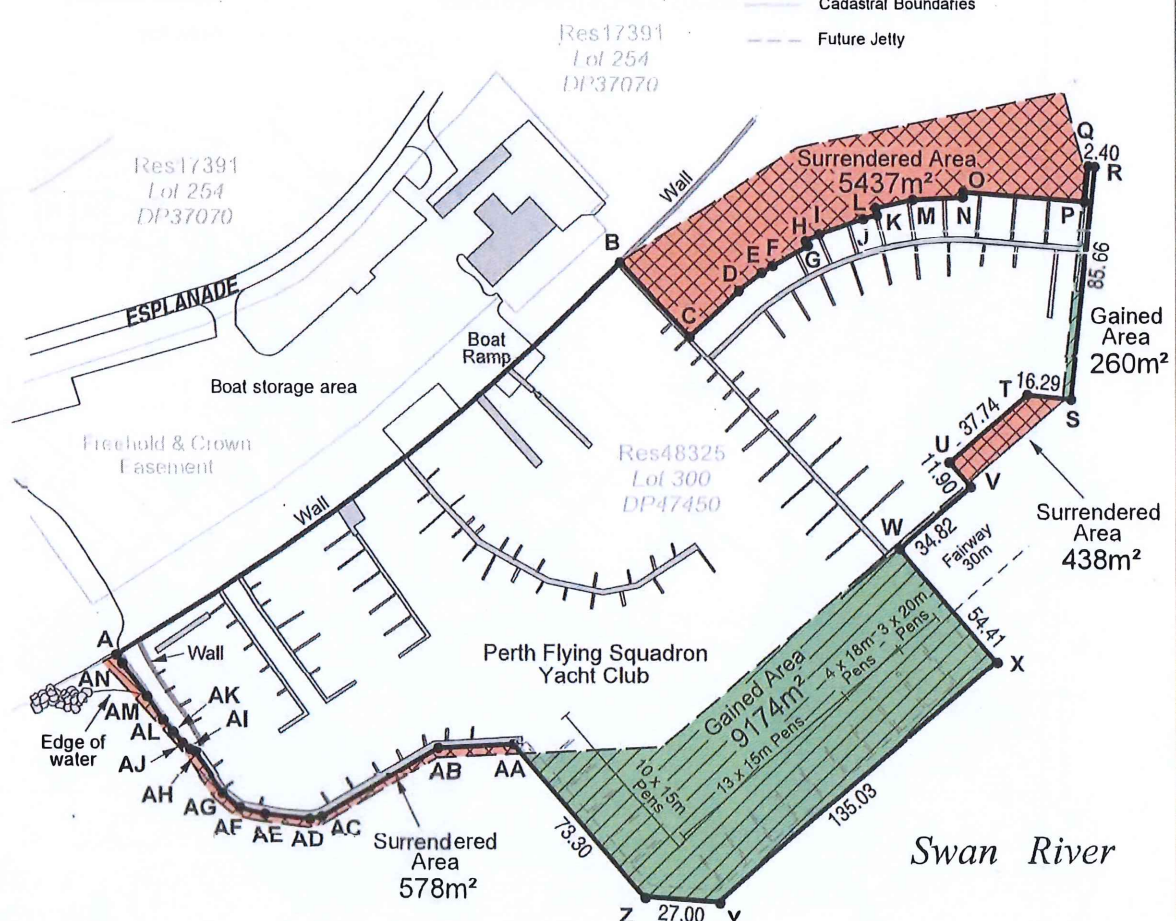
Examined by Manager Cartography:
R. Talbot-Smith: *R. Talbot-Smith*
Date: *21st January 2020*



SWAN RIVER PERTH FLYING SQUADRON YACHT CLUB JETTY & MOORING LICENCE PLAN

Legend

- Previous Jetty & Mooring Licence Area
- Gained Area
- Surrendered Area
- New Jetty & Mooring Licence Boundary (as per survey)
- Cadastral Boundaries
- Future Jetty

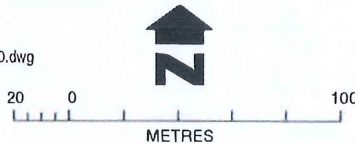


Boundary Corner Coordinates Datum GDA 94 (MGA Zone 50)

Point	Easting	Northing	Point	Easting	Northing	Point	Easting	Northing
A	387442.97	6458762.06	O	387753.95	6458931.89	AB	387560.80	6458727.78
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C	387653.50	6458878.58	Q	387800.12	6458941.34	AD	387514.33	6458701.83
D	387671.53	6458895.37	R	387802.50	6458941.09	AE	387497.96	6458703.68
E	387680.17	6458901.97	S	387793.54	6458855.92	AF	387488.93	6458705.99
F	387684.16	6458904.52	T	387777.34	6458857.63	AG	387482.30	6458711.26
G	387697.12	6458911.90	U	387748.83	6458832.92	AH	387472.00	6458726.20
H	387696.25	6458913.67	V	387756.62	6458823.93	AI	387469.97	6458727.21
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J	387717.19	6458921.76	X	387765.86	6458759.94	AK	387463.79	6458733.54
K	387722.36	6458923.22	Y	387663.64	6458671.75	AL	387460.07	6458737.97
L	387721.77	6458925.84	Z	387636.71	6458673.73	AM	387454.20	6458746.49
M	387735.55	6458928.97	AA	387588.80	6458729.18	AN	387445.10	6458758.88
N	387753.79	6458929.90						

Surveyed by JBA Surveys 16/01/2020
Files: 19137-LA02-2.0.dwg, 19137-LA03-2.0.dwg

PREPARED BY
CARTOGRAPHIC SERVICES
1 ESSEX STREET FREMANTLE



Drawn by: S Salgado
Date: 27 February 2020

Examined by Manager Cartography:
R. Talbot-Smith: *R. Talbot-Smith*
Date: 27th February 2020



PLAN 585 - 02 - 02 - D

Enquiries: Dillon Reid on 9273 3500
Our reference: DA23-88089
DBCA reference: 2023-4741

5 August 2024

Rivers and Estuaries Division
Department of Biodiversity, Conservation and Attractions
Locked Bag 104
BENTLEY DELIVERY CENTRE WA 6983
rivers.planning@dbca.wa.gov.au

Dear Sir / Madam,

Property Address: No. 78 (Lot 254) Esplanade, Dalkeith
Proposal: Club Premises – On Land Drainage and Jetty Replacement
(Perth Flying Squadron Yacht Club)

The City has received the abovementioned development application. The site is located on land which is **wholly within** the Swan Canning Development Control Area. Accordingly, the application was forwarded to the Department of Biodiversity, Conservation and Attractions (DBCA) **for determination** in accordance with Part 5 of the *Swan and Canning Rivers Management Act 2006* (SCRMA).

The application has been assessed by the City and **approval** is recommended subject to the following conditions and advice.

Conditions

1. This approval relates only to the development as indicated on the approved plans. It does not relate to any other development on this lot and must substantially commence within 2 years from the date of the decision letter.
2. Prior to the commencement of works, a Stormwater Management Plan shall be provided to the satisfaction of the City of Nedlands. All stormwater discharge from the development shall be contained and disposed of on-site unless otherwise approved by the City.
3. Prior to the commencement of works, a detailed landscape plan shall be submitted to and approved by the City of Nedlands. Prior to occupation, landscaping is to be installed and maintained in accordance with that plan, or any modifications approved thereto, for the lifetime of the development thereafter, to the satisfaction of the City of Nedlands.
4. All car parking dimensions (including associated wheel stops and headroom clearance), manoeuvring areas, ramps, crossovers and



driveways shall comply with Australian Standard 2890.1-2004 - Off-street car parking and Australian Standard 2890.6:2009 - Off-street parking for people with disabilities (where applicable) to the satisfaction of the City of Nedlands

5. Prior to occupation of the development, all car parking bays are to be clearly line marked, drained and with visitor/staff parking clearly marked or signage provided, and maintained thereafter by the landowner to the satisfaction of the City of Nedlands.
6. Prior to the commencement of works a detailed engineering design package for the works shall be submitted to and approved by the City of Nedlands prior to construction. The engineering documentation shall include but not be limited to:
 - a) Pavement Design
 - b) Car parking layout
 - c) Stormwater Drainage Design
7. Prior to the issue of a demolition permit and a building permit, a Demolition or Construction Management Plan (as appropriate) shall be submitted and approved to the satisfaction of the City. The approved Demolition and Construction Management Plans shall be observed at all times throughout the construction and demolition processes to the satisfaction of the City.

Advice Notes:

- i. A building permit is required to be obtained from the City of Nedlands for the outbuilding works.
- ii. The reserve land is encumbered by a Memorial under the Contaminated Sites Act 2003 and has been classified as 'remediated for restricted use'. Further consultation with the Department of Water and Environmental Regulation is likely required.
- iii. The City of Nedlands cannot guarantee any quantity of profilings is available for purchase at any given time.
- iv. If public assembly areas are proposed within the development where persons assemble for a common purpose (e.g. classes, group bookings, functions) these facilities are to comply with the requirements of the *Health (Public Building) Regulations 1992*.
- v. The Construction Management Plan and Demolition Management Plans are to be prepared in the manner and form provided by the City of Nedlands.
- vi. The development site is constrained by Management Order conditions, subject to a Lease, encumbered by a Memorial and part of the Land Asset Optimisation Strategy. Pursuant to this Lease agreement:

- All works shall be contained within the lease area.
- All works shall be undertaken at the Lessee's cost.
- The Lessee will indemnify the City of Nedlands against any liability in connection with the resurfacing works.

If you have any queries regarding the above, please do not hesitate to contact Dillon Reid, Senior Urban Planner at dreid@nedlands.wa.gov.au or on 9273 3500.

Yours faithfully



Nathan Blumenthal
A/Manager Urban Planning and Building



Department of Planning,
Lands and Heritage

OFFICIAL

Your ref: 2023/4741
Our ref: A00010-24/ ADV-10003513
Enquiries: Paul Reed - 6551 7937

Statutory Assessments
Rivers and Estuaries Branch
Department of Biodiversity, Conservation and Attractions

Email: rivers.planning@dbca.wa.gov.au

Dear Sir/ Madam

**REQUEST FOR COMMENTS - REPLACEMENT JETTIES, IMPROVED
STORMWATER DRAINAGE, NEW STORAGE AND LANDSCAPING WORKS
– PERTH FLYING SQUADRON YACHT CLUB**

Thank you for your email dated 24 January 2024 seeking comment on the application for approval of development received from the Perth Flying Squadron Yacht Club (applicant) for replacement jetties, improved stormwater drainage, new storage and landscaping works.

A review of the Aboriginal Heritage Register of Places and Objects, as well as the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Database, concludes that a portion of the proposed activity area intersects with Aboriginal Site ID 3536 (Swan River).

Therefore, based on the current information held by DPLH, approvals under the *Aboriginal Heritage Act 1972* (AHA) are required for proposed activities within the boundary of Aboriginal Site ID 3536 (Swan River) The applicant may refer to the DPLH website at [Aboriginal Heritage Approvals \(www.wa.gov.au\)](http://www.wa.gov.au) for information on 'Land use under the Aboriginal Heritage Act 1972' for the types of approvals available under the AHA that they can apply for if required.

If the applicant has any further questions regarding the AHA, they may submit their enquiry via the ACHknowledge portal at [Home - ACHknowledge Portal \(dplh.wa.gov.au\)](http://dplh.wa.gov.au).

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Should you have any queries in relation to the above, please contact me on (08) 6551 7937 or email paul.reed@dph.wa.gov.au.

Yours sincerely



Paul Reed
ASSISTANT MANAGER
Aboriginal Heritage Conservation

31 January 2024

From: [Miriam Crandell](#)
To: [Rivers Planning](#)
Subject: Aboriginal Heritage - Comment on 2023-4741 Draft Report - PERTH FLYING SQUADRON YACHT CLUB - ADV-10006049
Date: Tuesday, 1 October 2024 1:11:03 PM
Attachments: [image001.png](#)

[External Email] This email was sent from outside the department – be cautious, particularly with links and attachments.

OFFICIAL

Good morning,

PART 5 - DRAFT REPORT – PART LOT 300 ON PLAN 47450, RIVER RESERVE. PART LOT 501 ON PLAN 418496, PERTH FLYING SQUADRON YACHT CLUB, DALKEITH – REPLACEMENT JETTIES, IMPROVED STORMWATER DRAINAGE, NEW STORAGE, SIGNAGE AND LANDSCAPING WORKS – PERTH FLYING SQUADRON YACHT CLUB

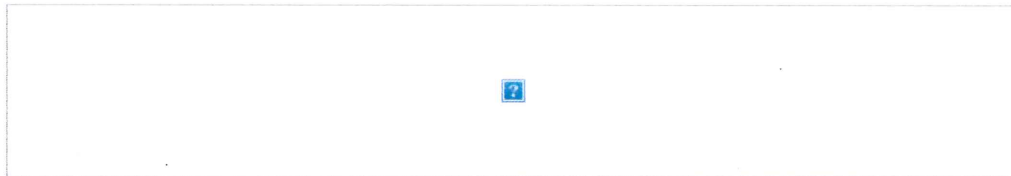
Thank you for the request for Aboriginal Heritage Conservation to comment on the above draft report (Your ref: 2023-4741).

I understand that Aboriginal Heritage Conservation provided comment on the development application on 31 January 2024 (Our ref: A00010-24/ADV-10005313), which is attached to the draft report.

At section 2.5 and Advice Note 13 of the draft report, to more accurately reflect DPLH's advice, we suggest providing clarification that approval under the *Aboriginal Heritage Act 1972* is required for the proposed activities within the boundary of Aboriginal Site ID 3536 (Swan River).

Kind regards,
Miriam

Miriam Crandell
Senior Heritage Officer | Heritage and Property Services
Department of Planning, Lands and Heritage
140 William Street, Perth WA 6000
wa.gov.au/dplh | 6552 4064



The Department of Planning, Lands and Heritage acknowledges Aboriginal people as the traditional custodians of Western Australia.

We pay our respects to the Ancestors and Elders, both past and present, and the ongoing connection between people, land, waters and community. We acknowledge those who continue to share knowledge, their traditions and culture to support our journey for reconciliation. In particular, we recognise land and cultural heritage as places that hold great significance for Aboriginal people. Learn more about our [Reconciliation Action Plan](#).

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This notice should not be removed.

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Government of **Western Australia**
Department of **Water and Environmental Regulation**

Your ref: 2023/4741
Our ref: DMO 2775
Enquiries: Robin Smolarek, Ph 6364 6539
Email: robin.smolarek@dwer.wa.gov.au

Kiara Smart
Statutory Assessments
River and Estuaries Branch
Department of Biodiversity, Conservation and Attractions
PO Box 104
Bentley Delivery Centre WA 6983

By email rivers.planning@dbca.wa.gov.au

Dear Kiara,

DEVELOPMENT APPLICATION NUMBER 2023/4741 – PERTH FLYING SQUADRON YACHT CLUB – LOT 501 ON DEPOSITED PLAN 418496 AND PORTION OF LOT 300 ON DEPOSITED PLAN 47450

I refer to your email dated 24 January 2024 to the Department of Water and Environmental Regulation (the department) regarding an application to the Department of Biodiversity, Conservation and Attractions (DBCA) for the proposed development of the above-mentioned lots.

As per the requirements under section 58(6)(b) of the *Contaminated Sites Act 2003* (CS Act), advice is required as to the suitability of the land for the proposed development.

The department understands that the proposed development comprises:

- Separating industrial activities from social activities, which will involve moving the sheds and storage buildings present to the east of the Flying Squadron Yacht Club (the Club) to the western side of the Club.
- Improving stormwater drainage on site, via removing hardstand and installing permeable pavers and soakwells, along with landscaping improvements.
- Replacing four ageing timber jetties with more environmentally friendly floating jetties. The department does not have visibility as to whether these works will comprise sediment disturbance.

Land at Lot 501 on Deposited Plan 418496 and a portion of Lot 300 on Deposited Plan 47450 (the site) was classified under the CS Act as *remediated for restricted use* on 3 October 2017 and a memorial (reference number N989508 ML) was placed on the certificate of title. Lot 300 comprises a portion of the Swan Canning River Estuary. The classification also includes Lots 500 and Lot 503 on Deposited Plan 418496.

The classification was based on several soil, groundwater, sediment and surface water investigations undertaken between August 2007 and February 2017. The investigations found anti-fouling agents (organotin compounds) and metals such as

Prime House, 8 Davidson Terrace Joondalup Western Australia 6027
Locked Bag 10 Joondalup DC WA 6919
Telephone: 08 6364 7000 Facsimile: 08 6364 7001
www.dwer.wa.gov.au

copper and zinc present in sediments adjacent to the site, in a portion of Lot 300, and hydrocarbons present in soil and groundwater beneath the Club's former refuelling bowser, at concentrations which exceeded the non-potable use of groundwater guidelines. Hydrocarbon remediation works have been undertaken, subsequent groundwater monitoring data indicates that hydrocarbons were naturally attenuating, and in 2017, concentrations were below the non-potable use of groundwater guidelines.

Based on available information, the site is considered to be suitable for the proposed land use. Therefore, the department has no objection to the proposed development of the site and recommends that the approval should not include a contamination condition.

However, given the risks associated with the potential disturbance of organotin compounds and metals in sediments, the department recommends the following advice be applied to any approval granted by DBCA:

Advice

Prior to undertaking works which will disturb sediment within the Swan River Estuary, a Construction Environmental Management Plan should be prepared to address environmental risks associated with disturbing potentially contaminated sediment. The department recommends that, should sediment disturbance be required, baseline sediment quality sampling is undertaken prior to the commencement of construction works, to inform any contingency actions that may be required during construction.

Acid sulfate soil risk mapping indicates that Lot 300 lies within an area identified as having a high to moderate risk of acid sulfate soils occurring within three metres of the natural soil surface.

As the proposed development works have the potential to disturb acid sulfate soils within sediment, the department recommends that the following advice note be applied to any approval granted by DBCA:

Advice

Acid sulfate soils (ASS) risk mapping indicates that the project footprint is located within an area identified as representing a high to moderate risk of ASS occurring within 3 metres of the natural soil surface, noting that ASS is likely to be present within sediment in the river. Please refer to the Department of Climate Change, Energy, the Environment and Water's [Guidelines for the dredging of acid sulfate soils and associated dredge spoil management](#) for information to assist with the management of sediment disturbing works.

Please note that this advice relates to potential contamination and acid sulfate soil issues only. You may receive additional advice from other areas within the department.

If you have any queries in relation to the above, please contact Senior Environmental Officer, Robin Smolarek, on 6364 6539.

OFFICIAL

Yours sincerely

A handwritten signature in black ink, appearing to read 'Andrew Miller', written in a cursive style.

Andrew Miller
SENIOR MANAGER
CONTAMINATED SITES
Delegated Officer under section 91
of the *Contaminated Sites Act 2003*
23 February 2024

From: Sherring, Mandy <Mandy.Sherring@transport.wa.gov.au>
Sent: Monday, 22 July 2024 12:57 PM
To: Karen Sanders
Subject: RE: Comments from DoT regarding pen layout - for applicant response / redesign

[External Email] This email was sent from outside the department – be cautious, particularly with links and attachments.

Hi Karen

DoT Maritime has reviewed the amended design for the new Jetties and pens at Perth Flying Squadron Yacht Club and provides the following comments; *the design for proposed jetties and pens has been amended to meet the minimum requirements as per Australian Standard AS3962. While DoT recommends development that complies with the preferred widths, it is considered acceptable if the Yacht Club decides to go with the minimum fairway widths as shown in the plans. Additionally, the berth widths now meet the standard for double berth widths. DoT provides in-principle support for the layout shown in Drawing GTS1895-01 Revn: C*

Mandy Sherring

A/ Principal Strategic Planner | Maritime | Department of Transport

5 Newman Court, Fremantle WA 6160

Mob: 0499973504

Email: Mandy.Sherring@transport.wa.gov.au | Web: www.transport.wa.gov.au



We acknowledge the Traditional Custodians of this land and pay respect to the Elders past and present.



Department of **Planning,
Lands and Heritage**

OFFICIAL

Your ref: 2023-4741
Our ref: P18987-51856
Enquiries: Kathryn Exell (08) 6551 9683

Statutory Assessments
Swan Canning Waterways Branch
Department of Biodiversity, Conservation and Attractions
rivers.planning@dbca.wa.gov.au

Dear Sir/Madam

**SWAN AND CANNING RIVERS – UPGRADES AT PERTH FLYING
SQUADRON YATCH CLUB**

Thank you for your email of 20 September 2024 regarding the proposal at the Perth Flying Squadron Yacht Club. The yacht club is situated within the Swan and Canning Rivers, which the Heritage Council has identified as a place warranting assessment for possible entry in the State Register of Heritage Places. A full assessment of its cultural heritage significance has not yet been undertaken.

We thank you for forwarding information on the proposal, which raises no concerns for the Heritage Council, and as such, no objections.

Should you have any queries regarding this advice please contact Kathryn Exell at kathryn.exell@dph.wa.gov.au or on 6551 9683.

Yours faithfully

Lara Watson
A/Director
Historic Heritage Conservation

1 October 2024