

Memorandum

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Subject:	Ravenhall PSP Summary of Key Assumptions

Introduction

Melbourne Water has investigated Ravenhall Precinct Structure Plan (PSP) and its neighboring area for the past few months to resolve the drainage issues, complexities and difficulties in the area and neighborhood, including Derrimut Fields PSP.

This process initiated by receiving a proposed planning scheme amendment for 106 and 220 Riding Boundary Road, Ravenhall. These two properties are part of the future Ravenhall PSP; however, the PSP is unprogrammed and planned for 2034-2035. At the same time Melbourne Water understood that there is a possibility of land use change in another great section of this future PSP, Ravenhall Logistic Precinct (Boral) site. Therefore, Melbourne Water initiated an engineering review in a timely manner to investigate further.

From Melbourne Water's engineering review, a number of complexities and risks are identified on the area; for instance:

- Existing uncontrolled flooding on the area
- Environmental significance such as conservation area
- Existing key infrastructures such as railway line and rail culverts,
- Unclear status of the retarding basin located downstream of the 106 and 220 Riding Boundary Road (named Robinsons Road Retarding Basin) with unknown design and construction timing.

These are only some of the issues that were identified. Overall, it was concluded that the drainage catchment boundary affects further than the Ravenhall PSP boundary.

Based on this Melbourne Water took a new initiative by having a standalone landowner and stakeholder drainage workshop process prior to any precinct

Location A: Interaction between Riding Boundary Road and Ravenhall Logistics Precinct (Boral)

Key Assumptions:

- Flow conveyance and drainage connectivity between upstream and downstream properties will be maintained, with ultimate drainage arrangements to be developed in accordance with the adopted catchment strategy.
- This location is considered a high-priority area for resolution, as it is critical to confirming the ultimate catchment boundaries between the Ravenhall Logistics Precinct (Boral) and the Derrimut Fields PSP. The Ravenhall Logistics Precinct comprises approximately 620 ha of land undergoing redevelopment, with ultimate runoff expected to discharge both eastward and southward. The interaction at Riding Boundary Road will define the portion of flows conveyed south towards the Derrimut Fields catchment and the portion conveyed east towards Laverton Creek.
- Key stakeholders and land interests within the area include Boral, TransGrid/Cogency, and the existing quarry operations, all of which are assumed to influence the development of the ultimate drainage solution and outfall arrangements.
- The primary objective is to determine the number and location of drainage outfalls, confirm the distribution of flows directed south towards Derrimut Fields PSP and east towards Laverton Creek, and establish a definitive DSS/catchment boundary through the Boral site based on the agreed stormwater conveyance and outfall strategy.
- **Outstanding Item:** The existing quarry consultant has identified a potential south-to-north flow path from the existing quarry site to Boral's land and has outlined associated development expectations. This matter remains under review and will be further assessed by Melbourne Water to determine its implications for drainage planning and future development outcomes.
- **Resolved Issue / Current Adopted Assumption:** There will be multiple outfall points at this location.

Location B: Derrimut Fields PSP

Key Assumptions:

- **A standalone memorandum** has been prepared to document the drainage assumptions for the Derrimut Fields PSP and align with the current DTP PSP Program.
- The assessment area includes Properties 40, 41, 42, 43, 49, 50, 51, 52, 114 and 119 in Truganina DSS, requiring ongoing coordination with landowners and stakeholders.

Location C: Laverton Creek Capacity

Key Assumptions:

- Laverton Creek is assumed to be the primary outfall for catchments east of Ravenhall. Further investigations are required to confirm its flood capacity, receiving conditions, and ability to accommodate additional developed flows.
- The Development Services Scheme (DSS) is assumed to satisfy the required performance criteria while addressing downstream drainage constraints, flood risks, and flow conveyance requirements.
- **Outstanding Item:** Dalton Consulting Engineers flood modelling on this area is under progress.
- **Resolved Issues / Current Adopted Assumption:** Dalton Consulting Engineers, with assistance from Dexus, will support Melbourne Water in undertaking the Laverton Creek flood modelling. This work is critical to resolving flood issues in a timely manner, meeting DSS requirements, and aligning with the planning scheme amendment timeframes for upstream properties.

Location D: Railway culverts

Key Assumptions:

- At these locations an existing railway line and railway crossings are located. To consider the safety of any existing infrastructure such as railway line, the rail culverts features have to be controlled. Furthermore, their capacity to convey developed flow from upstream to downstream is important.

- The connection from Christis Rd culverts to the existing railway culverts, levels and conveyance methods are to be confirmed.
- **Outstanding Item:** Further investigation is required to determine whether the two railway culverts located at Boundary Road, as raised by VicTrack, have sufficient capacity to accommodate the additional downstream flows generated by the proposed development.
- **Resolved Issue / Current Adopted Assumption:** VicTrack raised requirements regarding the project area, noting that the existing culverts will continue to be utilised by the upstream catchments. Accordingly, all proposed works and designs must consider and comply with VicTrack's infrastructure requirements.

Location E: DSS Boundary Change North West Corner

Key Assumptions:

- Location E is the interaction between three DSSs including Laverton Creek DSS, Truganina DSS and Neale Road DSS. DSS boundary is normally a catchment boundary, but existing situations can also affect the DSS boundary change. At this area there is a railway line passing through the multiple sites. The south of railway line is within Ravenhall and owned by Boral, while the north of railway line is within future Warrawee PSP and owned by another landowner.
- The key objectives are to understand the catchment characteristics, including the location of high points and low points, assess whether the PSP boundary can be aligned with the DSS boundary at Location E, and ensure that no developed flows from Boral's site are conveyed to the adjacent Warrawee site.
- **Outstanding Item:** While the Warrawee/Pelligra landowners were not present at the workshops to confirm their position on the proposed DSS boundary change, they were provided with the workshop minutes and recordings for review.
- **Current Adopted Assumption / Resolved Issue:** As no objections have been raised regarding the proposed DSS boundary change at Location E, Melbourne Water will proceed with the DSS amendment. During the workshop discussions, Boral expressed support for the boundary change, noting that it would ensure developed flows from Boral's land are not conveyed to the adjoining Warrawee site, thereby maintaining a clear separation of drainage responsibilities between the respective catchments and landholdings.

Location F: Derrimut Fields & surroundings boundary assumptions

Key Assumptions:

- A standalone memo has been prepared to document the drainage assumptions for the Derrimut Fields PSP and align with the current DTP PSP Program. Key considerations include confirming boundary conditions, receiving flow paths, and outfall locations associated with the existing quarry, with the agreed arrangements to be incorporated into the DSS as part of the Derrimut Fields PSP planning process.
- Key landowners and stakeholders within the assessment area include Derrimut Fields PSP and surrounding properties (Properties 53, 54, 55, 56 and 57), whose future development and drainage requirements will inform the ultimate drainage strategy.

Location G: Status of Robinsons Rd Retarding Basin (RB)

Key Assumptions:

- Department of Justice and Community Safety (DJCS), Parks Victoria, Greater Western Water (GWW), and Melbourne Water (MW) are key stakeholders and service authorities for this area and will be consulted to inform the development of the drainage strategy and associated infrastructure requirements.
- Robinsons Road Retarding Basin (RB) is located on Melbourne Water-owned land downstream of the Ravenhall PSP and to the south of the conservation area. The site is assumed to function as a floodplain under existing conditions, and Melbourne Water's preliminary high-level flood modelling will be used as the basis for ongoing investigations.
- The suitability of Location G for the proposed retarding basin is assumed to require further assessment, particularly in relation to available storage volume, excavation constraints, and the adequacy of downstream drainage infrastructure, including pipe capacity.
- The ultimate inflow and outflow arrangements for the proposed retarding basin are yet to be confirmed and will be determined through additional investigations, hydraulic analysis, and conceptual design development.

- Environmental investigations are assumed to be required to define the extent of the conservation area and identify any environmental constraints that may influence the location, footprint, or design of the Robinsons Road RB.
- The proposed Greater Western Water (GWW) sewer main within Melbourne Water land is assumed to be a key servicing constraint. The status, alignment, and potential impacts of this infrastructure will require further discussion and confirmation to ensure compatibility with the proposed retarding basin and associated drainage infrastructure.
- **Outstanding Items:** GWW has proposed a sewer line on Melbourne Water land. The status of this asset requires further discussion with GWW. MW recently received the proposed plans for the sewer line.
- **Current Adopted Assumptions / Resolved Issues:** Melbourne Water has engaged Dalton Consulting Engineers to undertake the design of the Robinsons Road Retarding Basin (RB) and support the associated flood modelling investigations for the area. Dalton Consulting Engineers will also liaise with Greater Western Water (GWW) to obtain further information regarding the proposed sewer infrastructure and assess any implications for the basin design.

During the second workshop held on 31 March, Melbourne Water invited relevant stakeholders to assist with the development of the Robinsons Road RB and associated flood modelling. Following these discussions, Dalton Consulting Engineers, as an active consultant in the area, was selected to lead the design and modelling work. The project is currently underway, and its outcomes will inform the feasibility, configuration, and integration of the proposed retarding basin within the broader drainage strategy.

Location H: Interface between Ravenhall Logistics Precinct (Boral) and 106 & 220 Riding Boundary Rd to be discussed

Key Assumptions:

- Ravenhall Logistics Precinct (Boral) comprises approximately 620 ha of land undergoing a transition in land use. Approximately 95 ha of the site is located within the Melbourne Strategic Assessment (MSA) area, which is managed by DEECA.
- Boral, TransGrid/Cogency (electricity substation site), Dexus, and the Department of Energy, Environment and Climate Action (DEECA) are key landowners and stakeholders within the study area and will be engaged to

inform drainage planning, infrastructure interfaces, environmental considerations, and the development of the ultimate stormwater management strategy.

- Under ultimate development conditions, site runoff is assumed to discharge both eastward and southward. The eastern drainage pathway is defined by the interface along Christies Road between the Ravenhall Logistics Precinct and 106 and 220 Riding Boundary Road, with flows ultimately discharging to Laverton Creek.
- The north western catchment and the associated retarding basin (RB) are assumed to be feasible, subject to further investigation, noting that the proposed drainage route traverses the MSA area within the Boral landholding.
- The approved development at 490 Christies Road, Ravenhall, including the proposed electricity substation, is assumed to represent an existing planning condition and has been considered in the drainage assessment. It is assumed that the post-development flow path associated with the substation will remain generally consistent with the existing drainage regime.
- The Christies Road culverts are assumed to remain in their current locations and provide the required capacity to receive developed flows and facilitate the ultimate connection to the downstream railway culverts.
- Consistent with DEECA's requirements, the hydrological regime within the MSA area is assumed to maintain pre-development flow conditions and minimise disturbance to conservation areas.
- Any proposed modifications to hydrology within or adjacent to the MSA area are assumed to be subject to further assessment and validation through detailed hydrologic and hydraulic modelling.
- Early-stage modelling is assumed to be undertaken to establish the hydrological regime requirements for the MSA area and inform the development of the ultimate drainage strategy.
- **Outstanding Items:** DEECA's environmental requirements must be satisfied. DEECA has advised that the hydrological regime within the MSA area should maintain pre-development flow conditions and avoid any disturbance to conservation areas wherever possible. Any proposed changes to site hydrology will require further assessment and validation

through hydrologic and hydraulic modelling, with outcomes subject to DEECA review.

The detailed design for the electricity substation at 490 Christies Road, Ravenhall is yet to be confirmed. The proponent is expected to provide the approved development design and associated stormwater management information to support the drainage assessment and confirm integration with the broader drainage strategy.

- **Current Adopted Assumptions / Resolved Issues:** The modelled hydrological regime for the MSA area will be reviewed by DEECA to ensure that the proposed drainage strategy achieves the required environmental and conservation outcomes. Following the identification of the MSA requirements, Boral confirmed its willingness to assist with the modelling necessary to assess and support the proposed hydrological regime.

In addition, the approved stormwater management strategy for the electricity substation site will be adopted and treated as an existing condition, and its approved drainage arrangements will be incorporated into the assessment and design.

Location I: 106 & 220 Riding Boundary Rd's outfall

Key Assumptions:

- This location is considered a high-priority interface that requires timely resolution to confirm the ultimate conveyance of flows from upstream to downstream catchments and establish a clear and formal outfall arrangement for flows generated from 106 and 220 Riding Boundary Road.
- The eastern side of 106 and 220 Riding Boundary Road is bounded by the Western Freeway and Deer Park Bypass, which are assumed to be significant physical constraints influencing drainage connections and outfall options.
- A downstream property in the southeastern corner, with an area of approximately 1.3 ha, is assumed to form part of the ultimate drainage corridor and will require consideration in the development of the drainage strategy.
- The development aspirations and drainage requirements for the southeastern corner site are assumed to be subject to further consultation with the landowner and the Department of Transport and Planning (DTP). The ultimate flow volumes and outfall locations associated with this site are yet to be confirmed and will inform the final drainage solution.

- The proposed Robinsons Retarding Basin (RB), located downstream of the Ravenhall PSP, is assumed to form part of the ultimate drainage network and will be required to be designed and constructed to facilitate the conveyance of upstream and local catchment flows.
- Additional downstream conveyance infrastructure, including an increased number of 1800 mm diameter pipes and associated drainage channels, is assumed to be required to provide sufficient capacity for the ultimate drainage network and accommodate future developed flows.
- **Outstanding Items:** The development status of the southeastern corner site from DTP perspective is still unclear. We note that from the Melbourne Water perspective, the location of this property is critical for stormwater management.
- **Current Adopted Assumption / Resolved Issue:** From Melbourne Water's perspective, the location of this property is critical to the development of the ultimate stormwater management strategy and the provision of an appropriate downstream drainage connection.

In addition, it is understood that Christies Road and Ballarat Road are planned to be upgraded through the duplication of additional traffic lanes; however, these road upgrades are currently anticipated to occur in the next 10 to 15 years and are therefore not expected to directly influence the short-term drainage planning and design assumptions for this area.

Summary:

This memo documents the key drainage assumptions, decisions, and outstanding issues identified through Melbourne Water's Ravenhall landowner and stakeholder workshops. The review confirmed that drainage challenges extend beyond the Ravenhall PSP boundary and are closely linked to the Derrimut Fields PSP and the broader integrated catchment. The agreed assumptions provide a framework for addressing catchment boundaries, drainage outfalls, flood management, infrastructure constraints, and environmental considerations.

Although the Ravenhall PSP is not currently programmed for development until the mid-2030s, several drainage matters require resolution now due to their impact on current planning proposals and the progressing Derrimut Fields PSP. To ensure a coordinated approach, Melbourne Water's feedback should continue to be provided through DTP, with ongoing engagement and correspondence with landowners and stakeholders coordinated via the DTP planning process.