BOT ENGINEERING

CONSULTANT ADVICE NOTICE

CHORA – 7 HARTINGTON STREET, NORTHCOTE

WATER SENSITIVE URBAN DESIGN RFI RESPONSES

Client

Date: 26.03.2026
CAN 2.0

Attention:
Greek Orthodox Archdiocese of Australia Pty Ltd
C/O Hickory Pty Ltd
A: Level 5, 68 Clarke Street, Southbank VIC 3006
E: Steve.Cahill@hickory.com.au

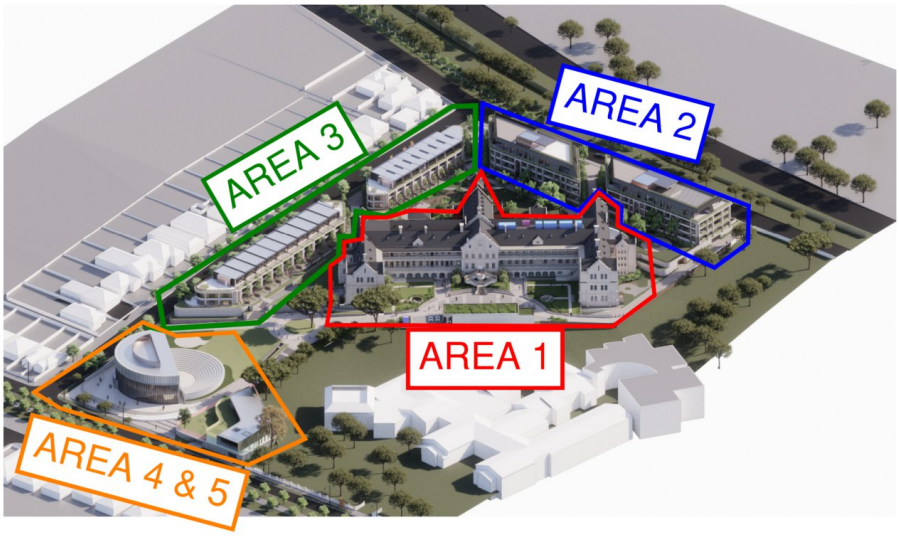
THE PROJECT

The proposed development – CHORA, includes the complete restoration of the existing heritage building and the construction of several new multi-purpose spaces. The site is situated at **7 Hartington Street, Northcote** and has landholding encompasses an area of approximately 28,000 m², which extends along the length of Hawthorn Road, between St Georges Road and Hartington Street. Its boundary is irregular in form, and the development has been strategically divided into several stages/areas.

PROJECT TEAM AND AVAILABLE DOCUMENTATION

CONSULTANT	COMPANY	REFERENCE
Client	Greek Orthodox Archdiocese of Australia Pty Ltd	john.tatoulis@gmail.com
Architect	KUD	billy@kud.com.au
Project Managements	HUB Property Group	shahn@hubpg.com.au
Builder	Hickory Pty Ltd	Steve.Cahill@hickory.com.au
Heritage Consultant	Andronas Conservation Architecture	aa@andronas.com.au
Registered Building Surveyor	Codus Building Surveyors	
ESD Consultant	GIW Environmental Solutions	gary@giw.com.au

A strong consulting team is paramount when undertaking a development of this scale due to the complex nature of the project. Their expertise in areas such as design, planning, engineering, and project management ensures efficient decision-making, regulatory compliance, and successful execution, ultimately leading to the creation of high-quality dwellings that meet both functional and aesthetic requirements.



Source: HUB Property group – CHORA operating Management Plan

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SUBJECT AREA/MATTER

BOT Engineering has been requested to provide civil engineering advice to support the proposed Water Sensative Urban Design plan/scheme and to address recent RFI items relating to:

1. Integrated Stormwater Management
2. Feasibility of the proposed 250m² raingarden
3. Impervious surface coverage and WSUD compliance

1. INTEGRATED STORMWATER MANAGEMENT

While the SMP demonstrates compliance at a conceptual level, the current strategy requires further development to clearly demonstrate how it can be physically delivered on site and confirm feasibility.

Given the scale and complexity of the development (multiple buildings, basements and staged areas), a centralised treatment approach is not considered practical. The extent of impervious surfaces (footpaths and hardstand areas) long with the extent of basement structures, limits the effectiveness of the current treatment approach.

BOT propose adopting a distributed WSUD strategy, where treatment is integrated throughout the site rather than concentrated in a single location.

- Distributed across the site
- Integrated within landscape and open space areas
- Located adjacent to contributing catchments

This will provide a more feasible and buildable outcome, however further coordination with landscape, architect and builder is required to ensure a suitable solution is achieved on all fronts.

2. FEASIBILITY OF THE PROPOSED 250M² RAINGARDEN

We agree that a single 250m² raingarden is not feasible within the current site constraints. Instead, we propose to break the treatment requirement into multiple smaller raingardens and/or vegetated buffer strips within landscape zones across the site, utilising available setbacks and open space areas.

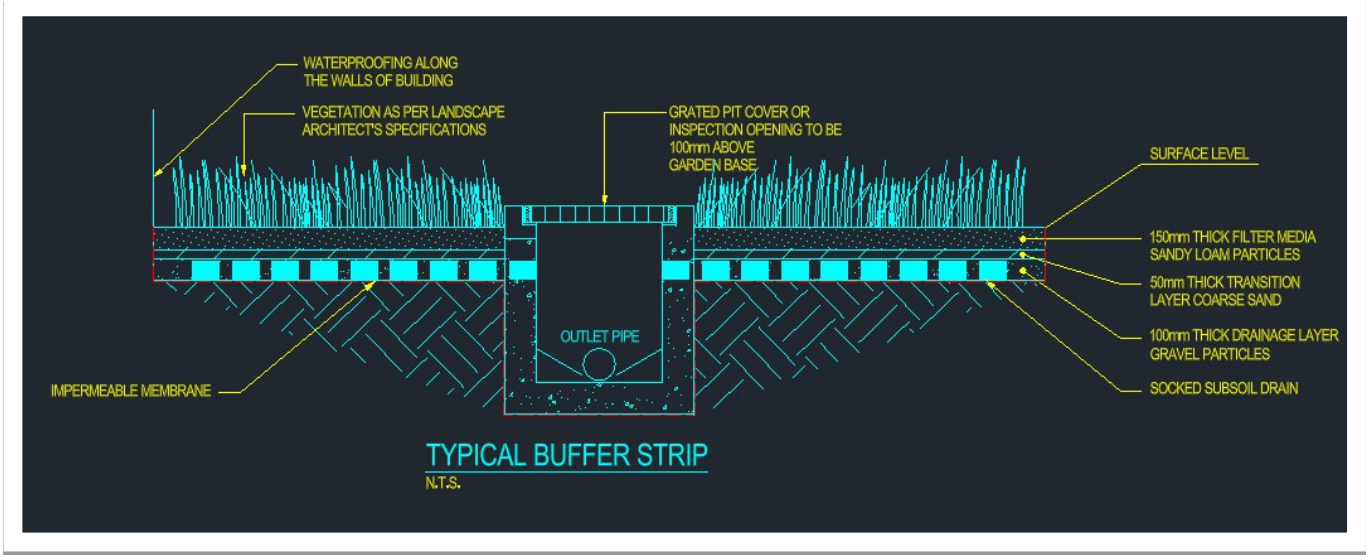

Figure 1.0 – Typical Buffer Strip.

2.1 - AREA 2 (APARTMENTS AND AREA 3 (TOWNHOUSES)

Each Private Open Space (POS) area should be:

- Designed with a raingarden or buffer strip, or
- Treated as permeable surface to avoid contributing to total impervious area. As these POS areas are generally located outside basement extents, this approach is considered feasible.

2.2 - AREA 4 & 5 – ELC & AMPHITHEATRE

Early Learning Childcare:

Overall strategy within the SMP is considered appropriate, however requires further breakdown and detailed allocation of treatment areas.

- Roof areas to discharge to the 60kL reuse tank at basement level
- Green roof terrace (Level 2) to discharge to above-ground planter boxes at Level 1.
- Level 1 open space to be directed to a below-ground raingarden, potentially placed in the tree planter area shown in the architectural plans
- *Alternate Option:* Direct both Level 1 & 2 open space to below-ground raingarden placed in the tree planter area shown in the architectural plans.

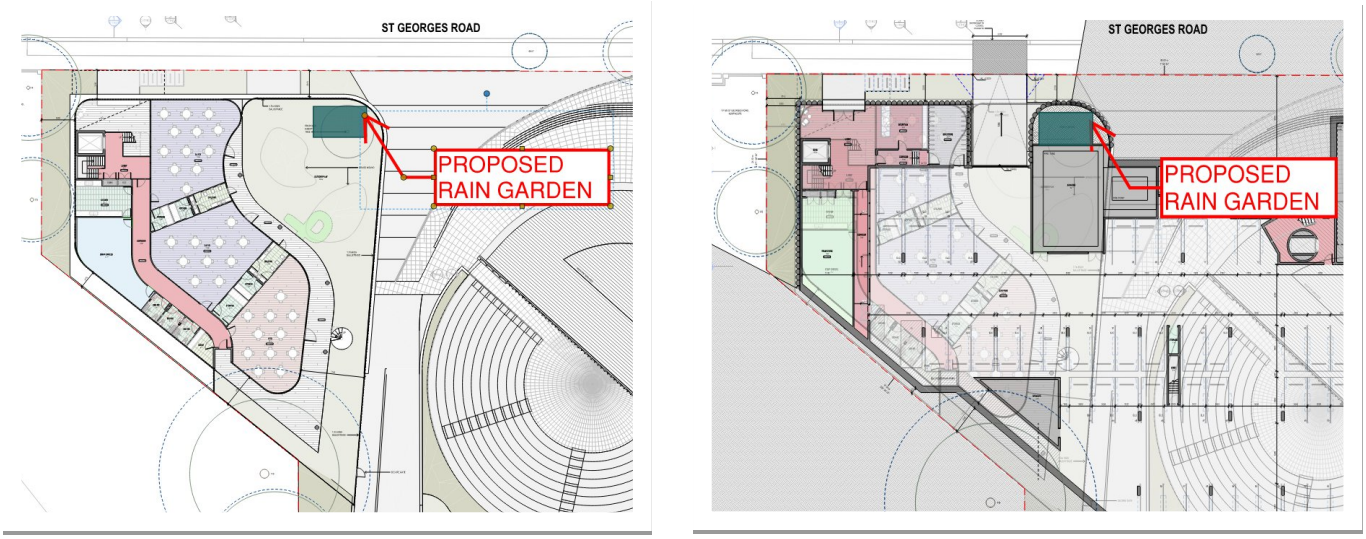

Figure 2.0 – Rain Garden Location for ELC.

Amphitheatre:

- Roof area to discharge to the 60kL reuse tank
- Remaining areas to be considered as untreated impervious surfaces unless additional treatment is introduced.

2.3- AREA – 1 - HERITAGE BUILDING

The western courtyard adjacent to the Heritage Building comprises a large impervious hardstand area (approximately 2,200m²), located above basement level.

To provide stormwater treatment within this zone, it is proposed that the area between the Heritage Building and the cafe be designed as a linear buffer strip at lower ground level *(Refer to Figure 3.0)*.

Key design considerations:

- All surrounding impervious paving is to be graded to direct runoff toward the biofiltration system (no isolated low points).
- The buffer strip will function as a primary treatment element for this catchment.
- Given the area is located directly above the basement, the buffer strip will be designed as a lined treatment system.

Structural coordination will be required to accommodate the buffer strip within the slab zone, including:

- Accommodate treatment depth within the slab.
- Integrate a recessed slab / bulkhead at basement high level
- Water proofing to prevent seepage to basement level.

The proposed linear buffer strip will be sized to treat runoff from the contributing courtyard catchment (~2,200m²), subject to MUSIC modelling

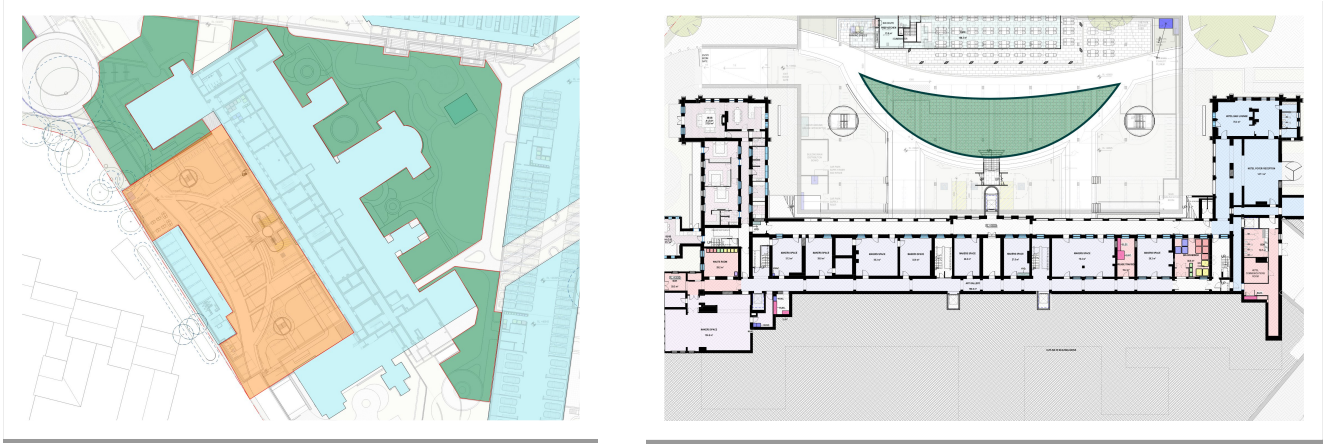

Figure 3.0 – Buffer Strip Location for Heritage Building.

3. IMPERVIOUS SURFACE COVERAGE AND WSUD COMPLIANCE

The current extent of impervious surfaces limits the ability to achieve best-practice WSUD outcomes.

To address this, BOT propose:

- Introducing permeable paving to selected footpath areas. This will reduce directly connected impervious area and improve overall treatment efficiency. Please refer to *Figure 4.0* showing indicative permeable treatment areas (to be discussed and coordinated).
- Direct remaining paved areas to adjacent landscape buffer strips for passive treatment.
- Treating POS areas independently via:
  - Raingardens, or
  - Vegetated buffer strips

Figure 4.0 – Permeable treatment Areas.

4. COUNCIL ENGINEERING FEEDBACK

BOT has also contacted Council and following discussions with engineering team:

- Proprietary/mechanical treatment systems are generally not supported as a primary treatment method.
- Council preference is for conventional WSUD systems such as rainwater tanks, raingardens and vegetated treatments.

The proposed strategy has been developed to align with this direction and minimise approval risk.

5. MUSIC MODELLING

The proposed design changes will require the MUSIC model to be updated to reflect:

- Distributed treatment measures
- Revised catchment delineation
- Increased pervious and treated areas

BOT understands that GIW will be responsible for updating the MUSIC model and will coordinate with them, providing any required inputs to ensure alignment with the proposed civil and landscape strategy.

Please note that the above strategies are preliminary and will be further refined and quantified as the design progresses.

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BOT ENGINEERING RECOMMENDATIONS/OPINION

Pursuant to the preliminary assessment the revised distributed WSUD approach provides:

- A feasible solution adopting a distributed WSUD strategy, where treatment is integrated throughout the site.
- Alignment with Council expectations
- A clear pathway to achieving best-practice stormwater management targets

Please note that the above strategies are preliminary and will be further refined as the design progresses. Detailed calculations and coordination will be undertaken during the next stage of design in consultation with the Architect, Landscape Architect, and ESD consultant.

BOT Engineering will continue to provide civil oversight, review of contractor methodologies, and certification of civil elements as required to ensure compliance with relevant standards and heritage protection obligations.

Please ensure all works are completed in a safe and controlled manner. BOT Engineering have completed other engineering designs and reviews of similar scale and are comfortable with the details and scope nominated within the engineering report.

Please feel free to contact me on 0414 545 770 should you wish to discuss any of the above further in detail.

Thank you.

Yours faithfully

Jude Linton – Civil Lead

BOT Engineering Pty Ltd

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REPORT NOTES

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1. The contractor must take all necessary precautions before and during demolition or construction works. Work to be undertaken strictly in accordance with all relevant Australian standards and national construction code requirements.
2. It is the contractor's responsibility to ensure the overall stability of the structure whilst demolition or construction works are taking place at the site.
3. The proposed new structure is to be adequately supported and restrained to avoid any vertical and horizontal displacement and deformations occurring to the existing structure being retained.

Due to the limitations of the visual inspections (i.e. obstructions, concealed defects), BOT Engineering does not guarantee that all defects within the roadway structure have been identified. This report represents our findings on the specific matters discussed. Structural integrity (or otherwise) conclusions are not to be deduced of areas not covered in the report.

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