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13/04/2026



HYDRAULIC IMPACT ASSESSMENT

Proposed Residential Subdivision

12, 18 & 26 Cloverdale Road, Doolandella

Lots 101-103 on RP90234

For QLD International Investments Pty Ltd

7 August 2024

File No: K3426-0008-F

**BCC DS
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19/12/2025
APPLICATION REF
A006067610

PLANS AND DOCUMENTS
referred to in the
APPROVAL
Dated: **27/05/2026**

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Client Reference:	12, 18 & 26 Cloverdale Road, Doolandella
Synopsis:	This <i>Hydraulic Impact Assessment Report</i> provides details of the potential for hydraulic impact due to the Proposed Residential Subdivision premises of 12, 18 & 26 Cloverdale Road, Doolandella. It includes adopted modelling parameters, hydraulic constraints, conceptual design information and hydraulic impact for the proposed new lots and building pads.

Reviewed by RPEQ	Reg. No.	Signed	Date
Daley Curran	26353		7 August 2024

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1.0 INTRODUCTION

1.1 Background

OSKA Civil Consultants have been commissioned by QLD International Investments Pty Ltd to carry out a Hydraulic Impact Assessment (HIA) for a proposed 30 lot residential subdivision situated at 12, 18 and 26 Cloverdale Road, Doolandella.

This issue of the report (Issue F) has been generated due to an updated proposed subdivision layout and in response to Council's Further Advice Information Request (A006067610) dated 6 November 2023.

The subject site is described as Lots 101-103 on RP90234 and has a total site area of 6.34ha.

1.2 Scope

This HIA aims to:

- Review and adopt the existing information and supplied survey;
- Provide detail of all assumptions obtained from the available and supplied information;
- Generate an existing model to quantify the existing flooding regime, flood levels and velocities within and surrounding the site;
- Provide conceptual details of the proposed subdivision;
- Assess the impact of the proposed conceptual subdivision layout on upstream flood levels and downstream discharge including the design inundation depths on surrounding infrastructure and properties; and
- Proposed mitigation options if required.

1.3 Description of Investigation Area

1.3.1 Location

The site is located along Cloverdale Road in Doolandella, Brisbane. The site occupies the lots 101 to 103 on RP90234 and has a total area of 6.34 hectares. The site is bounded along the western and eastern sides by already established properties. Cloverdale Road runs along the northern boundary and Blunder Creek marks the southern boundary.

The location of the subject site is shown in Figure 1.



Figure 1: Locality Plan (Source: Nearmap accessed on 1 December 2022)

1.3.2 Existing Site

The site consists of 3 existing residential lots. The existing lots are primarily comprised of dense bushlands and trees to the south and cleared open grassed areas to the north along Cloverdale Road where the three existing residential dwellings are situated. Spot heights on site range from 24.4m AHD (in the north along Cloverdale Road) to 15m AHD (to the south along Blunder Creek) with any stormwater runoff on the site draining south/south-east into the existing drainage channel or Blunder Creek.

Further information of the site survey has been provided by TERRAMAP, Survey and Proposed Subdivision (Ref: 3814006) included as Appendix A.

1.3.3 Proposed Development

The proposed development is to subdivide into thirty (30) residential lots. The site will have an internal 14m wide road reserve which will provide access to all 30 lots. Access to the site will be gained from the north via Cloverdale Road which will provide access to the internal road reserve.

Refer to Appendix B for further proposed layout details prepared by Intrax, Proposed Reconfiguration of Lot (Ref: S152485).

2.0 MODELLING APPROACH

In order to assess the potential for flood hydraulic impact caused by the proposed development, a hydraulic impact assessment is required. An XPSWMM model was developed from available existing information. The following section details the modelling approach adopted.

2.1 XPSWMM Model

XPSWMM is a comprehensive Hydrologic and Hydraulic modelling software that combines 1D calculated flow with 2D overland flow calculations.

2.2 Adopted Model Technical Parameters

A summary of the key technical parameters adopted within the model are presented below.

Model Extent

The XPSWMM model extent is illustrated in Figure 2. The model extent surrounds the site and covers an approximate area of 0.5 km². The model extent was defined with a 3m grid mesh. The 3m grid size sets the precision of the model inputs and in turn the definition of the results. The finer the grid allows for greater detail represented in the model.



Figure 2: XP-SWMM Model Extent and DEM

Topography

The topographic elevation data utilised in the XPSWMM model was obtained from the online website ELVIS. ELVIS is an online database of elevation spatial data. The available data obtained from ELVIS included the digital elevation model (DEM) derived from Brisbane City Councils 2014 LiDAR DEM at a very high resolution (1m grid) for the entire model domain (including the site). Refer to Figure 2 for a localised view of the DEM across the site.

Boundary Conditions

The XPSWMM model has five inflow locations, as seen in Figure 3. The Blunder Creek inflow data was obtained from Volume 1 of the *Oxley Creek Flood Study*, prepared by Aurecon for Brisbane City Council. The Blunder Creek 1 in 100yr ARI (1% AEP) flood flow data was used as the inflow in the model to simulate the flooding conditions of Blunder Creek. The 1% AEP flows were used in accordance with the minimum design levels for Creek/waterway flow in the BCC City Plan. The 1% AEP Blunder Creek inflow hydrograph is presented in Figure 4.

The delineation of catchments 1 through 4 was undertaken as part of the XPSWMM model. The resulting hydrographs of the XPSWMM hydrologic model are shown in Figure 5.



Figure 3: XPSWMM Model Catchments, Inflow and Downstream Boundary Locations

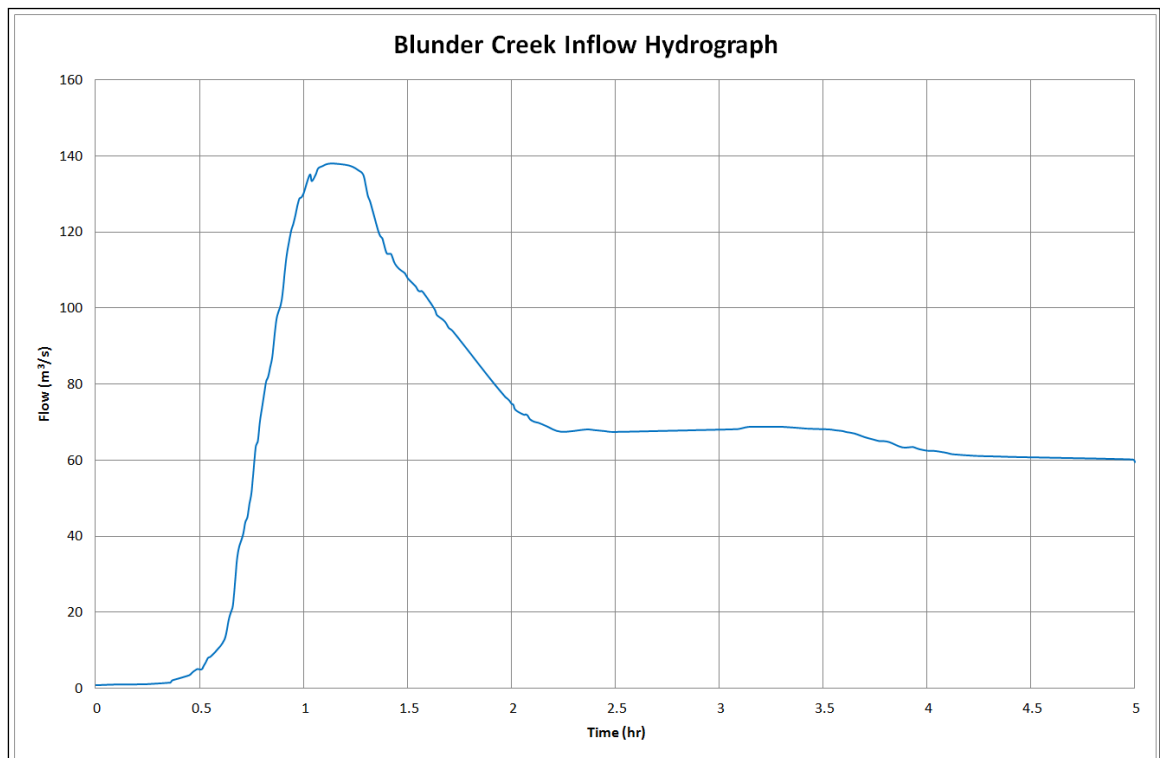


Figure 4: Blunder Creek 1% AEP Inflow Hydrograph

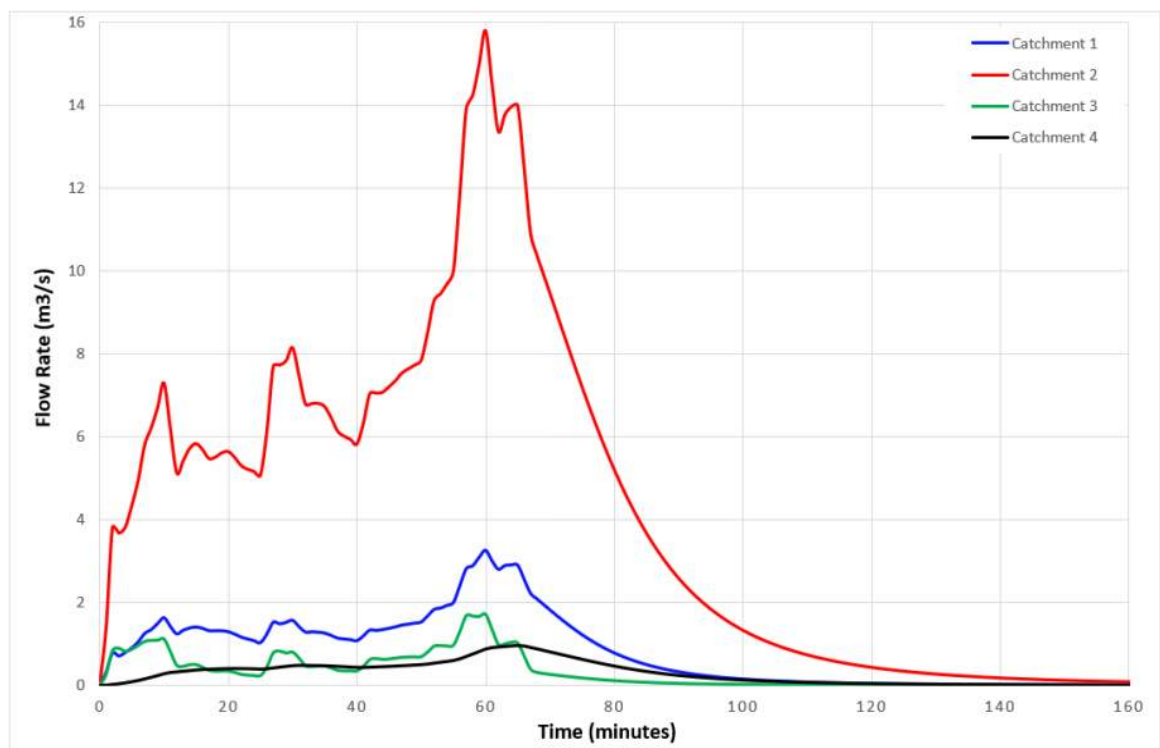


Figure 5: Catchment Inflow Hydrographs

The downstream boundary was set as a HQ boundary, water level versus flow (stage-discharge) curve. XPSWMM automatically generates a HQ boundary with the allocation of a downstream boundary slope. The downstream boundary slope was calculated as 0.005m/m. It should be noted that the tailwater boundary was 400m downstream of the site and sensitivity analysis suggested that there was no influence to the sites flood levels. Figure 3 also illustrates the location of the downstream boundary.

Manning's 'n' Hydraulic Roughness Coefficient

The adopted Manning's 'n' surface roughness coefficients, from recommendations in AR&R (2016), for various surface characteristics are shown below in Table 1.

Table 1: Manning's 'n' Roughness Coefficients

Materials Layer	Manning's	Impervious %
Dense Vegetation	0.050	0
Buildings	0.050	100
Low Vegetation	0.030	0
Road Pavement	0.013	100

Design Rainfalls

The design rainfall patterns and intensities for the catchment were determined using the procedures given in the Australia Runoff & Rainfall 2019 (ARR 2019). The 2% AEP rainfall intensities were used for the model in accordance with the minimum design levels for Overland Flow in the BCC City Plan.

Rainfall Losses

The model losses adopted in the XP SWMM hydrologic model are outlined below. A uniform initial and continuing loss was adopted and applied to all the pervious areas.

- Initial loss = 0 mm
- Continuous loss = 2.5 mm/hr

Only a uniform initial loss was applied to impervious areas.

- Initial loss = 0.5 mm
- Continuous loss = 0 mm/hr

2.3 Hydraulic Model Simulation

The XPSWMM model was run for the existing scenario to obtain the existing flow regime and to understand pre-developed conditions on site and external. A post-development model was set up representing the proposed 30 lot subdivision development including entry roads and access ramps. This has been discussed further in the following sections.

The 1 in 50yr ARI (2% AEP) 60min results are the primary results discussed and presented within this report, in accordance with Overland Flow requirements specified in the BCC Flood Hazard Overlay Code.

3.0 HYDRAULIC ASSESSMENT

A hydraulic assessment was undertaken to establish pre-development flood extents/flow paths, flood levels and flood velocities across the site for the 1 in 50yr ARI (2% AEP) 60min design event. The hydraulic assessment will also quantify any potential impacts caused by the proposed dwelling on peak flood levels within and external to the site. The following section describes the pre and post-development hydraulic model setup and results of the modelling.

3.1 Hydraulic Results

3.1.1 Existing Scenario

As described in Section 2, the XPSWMM model was built to assess the site and its surrounds from available existing information. The model was considered calibrated as it adopted inflow data obtained from Aurecon outlined in Volume 1 of their Oxley Creek Flood Study. Therefore, the model was validated and used for development assessment purposes.

A graphical representation of the 1 in 50yr ARI (2% AEP) pre-development flood levels, velocities and hazard (depth-velocity output) for the model are presented in Appendix C.

Results of the 1 in 50yr ARI (2% AEP) model indicates an average 140m wide flow path across the subject site. In the vicinity of the site the pre-development model estimated a varying flood depth over the site of up to 3.90m (located along the southern boundary within Blunder Creek).

Existing ground levels for the site range from approximately 15m AHD to 24.4m AHD, with a resulting 1 in 100yr ARI (1% AEP) designated flood level (DFL) for the site of between 19.70m AHD to 20.70m AHD. The peak flood levels at the site extracted from the BCC FloodWise property reports (12, 18 & 26 Cloverdale Road) are listed in Table 2 and the individual FloodWise Property Reports are included within Appendix H.

Table 2: Peak Flood Levels on the Site (Source: BCC FloodWise Property Report)

Event (% AEP)	Peak Existing Flood Level (m AHD)
20	19.30
5	19.80
2	20.10
1	20.70

A graphical representation of the 1% AEP existing flood levels and depths are presented respectively in Figures 6 and 7.



Figure 6: 2% AEP Pre Development Flood Levels

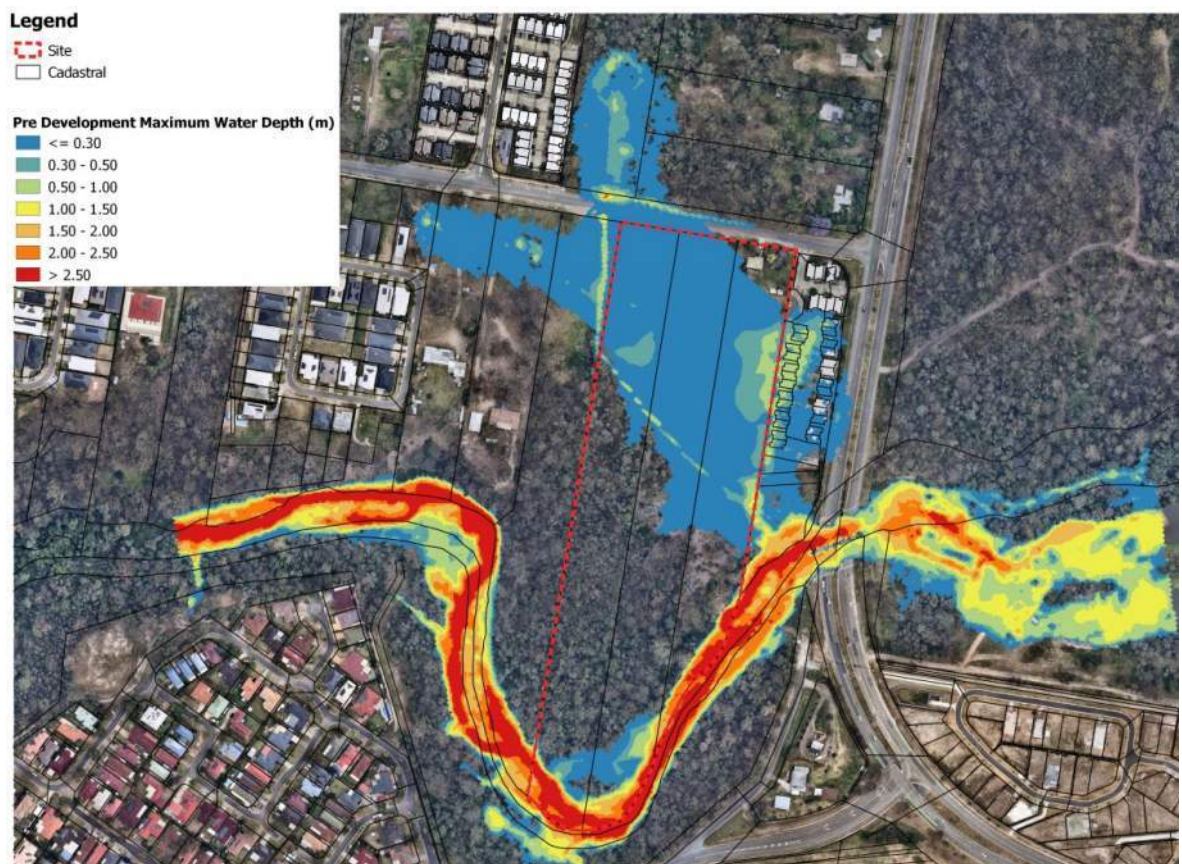


Figure 7: 2% AEP Pre Development Flood Depths

Based on the results of the 2% AEP existing model, the estimated maximum flood depth and flood velocity over the site are approximately 1.22m and 3.34m/s, respectively. Currently, the majority of the subject site and existing development to the east is inundated during the 2% AEP flood event.

The current overland flow flooding scenario inundates the existing townhouse development to the east as seen in Figure 6 and 7 and closely resembles the BCC Flood Awareness Map shown in Figure 8. The current flooding conditions for the existing development to the east may not have been considered during the original development approval and as such this development to remove/reduce the flooding impact on the site to correct any potential oversight that may have occurred as part of previous approvals.

It is to be noted that with the predevelopment flooding extent from the constructed XP-SWMM model closely resembling the overland flow overlay in the BCC Flood Awareness Map, the results from the constructed XP-SWMM model have been verified and as such, provides validation that the XP-SWMM model has been prepared with similar modelling assumptions.

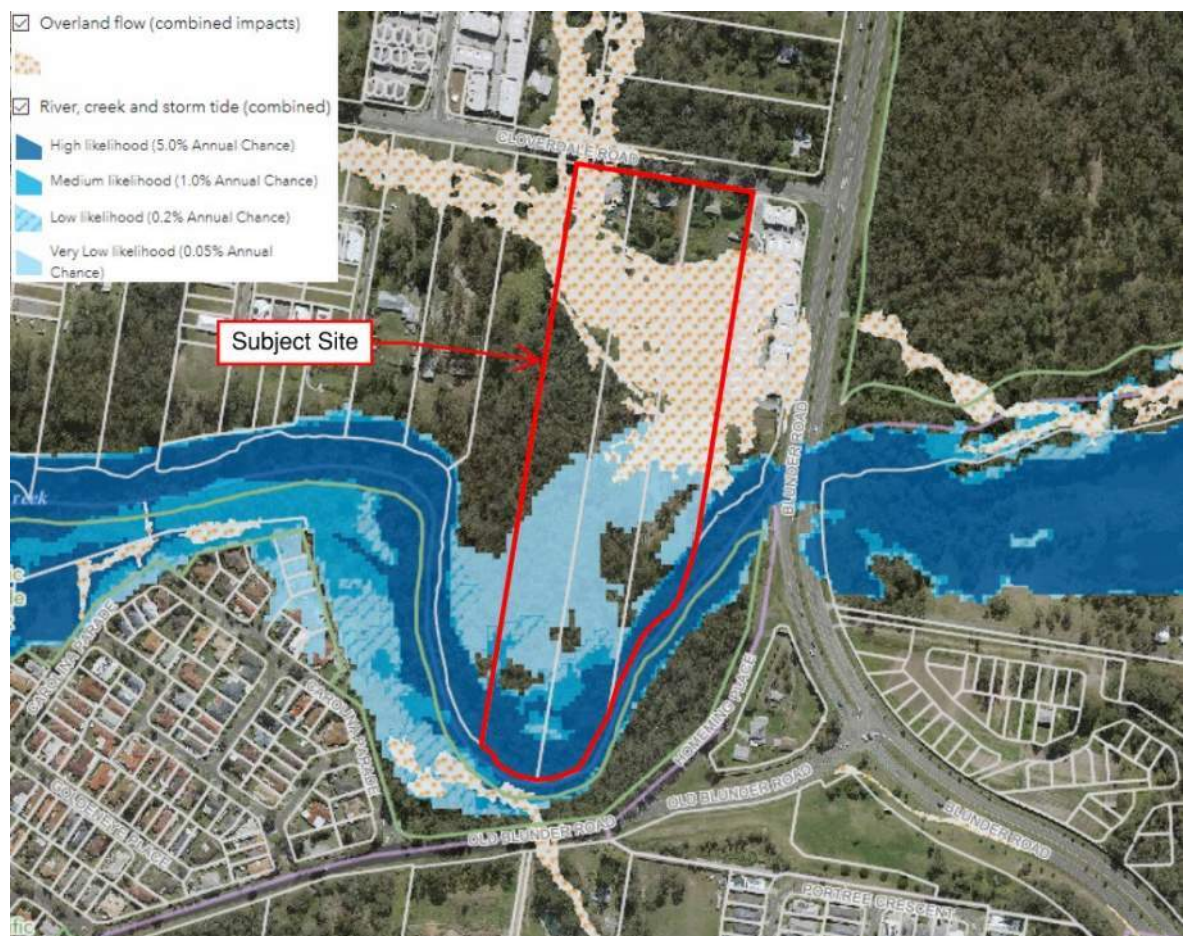


Figure 8: BCC Flood Awareness Map (Source: BCC)

3.1.2 Post Development Scenario

In order to assess the potential for hydraulic impact, the proposed 30 lot subdivision and associated drainage and driveway access infrastructure (to supply safe trafficable access to the development and rear of the site) has been included.

The proposed drainage infrastructure includes (see Figure 9):

- 6m wide drainage channel (along the northern boundary);
- The provided 8m wide easement (along the western and southern boundary) has given adequate space for 8m wide drainage channel – this channel disperses at the downstream end (south-east corner) and ties into the existing natural drainage channel to the south-east of the development;
- Two (2) sets of circular culvert crossings, in the south underneath the rear access driveway ramp. Four (4) x Ø450mm culverts in the proposed overland flow channel and four (4) x Ø900mm culverts in the natural drainage channel with the proposed culvert arrangement shown in Figure 9. These proposed culverts may also be in the form of a small private bridge or equivalent;
- 4m wide existing natural drainage channel within the western neighbouring lot and along the southern boundary of the development – this channel is to remain as per the pre development scenario apart from the proposed culvert crossing;
- Driveway access to the development is provided from Cloverdale Road;
- Driveway access to the rear of the site is provided; and
- Additional stormwater gully pits and pipes within Cloverdale Road fronting the development.

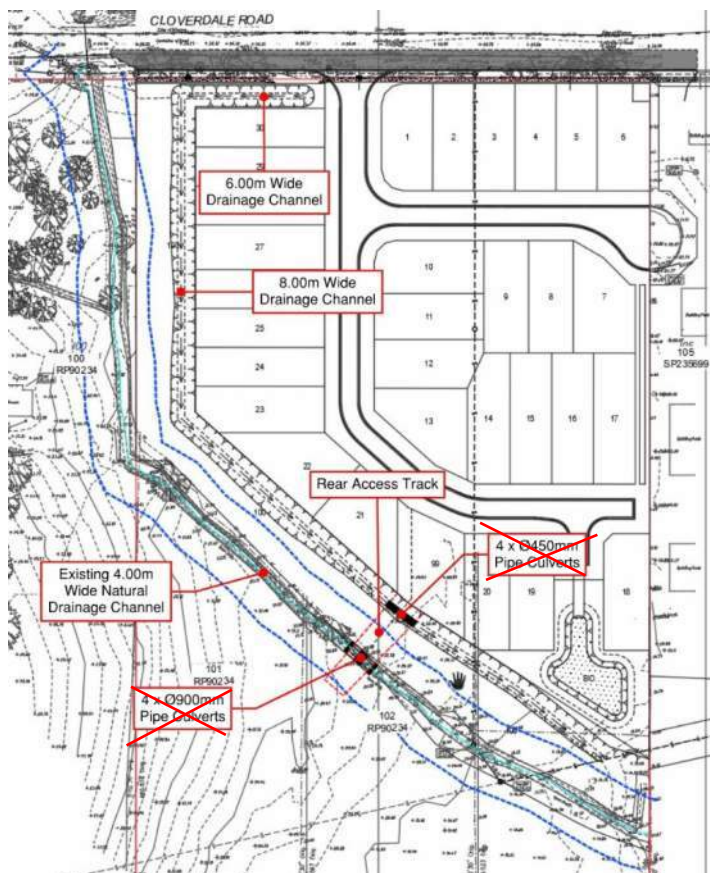


Figure 9: Post-Development Flood Model Proposed Drainage Infrastructure

In order to maintain the existing flood conveyance across the site, the existing natural drainage channel has been maintained with no works to occur within 10m of the existing drainage channel centreline. A new drainage channels has been proposed (along the northern, western and southern sides of the proposed development) with varying widths being implemented. The proposed driveway access roads were also designed in accordance with the BCC Flood Overlay Code. The level of the access driveway from Cloverdale Road and the access driveway to the rear of the site were both set above the design flood event, 1 in 50 year ARI (2% AEP) flood level. Careful consideration was given to the proposed drainage infrastructure with respect to the existing flood extent and overland flow path, and as a result, minimal change to the existing flood regime was shown in the resulting water level afflux plots described in Section 3.1.3.

The proposed development will alter the site's topology to meet Council's requirements for finished floor levels. The proposed development is to comply with BCC's Flood Overlay Code which is addressed in OSKA Consulting Group, *Flood Overlay Code* (Ref: K3426-0009) included as Appendix G.

The proposed development will also aim to reduce the current overland flow flooding extent within the existing townhouse development to the east. This will be achieved through the use of overland flow channels to convey the external upstream catchments flows around the proposed and existing development and discharged out to Blunder Creek to the south-east. Further information on the post development model results and flooding extents is provided in Appendix D.

HYDRAULIC RESULTS

A graphical representation of the 2% AEP Post Development flood levels, depths, velocities and depth*velocity product (D*V) are presented respectively in Figures 10, 11, 12 and 13.



Figure 10: 2% AEP Post Development Flood Levels

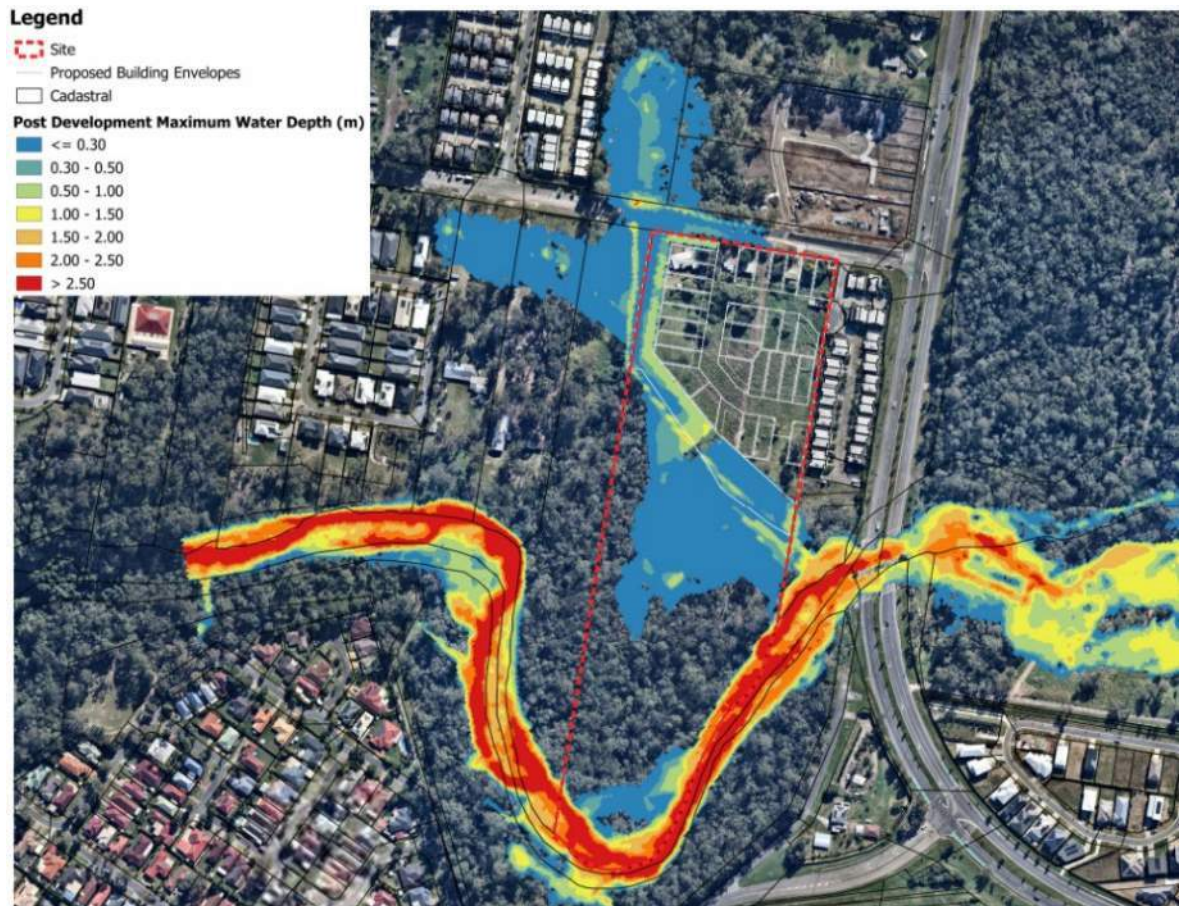


Figure 11: 2% AEP Post Development Flood Depths

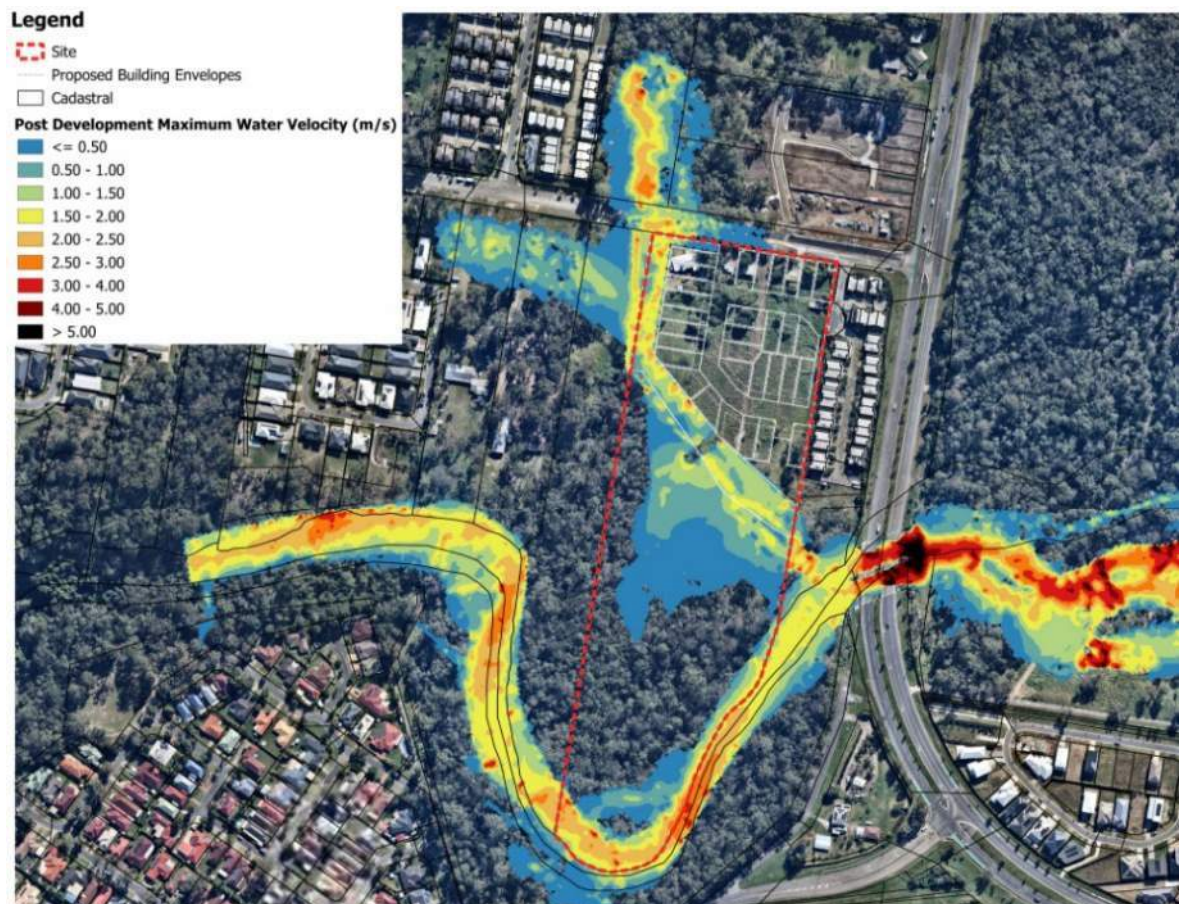


Figure 12: 2% AEP Post Development Flood Velocities



Figure 13: 2% AEP Post Development Hazard (D*V)

The modelling results of the 2% AEP Post development model indicated that the estimated maximum flood levels and depths are less than or comparable to that of the Pre Development scenario external to the subject site. In addition, the majority of the developed site as well as the entirety of the existing eastern townhouse development is projected to be flood free during the 2% AEP flood event. A comparison of flood characteristics between these two scenarios of flood has been presented in the following section.

A graphical representation of the 1 in 50yr ARI (2% AEP) post-development flood levels, depths, velocities and hazard (depth-velocity output) for the model has also been included in Appendix D.

3.1.3 Hydraulic Impact

A comparison between the pre and post-developed maximum water surface levels during the 1 in 50yr ARI (2% AEP) event was generated to graphically assess the potential for hydraulic impact. These graphical representations of the 1 in 50yr ARI (2% AEP) flood afflux maps are presented in Appendix E. These maps present the potential flood level impacts (afflux) caused by the proposed subdivision and required drainage and driveway access infrastructure. There are four (4) different locations which have been summarised below.

Cloverdale Road Reserve

There is a maximum flood level afflux of 0.340m along Cloverdale Road fronting the site occurs for approximately 65m where the location of the proposed vehicle cross over and frontage works are located. The afflux is wholly contained within the Cloverdale Road reserve itself. The majority of the impacts are attributed to change in road levels along this portion – i.e. implementation of site access as well as formalisation of the road reserve from a rural street to an Urban Residential Street has lift the road level by approximately 0.17m which means the

actual water depth is 0.15m within Cloverdale Road. The existing case consisted of the road with the verge grading away from the centerline of Cloverdale Road through the site. The post development consists of a new road design with kerb and channel and a standard verge profile that grades up to the proposed development. The proposed design levels within the verge are typically at least 300-400mm higher than existing which has caused the increased afflux fronting the development. The flood depths on Cloverdale Road range from a maximum of 0.484m at the site access to 0.160m on the north-western site boundary. The hazard on the roadway remains below $0.267\text{m}^2/\text{s}$ for the site access ensuring site egress is achievable ($D*V < 0.60\text{m}^2/\text{s}$) in accordance with the BCC Flood Code.

Eastern Waterway Corridor

There is a maximum flood level afflux of 0.137m within the waterway corridor to the east on Lot 0 SP287112 that is located below the existing development and towards Blunder Creek within the High Ecological Significance (HES) area. This area is considered to be undevelopable and the increase in flood level is not anticipated to cause any adverse impacts to the proposed development, existing development or any downstream properties.

Western Waterway Corridor

There is a flood level afflux of 0.204m within the waterway corridor to the west on Lot 100 RP90234 along the eastern boundary and a flood level afflux of 0.021m along the northern boundary. The flood level afflux that occurs along the northern boundary of Lot 100 on RP90234 is considered to be caused by modelling inaccuracies due to the small isolated area in which the afflux occurs. The flood level afflux that occurs along the eastern boundary is located over the existing natural creek/gully that runs along the eastern boundary of the lot. The afflux is located in the southern portion of the existing channel/waterway corridor which is currently subject to multiple Council overlays including Waterways, Flood, HES, Bio and Koala. As such this area will not be subject to any future development. Given the afflux is only minor, no impacts to the adjacent property are evident.

Internal Waterway Corridor

The hydraulic modelling has estimated areas of flood level afflux within the subject site boundaries, however these areas are within the areas with no proposed development. The results have also estimated a large area internal and external to the site that will no longer be inundated during the 2% AEP overland flow event. This area includes the existing townhouse development to the east which will no longer experience inundation during the 2% AEP overland flow flood event. This is considered to be a beneficial outcome for both the proposed development and Council as the current overland flow flooding conditions that the existing townhouse site experiences may have been overlooked in the original development application for the site.

Therefore, the areas of flood level afflux shown within the afflux plot in Appendix E, are not anticipated to cause any adverse impacts to any nearby existing development or downstream properties and are to be considered in conjunction with the significant overland flow flood extent reduction.

3.1.4 Sensitivity Analysis

The BCC information request (A006067610) dated 6 September 2022 requested that a sensitivity analysis was undertaken with fully developed upstream catchments and an increased Mannings value of 0.10 for any vegetated/open space areas. The sensitivity analysis was requested to be used to assist in setting lot levels and grading the internal road reserve

with the results show in Appendix F. No further analysis of the sensitivity analysis water levels was undertaken in this report.

The internal lot and road levels were set by using the maximum of the water levels in the sensitivity analysis or the post development flood levels with an additional 500mm freeboard in accordance with the BCC City Plan for Overland Flow. This allowed the finished lot levels to be designed with additional freeboard to ensure that all lots will achieve sufficient flood immunity in accordance with the BCC Flood Overlay Code which is included as Appendix G.

4.0 CONCLUSION

OSKA Civil Consultants have been commissioned by QLD International Investments Pty Ltd to carry out a Hydraulic Impact Assessment (HIA) for a proposed residential subdivision development situated at 12, 18 and 26 Cloverdale Road, Doolandella.

This Hydraulic Impact Assessment (HIA) was prepared to provide a conceptual estimate of any potential impact due to the proposed development.

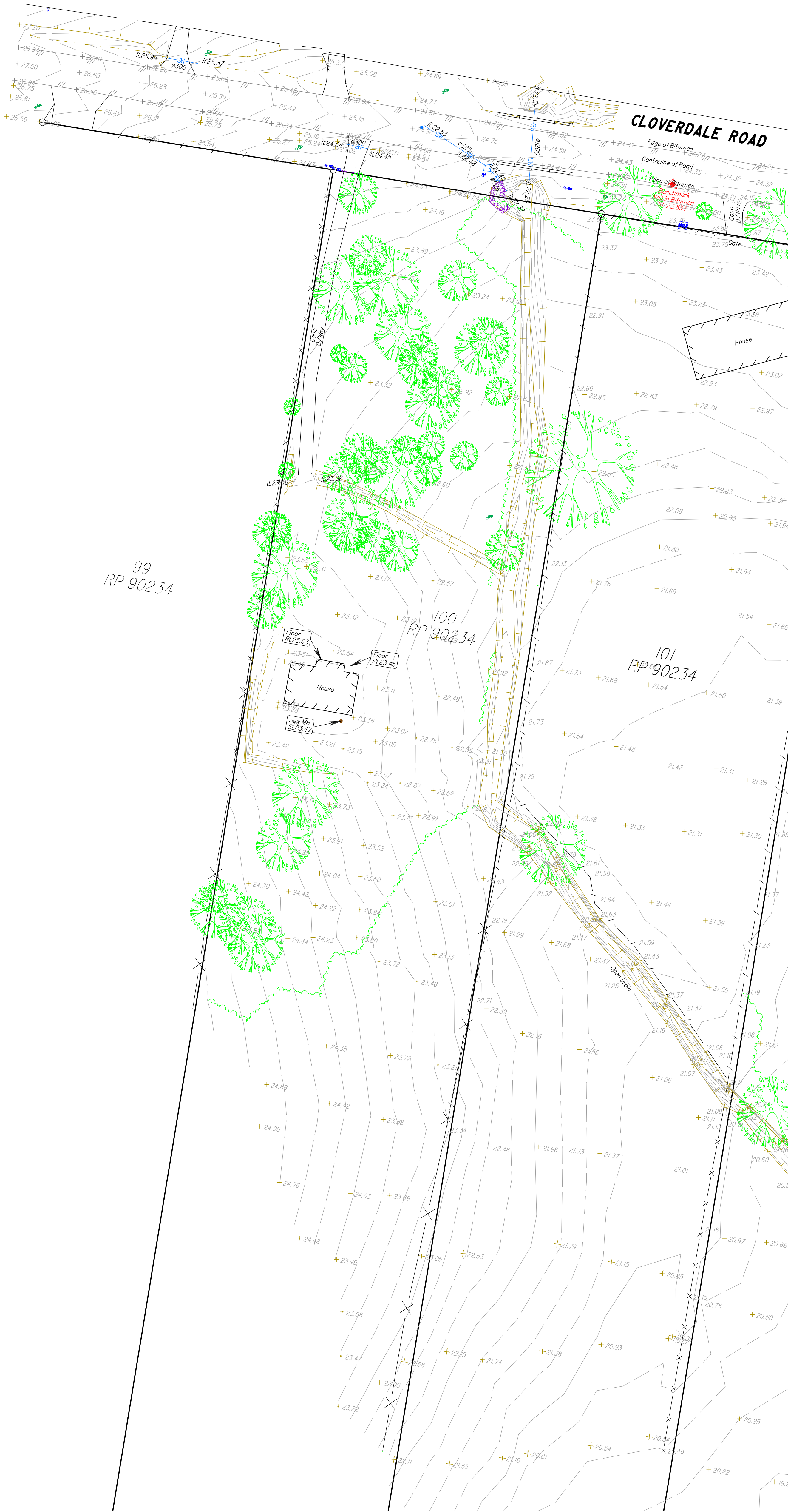
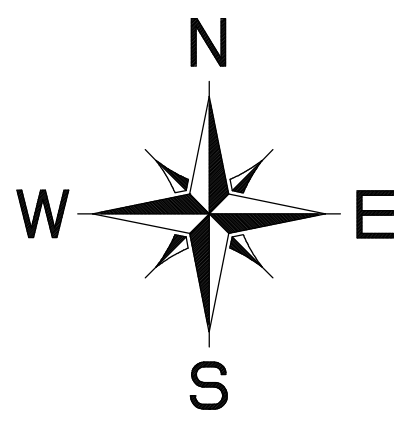
The results of the analysis have determined that:

- An XP-SWMM model was constructed to undertake a hydraulic assessment for the site, the proposed development and its surrounding areas.
- The existing flood regime has been presented within this report.
- The proposed drainage infrastructure along with the required driveway access road (front and rear) discussed within this report has been implemented into the post-development model.
- The proposed driveway provides a safe trafficable driveway during the 2% AEP event;
- The existing townhouse development to the east is no longer inundated during the 2% AEP overland flow event.
- The site's proposed development and topographical alterations will not cause any meaningful actionable nuisance external to the site, with three small areas of afflux in flood levels external to the site. There are areas within the site where afflux in flood levels occur, however the location of these affluxes is tolerable. It has been determined that the areas of afflux are within undevelopable areas or considered to be model inaccuracies and are not anticipated to cause any adverse impacts to the existing developments/properties or downstream properties.
- The proposed development is to comply with BCC's Flood Overlay Code.

APPENDIX

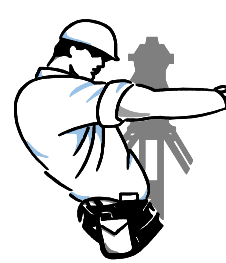
A

TERRAMAP
Contour and Detail Survey
(Ref: 3814/002 – Sheets 1-3)



LEGEND	
EDGE OF KERB	
OVERHEAD ELECTRICITY	
BUILDING WALL	
CROWN OF BITUMEN	
FENCE LINES	
PROPERTY BOUNDARY	
STORMWATER	
SEWER MAIN	
WATER VALVE/METER	
FIRE HYDRANT	
TELSTRA PIT	
ELECTRICITY PIT/POLE	
SURVEY MARKS	
STORMWATER MH/GRATE	
SEWER MH	

Notes	
-	This plan is prepared for the client from a combination of field survey and existing records for the purpose as instructed by the client and should not be used for any other purpose.
-	The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimension only and not by field measurement.
-	Services shown hereon have been located where possible by field survey. If not able to be located known services have been plotted from the records of relevant authorities where available and have been noted accordingly on this plan. Where such records do not exist or are considered inadequate, a notation has been made hereon.
-	Contours depicted are surveyed ground levels and may not represent Ground Level as defined by the planning scheme for the overall determination of height.
-	Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.



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Ph 32451611 Fax 32451944
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SURVEYOR: JO
DATE OF SURVEY: 11/5/17
CONTOUR INTERVAL: 0.25m
LEVEL DATUM: AHD DERIVED
ORIGIN: PSM 186215 RL20.590
MERIDIAN: RP 90234

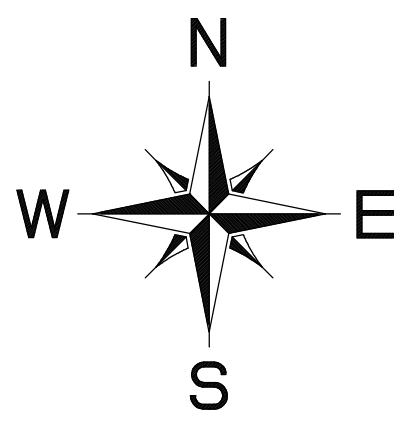
Alex Wu

Contour and Detail Survey
Lots 99-103 on RP 90234
18-32 Cloverdale Road, Doolandella
Sheet 3 of 3

SCALE 1 : 800 A3



1	20/12/21	RK	Datum changed to MGA2020	DRAWN:	20.01.2016
0	15/5/17	AS	ORIGINAL ISSUE	CHECKED:	20.01.2016
Rev	DATE	By	AMENDMENT	APPROVED:	20.01.2016
				DRAWING NUMBER:	REV
				3814/002-3	2



100
RP 90234

101
RP 90234

102
RP 90234

103
RP 90234

105
SP 235699

BLUNDER

CREEK

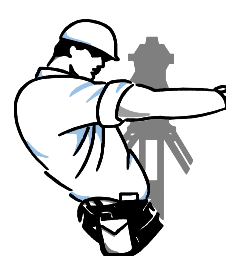
Contours in this area are indicative only

Contours in this area are indicative only

Contours in this area are indicative only

LEGEND	
EDGE OF KERB	
OVERHEAD ELECTRICITY	
BUILDING WALL	
CROWN OF BITUMEN	
FENCE LINES	
PROPERTY BOUNDARY	
STORMWATER	
SEWER MAIN	
WATER VALVE/METER	
FIRE HYDRANT	
TELSTRA PIT	
ELECTRICITY PIT/POLE	
SURVEY MARKS	
STORMWATER MH/GRATE	
SEWER MH	

Notes	
-	This plan is prepared for the client from a combination of field survey and existing records for the purpose as instructed by the client and should not be used for any other purpose.
-	The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimension only and not by field measurement.
-	Services shown hereon have been located where possible by field survey. If not able to be located known services have been plotted from the records of relevant authorities where available and have been noted accordingly on this plan. Where such records do not exist or are considered inadequate, a notation has been made hereon.
-	Contours depicted are surveyed ground levels and may not represent Ground Level as defined by the planning scheme for the overall determination of height.
-	Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.



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CONSULTING CADASTRAL &
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Capalaba, QLD 4157
www.terramap.com.au

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reception@terramap.com.au

SURVEYOR: RS & NM
DATE OF SURVEY: 20.01.2016
CONTOUR INTERVAL: 0.25m
LEVEL DATUM: AHD DERIVED
ORIGIN: PSM 186215 RL20.590
MERIDIAN: RP 90234

Alex Wu

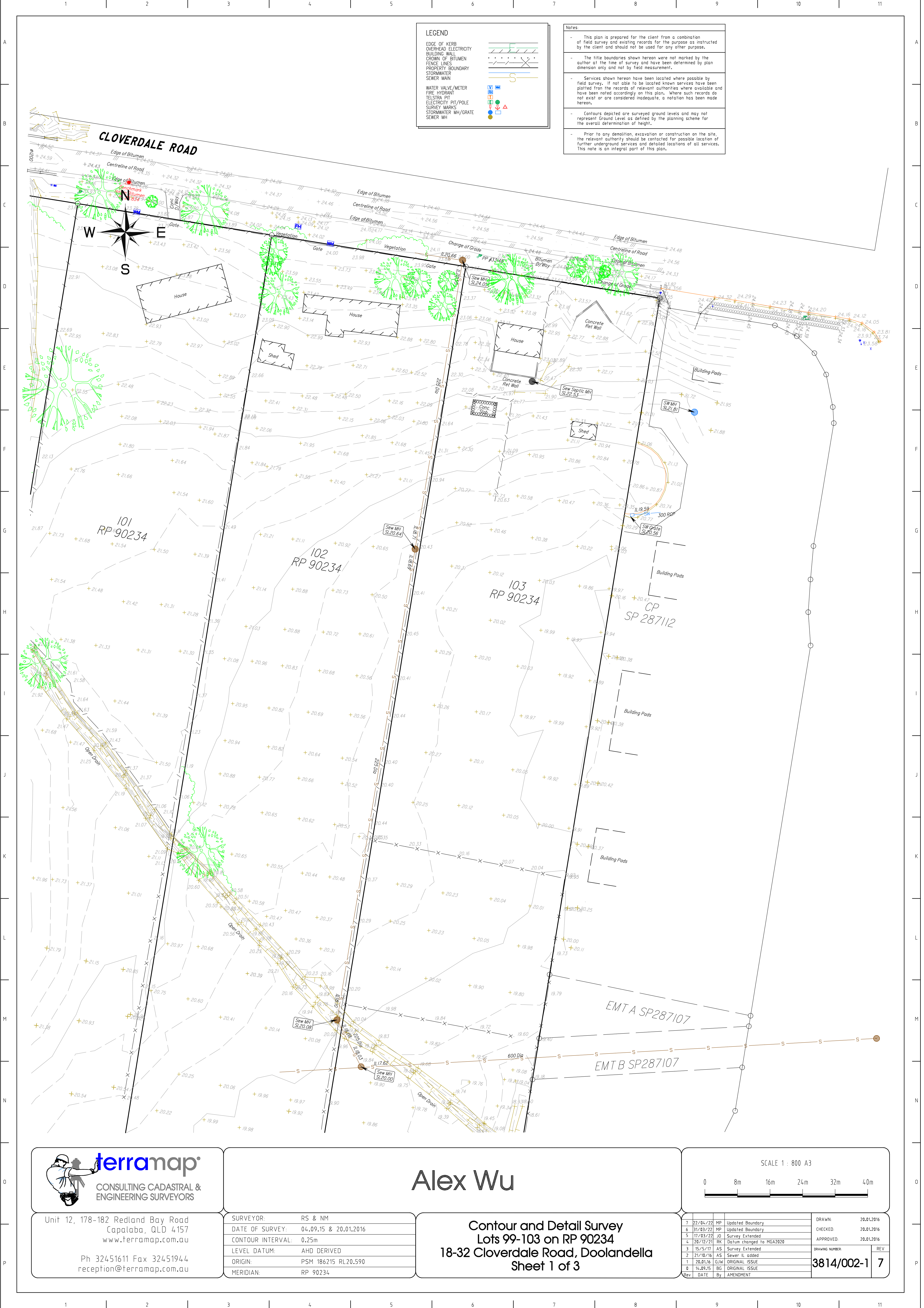
Contour and Detail Survey
Lots 99-103 on RP 90234
18-32 Cloverdale Road, Doolandella
Sheet 2 of 3

SCALE 1 : 800 A3



			DRAWN:	20.01.2016
			CHECKED:	20.01.2016
			APPROVED:	20.01.2016
			DRAWING NUMBER:	REV
2	31/03/22	MP	Updated Boundary	
1	20/12/21	RK	Datum changed to MGA2020	
0	20.01.16	G/W	ORIGINAL ISSUE	
Rev	DATE	By	AMENDMENT	

3814/002-2 2



LEGEND

EDGE OF KERB
OVERHEAD ELECTRICITY
BUILDING WALL
CROWN OF BITUMEN
FENCE LINES
PROPERTY BOUNDARY
STORMWATER
SEWER MAIN

WATER VALVE/METER
FIRE HYDRANT
TELSTRA PIT
ELECTRICITY PIT/POLE
SURVEY MARKS
STORMWATER MH/GRATE
SEWER MH

- Notes**
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 - The title boundaries shown herein were not marked by the author at the time of survey and have been determined by plan dimension only and not by field measurement.
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 - Contours depicted are surveyed ground levels and may not represent Ground Level as defined by the planning scheme for the overall determination of height.
 - Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

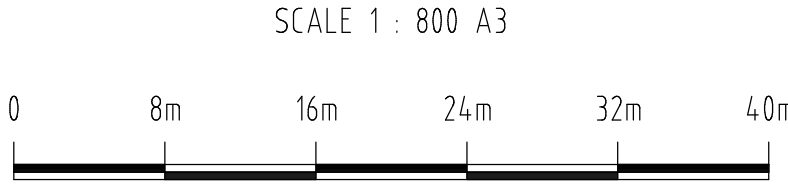


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SURVEYOR: RS & NM
DATE OF SURVEY: 04.09.15 & 20.01.2016
CONTOUR INTERVAL: 0.25m
LEVEL DATUM: AHD DERIVED
ORIGIN: PSM 186215 RL20.590
MERIDIAN: RP 90234

Alex Wu

Contour and Detail Survey
Lots 99-103 on RP 90234
18-32 Cloverdale Road, Doolandella
Sheet 1 of 3



7	22/01/22	MP	Updated Boundary	DRAWN:	20.01.2016
6	31/03/22	MP	Survey Extended	CHECKED:	20.01.2016
5	17/03/22	JO	Datum changed to MGA2020	APPROVED:	20.01.2016
4	20/12/21	RK	Survey Extended	DRAWING NUMBER:	3814/002-1
3	15/05/17	AS	Sewer IL added	REV	7
2	21/10/16	AS	Original Issue		
1	20.01.16	GJW	ORIGINAL ISSUE		
0	14.09.15	BG	ORIGINAL ISSUE		
Rev	DATE	By	AMENDMENT		

APPENDIX

B

Intrax, Proposed Reconfiguration of Lot

APPENDIX

C

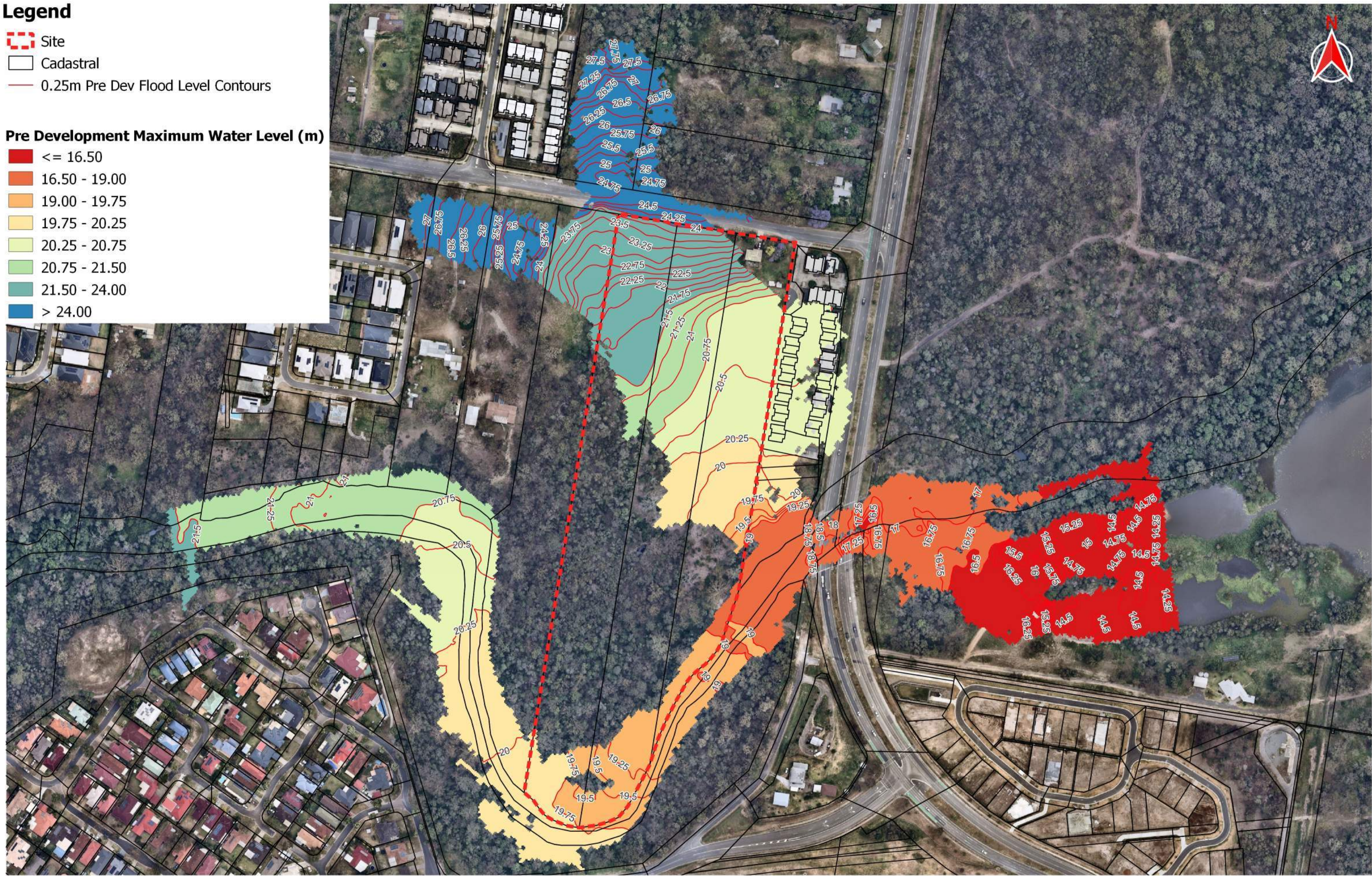
OSKA Consulting Group,
1 in 50yr ARI (2% AEP) Pre-
development Flood Maps

Legend

- Site
- Cadastral
- 0.25m Pre Dev Flood Level Contours

Pre Development Maximum Water Level (m)

- <= 16.50
- 16.50 - 19.00
- 19.00 - 19.75
- 19.75 - 20.25
- 20.25 - 20.75
- 20.75 - 21.50
- 21.50 - 24.00
- > 24.00



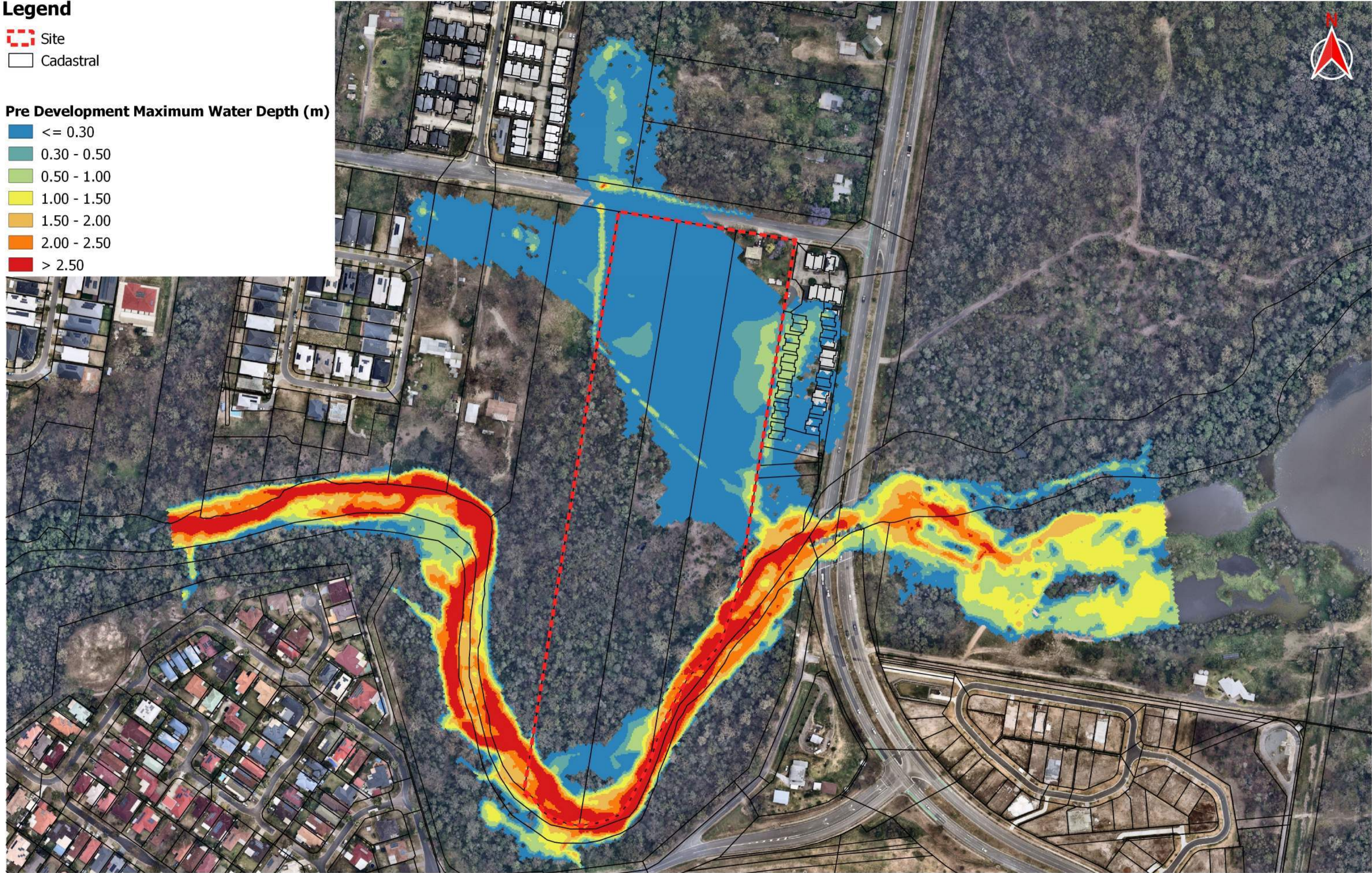
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										ISSUE 1
1	21-04-23	ISSUED FOR REPORT								
ISSUE No.	DATE	AMENDMENT								

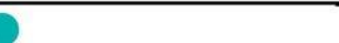
Legend

- Site
- Cadastral

Pre Development Maximum Water Depth (m)

- <= 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- > 2.50



				CLIENT QLD INTERNATIONAL INVESTMENT PTY LTD			DESIGN BG	DRAWN BG	APPROVED	TITLE PRE DEVELOPMENT MAXIMUM WATER DEPTH		PROJECT NO. OSK3426	
				PROJECT PROPOSED RESIDENTIAL SUBDIVISION 12, 18 & 26 CLOVERDALE ROAD DOOLANDELLA QLD 4077								DWG NO. SK-002	ISSUE 1
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ISSUE No.	DATE	AMENDMENT											

APPENDIX

D

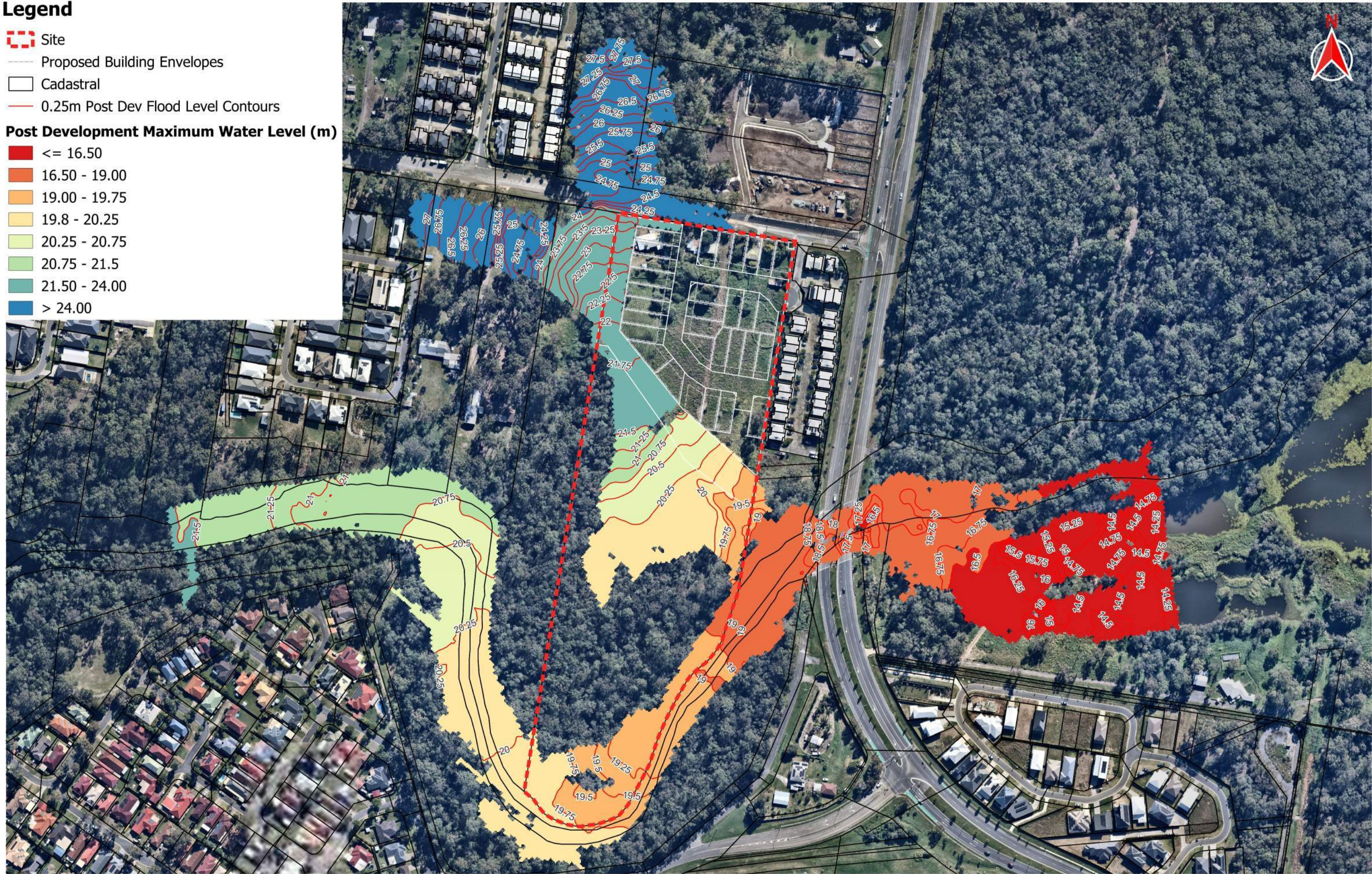
OSKA Consulting Group,
1 in 50yr ARI (2% AEP)
Post-development Flood Maps

Legend

- Site
- Proposed Building Envelopes
- Cadastral
- 0.25m Post Dev Flood Level Contours

Post Development Maximum Water Level (m)

- <= 16.50
- 16.50 - 19.00
- 19.00 - 19.75
- 19.8 - 20.25
- 20.25 - 20.75
- 20.75 - 21.5
- 21.50 - 24.00
- > 24.00



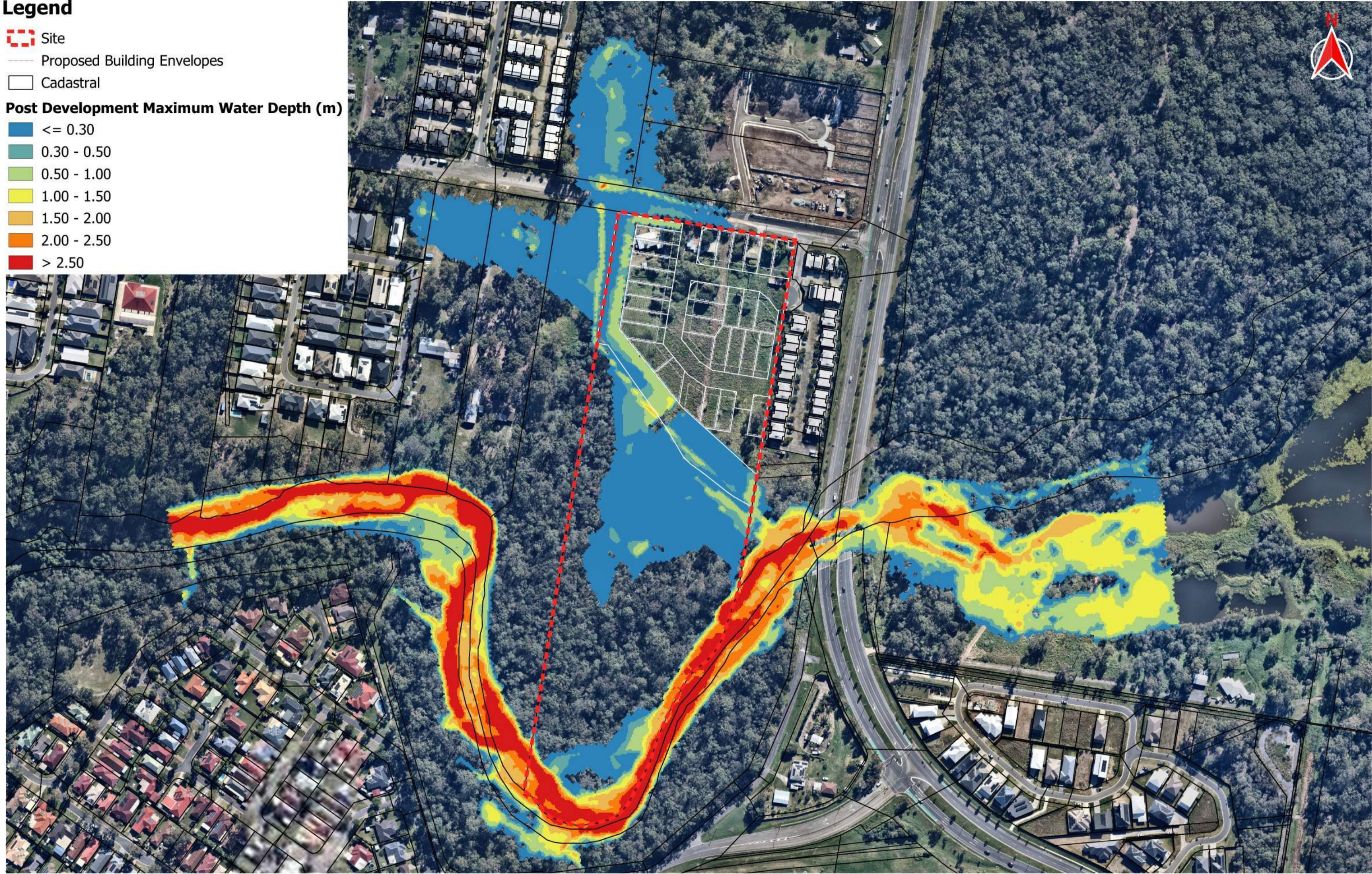
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2	17-05-23	ISSUED FOR REPORT								ISSUE 3		
1	21-04-23	ISSUED FOR REPORT										
ISSUE No.	DATE	AMENDMENT								SCALE 1:2750		
												

Legend

- Site
- Proposed Building Envelopes
- Cadastral

Post Development Maximum Water Depth (m)

- <= 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- > 2.50



ISSUE No.	DATE	AMENDMENT
3	22-07-24	ISSUED FOR REPORT
2	17-05-23	ISSUED FOR REPORT
1	21-04-23	ISSUED FOR REPORT



CLIENT QLD INTERNATIONAL INVESTMENT PTY LTD
PROJECT PROPOSED RESIDENTIAL SUBDIVISION 12, 18 & 26 CLOVERDALE ROAD DOOLANDELLA QLD 4077

DESIGN BG	DRAWN BG	APPROVED
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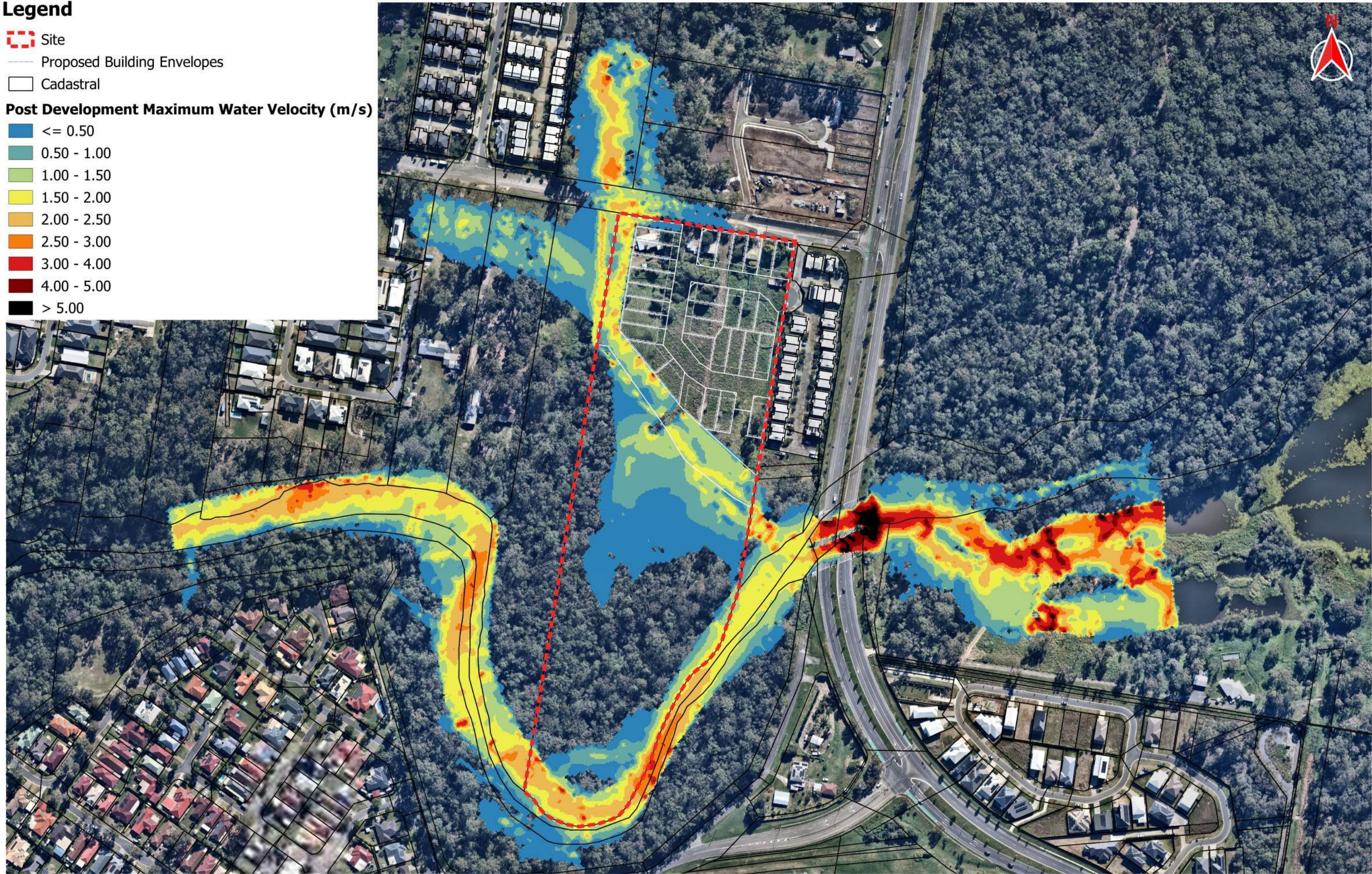
TITLE POST DEVELOPMENT MAXIMUM WATER DEPTH	PROJECT NO. OSK3426
SCALE 1:2750	DWG NO. SK-102
	ISSUE 3

Legend

- Site
- Proposed Building Envelopes
- Cadastral

Post Development Maximum Water Velocity (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 4.00
- 4.00 - 5.00
- > 5.00

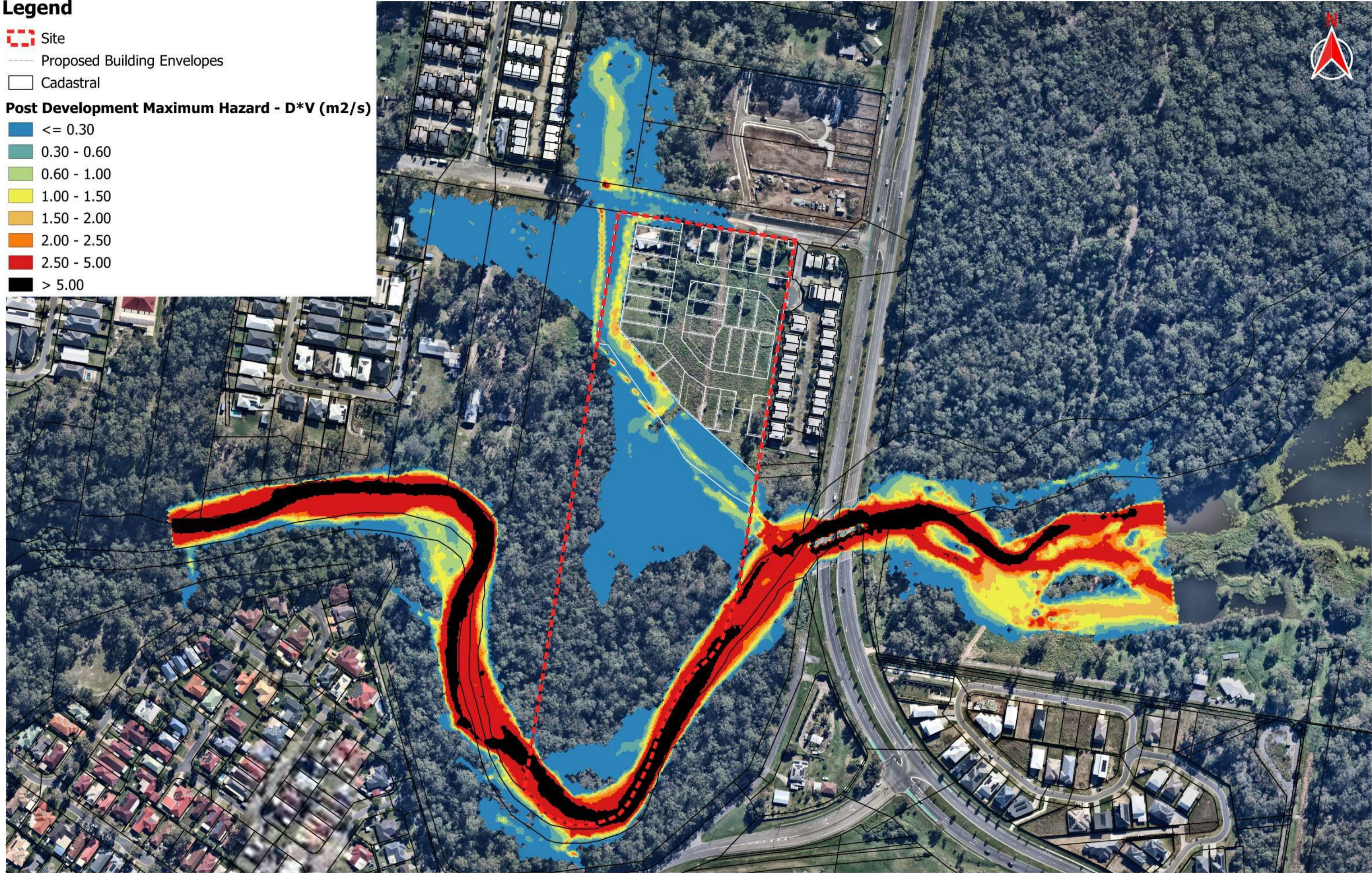


Legend

- Site
- Proposed Building Envelopes
- Cadastral

Post Development Maximum Hazard - D*V (m2/s)

- <= 0.30
- 0.30 - 0.60
- 0.60 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 5.00
- > 5.00



ISSUE No.	DATE	AMENDMENT
3	22-07-24	ISSUED FOR REPORT
2	17-05-23	ISSUED FOR REPORT
1	21-04-23	ISSUED FOR REPORT



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QLD INTERNATIONAL INVESTMENT PTY LTD

PROJECT
PROPOSED RESIDENTIAL SUBDIVISION
12, 18 & 26 CLOVERDALE ROAD
DOOLANDELLA QLD 4077

DESIGN	DRAWN	APPROVED
BG	BG	

TITLE		PROJECT NO.	
POST DEVELOPMENT MAXIMUM HAZARD (D*V)		OSK3426	
SCALE	DWG NO.	ISSUE	
1:2750	SK-104	3	

APPENDIX

E

OSKA Consulting Group,
1 in 50yr ARI (2% AEP)
Flood Level Afflux Map

Legend

- Site
- Proposed Building Envelopes
- Cadastral
- Water Level Afflux

< -0.50m

-0.10 to -0.50m

-0.05 to -0.10m

-0.02 to -0.05m

-0.02 to 0.02m

0.02 to 0.05m

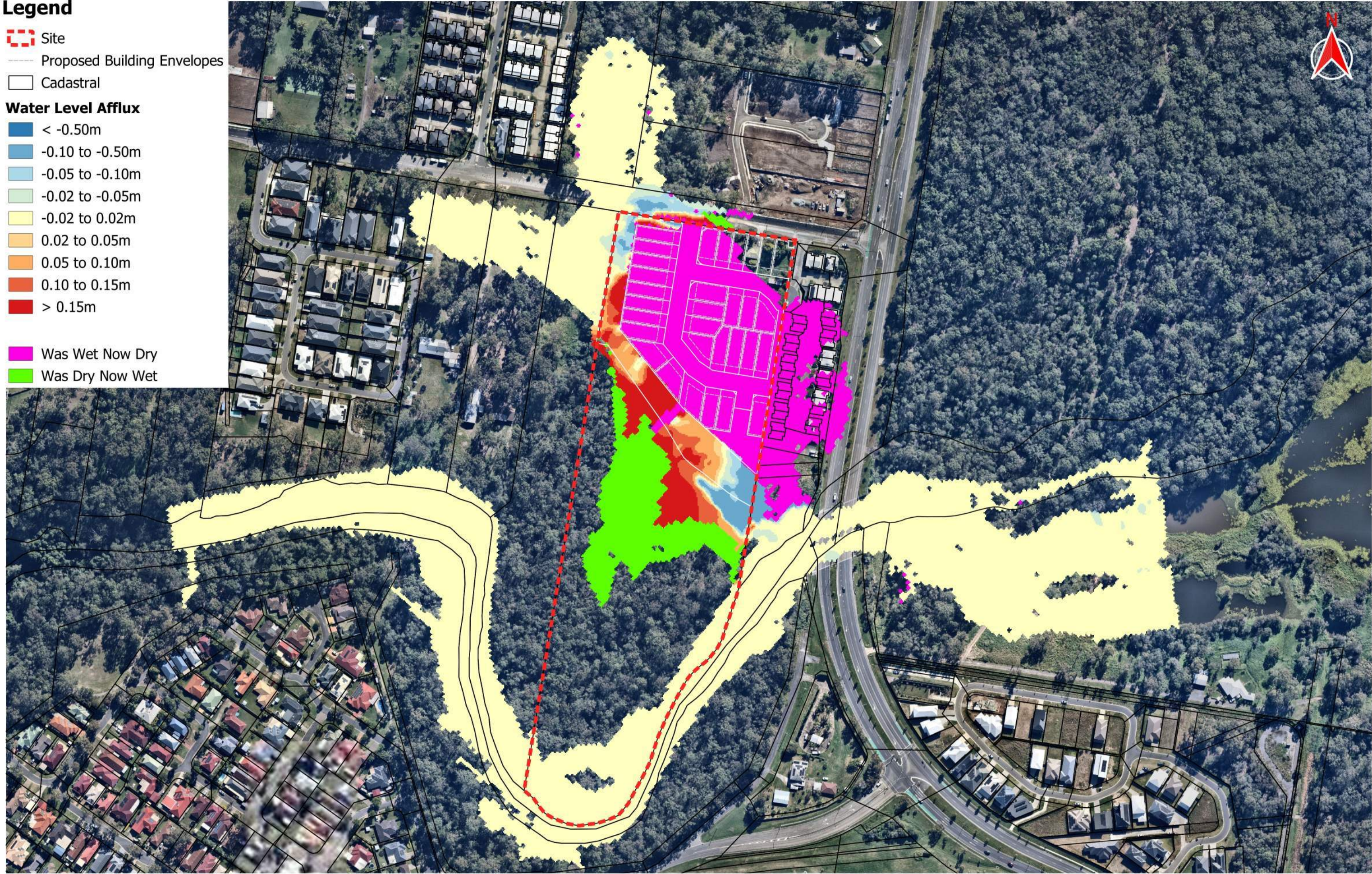
0.05 to 0.10m

0.10 to 0.15m

> 0.15m

Was Wet Now Dry

Was Dry Now Wet



ISSUE No.	DATE	AMENDMENT
3	22-07-24	ISSUED FOR REPORT
2	17-05-23	ISSUED FOR REPORT
1	21-04-23	ISSUED FOR REPORT



CLIENT QLD INTERNATIONAL INVESTMENT PTY LTD
PROJECT PROPOSED RESIDENTIAL SUBDIVISION 12, 18 & 26 CLOVERDALE ROAD DOOLANDELLA QLD 4077

DESIGN BG	DRAWN BG	APPROVED
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TITLE POST DEVELOPMENT WATER LEVEL AFFLUX	PROJECT NO. OSK3426
SCALE 1:2750	DWG NO. SK-201
	ISSUE 3

APPENDIX

F

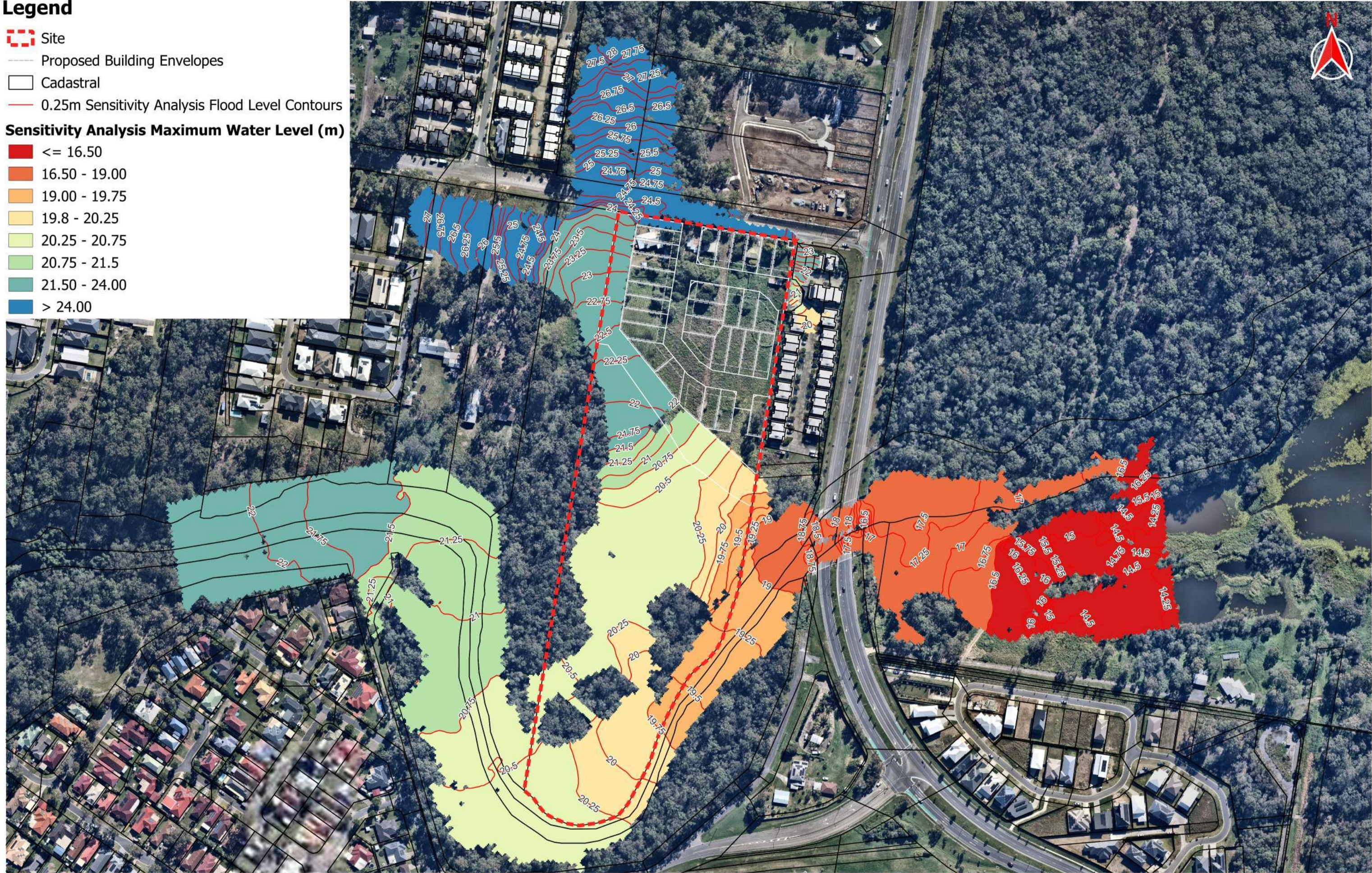
OSKA Consulting Group,
1 in 50yr ARI (2% AEP)
Sensitivity Analysis Flood Map

Legend

- Site
- Proposed Building Envelopes
- Cadastral
- 0.25m Sensivity Analysis Flood Level Contours

Sensitivity Analysis Maximum Water Level (m)

- <= 16.50
- 16.50 - 19.00
- 19.00 - 19.75
- 19.8 - 20.25
- 20.25 - 20.75
- 20.75 - 21.5
- 21.50 - 24.00
- > 24.00



ISSUE No.	DATE	AMENDMENT
3	22-07-24	ISSUED FOR REPORT
2	17-05-23	ISSUED FOR REPORT
1	21-04-23	ISSUED FOR REPORT



CLIENT
QLD INTERNATIONAL INVESTMENT PTY LTD

PROJECT
PROPOSED RESIDENTIAL SUBDIVISION
12, 18 & 26 CLOVERDALE ROAD
DOOLANDELLA QLD 4077

DESIGN	DRAWN	APPROVED
BG	BG	

TITLE
POST DEVELOPMENT SENSIVITY ANALYSIS MAXIMUM WATER LEVEL

SCALE
1:2750

0 40 80 120 160 200 m

PROJECT NO.	DWG NO.	ISSUE
OSK3426	SK-301	3

APPENDIX

G

OSKA Consulting Group,
Flood Overlay Code
(Ref: OSK3426-0009)

Table 8.2.11.3.A: Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments/Response
Section A—If for accepted development subject to compliance with identified requirements (acceptable outcomes only) or assessable development for a dwelling house including any secondary dwelling Note—Development for a dwelling house does not require assessment against any other sections of this code.		
Development involving any habitable or non-habitable part of a dwelling house, including any secondary dwelling, is located and designed to: a. minimise the risk to people from flood hazard; b. achieve acceptable flood immunity; c. minimise property impacts from a flood event up to and including the defined flood event; d. minimise disruption to residents, recovery time and rebuilding or restoration costs after a flood event up to and including the defined flood event.	Development for a dwelling house including any secondary dwelling: a. is not located in the Brisbane River flood planning area 1, 2a or 2b sub-categories or the Creek/waterway flood planning area 1 or 2 sub-categories; or b. is only located in these sub-categories, if a Registered Professional Engineer Queensland certifies that the dwelling house and any secondary dwelling are structurally designed to be able to resist hydrostatic and hydrodynamic loads associated with flooding up to and including the defined flood event.	N/A
	AO1.2 Development for a dwelling house and any secondary dwelling complies with the minimum flood planning levels in Table 8.2.11.3.B . Note—If located in an area that has no flood level information available from the Council such as an overland flow path, a Registered Professional Engineer of Queensland with expertise in undertaking flood studies is to certify that the flood level and development levels for the dwelling house and any secondary dwelling achieve the required flood planning levels in Table 8.2.11.3.B .	N/A
	AO1.3 Development involving a building undercroft complies with the minimum clearance requirements in Table 8.2.11.3.E . Editor's note—For creek/waterway, storm-tide and river flooding, applicable flood planning information is available from Council's FloodWise Property Report. Note—The Flood planning scheme policy provides guidance on undercroft design.	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
PO2 Development within the Creek/waterway flood planning area sub-categories or Overland flow flood planning area sub-category: a. maintains the conveyance of flood waters to allow flow and debris to pass predominantly unimpeded through the site; b. does not concentrate, intensify or divert floodwater onto upstream, downstream or adjacent properties; c. will not result in a material increase in flood levels or flood hazard on upstream, downstream or adjacent properties.	AO2 Development: a. is not located within the Creek/waterway flood planning area 1, 2 or 3 sub-categories or the Overland flow flood planning area sub-category; or b. provides an open undercroft area from natural ground level to habitable floor level for any area inundated by the defined flood event; or Note—This undercroft area is not suitable for providing non-habitable rooms, secure storage of valuables, or future enclosing for storage or car parking. The clear area may include structural elements such as columns and floor substructure. The Flood planning scheme policy provides guidance on undercroft design. Editor's note—An open undercroft design may be achieved through a 'valance' treatment around the perimeter of an otherwise internally clear undercroft. Editor's note—For Creek/waterway, storm-tide and river flooding, applicable flood planning information is available from Council's FloodWise Property Report. c. a report from a Registered Professional Engineer Queensland certifies that the development in the Creek/waterway flood planning area or Overland flow flood planning area sub-categories will not result in a material increase in flood level or flood hazard on upstream, downstream or adjacent properties. Note—Flood studies demonstrate that the development and engineering design methods conform to the principles within the Flood planning scheme policy and the Infrastructure design planning scheme policy.	N/A
Section B—If accepted development subject to compliance with identified requirements (acceptable outcomes only) or assessable development other than for a dwelling house or reconfiguring a lot Note—If development that is accepted development subject to compliance with identified requirements complies with the acceptable outcomes of this part, no further assessment against this code is required.		
PO3 Development:	AO3	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
a. is compatible with flood hazard in a defined flood event; b. minimises the risk to people from flood hazard; c. does not reduce the ability of evacuation resources including emergency services to access and evacuate the site in a flood emergency, with consideration to the scale of the development; d. minimises impacts on property from flooding; e. minimises disruption to residents, business or site operations and recovery time due to flooding; f. minimises the need to rebuild structures after a flood event greater than the defined flood event. Note—Where Table 8.2.11.3.C identifies that a flood risk assessment is required, compliance with this performance outcome can be achieved by submitting a flood risk assessment, which may be included within a flood study, addressing the criteria within this performance solution. Preparing flood risk assessments and flood studies is required to be in accordance with the Flood planning scheme policy. Note—An emergency management plan prepared in accordance with the Flood planning scheme policy, which sets out procedures for evacuation due to flooding may be used to demonstrate compliance with this performance outcome.	Development for a material change of use is identified in Table 8.2.11.3.C as compatible with the flood hazard in the relevant flood planning area.	
PO4 Development for a park ensures that the design of a park and location of structures and facilities responds to the flood hazard and balances the safety of intended users with: a. maintaining continuity of operations; b. impacts of flooding on asset life and ongoing maintenance costs; c. efficient recovery after flood events; d. recreational benefits to the city; e. availability of suitable land within the park.	AO4.1 Development involving a building or structure in a park complies with the flood planning levels specified in Table 8.2.11.3.D.	N/A
	AO4.2 Development involving a building or structure in a park where Table 8.2.11.3.D does not apply: a. is not located within the 20% AEP flood extent of any creek/waterway or overland flow path; or b. is located above the 20% AEP flood level of any creek/waterway or overland flow path.	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
Section C—If for assessable development other than for a dwelling house		
PO5 Development is located and designed to: a. minimise the risk to people from flood hazard on the site; b. minimise flood damage to the development and contents of buildings up to the defined flood event; c. provide suitable amenity; d. minimise disruption to residents, recovery time and the need to rebuild structures after a flood event up to and including the defined flood event.	AO5.1 Development complies with the flood planning levels specified in Table 8.2.11.3.D . Note—If located in an area with no Council-derived flood levels such as an overland flow path, a Registered Professional Engineer Queensland with expertise in undertaking flood studies is to derive the applicable flood level and certify that the development meets the required flood planning levels in Table 8.2.11.3.D . The study is to demonstrate that the development and engineering design methods conform to the principles within the Flood planning scheme policy and the Infrastructure design planning scheme policy .	AO No development has been proposed within or near the Creek/waterway flood planning area. The development complies for the minimum floor levels for overland flow. The minimum lot levels have been set using the greater of the maximum water levels from the sensitivity analysis or the maximum water levels for the post development plus 500mm.
	AO5.2 Development is: a. not located in the: i. Brisbane River flood planning area 1, 2a, or 2b sub-categories; ii. Creek/waterway flood planning area 1 or 2 sub-categories; iii. Overland flow flood planning area sub-category; or b. only located in these sub-categories if a Registered Professional Engineer Queensland with expertise in undertaking flood studies certifies that: i. the development design, siting and any mitigation measures will ensure the development is structurally adequate to resist hydrostatic, hydrodynamic and debris impact loads associated with flooding up to the defined flood event; and ii. the risk to people is managed to an acceptable level.	AO The site is located within the Creek/water and Overland Flow flood planning areas, however the development is only located within the Overland Flow flood planning area. The development will propose a drainage channel to convey the overland flow around the development. For further information on the proposed drainage channel and the hydraulic modelling, refer to the Hydraulic Impact Assessment prepared by OSKA Consulting Group (Ref: OSK3426-0008).

Performance outcomes	Acceptable outcomes	Comments/Response
PO6 Development involving essential electrical services or a basement storage area is suitably located and designed to ensure public safety and minimise flood recovery and economic consequences of damage during a flood.	AO6.1 Development ensures that: a. all areas containing essential electrical services comply with the flood planning levels in Table 8.2.11.3.D; or b. if a basement contains essential electrical services or a private basement storage area, the basement is a waterproof structure with walls and floors impermeable to the passage of water with all entry points and services located at or above the relevant flood planning level in Table 8.2.11.3.D. Note—A basement storage area does not include a bike storage room, change room, building maintenance storage and non-critical electrical services.	AO Electrical services and location will comply with the requirement of this code.
	AO6.2 Development involving a basement that relies on a pumping solution to manage floodwater ingress or for dewatering after a flood provides a secondary pump system with a backup power source for the pump.	N/A
PO7 Development does not directly or indirectly create a material adverse impact on flood behaviour or drainage on properties that are upstream, downstream or adjacent to the development.	AO7.1 Development: a. does not block, or divert floodwaters for any area affected by creek/waterway or overland flow flooding, excluding storm-tide flooding and Brisbane River flooding sources; or b. does not result in a material increase in flood level or hydraulic hazard on upstream, downstream or adjacent properties. Note—Compliance with this acceptable solution can be demonstrated by the submission of a flood study by a Registered Professional Engineer of Queensland with expertise in undertaking flood studies demonstrating that the development and engineering design methods conform to the principles within the Flood planning scheme policy and the Infrastructure design planning scheme policy.	PO The development will propose to divert overland flow around the development through the creation of a drainage channel. For further information on the proposed diversion channel and the hydraulic modelling & results, refer to the Hydraulic Impact Assessment prepared by OSKA Consulting Group (Ref: OSK3426-0008).

Performance outcomes	Acceptable outcomes	Comments/Response
	AO7.2 Development retains existing overland flow paths and does not rely wholly on piped solutions to manage major flows.	PO The development will propose to divert overland flow around the development through the creation of a drainage channel. For further information on the proposed diversion channel and the hydraulic modelling & results, refer to the Hydraulic Impact Assessment prepared by OSKA Consulting Group (Ref: OSK3426-0008).
	AO7.3 Development which creates a new overland flow path or significantly modifies an existing overland flow path via earthworks does not materially worsen hydraulic hazard on the site from existing conditions. Note—Compliance with this acceptable solution can be demonstrated by the submission of a flood study by a Registered Professional Engineer of Queensland with expertise in undertaking flood studies demonstrating that the development and engineering design methods conform to the principles within the Flood planning scheme policy and the Infrastructure design planning scheme policy .	PO The development will propose to divert overland flow around the development through the creation of a drainage channel. For further information on the proposed diversion channel and the hydraulic modelling & results, refer to the Hydraulic Impact Assessment prepared by OSKA Consulting Group (Ref: OSK3426-0008).
PO8 Development for filling or excavation in an area affected by creek/waterway flooding does not directly, indirectly or cumulatively cause any material increase in flooding or hydraulic hazard or involve significant redistribution of flood storage from high to lower areas in the floodplain. Note—This can be demonstrated by undertaking earthworks in compliance with the Compensatory earthworks planning scheme policy . Note—This part of the code applies to all development other than a dwelling house and any secondary dwelling which involves filling or excavation, whether or not the development application comprises a separate development application for operational work involving filling or excavation.	AO8 Development ensures that no filling or excavation greater than 100mm is located in the Creek/waterway flood planning area 1, 2 or 3 sub-categories if contained in the 5% AEP flood extent of any Creek/waterway flood planning area sub-category for which no waterway corridor has been mapped in the Waterway corridors overlay.	AO No development has been proposed within the Creek/waterway flood planning areas.

Performance outcomes	Acceptable outcomes	Comments/Response
PO9 Development ensures that the building and site design: a. maintains the conveyance capacity of existing overland flow paths and creek/waterways; b. ensures floodwaters and flood debris can pass predominantly unimpeded under a structure or building to minimise property or building damage, including for a flood larger than the defined flood event; c. mitigates flood impacts by ensuring that filling, excavation and location of services are designed to allow for the conveyance of floodwater across the site. Note—The Flood planning scheme policy provides guidance on relevant considerations in determining minimum undercroft clearances and treatment of ground level in undercroft areas where floodwater conveyance is required underneath development.	AO9.1 Development involving a building undercroft in the Creek/waterway flood planning area sub-categories or the Overland flow flood planning area sub-category: a. complies with the minimum building undercroft clearance requirements in Table 8.2.11.3.E; b. not located directly above any part of a waterway corridor as mapped in the Waterway corridors overlay.	N/A No building undercrofts have been proposed.
	AO9.2 Development involving a building undercroft in the Creek/waterway flood planning area sub-categories or the Overland flow flood planning area sub category: a. has a ground level within the undercroft area that is free draining; b. does not involve excavation below ground level of more than 300mm within the undercroft area.	N/A No building undercrofts have been proposed.
PO10 Development for vulnerable uses, difficult to evacuate uses or assembly uses optimises vehicular access and efficient evacuation from the development to parts of the road network unaffected by flood hazard, in order to: a. protect safety of users and emergency services personnel; b. support efficient emergency services access and site evacuation with consideration to the scale of development. Note—A flood risk assessment may be required to address the performance outcomes or acceptable solutions which deal with evacuation and isolation arrangements, and the ability to take refuge. The Flood planning scheme policy provides information for undertaking flood risk assessments.	AO10 Development for vulnerable uses, difficult to evacuate uses or assembly uses: a. is not isolated in any event up to the relevant flood planning level specified in Table 8.2.11.3.L; or b. has direct vehicle access to a critical route or interim critical route in the Critical infrastructure and movement network overlay for evacuation in a flood; or c. can achieve vehicular evacuation to a suitable flood-free location. Note—A suitable flood-free location is of a size and nature sufficient to provide for the size and characteristics of the population likely to need evacuation to that area.	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
PO11 Development has access which, having regard to hydraulic hazard, provides for safe vehicular and pedestrian movement and emergency services access to adjoining roads.	AO11.1 Development provides an access or driveway into the site which is: a. trafficable during the defined flood event; b. not located in the Creek/waterway flood planning area 1 sub-category; c. not located in the Overland flow flood planning area sub-category if the hydraulic hazard is unsafe in the defined flood event; d. the access or driveway is not inundated by a 10% AEP flood.	AO Access and egress from the site is available during a flood event by using the existing cul-de-sac in the northern part of the site. This cul-de-sac has an existing access road connecting to Cloverdale Road that is flood free during the 2% AEP overland flow event.
	AO11.2 Development located in the Creek/waterway flood planning area 1, 2, 3 or 4 sub-categories locates any disabled access in the highest part of the site. Note—explanation of hydraulic hazard provided in the Flood planning scheme policy .	N/A No development has been proposed within the Creek/waterway flood planning areas.
PO12 Development involving a new road, a bridge or culvert is designed to minimise impacts to flood behaviour, minimise disruption to traffic during a flood and allow for emergency access.	AO12 Development involving a new road complies with the flood planning levels in Table 8.2.11.3.F .	AO The development complies.
PO13 Development for pedestrian and cyclist paths: a. provides a suitable level of trafficability; b. manages the impacts of flooding on asset life and ongoing maintenance costs;	AO13.1 Development for cyclist and pedestrian facilities other than on public roads, including those traversing through a park and adjacent to a watercourse and overland flow path, are located above the 39% AEP (2 year ARI) flood immunity from all flooding sources. Note—If the site is subject to more than one type of flooding, the requirement that affords the greatest level of protection will apply.	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
c. balances route availability with recreational and transport connectivity benefits to the city.	AO13.2 All new on-road cyclist and pedestrian facilities comply with the flood planning levels and trafficability standards for the applicable category of road in Table 8.2.11.3.F or Table 8.2.11.3.K .	N/A
PO14 Development which increases the residential population within the Brisbane River flood planning area sub-categories minimises the risk to people in all flood events with consideration to flood hazard, including warning time.	AO14 Development in the Brisbane River flood planning area sub-categories in areas where the residential flood level is greater than 12.8m AHD involving: a. an increase in the number of residential dwellings; or b. additional residential lots is not subject to an unsafe hydraulic hazard in the 0.2% AEP flood event. Note—Explanation of a hydraulic hazard is provided in the Flood planning scheme policy .	N/A
Additional performance outcomes and acceptable outcomes for essential community infrastructure		
PO15 Development involving essential community infrastructure: a. remains functional to serve community need during and immediately after a flood event, or is part of a network that is able to maintain the function of the essential community infrastructure when parts of the development are unable to function during or after a flood; b. is designed, sited and operated to avoid adverse impacts on the community or the environment due to the impacts of flooding on infrastructure, facilities or access and egress routes; c. is able to remain functional or is part of a network which is able to remain functional even when other	AO15 Development involving essential community infrastructure: a. is ancillary to and not relied upon for the provision of the essential service during a flood; or b. is located above the flood planning levels in Table 8.2.11.3.G ; c. has access to or provides the necessary back-up emergency electricity and communications supply in times of flood; d. is designed and constructed to resist hydrostatic and hydrodynamic forces as a result of inundation by the flood event listed for the development type in Table 8.2.11.3.G ; e. that services a local area:	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
infrastructure or services (such as electricity supply) may be compromised in a flood event; d. contains mitigation measures which are not entirely dependent on human activation to respond to a flood event. Note—Protection of function is required up to and including the flood event in Table 8.2.11.3.G.	i. is able to be accessed in times of flood to service local community needs up to the event listed for that development type in Table 8.2.11.3.G; or ii. has a service continuity plan that demonstrates the continued provision of service during the relevant flood event.	
Additional performance outcomes and acceptable outcomes if development involves the processes in Table 8.2.11.3.H		
PO16 Development involving the storage and handling of hazardous materials avoids or minimises risks to public health and safety and the environment, by: a. protecting underground tanks for hazardous materials against the forces of buoyancy, velocity flow and debris impacts; b. securing above-ground tanks for hazardous materials against flotation and lateral movement; c. preventing damage to hazardous materials pipework or entry of floodwater into hazardous materials pipework; d. preventing damage to or off-site release of packages, drums or containers storing hazardous materials. Note—A chemical hazards flood risk report prepared in accordance with the Management of hazardous chemicals in flood affected areas planning scheme policy can assist in demonstrating achievement of this performance outcome. Note—A pump drainage system is not an acceptable measure to meet the performance outcome.	AO16 a. Development does not include the storage or handling of hazardous chemicals that exceed the hazardous chemicals flood hazard threshold quantities in Table 8.2.11.3.M. b. Development involving the processes listed in Table 8.2.11.3.H: i. where located in the Flood overlay area, occurs only in the Creek/waterway flood planning area 5 sub-category or the Brisbane River flood planning area 5 sub-category; or ii. is consistent with the standards contained in the Management of hazardous chemicals in flood affected areas planning scheme policy and can operate without risk of environmental harm during a flood event. Note—The Management of hazardous chemicals in flood affected areas planning scheme policy sets out further information and processes including risk assessment for the management of hazardous chemicals in flood planning areas.	N/A

Performance outcomes	Acceptable outcomes	Comments/Response
Additional performance outcomes and acceptable outcomes for reconfiguring a lot		
PO17 Development locates and designs all lots resulting from reconfiguring a lot to: a. minimise the risk to people from flood hazard; b. minimise damage to property from flood hazard; c. facilitate safe and efficient evacuation. Note— • Consideration of all floods up to the probable maximum flood is relevant to minimising the risk to people. • Flood warning time is not considered sufficient in the Creek/waterway planning area sub-categories or the Overland flow flood planning area sub-category. • Filling above the flood planning level for a flood event greater than the defined flood event cannot be assumed to mitigate the flood hazard.	AO17.1 Development creating new lots is identified in Table 8.2.11.3.I as suitable within the relevant flood planning area.	N/A No development has been proposed within the Creek/waterway flood planning areas.
	AO17.2 Development provides for reconfiguring a lot design that achieves a road and lot layout which: a. provides trafficable vehicular egress for evacuation during a defined flood event; b. optimises hazard-free movement away from sources of flood hazard within the development. Note—Further advice on road and lot layout is contained in the Flood planning scheme policy.	AO Access and egress from the site is available during a flood event by using the existing cul-de-sac in the northern part of the site. This cul-de-sac has an existing access road connecting to Cloverdale Road that is flood free during the 2% AEP overland flow event.
	AO17.3 Development which creates a new residential lot in an area subject to Brisbane River flooding, if the residential flood level is greater than 12.8m AHD is not subject to a hydraulic hazard greater than 0.6m ² /s DV or 0.6m deep in a 0.2% AEP flood. Note—Refer to the Flood planning scheme policy for further explanation on the 0.2% AEP flood.	N/A
PO18 Development involving reconfiguring a lot: a. minimises the risk to people from flood hazard; b. creates safe evacuation routes or avoids isolation of the development during a flood greater than the defined flood event; c. minimises damage to property and services; d. provides lots and roads that are not frequently flooded or subject to nuisance ponding or seepage; e. ensures lots created for park or private open space minimise the risk to people from flood hazard and are fit for purpose;	AO18.1 Development involving reconfiguring a lot ensures: a. all lots comply with the flood planning levels in Table 8.2.11.3.J; b. a new road complies with the flood planning levels in Table 8.2.11.3.F.	AO The development complies with minimum lot levels to be set above RL 24.68m AHD providing more than 300mm freeboard.
	AO18.2 Development involving reconfiguring a lot creating more than 6 residential lots or a lot for industry ensures the flood planning levels of a dedicated road fronting the	AO Access and egress from the site is available during a flood event by using the existing cul-de-sac in the northern part of the site. This cul-de-sac has an existing

Performance outcomes	Acceptable outcomes	Comments/Response
f. provides a lot that is not substantially burdened by flood mitigation infrastructure.	development or providing primary access within 200m of the development: a. complies with Table 8.2.11.3.K; or b. has acceptable trafficability in accordance with the requirements in the Flood planning scheme policy and the Queensland Urban Drainage Manual. Note—The Flood planning scheme policy contains supporting information about trafficability on existing roads and serviceability during floods.	access road connecting to Cloverdale Road that is flood free during the 2% AEP overland flow event.
	AO18.3 Development protects the conveyance of flood hazard area by providing an easement over the: a. 2% AEP flood extent for overland flow flooding; b. 1% AEP flood extent for creek/waterway flooding.	AO An easement will be created over the proposed overland flow channel and creek flooding at the rear of the site. For further information on the proposed diversion channel and the hydraulic modelling & results, refer to the Hydraulic Impact Assessment prepared by OSKA Consulting Group (Ref: OSK3426-0008).

APPENDIX

H

BCC FloodWise Property Reports

FloodWise Property Report

12 CLOVERDALE RD, DOOLANDELLA 4077
Lot 103 on RP90234

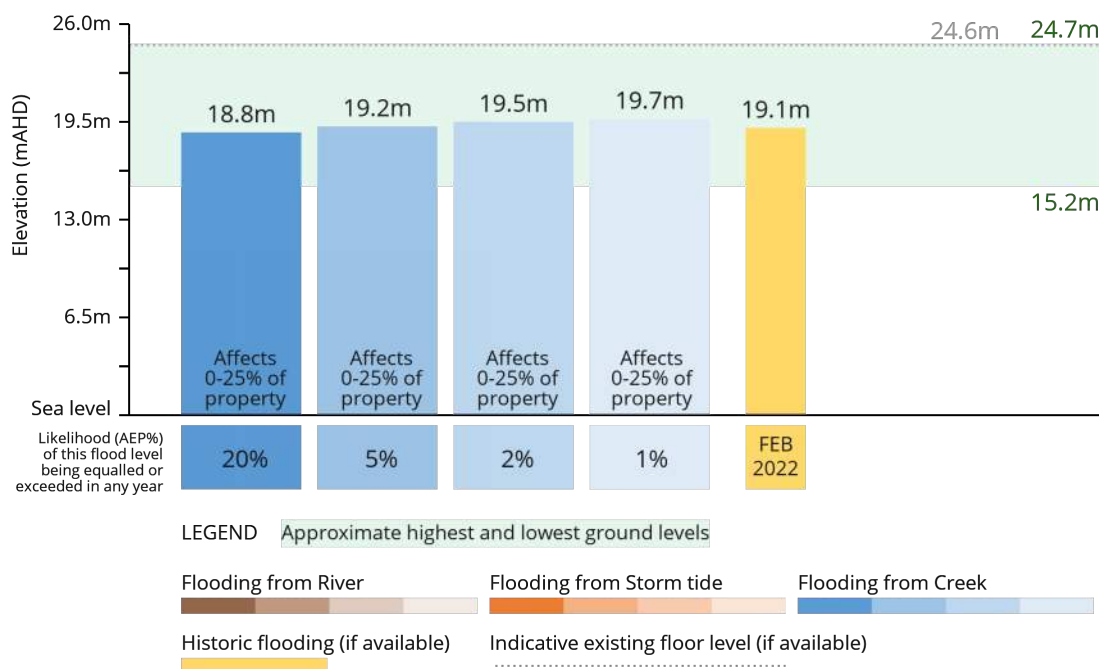


Dedicated to a better Brisbane

THE PURPOSE OF THIS REPORT IS FOR BUILDING AND DEVELOPMENT

Brisbane City Council's FloodWise Property Report provides technical flood planning information including estimated flood levels, habitable floor level requirements and more. This report uses the adopted flood planning information in CityPlan, that guides how land in Brisbane is used and developed for the future. Find out more about [planning and building](#). To understand how to be resilient and prepare for floods, visit Council's [Be Prepared](#) webpage. Find more information about [how to read a FloodWise Property Report](#).

Graph showing only the highest source/type of flooding for 1%, 2%, 5% and 20% likelihoods. Also shows historic flood levels. Other flood types and levels may be present and will be listed in the Flood Planning Information table below. This graph does not include overland flow flooding. If applicable, overland flow information is shown in the Planning and Development Information section below. **NOTE:** See Useful Definitions section to explain terminology.



Combined 1% AEP for river, creek and storm tide flood extent (if applicable). Aerial map shows river and creek flooding extent from the adopted CityPlan. Read more about [CityPlan](#).



Department of Resources and Brisbane City Council | Brisbane City Council | © Brisbane City Council... Powered by Esri

Are you resilient and ready for flood?

- Sign up to the Brisbane Severe Weather Alert at brisbane.qld.gov.au/beprepared
- Visit bom.gov.au for the latest weather updates.
- Have an evacuation plan, emergency kit and important phone numbers ready.
- Observe where water flows from and to during heavy rain.
- Consider how flood-resilient building techniques will have you home faster and with less damage.

Life threatening emergencies
000 Police/fire/ambulance
(mobiles **000** and **112**)

State Emergency Service (SES) **132 500**
Energex **13 19 62**
Brisbane City Council **3403 8888**

Technical Summary

This section of the FloodWise Property Report contains more detailed flood information for this property so **surveyors, builders, certifiers, architects, and engineers can plan and build** in accordance with Council's planning scheme.

Find more information about [planning and building](#) in Brisbane or talk to a Development Services Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

Property Information Summary

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

Property Summary	Level (mAHD) / Comment	Data Quality Code
Minimum ground level	15.2	C
Maximum ground level	24.7	C
Indicative existing floor level	24.6	C
Source of highest flooding	Creek/Waterway	

Flood Planning Information

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning and Development Information section below for further information.

Note this table does not include overland flow. If overland flow is applicable to this property, refer to the Flood Planning and Development section below for further information.

Likelihood / Description	Level (mAHD)	Source
20%	18.8	Creek/Waterway (OXLEY STABLE CREEK)
5%	19.2	Creek/Waterway (OXLEY STABLE CREEK)
2%	19.5	Creek/Waterway (OXLEY STABLE CREEK)
1%	19.7	Creek/Waterway (OXLEY STABLE CREEK)
0.2%	19.9	Creek/Waterway (OXLEY CREEK)
FEB2022	19.1	Brisbane River and Creek/Waterway
Minimum Habitable Floor Level (dwelling house)	N/A*	

* Council does not have this data available. Customers are recommended to engage a Registered Professional Engineer of QLD for further advice.

Flood Planning and Development Information

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

Flood overlay code

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the flood planning areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in [Council's planning scheme](#).

Flood planning areas (FPA)		
River	Creek / waterway	Overland flow
	FPA1	Applicable
	FPA2	
	FPA3	
	FPA4	
	FPA5	

To find more information about Council's flood planning areas (FPAs) for Brisbane River and Creek/waterway flooding to guide future building and development in flood prone areas, please review [Council's Flood Planning Provisions](#).

Coastal hazard overlay code

The Coastal hazard overlay code of Council's planning scheme uses the following information to provide guidelines when conducting new developments. The table below summarises the coastal hazard categories that apply to this property. Development guidelines for the following Coastal hazard overlay sub-categories are explained in Council's [planning scheme](#).

Coastal hazard overlay sub-categories
There are currently no Coastal hazard overlay sub-categories that apply to this property.

Note: Where land is identified within one for more flood planning areas on the Flood overlay or is identified within one of the Storm tide inundation area sub-categories on the Coastal hazard overlay, the assessment criteria that provides the highest level of protection from any source of flooding applies.

Property development flags

Waterway corridor - This property may also be located within a mapped waterway corridor as identified in the Waterway corridors overlay map of Council's planning scheme. Please consider this in conjunction with Council's planning scheme requirements.

Overland flow path - Mapping indicates this property may be located within an overland flow path. Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. It is recommended you consult a Registered Professional Engineer of Queensland (RPEQ) to determine this property's habitable floor level and flooding depth. Please refer to Council's planning scheme for further information.

Large allotment - This property is either a Large Allotment of over 1000 square metres or is located within a Large Allotment. Flood levels may vary significantly across allotments of this size. Further investigations may be warranted in determining the variation in flood levels and the minimum habitable floor level across the site.
For more information or advice, please consult a Registered Professional Engineer of Queensland (RPEQ).

Other Property Information

This property is in a Referable Dam Area

This property has been flagged within a Referable Dam Area. Residents within these areas may receive an emergency alert from Queensland Government during declared dam emergencies. Council encourages residents to [be prepared, have an emergency plan and be emergency ready](#).

Dams are important infrastructure used for water storage and flood mitigation. Dams are designed to mitigate flooding by temporarily detaining water during storm events and releasing that water in a controlled way to reduce downstream flooding.

All dams in the Brisbane Local Government Area are ungated which means the water is not controlled through the operation of gates. These dams are designed to spill when the water level is higher than the spillway level.

Some dams are deemed 'referable dams' under Queensland Government legislation. This is determined by an assessment that shows in the unlikely event of a dam failure, there is a potential risk of two or more people being impacted by downstream flooding. Find more information on [Referable dams](#) and to sign up for [Early Warning Alert Service](#).

Useful Flood Information Definitions

Australian Height Datum (AHD) - The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.

Annual Exceedance Probability (AEP) - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

- **0.2% AEP** - A flood event of this size is considered rare but may still occur. A flood of size or larger has a 1 in 500 chance or a 0.2% probability of occurring in any year.
- **1% AEP** - A flood of this size or larger has a 1 in 100 chance or a 1% probability of occurring in any year.
- **2% AEP** - A flood of this size or larger has a 1 in 50 chance or a 2% probability of occurring in any year.
- **5% AEP** - A flood of this size or larger has a 1 in 20 chance or a 5% probability of occurring in any year.
- **20% AEP** - A flood of this size or larger has a 1 in 5 chance or a 20% probability of occurring in any year.

Data quality

- **Data Quality Code A** - Level data based on recent surveyor report or approved as-constructed drawings.
- **Data Quality Code B** - Level data based on ground-based mobile survey or similar.
- **Data Quality Code C** - Level data derived from Airborne Laser Scanning or LiDAR information.

Defined Flood Level (DFL) - The DFL is used for commercial and industrial development. The Defined flood level (DFL) for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m³/s. DFL is only applicable for non-residential uses affected by Brisbane River flooding.

Flood planning area (FPA) - Council has developed five Flood planning areas (FPAs) as part of City Plan Flood overlay mapping for Brisbane River, Creek/waterway flooding and Overland flow to guide future building and development in flood prone areas. Storm tide flooding is mapped separately. The FPAs are designed to recognise the flood hazard for different flooding types. Flood hazard is a combination of frequency of flooding, the flood depth, and the speed at which the water is travelling. [Find more information here.](#)

Maximum and minimum ground level - Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum habitable floor level (dwelling house) - The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family, and rumpus rooms) must be constructed as required by the Brisbane City Plan.

Indicative existing floor level - The approximate level in metres AHD of the lowest habitable floor in the existing building. This data is sourced from a range of sources with varying accuracy levels.

Property - A property will contain 1 or more lots. The multiple lot warning is shown if you have selected a property that contains multiple lots.

Residential flood level (RFL) - This flood level for the Brisbane River equates to the 1% annual exceedance probability (AEP) flood level.

To learn more, visit [Brisbane City Council's Flood Information Hub](#)

Brisbane City Council's Online Flood Tools

Council provides several online flood tools:

- to guide planning and development
- to help residents and businesses understand their flood risk and prepare for flooding.

Council's online flood tools for planning and development purposes include:

- **FloodWise Property Report**
- **Flood Overlay Code**

For more information on Council's planning scheme and online flood tools for planning and development:

- phone (07) 3403 8888 and ask to talk to a Development Services Planning Information Officer

- visit brisbane.qld.gov.au/planning-building

Council's Planning Scheme - The City Plan (planning scheme) has been prepared in accordance with the Sustainable Planning Act as a framework for managing development in a way that advances the purpose of the Act. In seeking to achieve this purpose, the planning scheme sets out the Council's intention for future development in the planning scheme area, over the next 20 years.

Disclaimer

1. Defined flood levels and residential flood levels, minimum habitable floor levels and indicative existing floor levels are determined from the best available information to Council at the date of issue. These levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property Report. Council disclaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit brisbane.qld.gov.au/planning-building

You can also find the Brisbane City Plan 2014 and Neighbourhood Plans as well as other information and training videos to help, with your building and development plans.

FloodWise Property Report

18 CLOVERDALE RD, DOOLANDELLA 4077
Lot 102 on RP90234

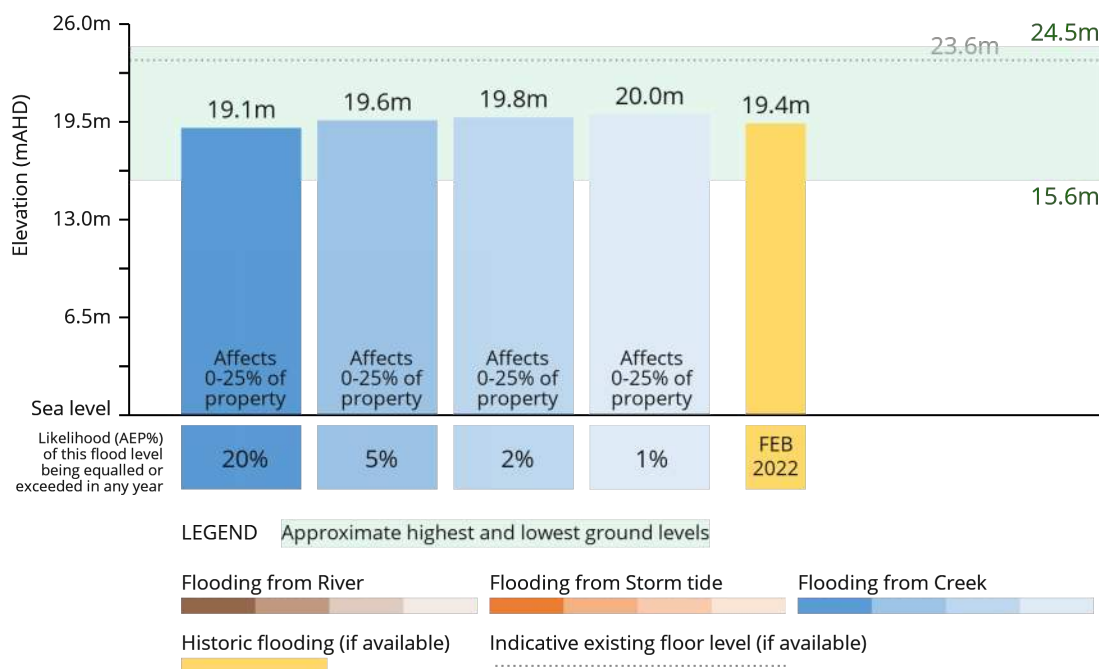


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Graph showing only the highest source/type of flooding for 1%, 2%, 5% and 20% likelihoods. Also shows historic flood levels. Other flood types and levels may be present and will be listed in the Flood Planning Information table below. This graph does not include overland flow flooding. If applicable, overland flow information is shown in the Planning and Development Information section below. **NOTE:** See Useful Definitions section to explain terminology.



Combined 1% AEP for river, creek and storm tide flood extent (if applicable). Aerial map shows river and creek flooding extent from the adopted CityPlan. Read more about [CityPlan](#).



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Property Information Summary

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

Property Summary	Level (mAHD) / Comment	Data Quality Code
Minimum ground level	15.6	C
Maximum ground level	24.5	C
Indicative existing floor level	23.6	C
Source of highest flooding	Creek/Waterway	

Flood Planning Information

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning and Development Information section below for further information.

Note this table does not include overland flow. If overland flow is applicable to this property, refer to the Flood Planning and Development section below for further information.

Likelihood / Description	Level (mAHD)	Source
20%	19.1	Creek/Waterway (OXLEY STABLE CREEK)
5%	19.6	Creek/Waterway (OXLEY STABLE CREEK)
2%	19.8	Creek/Waterway (OXLEY STABLE CREEK)
1%	20.0	Creek/Waterway (OXLEY STABLE CREEK)
0.2%	20.2	Creek/Waterway (OXLEY CREEK)
FEB2022	19.4	Brisbane River and Creek/Waterway
Minimum Habitable Floor Level (dwelling house)	N/A*	

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Flood Planning and Development Information

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

Flood overlay code

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the flood planning areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in [Council's planning scheme](#).

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Coastal hazard overlay sub-categories
There are currently no Coastal hazard overlay sub-categories that apply to this property.

Note: Where land is identified within one for more flood planning areas on the Flood overlay or is identified within one of the Storm tide inundation area sub-categories on the Coastal hazard overlay, the assessment criteria that provides the highest level of protection from any source of flooding applies.

Property development flags

Waterway corridor - This property may also be located within a mapped waterway corridor as identified in the Waterway corridors overlay map of Council's planning scheme. Please consider this in conjunction with Council's planning scheme requirements.

Overland flow path - Mapping indicates this property may be located within an overland flow path. Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. It is recommended you consult a Registered Professional Engineer of Queensland (RPEQ) to determine this property's habitable floor level and flooding depth. Please refer to Council's planning scheme for further information.

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Defined Flood Level (DFL) - The DFL is used for commercial and industrial development. The Defined flood level (DFL) for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m³/s. DFL is only applicable for non-residential uses affected by Brisbane River flooding.

Flood planning area (FPA) - Council has developed five Flood planning areas (FPAs) as part of City Plan Flood overlay mapping for Brisbane River, Creek/waterway flooding and Overland flow to guide future building and development in flood prone areas. Storm tide flooding is mapped separately. The FPAs are designed to recognise the flood hazard for different flooding types. Flood hazard is a combination of frequency of flooding, the flood depth, and the speed at which the water is travelling. [Find more information here.](#)

Maximum and minimum ground level - Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum habitable floor level (dwelling house) - The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family, and rumpus rooms) must be constructed as required by the Brisbane City Plan.

Indicative existing floor level - The approximate level in metres AHD of the lowest habitable floor in the existing building. This data is sourced from a range of sources with varying accuracy levels.

Property - A property will contain 1 or more lots. The multiple lot warning is shown if you have selected a property that contains multiple lots.

Residential flood level (RFL) - This flood level for the Brisbane River equates to the 1% annual exceedance probability (AEP) flood level.

To learn more, visit [Brisbane City Council's Flood Information Hub](#)

Brisbane City Council's Online Flood Tools

Council provides several online flood tools:

- to guide planning and development
- to help residents and businesses understand their flood risk and prepare for flooding.

Council's online flood tools for planning and development purposes include:

- **FloodWise Property Report**
- **Flood Overlay Code**

For more information on Council's planning scheme and online flood tools for planning and development:

- phone (07) 3403 8888 and ask to talk to a Development Services Planning Information Officer

- visit brisbane.qld.gov.au/planning-building

Council's Planning Scheme - The City Plan (planning scheme) has been prepared in accordance with the Sustainable Planning Act as a framework for managing development in a way that advances the purpose of the Act. In seeking to achieve this purpose, the planning scheme sets out the Council's intention for future development in the planning scheme area, over the next 20 years.

Disclaimer

1. Defined flood levels and residential flood levels, minimum habitable floor levels and indicative existing floor levels are determined from the best available information to Council at the date of issue. These levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property Report. Council disclaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit brisbane.qld.gov.au/planning-building

You can also find the Brisbane City Plan 2014 and Neighbourhood Plans as well as other information and training videos to help, with your building and development plans.

FloodWise Property Report

26 CLOVERDALE RD, DOOLANDELLA 4077
Lot 101 on RP90234

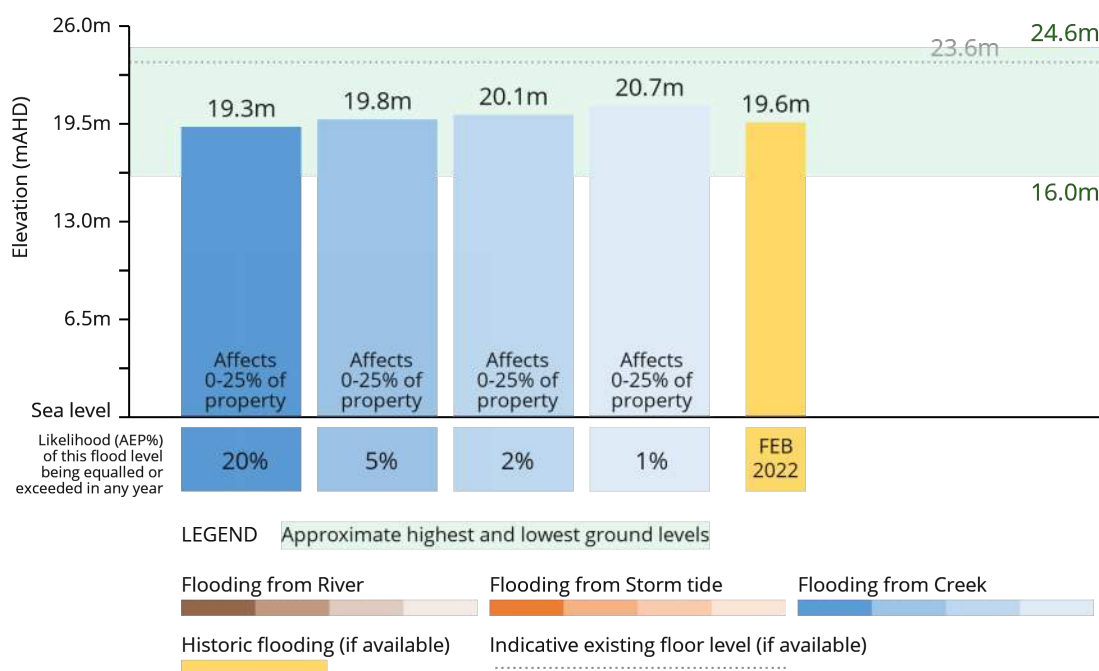


Dedicated to a better Brisbane

THE PURPOSE OF THIS REPORT IS FOR BUILDING AND DEVELOPMENT

Brisbane City Council's FloodWise Property Report provides technical flood planning information including estimated flood levels, habitable floor level requirements and more. This report uses the adopted flood planning information in CityPlan, that guides how land in Brisbane is used and developed for the future. Find out more about [planning and building](#). To understand how to be resilient and prepare for floods, visit Council's [Be Prepared](#) webpage. Find more information about [how to read a FloodWise Property Report](#).

Graph showing only the highest source/type of flooding for 1%, 2%, 5% and 20% likelihoods. Also shows historic flood levels. Other flood types and levels may be present and will be listed in the Flood Planning Information table below. This graph does not include overland flow flooding. If applicable, overland flow information is shown in the Planning and Development Information section below. **NOTE:** See Useful Definitions section to explain terminology.



Combined 1% AEP for river, creek and storm tide flood extent (if applicable). Aerial map shows river and creek flooding extent from the adopted CityPlan. Read more about [CityPlan](#).



Department of Resources and Brisbane City Council | Brisbane City Council | © Brisbane City Council... Powered by Esri

Are you resilient and ready for flood?

- Sign up to the Brisbane Severe Weather Alert at brisbane.qld.gov.au/beprepared
- Visit bom.gov.au for the latest weather updates.
- Have an evacuation plan, emergency kit and important phone numbers ready.
- Observe where water flows from and to during heavy rain.
- Consider how flood-resilient building techniques will have you home faster and with less damage.

Life threatening emergencies
000 Police/fire/ambulance
(mobiles **000** and **112**)

State Emergency Service (SES) **132 500**
Energex **13 19 62**
Brisbane City Council **3403 8888**

Technical Summary

This section of the FloodWise Property Report contains more detailed flood information for this property so **surveyors, builders, certifiers, architects, and engineers can plan and build** in accordance with Council's planning scheme.

Find more information about [planning and building](#) in Brisbane or talk to a Development Services Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

Property Information Summary

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

Property Summary	Level (mAHD) / Comment	Data Quality Code
Minimum ground level	16.0	C
Maximum ground level	24.6	C
Indicative existing floor level	23.6	C
Source of highest flooding	Creek/Waterway	

Flood Planning Information

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning and Development Information section below for further information.

Note this table does not include overland flow. If overland flow is applicable to this property, refer to the Flood Planning and Development section below for further information.

Likelihood / Description	Level (mAHD)	Source
20%	19.3	Creek/Waterway (OXLEY STABLE CREEK)
5%	19.8	Creek/Waterway (OXLEY STABLE CREEK)
2%	20.1	Creek/Waterway (OXLEY STABLE CREEK)
1%	20.7	Creek/Waterway (OXLEY STABLE CREEK)
0.2%	20.5	Creek/Waterway (OXLEY CREEK)
FEB2022	19.6	Brisbane River and Creek/Waterway
Minimum Habitable Floor Level (dwelling house)	N/A*	

* Council does not have this data available. Customers are recommended to engage a Registered Professional Engineer of QLD for further advice.

Flood Planning and Development Information

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

Flood overlay code

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the flood planning areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in [Council's planning scheme](#).

Flood planning areas (FPA)		
River	Creek / waterway	Overland flow
	FPA1	Applicable
	FPA2	
	FPA3	
	FPA4	
	FPA5	

To find more information about Council's flood planning areas (FPAs) for Brisbane River and Creek/waterway flooding to guide future building and development in flood prone areas, please review [Council's Flood Planning Provisions](#).

Coastal hazard overlay code

The Coastal hazard overlay code of Council's planning scheme uses the following information to provide guidelines when conducting new developments. The table below summarises the coastal hazard categories that apply to this property. Development guidelines for the following Coastal hazard overlay sub-categories are explained in Council's [planning scheme](#).

Coastal hazard overlay sub-categories
There are currently no Coastal hazard overlay sub-categories that apply to this property.

Note: Where land is identified within one for more flood planning areas on the Flood overlay or is identified within one of the Storm tide inundation area sub-categories on the Coastal hazard overlay, the assessment criteria that provides the highest level of protection from any source of flooding applies.