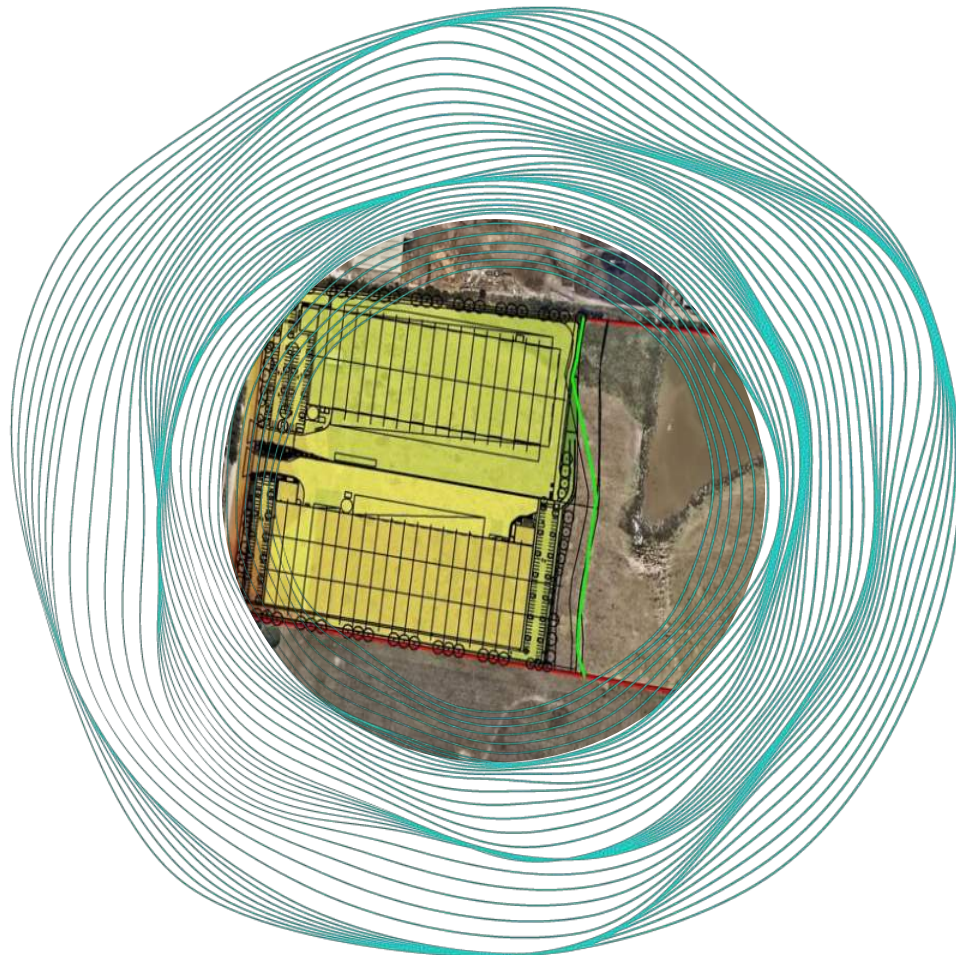


EMKC CUBED PTY LTD

230 Martin Road Development

Flood Impact and Risk Assessment

Rev B – January 2026



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PROJECT 311015-00844: 230 Martin Road Development - Flood Impact and Risk Assessment					
Rev	Description	Originator	Reviewer	Worley Approver	Revision Date
Rev A	Draft Report	IW	WH	WH	7-01-2026
		I Wibowo	W Honour	W Honour	
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1. Introduction

EMKC³ Pty Ltd (EMKC Cubed) is proposing to construct an industrial development (The Project) at 230 Martin Road, Badgerys Creek (The Site). The site is located within the Western Sydney Aerotropolis and is known as Lot A DP 406215.

The site is bound by Martin Road to the west, an Australian Native Landscapes (ANL) facility to the north, South Creek to the east and undeveloped land to the south (refer **Figure 1-1**). The site is located in the Liverpool City Council Local Government Area (LGA). It has an area of approximately 24.28ha and is irregular in shape. The eastern boundary of the site corresponds with the alignment of South Creek.

The Proposal is considered State Significant Development (SSD) and accordingly, EMKC Cubed has prepared an Environmental Impact Statement (EIS) to support the SSD application for the Project. The consent authority is the NSW Department of Planning, Housing and Infrastructure (DPHI).

Worley Consulting (formerly Advisian) was engaged to complete a Flood Impact and Risk Assessment for the development, given its location at the western edge of the South Creek floodplain.

South Creek is a major tributary of the Hawkesbury River and flows past the site from south-to-north. The South Creek catchment area upstream from the development site is approximately 90 km².

As shown in **Figure 1-1**, the subject site is located in close proximity to Wianamatta South Creek, with the watercourse flowing south to north along the eastern boundary of the site. During significant flooding there is potential for floodwaters to break the banks leading to inundation across the floodplain and the eastern part of the site.

Flood modelling for the Wianamatta South Creek floodplain has most recently been undertaken for Infrastructure NSW as part of the '*Wianamatta South Creek Catchment Flood Study – Existing Conditions*' (Advisian, Rev I - 2022). The modelling completed for the study predicts that the eastern part of the development site would experience widespread inundation during floods as frequent as the 5% Annual Exceedance Probability (AEP) event.

The 2022 Flood Study modelling was adopted for use in this flood assessment.

This report documents the predicted flood behaviour at the site for existing and proposed conditions for the 5%, 1% and 1 in 500 AEP floods and for the Probable Maximum Flood (PMF). The extent and magnitude of any impacts on peak flood levels and flow velocities have also been assessed, in addition to flood risk management considerations for the proposed development.

FIGURE 1-1



2. Secretary's Environmental Assessment Requirements

The Project Secretary's Environmental Assessment Requirements (SEARs) relating to flooding and flood risk management are outlined in **Table 2-1**, which indicates where the specific agency items have been addressed within this Flood Impact and Risk Assessment report. Included are items from the agency response letter from the NSW Department of Planning and Environment (now the Department of Climate Change, Energy, Environment and Water).

Table 2-1 SEARs and Agency Requirements

SEARs	Reference to Sections of this Report
General Requirements	
Flooding	
A detailed flood risk assessment carried out by a suitably qualified and experienced consultant that satisfies the objectives and provisions contained within the Aerotropolis Phase 2 DCP (Section 2.5.1 – Flood Management) and includes consideration of:	Refer all sections, specifically Section 3.1 and Section 9
the relevant provisions of the NSW Floodplain Development Manual (2023), including the Flood Impact and Risk Assessment Flood Risk Management Guide (LU01) (DPE, 2022);	Refer all sections
flood risk and flood evacuation for the full range of floods up to and including a probable maximum flood;	Refer to Section 8
demonstration that the proposed 'Park Edge Street' is located outside the 1% Annual Exceedance Probability flood extent.	Refer to Section 7
Department of Planning and Environment (Biodiversity and Conservation)	
Flooding	
A flood impact and risk assessment should be undertaken by a suitably qualified professional engineer to satisfy the objectives and provisions contained within the Aerotropolis Phase 2 Development Control Plan (DCP) – Section 2.5.1 Flood Management	Refer all sections

3. Relevant Legislation, Policy and Guidelines

3.1 Aerotropolis Phase 2 DCP (Section 2.5.1 – Flood Management)

The table included in Section 2.5.1 of the WSA DCP outlines a number of performance outcomes for flood management and the benchmark solutions required to achieve them.

The performance outcomes cover a range of requirements, including potential flood impacts, structural stability of buildings and fill platforms, and the safety of users of developments in the floodplain.

Three sets of benchmark solutions are provided depending on the level of encroachment proposed into the floodplain. The three categories are:

1. Development within the 1% AEP floodway and Critical Flood Storage areas;
2. Development between 1% AEP floodway / critical flood storage and Flood Planning Area (FPA);
3. Development outside the FPA to the Probable Maximum Flood (PMF).

Performance Outcome 1 (PO1) specifies that except for concessional development, development is not permissible in the area defined as the first category above.

The proposed industrial development is not classified as concessional development and therefore, the proposed earthworks (fill platform) have been positioned outside of the Critical Flood Storage area for South Creek. The proposed buildings, hardstand areas and landscaping works are to be located on the fill platform and therefore, are also located outside the Critical Flood Storage area.

Appendix D.22 (Flood Impact and Risk Assessment) of the DCP outlines the requirements for a Flood Impact and Risk Assessment (FIRA) report, including consideration of the range of flood events, being the 5% AEP, 1% AEP, 0.5% or 0.2% AEP events and the PMF. The impacts of climate change on the 1% AEP event can be addressed by comparing the 0.2% (or 1 in 500) AEP event as a proxy for assessing an increase in rainfall intensity due to climate change.

3.2 Flood Impact and Risk Assessment Flood Risk Management Guide (LU01) (DPE, 2022)

According to the Guideline, the aim of a FIRA is to support a development proposal which may alter flood behaviour or alter or introduce additional flood risk, to identify and analyse:

- the impacts of the proposed development on the flood risk to the existing community;
- the impacts and risks of flooding on the development and its users;
- how these impacts can be managed to minimise the growth in risk to the community due to the development.

The Guideline is to be considered in conjunction with the NSW Flood Risk Management Manual (2023) and supporting toolkit, including the NSW Flood Prone Land Policy.

The Guideline requires that the FIRA addresses existing and post-development flood behaviour for the full range of flood events, in addition to the potential impact on flood levels, velocities, hazard or flood function categorisation, duration of flooding and any impact on evacuation warning times.

The Guideline also outlines the management measures to be considered and implemented for a development, including:

- Avoidance of floodways and flowpaths, or other highly flood constrained areas;
- Controls required to manage risk to the development and its users;
- Consideration of emergency response issues and options.

The Guideline refers to three categories of FIRA, of which Categories 1 and 3 would apply to this FIRA for 230 Martin Rd, given that:

- The 2022 Aerotropolis Phase 2 DCP (Section 2.5.1 – Flood Management), as referenced in the SEARs, clearly outlines the existing flood information/modelling and performance outcomes for developments, including FIRA requirements; and,
- The scale and location of the development requires a Detailed FIRA to be undertaken by suitably qualified and experienced professionals, including detailed flood modelling to understand flood behaviour and assess the impacts of the proposed development.

3.3 State Environmental Planning Policy (Precincts – Western Parkland City) 2021

Clause 4.24 of the SEPP relates to flood planning and applies to land shown as the Flood Planning Area (FPA) on the SEPP Flood Planning Map.

The eastern part of the site is identified as being within the FPA (refer **Plate 1**).

The objectives and controls align and overlap with the requirements of the DCP and the FIRA Flood Risk Management Guide outlined above.

The objectives are:

- (a) to minimise the flood risk to life and property associated with the use of land, and
- (b) to allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change, and
- (c) to avoid significant adverse impacts on flood behaviour and the environment.

More specifically, Clause 4.24 (4) of the SEPP states that development consent may be granted to development on land below the flood planning level only if the development:

- (a) does not involve earthworks that will affect flood storage capacity or flood behaviour, and
- (b) is not located in a floodway or flood storage area.

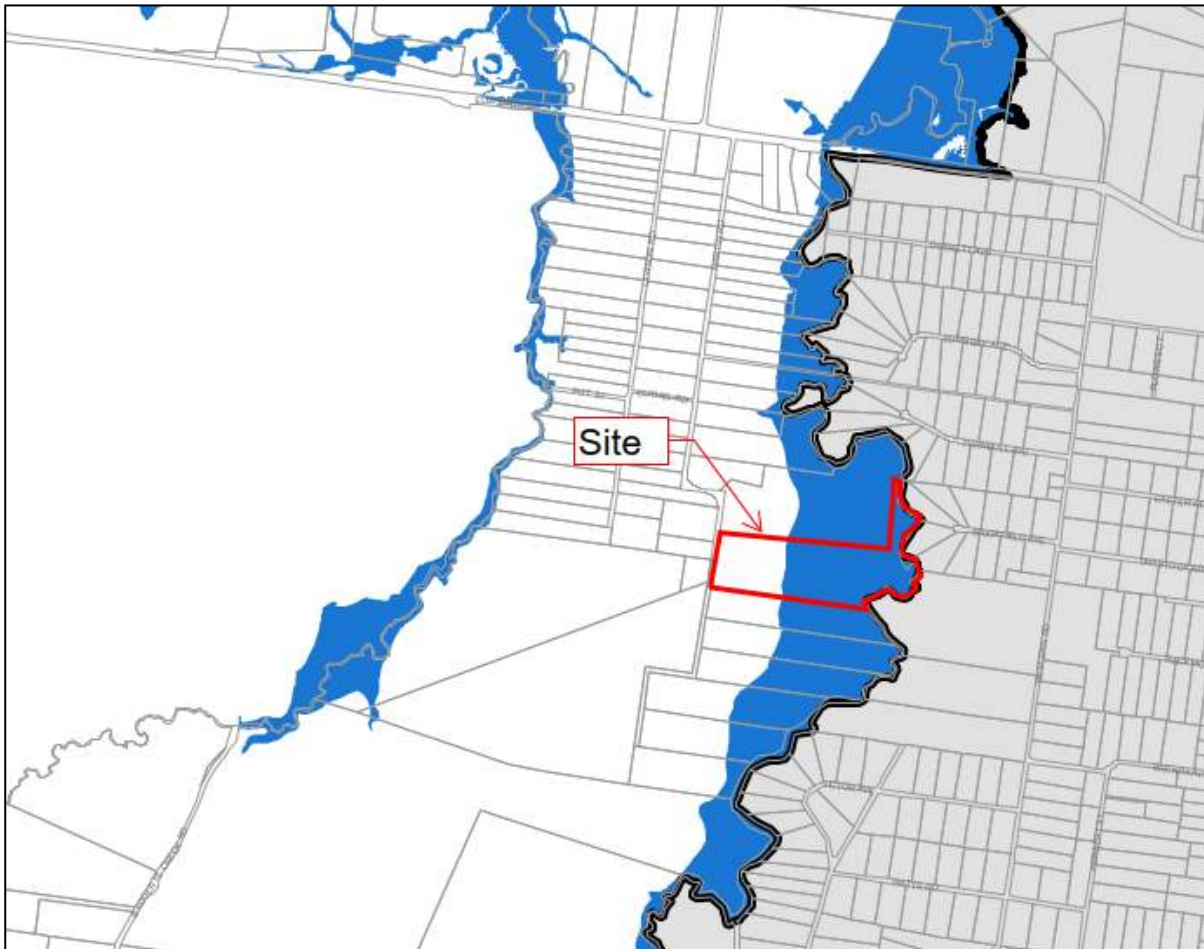


Plate 1 Excerpt from the SEPP 2021 Flood Planning Area Map

4. Flood Modelling Background

The characteristics of flooding along Wianamatta South Creek are documented in a number of government funded reports prepared over the last 34 years for Penrith, Blacktown and Liverpool City Councils and for Infrastructure NSW. These reports include:

- *'Flood Study Report, South Creek' (Department of Water Resources, 1990)*
- *'South Creek Floodplain Management Study' (Willing and Partners Pty Ltd, 1991)*
- *'ADI St Mary's Watercycle & Soil Management Study - Final Study Report' (Sinclair Knight Merz, 1998)*
- *'Austral Floodplain Risk Management Study and Plan' (Perrens Consultants, 2003)*
- *'South Creek Floodplain Risk Management Study and Plan' (Bewsher Consulting, 2004)*
- *'Upper South Creek Flood Study' (WMA Water, 2012)*
- *'Upper South Creek Floodplain Risk Management Study and Plan' (Cardno, 2014)*
- *'Updated South Creek Flood Study' (WorleyParsons, 2015)*
- *'South Creek Floodplain Risk Management Study and Plan' (Advisian, 2020)*

The *'South Creek Floodplain Risk Management Study and Plan' (Bewsher, 2004)* is currently adopted by Liverpool City Council to define flood behaviour across the Wianamatta South Creek and Thompsons Creek floodplains that lie within the Liverpool LGA.

The 2004 Floodplain Risk Management Study was based on hydraulic modelling using an updated version of the one-dimensional MIKE-11 model that was originally developed for a range of studies between 1994 and 1997. The MIKE-11 model included cross-sections at regular intervals that were based on surveyed spot elevations. Mapping was produced for the study by generating flood extents based on contours generated from 1:4,000 and 1:10,000 orthophoto mapping.

Flood behaviour along South Creek and its tributaries has most recently been investigated as part of the *'Wianamatta South Creek Catchment Flood Study – Existing Conditions' (Rev I, 2022)*. This study was completed for Infrastructure NSW to gain a contemporary understanding of flooding across the catchment and particularly the Western Sydney Aerotropolis.

The modelling undertaken for the 2022 Flood Study was based on the use of an updated version of the two-dimensional RMA-2 model that was originally developed as part of the *'Updated South Creek Flood Study' (2015)*. The RMA-2 model was updated to incorporate additional network detail across the floodplain based on the latest LiDAR flown in 2019.

Accordingly, the updated version of the flood model that was developed for the 2022 Flood Study was adopted for defining existing flood characteristics at the site at 230 Martin Road and then used to assess the impact of the works associated with the proposed development.

5. Existing Site Conditions

As shown in **Plate 2**, the site is currently undeveloped agricultural land with grass covering much of the property. Access to the site is currently provided from Martin Road (north-south), connecting to Elizabeth Drive and the future Eastern Ring Road.

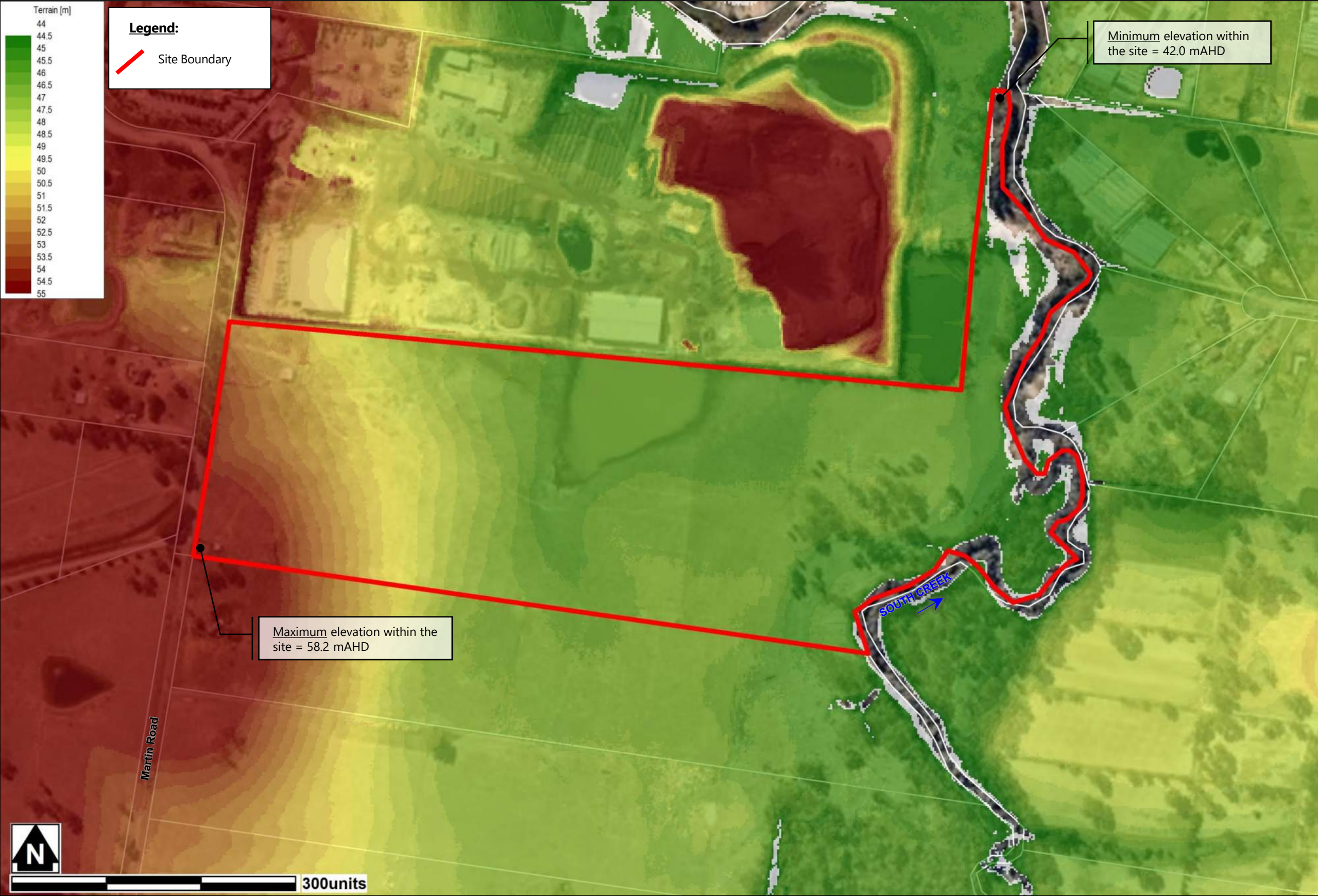
An existing farm dam is located centrally within the site. The Wianamatta South Creek vegetated riparian corridor runs along the eastern boundary.



Plate 2 NearMaps Aerial Photography of the Site dated May 2022

Topographic mapping for the site is shown in **Figure 5-1**, based on Light Detection and Ranging (LiDAR) survey flown in 2019. The LiDAR indicates that the site generally grades down from Martin Road towards the farm dam near the centre of the site. Elevations are lowest along the eastern boundary, dropping to 42.0 mAHD. Elevations are highest at the south-west corner of the site, reaching up to 58.2 mAHD.

FIGURE 5-1



5.1 Local Context

The land immediately adjoining the site forms part of the Western Sydney Aerotropolis and is expected to undergo significant transformation.

The surrounding locality is described below:

- **North:** The adjacent site is operated by Australian Native Landscapes (ANL), a landscaping, agricultural and gardening supplier. It includes several 'warehouse' buildings. Aerial imagery shows large stockpiles on the site. Further north, the area is characterised by agricultural landholdings and some dwellings.
- **East:** The Wianamatta South Creek waterway runs north to south along the sites eastern boundary and is Crown Land. An agricultural research station and cemetery is located beyond on its eastern bank.
- **South:** The adjacent land currently comprises agricultural farm holdings, with South Creek beyond.
- **West:** A large brick manufacturing facility operated by CSR (comprising several structures and existing dams) is located to the southwest of the site on the opposite side of Martin Road.

5.2 Regional Context

The site is located within the Western Sydney Aerotropolis and is a short distance east of the new Western Sydney International Airport, which is currently under construction and is expected to be completed and operational in 2026. Approximately 11,000 hectares of land was rezoned for employment uses in 2020 under the Precincts SEPP to support the WSI.

A new Metropolitan Centre (to be known as 'Bradfield') will be developed to the southwest of the site in the adjoining 'Aerotropolis Core Precinct'.

The Western Sydney Aerotropolis Precinct Plan identifies several other smaller Neighbourhood Centres nearby the site, including centres to the north (around Pitt Street), west and south.

6. Existing Flood Conditions at the Site

The RMA-2 hydrodynamic model for South Creek was used to simulate the 5% and 1% AEP events and the PMF for existing conditions. The 1 in 500 AEP flood (*otherwise known as the 0.2% AEP event*) has been simulated to provide an assessment of the potential impact of climate change on 1% AEP flood conditions. The results of the modelling are presented in the following.

6.1 Peak Flood Levels

Peak flood levels for the 5%, 1% and 1 in 500 AEP flood events and the PMF are shown in **Figures A-1 to A-4**, respectively (refer **Appendix A**). The minimum and maximum flood levels predicted across the site for each flood event are shown in **Table 6-1**.

Table 6-1 Predicted Variation in Flood Levels Across the Development Site – Existing Conditions

Design Event (AEP)	Minimum Flood Level (mAHD)	Maximum Flood Level (mAHD)
5%	46.37	47.12
1%	46.65	47.43
1 in 500	46.90	47.71
PMF	47.76	48.75

6.2 Peak Flood Depths

Peak flood depth mapping for existing conditions is shown in **Figure A-5 to Figure A-8** (refer **Appendix A**) for the adopted design events. The location and maximum depth of inundation is indicated on the figures for each flood event.

6.3 Peak Flow Velocities

The predicted direction and magnitude of flow velocities at the peak of the 5%, 1% and 1 in 500 AEP flood events and the PMF are shown in **Figure A-5 to Figure A-8** as velocity vectors. The magnitude of flow velocities at the peak of each event is indicated by the length of each vector.

The mapping indicates that higher flow velocities are predicted towards the eastern site boundary near South Creek. Maximum flow velocities within the site are predicted to occur downstream of a meander in the creek at a location where floodwaters discharge overland before re-joining South Creek further downstream. Maximum velocities at this location are predicted to range between 1.2 and 1.7 m/s for the adopted design events (refer **Figures A-5 to A-8**).

To the west of the existing farm dam at the site, flow velocities are predicted to be considerably lower and typically less than:

- 0.2 m/s at the peak of the 5% AEP event (refer **Figure A-5**),

- 0.25 m/s at the peak of the 1% AEP event (refer **Figure A-6**),
- 0.4 m/s at the peak of the 1 in 500 AEP event (refer **Figure A-7**), and
- 0.7 m/s at the peak of the PMF event (refer **Figure A-8**).

6.4 Flood Hazard

The flood hazard describes the potential impact that flooding would have on development and people in a particular area and reflects the risks to which people in that area could be exposed. The hazard category relevant to a particular location within the floodplain is determined based on the predicted magnitude of flood depths and flow velocities and a combination of both, referred to as the velocity-depth product.

A description of the hydraulic criteria for each hazard classification according to *Australian Rainfall & Runoff 2019* is provided in **Plate 3**.

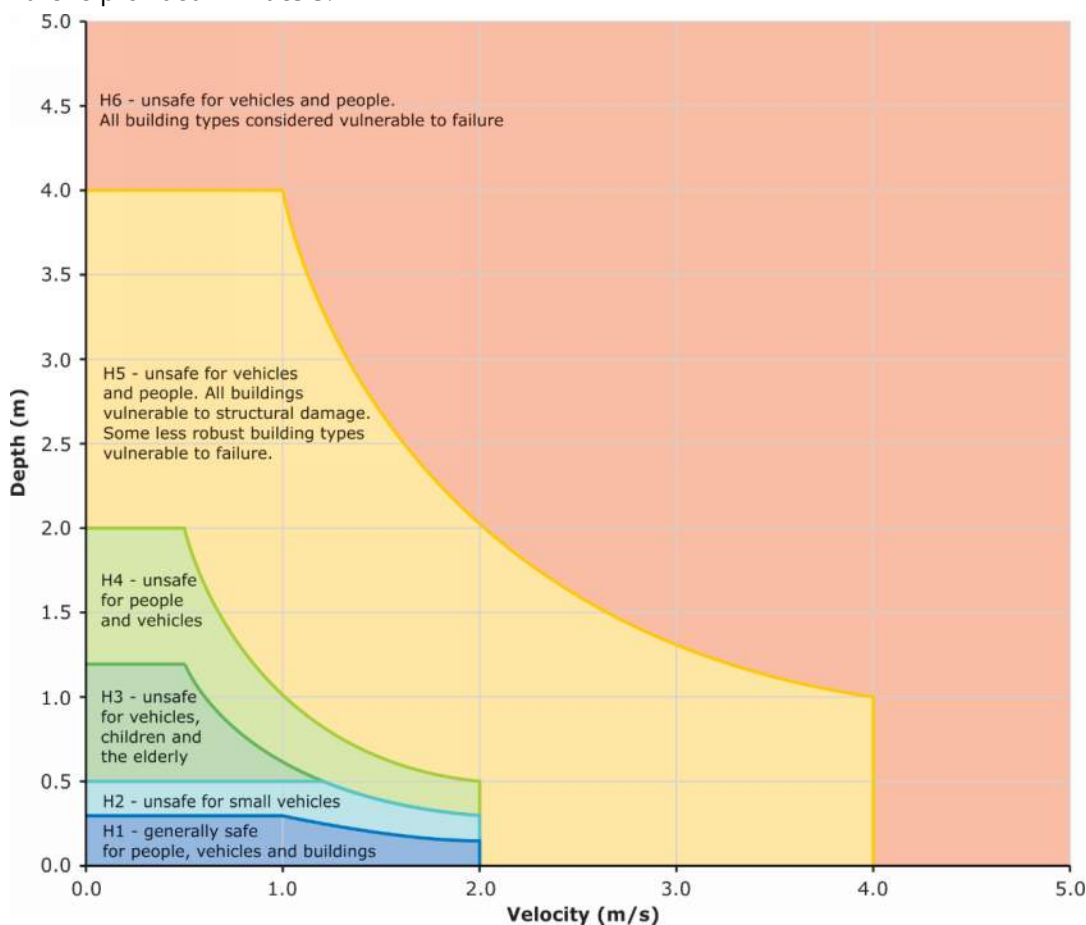


Plate 3 Flood Hazard Classification according to Australian Rainfall & Runoff 2019

Mapping of the flood hazard in the vicinity of the subject site at the peak of the 1% AEP flood is presented in **Figure A-9** (refer **Appendix A**). The mapping indicates that the site is generally subject to a hazard classification of between H1 and H4. Only those parts of the site nearest to South Creek are classified as H5 and H6.

6.5 Hydraulic Categories

The hydraulic category for a site identifies the potential for development to impact on existing flood behaviour. The NSW Government's *'Flood Risk Management Manual' (2023)* divides flood prone land into three hydraulic categories; namely Floodway, Flood Storage and Flood Fringe.

Definitions of these categories are as follows:

Floodway - Areas of the floodplain which generally convey a significant discharge of water during floods and are sensitive to changes that impact flow conveyance. They often align with naturally defined channels or form elsewhere in the floodplain.

Flood Storage Areas - Areas of the floodplain that are outside floodways which generally provide for temporary storage of floodwaters during the passage of a flood and where flood behaviour is sensitive to changes that impact on temporary storage of water during a flood.

Flood Fringe Areas - That part of the flood extents for the event remaining after the flood function areas of floodway and flood storage areas have been defined.

As part of the *'Updated South Creek Flood Study' (2015)*, Worley Consulting (then WorleyParsons) prepared a detailed assessment of floodway, flood storage and flood fringe areas for the Wianamatta South Creek floodplain between Bringelly Road to the south and Richmond Road to the north. This involved geomorphic assessment of the floodplain and detailed encroachment analysis to identify the extent of areas of floodway.

The hydraulic category mapping was most recently updated as part of the *'Wianamatta South Creek Flood Study – Existing Conditions' (Advisian, 2022)*. The updates involved application of the same methodology adopted in 2015 to an updated set of modelling results and updated encroachment modelling.

The relevant hydraulic category mapping for the area local to the site is shown as **Figure A-10** (refer **Appendix A**). The mapping shows that the majority of the site would be classified as Flood Storage. Only the easternmost third of the site is classified as Floodway.

7. Impact of the Proposed Development on Flood Characteristics

7.1 Description of the Proposed Development

The proposal seeks approval for the construction of two contemporary warehouse or distribution centre buildings. Specifically, the development will comprise:

- Site clearance works, including the removal of existing structures and trees;
- Bulk earthworks and the installation and augmentation of utilities infrastructure and other services;
- Construction and operational use of two warehouse or distribution centres containing ancillary offices, amenities and manufacturing use (in lot 1 only) with associated, parking, landscaping and access;
- Other ancillary works.

The layout of the proposed development is shown in **Figure 7-1**. All proposed earthworks, buildings and hardstand will be limited to the western part of the site and will be positioned outside the *Critical Flood Storage* area for South Creek. The landscaping plan shows that scattered plantings of small groups of trees is proposed at the grassland nearest to South Creek in the vicinity of existing trees. The proposed coverage will not be significant and will not include any understorey/shrub planting and therefore, is not expected to impact floodplain roughness, which may otherwise potentially impact on existing flood behaviour. In other parts of the *Critical Flood Storage* area the existing grassland will be retained.

The development will involve construction of the two large warehouses on a development fill platform. According to the architectural plans, the northern warehouse (Lot 1) will have a ground floor Finished Floor Level (FFL) of about 50.6 mAHD, which is more than 1.8 metres above the maximum PMF level at the site (refer **Figure A-4**). The southern warehouse (Lot 2) will have a ground floor FFL of about 51.7 mAHD, which is more than 2.9 metres above the PMF level.

The proposed warehouses will be occupied by a full-time workforce of about 110 employees.

The bulk earthworks plan prepared by Arcadis for EMKC Cubed is included in **Appendix B**. It shows that the northern part of the fill platform will have a surface level of about 50.9 mAHD. The southern part of the platform will have an elevation of 52.0 mAHD. These levels are slightly higher than the adopted FFLs for the warehouses and have been adopted for flood modelling purposes. The proposed hardstand and carparking areas between the buildings and at the eastern edge of the fill platform will have an elevation of about 50.4 mAHD, which represents the lowest part of the fill platform and is about 1.6 metres above the PMF level.

The post-development landform is superimposed on **Figure 7-1**. The extent of filling and excavation required to achieve this landform is indicatively shown in **Figure 7-2**. As shown, filling is generally limited to the eastern edge of the development that encroaches into the fringe of the floodplain.

Retaining walls have been incorporated at the eastern edge of the fill platforms to avoid encroachment into the *Critical Flood Storage* area nominated in the WSA DCP. This storage area extends west-ward beyond the Floodway for South Creek and therefore, the development footprint will naturally be outside the Floodway (refer **Figure A-10**).

A maximum depth of fill of about 4.9 metres is proposed near the north-eastern corner of the development footprint. A maximum depth of cut of about 5.1 metres is proposed near the south-western corner of the development (refer **Figure 7-2**).

A future road running in a north-south alignment is shown immediately to the east of the development footprint (refer **Appendix B**). The road is referred to as the proposed "Park Edge Street" (refer **Figure 7-1**). The SEARS require the street to be located outside the 1% AEP flood extent.

The proposed Park Edge Street is not included in the scope of works for the SSDA proposal and will be designed and delivered by others. Accordingly, detailed design of the road, including final levels, pavement structure, and compliance with relevant SEARS, is outside the scope of this application.

For the purposes of flood modelling undertaken for this SSDA, the Park Edge Street has been assumed to remain at existing ground levels, with the stepped retaining walls separating the proposed warehouses platform from the Park Edge Street.

FIGURE 7-1



FIGURE 7-2



7.2 Flood Modelling Results – Post Development Conditions

The RMA-2 model was modified to incorporate the proposed development. This involved modifying the elevations of nodes within the model grid to reflect the changes to surface elevations proposed as part of the development.

The post-development model was used to simulate the 5%, 1% and 1 in 500 AEP design events and the PMF.

The results of the modelling are discussed in the following in terms of the extents and the magnitude of any predicted changes to peak flood levels and flow velocities. Flood impact mapping is included in **Appendix C**.

7.2.1 Impact on Peak Flood Levels

Flood level difference mapping was prepared from the modelling results to quantify any changes to peak flood levels that are predicted to occur as a result of the proposed development (refer **Appendix C**). This effectively creates a contour map of predicted changes in peak flood levels (*i.e., increases and decreases*) and allows visual assessment of the impact of the development on peak flood levels.

The predicted impacts of the development on peak flood levels are summarised below for the 5%, 1% and 1 in 500 AEP events and the PMF.

- No changes to peak 5% AEP flood levels within or outside of the development site (refer **Figure C-1**).
- Maximum change in peak 1% AEP flood levels of +0.01 metres outside of the site (refer **Figure C-2**). The impact is predicted to be very localised, extending less than 10 metres into the adjoining property to the south.
- Maximum change in peak 1 in 500 AEP flood levels of +0.01 metres outside of the site (refer **Figure C-3**).
- Maximum change in peak PMF levels of +0.04 metres. As shown in **Figure C-4**, the impact occurs to the south of the development site and the proposed fill. The impact reduces to less than 0.02 metres within 40 metres of the southern boundary of the property.

The predicted impacts are considered negligible during floods up to and including the 1 in 500 AEP event, being only 0.01 metres or less in offsite areas, including along the eastern edge of the Enterprise (ENT) zone future developable area to the south. The impacts predicted during the PMF event are considered acceptable based on the extreme nature of such flooding, which has an annual exceedance probability of at least 1 in 10,000. There is not expected to be any impact on existing emergency response considerations.

7.2.2 Impact on Peak Flow Velocities (and Hazard Classification)

Difference mapping was also created to quantify any changes in peak flow velocities associated with the proposed development. The predicted impacts of the development on peak flow velocities are discussed below for the 5%, 1% and 1 in 500 AEP events and the PMF.

- No increases in peak 5% AEP flow velocities (refer **Figure C-5**).
- Maximum offsite increase in peak 1% AEP flow velocities of 0.04 m/s (refer **Figure C-6**).
- Maximum offsite increase in peak 1 in 500 AEP flow velocities of 0.04 m/s. The impact is predicted to reduce to 0.02 m/s within 10 metres of the site boundary (refer **Figure C-7**).
- Maximum offsite increase in peak PMF flow velocities of 0.13 m/s (refer **Figure C-8**).

The impacts that are predicted upstream of the development site occur across areas designated as flood fringe and flood storage (refer **Figure A-10**) at the eastern edge of the of future developable land in the ENT zone. Modelling for existing conditions shows that velocities at these locations are relatively low (less than 0.4 m/s) for floods up to and including the 1 in 500 AEP event. The minor velocity increases of up to 0.04 m/s during these events will therefore result in post-development velocities of less than 0.5 m/s, which remain low and will not have the potential to increase the existing flood hazard classification or cause any scour / erosion (refer **Plate 3**).

7.2.3 Impact on the Timing of Flooding

Comparison between flow and flood level hydrographs taken at the downstream hydraulic control at Elizabeth Drive for existing and post-development conditions shows that the proposed development will not impact on the timing and duration of flooding.

7.2.4 Impact on Flood Function

As shown by comparing the development layout in **Figure 7-1** to **Figure A-10**, the proposed filling, buildings and hardstand areas will be located at least 200 metres west of the floodway for South Creek. As discussed above, the development will not involve any filling within the Critical Flood Storage area, which indicates that the development will not impact on the critical storage of the floodplain.

Some relatively minor encroachment into the general flood storage area for South Creek is proposed, which will therefore result in minor realignment of the flood storage and flood fringe extents at the fill platform. However, the above assessment of impacts on flood levels and velocities has demonstrated that the earthworks will not have a significant impact on existing flood characteristics.

7.2.5 Inundation of the Proposed Park Edge Street Footprint

As shown in the **Appendix A** and **Appendix C** flood mapping, the footprint of the proposed Park Edge Street located immediately east of the fill platform is expected to be inundated during the 5% and 1% AEP events.

The depth across this area will range between 0.1 and 0.5 metres at the peak of the 1% AEP event. The inundation is expected to last for less than 8 hours. As outlined above, detailed design of the road, including final levels and compliance with relevant SEARs, will be addressed by others and is outside the scope of this development application.

8. Flood Risk Assessment

As outlined in the preceding sections, the site is located within the floodplain of South Creek. As shown in **Figure 1-1**, vehicular access to the site is only possible via Martin Road which passes the site along the western boundary.

The WSA DCP (*Phase 2, 2022*) requires the proposed development to satisfy the following requirements:

- Vehicular and pedestrian access ensures access/egress is provided to above the predicted peak level of the PMF.
- The development can be undertaken consistent with the Local Flood plan or SES flood emergency strategy for the area.

The flood modelling for post-development conditions has shown that the proposed development will remain flood-free during events up to and including the PMF; i.e., the proposed buildings and hardstand areas are above the predicted peak level of the PMF.

Workers and visitors to the site could still be impacted by flooding due to inundation of roads leading to and from the site. There are no suitable upstream river gauges that could be used to provide advanced warning of a flood. However, this is not expected to be a major concern due to the readily available access to land above the PMF at the site and areas immediately west.

Should people wish to leave the site, there will be flood-free access from the site in a northerly direction to Elizabeth Drive during the PMF. The existing Elizabeth Drive is expected to remain flood-free in the 5% AEP event at South Creek and Kemps Creek to the east, and at Badgerys Creek to the west. The latter will allow flood-free access to the future airport and M12 Motorway link to the west of Badgerys Creek.

The existing Elizabeth Drive is expected to be susceptible to inundation in the 1% AEP flood event with peak depths of about 200 mm near the Badgerys Creek crossing and about 100 mm at South Creek. The duration of inundation would be no more than about 4 hours.

However, the Elizabeth Drive Upgrade project will involve road raising works in the vicinity of Badgerys Creek, meaning the upgraded road would remain flood-free in the 1% AEP flood. According to modelling by AECOM as part of the *Elizabeth Drive Upgrade – East & West Flooding Assessment* (TfNSW, 2023), the proposed bridge over Badgerys Creek will have a deck level of 49 to 49.5 mAHD, which is about 2 metres higher than the 1 in 2000 AEP flood level.

The PMF model results show that the duration of inundation of the existing Elizabeth Drive at the Badgerys Creek crossing is not expected to be longer than six hours, and therefore a dedicated emergency response effort from NSW State Emergency Services, such as rescue or resupply by air or boat, will not be required. Accordingly, the proposed development is not expected to increase the burden on the SES.

According to the AECOM analysis for the Elizabeth Drive Upgrade, the deck level of the proposed bridge at Badgerys Creek will be higher than the existing PMF level (TfNSW, 2023). However, it is understood that the afflux caused during the PMF will mean that the road is eventually overtopped.

The Liverpool City Flood Emergency Sub Plan (2015) was reviewed as part of investigations completed for this development. The sub plan outlines the preparedness measures and the conduct of response and recovery operations from flooding within the Liverpool Council LGA. Given that the development will be located outside the PMF extent and the duration of isolation is not significant, evacuation is not a primary

concern. While there are no specific instructions for the site and its surrounds, the development is expected to be consistent with the requirements of the sub plan as no intervention from the SES will be required.

It is recommended that a Flood Emergency Response Plan (FERP) be prepared for the development prior to occupation. It is envisaged the FERP will contain provisions to monitor rainfall and flooding along the South Creek corridor upon receipt of a severe weather warning or flood warning from the Bureau of Meteorology (BOM).

Flood levels along South Creek should be monitored according to the river level gauge located immediately upstream of Elizabeth Drive (*Station Number 567070*).

Given the lack of streamflow gauges on South Creek or Badgerys Creek upstream from the site, monitoring of latest rainfall data at upstream pluviometer gauges would be required. The nominated flood warden(s) at the proposed warehouse developments would also monitor for any SES warnings and advise workers against leaving the site once 1% AEP flood conditions are expected in South Creek and Badgerys Creek. At this point, workers would be asked to shelter-in-place until the flooding has passed. A shelter-in-place strategy would be appropriate given the development buildings and carparking areas will be located entirely above the PMF level and the isolation time is relatively short.

Upon completion of the Elizabeth Drive Upgrade, the threshold trigger for shelter-in-place could be raised to the 1 in 2000 AEP event given there will be flood-free access to the west to the M12 Motorway link during such an event.

The confluence of South Creek and the Hawkesbury River is located some 30 kilometres downstream (north) of the development site. Regional flooding of the Hawkesbury Nepean system is not expected to have any impact on flood conditions in the vicinity of the site.

9. Consideration of Relevant Planning Controls

The flood modelling outlined above indicates that the development will result in:

- Maximum increases in peak 1% and 1 in 500 AEP flood levels of 0.01 metres outside of the development site, and
- Changes to peak 1% and 1 in 500 AEP flow velocities outside of the site of up to 0.04 m/s.

The predicted impacts and the magnitude and extent of the works have been assessed against the controls outlined within the 'Western Sydney Aerotropolis Phase 2 Development Control Plan 2022' (WSA DCP).

Section 2.5.1 of the WSA DCP outlines the objectives, performance outcomes and benchmark solutions related to flood management.

The proposed development and predicted impacts have been evaluated against the relevant Performance Objectives for the category of development described as "*development between 1% AEP floodway / critical flood storage and Flood Planning Area (FPA)*". The assessment is provided in **Table 9-1**.

The proposed development and predicted impacts have also been evaluated against the flood planning requirements of *State Environmental Planning Policy (Precincts – Western Parkland City)* 2021, which is outlined in **Table 9-2**.

Table 9-1 Review of the Development Proposal and Predicted Impacts Against the WSA DCP

Performance Outcome	Benchmark Solutions	Comments and Verdict
PO1	1. Applicant to demonstrate that development as a consequence of a subdivision or development proposal, can be undertaken in accordance with a FIRA.	This FIRA has shown that the proposed development will have a negligible impact on flood behaviour during events up to and including a 1 in 500 AEP flood. Verdict – Development Complies
	2. The FIRA is undertaken by a suitably qualified professional engineer and considers the impacts of: a. Flooding on the development; b. The development on flooding; c. Flooding and the development on property and the existing and future community and d. Climate change consistent with the objectives of this DCP.	This report has been prepared/reviewed by a suitably qualified professional engineer with over 20 years' experience undertaking flood related investigations. The report has also considered input from a professional engineer with over 15 years' experience, including preparation of the 'Wianamatta South Creek Flood Study – Existing Conditions' (2022) for Infrastructure NSW, and the 'South Creek Floodplain Risk Management Study and Plan' (2019) for Penrith City Council. Verdict – Complies
	3. The FIRA assesses flood constraints for both pre and post development cases with and without climate change to ensure there are no significant detrimental impacts on flood behaviour or to the community upstream, downstream, or adjacent to the site.	This FIRA has shown that the proposed development will have no significant impact on flood behaviour during events up to and including a 1 in 500 AEP flood, which is considered representative of a climate change scenario for the 1% AEP event. The magnitude and extent of the impacts are considered negligible and would manifest as ' <i>no significant detrimental impacts on flood behaviour or to the community upstream, downstream, or adjacent to the site</i> '. Verdict – Complies
	4. The FIRA considers: a. Car parks; b. The type of car park; c. For open car parks, the restraints used to secure and prevent floating vehicles from leaving the car park; and d. For enclosed car parks, how floodwaters will be stopped from entering the enclosed car park.	The open car parks shown in the development design plans (refer Appendix B) will have a surface elevation above the PMF level and therefore, restraints for vehicles will not be required. Verdict – Complies
	5. For all zones, any development that includes a residential component has Habitable Floor Levels equal to or greater than the 1% AEP flood level plus 500mm freeboard.	Not Applicable. The development does not include any residential component.

Table 9-1 Review of the Development Proposal and Predicted Impacts Against the WSA DCP (Continued)

Performance Outcome	Benchmark Solutions	Comments and Verdict
PO1 (continued)	6. Building Floor Levels are equal to or greater than the 1% AEP flood level plus 500mm freeboard in the following areas: a. Enterprise Zone; b. Agribusiness Zone; and c. Mixed Use Zone.	The proposed warehouse floor levels of 50.6 and 51.7 mAHD will be more than 3 metres above the maximum 1% AEP flood level at the site of 47.4 mAHD. Verdict – Development Complies
PO2	1. The FIRA demonstrates that development will not increase flood affectation to existing and proposed development within and outside the development site.	Section 7.2 indicates that the development will result in maximum changes to peak 1% and 1 in 500 AEP flood levels of 0.01 metres outside of the development site. The extent of the predicted impacts is localised, extending less than 10 metres into the adjoining property to the south. The predicted impacts are therefore consistent with the Performance Outcome 2 (PO2) – <i>Development will have <u>minimal</u> impact on flood behaviour.</i> Verdict – Development Complies
	2. The FIRA demonstrates the cumulative impact of potential future development from the upstream hydraulic control to the downstream hydraulic control.	The proposed buildings, carparking areas and any associated filling is limited to the fringe of the 1% AEP flood extent and designed to ensure no encroachment into areas designated as Floodway and Critical Flood Storage area. 'High-Level Floodways' and 'Critical Flood Storages' are defined by the 'Wianamatta South Creek Flood Study – Existing Conditions' (2022) and documented in Appendix A of the WSA DCP (2022). By ensuring the proposed filling is designed to avoid encroachment into the areas outlined above, there is a negligible reduction to the conveyance and storage capacity of the section of the floodplain local to the site. Accordingly, there will be no potential for the development to contribute to any significant cumulative impacts. Adherence of other developments to similar principles and to the performance objectives outlined within the WSA DCP will ensure cumulative impacts are minimal. Verdict – Development Complies
	3. The FIRA demonstrates the peak flow at the downstream hydraulic control is maintained with development and the shape of the flood hydrograph is generally maintained for events up to and including the 1% AEP flood event.	The modelling has shown that there are no impacts to peak flood levels or peak flow velocities downstream of the site during floods up to and including the 1 in 500 AEP flood. The development will result in no change to peak flows or the hydrograph shape at the downstream hydraulic control at Elizabeth Drive. The proposed buildings, carparking areas and all associated fill will be limited to the flood fringe and edge of the flood storage area and kept outside of areas designated as 'high-level floodway' and 'critical flood storage'. Verdict – Development Complies

**Table 9-1 Review of the Development Proposal and Predicted Impacts Against the WSA DCP
(Continued)**

Performance Outcome	Benchmark Solutions	Comments and Verdict
PO3	1. All structures are of flood-compatible building components below or at the flood planning level.	The proposed warehouse floor levels of 50.6 and 51.7 mAHD will be more than 3 metres above the maximum 1% AEP flood level at the site of 47.4 mAHD. Accordingly, this requirement is not applicable.
	2. An engineer's report is submitted to certify the structure can withstand the forces of floodwater including debris, immersion, and buoyancy up to and including the flood planning level.	Not applicable (<i>refer discussion under PO3-1</i>).
	3. The FIRA demonstrates that all new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections can be waterproofed and/or located above the flood planning level.	Not applicable (<i>refer discussion under PO3-1</i>).
PO4	1. The FIRA demonstrates that any fill as a result of the development will not be impacted by erosion and will have long term stability.	Section 6.3 provides an overview of the predicted flow velocities across the site under existing conditions. To the west of the existing farm dam flow velocities are predicted to be less than 0.2, 0.25 and 0.4 m/s during the 5%, 1% and 1 in 500 AEP floods, respectively (<i>refer Figures A.5 to A.7</i>). These low flow velocities will remain low given the predicted impact of the development will be increases no greater than 0.04 m/s. Combined with the low flood depths at the location of proposed filling, this indicates that there would be a negligible risk of erosion or instability. Verdict – Negligible risk of erosion or instability

**Table 9-1 Review of the Development Proposal and Predicted Impacts Against the WSA DCP
(Continued)**

Performance Outcome	Benchmark Solutions	Comments and Verdict
PO5	1. Vehicular and pedestrian access ensures access/egress is provided to above the predicted peak level of the PMF.	As discussed in Section 7.1, post-development elevations across the proposed fill platform will be above the predicted peak level of the PMF. Accordingly, the developed site is not at risk of inundation. On this basis, access/egress to land above the predicted peak level of the PMF will be provided as part of the development. Verdict – Development Complies
	2. The FIRA demonstrates that evacuation can be undertaken consistent with the local Flood Plan or SES flood emergency strategy for the area.	The Liverpool City Flood Emergency Sub Plan (2015) was reviewed as part of investigations completed for this development. The sub plan outlines the preparedness measures and the conduct of response and recovery operations from flooding within the Liverpool Council LGA. Given the development is located outside the PMF extent, evacuation is not a primary concern. As discussed in Section 8, offsite access to the future M12 Motorway will be retained along Elizabeth Drive during the 5% AEP event, but will be cut in the 1% AEP event due to minor overtopping. The period of isolation of the site during the PMF is expected to be no longer than 6 hours and therefore, shelter-in-place would be appropriate. The future upgrade of Elizabeth Drive will provide flood-free access to the M12 Motorway during events up to and including the 1 in 2000 AEP flood. While there are no specific instructions in the Sub Plan for the site and its surrounds, the development is considered consistent with the requirements of the Sub Plan as no intervention from the SES is required. Verdict – Suitable flood emergency response strategy provided
PO6	1. No external storage of material which may cause pollution or be potentially hazardous during any flood.	The finished surface elevations across the development platforms are above the PMF level. Accordingly, any external storage of materials will not be at risk of inundation. Verdict – Development Complies
PO7	1. Fencing is constructed in a manner that does not obstruct the flow of floodwaters.	Any fencing associated with the development will be on land above the PMF level. Accordingly, fencing will not obstruct the flow of floodwaters. Verdict – Development Complies
	2. Fencing of flow paths is limited to permeable open type fences.	Refer discussion above for PO7.1. Verdict – Development Complies

**Table 9-1 Review of the Development Proposal and Predicted Impacts Against the WSA DCP
(Continued)**

Performance Outcome	Benchmark Solutions	Comments and Verdict
PO8	1. The FIRA demonstrates earthworks will not affect flood storage capacity or flood behaviour for the full range of flood events.	All filling that is proposed as part of the development has been excluded from those parts of the site mapped as <i>Critical Flood Storage</i> area as part of the 'Wianamatta South Creek Flood Study – Existing Conditions' (Rev I, 2022). Accordingly, the proposed fill encroaches only into the flood fringe and edge of the flood storage area in the 1% AEP flood extent where depths do not exceed 0.6 metres (typically less than 0.3 metres). Encroachment into flooding during rarer events such as the 1 in 500 AEP flood and the PMF is similarly small and limited only to the edges of the flood extent. Verdict – Development Complies

Table 9-2 Review of the Development Proposal and Predicted Impacts Against the 2021 SEPP

Clause 4.24	Requirement	Comments and Verdict
(3)	Development consent must not be granted to development on land to which this section applies unless the development: (a) is compatible with the flood hazard of the land, taking into account projected changes as a result of climate change	The development will be located outside of the South Creek Floodway and High flood hazard areas. This FIRA has shown that the proposed development will have no significant impact on flood behaviour during events up to and including a 1 in 500 AEP flood, which is considered representative of a climate change scenario for the 1% AEP event. Verdict – Development Complies
	(b) is not likely to significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties	Section 7.2 indicates that the development will result in maximum increases in peak 1% and 1 in 500 AEP flood levels of 0.01 metres outside of the development site. The extent of the predicted impacts are localised, extending less than 10 and 15 metres into the adjoining property to the south. Accordingly, the development will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties. Verdict – Development Complies
(3) Cont'd	(c) incorporates appropriate measures to manage risk to life from flood, and (d) will enable safe occupation of and evacuation from flood prone land	Given the development is located outside the PMF extent, and the period of isolation during the PMF is expected to be no longer than 6 hours (refer Section 8), shelter-in-place will be appropriate during major flooding that cuts Elizabeth Drive. Verdict – Development Complies
	(e) is not likely to significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses	Section 6.3 provides an overview of the predicted flow velocities across the site under existing conditions. To the west of the farm dam flow velocities are predicted to be less than 0.2, 0.25 and 0.4 m/s during the 5%, 1% and 1 in 500 AEP floods, respectively (refer Figures A.5 to A.7). These low flow velocities will remain low given the predicted impact of the development will be increases no greater than 0.04 m/s. Combined with the low flood depths at the location of proposed filling, this indicates that there would be a negligible risk of erosion, instability of nearby river banks or destruction of riparian vegetation. Verdict – Negligible risk of erosion or instability
	(f) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding	The development will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties. The proposed buildings, hardstand and landscaping will be located above the PMF level.

Clause 4.24	Requirement	Comments and Verdict
		Accordingly, the development is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding. Verdict – Development Complies
	(g) is consistent with any relevant floodplain risk management plan adopted by the council for the land in accordance with the Flood Risk Management Manual.	This FIRA has been prepared, and the development determined to be appropriate, according to flood modelling developed for the <i>'Wianamatta South Creek Flood Study – Existing Conditions' (2022)</i> for Infrastructure NSW, which was prepared in accordance with the Flood Risk Management Manual. Verdict – Development Complies
(4)	Development consent may be granted to development on land below the flood planning level only if the development: (a) does not involve earthworks that will affect flood storage capacity or flood behaviour, and (b) is not located in a floodway or flood storage area	The proposed development and any associated filling is limited to the fringe of the 1% AEP flood extent and designed to ensure no encroachment into areas designated as Floodway or Critical Flood Storage, as defined by the <i>'Wianamatta South Creek Flood Study – Existing Conditions' (2022)</i> and documented in Appendix A of the WSA DCP (2022). By ensuring the development is designed to avoid encroachment into these areas, there is a negligible reduction in the flood conveyance and storage capacity at the site, and hence impact on flood behaviour. Verdict – Development Complies

10. Conclusions

The above Flood Impact and Risk Assessment (FIRA) has shown that the proposed development will have a minimal impact on the predicted flood behaviour for floods up to and including the Probable Maximum Flood (PMF). The results are summarised as:

- Flood hazards across the site generally vary between Hazards H1 and H4 during the 1% AEP event. Only those parts of the site nearest to South Creek are classified as H5 and H6 (*refer Plate 3 and Figure A-9*).
- The site is classified as a combination of floodway, flood storage and fringe. Only the easternmost parts of the site are classified as floodway (*refer Figure A-10*).
- The proposed development will not involve any filling inside the Critical Flood Storage area for South Creek, as determined as part of the '*Wianamatta South Creek Flood Study – Existing Conditions*' (Advisian, 2022).
- The proposed development is predicted to cause localised offsite flood level increases of no more than 0.01 metres during the 1% and 1 in 500 AEP flood events (*refer Figures C-2 and C-3*). These impacts are considered negligible based on the small magnitude and localised extent near the site boundary.
- The development is also predicted to cause localised changes to peak flow velocities, with a maximum offsite increase of 0.04 m/s during the 1% and 1 in 500 AEP events (*refer Figures C-6 and C-7*). The predicted impacts are considered minor and will not increase the existing flood hazard classification or scour potential.
- There are no suitable upstream river gauges on South Creek that could be used to provide advanced warning of a flood. However, the proposed development (*and areas along Martin Road*) will be above the level of the PMF and therefore, safe flood refuge will be available for any staff and visitors to the site.
- Should people wish to leave the site during a flood, there will be flood-free access from the site in a northerly direction to Elizabeth Drive during the PMF. The existing Elizabeth Drive is however susceptible to inundation in the 1% AEP flood event and larger floods between Martin Road and the future M12 Motorway to the west. The duration of road inundation is not predicted to be longer than six hours, and as such a dedicated emergency response effort from NSW State Emergency Services, such as rescue or resupply by air or boat, will not be required. Accordingly, the proposed development is not expected to increase the burden on the SES.
- It is recommended that a Flood Emergency Response Plan be prepared for the development prior to occupation so that procedures can be put in place for the safe operation of the site, including evacuation and then shelter-in-place if required, during flood events along South Creek.
- The future upgrade of Elizabeth Drive will improve the flood immunity of the evacuation route across the Badgerys Creek floodplain to the M12 Motorway.

The proposed development and the predicted impact on peak flood levels and flow velocities have been assessed as meeting the performance objectives outlined within the WSA Phase 2 DCP (2022). The above assessment has been completed in accordance with the *Flood Impact and Risk Assessment Flood Risk Management Guide* (LU01), thereby meeting the requirements of the SEARs. The development is also considered to comply with the objectives and requirements of Clause 4.24 Flood Planning of the SEPP 2021 (Precincts – Western Parkland City).

No additional mitigation works are required from a flood impact or risk management perspective.

11. References

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Appendix A. Existing Conditions Flood Mapping

FIGURE A-1

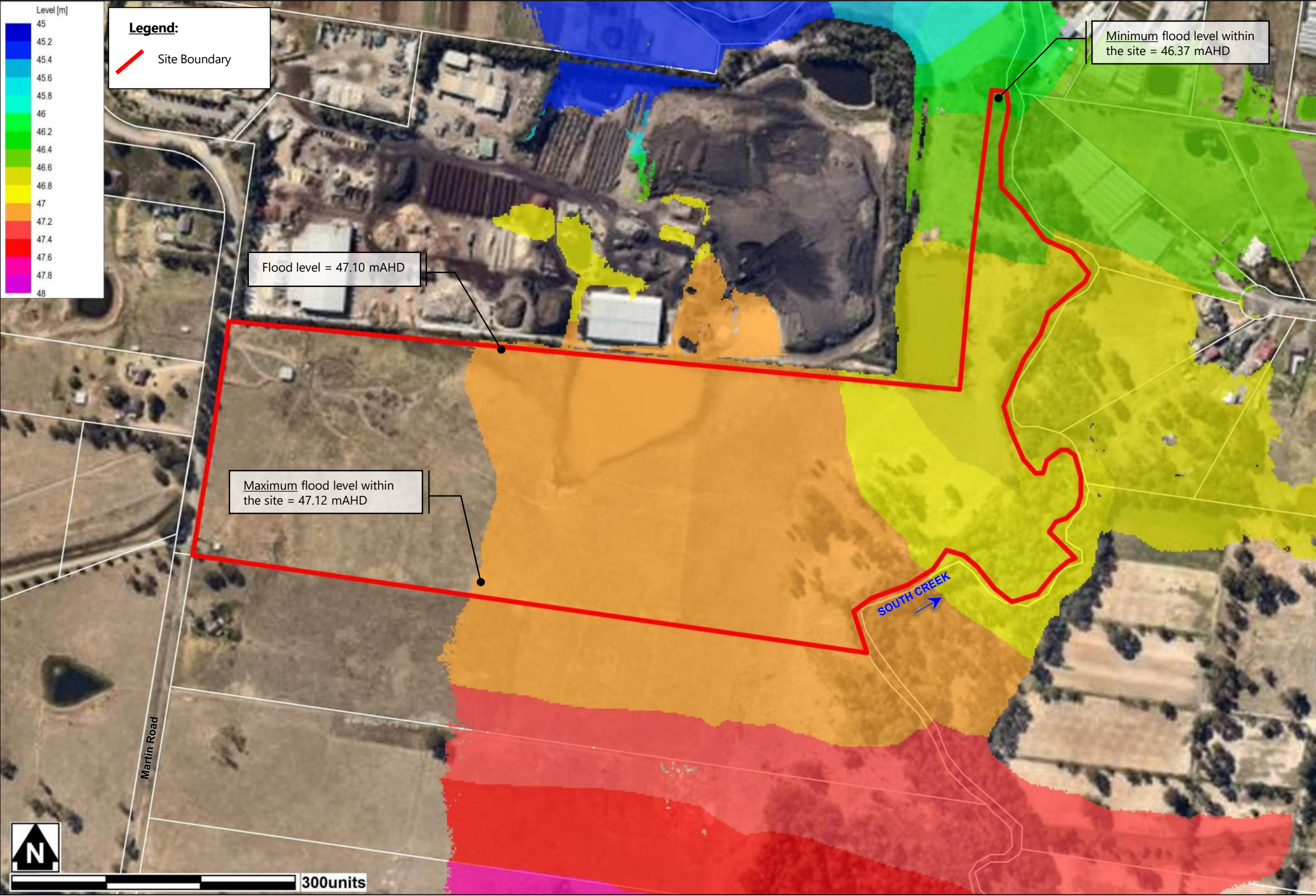


FIGURE A-2

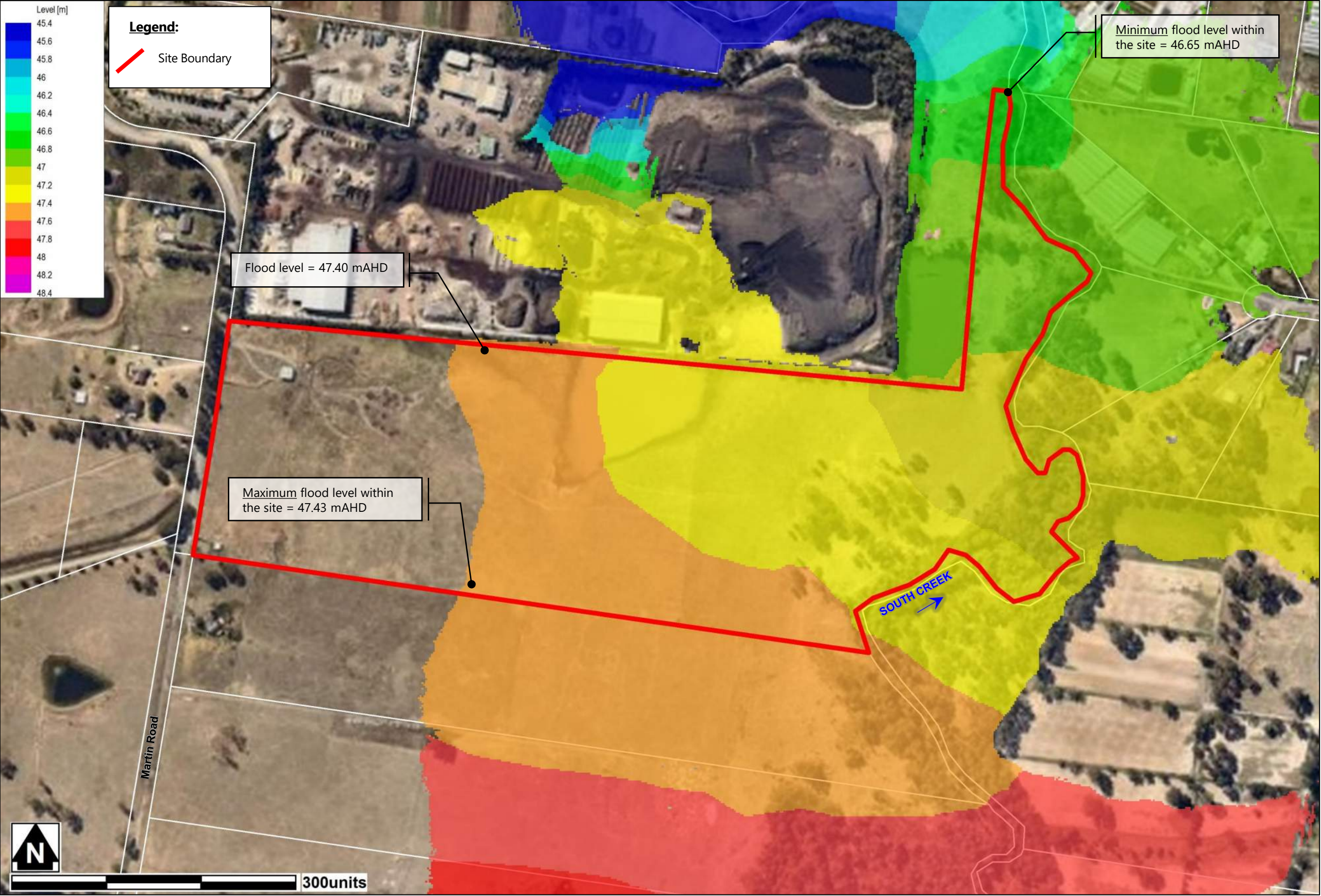


FIGURE A-3

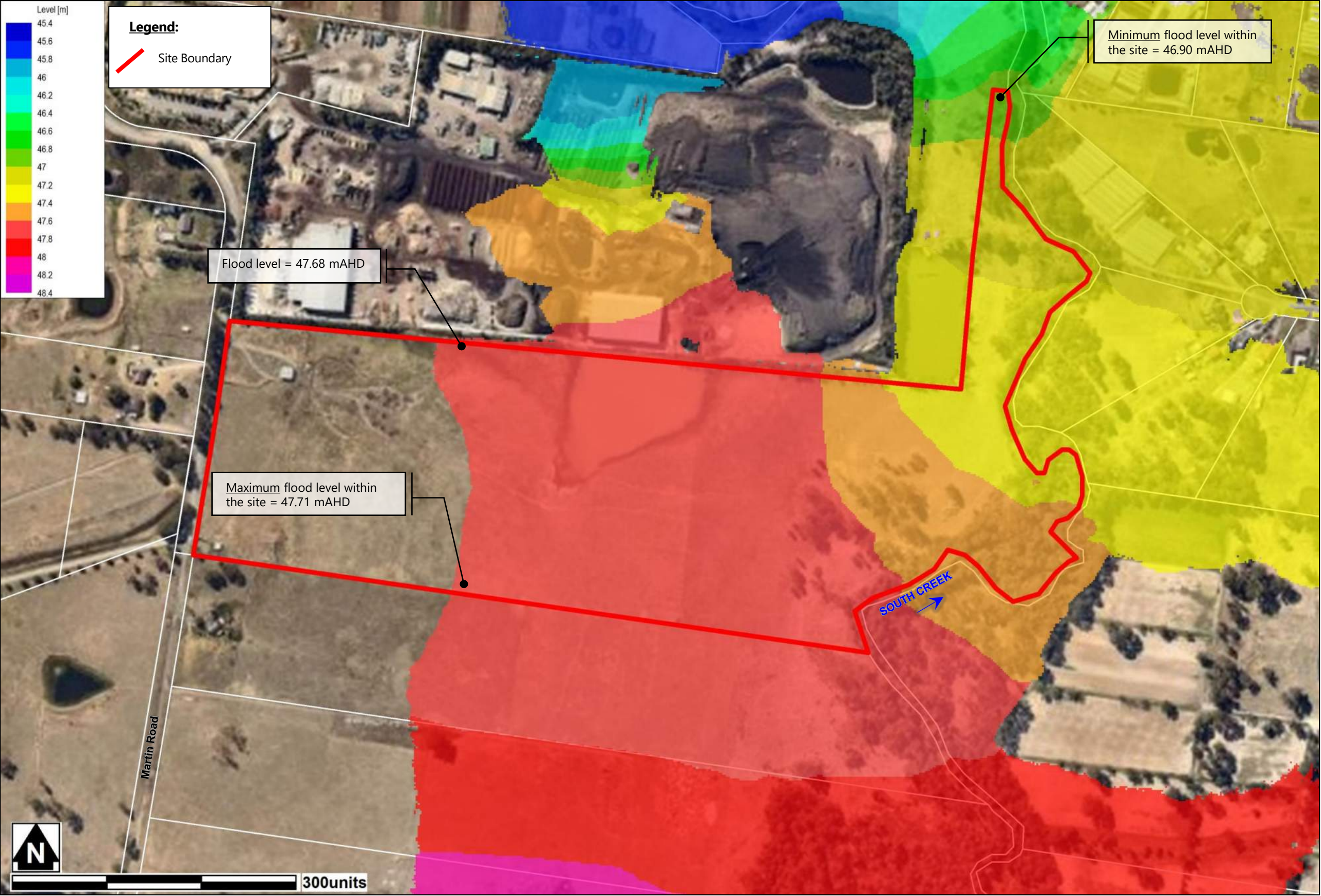


FIGURE A-4

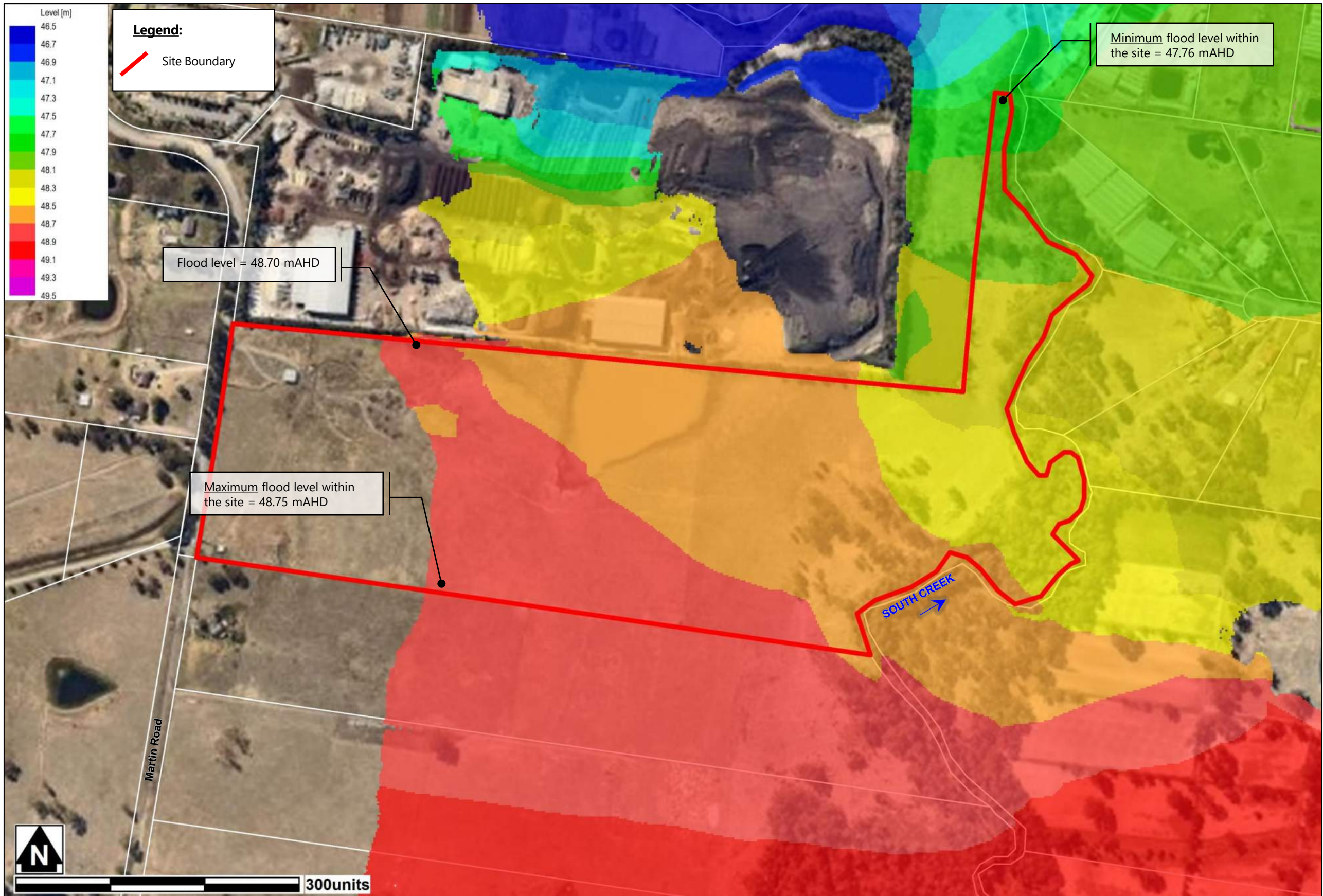


FIGURE A-5

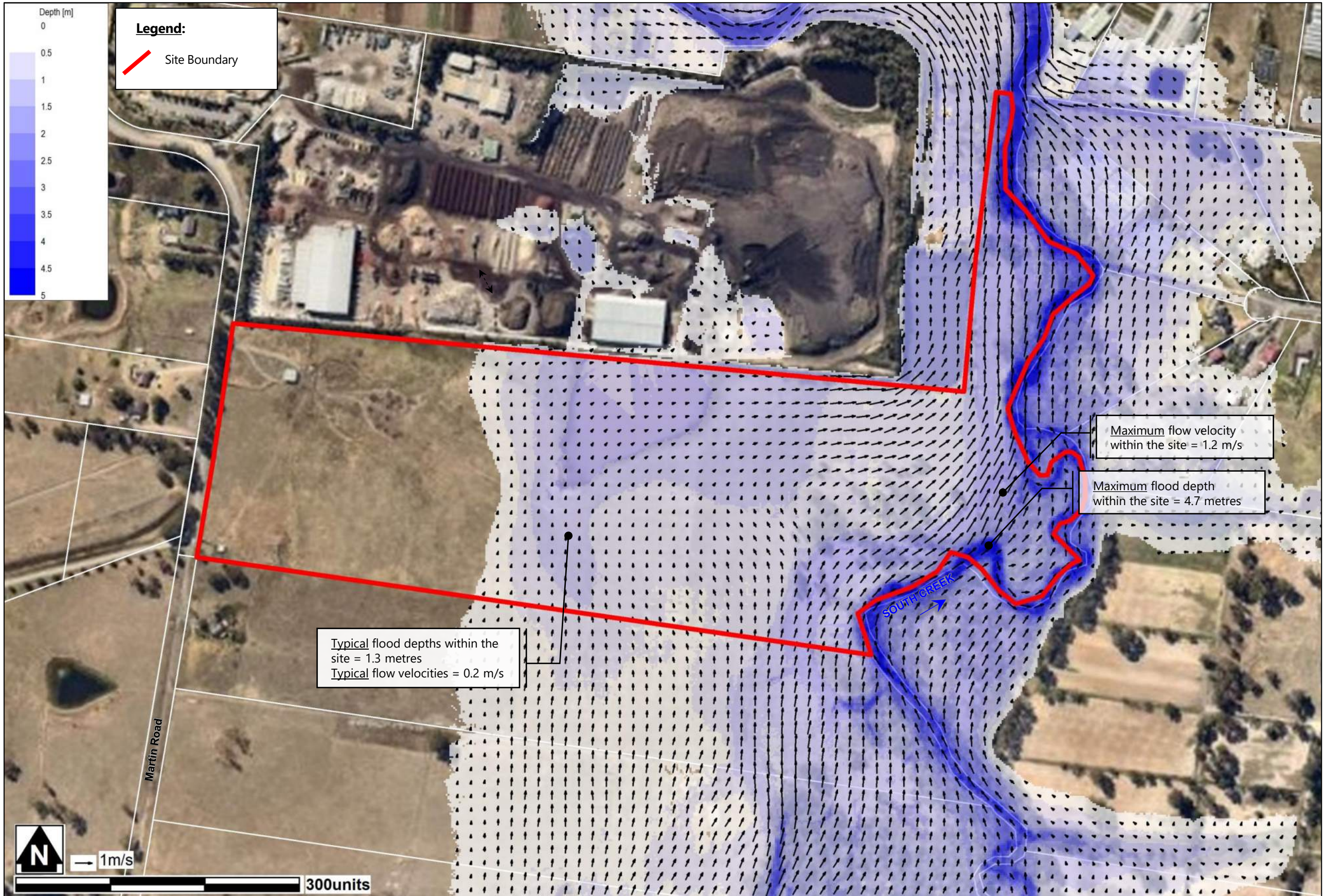


FIGURE A-6

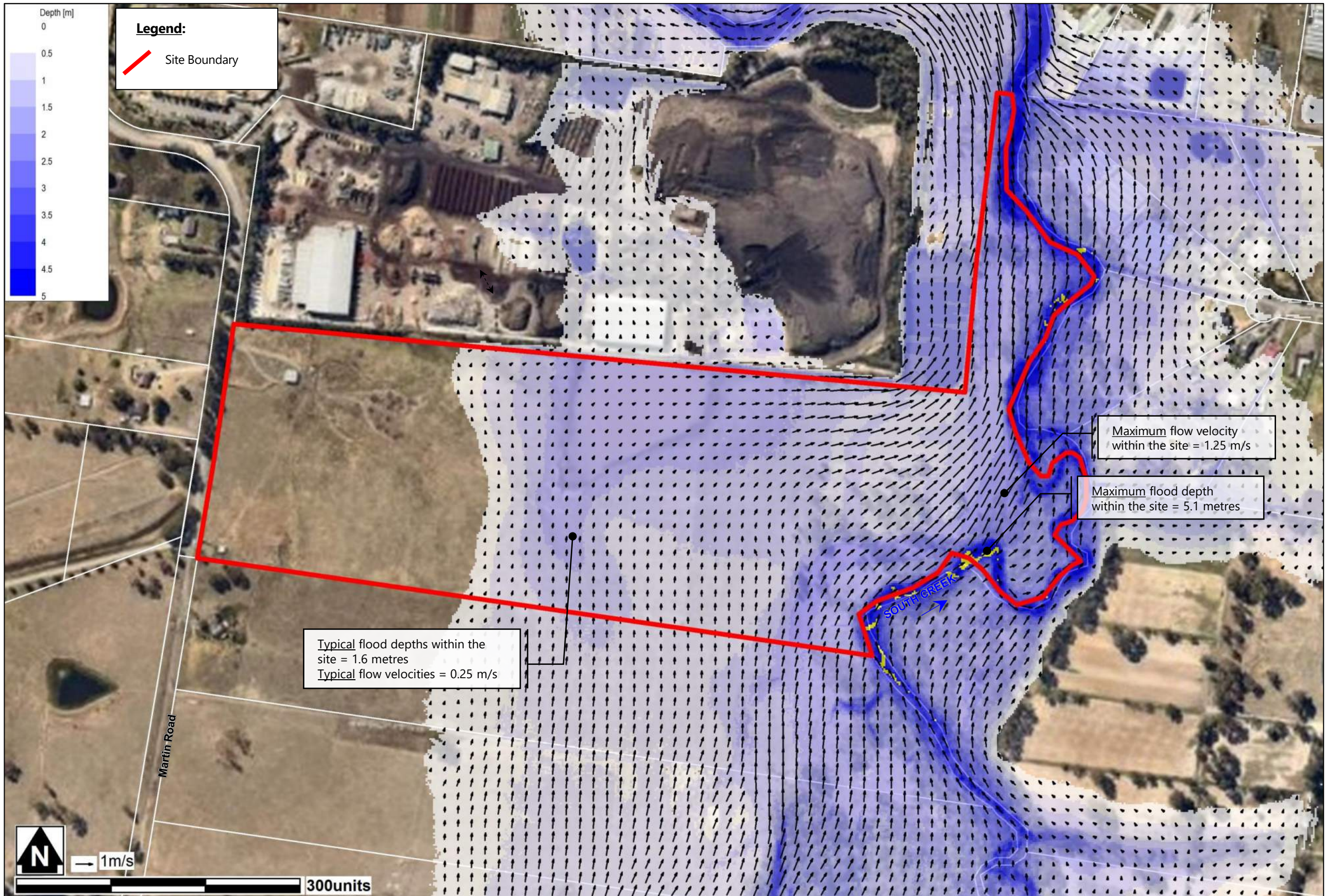


FIGURE A-7

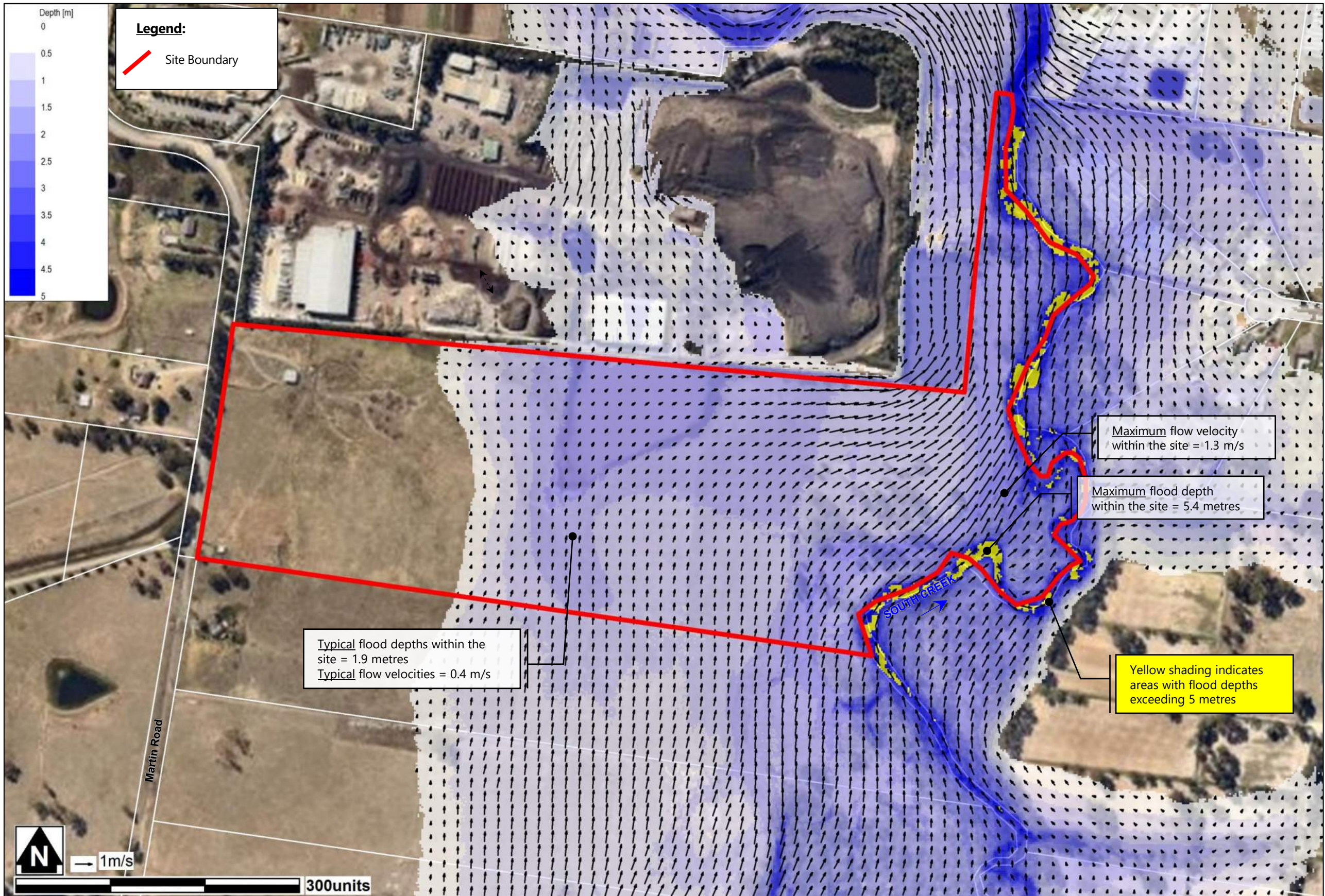
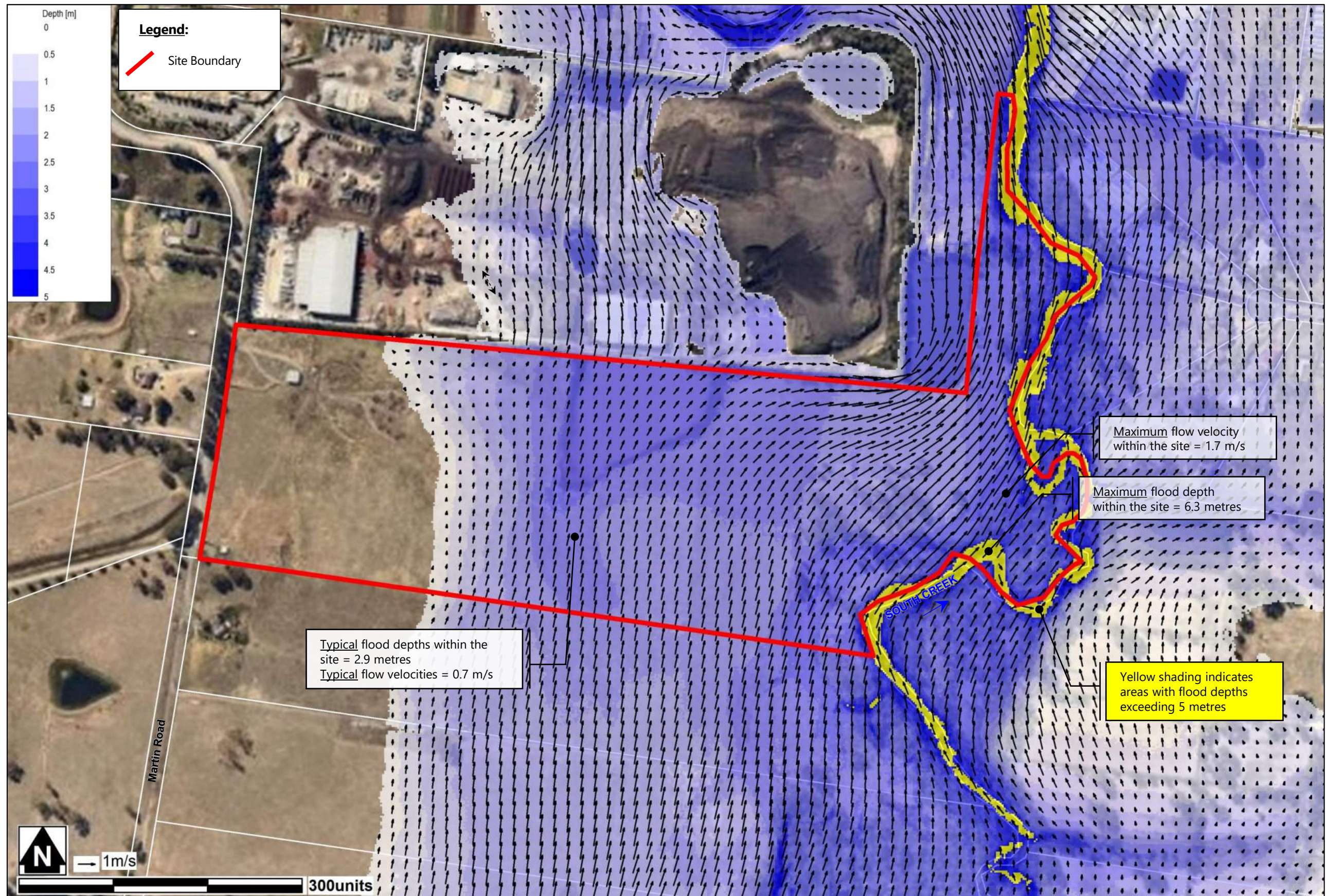


FIGURE A-8



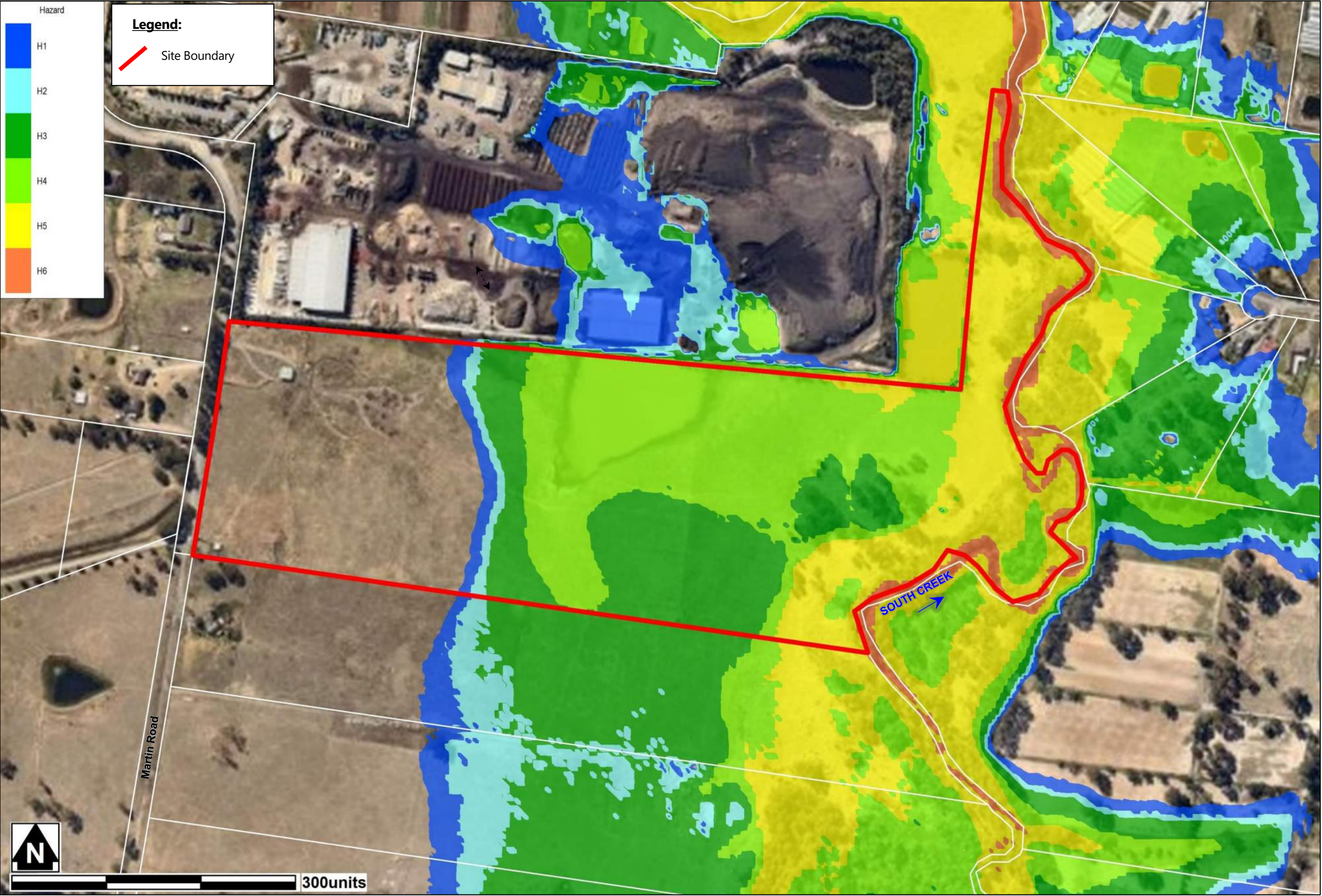
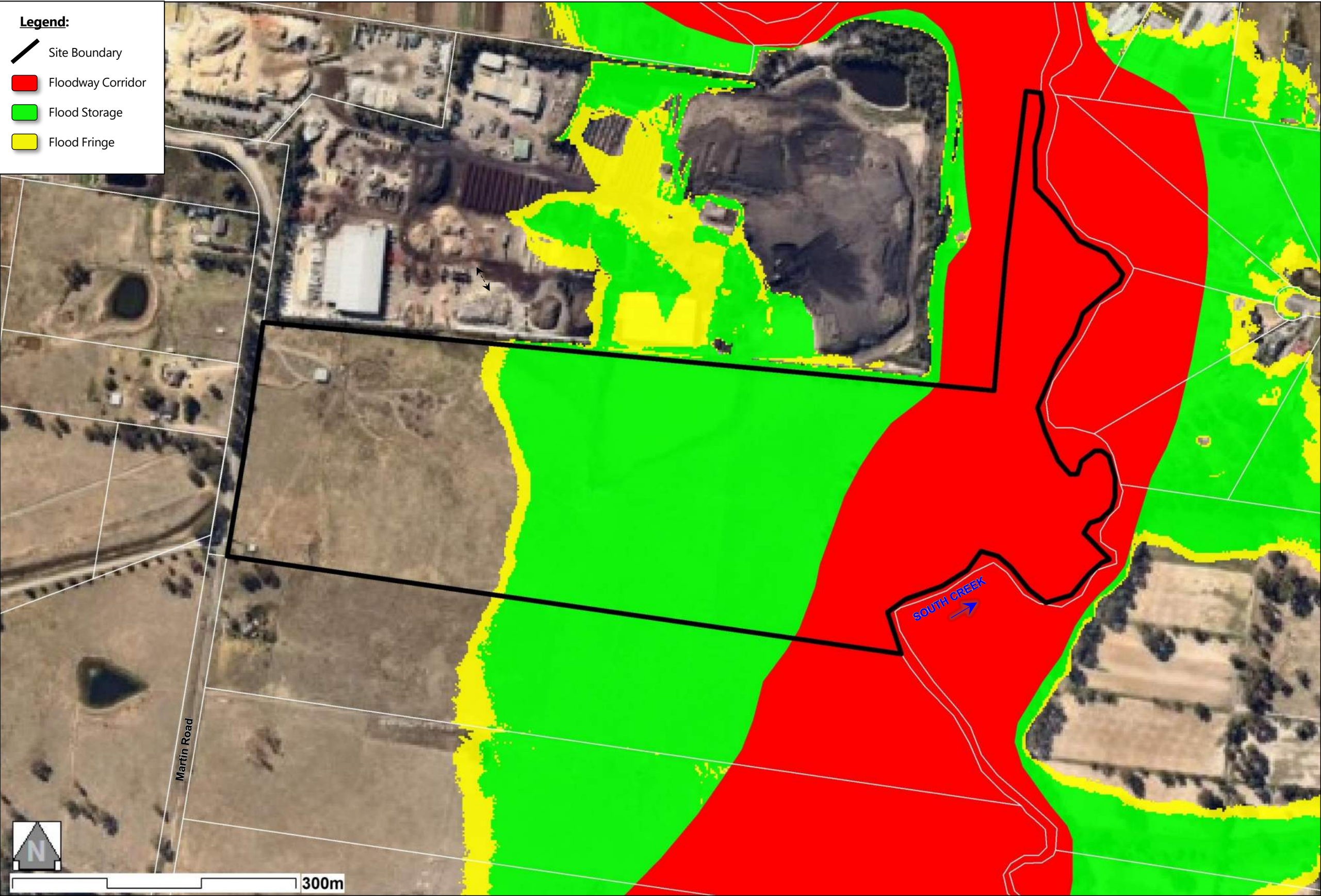
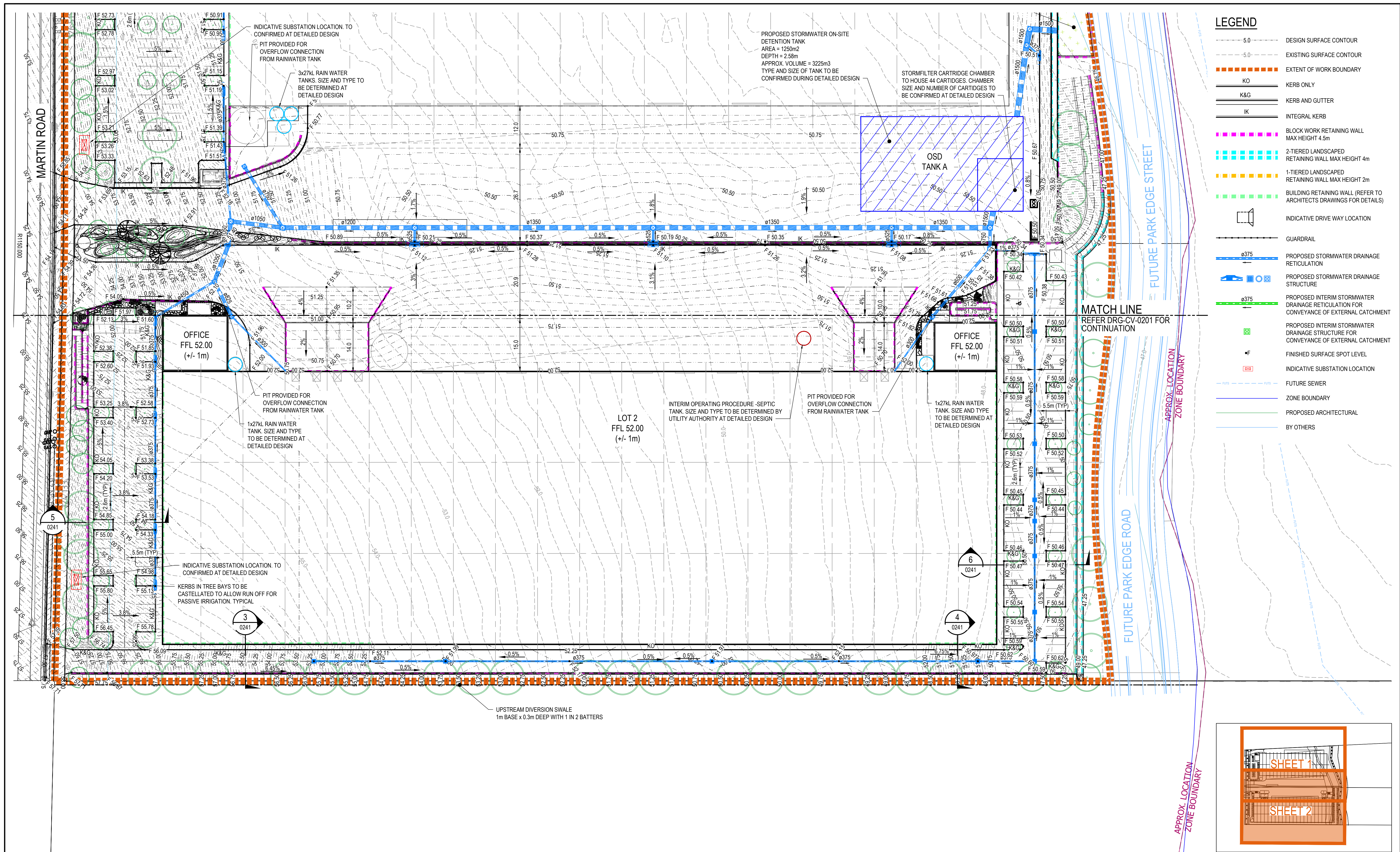


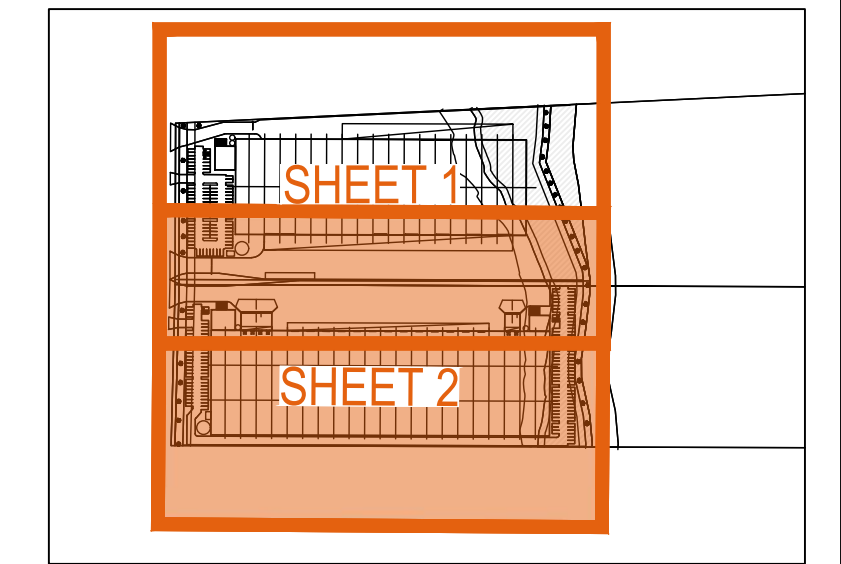
FIGURE A-10



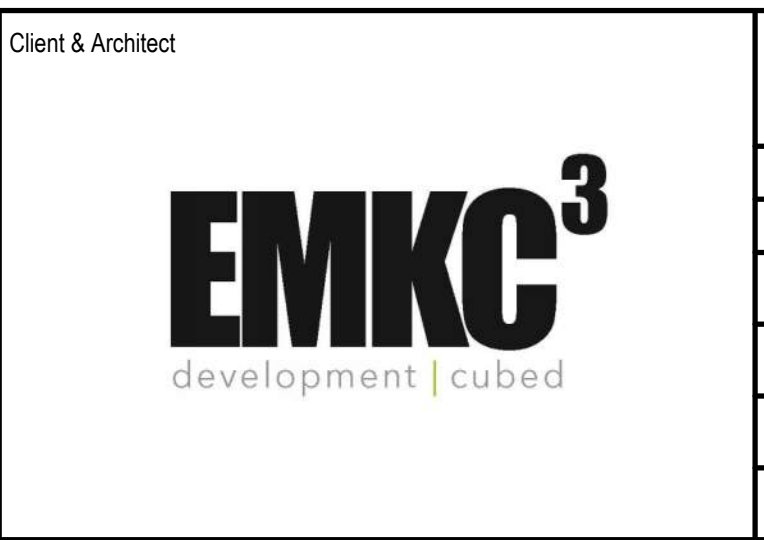
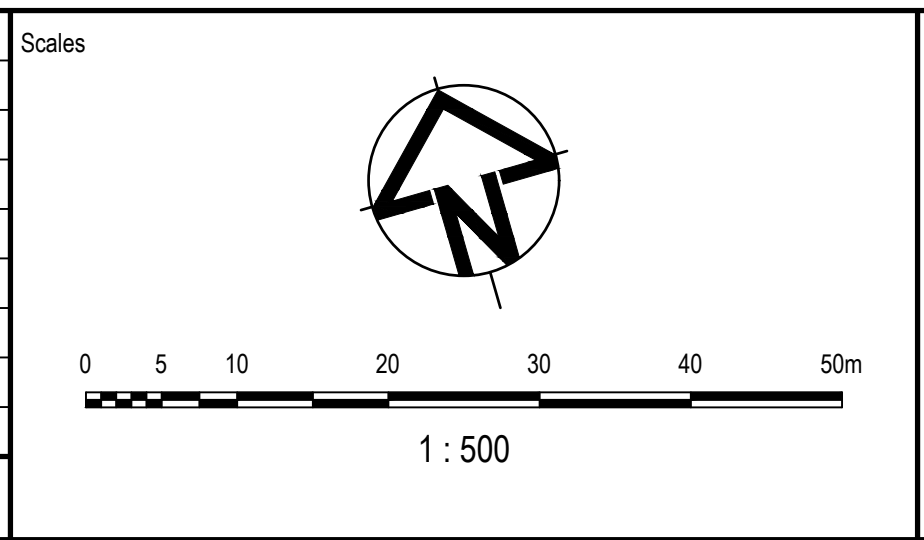
Appendix B. Civil Works Plans (Arcadis)



- LEGEND**
- 5.0 --- DESIGN SURFACE CONTOUR
 - -5.0 --- EXISTING SURFACE CONTOUR
 - EXTENT OF WORK BOUNDARY
 - KO --- KERB ONLY
 - K&G --- KERB AND GUTTER
 - IK --- INTEGRAL KERB
 - BLOCK WORK RETAINING WALL
MAX HEIGHT 4.5m
 - 2-TIERED LANDSCAPED
RETAINING WALL MAX HEIGHT 4m
 - 1-TIERED LANDSCAPED
RETAINING WALL MAX HEIGHT 2m
 - BUILDING RETAINING WALL (REFER TO
ARCHITECTS DRAWINGS FOR DETAILS)
 - INDICATIVE DRIVE WAY LOCATION
 - GUARDRAIL
 - PROPOSED STORMWATER DRAINAGE
RETICULATION
 - PROPOSED STORMWATER DRAINAGE
STRUCTURE
 - PROPOSED INTERIM STORMWATER
DRAINAGE RETICULATION FOR
CONVEYANCE OF EXTERNAL CATCHMENT
 - PROPOSED INTERIM STORMWATER
DRAINAGE STRUCTURE FOR
CONVEYANCE OF EXTERNAL CATCHMENT
 - FINISHED SURFACE SPOT LEVEL
 - INDICATIVE SUBSTATION LOCATION
 - FUTURE SEWER
 - ZONE BOUNDARY
 - PROPOSED ARCHITECTURAL
 - BY OTHERS



Issue	Description	DR	CH	VE	Date
04	FOR APPROVAL	JD	KM	KM	25.11.25
03	FOR COORDINATION	JD	KR	KM	21.10.25
02	FOR APPROVAL - RESPONSE TO TOA COMMENTS	JL	KR	KM	24.04.25
01	FOR APPROVAL	JL	KR	JH	13.09.24



Status		FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	
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Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Design Manager	K. MCAREAVEY	Grid	MGA/20-56
Verified	J. HEYDON		

Project
230 MARTIN ROAD,
BADGERYS CREEK

Title
CIVIL WORKS
PLAN SHEET 2

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Issue	04

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Appendix C. Flood Impact Mapping

