Tract

Memorandum

Project	342-348 Victoria Street, Brunswick 322-0714	**Date**	25 November 2024
To	Department of Transport and Planning (DTP)	**Attn.**	Anne-Marie Edgley
Subject	342-348 Victoria Street, Brunswick – Summary of Changes to Approved Development under MPS/2017/745/E		

Dear Anne-Marie,

As per recent discussions, Tract continues to act on behalf of Assemble Communities Pty Ltd, MAKE Ventures Pty Ltd atf MAKE Ventures Unit Trust, Assemble Manager A Pty Ltd, AS Residential Property Pty Ltd atf AS Residential Property Trust, Assemble VSB Development Nominee Pty Ltd, Assemble VSB Pty Ltd atf Assemble VSB Trust ('Assemble Communities') in relation to the proposed development of the land at 342-348 & 368-370 Victoria Street, 32 Wilkinson Street and 13 and 15 Rosser Street, Brunswick (the 'Site').

This memorandum is provided to accompany lodgement of Assemble Communities' formal DFP application for the proposed use and development of the Site and summarises the proposed changes to the existing approved development and permit conditions. The memorandum should be read in conjunction with the List of Changes and clouded Architectural Plans (Rev Q, dated 21 November 2024) prepared by Fieldwork, which are provided for information purposes to facilitate DTP's review of the application materials.

As the Department is aware, the Site benefits from the development rights accrued under Planning Permit MPS/2017/745 ('the Permit'). The Permit allows:

> *'Development of the land for four multi storey mixed use buildings, partial demolition, buildings and works in a Heritage Overlay, a reduction of the statutory car parking requirement, and use of land for dwellings, in accordance with the endorsed plans.'*

While Assemble is now seeking a fresh planning approval pursuant to Clause 53.23, we submit that the existing approval (inclusive of the documents that are soon to be endorsed under relevant conditions) represents the existing baseline for consideration of what constitutes an appropriate scale and design of new built form.

Moreover, given the limited scope of change from the existing approval, the extent of detail provided in the submission materials should enable DTP to ultimately endorse application materials at the time a decision is made.

We would welcome the opportunity to discuss the above matters further and look forward to working productively with the Department throughout the assessment process.

1 Planning History

We provide the following summary of the Site's planning history for DTP's consideration:

- Planning permit (MPS/2017/745) issued via VCAT on 3 July 2018 and extended on 2 June 2022.
- Plans endorsed by Merri-bek City Council on 11 June 2021 under amendment MPS/2017/745/A.
- Amended permit issued under s87a of the Planning Environment Act 1987 (the 'Act') following VCAT compulsory conference on 5 October 2023.
- Minor amendment (MPS/2017/745/B) under s72 of the Act approved by Council on 24 April 2024 to provide consistency of timing triggers across the conditions of the Permit as the proposal is no longer staged.
- A basement reduction amendment (MPS/2017/745/C) under s72 of the Act was submitted to Council on 23 April 2024, subsequent RFI response issued to Council on 15-24 May 2024 and public advertising concluded on 18 June 2024.
- A minor amendment under Section 57a of the Act was submitted to Council on 16 July 2024 to incorporate a raingarden and consolidate and resolve endorsement matters under the latest MPS/2017/745/C application. The amended permit and endorsed plans were issued by Council on 23 September 2024.
- A minor amendment under Section 72 of the Act was approved by Council on 30 September 2024 (MPS/2017/745/D) to update Condition 10 wording in relation to timing of provision of the Public Works Plan.
- A further amendment under Section 72 of the Act was approved by Council on 20 November 2024 (MPS/2017/745/E) to update Condition 20 wording in relation to timing of provision of the Section 173 Agreement.
- A 2 year extension of time to the Permit was granted by Council on 6 August 2024.

2 Overview of changes

2.1 Changes to the approved development

Summary

The proposed development incorporates the following key variations from the approved development:

- Conversion of Building 1 Level 1 commercial floorspace (1,245sqm) to 16 residential apartments.
- Increase in the number of total dwellings from 268 to 284 including updates to the mix of typologies.
- Reduction in maximum building height by 550mm to 36.03m as a result of the revised arrangement of Level 1 of Building 1.
- Maintained number of 91 car parking spaces and reduced parking dispensation from 379 to 360 spaces.
- Modified Water Sensitive Urban Design (WSUD) strategy with proprietary devices instead of a dual-pumped central raingarden.
- Relocation of Building 2 southern stair core due to electrical substation sequencing constraints.
- Architectural changes to façades, windows, balconies, balustrades, entry gates and internal layouts arising through detailed design and builder coordination.
- Consequential plan updates related to the above as well as building levels and configuration of storage, bike parking and waste.

Refer to Fieldwork's *List of Changes* for further details of design updates between previous Revision O endorsement plans and the current Revision Q DFP proposal.

The table below summarises the key metrics of the amended proposal for comparative purposes.

	Approved Development	Proposed Development
Total Commercial Area	3,444sqm NLA	2,187sqm NLA
Total Retail Area	1,338sqm	1,338sqm
Dwelling Breakdown	19 X Studio 83 X One Bedroom One Bath 59 X Two Bedroom One Bath 72 X Two Bedroom Two Bath 15 X Three Bedroom One Bath 20 X Three Bedroom Two Bath	25 X Studio 85 X One Bedroom One Bath 62 X Two Bedroom One Bath 75 X Two Bedroom Two Bath 15 X Three Bedroom One Bath 22 X Three Bedroom Two Bath
Communal Amenity Breakdown	Building 1 roof terrace: 88sqm Building 2 roof terrace:121sqm Building 3 roof terrace: 99sqm Building 4 roof terrace: 68sqm Assemble Community cottages space: 146sqm Building 3 Assemble Community space: 104sqm	Building 1 roof terrace: 88sqm Building 2 roof terrace:121sqm Building 3 roof terrace: 99sqm Building 4 roof terrace: 68sqm Assemble Community heritage space: 146sqm Building 3 Assemble Community space: 104sqm
Total Communal Area	626sqm	626sqm
Deep Soil Area	512sqm (excluding heritage zone)	512sqm (excluding heritage zone)
Car Parking	82 resident spaces 5 commercial spaces (including DDA) 4 car share spaces	82 resident spaces 5 commercial spaces (including DDA) 4 car share spaces
Bicycle Parking	406 resident spaces 56 visitor spaces 56 office/retail spaces & EOT facilities	417 resident spaces 56 visitor spaces 40 office/retail spaces & EOT facilities

Basement Storage	105 cages	118 cages

Specific changes are detailed further below:

Basement

- Reconfiguration adjustments as a result of additional storage cages to match increased yield and related tweaks to access bike parking and waste room facilities.
- Added electrical substation infrastructure due to sequencing constraints and impacts on Building 2 core.

Ground Floor

- Rotation of Building 2's southern stair core to now face south towards Building 3 and be located within the building curtilage of Building 2 at ground level.
- Related reduction to OG01C office tenancy from 142sqm to 126sqm and increased laneway width from Rosser Street improving CPTED outcomes.
- Entry gate design has been simplified.
- Reduced public realm pedestrian ramps based on reduced Melbourne Water flood level advice.
- Revised FFL to Building O3 office tenancies to subsequent amendments to access arrangements and ramping
- Relocated residential bike parking spaces from the basement to accommodate increased basement storage.

First Floor

- Deletion of Building 1 office tenancies O101-0105 and related amenities in lieu of conversion to 16 residential apartments comprising:
  - 6 X Studio
  - 3 X One Bedroom
  - 5 X Two Bedroom
  - 2 X Three Bedroom
- Reduced floor-to-floor height from 3.6m to 3.05m.
- Façade, glazing and street wall changes to match residential levels.
- 75sqm roof garden added to central western façade of Building 1.
- Building 2 stair core shift reduces southeastern Unit 2.1.06 by 5sqm and units above to Level 4.

Refer to the plan excerpt below identifying the office to residential conversion.

Upper Levels

- Increased minimum building separation between Buildings 3 and 4 (L2+) from 12.21m to 13.07m.
- Increased setbacks to reduced balconies on eastern balconies on Buildings 3 (L2-6) and 4 (L2-9) and central western balconies of Building 1 (L2-4). Eastern façade metal balconies replaced with precast (refer to Design Report for details).
- Increased setback to reduced southeastern balconies on Building 2 (L5-7).
- Increased setback to reduced southern balconies on Building 3 Level 3.
- Building 2 southern stair core tweaks and western façade (L2-8) Juliet-style metal balconies replaced with metal spandrel and full height glazing.
- Residential and ground floor glazing amended to rationalise window types to improve constructability and align to proprietary products.

- Building 02 lift overrun parapet extended to screen roof plant and minor revisions to parapet RL's to reflect proposed construction methods.

Window shading devices amended to reduce materiality and simplify buildability. . Refer to render comparisons below to provide a high-level comparison, for further details refer to Fieldwork Design Report, Elevations and mark-up plans.

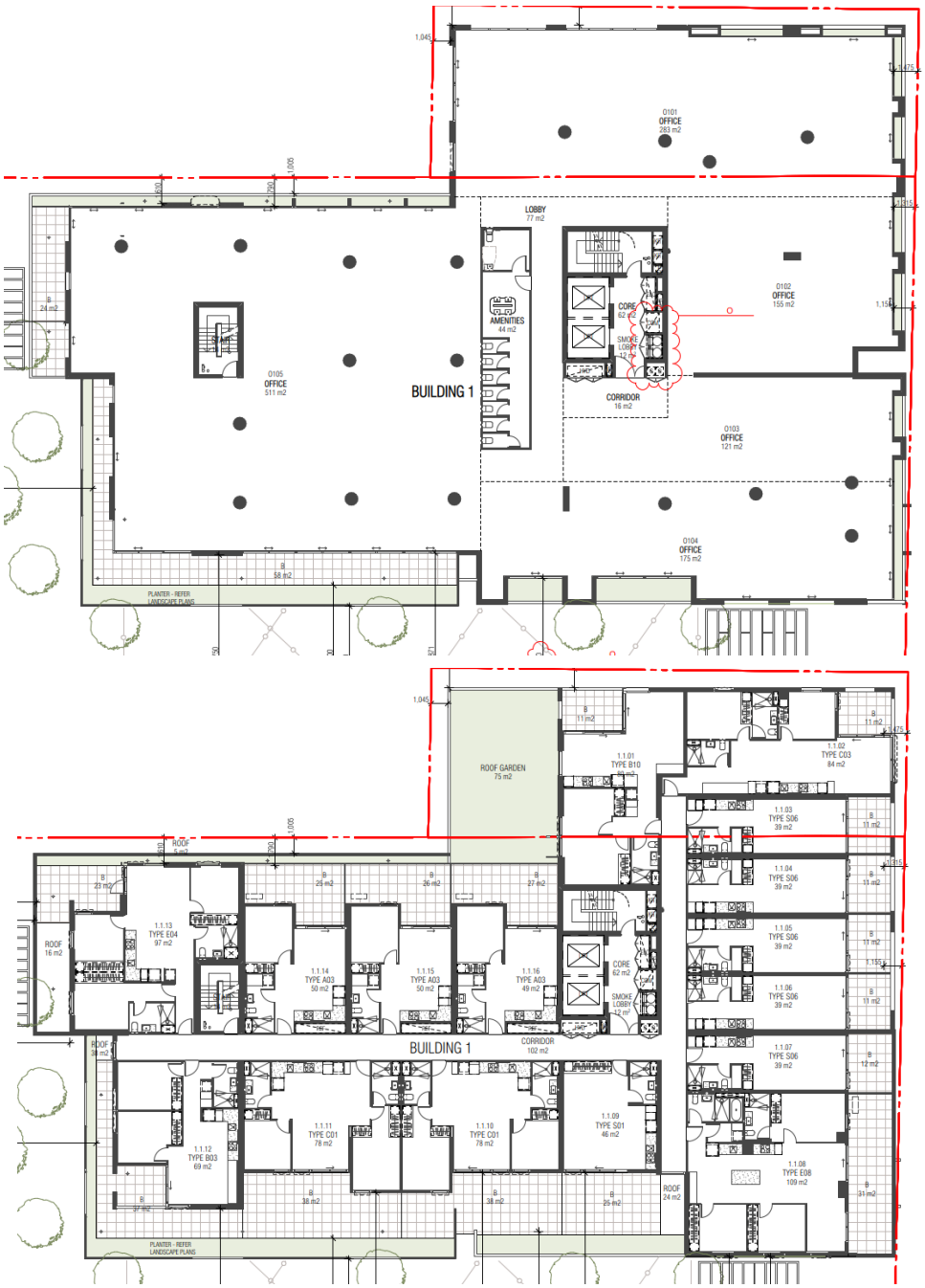

Figure 1 Building 1 Level 1 Plan Comparisons (Fieldwork Endorsement Rev. O vs. DFP Rev. Q)

Figure 2 - Render view comparison of Building 3's eastern façade to Rosser Street interface (Fieldwork Endorsement Rev. O vs. DFP Rev. Q)

Figure 3 - Render view comparison of Building 2's secondary stair core change (Fieldwork Endorsement Rev. O vs. DFP Rev. Q)

2.2 Changes to the Permit

The proposed development remains generally consistent with the requirements of the Permit. We submit that subject to DTP's review and assessment, these conditions can largely be translated into a new approval (noting that reference to the relevant Responsible Authority will need to be revised).

The following conditions of the Permit would need to be amended to facilitate the proposed development:

Condition number(s)	Proposed amendments	Comment
1(d)	~~Increase upper level setback from northern boundary at level 8 in the north eastern corner of building 1 to convert apartment 1.8.02 from a three bedroom apartment to a two bedroom apartment (so as to increase the setback to Victoria Street by a minimum of 1m). (deleted)~~	The requirements of this condition – which was initially borne out of compulsory conference negotiations – has been incorporated into the proposed development. It is therefore no longer necessary.
1(f)	~~Increased widths of pedestrian accessways between Buildings 1 and 2 generally in accordance with the without prejudice sketch plans prepared by Fieldwork Architects dated 18 September 2023.~~ (deleted)	The requirements of this condition – which was initially borne out of compulsory conference negotiations – has been incorporated into the proposed development. It is therefore no longer necessary.
1(i)	~~Commercial floorspace of a minimum of 1,000 square metres on level one of Building 1.~~ (deleted)	This condition refers to the Level 1 commercial floorspace which is no longer proposed to be provided.
1(j)	~~Replacement of glass bricks on east elevation of Building 4 with solid wall.~~ (deleted)	The requirements of this condition – which was initially borne out of compulsory conference negotiations – has been incorporated into the proposed development. It is therefore no longer necessary.

3 Commercial conversion

A key change identified in Figure 1 is the conversion of Building 1 Level 1 from commercial office tenancies to residential apartments. As previously discussed with DTP, this change will enable the delivery of much needed housing, heritage restoration and retail and office employment to activate a vacant Site. Maintaining the existing approved quantum of commercial space threatens the viability of the development and its ultimate delivery.

As outlined in Urban Enterprise's Economic Assessment:

- Whilst the conversion does not achieve the quantitative employment floorspace objectives of Clause 17.01-1L-02 or proposed Planning Scheme Amendment C230mbek ('C230mbek'), the proposal responds positively to other relevant economic objectives and benchmarks which underpin the *Moreland Industrial Land Use Strategy (MILS), 2015-2030*, including:
  - 52% net employment floorspace of site area *exceeding* the 16% policy target or the average of 35% delivered in recent developments within the Brunswick Activity Centre.
  - 230 jobs per hectare *exceeds* the 80 jobs/ha employment density target.
  - 53% jobs per employed resident *exceeds* the 48% self-sufficiency target.

    - 52sqm of net employment floorspace per 100sqm of site area, being slightly lower than the 70sqm required to avoid the need for a planning permit for dwellings under C230mbek but higher than the average of 35sqm per 100sqm site area in recent developments in the Brunswick Activity Centre.
- The Site will still play a key role delivering over 4,000sqm of retail and office space to accommodate Brunswick's future employment growth with a new community and fine-grain designed tenancies.
- The proposal would activate a Site, recently demolished, that has been underutilised for over 7 years.
- The Site has a vital role in the delivery of housing, including affordable housing, in a strategic location to support a labour force that benefits local business and attracts local talent and key workers.
- There is moderate demand for office space in Brunswick, with post-pandemic conditions and relatively high vacancy rates limiting demand and price growth in the short-medium term. Especially against competing parts of the City Fringe which are better placed to accommodate demand.
- There is a higher demand for smaller and ground floor tenancies.
- The proposed tenancy mix aligns with expected demand profiles compared to large first floor tenancies.

On balance, the proposal represents a positive economic outcome consistent with policy objectives related to economic development.

4 WSUD Strategy

As part of the endorsement process under the current permit, the project team led by Hip V. Hype have undertaken extensive modelling and consultation with Merri-bek City Council over the past eight months to workshop and deliver a Water Sensitive Urban Design (WSUD) strategy that achieves compliance with relevant requirements, enables outfall of the catchment efficiently, is efficient, cost effective, reliable and easy to maintain. A chronology of this engagement is provided below:

- 24/11/2023 – Lodgement of endorsement package
- 14/02/2024 – Hip V. Hype meeting with Council ESD officers
- 08/03/2024 – Further modelling provided by Hip V. Hype
- 14/04/2024 – Hip V. Hype meeting with Council ESD
- 29/04/2024 – Three raingarden scenarios provided to demonstrate need for proprietary devices (refer Appendix A)
- 25/06/2024 – Project team meeting with Council officers
- 16/07/2024 – Raingarden proposal submitted to enable endorsement.
- Unfortunately, despite the submission of detailed options testing and analysis of the contextual barriers preventing a viable raingarden arrangement, the project team were unable to convince Council to accept an alternative arrangement due to their preconceived objections to proprietary devices. In order to facilitate the commencement of works on Site, the project team ultimately provided a landscape plan and stormwater management strategy that incorporated a raingarden supported by a series of pumps to resolve level changes across the public realm areas.

Ocean Protect's proprietary systems have been extensively tested across various Australian conditions and overseas as evidenced by the enclosed independent peer reviews, SQIDEP industry certifications and demonstrated viability through their use on the following key projects within Merri-bek and Greater Melbourne:

- Assemble's Sydney Road, Coburg (DTP approval - PA2402798)
- Homes Victoria/AVJennings' Harvest Square (Gronn Place), West Brunswick
- 10-16 Little Miller Street, East Brunswick, and

- East Village, Bentleigh East (Glen Eira Council).

A full review of the Ocean Protect system's application including academic peer review has been included as part of the application materials.

We strongly maintain the position that the raingarden currently approved on site is tokenistic, inefficient and costly, struggles to meet regulatory requirements, and incorporates multiple points of failure that present serious maintenance concerns. We submit that providing raingardens on the Site remains a suboptimal arrangement, due to:

- The significant contextual constraints including extended distance from the central courtyard (being the only viable raingarden location due to basement arrangements) to, and depths of, the shallow legal points of discharge (LPOD) meaning outfall cannot be achieved via natural means.
- The changing depths of outfall piping would lead to unviable impacts on basement headroom, design, construction and services.
- The pumped outfall arrangements only draining a small catchment due to site levels, resulting in inefficient duplication of pump infrastructure and increased costs and resourcing for installation, reliability and maintenance.
- The negative impacts to public realm accessibility and fine grain urban design through level changes leading to laneway pooling, puddling and pedestrian safety risks including trip hazards.
- The need for prohibitive batter requirements resulting in reductions in the amount of open space available for landscaping and vegetation.
- The raingardens ultimately providing poorer outcomes for stormwater quality and filtration than proprietary devices.

Moreover, the proposed proprietary devices are consistent with all relevant stormwater management requirements, are a proven technology, and represent the most efficient and effective approach to managing stormwater on the Site.

Refer to Hip V. Hype's Sustainability Management Plan for details of the proposed strategy.

5 Conclusion

We trust this memorandum provides sufficient background detail to enable DTP's efficient assessment of the merits of the proposed development.

We trust that the above information is of assistance. Should you have any questions in relation to this matter, do not hesitate to contact either me or Derek Lawrie at plewis@tract.net.au / dlawrie@tract.net.au.

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29 April 2024

Dear Jack

Planning Permit No. MPS/2017/745/A
342-348 & 368-370 Victoria Street, 13 & 15 Rosser Street and 32 Wilkinson Street, Brunswick
Request for Further Information (RFI) Response – WSUD Strategy Justification

Tract continues to act on behalf of *Assemble VSB Pty Ltd ATF Assemble VSB Trust* in relation to the above Site.

We are pleased to submit the enclosed documents in response to Council's email request dated 2nd of April 2024 (and a subsequent meeting between Hip V. Hype and Council ESD officers held on 14th of April) to provide clarification and justification of the proposed Water Sensitive Urban Design (WSUD) strategy as we seek to finalise endorsement under Condition 6 of the Permit:

- Raingarden Scenarios 1-3 dated 18 April 2024 prepared by Fieldwork Architects.
- Updated MUSIC model prepared by Hip V. Hype.
- Sustainability Management Plan (SMP) version 08 dated 16 April 2024 by Hip V. Hype.
- Refer to Ocean Protect's public independent peer review links issued via email with this submission.

For ease of reference, we have prepared a table (refer to Appendix A) that documents the project team's detailed response to Council ESD and E2 Design's peer review and justification for the utilisation of proprietary devices instead of raingardens due to significant Site constraints and stormwater efficacy following extensive investigation and analysis.

As outlined in the meeting on 14th of April and the scenarios within this response, the project team consisting of Hip V. Hype (ESD), Webber Design (Civil), Mala Studios (Landscape) and Fieldwork Architects have undergone thorough investigation and analysis of potential solutions which justify the proposed WSUD strategy which complies with Council's performance requirements and maintains the high quality public realm outcomes envisioned under the Permit. Moreover, while we fully appreciate Council's preference for raingardens to be delivered, as clearly expressed in the supporting materials it is not possible to provide raingardens on Site due to the existing levels, location of LPD and a range of other civil and public realm matters.

Therefore, we trust that this is sufficient for Council to undertake their review and determine if the WSUD strategy and SMP is acceptable for endorsement along with the RFI endorsement response package issued to Council on 22 February 2024.

Should you have any questions, please contact Paul Lewis on plewis@tract.net.au/0430 487 324 or Derek Lawrie dlawrie@tract.net.au/(03) 9427 3790.

Yours sincerely

Derek Lawrie
Senior Town Planner
Tract

Appendix A – Itemised table of changes relevant to response to further information requests

We provide the following responses below to each of Council's further information requests.

No.	Council & E2 Design comment/request	Our response	Page reference
Sustainable Management Plan – WSUD Strategy			
1	*SMP report p28 states that Melbourne Airport rainfall data is used to model rainfall. The development site sits within the 086071 Melbourne Regional rainfall region as per Melbourne Water MUSIC Guidelines.*	Reporting error, confirming 086071 (Melbourne Regional) data had been used in the analysis. This has been amended in the updated report.	SMP – pages 24 & 26 (Appendix B: Water Sensitive Urban Design) Refer to Hip V. Hype's updated MUSIC model
2	*100% of proposed buildings 1 to 4 and the existing buildings roof area is to be connected to rainwater tanks (25KL on each building). While this could be achieved, it might be challenging and therefore must be a clear requirement on the development.*	Hip V. Hype are comfortable with the design which has been carefully coordinated with Wrap Engineering hydraulic consultants, and considered in piping design to tanks.	SMP – pages 20-26 (Appendix B: Water Sensitive Urban Design)
3	*This roof area connected to tanks includes apartment terraces and trafficable roof area which may introduce unwanted contaminants into rainwater.*	Design and treatment requirements of water collected from terraces has been coordinated with the hydraulic consultant to minimise contaminants in water reuse.	SMP – pages 22-24 (Appendix B: Water Sensitive Urban Design)
4	*Proposed rainwater reuse for toilet flushing and irrigation is not modelled correctly. The demand for reuse is stated to be 3,896L/day*	Hip V. Hype have re-modelled the roof areas in both catchments to drain into 4x25KL rainwater tanks (2x RWT for each catchment) with a combined re-use rate of 13.45kL/day for toilet flushing based on 27L/day of daily demand per occupant and conservatively assuming 1.0	SMP – page 26 (Appendix B: Water Sensitive Urban Design)

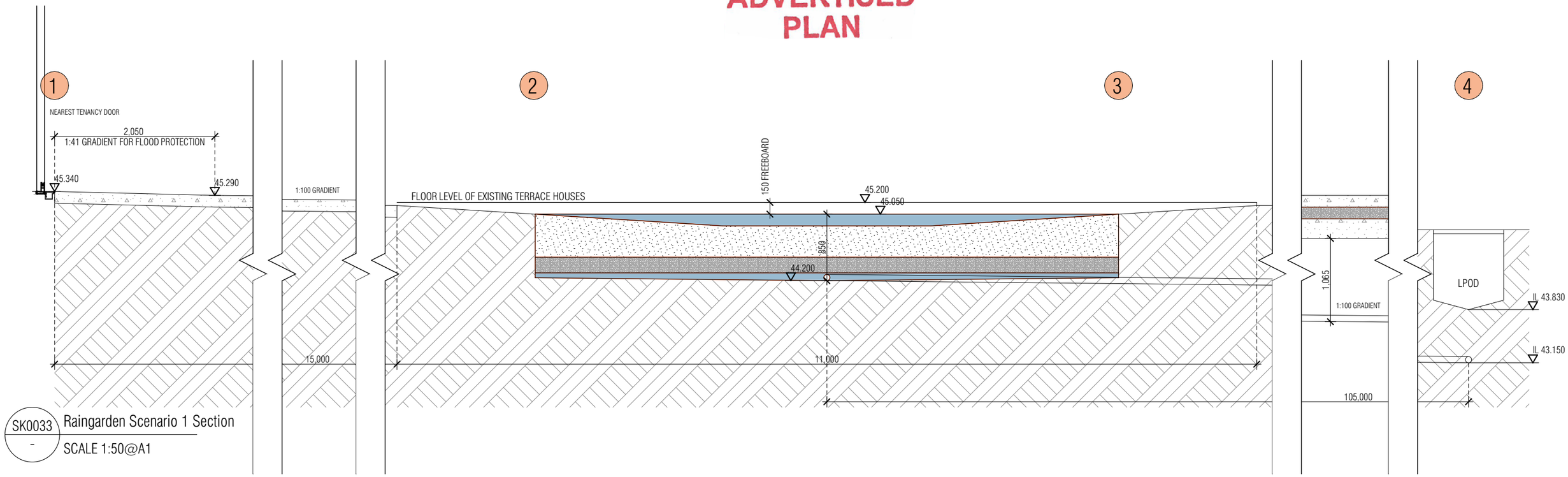
	in the SMP, however the MUSIC model rainwater tank nodes specify a total demand of 38 KL/day (13.1KL/day for catchment 1 and 24.9KL/day for catchment 2). This results in very low tank efficiency (12-27%) and overstatement of volume reused.	occupants per bedroom for a total of 498 bedrooms and additional demand from the retail and office spaces. Their calculations are based on NSW music modelling guidelines (August 2015) since Melbourne Water MUSIC guidelines don't provide any information on the reuse rates. These rates have also been compared to the results of the Green Star Potable Water Calculator which shows similar outputs for toilet reuse demand.	Refer to Hip V. Hype's updated MUSIC model
5	*Further, the reuse from tanks is input as constant (daily) demand. The proportion of demand from irrigation should be modelled as annual demand to account for season variation in demand and evapotranspiration (annual demand distribution: PET minus rain).*	Hip V. Hype have re-modelled the irrigation demand as an annual demand inclusive of evapotranspiration in addition to the above updated toilet flushing demand. The irrigation annual demand equates to 269.9kL in total. Based on the updated modelling for Item 4 and 5, the resulting effective treatment pollutant reductions are still exceeding Council requirements and are considered conservative.	Refer to Hip V. Hype's updated MUSIC model
6	*The use of a sediment basin treatment node on each catchment to represent a precast concrete pit is highly questionable and would not typically be supported. (this approach may have been recommended by the company providing the SQID proprietary products).*	Response from proprietary provider: *In regard to the comments on the SF Chamber Node we use in MUSIC models we use a sedimentation node with altered parameters to accurately model the volume of water within the cart bay area or tank below the weir wall that is to be treated by the StormFilter cartridges. The sedimentation node in MUSIC is based on an open top, often grass lined basin, and as we are modelling the concrete SF Chamber/Cart bay area it is not appropriate to use the default MUSIC values. To leave the default values in the sedimentation node would exaggerate the performance of the StormFilter cartridges and therefore we alter these parameters to k = 1 for TSS, TP and TN.* *The extended detention depth is based on the weir wall around the SF Chamber/cart bay area and the height above the false floor to engage the siphon within the StormFilter cartridges and achieve the treatment flow rate. As the SF Chamber/Cart bay area will drain dry between rain events no Permanent Pool volume is modelled. Notional Detention time is a function of the Equivalent Pipe Diameter based on the orifice disks used to control the treatment flow rate and the number of StormFilter cartridges required to achieve the relevant reduction targets. As the SF Chamber/cart bay area is in a below ground concrete tank no Evaporative Loss is to be modelled.*	Refer to Hip V. Hype's updated MUSIC model

7	*I assume the treatment node properties of proprietary devices including OceanGuard and StormFilter systems have been provided by the proprietor. If proprietary devices are to be pursued, the claimed performance of these products should be assessed.*	Please see below all publicly available technical information which has been peer reviewed by third party independents: OceanGuard *Over 20,000 OceanGuard (and previous generation Enviropod) technologies have been installed within Australia by Ocean Protect – and stormwater treatment performance monitoring has been undertaken for three (3) sites (including two sites in Australia) operating in 'real world' conditions, all showing significant reductions in pollutant concentrations. A review of the application of OceanGuard® in Australia)attached) provides a review of the performance of OceanGuard, and of its suitability for application within Australia. This review has shown that OceanGuard is an appropriate stormwater treatment asset type for application in Australian urban environments. OceanGuard has been accepted by many of the most stringent stormwater quality regulators within Australia.* StromFilter *The StormFilter system is a very mature technology with over 30,000 StormFilter installed within Australia to date. The third party independent peer review reports are included in our review papers for StormFilter® (attached). Table 2-5 of the StormFilter report summaries the performance monitoring of StormFilter at four (4) locations – which includes one site in Australia (near Cairns, QLD) and three sites in USA. In Table 1-1 of the StormFilter report, StormFilter uses physical (e.g. sedimentation, filtration) and chemical (e.g. adsorption) treatment processes.* *Ocean Protect has recently had three of our most popular treatment systems verified by Stormwater Australia to the SQIDEP protocol. These products have been used extensively throughout Australia for many years, and this verification is based on the extensive 3rd party (independent) peer-reviewed data for our systems that has been publicly available for several years.*	Refer to public peer review links issued via email with this submission.
8	*These observations (especially 4. And 5.) impact the performance of the model in demonstrating compliance with treatment targets. Regarding the use of proprietary SQID devices for stormwater treatment (6.*	Based on the updated modelling for Item 4 and 5 as detailed in this response, the resulting effective treatment pollutant reductions are still exceeding Council requirements and are considered conservative.	Refer to Raingarden Scenarios 1-3 dated 18 April 2024 prepared by Fieldwork

	and 7.), we recommend that the proponent further explore the feasibility of providing raingarden / bioretention treatment systems to treat impervious areas (other than roofs).	Scenario analysis undertaken by Webber Design and the project team have been drawn up by Fieldwork Architects to demonstrate why raingardens are not viable solution for the proposed development of the Site.	Architects and Hip V. Hype's updated MUSIC model
J1 Depth	*It is true that the depth constraints present challenges to designing bioretention treatments on site. A modified bioretention design could incorporate a 200mm deep saturated zone at the base of the system, which would justify reducing:* *- filter depth (ie. 400mm)* *- extended detention (ie. 150mm)* *- drainage layer (ie. 100mm)* *- slotted pipe diameter (ie. 80mm)* *Assuming inflows via surface sheet flow, this would result in an overall system depth as shallow as 850mm, where the depth from surface to outfall is 650mm with a 200mm saturated zone below. Such an arrangement may enable the bioretention to outfall to the LPOD.*	As demonstrated in the Raingarden Scenarios the proposed raingarden section would not provide for a feasible raingarden arrangement, nor would the alternative options explored by the project team. A summary of the constraints include: • Significant Site complexity limits potential raingarden locations due to deep inflows and extensive runs from the laneways to the central garden and shallow LPODs • Impacts on basement headroom, design and construction • Extent of proposed raingarden inlet level depths (approx. 1-1.5m) below finished surface levels (FSLs) • Inlet head requirements further dropping FSLs • Public realm accessibility and urban design impacts through potential level changes could lead to laneway pooling, puddling and pedestrian safety risks including trip hazards • Trafficable edge flat transition zones, batter requirements and reduced open space/laneway planters • Compromised raingarden efficacy on account of reduced depth, capacity or coverage leading to worse outcomes for water quality than proposed proprietary devices On this basis, and the fact that the proposed proprietary systems provide a compliant performance outcome in relation to best practice WSUD management (and pollutant reduction targets), the proposed WSUD strategy should therefore be accepted. It is also worth noting Council precedence for approval of similar proprietary devices at 429 Albert Street, Brunswick. Flood risk (J2) and space (J3) comments below are accepted but given the above is immaterial to the viability of raingardens.	Refer to Raingarden Scenarios 1-3 dated 18 April 2024 prepared by Fieldwork Architects and Hip V. Hype's updated MUSIC model
J2 Flood Risk	*It is assumed the stated "freeboard level" provided by Melbourne Water represents*	Taken on notice and agreed, but even accounting for this it does not address the inability to make raingardens function pursuant to J1 above.	Refer to Raingarden Scenarios 1-3 dated 18 April

	the 1% AEP flood level plus freeboard. Bioretention systems are very commonly constructed within the 1% AEP extent and can withstand occasional flooding. There are numerous examples of built bioretention systems that will occasionally flood, including most streetscape bioretention / raingardens where a roadway acts as an overland flow path during flood events.		2024 prepared by Fieldwork Architects and Hip V. Hype's updated MUSIC model
J3 Insufficient Space	*Assuming a typical 1% catchment: treatment area ratio approach, treatment of the "Ground Trafficable/Impermeable areas" (1,258m2 from p25 of SMP) would result in a bioretention area of 12.6m2. Subject to more detailed modelling and outfall assessment, this could feasibly be accommodated in the design.*	Taken on notice and agreed, as above.	Refer to Raingarden Scenarios 1-3 dated 18 April 2024 prepared by Fieldwork Architects and Hip V. Hype's updated MUSIC model

ADVERTISED PLAN



SK0033 – Raingarden Scenario 1 Section

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RAINGARDEN SCENARIO 1 OUTLINE

a ground-level raingarden can only catch water from a small part of the site, and cannot naturally discharge water to the LDP.

A. The raingarden level is set by the floor level (RL 45.20) of existing heritage-listed terrace houses that are adjacent to the raingarden. A 150mm freeboard is required between the floor level and the top of the raingarden's 850mm system depth. This means the highest possible Invert Level for the raingarden outlet is 44.20.

B. The distance from the raingarden to the Legal Point of Discharge is 105m, which at a pipe gradient requires a fall of 1.05m. This leaves the Invert Level of the outlet significantly lower than the Legal Point of Discharge.

C. There is a difference of 290mm between the top of the raingarden and the ground floor RL. At a gradient of 1:100 and taking into account the 50mm fall away from building entrances to prevent water ingress, this gives the raingarden catchment a range of 15m. This means that the central courtyard can drain to the raingarden, but the rest of the site will need to be drained to the currently proposed filtration system.

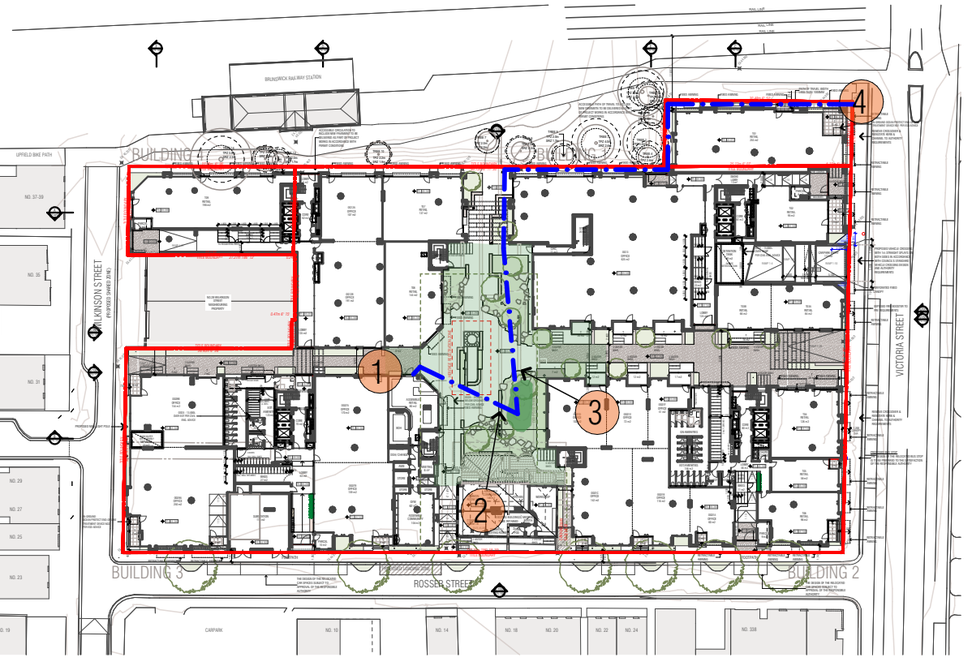
D. A tank and pump system could overcome the LPD discrepancy identified in item B, however it would be duplicating the tank system still required as identified in item C. This would result in a wasteful duplication of resources and maintenance for a tokenistic raingarden system.

E. There are no raingarden locations possible to the north of the one shown on the plan, due to basement below. This means that a hybrid system would remain necessary, and the raingarden would remain tokenistic.

F. Usage of tanks and pumps are not a recommended feature of raingarden design, as the process is not occurring naturally.

G. Ground floor RL should not be increased to provide a larger catchment for the raingarden, as it is already unnaturally high in order to comply with Merri-Bek's flood level, causing very challenging interfaces. The fine-grain urban design response is already stretched to its limit, and any further RL increases would result in extensive use of switchback wheelchair ramps at building entrances, and/or consolidation of entrances ie a less fine-grain design response with fewer entrances facing the street. In order to facilitate a catchment to the whole site, the ground floor would need to be raised approximately 500mm, which would result in 1.1m level differences at Victoria St.

H. The downstream pipe needs to cross the basement, and does so at a level that is an unacceptably deep obstruction in the basement, and would require the basement to be made deeper for this pipe alone, which is not feasible. The LPD could be moved to the corner of Rosser St and Victoria St to avoid this, but the LPD is shallower again.



KEY

RAINGARDEN CATCHMENT

RAINGARDEN FOOTPRINT

SECTION LINE ON WATER PATH

FILE PATH: BIMcloud: FWBIM02 - BIMcloud Basic for Archicad 25/220041 Victoria Street Brunswick/220041 Victoria Street Brunswick Layout Book

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SKETCH

Project Number
220041

Client
ASSEMBLE

Site Address
342-348 VICTORIA ST
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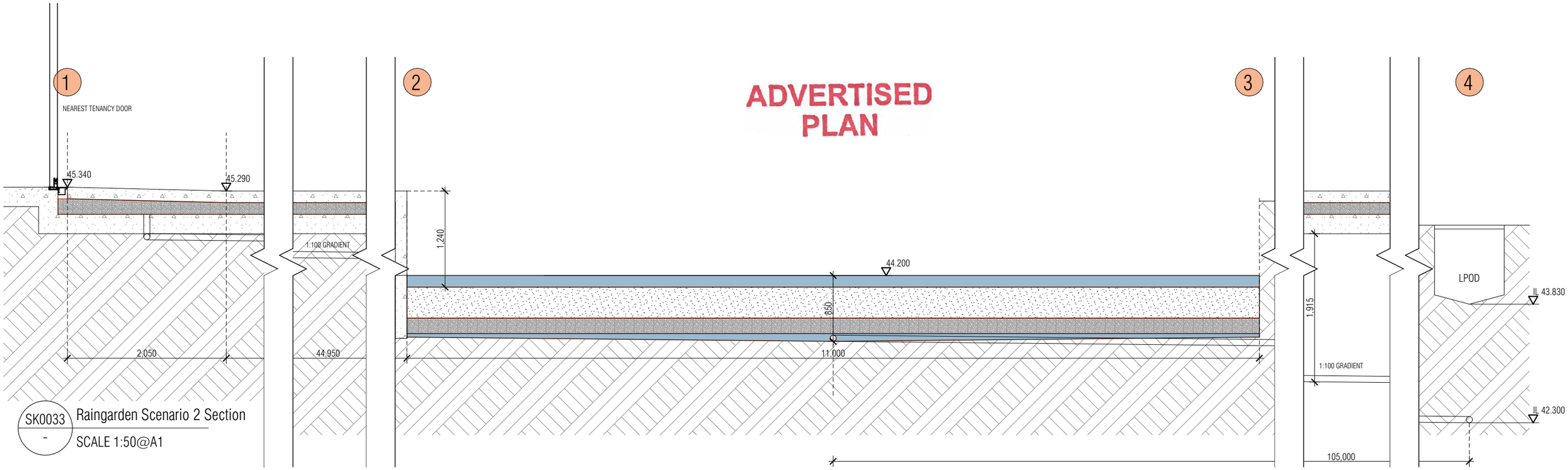
Drawing Name
Raingarden Scenario 1

Date
18/04/2024

Scale
1:50, 1:1000 @ A3

Drawing Number
SK-0033.1



SK0033 Raingarden Scenario 2 Section
-
SCALE 1:50@A1

RAINGARDEN SCENARIO 2 OUTLINE

a raingarden catching water from the entire site creates fall risks, clashes with the basement, ruins a key open space and cannot naturally discharge water to the LDP.

A. In order to provide coverage to the entire site, water is directed to the raingarden via pipework under the structural slab. With a landscape buildup of 300mm, slab thickness of 250mm and a 50mm fall away from building entrances to prevent water ingress, the invert level for the pipe begins 680mm below ground floor RL.

B. The maximum distance from open landscaped areas to the raingarden is 47m, resulting in 470mm of fall to the raingarden, with drainage pipes maintaining a gradient of 1:100. This means that the pipe is 1090mm below the surrounding landscape finish by the time it gets to the edge of the garden.

C. The upstream pipe being 1090mm below landscape levels means that it is an unacceptably deep obstruction in the basement, and would require the basement to be made deeper for this pipe alone, which is not feasible.

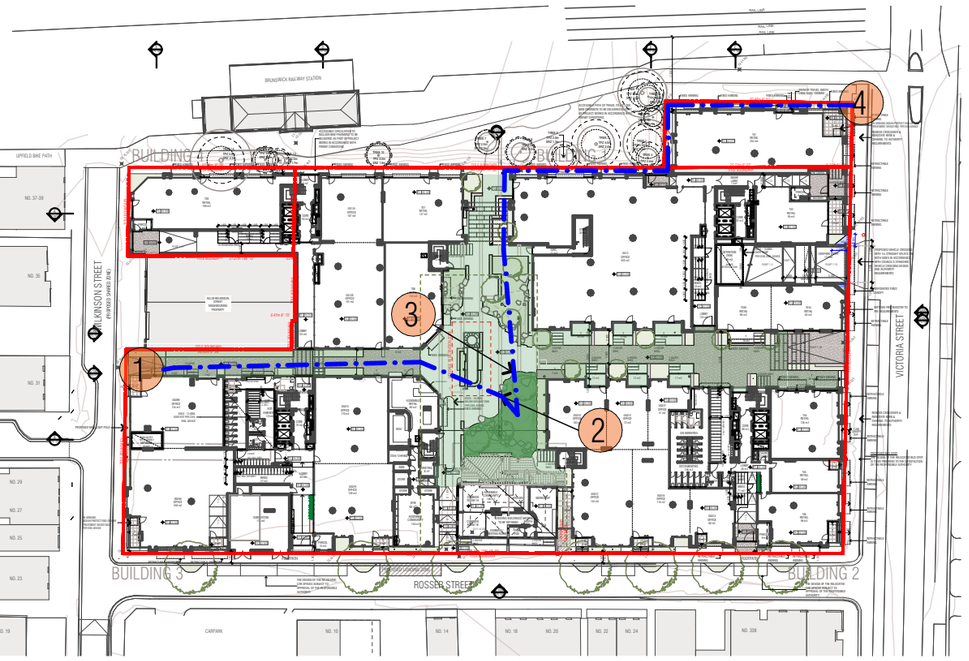
D. There cannot be a network of local raingardens, as this would not be possible over the basement in the northern laneway, so the same maximum run would apply. Therefore, an RL of 44.20 to the top of the raingarden is the most optimistic outcome for a raingarden with a full site catchment.

E. With the top water level of the raingarden at RL 44.20, the 1.2m fall from the path to the garden bed presents a safety hazard, and would require a balustrade to prevent falls, It would then also require a staircase out of the ditch to prevent entrapment. If a smaller drop from the path edge were provided, with graded soil providing the rest of the level change, there would still be a safety in design risk that would need to be mitigated with the same features.

F. Because of the levels and fencing, this large garden would no longer function as an active play space for children, as it would present as a ditch rather than a garden. The site would be losing a key communal open space and gaining a stormwater asset.

G. Downstream from the raingarden, at a gradient of 1:100, the drainage pipe would arrive at the location of the Legal Point of Discharge at an RL significantly lower than the LPD. This could be overcome with a tank and pump, although this is not a recommended raingarden design feature.

H. The downstream pipe needs to cross the basement, and does so at a level that is an unacceptably deep obstruction in the basement, and would require the basement to be made deeper for this pipe alone, which is not feasible. The LPD could be moved to the corner of Rosser St and Victoria St to avoid this, but the LPD is shallower again.



KEY

- RAINGARDEN CATCHMENT
- RAINGARDEN FOOTPRINT
- SECTION LINE ON WATER PATH

FILE PATH: BIMcloud: FWBIM02 - BIMcloud Basic for Archicad 25/220041 Victoria Street Brunswick/220041 Victoria Street Brunswick Layout Book

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SKETCH

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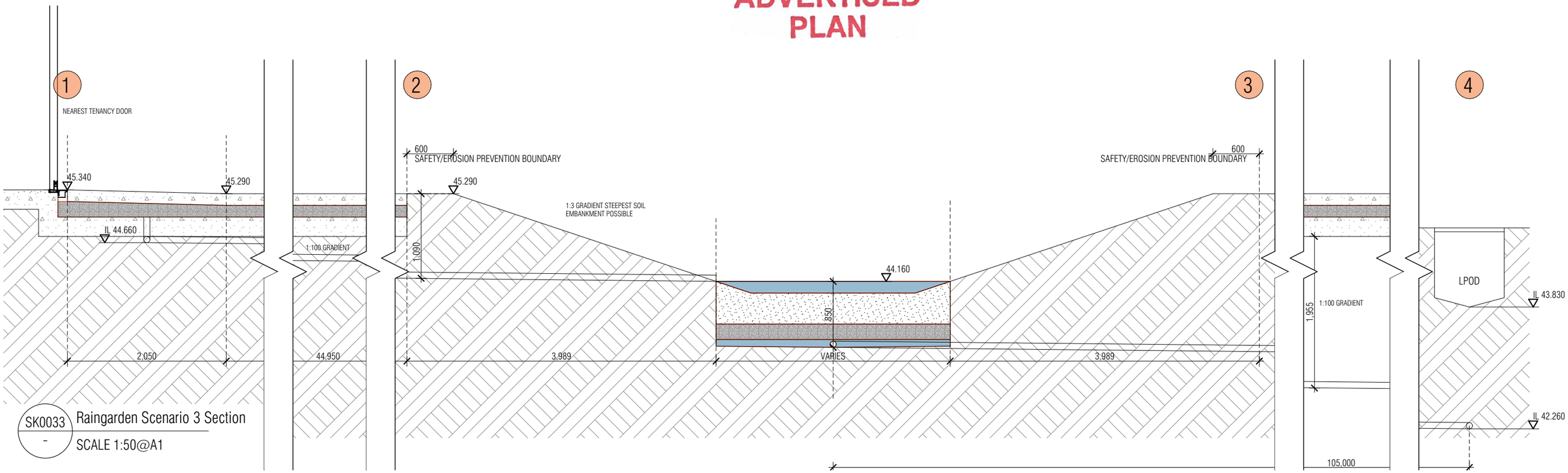
Drawing Name
Raingarden Scenario 2

Date
18/04/2024

Scale
1:50, 1:1000 @ A3

Drawing Number
SK-0033.2

ADVERTISED PLAN



SK0033 – Raingarden Scenario 3 Section

SCALE 1:50@A1

RAINGARDEN SCENARIO 3 OUTLINE

a raingarden catching water from the entire site loses almost all of its functional area to landscaping gradient setbacks, clashes with the basement, ruins a key open space and cannot naturally discharge water to the LDP.

A. In order to provide coverage to the entire site, water is directed to the raingarden via pipework under the structural slab. With a landscape buildup of 300mm, slab thickness of 250mm and a 50mm fall away from building entrances to prevent water ingress, the invert level for the pipe begins 680mm below ground floor RL.

B. The maximum distance from open landscaped areas to the raingarden is 47m, resulting in 470mm of fall to the raingarden, with drainage pipes maintaining a gradient of 1:100. This means that the pipe is 1090mm below the surrounding landscape finish by the time it gets to the edge of the garden.

C. The pipe being 1090mm below landscape levels means that it is an unacceptably deep obstruction in the basement, and would require the basement to be made deeper for this pipe alone, which is not feasible.

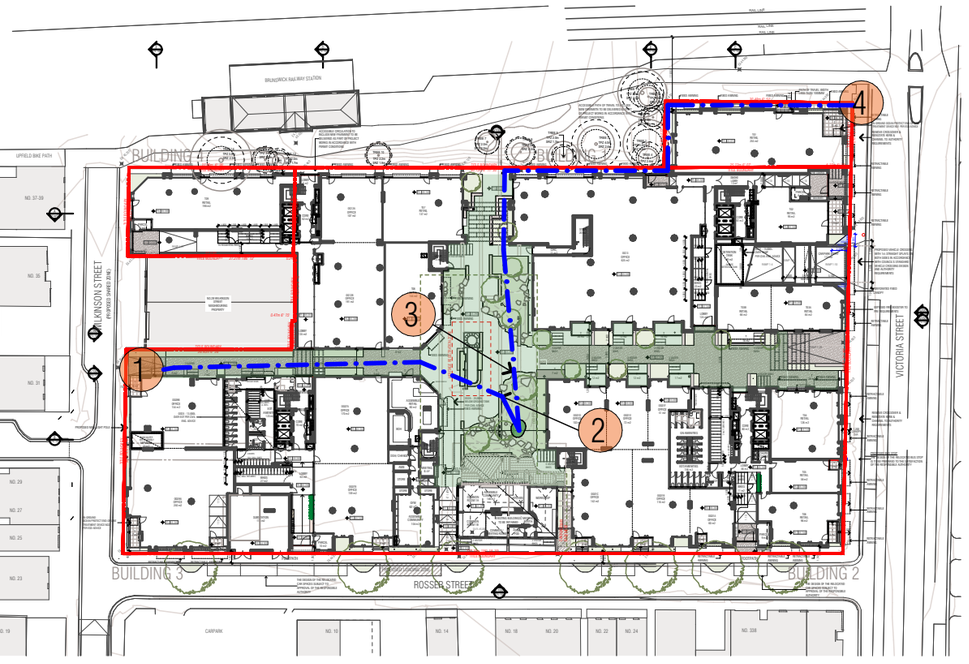
D. There cannot be a network of local raingardens, as this would not be possible over the basement in the northern laneway, so the same maximum run would apply. Therefore, an RL of 44.20 to the top of the raingarden is the most optimistic outcome for a raingarden with a full site catchment.

E. With the top level of the raingarden at RL 44.16, the 1.2m of fall can be landscaped at a maximum gradient of 1:3. Any steeper and soil erosion cannot be prevented. A minimum flat soil width at the top of the slope of 500mm is necessary for soil stability, and 600mm has been allowed for as this is a recommended margin to prevent vision impaired people who wander off the path from falling in the ditch. These parameters generate a 4m setback from the edge of the landscaped area to the section of the garden that can perform as a raingarden. The resulting area that can filter water is of too small an area to process the water this catchment would provide.

F. Because of the levels and gradients, this large garden would no longer function as an active play space for children, as it would present as a ditch rather than a garden. The site would be losing a key communal open space and gaining a stormwater asset.

G. Downstream from the raingarden, at a gradient of 1:100, the drainage pipe would arrive at the location of the Legal Point of Discharge at an RL significantly lower than the LPD. This could be overcome with a tank and pump, although this is not a recommended raingarden design feature.

H. The downstream pipe needs to cross the basement, and does so at a level that is an unacceptably deep obstruction in the basement, and would require the basement to be made deeper for this pipe alone, which is not feasible. The LPD could be moved to the corner of Rosser St and Victoria St to avoid this, but the LPD is shallower again.



KEY

- RAINGARDEN CATCHMENT
- RAINGARDEN FOOTPRINT
- SECTION LINE ON WATER PATH

FILE PATH: BIMcloud: FWBIM02 - BIMcloud Basic for Archicad 25/220041 Victoria Street Brunswick/220041 Victoria Street Brunswick Layout Book

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Drawing Name
Raingarden Scenario 3

Date
18/04/2024

Scale
1:50, 1:1000 @ A3

Drawing Number
SK-0033.3