Covey Associates Pty Ltd
ABN 59 137 305 992
Unit T106 - 1642 Anzac Ave
PO Box 1129
North Lakes, Qld, 4509

Phone: 07 3094 2600

covey.com.au

30 April 2026

Ref: GM/AB/254361-Bushfire Attack Level Advice

N25-0320 Ltr Issue F

Stockland Corporation Limited

Level 4, 99 Melbourne Street,

South Brisbane, Queensland. 4101

Attention: Taylor Bain, Assistant Development Manager for Aura, Stockland Corporation Limited

To whom it may concern,

Re: Bushfire Attack Level Assessment for whole of Aura Precinct 15 West

At: Western Drive, Banya, QLD 4551

For: Stockland Corporation Limited

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1 Introduction

Precinct 15 West (P15W) is part of the Aura master-planned development located south of Caloundra on the Sunshine Coast. The development was approved with a condition (Condition 37). The approved PoD was required to be amended to incorporate the findings of a BAL assessment. The amended PoD was required to include:
i) The BAL rating for each affected lot; and
ii) Any required bushfire mitigation measures, including building setbacks, construction standards, and landscaping treatments designed to reduce bushfire risks in accordance with the outcomes of the BAL assessment. Subsequently, Stockland engaged Covey Associates Pty Ltd (Covey) to undertake a Bushfire Attack Level (BAL) assessment across P15W, to determine the potential impact of Radiant Heat Flux (RHF) on lots and associated building envelopes (BE). The BAL assessment for the approved Plan of Development (PoD) area has considered the retained vegetated areas and available landscape plans within P15W and vegetation up to 150 metres beyond the development footprint, as guided by the assessment methodology outlined in Bushfire Resilient Communities (2019a) (BRC). This assessment incorporates Coveys' recommended bushfire mitigation initiatives to guide final landscape design, landscape management and infrastructure setbacks which were adopted by Stockland.

This BAL assessment considers the existing Bushfire Prone Area (BPA) mapping and incorporates the post-development vegetation within P15W. The BPA mapping triggers the requirement to undertake BAL assessments for building works and buildings, including buildings located within the BPA Potential Impact Buffer.

2 Bushfire Hazard Assessment

2.1 Pre-development BPA Mapping

The existing BPA mapping (Figure 2-1) shows high, medium potential bushfire intensity and potential impact buffer to the west and south-east of P15W. BPA mapping is a trigger for the requirement to undertake Bushfire Attack Level (BAL) assessment for the construction of buildings in a bushfire prone area (including within the mapped Potential Impact Buffer). Apart from the potential impact buffer and the vegetated corridor in the south-east of the site, the remaining areas of the site are not identified as containing bushfire prone vegetation. This assessment includes a post-development BPA map (Figure 2-3). This shows the existing and proposed vegetated areas for the site to within 150 metres of the site boundary, providing an indicative BPA map to inform potential future BAL requirements.

2.2 Weather

Fire weather is associated with meteorological conditions that result in increased bushfire suppression difficulty. Fire weather can be influenced by many local factors, including temperature, wind, relative humidity, and drought factor – all of which are inputs used to calculate the Forest Fire Danger Index (FFDI).

The FFDI was used to determine the RHF calculations per Method 2 of AS3959. The State Planning Policy's (SPP) technical reference guide, Bushfire Resilient Communities (2019a) (BRC), specifies that the FFDI input for the site shall be obtained from BRC MapViewer (2025). These values represent the *5% annual exceedance probability fire weather*, which for the site is equal to *FFDI 53*.

2.3 Topography

The topography of land beneath areas of vegetation influences the potential rate of spread and bushfire severity. The client provided a one-metre resolution Digital Elevation Model (DEM) of the assumed final design surface across P15W (supplied by RPS Consultant 1/04/2026). The DEM was merged with LiDAR (Light Detection and Ranging) information from Elvis – (Elevation and Depth - Foundation Spatial Data, Queensland) to provide an elevation model that covers the assessment area (a 150 metre P15W boundary buffer). A slope analysis figure is provided in Appendix B. This DEM was used in the RHF and BAL assessments for this technical letter.

2.4 Fuel

Vegetation fuel load and fuel arrangement influence bushfire behaviour, potential severity and scale. Fuel characteristics vary in type, density, extent of vegetation and land use. The SPP, through BRC, requires an assessment of the 150 m of vegetation adjacent to the assets. The vegetation within the study area was classified into Vegetation Hazard Classes (VHC) (Queensland Fire and Emergency Services, 2019b) based on information gathered from a combination of:

- Site-verified Regional Ecosystem data from field observation points (Figure 2-2).
- State Regional Ecosystem spatial data (https://qldspatial.information.qld.gov.au/catalogue).
- Vegetation Hazard Class (https://qldspatial.information.qld.gov.au/catalogue); and
- Aerial imagery.

BRC assigns specific fuel loads to mapped vegetation communities (VHC), which is based on Queensland Broad Vegetation Group (BVG) mapping. BRC defines bushfire-prone vegetation as a VHC with potential fire-line intensity greater than 4,000 kW/m. Values lower than this are considered low-hazard areas (e.g. grassland).

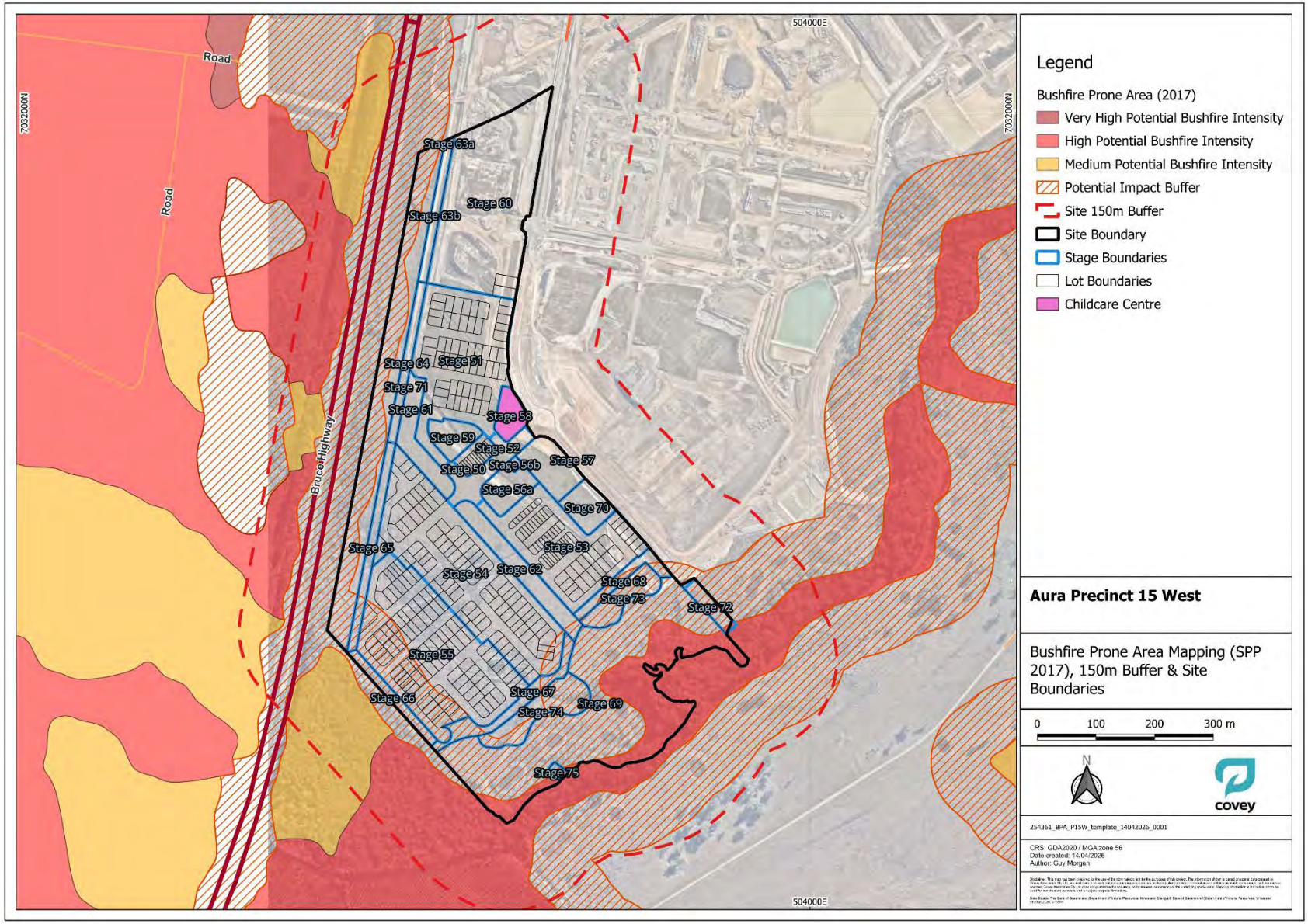


Figure 2-1. Pre-development Bushfire Prone Area (QFES 2017)

2.4.1 Approved Landscape Masterplan and Landscape Design Plans

The Aura P15 West: Landscape Master Plan (2024) proposes the following elements, which, in addition to the adjacent forestry lot and existing and proposed site vegetation, have been assessed considering the proposed development layout:

- a neighbourhood sports park
- district and local linear parks
- a highway buffer
- neighbourhood recreation park
- drainage area and street plantings

These elements have been incorporated into a post-development VHC map (Figure 2-2). Updated (version D) Landscape design drawings from Place Design Group (Appendix F) were considered in the post-development landscape VHC mapping. These documents were accompanied by discussions between Covey, Place Design Group and Stockland regarding suitable landscape treatments to assist in mitigating potential bushfire hazard.

2.4.2 Site Assessment of existing vegetated areas

Covey completed a site inspection on the 29th of July 2025 to assess site vegetation composition (refer to Appendix C for site photos). The site was traversed on foot to verify flora species composition compared to State-mapped Regional Ecosystems (REs), BVGs and VHCs. The VHCs observed within the site or within 150m of the proposed development lot are detailed in Figure 2-2 (includes proposed landscape composition within P15W). Twenty site vegetation assessment points were completed, as shown in Figure 2-2 and Table 2-1. Site vegetation (RE and VHC) assessment (photos in Appendix C). Earthworks associated with operational works for the P15W development was underway at the time of the site assessment. Previously, most of the development area consisted of pasture for cattle grazing and isolated mature trees. A corridor of remnant open forest and wetland species is proposed to be retained and enhanced in the east.

Table 2-1. Site vegetation (RE and VHC) assessment (photos in Appendix C)

Field Point Vegetation Verification Point no.	RE	Vegetation description from site assessment
1	12.3.5	Dense *Casuarina glauca* regrowth, some mature *Melaleuca quinquenervia*, *Ghania sieberiana*, and some *Pteridium esculentum* near surface fuel, dense *C. glauca* litter surface coverage
2	12.3.5	*M. quinquenervia* forest, some *Eucalyptus racemosa* (dieback). *C. glauca* regrowth, some *Pinus elliottii*. Thin bladey grass and sedge ground over, *Parsonsia straminea* present.
3	12.3.5	*M. quinquenervia* forest, some *E. racemosa* (dieback). *C. glauca* regrowth lots of which are dying off and fallen, some *P. elliottii*. Thin bladey grass and sedge ground cover, *P. straminea* present.
4	12.3.5	*M. quinquenervia* forest, some *E. racemosa* (dieback). *C. glauca* regrowth, some *P. elliottii*. Thin bladey grass and sedge ground over, *P. straminea* present.
5	12.3.5	*M. quinquenervia* forest, with *M. quinquenervia* and *C. glauca* regrowth. Thin bladey grass and sedge ground over, *P. straminea* present. Dense *C. glauca* litter surface fuels.

6	12.3.5	*M. quinquenervia* forest, with *M. quinquenervia* and *C. glauca* regrowth. Thin bladey grass and sedge ground over, *P. straminea* present. Dense *C. glauca* litter surface fuels.
7	12.3.5	*M. quinquenervia* forest, with *M. quinquenervia* and *C. glauca* regrowth. Thin bladey grass and sedge ground over, *P. straminea* present. Dense *C. glauca* litter surface fuels.
8	12.3.5	More *C. glauca* than *M. quinquenervia*, isolated mature *E. racemosa*, gully line meandering parallel to fence line. More influence of crowding on surface fuels from *C. glauca* needles
9	12.3.5 and 12.9-10.4	Distinctive vegetation community change with that from the west and south with that to the east. *C. glauca* and *M. quinquenervia*; denser West and South, more open forest with large mature *E. racemosa* to east with heathy understorey of including *Leptospermum spp*., *Banksia robur, Grevillea banksii and G. sieberiana*
10	12.3.5 and 12.9-10.4	Mature canopy of *E. racemosa*, less dense understorey mainly *Leptospermum spp*., and *B. robur* near surface emergence some bladey grass though more open and less influenced by *C. glauca* stand blanketing surface fuels. Still some *M. quinquenervia* and *C. glauca* presence though less intrusion
11	12.3.5 and 12.9-10.4	Singular *Corymbia intermedia* amongst mature *E. racemosa* stand
12	12.3.5 and 12.9-10.4	More presence of *C. intermedia* within this fringe, denser understorey with more prevalence of *Leptospermum spp*., and taller sedge grass. Fewer *M. quinquenervia*. Noted one singular mature *Syncarpia glomulifera* along path in.
13	12.3.5 and 12.9-10.4	A few more mature *S. glomulifera* beside existing track, with some mature *C. intermedia*
14	12.3.5 and 12.9-10.4	Noted corner of pine plantation plot within Lot 561.
15	12.3.5 and 12.9-10.4	Gully line, more of mature *E. racemosa* with some *M. quinquenervia* though sparse, more associated with *C. glauca* regrowth. *P. esculentum* but relatively bare ground coverage
16	12.3.5 and 12.9-10.4	More mature *M. quinquenervia* along gully line, some *E. racemosa* (dieback). Dense casuarina stands along fringes of corridor
17	12.3.5 and 12.9-10.4	More mature *M. quinquenervia* along gully line, some *E. racemosa* (dieback). Dense *C. glauca* stands along fringes of corridor
18	12.3.5 and 12.9-10.4	Large remnant *S. glomulifera*
19	12.3.5 and 12.9-10.4	More presence of large remnant *S. glomulifera*, some *M. quinquenervia*. Minimal disturbance regrowth along eastern fringe, though western fringe still has dense *C. glauca* and other species, Lophostemon confertus. Xanthorrhoea johnsonii, sparse bladey grass surface coverage
20	12.3.5 and 12.9-10.4	Mature *E. racemosa, C. intermedia*, *S. glomulifera*, vine incursion into canopy layer and blanketing surface

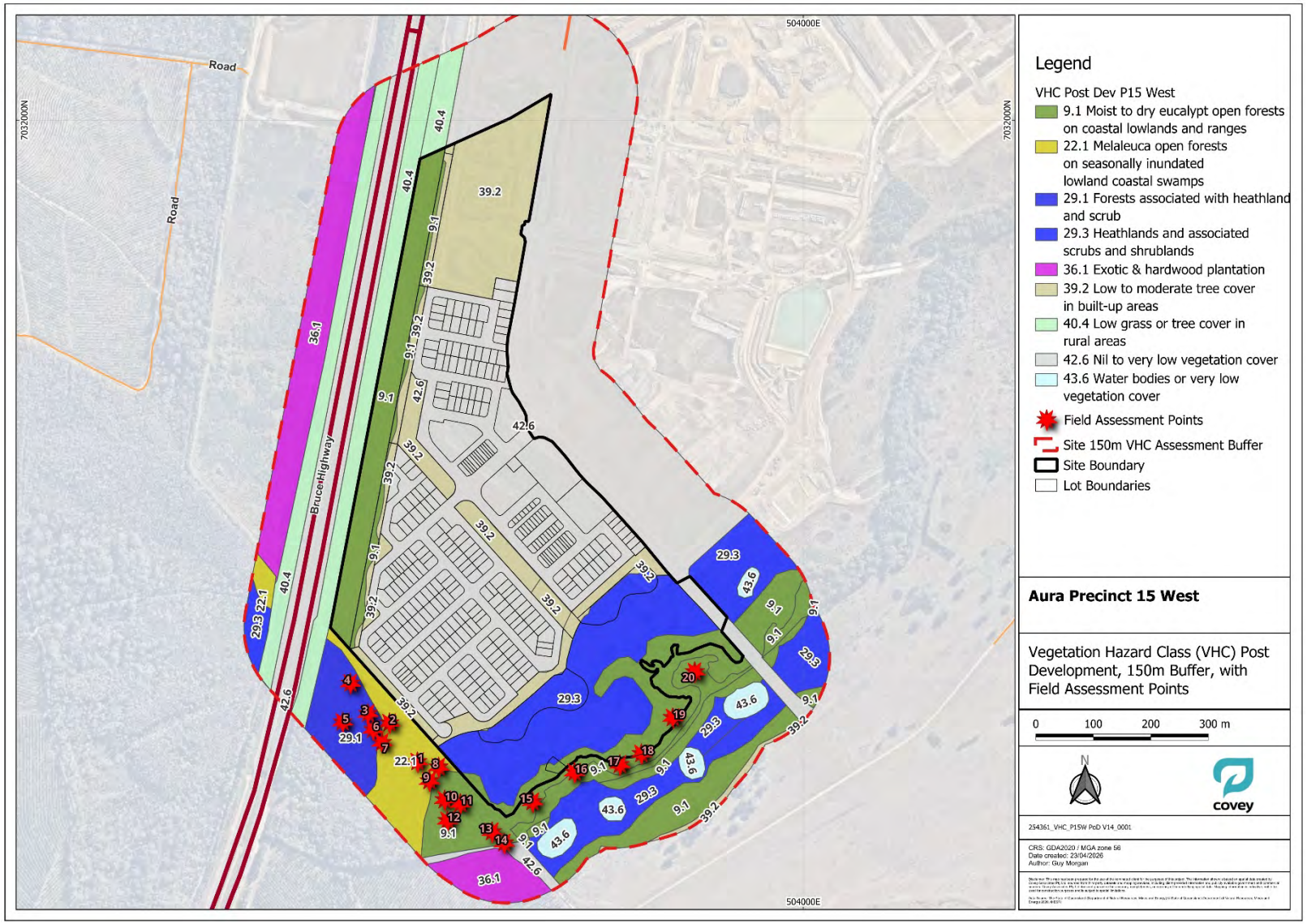


Figure 2-2. Vegetation Hazard Class (VHC), 150 metre Buffer, Precinct 15 West Development

2.4.3 Summary of Vegetated Areas

2.4.3.1 Beerwah Plantation Forest (Lot 561 on AP22457)

The conditions of development approval for P15W required a BAL assessment for the adjacent forestry lot (Lot 561 on AP22457). Leased by HQ Plantations, this lot is external to and south-west of P15W (adjacent to stage 66 & 69). The lot contains a pocket of remnant vegetation adjacent to the development boundary and a section of pine plantation further south. The mapped remnant vegetation includes RE 12.3.13 (heathland, VHC 29.3), RE 12.3.5 (Melaleuca wetlands, VHC 22.1 and 29.1) and pine plantation (VHC 36.1). VHC mapping for Lot 561 has been refined using BRC methodologies based on the site assessment, proposed landscape design, aerial imagery, and mapped RE boundaries. Consideration should be given to planted vegetation on the development side of the proposed acoustic wall and nearby housing interfaces. As below, vegetation should be managed in a low fuel state and may be consistent with section 2.4.3.4 below or the AS3959 2.2.3.2 (f) and the below recommendations.

2.4.3.2 Vegetation South-East

Extant vegetation within the eastern section of P15W (adjacent to stages 67 & 68) is dominated by Eucalyptus racemosa open forest (RE 12.9-10.4 / VHC 9.1) with Melaleuca wetland associations (RE 12.3.5 / VHC 22.1). Existing low grass cover in that area has been added to the RHF model as proposed shrubland/heathland revegetation areas (VHC 29.3), this includes frog ponds and stormwater treatment areas. A linear park (stages 67 & 68) on the residential lot interface has been included in the RHF assessment model to include a buffer of low-threat vegetation, equivalent to low to moderate tree cover in built up areas (VHC 39.2).

2.4.3.3 Vegetation West (Bruce Highway Buffer)

Narrow strips (~20m wide) of non-remnant low tree and grass cover (VHC 40.4) occur on both sides of the Bruce Highway corridor adjacent to the development boundary (west of stage 71). Further west is an exotic plantation area (VHC 36.1) managed by HQ Plantations with active harvesting operations evident at the time of writing. The approved acoustic mound and parts of the linear parks (stage 71 and stages 63-65 respectively) have been included as forest (VHC 9.1). Parts of the linear parks (stages 63-65) are included as low to moderate tree cover in built up areas (VHC 39.2). In addition to parts of the linear parks containing low threat vegetation per AS3959 2.2.3.2 (f), concrete pathways also form part of the landscape design.

2.4.3.4 Central Drainage Swale

A review of the Landscape Masterplan for the development prepared by Place Design Group (2024) and subsequent recommendations by Covey (as adopted by the landscape design team for Stockland, April 2026) have resulted in the central drainage swale vegetation (stages 61 & 62) being classified as low to moderate tree cover in built up areas (VHC 39.2). As per the recommendations in this plan and the Landscape Maintenance Notes (Item 20. PLACE-LS-DRW-P15W-STG61&62_002 revision E), plantings will ensure discontinues fuel arrangements through removal of accumulated fine fuels, pruning shrubs, mowing and lift pruning trees. Covey recommended that these vegetated areas be managed in perpetuity as per BRC guidelines and as identified in this plan. Specifications include the following recommendations:

- All landscaped areas adjacent to the drainage conveyance channel (especially in the immediate vicinity of adjacent buildings) should be maintained to minimise potential bushfire risk associated with bushfire attack and limit the accumulation of combustible fine fuels. This should also be applied to others areas within Precinct 15 West, refer to Figure 5-1.
- Maintenance should ensure that the vertical and horizontal fine fuel continuity of the landscape vegetation is minimised by maintaining a discontinuous fuel structure and removing accumulated available fine fuels. Ideally combined fuel loads (e.g. surface, near surface and elevated fuels) should

remain below 8 tonnes per hectare and these bushfire fuel management prescriptions are recommended to assist with achieving this standard.

- Vegetation maintenance works should include mowing, pruning, hedging and removal of accumulated fine dead vegetation fuels (<6mm in diameter). This should include the removal of debris such as grass clippings, palm fronds and accumulated sticks.
- Trees species should be canopy-lifted during establishment and to two to three meters when established to maintain separation between the tree canopy and shrub, grass or sedge layers and to prevent the formation of continuous vertical fuels.
- Grass areas should be maintained with a maximum sward height of 100 mm.
- Missing or unhealthy plants should be replaced with species with low-flammability characteristics (as per BRC) preferably during the February–May planting window.
- Trees are not to be planted or retained where (when mature) they may overhang buildings or contribute significantly to leaf drop on buildings. Replacement trees are to be planted away from existing trees to maintain canopy gaps when mature.
- During extended dry periods, irrigation should be used (where possible) to maintain vegetation health and reduce excessive drying of fine fuels.
- All debris generated during maintenance works should be removed from the site and not allowed to accumulate within planting beds or the drainage channel. Organic mulch should not be placed against timber fences where a burning fence may impact adjacent buildings.
- Maintenance inspections should be undertaken prior to each fire season (Inspect July to August) to ensure compliance with these requirements.

2.5 Post-Development BPA mapping

Per methodology outlined in BRC (Section 5.2.4) the post-development landscape within 150 metres of the development has been considered within this assessment. To verify the post-development extent of vegetation – including landscape design elements – the Bushfire Prone Area (BPA) mapping has been revised as per the methodology for identifying Bushfire Prone Areas outlined in BRC (per Leonard and Opie, 2017):

- Though the highway buffer is less than 50 metres wide, it abuts unmanaged vegetation (VHC 40.4) to the west from the highway verge and landscaped areas within the linear park to the east. Given the highway buffer adjoins continuous vegetation (grassfire prone VHC 40.4 and bushfire prone VHC 9.2) it has been mapped as being BPA.
- The central drainage swale has been excluded from the post-development BPA mapping as it is less than 50m in width (~30m) and surrounded by discontinuous fuel. This meets the narrow corridor exclusions methodology under the BPA mapping methodology (Leonard *et al.*, 2014). Areas within 100 metres of BPA vegetation (e.g. Potential Impact Buffer) will be subject to BAL assessment for construction.
- Areas across the development have been excluded from BPA mapping where they are considered low threat or low fuel managed areas (e.g. mown areas, maintained gardens) (Figure 5-1).
- The rehabilitation area to the south-east has been included as it adjoins existing mapped BPA.
- The extent of Potential Impact Buffer has been extended to 100 metres beyond the refined post-development Medium and High Potential Bushfire Impact extent.

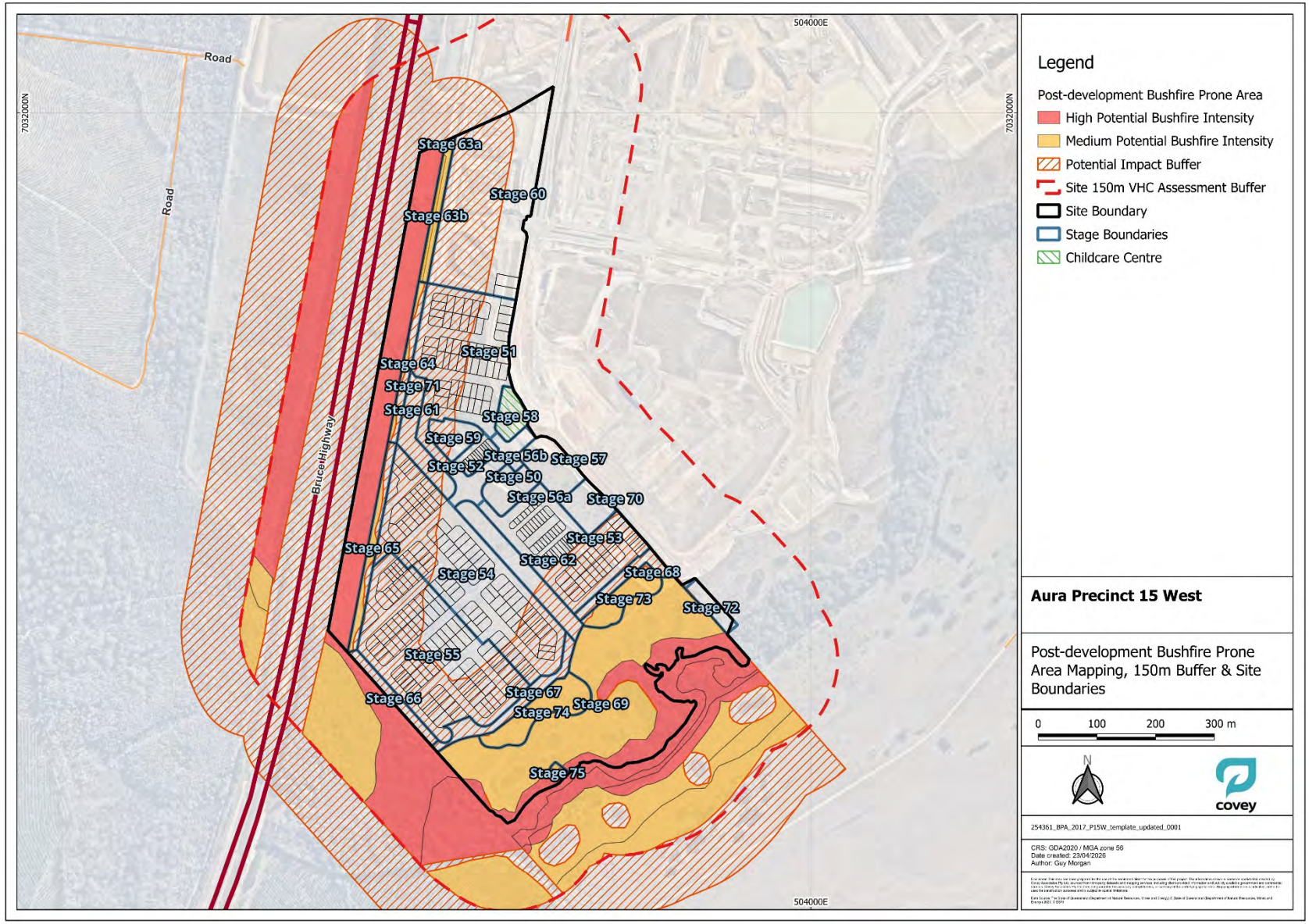


Figure 2-3. Post-development Bushfire Prone Area

3 Bushfire Risk Assessment

The SPP guidance material (Queensland Government, 2019) states that residential buildings should not be exposed to a RHF greater than 29 kW/m^2, and for vulnerable uses, to be exposed to less than 10 kW/m^2 RHF (calculated at a higher flame temperature of 1,200°K). RHF analysis has been undertaken for the PoD area, refer to Appendix D for RHF maps for the whole PoD area and identified areas below.

3.1 Overview of RHF Analysis

Radiant Heat Flux (RHF) modelling identifies the rate at which heat transfers to a receiver from a potential fire and how the energy dissipates with increasing distance from the fire. To provide more definitive results on the potential impact of RHF on the proposed development infrastructure, RHF modelling was undertaken in accordance with Method 2 of Australian Standard AS 3959 (2018) – Construction of Buildings in Bushfire Prone Areas (AS3959). The RHF modelling was undertaken using Covey's proprietary *Inferno BAL* modelling software – refer to Appendix A for further details. Factors that influence RHF are discussed below.

RHF modelling was undertaken as per Method 2 of AS3959, this standard specifies a flame temperature input value of 1,090°K, whilst a higher flame temperature of 1,200°K is applied to developments that include *vulnerable use* as defined by the SPP (table 2-4). Covey therefore used both methods, adopting:

- 1,090°K flame temperature for general infrastructure associated with the development, and
- 1,200°K flame temperature for proposed *vulnerable use* lots within the PoD.
    - The 1200°K flame temperature was used to assess implications associated with the proposed childcare centre (stage 58) (to generate a RHF10kW/m^2 contour line) as required for developments involving a Vulnerable Use per BRC.

Other RHF modelling inputs include:

- The 5% annual exceedance probability fire weather varies between FFDI 53, according to SPP Bushfire Prone Area Input Mapping BRC MapViewer.
- Site-specific VHCs and their associated potential surface fuel (SF) and near surface fuel (NSF) loads as defined in BRC for Bushfire Prone vegetation only (see table 2-5 below), and
- 1 metre DEM of a combined design and existing terrain surface. The design DEM was provided to Covey from the project surveyors (RPS Consulting: 1 April 2026).

Table 2-4. Radiant Heat Flux model assumptions – modified Method 2 of AS 3959.

	Calculation Parameters				Flame Properties	
Emissivity	**Heat of Combustion**	**Relative Humidity**	**Ambient temperature**	**Transmissivity**	**Flame Temperature**	**Head Fire width**
0.95 ε	18600 kJ/kg	25%	308°K	0.775	**1090°K**	100 m
0.95 ε	18600 kJ/kg	25%	308°K	0.775	**1200°K**	100 m

Table 2-5. Radiant Heat Flux model input values.

Vegetation Criteria (excludes grassfire prone vegetation)			
Vegetation Class	**Vegetation Type**	**SF+NS Fuel (t/ha)**	**Total Fuel (t/ha)**
VHC 9.1	Forest	21	24.2
VHC 22.1	Forest	23.4	28.4
VHC 29.1	Forest	20.7	24.9
VHC 29.3	Shrubland	14.5	20.1
VHC 36.1	Forest	23.8	26

3.1.1 RHF Results Impact on BAL

RHF values (Flame Zone, 40 kW/m^2, 29 kW/m^2, 19 kW/m^2 and 12.5 kW/m^2) trigger specific construction requirements under the Building Code of Australia and AS3959. Note that, a BAL assessment may be required to be undertaken in accordance with AS3959 before construction works of the proposed buildings on the created lots. The BAL assessment undertaken within this assessment may not negate the need to undertake a separate BAL assessment for each proposed dwelling as part of a building approval application.

3.2 RHF from Forestry Lot 561 on AP22457

As conditioned per the development approval, a BAL assessment has been undertaken considering vegetation on Lot 561 on AP22457. The assessment identifies that all the proposed lots within proximity of the forestry lot in the PoD for P15W have a RHF rating of less than 29 kW/m^2 during potential credible worst-case bushfire events (Figure 3-2 & Appendix D). A proposed road corridor separates the lots that front the forestry lot. These lots are subject to between RHF 12.5 kW/m2 and RHF 19 kW/m^2. Several lots within stage 55 are located within 100 m of the forestry lot (shown as RHF <12.5 kW/m^2). According to the Building Code of Australia, any buildings within these allotments (or within 100 meters of hazardous vegetation) must be designed and constructed in accordance with the relevant Bushfire Attack Level (BAL) construction standards as outlined in AS3959.

3.2.1 Impact of proposed acoustic wall on RHF

An approved acoustic wall is to be constructed between the P15W development and the adjoining forestry lot (Lot 561 on AP22457). The wall comprises precast concrete panels with heights ranging from 2.0 m to 5.5 m above finished surface level and will be located within five metres of the existing vegetation along the forestry lot boundary (refer Figure 3-1). The acoustic wall was not included in the initial RHF modelling, though adjustments post-modelling were made to BAL values on lots adjacent to the acoustic fence. This has resulted in 12 of the 14 lots be assessed to have a BAL rating of BAL 12.5. Two lots (2315 and 2395) have a BAL rating of BAL 19 due to potential RHF exposure beyond the acoustic wall.

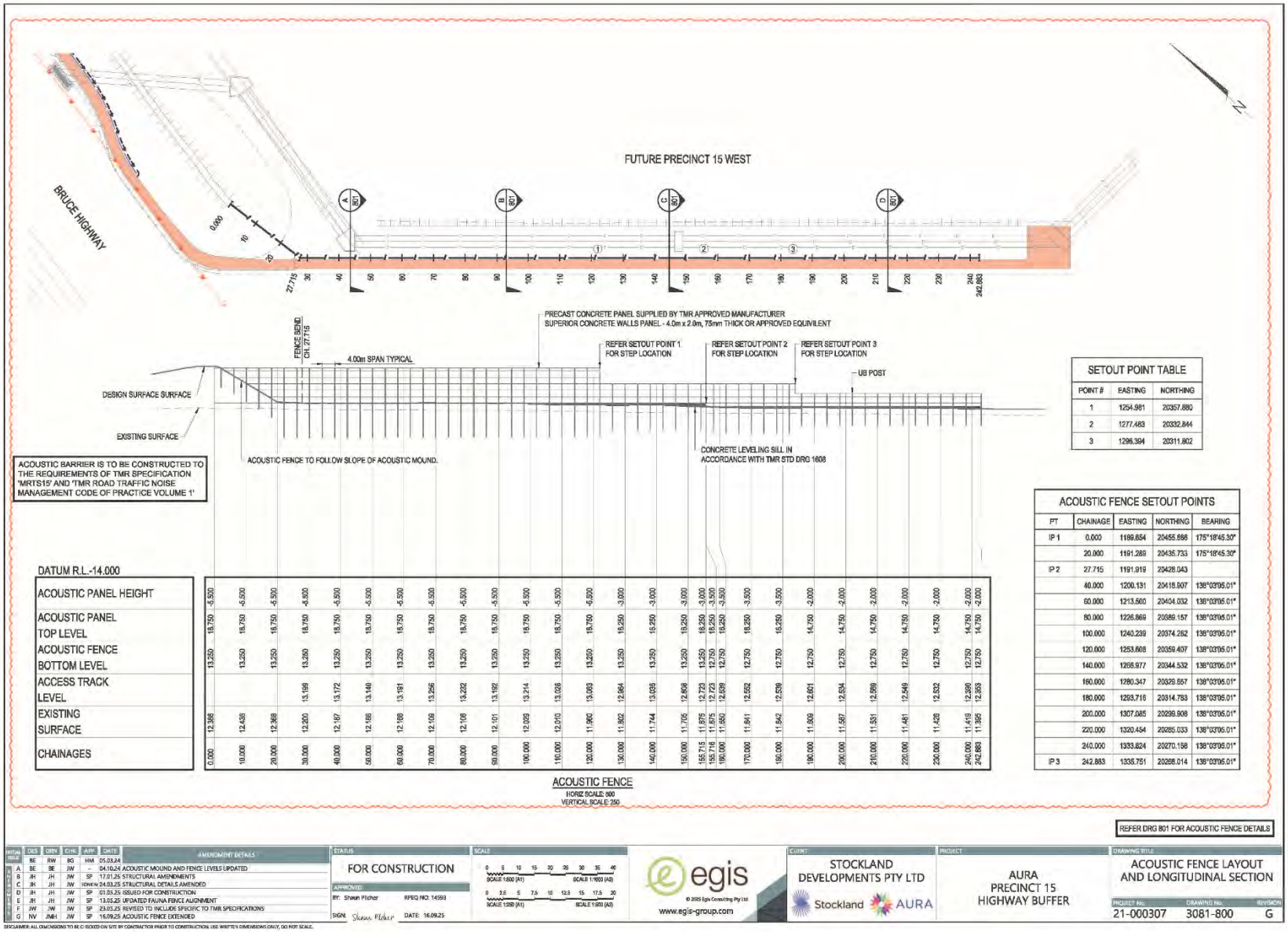
The below information assists to gauge the reduction of the radiant heat exposure to adjacent lots and building envelopes. Effective barriers can provide shielding of radiant heat from bushfire hazards to the receiver (residential lots). The height of the shielding barrier and horizontal offset from the bushfire hazard

are key factors for radiant heat shielding. Calculations indicate that the approved precast concrete acoustic barrier will provide shielding of radiant heat from the forestry lot by reducing the extent of the RHF 12.5 kW/m^2 to approximately 2.4 metres (at 2 metres high) to 10.4 metres (at 5.5 metres high) (Table 3-2). The calculations have been assessed considering building envelope distances from vegetation and acoustic wall height changes. It is assumed that vegetation will be managed to the lot boundary (including the acoustic wall management access trail).

Landscaping in front of the acoustic wall should align with AS3959 low-threat vegetation clauses (e.g. 2.2.3.2 (f), characterised as low threat due to factors such as flammability, moisture content, or fuel load. In this case this may be represented by a cultivated garden).

Table 3-1. Effect of Acoustic Wall on RHF through shielding

1-D RHF Calculation Input Values							
Flame Temp (◦K)		**FFDI**		**Fuel Load (t/ha)**			
1090		53		SFL =	23.4	TFL =	28.4
Acoustic Fence Height (m)	**Distance to Vegetation**	**View Factor (◦)**	**Flame Angle (◦)**	**Receiver Elevation (m)**	**Transmissivity**	**Radiant Heat Flux (kW/m^2)**	**BAL**
0	**32.7**	0.202	75.88	6.568	0.802	**12.352**	**12.5**
2	**30.3**	0.202	82.136	6.327	0.811	**12.477**	**12.5**
3	**28.2**	0.196	82.202	6.771	0.809	**12.065**	**12.5**
3.5	**27.1**	0.194	82.182	6.784	0.812	**12.007**	**12.5**
5.5	**22.3**	0.192	81.753	6.842	0.825	**12.055**	**12.5**



SETOUT POINT TABLE

POINT #	EASTING	NORTHING
1	1254.981	20357.880
2	1277.483	20332.844
3	1296.394	20311.802

ACOUSTIC FENCE SETOUT POINTS

PT	CHAINAGE	EASTING	NORTHING	BEARING
IP 1	0.000	1189.654	20455.898	175°18'45.30"
	20.000	1191.289	20435.733	175°18'45.30"
IP 2	27.715	1191.919	20428.043	
	40.000	1200.131	20418.907	138°03'05.01"
	60.000	1213.500	20404.032	138°03'05.01"
	80.000	1226.869	20389.157	138°03'05.01"
	100.000	1240.239	20374.282	138°03'05.01"
	120.000	1253.608	20359.407	138°03'05.01"
	140.000	1266.977	20344.532	138°03'05.01"
	160.000	1280.347	20329.657	138°03'05.01"
	180.000	1293.716	20314.783	138°03'05.01"
	200.000	1307.085	20299.908	138°03'05.01"
	220.000	1320.454	20285.033	138°03'05.01"
	240.000	1333.824	20270.158	138°03'05.01"
IP 3	242.883	1335.751	20268.014	138°03'05.01"

Figure 3-1. Approved Acoustic Wall

3.3 Radiant Heat Flux Assessment and Indicative BAL Outcomes

3.3.1 Assessment scope and approach

Radiant Heat Flux (RHF) modelling has been undertaken for all lots within Precinct 15 West (P15W) in accordance with AS 3959 (2018), Method 2, informed by the State Planning Policy Bushfire Prone Area (BPA) mapping.

The assessment considers exposure from all relevant existing and proposed vegetation, incorporating post-development vegetation structure, Asset Protection Zones, approved infrastructure (including acoustic wall shielding), and adopted landscape management assumptions. Indicative RHF outputs have been used to assign Plan of Development-scale Bushfire Attack Level (BAL) outcomes for all lots.

For the childcare centre (a vulnerable use), a higher flame temperature input of 1,200 K has been applied in accordance with AS 3959.

Indicative RHF and BAL mapping is provided in Figure 3-2 and Appendix D.

3.3.2 Indicative BAL outcomes by stage

Table 3-2 Indicative Bushfire Attack Level Outcomes – Precinct 15 West summarises the indicative BAL outcome for all lots within Precinct 15 West, grouped by stage and proximity to bushfire-prone vegetation.

Table 3-2 Indicative Bushfire Attack Level Outcomes – Precinct 15 West

Stage	**Lot Number(s)**	**BAL Outcome**
50 (Road)		Not Applicable
51	2110 – 2113, 2121 – 2124, 2126 – 2130, 2144 – 2147 - 2153	>100m from Bushfire Prone Veg
	2114 – 2120, 2131 – 2143, 2154 – 2166	BAL 12.5
	Nil	BAL 19
	Nil	BAL 29
	Nil	BAL 40
	Nil	BAL FZ
52	2100 – 2109, 2407 - 2409	>100m from Bushfire Prone Veg
	Nil	BAL 12.5
	Nil	BAL 19
	Nil	BAL 29
	Nil	BAL 40
	Nil	BAL FZ
53	2167 – 2204, 2410 – 2411	>100m from Bushfire Prone Veg
	2205 - 2229	BAL 12.5
	Nil	BAL 19

	Nil	BAL 29
	Nil	BAL 40
	Nil	BAL FZ
54	2246-2257, 2270-2281, 2302-2304, 2329 - 2331, 2358, 2400-2406	>100m from Bushfire Prone Veg
	2230-2245, 2258-2269, 2282-2288, 2301, 2359-2364, 2399, 2412, 2413	BAL 12.5
	2365	BAL 19
	Nil	BAL 29
	Nil	BAL 40
	Nil	BAL FZ
55	2305, 2326-2337, 2352-2357, 2373, 2374	>100m from Bushfire Prone Veg
	2289-2300, 2306-2314, 2316-2325, 2338-2351, 2367-2372, 2375-2381, 2384-2394, 2396-2398	BAL 12.5
	2315, 2366, 2395	BAL 19
	Nil	BAL 29
	Nil	BAL 40
	Nil	BAL FZ
56 (Open Space)	8104, 9103	Not Applicable
57	8102	>100m from Bushfire Prone Veg
58 (Childcare)	8100	>100m from Bushfire Prone Veg
59	8101	BAL 12.5
60 (Sports Park)	8105, 8106	>100m from Bushfire Prone Veg
	9100	BAL 12.5
	Nil	BAL 19
	Nil	BAL 29
	Nil	BAL 40
	Nil	BAL FZ
61, 62 (Drainage Reserve)	9101, 9102	Not Applicable
63, 64, 65, 66, 67, 68, 69 (Open Space)	9121, 9105, 9106, 9107, 9113, 9114, 9116	Not Applicable

70	8103	>100m from Bushfire Prone Veg
71, 72, 73, 74, 75, 76 (Open Space)	9116, 9117, 9118, 9119,	Not Applicable

3.3.3 Statutory note

A site-specific BAL assessment may be required at the building approval stage in accordance with the National Construction Code and AS 3959 (2018). Final BAL requirements may vary depending on dwelling siting and compliance with building envelopes and setbacks relative to bushfire-prone vegetation.

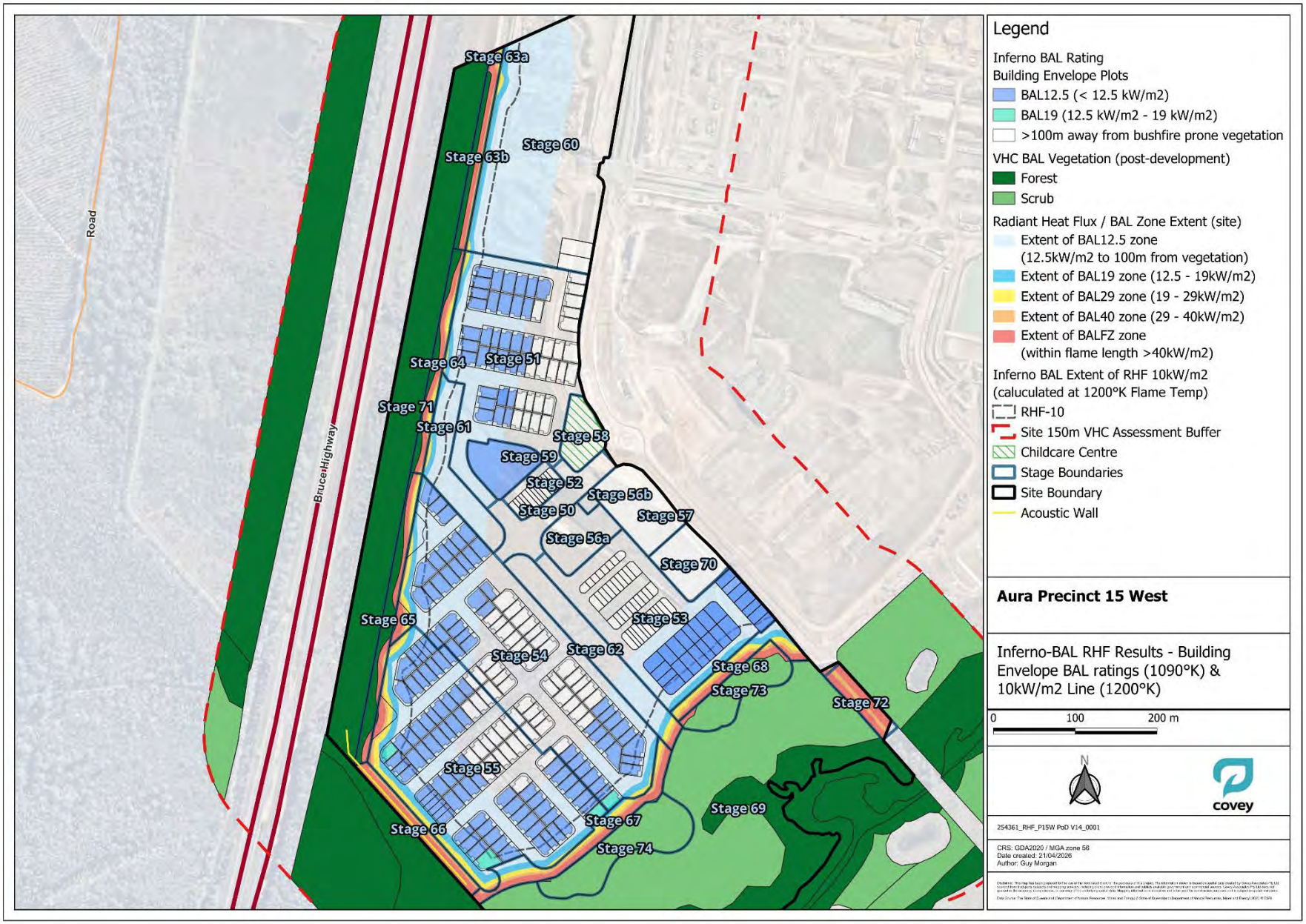


Figure 3-2. Inferno-BAL RHF results from bushfire-prone vegetation within 150 metres of Precinct 15 West (detail: refer Appendix D)

4 Asset Protection Zones

Asset Protection Zones (APZs) apply to areas observed as the separation distance required between the bushfire-prone vegetation and the determined RHF29kW/m^2 (or RHF10kW/m^2) per BRC. The aim of the APZ is to provide a physical fuel break and ensure that the infrastructure is not subject to an unacceptable level of RHF.

4.1 Summary of APZs

The results of the RHF modelling will be provided in digital format when this technical letter is issued to the client to enable a review of RHF impact on the proposed lots to assist in understanding the potential BAL requirements for proposed dwellings within the approved PoD.

All neighbourhood recreation parks, local and district linear parks, local recreation parks, landscape buffers and sports fields on bushland interface (per the BRC) should be maintained as APZs (Figure 5-1). Within APZs, vegetation should be modified and/or maintained to reduce fuel load and mechanisms of bushfire attack, such as flame and radiant heat. These areas should comprise only low-threat vegetation as defined in AS3959 S2.2.3.2(f) and managed in a low fuel state, such as mown grass, maintained public reserves, parklands, and nature strips.

Specifically, APZs treatments must ensure that building envelopes are exposed to less than 29 kW/m^2 in perpetuity or the relevant identified indicative BAL rating in this report for any relevant building or building envelope. This should be extended to areas such as the central drainage line (stages 61 and 62) as per the recommendations in this plan and the Landscape Maintenance Notes (Item 20. PLACE-LS-DRW-P15W-STG61&62_002 revision E) and be applied to plantings in front of behind the acoustic wall south-west of stage 55. The linear parks to the south-east of stages, 53,54 and 55 should be maintained as low threat vegetation including areas identified in this technical letter that extend further to the south-east beyond the linear park areas (Figure 5-1). The APZs throughout the development are to generally be consistent with the Bushfire Landscape Maintenance section in this technical letter (Section 5.1).

4.2 Central Drainage Swale (Stage 61) Additional Mitigation

Covey identify that additional bushfire mitigation measures are planned in the western section of central drainage swale (stage 61) immediately adjacent to lots 2230, 2231, 2231, 2234 and 2245. These measures include:

- a planting palette and maintenance prescription that reduces potential bushfire fuel horizontal and vertical fuel continuity.
- an engineering amendment to the drainage reserve which includes a 3m wide bench (turf strip), providing a setback from vegetation in the drainage swale.
- an engineering amendment to the drainage reserve which includes an increase in height to a retaining wall (~200-400 mm), providing additional vertical fuel separation on the outer edge.
- Fire resistant fencing treatment on the interface (treated with a fire-retardant barrier paint – FireCoat Exterior (or similar product). This product has been tested and deemed compliant for BAL 12.5 to BAL 40 applications (Assurance Certificate: ACTC-7323-99-01L I02R00 Firecoat Bushfire Advisory 09072024. Accessed April 2026). This product is recommended to be applied to all parts of the timber fencing materials including the posts (after final cuts are made but before assembly of fence rails and palings). The product should be applied to both sides of the fence and any associated timber sleeper

retaining walls (if relevant). Timber fencing running along the lots (perpendicular to the drainage swale fence) should also be treated as identified above.

5 National Construction Code (NCC)

Several allotments are located within 100 m of hazardous vegetation and exposed to RHF <12.5 kW/m^2. Any buildings within these lots are required to be constructed with the relevant BAL specifications per AS3959:2018. While this assessment is focused on planning legislation, the Bushfire Prone Area overlay (BRC map viewer) also triggers buildings to be constructed in accordance with the BCA.

The BCA requires Class 1, Class 2, Class 3 buildings, and a Class 10a building or deck associated with a Class 1, 2 or 3 to be constructed per AS 3959-2018 (National Construction Code, 2022a, 2022b). The NCC was updated in 2022, and certain Class 9 Buildings are now subject to additional bushfire requirements; refer to Part G5 and Specification 43 of NCC Volume 1 (National Construction Code, 2022).

This assessment only assesses the lots, building envelopes and up to first storey of future structures. A Bushfire Attack Level assessment may be required to be undertaken per AS3959 before design or construction of buildings on the subject lot/s, and do not form part of the assessment within this report.

5.1 Bushfire Landscape Maintenance

Central Drainage Swale and acoustic fence plantings should follow the following recommended vegetation management information in this plan and the Landscape Maintenance Notes (Item 20. PLACE-LS-DRW-P15W-STG61&62_002 revision E).

Covey recommend the vegetated central drainage swale and the acoustic wall planting be managed in perpetuity through the recommendations provided this technical letter and be consistent with the Landscape Maintenance Notes (Item 20. PLACE-LS-DRW-P15W-STG61&62_002 revision E). This includes the following recommendations provided by Covey.

- All landscaped areas adjacent to the drainage conveyance channel (especially in the immediate vicinity of adjacent buildings) should be maintained to minimise potential bushfire risk associated with bushfire attack and limit the accumulation of combustible fine fuels.
- Maintenance should ensure that the vertical and horizontal fine fuel continuity of the landscape vegetation is minimised by maintaining a discontinuous fuel structure and removing accumulated available fine fuels. Ideally combined fuel loads (e.g. surface, near surface and elevated fuels) should remain below 8 tonnes per hectare and these bushfire fuel management prescriptions are recommended to assist with achieving this standard.
- Vegetation maintenance works should include mowing, pruning, hedging and removal of accumulated fine dead vegetation fuels (<6mm diameter). This should include the removal of debris such as grass clippings, palm fronds and accumulated sticks.
- Trees species should be canopy-lifted during establishment and between two to three meters when established to maintain separation between the tree canopy and shrub, grass or sedge layers and to prevent the formation of continuous vertical fuels.
- Grass areas should be maintained with a maximum sward height of 100 mm.
- Missing or unhealthy plants should be replaced with species with low-flammability characteristics (as per BRC) preferably during the February–May planting window.
- Trees are not to be planted or retained where (when mature) they may overhang buildings or contribute significantly to leaf drop on buildings. Replacement trees are to be planted away from existing trees to maintain canopy gaps when mature.

- During extended dry periods, irrigation should be used (where possible) to maintain vegetation health and reduce excessive drying of fine fuels.
- All debris generated during maintenance works should be removed from the site and not allowed to accumulate within planting beds or the drainage channel. Organic mulch should not be placed against timber fences where a burning fence may impact adjacent buildings.
- Maintenance inspections should be undertaken prior to each fire season (Inspect July to August) to ensure compliance with these requirements.
- Areas containing placed rock should be maintained free of weeds and natural regeneration.

As indicated above, this area should be a focus of future vegetation management to ensure compliance with AS3959 2.2.3.2.

Other APZ landscaping within the site, including areas mapped as low-hazard or low-threat vegetation (Figure 5-1) should utilise planting palettes that do not exacerbate the level of bushfire threat. Noting the proposed vegetation in the drainage areas, the landscaping design within the proposed development must not constitute a bushfire threat and should be in line with the Landscape Master Plan Place Design Group Pty Ltd (Urbis) (2024) and subsequent landscape design drawings (Appendix F) and Covey recommendations. The proposed neighbourhood recreation parks, linear open spaces, local recreation parks, landscape buffers and sports field should all be maintained regularly to reduce woody regrowth, continuous fuel arrangements, weeds and keep grass mown to no more than 100 mm, per exclusions under AS3959 2.2.3.2 (f). These areas are to be maintained in a low-fuel state and comprise only low-threat vegetation.

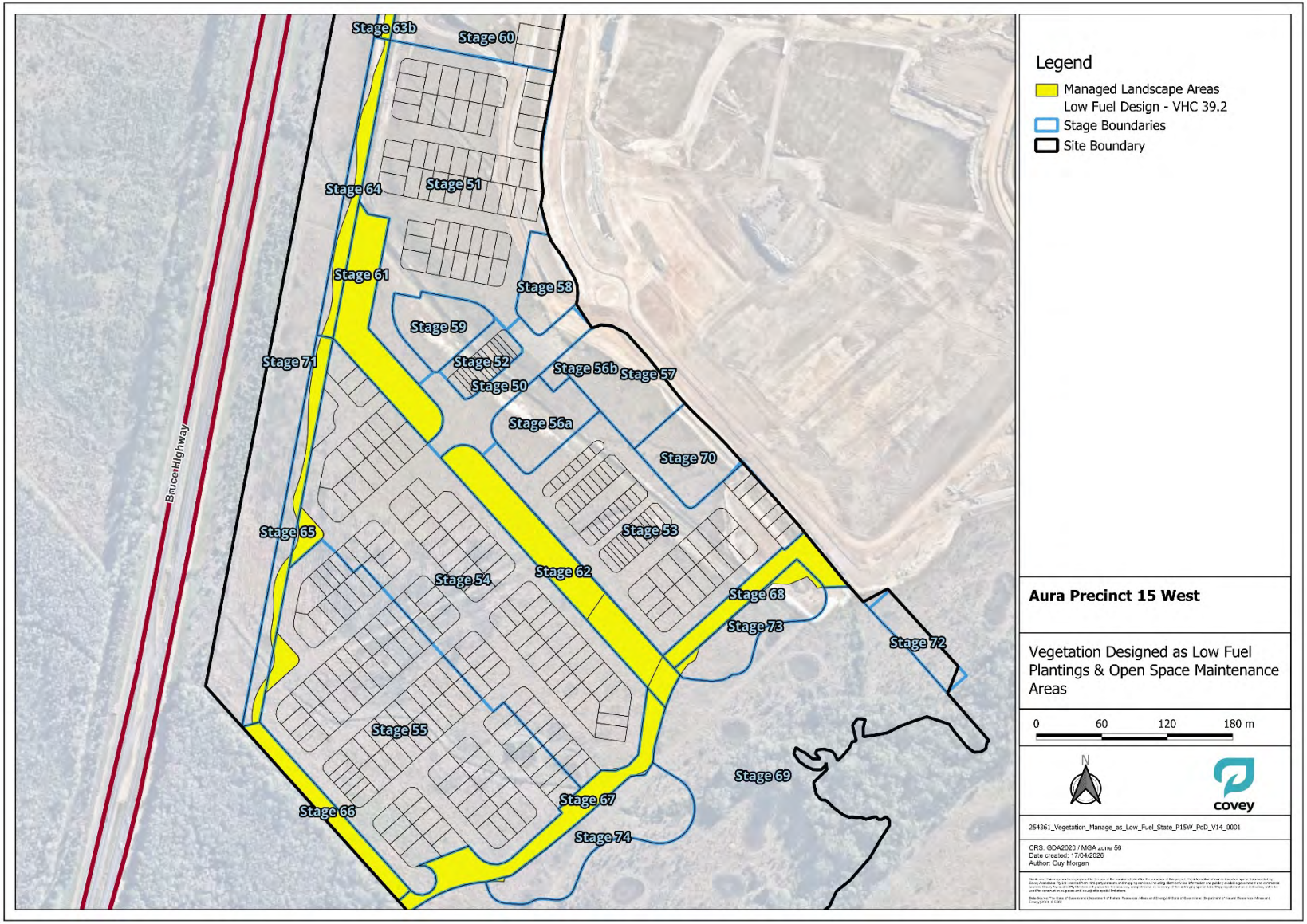


Figure 5-1: Managed Landscape Areas – Assessed as Low Fuel / Low Threat Vegetation (maintain as discontinuous fuels or mown areas)

Landscaping within these areas should align with Low Threat exclusion clauses defined in AS3959, S2.2.3.2. Examples include:

1. Where areas of bushland are to be included as part of landscaping design in the low fuel zone, ensure they are consistent with AS3959 S2.2.3.2, being less than 0.25 ha in area and not within 20 m of each other or proposed dwellings (Figure 5-2);

2. Landscaping design within the low fuel zones, being consistent with AS3959 S2.2.3.2(f) to ensure vegetation does not create vertically and horizontally continuous fuel structures that may contribute to bushfire intensity (Figure 5-3);

3. Utilise non-vegetated areas within the development consistent with AS3959 S2.2.3.2 (e) to provide enhanced separation between buildings and vegetation identified as a bushfire threat external to the site boundaries; and,

4. Utilise 'Fire-Wise' plant species that are resistant to the effects of fire (guidance can be found at http://www.cfa.vic.gov.au/plan-prepare/landscaping-for-bushfire or a relevant local guideline).

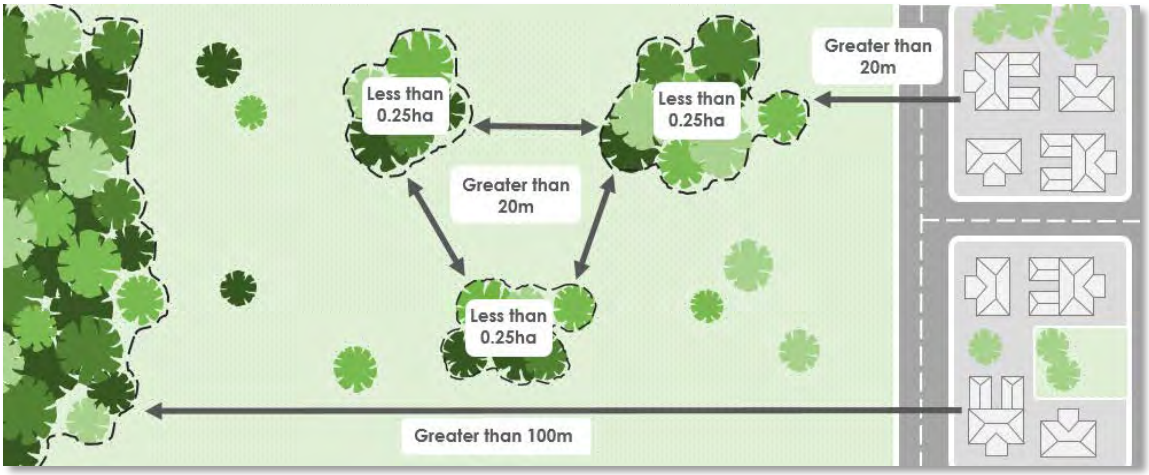


Figure 5-3 AS3959 Exclusions—Low threat vegetation and non-vegetated areas.

Figure 5-2 Low Threat vegetation (left) and Low Threat public open space (right).

6 Summary of Recommendations

Conditions of approval for P15W required an assessment to consider the bushfire risk from the forestry lot (Lot 561 on AP22457). In addition to this assessment the Stockland requested that the whole plan of development area was included in the assessment. The below information summarises Covey bushfire mitigation recommendations:

1. **BAL requirements –** A BAL assessment may be required to be undertaken in accordance with Australian Standard AS 3959 - Construction of buildings in bushfire-prone areas (2018 or equivalent) before undertaking building design or construction on the approved lots. BAL building assessment does not form part of the assessment within this technical letter. A BAL assessment will identify the potential RHF exposure of the proposed buildings based on the dwelling design and siting on each lot at the building approval application stage. For example, although some lots have been identified as being impacted by greater than RHF 12.5 kW/m², the placement of the dwelling or relevant structure within the lot may expose it to less than RHF 12.5 kW/m², thereby changing the BAL requirement for the building.

2. **Asset Protection Zones –** establish vegetation management strategies to ensure the proposed linear parks and other vegetated areas that adjoin current and proposed bushfire-prone vegetation (identified in this assessment) within and around P15W are maintained as APZs and maintained in perpetuity to comply with clause 2.2.3.2(f) of AS3959. Refer to Figure 5-1 for areas identified as low threat vegetation areas which were applied in this assessment.

3. **Central drain (Stage 61 & 62) –** follow the above recommendations for vegetation management within the central drainage swale, with a more regular focus where direct building interface exists. This monitoring and management is required to be undertaken in perpetuity to maintain the plantings as low-threat vegetation with discontinuous horizontal and vertical fuel arrangements (<8 tonnes per hectare). Fencing should be treated on all surfaces with an approved and certified fire-retardant treatment as detailed in section 4.2. Areas containing placed rock should be maintained free of weeds and natural regeneration.

4. **Acoustic Wall planting and access track –** as detailed above, the plantings near the acoustic wall should be managed either as low fuel state vegetation (consistent with AS3959 2.2.3.2 (f) or as a minimum per the recommendations provided for the central drainage swale, including maintenance requirements identified in a vegetation management plan or maintenance prescription. This management is required to be undertaken in perpetuity. The acoustic wall access track should be maintained to ensure vegetation clearance height and width are fit for purpose. In addition, vegetation management should be undertaken to the adjacent property boundary to ensure the calculations in this report for RHF / BAL are applicable in perpetuity.

5. **Access** – Access roads and tracks should be maintained to ensure vegetation is managed to a suitable clearance height and width to accommodate emergency services and management vehicle access. Where no vehicle access behind properties is possible where vegetation is on property interface, adequate clearance should accommodate fire fighter access along boundary fences 1.2-2m wide clearance.

7 Conclusion

This technical letter has included RHF modelling and has considered existing and proposed vegetation communities and associated landscaping elements and the potential BAL impacts on proposed lots and building envelopes in the Aura P15 West PoD area (Figure 3-2 and Appendix D).

The RHF assessment has identified that all lots within the P15W development will be able to be built to BAL 29 or lower with the highest assessed BAL rating identified as BAL 19. A BAL assessment may be required to be undertaken in accordance with Australian Standard AS 3959 - Construction of buildings in bushfire-prone areas (2018 or equivalent) before undertaking building design or construction on the approved lots. BAL building assessment does not form part of the assessment within this technical letter. A BAL assessment will identify the potential RHF exposure of the proposed buildings based on the dwelling design and siting on each lot at the building approval application stage. For example, although some lots have been identified as being impacted by greater than RHF 12.5 kW/m², the placement of the dwelling or relevant structure within the lot may expose it to less than RHF 12.5 kW/m², thereby changing the BAL requirement for the building.

Areas identified in Figure 5-1 have been categorised for this assessment as low-threat fuel. These areas should be planted and maintained to ensure they are consistent with AS3959 2.2.3.2 (f) as discussed above in sections 4 and 5.

As per the RHF assessment results (Section 3), RHF values of between 12.5 kW/m^2 and RHF 19 kW/m^2 (BAL 19) occur across several lots in the PoD area. BAL 19 applies to one lot in stage 54 (lot 2365) and three lots in stage 55 (2315, 2395 and 2366). This included building envelopes in stage 55 that are adjacent to the acoustic wall which was reassessed to reduce the BAL rating for 12 of the 14 building envelopes from BAL 19 to BAL 12.5. A total of 201 lots are categorised as BAL 12.5

Per the Building Code of Australia, any buildings within these allotments (or within 100 m of hazardous vegetation) must be designed and constructed with the relevant Bushfire Attack Level (BAL) construction standards per AS3959. It is recommended that replanted vegetation communities and APZs are consistent with the VHC assumptions in the technical letter and associated RHF assessment and that all setbacks are maintained as per this assessment.

8 References

Australian Standards (2018) 'AS 3959:2018 Construction of buildings in bushfire-prone areas'. SAI Global Limited.

Elvis - Elevation and Depth - Foundation Spatial Data (no date). Available at: https://elevation.fsdf.org.au/ (Accessed: 19 May 2022).

Leonard, J. *et al.* (2014) *A new methodology for State-wide mapping of bushfire prone areas in Queensland*. Australia.

Leonard, J. and Opie, K. (2017) *Estimating the potential bushfire hazard of vegetation patches and corridors*. Australia.

Queensland Fire and Emergency Services (2019a) *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience-Bushfire'*. Available at: http://www.ausgoal.gov.au/.

Queensland Fire and Emergency Services (2019b) *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience-Bushfire'*. Available at: http://www.ausgoal.gov.au/.

Queensland Fire Department and Queensland Government (2025) *Bushfire Resilient Communities MapViewer*. Available at: https://experience.arcgis.com/experience/61bf89d8f50e4ce3b8f52c8afb4cbeb4/ (Accessed: 16 May 2025).

APPENDIX A

INFERNO-BAL METHODOLOGY

Inferno-BAL is a module of the Inferno geospatial system designed by Covey Associates, to calculate radiant heat flux and Bushfire Attack Level (BAL) from Method 2 in the AS3925 standard. Rather than calculating radiant heat flux at a single point, Inferno-BAL assesses heat flux at each point within a given area. This allows contours of radiant heat flux to be determined, as well as the maximum potential radiant heat flux and subsequent BAL level over plots and structures. The system is designed to work over very large areas (10s of kilometres) at high spatial resolution (meter scale). All intensive computations utilise graphics processing units (GPUs) where possible allowing the rapid calculation of radiant heat flux over these large spatial scales. The system also utilises a server-driven approach where calculations can be queued until resources are available, then data delivered on request.

The heat flux calculations require the following to determine flame length:

- the vegetation characteristics, i.e., fuel type and fuel load,
- the distance to the vegetation patch,
- the site slope between the calculation points and the vegetation patch; and,
- the effective slope under the vegetation influencing the fire behaviour.

To obtain the above information, Inferno-BAL requires the following inputs:

- a digital elevation map, giving the vertical height above a given datum, and
- a geo-located vector data set consisting of flammable vegetation polygons. Each vegetation polygon, or patch, must encode total and surface fuel loads, and fuel type (Forest, Woodlands, Shrublands, Scrub, Mallee, Rainforest, Moorlands or, Grassland – per AS 3959). This can be encoded as a field within the polygon data, or the values can be populated using a code from an auxiliary table.

If required, an additional vector data set representing building envelopes can be included in the model to obtain the aggregate maximum radiant heat flux over spatially specified polygons.

Pre-Processing

Given that (1) radiant heat flux calculations are computationally intensive and (2) Inferno-BAL was designed to be able to calculate radiant heat flux over entire Local Government Areas, each combination of fuel load and fuel type is categorised and the RHF calculations are run only on nearest vegetation type/load combination. Specifically, the software undertakes the following pre-processing actions:

1. Verify the input layers,
2. Rate-of-spread model and fuel load values are populated for each vegetation patch. Any patches with an un-burnable fuel type are removed (e.g., VHC 43.6 waterbodies).
3. All combination of fuel type and fuel load are categorised, and each combination assigned an ID.
4. For each unique ID the polygon nearest to the calculation point, is used in radiant heat flux calculations.

An example of this categorisation is shown in Figure 1. The four vegetation patches depicted are classified as ID 1 (Grass fuel type of 1 t/ha fuel load), ID 2 (Grass fuel type of 0.5 t/ha fuel load, and ID

3 (Forest fuel type of 10 t/ha). The radiant heat flux calculation is performed three times, one for each of the nearest ID patches. In this case, the grass patch of ID 1 located at a greater distance from the calculation point (shown with a dashed line) is not included in the radiant heat flux model.

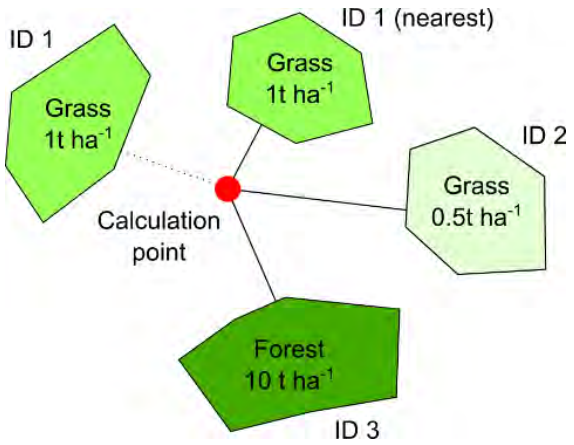


Figure 1 – Pre-processing of vegetation.

Note that this methodology may, in very marginal cases, result in a potential underestimation of radiant heat flux. This would only occur if patches at further distances were located on very steep terrain. This shortcoming will be addressed in future revisions of the system.

Distance Calculation

The distance is determined by searching for the point on the nearest edge over all polygons surrounding the calculation point. Once this nearest point is found the direction and distance to the patch can be found from the vector connecting the calculation point to the point on the edge (as shown by the arrow in Figure 2).

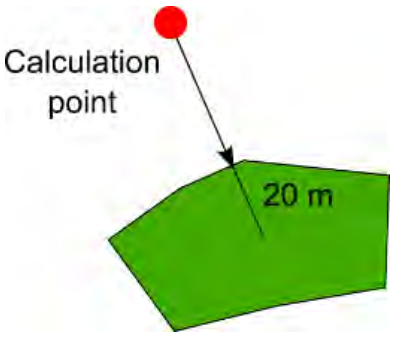


Figure 2 - Path to assess effective slope.

Site Slope Calculation

The site slope is calculated using the arctangent of the difference in elevation over the vector divided by the length of the vector. The site slope is clamped from -20 to 20 degrees, as in the AS3959 Method 2 standard.

Effective Slope Calculation

The effective slope is determined by extending a path 20 m into the vegetation patch (as shown by the dashed line in Figure 2) and calculating the slope over this path, per the method used in site slope

calculations. The effective slope is clamped from -15 to 30 degrees, as in the AS3959 Method 2 standard.

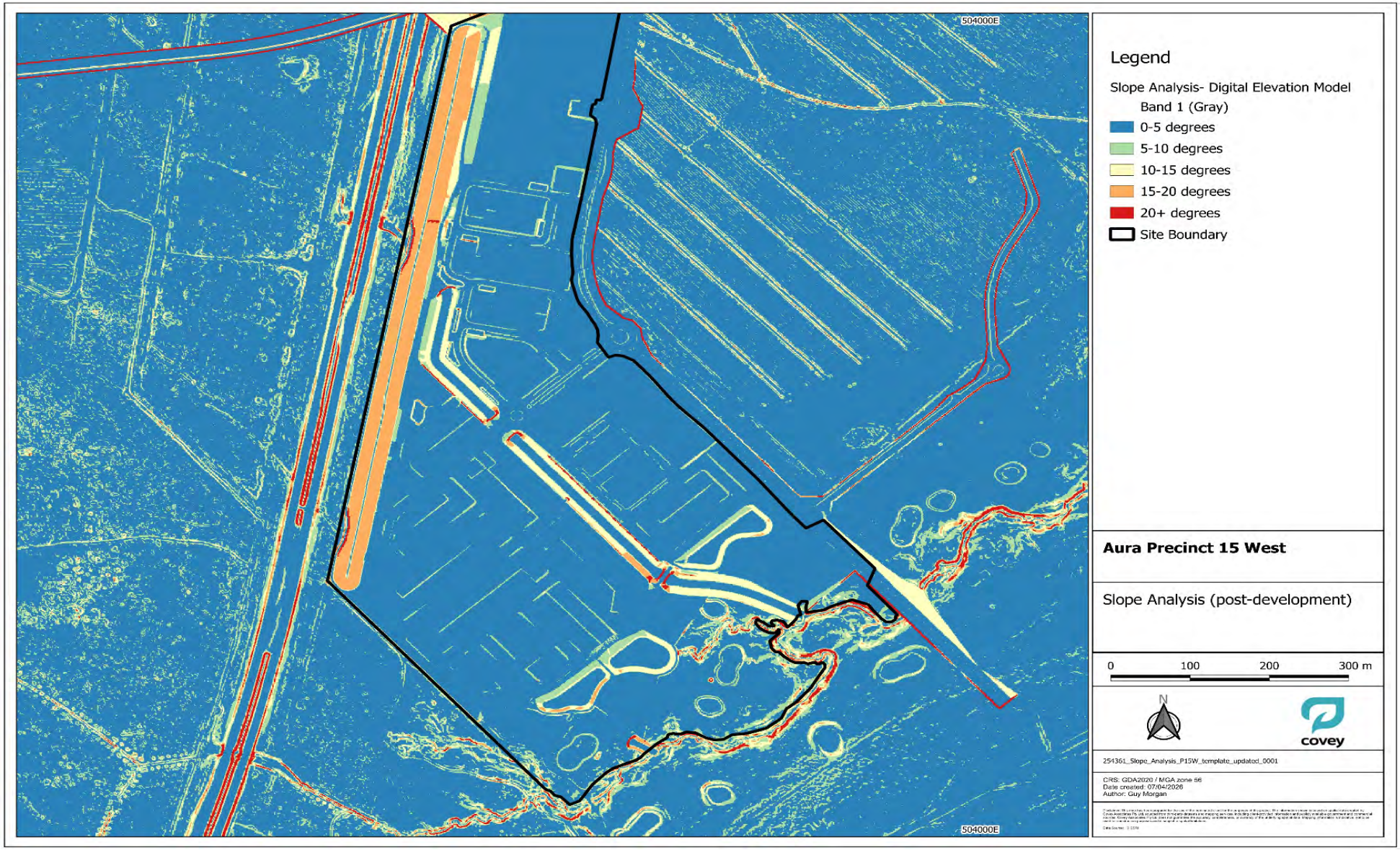
Radiant Heat Flux Calculation

The encoded vegetation characteristics from the vegetation vector layer are then used to determine which of the eight AS 3959 rate-of-spread models to adopt. From each of these a model for flame length is used (which may depend on an intermediate fire intensity empirical model for some fuel types, as in the AS3959 standard Eqns. B3, B4 and B5). The flame length is then used in the AS3959 iterative process to determine the flame angle giving the view factor, and hence maximum radiant heat flux, at the calculation point. This step involves some significant assumptions as outlined in the AS3959 standard, including the application of an empirical model for the atmospheric transmissivity (Eq. B9) and use of formula for view factor assuming a rectangular flame with a fixed width (Eq. B8 of AS 3959).

This process is repeated for each of the vegetation IDs and the maximum value over all these calculations is used as the final value of the radiant heat flux. The final steps in the process are to find the maximum radiant heat flux in each polygon plot, if supplied, and to categorise these into the BAL levels and to generate the vector isolines of the radiant heat flux.

APPENDIX B

SLOPE ANALYSIS FOR AURA PRECINCT 15 WEST


504000E
504000E
Legend
Slope Analysis- Digital Elevation Model
Band 1 (Gray)
0-5 degrees
5-10 degrees
10-15 degrees
15-20 degrees
20+ degrees
Site Boundary
Aura Precinct 15 West
Slope Analysis (post-development)
0
100
200
300 m
N
covey
254361_Slope_Analysis_P15W_template_updated_0001
CRS: GDA2020 / MGA zone 56
Date created: 07/04/2026
Author: Guy Morgan

APPENDIX C

SITE PHOTO POINTS FOR AURA PRECINCT 15 WEST

FIELD ASSESSMENT PHOTOS

POINT 1

POINT 2

POINT 3

POINT 4

POINT 5

POINT 6

POINT 7

POINT 8

POINT 9

POINT 10

POINT 11

POINT 12

POINT 13

POINT 14

POINT 15

POINT 16

POINT 17

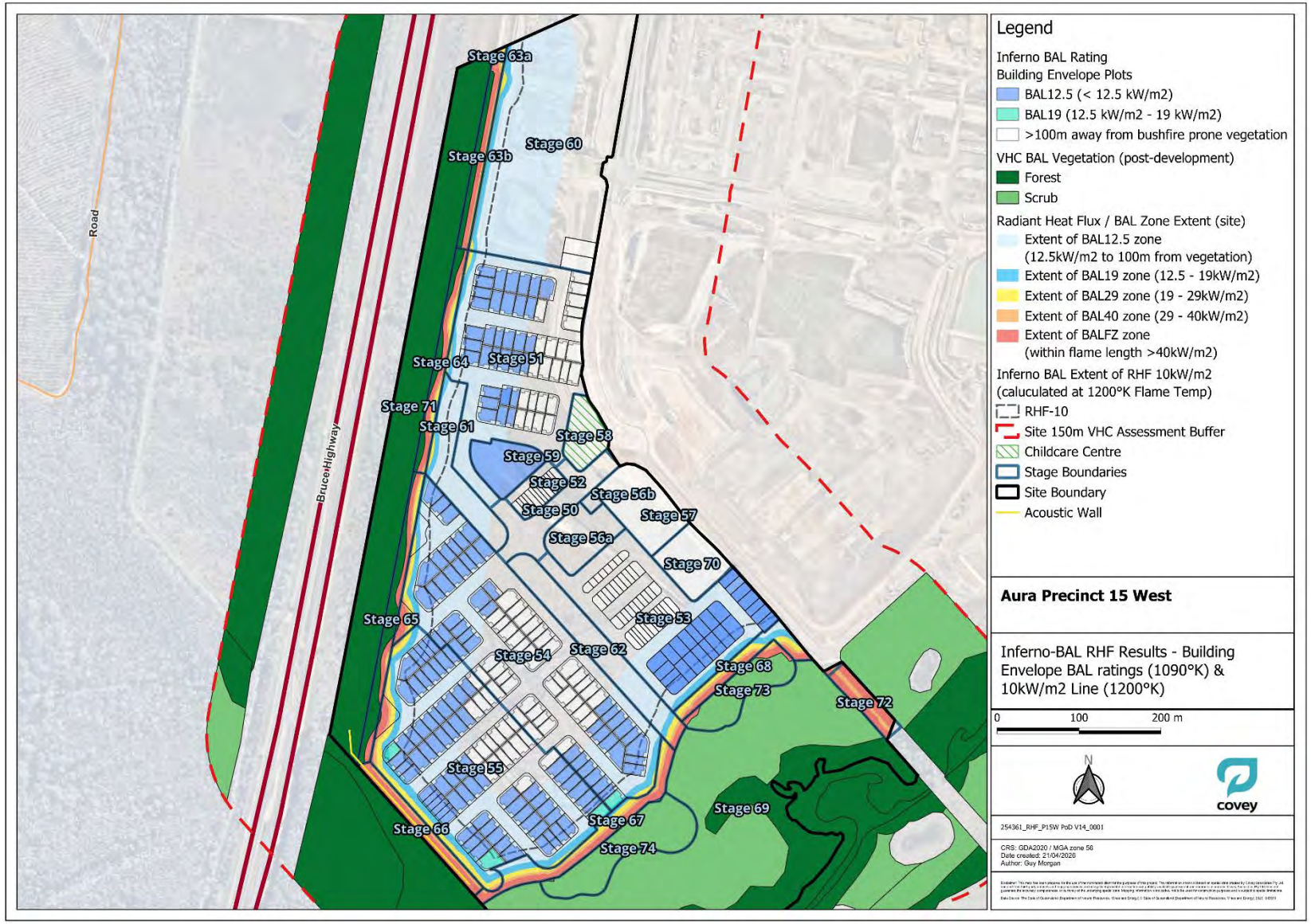
POINT 18

POINT 19

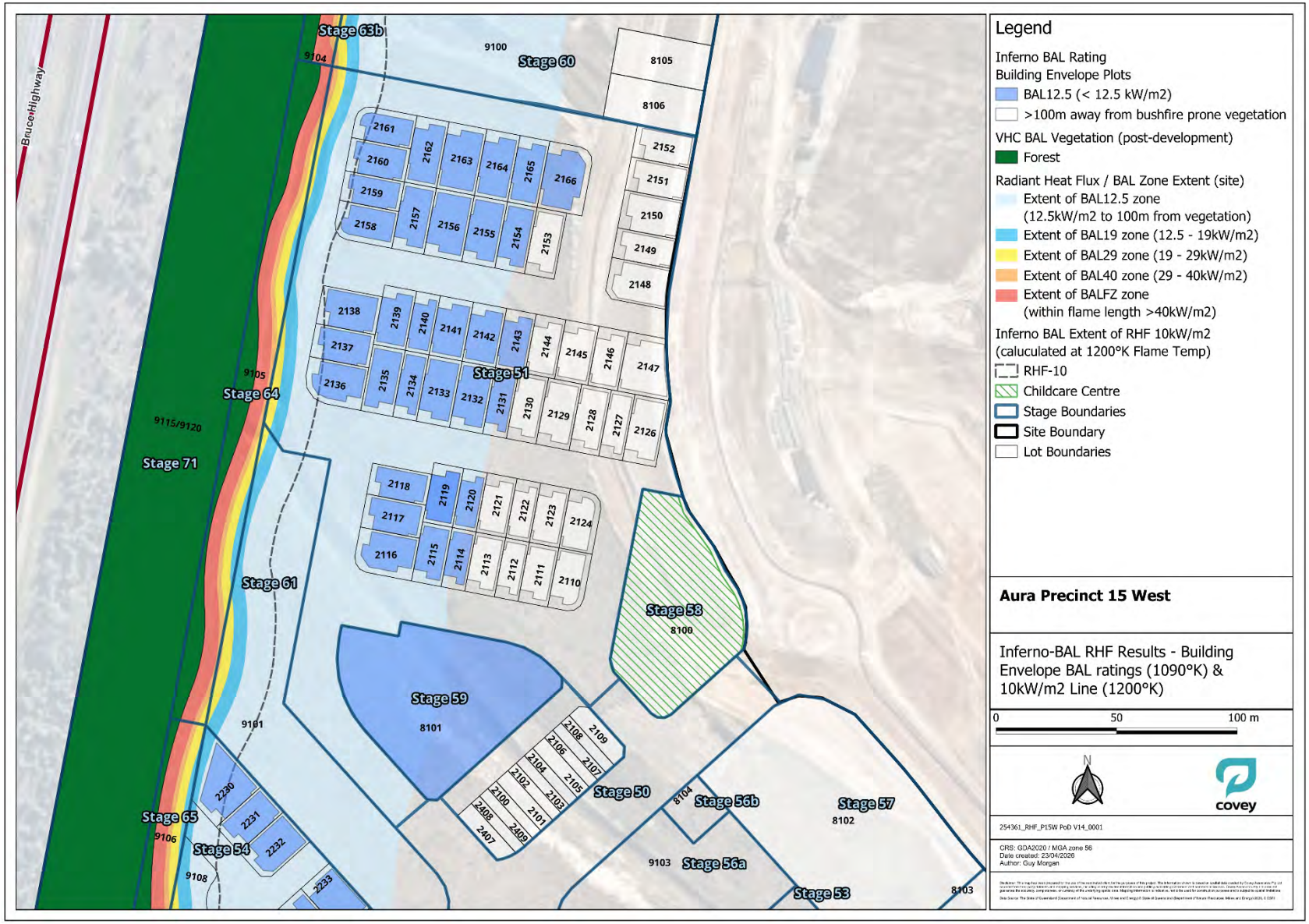
POINT 20

APPENDIX D

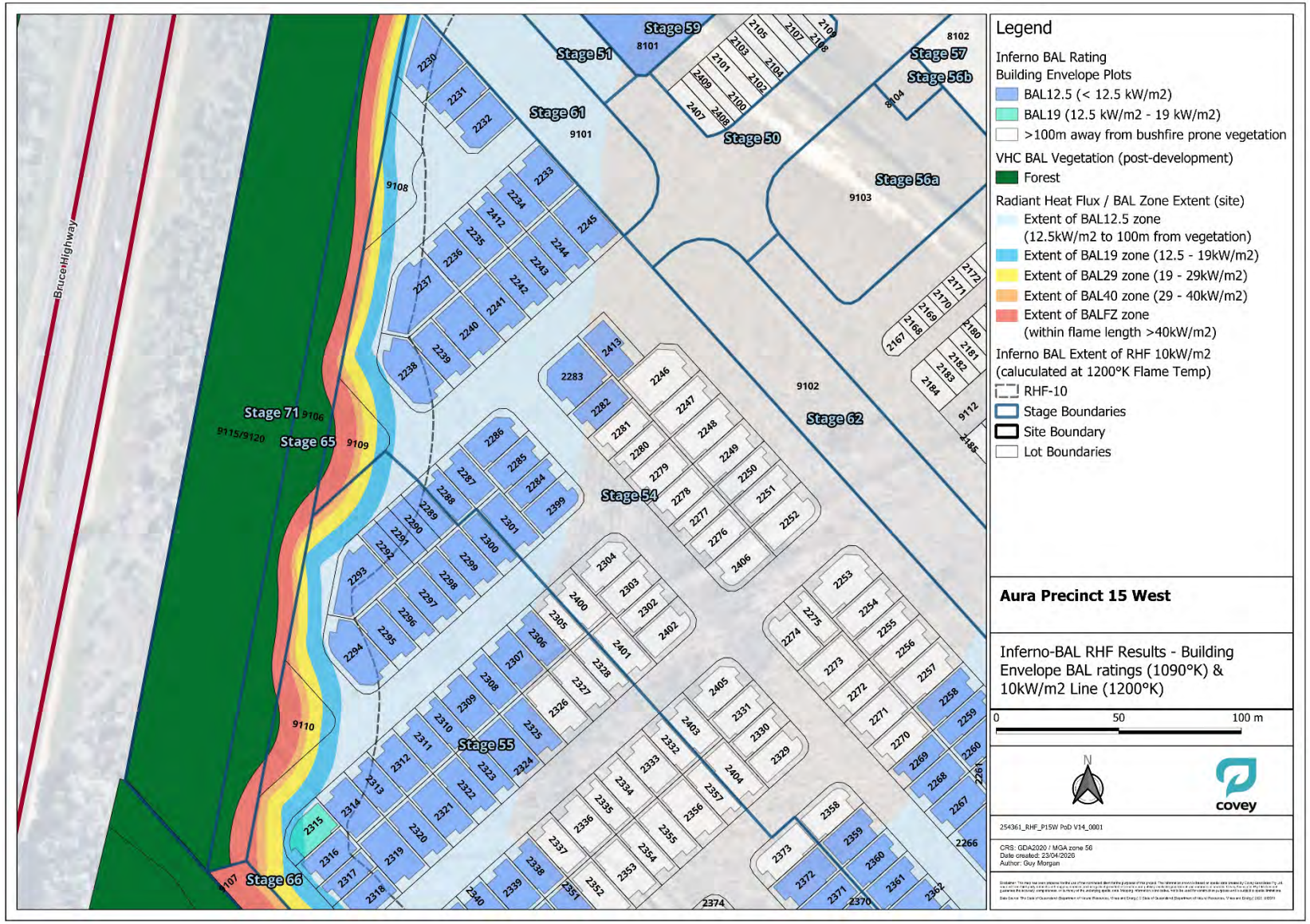
RHF MAPS FOR AURA PRECINCT 15 WEST



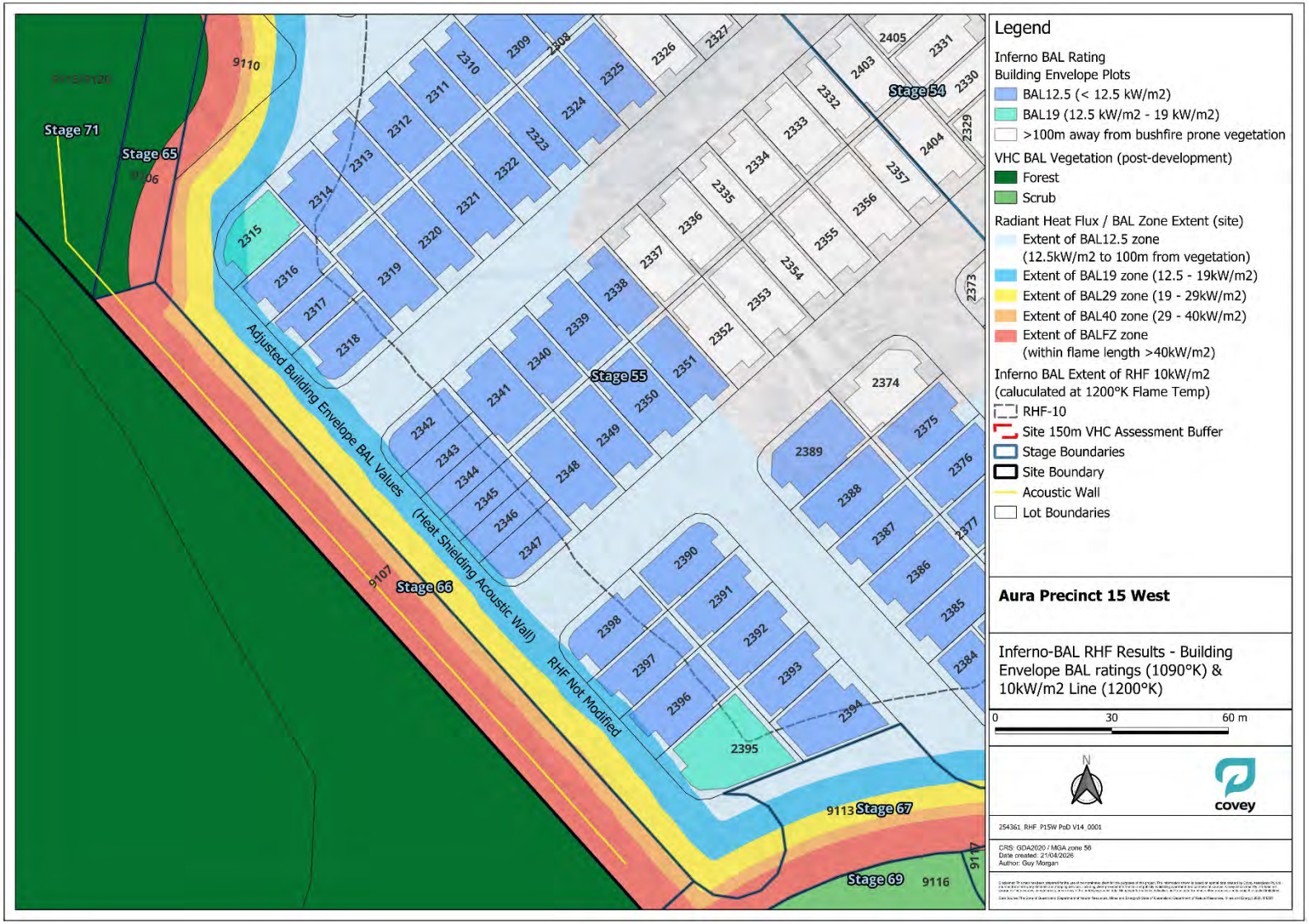
RHF Map Whole PoD



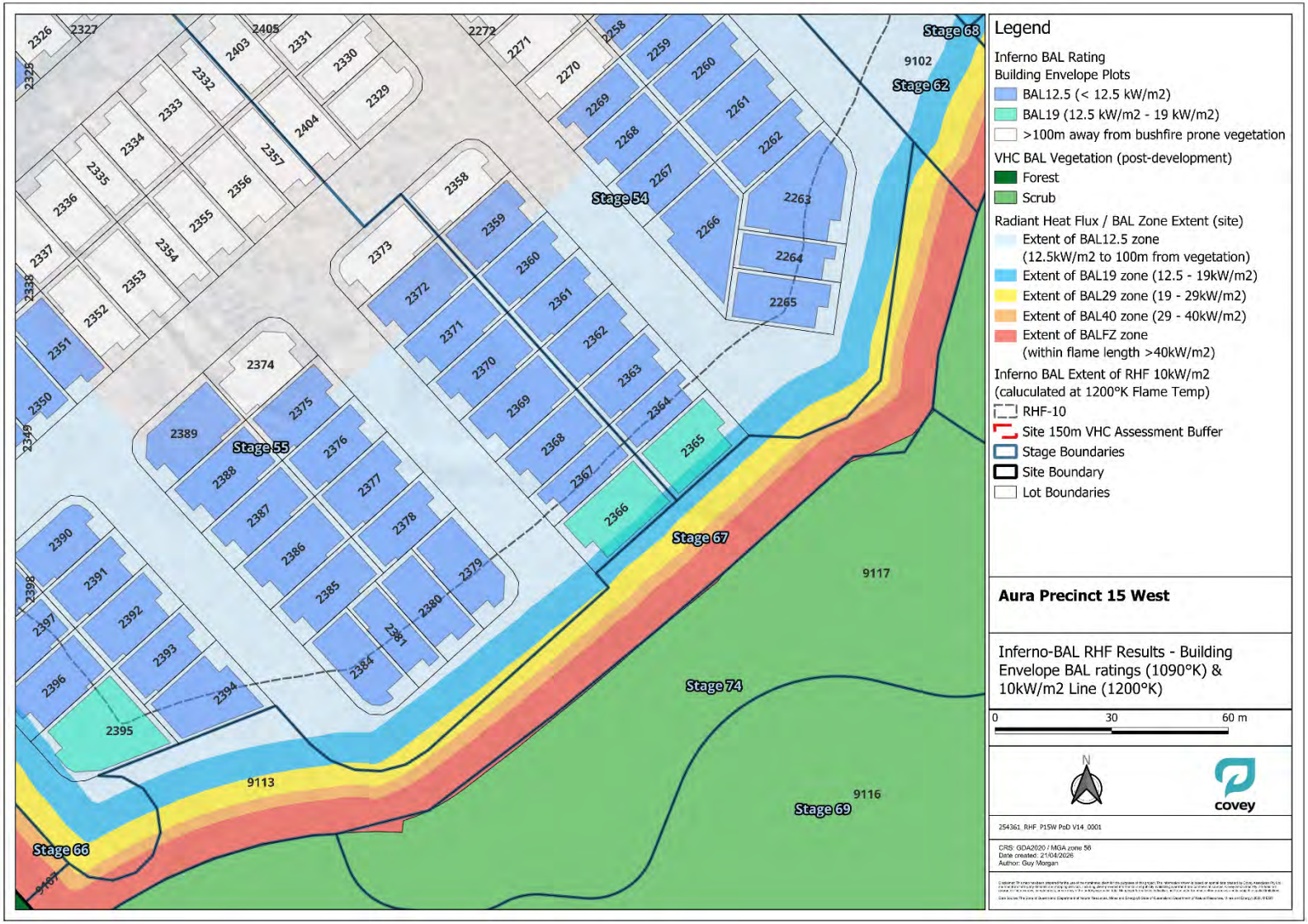
RHF MAP North


Legend
Inferno BAL Rating
Building Envelope Plots
BAL12.5 (< 12.5 kW/m2)
BAL19 (12.5 kW/m2 - 19 kW/m2)
>100m away from bushfire prone vegetation
VHC BAL Vegetation (post-development)
Forest
Radiant Heat Flux / BAL Zone Extent (site)
Extent of BAL12.5 zone
(12.5kW/m2 to 100m from vegetation)
Extent of BAL19 zone (12.5 - 19kW/m2)
Extent of BAL29 zone (19 - 29kW/m2)
Extent of BAL40 zone (29 - 40kW/m2)
Extent of BALFZ zone
(within flame length >40kW/m2)
Inferno BAL Extent of RHF 10kW/m2
(caluculated at 1200°K Flame Temp)
RHF-10
Stage Boundaries
Site Boundary
Lot Boundaries
Aura Precinct 15 West
Inferno-BAL RHF Results - Building Envelope BAL ratings (1090°K) & 10kW/m2 Line (1200°K)
0
50
100 m
N
covey
254361_RHF_P15W PoD V14_0001
CRS: GDA2020 / MGA zone 56
Date created: 23/04/2026
Author: Guy Morgan
Bruce Highway
Stage 59
Stage 51
Stage 61
Stage 50
Stage 57
Stage 56b
Stage 56a
Stage 62
Stage 71
Stage 65
Stage 54
Stage 55
Stage 66

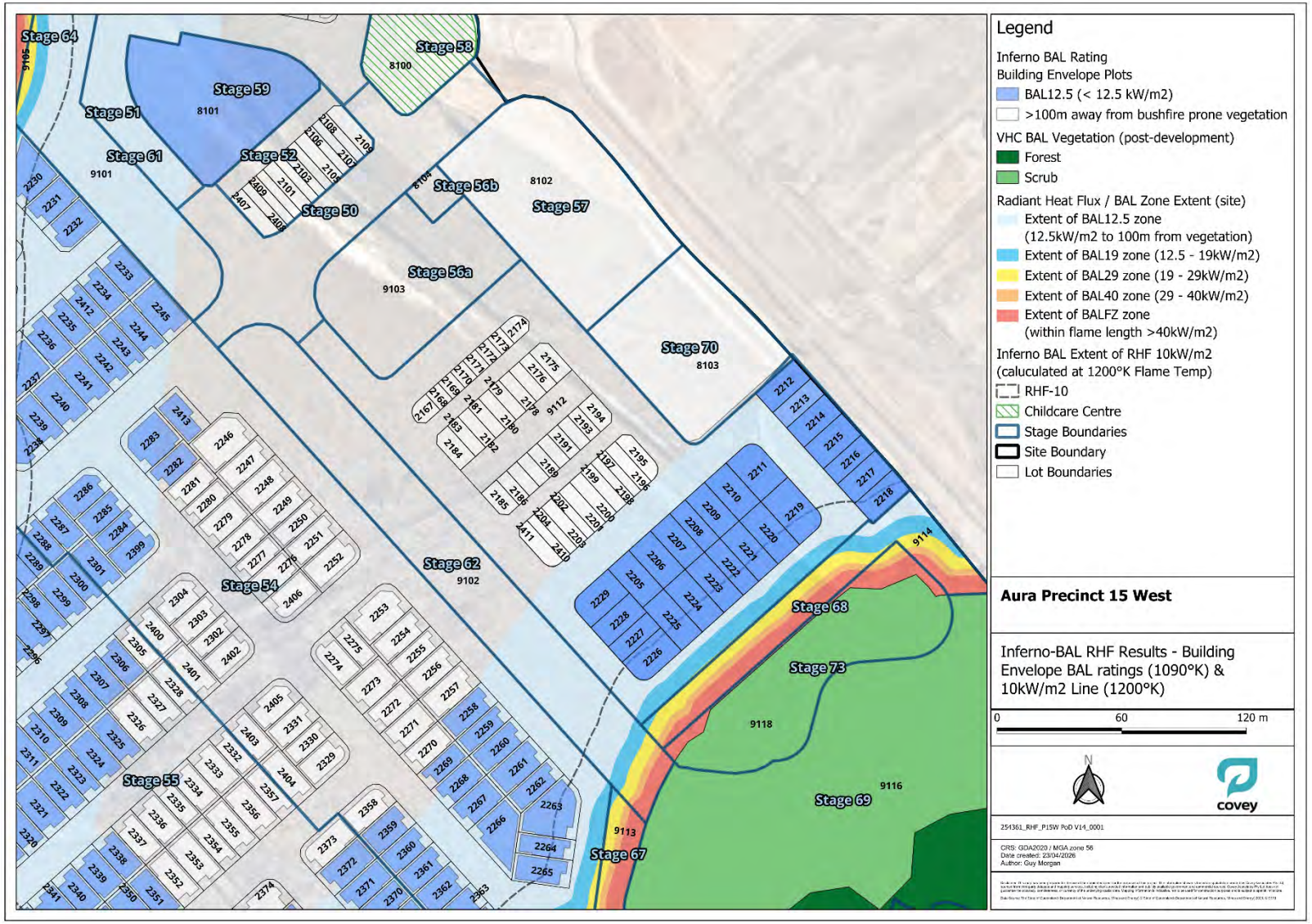
RHF Map West



RHF Map South-west



RHF Map South-east



RHF Map Central-east

APPENDIX E

APPROVED LANDSCAPE MASTER PLAN FOR AURA PRECINCT 15 WEST (RECOMMENDED SPECIES)

Recommended Lower Flammability Species	
Trees	**Ground Covers**
Alloxylon flammeum (not a local sp. from FNQ)	*Austromyrtus dulcis*
Cupaniopsis anacardioides	*Callistemon sp. (limit use)*
Elaeocarpus reticulatus	*Strelitzia reginae (not a local sp.)*
Flindersia australis	*Crinum pedunculatum*
Flindersia schottiana	*Hibbertia scandens*
Harpullia pendula	*Pandorea jasminoides*
Lophostemon confertus (limit use)	**Other local rainforest species may be suitable*

6.1 Planting Character - Trees

6.2 Planting Character - Understorey

APPENDIX F

SCHEDULE OF DRAWINGS FOR AURA PRECINCT 15 WEST

(REVISION E)

SCHEDULE OF DRAWINGS

LANDSCAPE COVER SHEET	PLACE-LS-DRW-P15W-STG61&62_000
LANDSCAPE SPECIFICATION NOTES	PLACE-LS-DRW-P15W-STG61&62_001
LANDSCAPE MAINTENANCE NOTES	PLACE-LS-DRW-P15W-STG61&62_002
LANDSCAPE LEGENDS & SCHEDULES	PLACE-LS-DRW-P15W-STG61&62_003
LANDSCAPE SCHEDULES	PLACE-LS-DRW-P15W-STG61&62_004
LANDSCAPE SCHEDULES	PLACE-LS-DRW-P15W-STG61&62_005
LANDSCAPE SURFACE FINISH PLANS	PLACE-LS-DRW-P15W-STG61&62_201
	PLACE-LS-DRW-P15W-STG61&62_202
	PLACE-LS-DRW-P15W-STG61&62_203
	PLACE-LS-DRW-P15W-STG61&62_204
	PLACE-LS-DRW-P15W-STG61&62_205
	PLACE-LS-DRW-P15W-STG61&62_206
	PLACE-LS-DRW-P15W-STG61&62_207
	PLACE-LS-DRW-P15W-STG61&62_208
	PLACE-LS-DRW-P15W-STG61&62_209
LANDSCAPE PLANTING PLANS	PLACE-LS-DRW-P15W-STG61&62_601
	PLACE-LS-DRW-P15W-STG61&62_602
	PLACE-LS-DRW-P15W-STG61&62_603
	PLACE-LS-DRW-P15W-STG61&62_604
	PLACE-LS-DRW-P15W-STG61&62_605
	PLACE-LS-DRW-P15W-STG61&62_606
	PLACE-LS-DRW-P15W-STG61&62_607
	PLACE-LS-DRW-P15W-STG61&62_608
	PLACE-LS-DRW-P15W-STG61&62_609
LANDSCAPE SECTIONS	PLACE-LS-DRW-P15W-STG61&62_801
LANDSCAPE HARDSCAPE DETAILS	PLACE-LS-DRW-P15W-STG61&62_901
LANDSCAPE SOFTSCAPE DETAILS	PLACE-LS-DRW-P15W-STG61&62_902
LANDSCAPE FENCE DETAILS	PLACE-LS-DRW-P15W-STG61&62_907