



Metro Outer Joint Development Assessment Panel Agenda

Meeting Date and Time: Thursday, 29 July 2021; 10:00am
Meeting Number: MOJDAP/110
Meeting Venue: Shire of Murray
1915 Pinjarra Road, Pinjarra

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Attendance

DAP Members

Mr Ian Birch (Presiding Member)
Mr Tony Arias (A/Deputy Presiding Member)
Mr John Syme (A/Third Specialist Member)
Cr David Bolt (Local Government Member, Shire of Murray)
Cr Casey Rose (Local Government Member, Shire of Murray)

Officers in attendance

Item 8.1a

Mr Greg Delahunty (Shire of Murray)

Item 8.1b

Mr Arran Sutherland (Western Australian Planning Commission)

Minute Secretary

Ms Mary-Ann Toner (Shire of Murray)

Applicants and Submitters

Mr David Maiorana (Harley Dykstra)

Members of the Public / Media

Nil.

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

2. Apologies

Ms Sheryl Chaffer (Deputy Presiding Member)
Mr Jason Hick (Third Specialist Member)

3. Members on Leave of Absence

Nil.

4. Noting of Minutes

Signed minutes of previous meetings are available on the [DAP website](#).

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.



6. Disclosure of Interests

Member	Item	Nature of Interest
Cr Casey Rose	8.1	Impartiality Interest – Purchased a roll of hay from landowner in 2017. Landowner advertises hay for sale to general public on local social media pages.

7. Deputations and Presentations

- 7.1** Mr David Woo (G & G Corp Pty Ltd) provided a written submission against the recommendation for the application at Item 8.1. The submission addresses the Shire not addressing the affect the extension will have on the adjoining and surrounding land, the Nitrogen risk and the impact of the Peel Harvey Coastal Plain Catchment.
- 7.2** Mr David Maiorana (Harley Dykstra) presenting in support of the recommendation for the application at Item 8.1. The presentation will address confirmation of Applicant's support for the Responsible Authority Report recommendations as set out in item 8.1a (Local Government) and 8.1b (WAPC) and acceptance of proposed conditions. Applicant's availability to respond to questions on the proposal if required.

The Shire of Murray and Western Australian Planning Commission may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1a Lots 71, 72, 73 Corio Road, Ravenswood

Development Description: Proposed Intensive Agriculture (Poultry farm)
 Applicant: Harley Dykstra Pty Ltd
 Owner: Teresa Anne & Robert John Clayton (Lots 71& 72)
 Sprock Group Pty Ltd (Lot 73)
 Responsible Authority: Shire of Murray
 DAP File No: DAP/21/01966

8.1b Lots 71, 72, 73 Corio Road, Ravenswood

Development Description: Intensive Agriculture - Expansion of poultry farm
 Applicant: Harley Dykstra Pty Ltd
 Owner: Teresa Anne & Robert John Clayton
 Sprock Group Pty Ltd
 Responsible Authority: Western Australian Planning Commission
 DAP File No: DAP/21/01966



9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil.

10. State Administrative Tribunal Applications and Supreme Court Appeals

Current SAT Applications				
File No. & SAT DR No.	LG Name	Property Location	Application Description	Date Lodged
DAP/19/01708 DR 138/2020	City of Kwinana	Lot 108 Kwinana Beach Road, Kwinana	Proposed Bulk Liquid Storage for GrainCorp Liquid Terminals	01/07/2020
DAP/01729 DR 176/2020	City of Kalamunda	Lot 130 (74) Warlingham Drive, Lesmurdie	Aged Residential Care Facility	28/8/2020
DAP/20/01764 DR 204/2020	City of Swan	Lot 780 (46) Gaston Road, Bullsbrook	Proposed Stock Feed Grain Mill	8/09/2020
DAP/20/01829 DR 001/2021	City of Swan	Lot 1 (42) Dale Road & Lot 4 (43) Yukich Close, Middle Swan	Aged care and community purpose	08/01/2021
DAP/21/01952 DR 096/2021	City of Rockingham	Lot 265 (40) Talisker Bend, Golden Bay	Mixed commercial development	14/05/2021

11. General Business

In accordance with Section 7.3 of the DAP Standing Orders 2020 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

12. Meeting Closure



Presentation Request Form

[Regulation 40\(3\)](#) and [DAP Standing Orders 2020](#) cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	David Woo
Company (if applicable)	G & G Corp Pty Ltd
Please identify if you have any special requirements:	YES ☐ NO ☒ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer JDAP
Meeting Date	29 July 2021
DAP Application Number	DAP/21/01966
Property Location	Lots 71, 72, 73 Corio Road, Ravenswood
Agenda Item Number	8

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	YES ☒
Is the presentation in support of or against the <u>report recommendation</u> ? (<i>contained within the Agenda</i>)	SUPPORT ☐ AGAINST ☒
Is the presentation in support of or against the <u>proposed development</u> ?	SUPPORT ☐ AGAINST ☒
Will the presentation require power-point facilities?	YES ☐ NO ☒ If yes, please attach



Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	<i>The presentation will address:</i> 1. The Shire's RAR has failed to address the Poultry Farm Extension will adversely affect land uses that can be allowed to occur on the adjoining and surrounding properties in the Rural Zone in Table 1 – Zoning Table of the Shire of Murray LPS 4. These land uses are beneficial for the local community, district, and the Peel region. But the proposed development would prevent them from going ahead because they are within 1000m from the proposed Poultry Farm. The affected land uses are:<table><tr><td>Ancillary Accommodation</td><td>Chalet Park</td></tr><tr><td>Caretaker's Dwelling</td><td>Caravan Park</td></tr><tr><td>Home Business</td><td>Camping Area</td></tr><tr><td>Home Office</td><td>Bed and Breakfast</td></tr><tr><td>Home Occupation</td><td>Park Home Park</td></tr><tr><td>Rural Workers's Dwelling</td><td>Licensed Restaurant</td></tr><tr><td>Single House</td><td>Winery</td></tr><tr><td>Shop</td><td>Family Day Care</td></tr><tr><td>Restaurant Café</td><td></td></tr></table> The RAR asserts that the adjoining properties have sufficient land area within their properties and can therefore drag services 800-900 metres from Corio Road to accommodate their developments, including building a single house. What a ridiculous response that is to allow one development to occur at the expense of all other adjoining properties. We don't want to stop development in the area but we don't want this development to affect and stop us from doing what we want to do on our land. The scale of the proposed development on the relatively small parcels of landholdings is unreasonable and inappropriate. The development will have a negative impact on the adjoining properties, the environment and adversely affect the estuary through Nitrogen loading. 2. The proposal Poultry Farm Extension will generate large amount of Nitrogen from the chicken waste and will have a very high risk of leaching into the water table and groundwater contaminating the estuary. The proposed development has failed to adequately address this issue. It is not just the noise, dust, and odour issues that the development will generate. The protection of and the impact the development will have on the Peel Harvey Coastal Plain Catchment area is barely mentioned in the	Ancillary Accommodation	Chalet Park	Caretaker's Dwelling	Caravan Park	Home Business	Camping Area	Home Office	Bed and Breakfast	Home Occupation	Park Home Park	Rural Workers's Dwelling	Licensed Restaurant	Single House	Winery	Shop	Family Day Care	Restaurant Café	
Ancillary Accommodation	Chalet Park																		
Caretaker's Dwelling	Caravan Park																		
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Home Occupation	Park Home Park																		
Rural Workers's Dwelling	Licensed Restaurant																		
Single House	Winery																		
Shop	Family Day Care																		
Restaurant Café																			



	RAR. 3. We strongly object to the proposed Poultry Farm Extension because it has failed to adequately address the sterilisation of land uses that would otherwise be allowed on the surrounding properties and the loading of Nitrogen into the environment and the groundwater system potentially undermining the Peel Harvey Coastal Plain Catchment area that the Government through the WAPC and other government agency have fought so hard to protect.

In accordance with Clause 3.5.2 of the [DAP Standing Orders](#), your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Click or tap here to enter text.



Presentation Request Form

[Regulation 40\(3\)](#) and [DAP Standing Orders 2020](#) cl. 3.5

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Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	David Maiorana
Company (if applicable)	Harley Dykstra
Please identify if you have any special requirements:	YES ☐ NO ☒ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	MOJDAP
Meeting Date	29 July 2021
DAP Application Number	DAP/21/01966
Property Location	Lots 71, 72 & 73 Corio Road, Ravenswood
Agenda Item Number	8.1a & 8.1b

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	YES ☒
Is the presentation in support of or against the <u>report recommendation</u> ? (<i>contained within the Agenda</i>)	SUPPORT ☒ AGAINST ☐
Is the presentation in support of or against the <u>proposed development</u> ?	SUPPORT ☒ AGAINST ☐
Will the presentation require power-point facilities?	YES ☐ NO ☒ If yes, please attach



Presentation Content*

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Brief sentence summary for inclusion on the Agenda	<i>The presentation will address:</i> - Confirmation of Applicant's support for the Responsible Authority Report recommendations as set out in item 8.1a (Local Government) and 8.1b (WAPC) and acceptance of proposed conditions. - Applicant's availability to respond to questions on the proposal if required.
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In accordance with Clause 3.5.2 of the [DAP Standing Orders](#), your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Good morning Panel members and staff. Thank you for the opportunity to attend this meeting today and address the JDAP in relation to the proposed poultry farm expansion at Lots 71, 72 & 73 Corio Road in Ravenswood.

I intend keeping my presentation very brief, as I understand all relevant information pertaining to this matter has been provided to the JDAP and comprehensive Responsible Authority Reports have been prepared by the Shire of Murray and DPLH.

As detailed in the Reports, the proposal is to develop a substantial poultry farm for meat birds on the site which will replace an existing smaller scale facility.

The development has been carefully planned having regard to the relevant statutory, policy and environmental guidance framework and is supported by detailed planning, environmental, traffic and bushfire justification. In short, the proposal is consistent with the zoning of the land under both the region and local planning schemes and can be developed and operated in a manner that will not bring about any significant environmental or amenity impact within the locality.

We have reviewed and are satisfied with the recommendations of the Responsible Authority Reports prepared by the Shire of Murray and DPLH, including the proposed conditions.

On this basis, the JDAP's support for the proposal is respectfully requested. Should there be any questions regarding the proposal that will assist the JDAP in its consideration of the application, I would be happy to respond to these.

Thank you

David Maiorana | Town Planner

Form 1: Responsible Authority Report

(Regulation 12)

CORIO ROAD, (LOTS 71,72 &73) RAVENSWOOD – PROPOSED INTENSIVE AGRICULTURE (POULTRY FARM)

Form 1 – Responsible Authority Report

(Regulation 12)

DAP Name:	Metro Outer	
Local Government Area:	Shire of Murray	
Applicant:	Harley Dykstra	
Owner:	Teresa Anne & Robert John Clayton (Lots 71& 72) Sprock Group Pty Ltd (Lot 73)	
Value of Development:	\$12 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	Local Government	
Authorising Officer:	Manager Planning Services	
LG Reference:	P047/2021	
DAP File No:	DAP/21/01966	
Application Received Date:	30/3/21	
Report Due Date:	16 June 2021	
Application Statutory Process Timeframe:	90 Days with additional 30 days agreed	
Attachment(s):	1. Revised Development Plans 2. Revised Land Use Context Plan 3. Development application submission including: • Development Plans (superseded) • Environmental Assessment and Management Plan • Bushfire Management Plan • Transport Impact Statement 4. Agency Submissions 5. Objection	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer Joint Development Assessment Panel resolves to:

Approve DAP Application reference DAP/21/01966 and accompanying plans:

- Development Site Plan, 22533-01, 17 June 2021
- Section Plan, 22533-04, 15 June 2021
- Fill Requirements Pod 1, 22533-05, 17 June 2021
- Fill Requirements Pod 2, 22533-06, 17 June 2021
- Planview and Elevations, Sheet 1/9, 2 February 2021
- Elevation and Schedule and Detail, Sheet 2/9, February 2021
- Section and Detail, Sheet 3/9, February 2021
- Overview, Sheet 4/9, February 2021
- TYP Portal Detail, Sheet 5/9, February 2021
- TYP Post Detail, Sheet 6/9, February 2021
- TYP Beam Detail, Sheet 7/9, February 2021
- TYP Coolcell Beam Detail, Sheet 8/9, February 2021
- Drop Post and General Notes, Sheet 9/9, February 2021

in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions the Shire of Murray *Local Planning Scheme No. 4*, subject to the following conditions:

Conditions

1. This decision constitutes development approval only and is valid for a period of four (4) years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
2. Prior to applying for a Building Permit, detailed engineering plans and specifications are to be submitted to and approved by the Local Government for the vehicle access points from Corio Road. The vehicle access points include the crossover, first 20 metres of driveway within the lot and the portion of Corio Road adjacent to the crossover.

The access points must be constructed in accordance with the approved plans prior to the occupation of the development.

3. Prior to applying for a Building Permit, arrangements must be made to the satisfaction of the Local Government for the amalgamation of lots 71, 72 and 73 Corio Road, Ravenswood into one Certificate of Title.

The amalgamation must be completed prior to occupation of the development.

4. The finished floor level of each poultry shed is to be at least two metres higher than the maximum ground water level of the site.

5. Prior to applying for a Building Permit, a Landscaping Plan to the satisfaction of the Local Government must be prepared and must include the following detail:

- (i) the location, number and type of existing and proposed trees and shrubs, including calculations for the landscaping area;
- (ii) any lawns to be established and areas to be mulched;
- (iii) any natural landscape areas to be retained; and
- (iv) those areas to be reticulated or irrigated.

The landscaping plan must be implemented in accordance with the approved landscape plan prior to the occupation of the development, and must be maintained at all times to the satisfaction of the Local Government for the duration of the development.

6. Prior to applying for a Building Permit, a Waste Management Plan must be submitted and include the following detail to the satisfaction of the Local Government:

- (i) the location of waste storage areas and waste collection areas;
- (ii) Sealed concrete floor pads to the poultry sheds and wash down water that is directed to a treatment system;
- (ii) the number, volume and type of bins, and the type of waste to be placed in the bins;
- (iii) management of the waste storage areas, including cleaning, rotation and moving waste to and from the collection areas;
- (iv) procedures for dealing with dead animals;
- (v) location for off-site waste disposal;
- (iv) contingencies actions in the event of a contamination event; and
- (iv) frequency of waste collection.

All works must be carried out in accordance with the approved Waste Management Plan and maintained at all times, for the duration of development.

7. Prior to applying for a Building Permit, a Stormwater Management Plan must be prepared by a suitably qualified engineer showing how stormwater will be contained on-site and those plans must be submitted to the Local Government for its approval.

The approved plans must be implemented and all works must be maintained for the duration of the development.

8. The carpark must:
 - (i) provide a minimum of seven (7) spaces designed, constructed, sealed, kerbed, drained and marked in accordance with Australian/New Zealand Standard AS/NZS 2890.1:2004, Parking facilities, Part 1: Off-street car parking prior to applying for a Building Permit;
 - (ii) include one (1) car parking space(s) dedicated to people with disabilities, which are designed, constructed, sealed, kerbed, drained and marked in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009, Parking facilities, Part 6: Off-street parking for people with disabilities and which are linked to the main entrance of the development by a continuous accessible path of travel designed and constructed in accordance with Australian Standard AS 1428.1—2009, Design for access and mobility, Part 1: General Requirements for access—New building work;
 - (iii) be constructed, sealed, kerbed, drained and marked prior to the development being occupied and maintained thereafter; and
 - (iv) comply with the above requirements for the duration of the development.
9. Earthworks over the site associated with the development must be stabilised to prevent sand or dust blowing off the site, and appropriate measures must be implemented within the time and in the manner directed by the Local Government in the event that sand or dust is blown from the site.
10. Prior to the occupation of the development the owner responsibilities identified in section 5.1 of the Bushfire Management Plan prepared by Envision Bushfire Protection dated February 2021 are to be implemented to the satisfaction of the Local Government. Compliance with the requirements of this Bushfire Management Plan are required for the duration of the development.
11. The Management Strategies contained within the Environmental Assessment and Management Plan - Lots 71, 72 & 73 Corio Road, Ravenswood, prepared by Aurora Environmental dated 17 March 2021, are to be implemented to the satisfaction of the Local Government for the duration of the development.

Advice Notes

1. With regard to the proposed vehicle access points, the Corio Road pavement will be required to be upgraded and sealed to accommodate the turning movements of the proposed service vehicles and the crossover and first 20 metres inside the lot constructed to a sealed standard.
2. The applicant is advised to contact Dial Before You Dig on 1100, or APA directly on APAprtection@apa.com.au prior to undertaking any physical works on property containing or proximate to a pipeline.
3. The applicant is to advised that the proposal is located within the Peel-Harvey coastal plain catchment and the provision of the Environmental Protection (Peel Inlet– Harvey Estuary) Policy 1992 and the Statement of Planning Policy No 2.1, Peel- Harvey Coastal Plain Catchment (SPP 2.1) apply.

4. The proposed activity shall comply with the Environmental Code of Practice for Poultry Farms in Western Australia (Department of Environment, 2004) and Code of Practice for Poultry in Western Australia (Department of Agriculture and Department of Local Government and Regional Development, 2003).

This includes, but not limited to:

- shed location, design and construction including sealed concrete pads,
- management of waste, litter and manure,
- wash down water directed to treatment system,
- storage and handling of toxic and hazardous substances, and
- monitoring and reporting.

5. Under section 51C of the Environmental Protection Act 1986 (EP Act), clearing of native vegetation is an offence unless undertaken under the authority of a clearing permit, or the clearing is subject to an exemption. Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside of environmentally sensitive areas (ESAs) are contained in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations).

Proposed clearing outside of the ESA for the buildings is likely to be exempt under Regulation 5, Item 1, however should any clearing be required for the buildings located within the mapped ESA, a clearing permit would be required.

6. The subject area is located in the Murray groundwater area (Nambelup subarea) as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater abstraction in this proclaimed area for purposes other than domestic and/or stock watering taken from the superficial aquifer, is subject to licensing by the Department including water to irrigate paddocks.
7. The applicant is advised to assess and mitigate potential accidental pesticide spray drift from the vegetable farm immediately south of the proposed sheds.
8. The proposal is required to comply with Australian Standard 4465: 2006 – Australian Standard for Construction of Premises and Hygienic Production of Poultry Meat for Human Consumption.

The proponents are required to: provide a scale drawing of the premises showing all fittings, amenities and surrounds; to be audited by the Department of Health for compliance with AS 4465: 2006; and ensure parties responsible for managing the Food Safety Plan are trained in HACCP procedures.

9. The applicant is advised that the Department of Health is to conduct a building assessment prior to commencement of production.
10. No works within the Parmelia Pipeline easement are to be commenced without an APA Group representative onsite.
11. No stockpiles or storage of material is to be permitted on the Parmelia Pipeline easement at any time.

12. All plans which include the area of the Parmelia Pipeline easement should have the pipeline easement clearly identified with hatching. The area must also be clearly labelled as 'high pressure gas pipeline right of way – no works to occur without the prior authorisation of the pipeline operator'.

Details: outline of development application

Region Scheme	Peel Region Scheme
Region Scheme - Zone/Reserve	Rural
Local Planning Scheme	Shire of Murray Local Planning Scheme No.4
Local Planning Scheme - Zone/Reserve	Rural
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Intensive Agriculture (AA)
Lot Size:	Lot 71 – 40HA Lot 72 – 41.4HA Lot 73 – 40HA
Existing Land Use:	Intensive Agriculture (Poultry Farm)
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

The application proposes a new broiler poultry operation on the subject land. The development includes:

- Removal of the three (3) existing poultry sheds;
- Construction of 12 tunnel ventilated sheds (16.2m x 176.2m) in two separate pods each comprising six sheds (34,848m² of sheds in total). The pods will be separated by 272m and have been sited at least 1km from any sensitive land uses;
- Provision of two gas tanks;
- Provision of an additional crossover to Corio Road and internal access driveways to service the sheds;
- Landscaping/vegetation screening adjacent to Corio Road; and
- Retention of existing ancillary buildings and infrastructure within the central part of Lot 72.

A brief overview of the poultry farm operations:

- Operate 24/7 with up to six staff during the day;
- On-site manager to reside in the existing house on-site;
- Each new shed will house 50,000 birds at any one time with 5.5 batches of birds per year. This will result in the production of approximately 3.3 million birds per annum;
- Overall batch cycle occurs over approximately 58 days; and
- The poultry farm will operate as a closed system i.e. there will be no nutrient export to the environment.

The application includes an Environmental Assessment and Management Plan proposing mitigation strategies for off-site noise, dust and odour impacts.

Background:

The site currently accommodates a free-range poultry farm comprising three sheds capable of producing 48,000 meat birds (per batch) for the broiler market. The majority of structures on site are located on the central part of Lot 72.

In addition to the three poultry sheds, existing development includes two smaller sheds, a concrete pad, a workshop with a cool room, an amenities building, water tanks and other incidental structures associated with the existing poultry farm operation.

An existing dwelling is located on the northern part of Lot 73

The surrounding area is predominantly characterised by rural zoned land with agricultural operations. There is group of Farmlet zoned lots (approx.. 10Ha) to the South West and Special Use (Tourist Accommodation) to the North East of the site. The poultry facilities have been sited to maintain a 1,000m buffer to sensitive uses on these sites (see attachment 2 – Landuse Context Plan).

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Peel Region Scheme (PRS)
- Planning and Development (Local Planning Schemes) Regulations 2015 (Regulations).
- Shire of Murray Local Planning Scheme No.4 (LPS4).

State Government Policies

- Priority Agricultural and Rural Land Use Policy
- State Planning Policy 2.1 Peel-Harvey Coastal Plain Catchment (SPP2.1)
- State Planning Policy 2.5 – Rural Planning (SPP2.5)
- State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP3.7)
- EPA GS3 – Separation Distances between Industrial and Sensitive Land Uses (GS3)
- WAPC Fact Sheet – Poultry Farms
- Environmental Code of Practice for Poultry Farms in Western Australia 2004 (Code of Practice)
- Code of Practice for Poultry in Western Australia 2003

- Planning for the Proposed Peel Food Zone

Local Policies

- Shire of Murray Local Rural Strategy
- Nambeelup/North Dandalup Local Rural Strategy
- General Development Provisions Building Setbacks Car Parking Standards

Consultation:

Public Consultation

The poultry facilities have been sited to maintain a 1,000m buffer to sensitive premises. As such, public advertising of the proposal was not considered to be necessary. Notwithstanding the Shire's decision not to advertise the proposal, a nearby landowner lodged an objection with the DAP Secretariat. The Shire's response to this submission is summarised in the table below:

Issue Raised	Officer comments
Decision not to advertise the application	Intensive Agriculture is a discretionary land use under LPS4, that may be advertised at the discretion of the Local Government. Given that the poultry facilities have been sited to maintain a 1,000m buffer to sensitive premises, which meets the most stringent generic buffer distance contained within the EPA's GS3, it was decided that public advertising of the application was not warranted.
Sterilisation of sensitive land uses with within a 1000m buffer	As discussed in the planning assessment below, the proposed development has been sited sensitively and is an appropriate use of land within the Rural Zone. It is acknowledged that there is an ability, within the Rural Zone, to approve a range of sensitive land uses, however, it is highlighted that the policy intent of SPP2.5 is to protect and preserve WA's rural land due to the importance of its economic and food production values. SPP2.5 essentially gives primacy to agricultural uses, provided that the ability to develop a single house on an adjoining lot is not extinguished. It is noted that there is sufficient space on the objector's land, and all surrounding landholdings, to provide a single house, outside of the 1000m buffer. Other sensitive land uses, that are discretionary under LPS4, would be considered on their merits against the planning framework, should an application be received.

Referrals/consultation with Government/Service Agencies

Department of Water and Environment Regulation (DWER)

DWER identified that a Conservation Category Wetland (CCW) is located along the northern boundary of the development area and that there is also a Resource Enhancement Wetland (REW) within the proposal area. It was, however, acknowledged that the area no longer supports wetland values commensurate with a CCW. DWER also provided advice relating to the Peel Harvey Coastal Plain Catchment, the Environmental Code of Practice for Poultry Farms, Acid Sulfate Soils, Native Vegetation, Groundwater Licencing and Flood plain Management
<u>Shire Comment</u> Apply relevant advice notes.
Department of Biodiversity, Conservation and Attractions (DBCA)
It was acknowledged by DBCA that the portion of the property currently mapped as a Conservation category wetland (CCW) no longer supports wetland values commensurate with a CCW.
<u>Shire Comment</u> Noted.
Department of Primary Industries and Regional Development (DPIRD)
DPIRD noted that irrespective of the fact that the Poultry Farm is proposed to operate as a closed system, that the Code of Practice requires poultry facilities should be established on elevated sites, more than two metres above the maximum recorded groundwater table. DPIRD also requested that a Waste Management Plan (WMP) and a Stormwater Management Plan (SMP) be provided in support of the development. DPIRD reiterated DWER's comments relating to the presence of the CCW on site.
<u>Comment</u> The applicant has submitted amended plans demonstrating sufficient separation to groundwater. Should the development be approved, conditions relating to a WMP and a SMP are recommended. The matter of the wetland has been dealt with in the DWER response.
The APA Group
The APA Group advised that the that the proposed development will not require a Pipeline Risk Assessment. The APA Group does not object to the proposal subject to the application of conditions and advice notes relating to the exclusion of development from within gas pipeline easement.

<u>Comment</u>

Should the development be approved, it is recommended that the APA Group's conditions and advice notes be applied.
--

Design Review Panel Advice

Not applicable.

Other Advice

Not applicable.

Planning Assessment:

The proposal has been assessed against all the relevant legislative requirements of the Scheme, State and Local Planning Policies outlined in the Legislation and Policy section of this report. The following matters have been identified as key considerations for the determination of this application:

- Potential land use conflict;
- Access and parking;
- Bushfire; and
- Landscaping.

These matters are outlined and discussed below.

Land Use Conflict

The land is zoned Rural under the Shire's LPS4 and the PRS. It is therefore considered to be an appropriate site to conduct a rural activity. It is accepted that poultry farms may have off-site impacts, however, the proposed facilities have been sited thoughtfully, limiting impacts on existing sensitive premises. It should be noted that the GS3 buffer is generic rather than statutory, and that no lot in the vicinity of the development will be completely consumed by the most restrictive buffer. It is also recognised that a number of management measures are proposed that will mitigate off-site impacts.

The prevailing planning framework recognises the importance of protecting land for primary agricultural purposes, with the subject site being identified as a suitable for this purpose under a number of policy documents. As such, it is considered that no land use conflicts will eventuate from this development.

Access and Parking

The existing and proposed access points from Corio Road will have to be upgraded to accommodate service vehicles entering and exiting the site. A condition has been recommended to this effect.

Given that this is a commercial operation, it will be necessary to formalise the proposed parking arrangement. It is therefore recommended that six car parking bays be provided, to accommodate staff, as well as one accessible bay, which is required to be provided to meet the requirements of the National Construction Code.

Bushfire

The submitted Bushfire Management Plan demonstrates that the proposed development will comply with the requirements of SPP3.7. A condition has been recommended that the proponent's responsibilities in the BMP be implemented.

Landscaping

The application provides an intent to landscape the site in order to soften the visual impacts to Corio Road and surrounding properties. A condition is therefore recommended requiring the implementation of a detailed landscaping plan.

Conclusion:

The subject development is an appropriate use of rural zoned land that will contribute materially to the district's rural economy. It has been sited to limit off site impacts and proposes a number of strategies to ensure that the established amenity of the area is maintained.

It is compliant with the planning framework and supported subject to the recommended conditions.

Alternatives

The JDAP may wish to refuse this application and provide sufficient reasons for doing so.

LEGEND	
	Subject Land (121.4832ha)
	Existing Easements
	Existing Structures
	Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)
	Resource Enhancement Wetland
	Indicative Resource Enhancement Wetland buffer (30m)
	Overhead Electricity (DBYD)
	Underground Electricity (DBYD)
	Proposed Poultry Sheds
	Proposed Silos
	Vegetation screening in accordance with requirements of the Bushfire Management Plan
	Ventilation Fans
	6m Access Driveway (Compacted road base)
	Bitumen sealed crossover

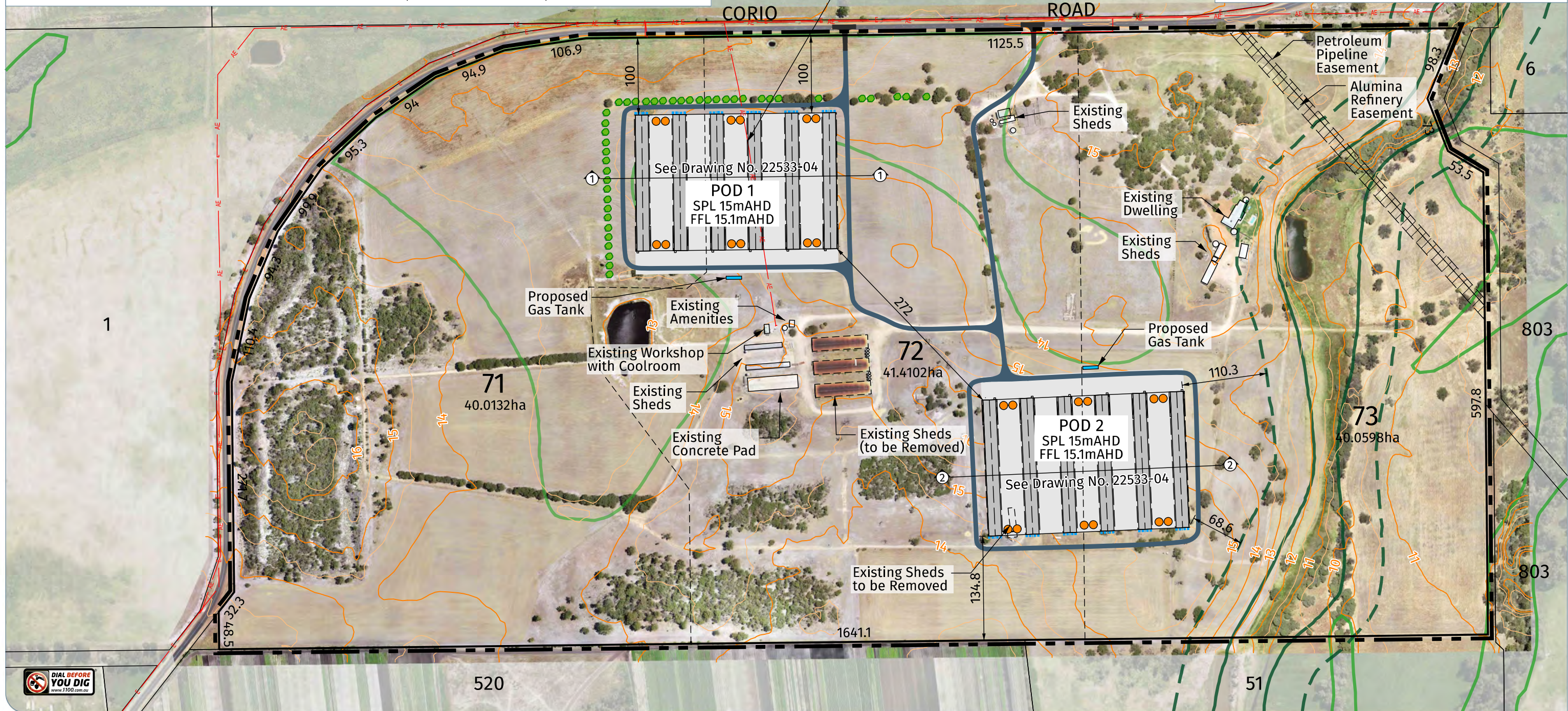
Notes:

- Existing lots to be amalgamated prior to commencement of use.
- Maximum ground water level 13m AHD (Aurora Environmental 2021)

Notes:

1. Existing lots to be amalgamated prior to commencement of use.
2. Maximum ground water level 13m AHD (Aurora Environmental 2021)

Diagram illustrating the layout of six vertical rectangular pods. The total width is 259, the height is 176, and the spacing between pods is 32. The width of each pod is 16.5.



Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD

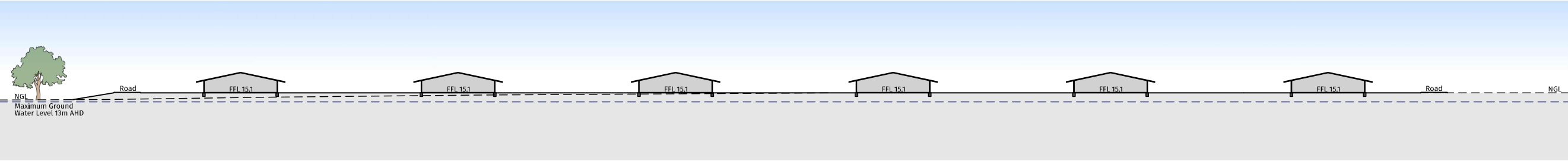
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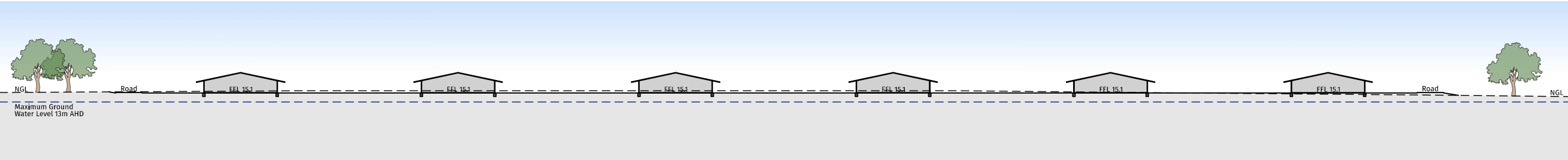


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PLANNING & SURVEY SOLUTIONS



SECTION 1: POD 1



SECTION 2: POD 2

SECTION PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-04

Date | 15/06/21

Drawn | NP

Checked | DM

Revision | B

PERTH & FORRESTDALE:

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Scale | 1:1000@A3

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10m

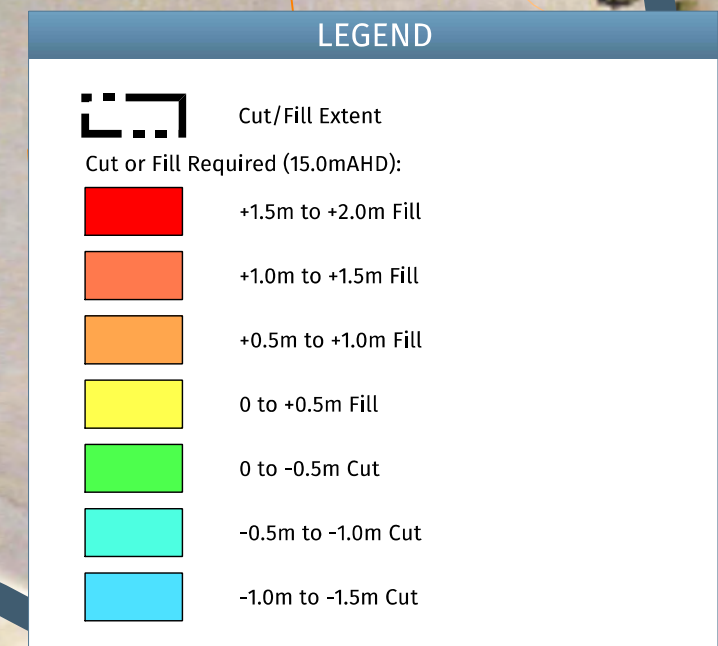
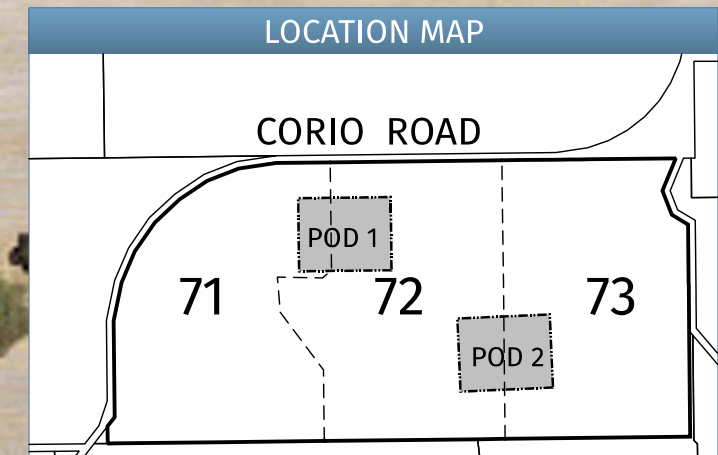
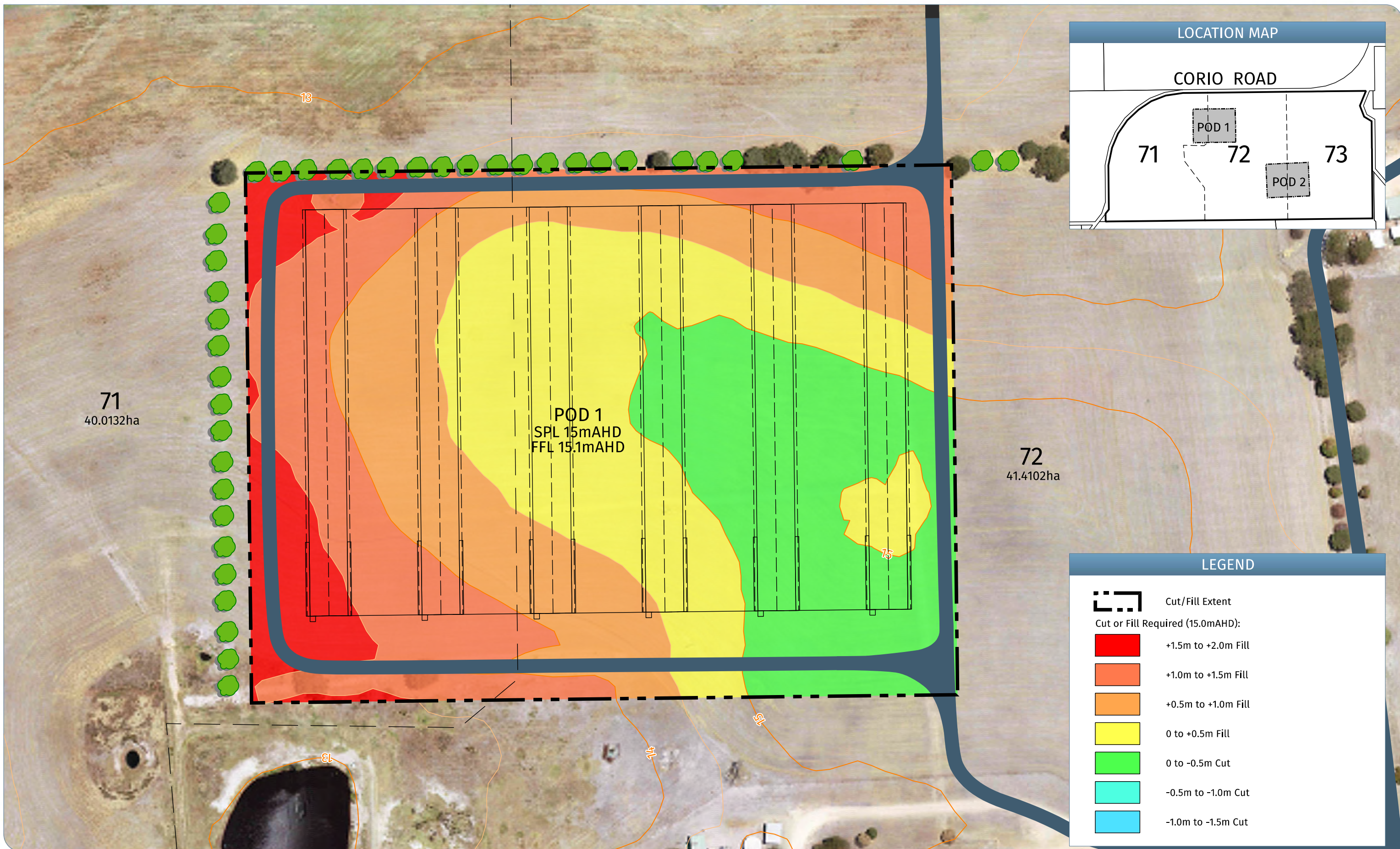
20m

30m

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PLANNING & SURVEY SOLUTIONS



DEVELOPMENT SITE PLAN

FILL REQUIREMENTS - POD 1

Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD

Plan No. | 22533-05
Date | 17/06/21
Drawn | NP
Checked | DM
Revision | B

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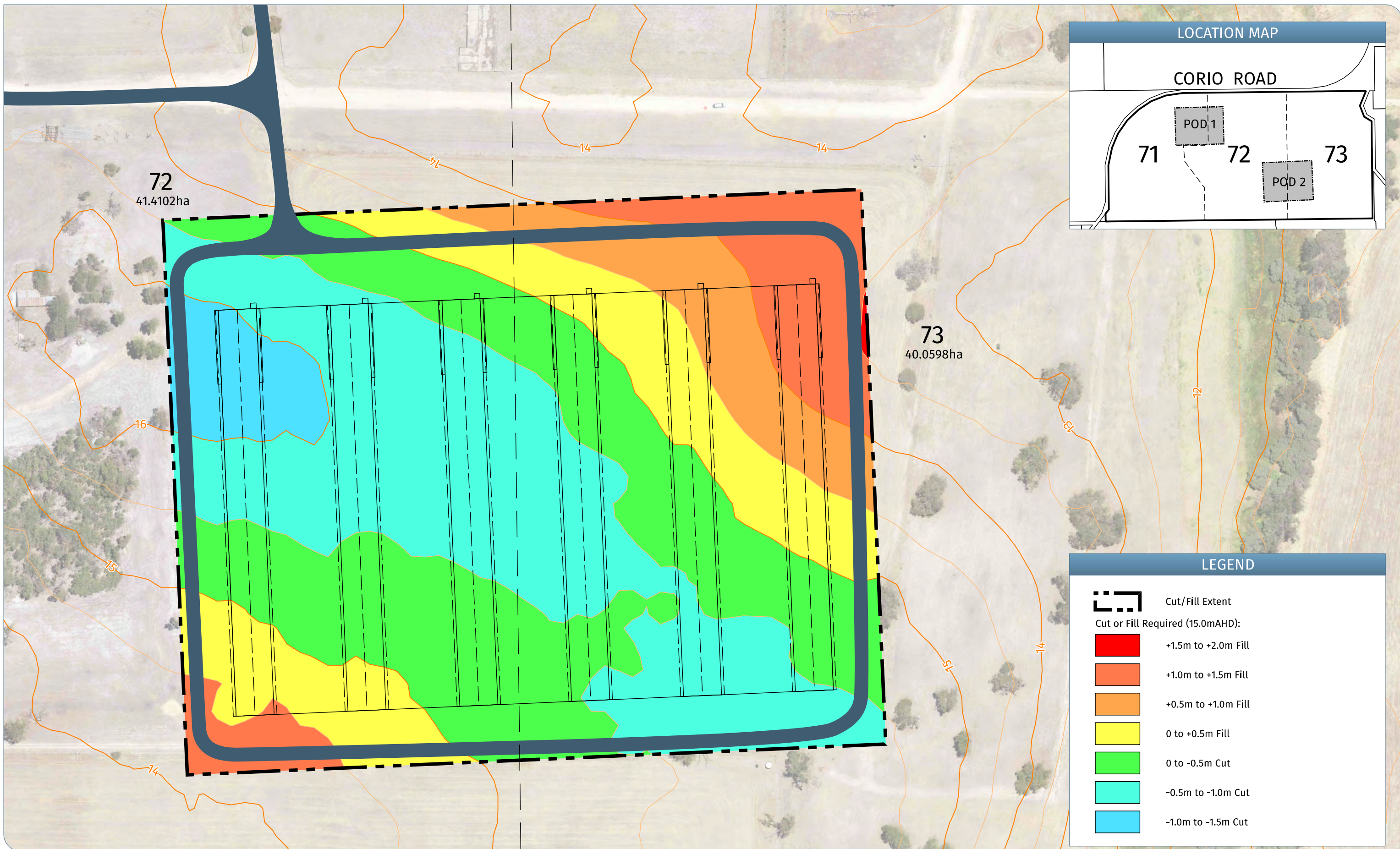
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ALBANY | BUNBURY | BUSSELTON | FORRESTDAL | PERTH

Scale | 1:1500@A3

0 20m 40m

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DEVELOPMENT SITE PLAN

FILL REQUIREMENTS - POD 2

Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD

Plan No. | 22533-06
Date | 01/06/21
Drawn | NP
Checked | DM
Revision | A

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Scale | 1:1500@A3

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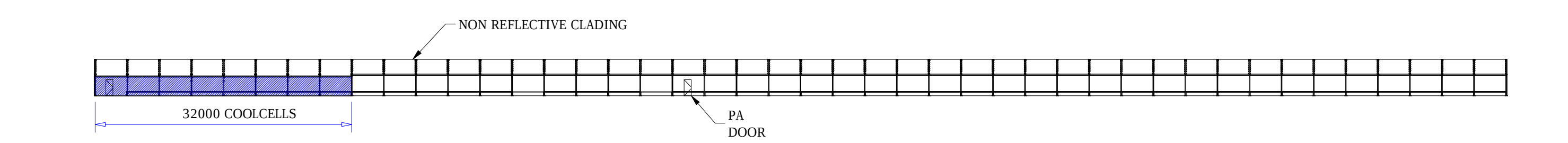
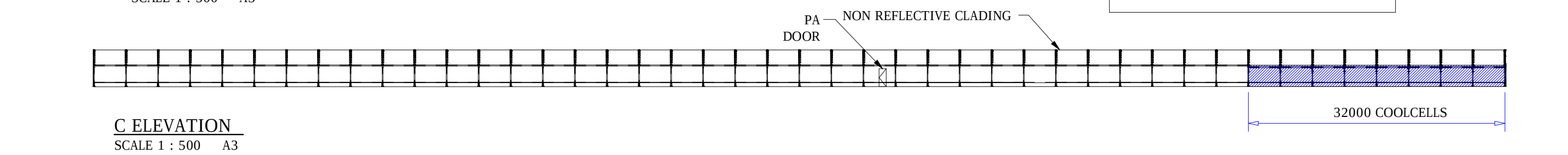
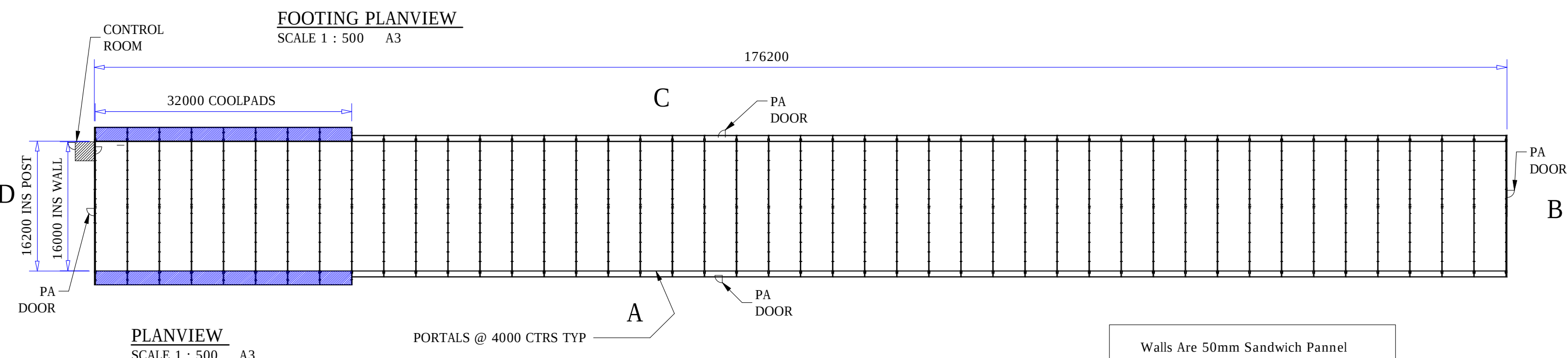
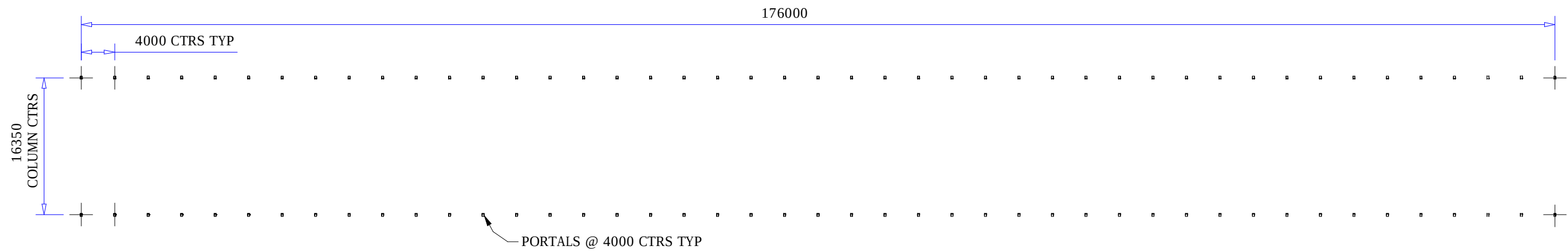


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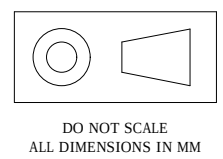
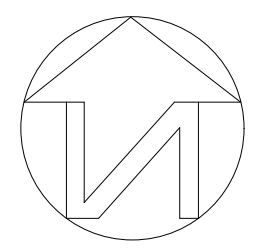


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PLANNING & SURVEY SOLUTIONS

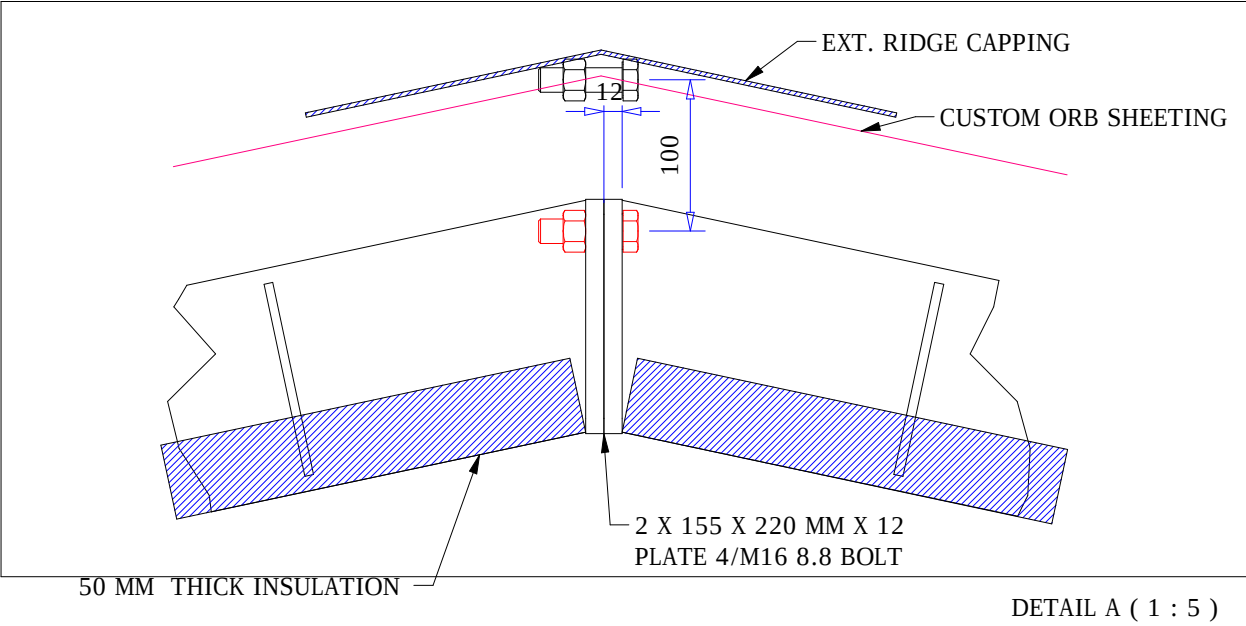


NOTE :
PA DOORS TO BE OPENED OUTWARD WITH A SINGLE
HANDED DOWNWARD LEAVER ACTION
HANDLE TO BE BETWEEN 900 AND 1100 MM ABOVE FFL

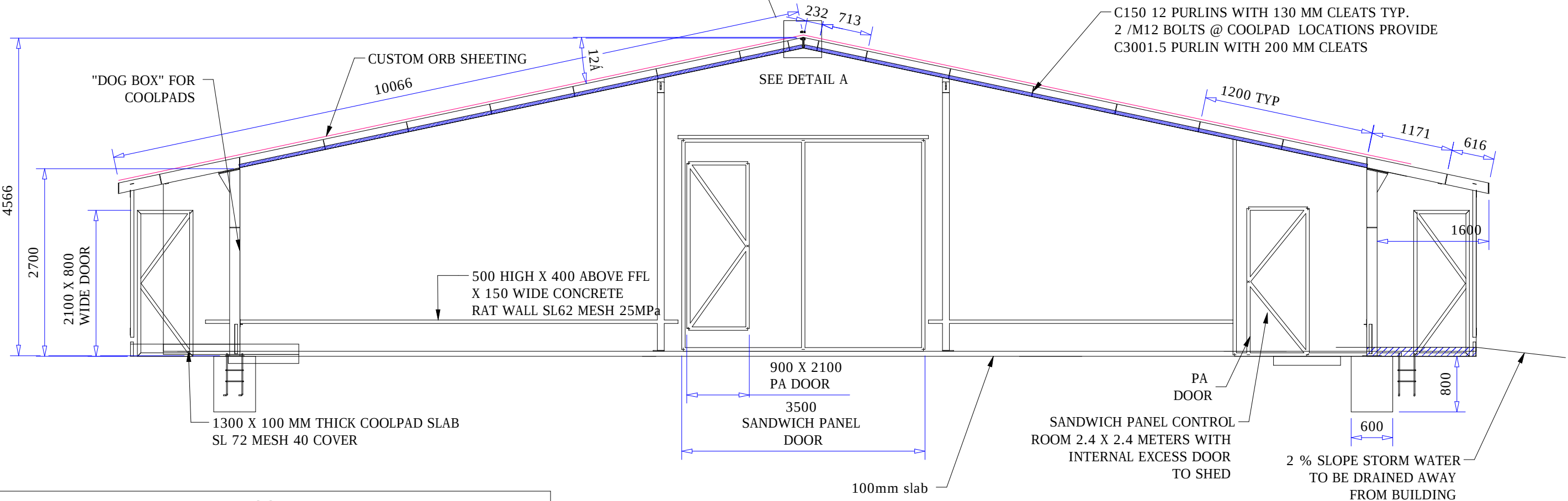


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R&DG SANDAY 40 Glenning Rd Glenning Valley NSW 2261 PH 0404 489 573			SITE ADDRESS: Fairglenn Company Lot 72 Corio Rd, Ravenswood WA		
PLANVIEW & ELEVATIONS					Edition Sheet 1 / 9

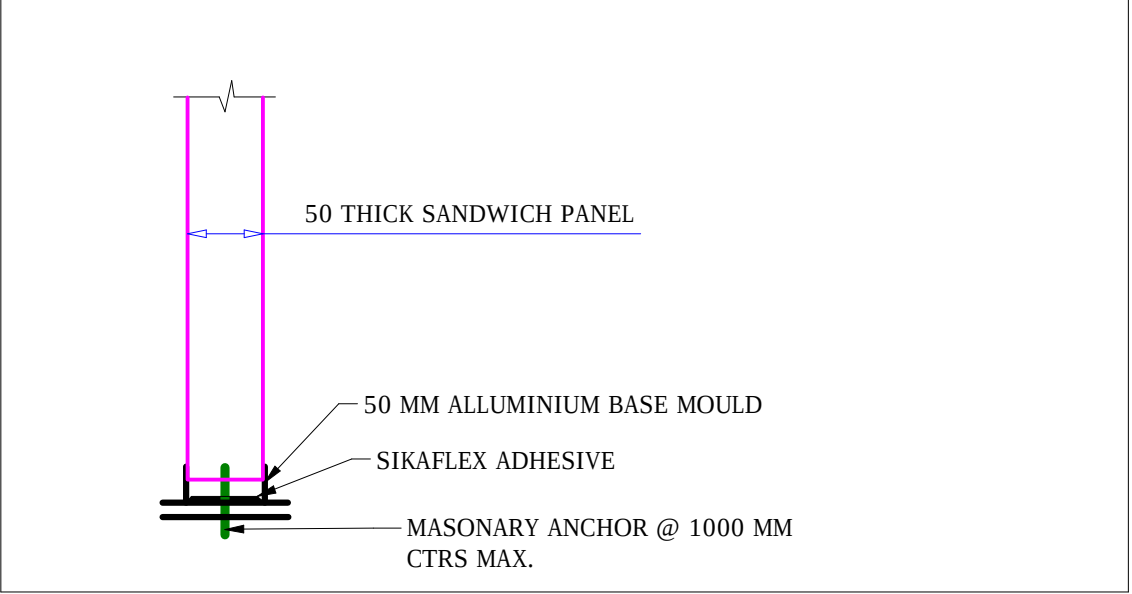
SANDWICH PANEL TO CONCRETE DETAIL



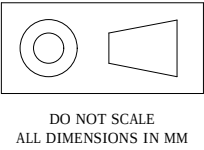
D ELEVATION
SCALE 1 : 50 A3



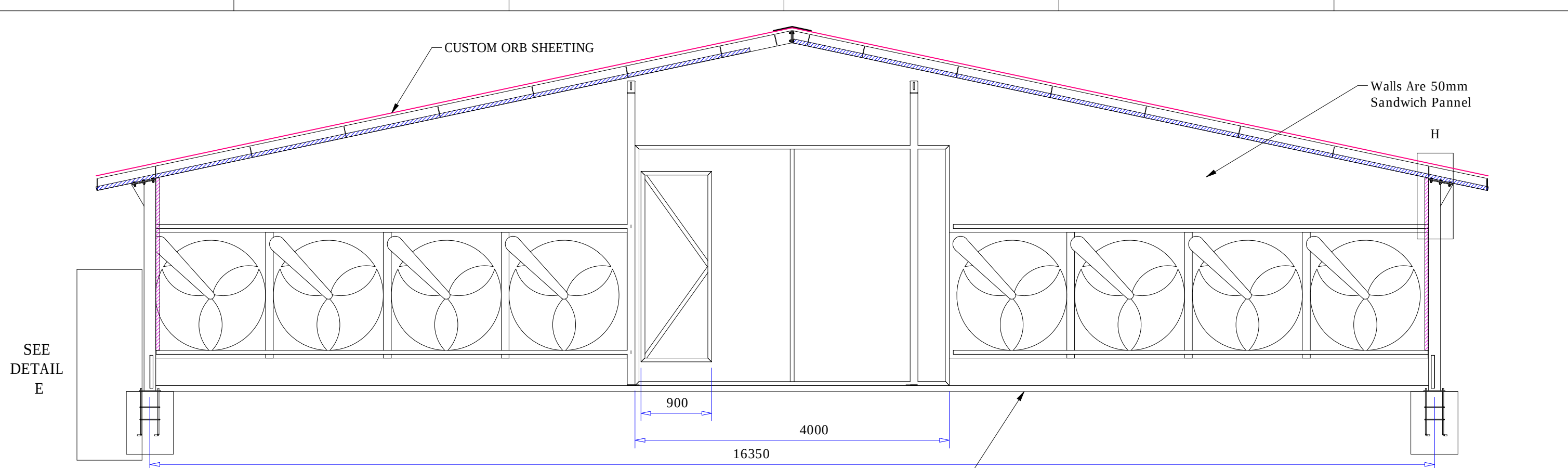
SCALE 1 : 5 A3



MEMBER SCHEDULE		
MARK	SIZE	REMARKS
COLUMNS	150 X 100 X 4	GRADE 450
RAFTERS	150 X 100 X 4	GRADE 450
ROOF PURLINS	C15012	GALVANISED
PURLINS @ EAVES	C20015	GALVANISED
GIRT G1 @ WALL	C15012	GALVANISED
GIRT G2 @ WALL	100 50 X 2 MM RHS	GALVANISED



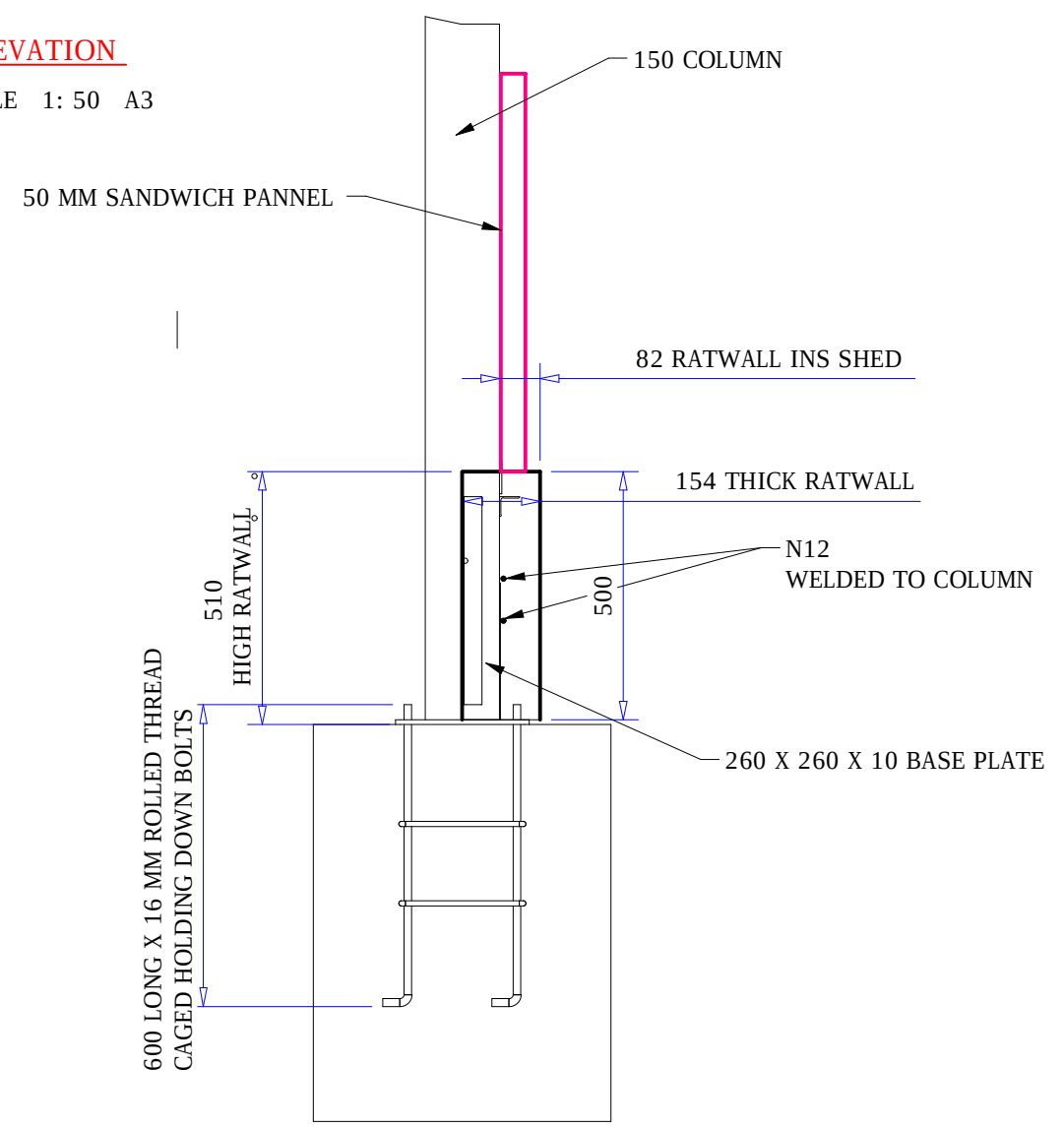
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ELEVATION & SCHEDULE & DETAIL					Edition Sheet 2 / 9



SEE
DETAIL
E

B ELEVATION

SCALE 1: 50 A3

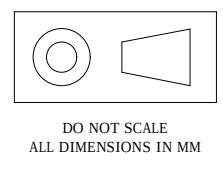


100mm SLAB

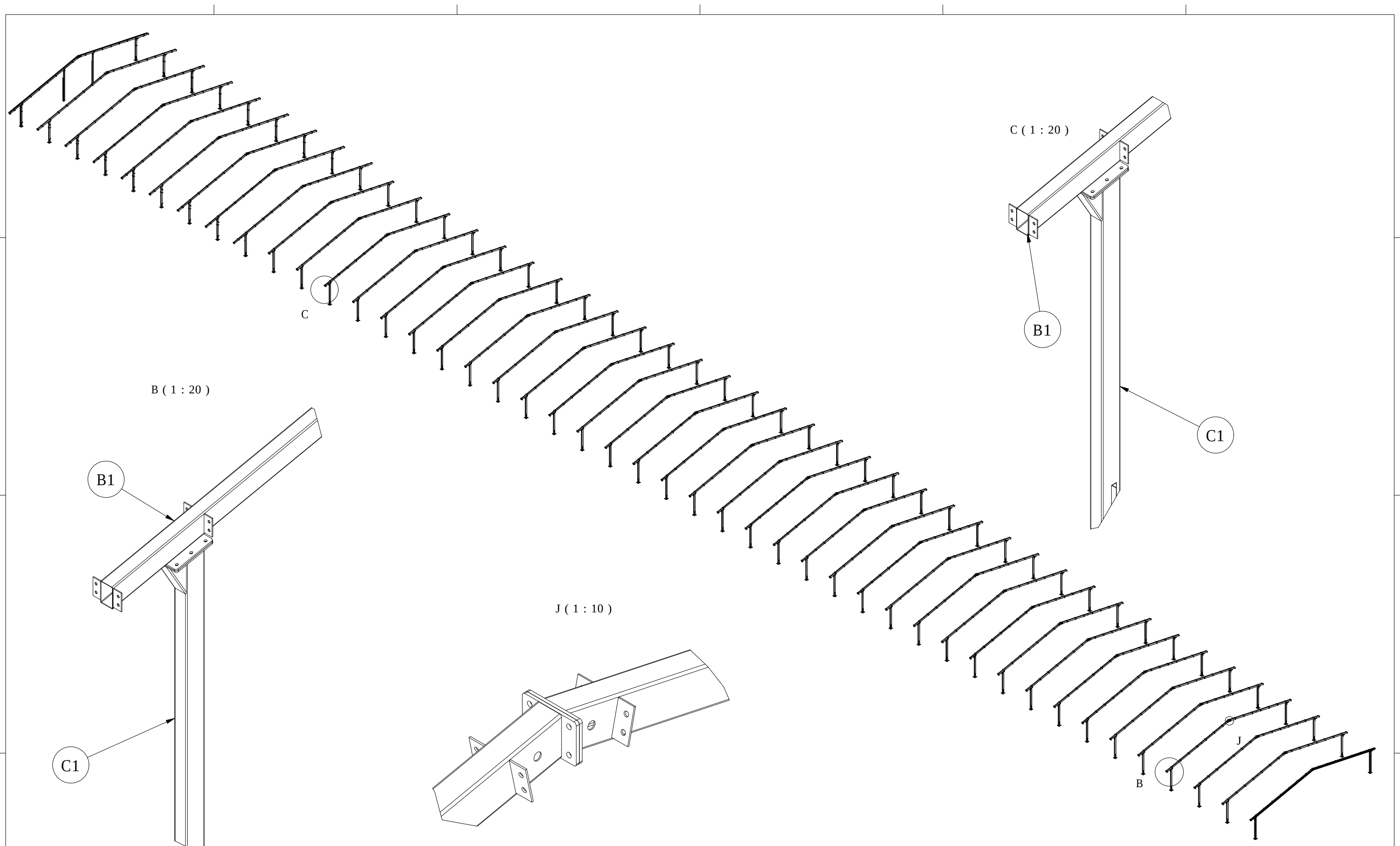
50 MM SANDWICH PANNEL

H (1 : 10)

FOOTING DETAIL E (1 : 15) A3

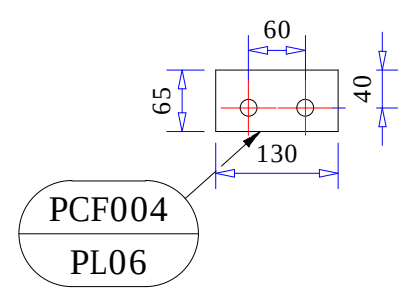
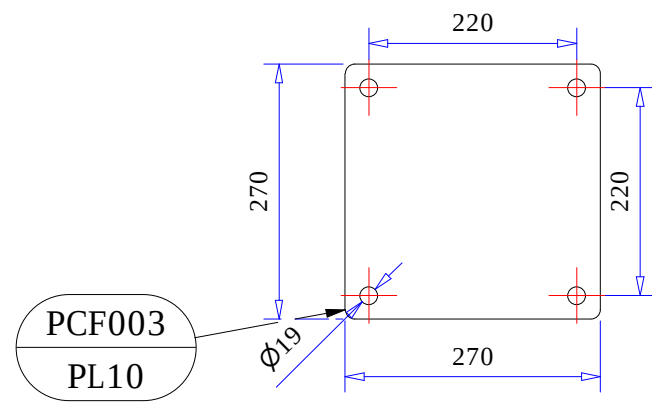
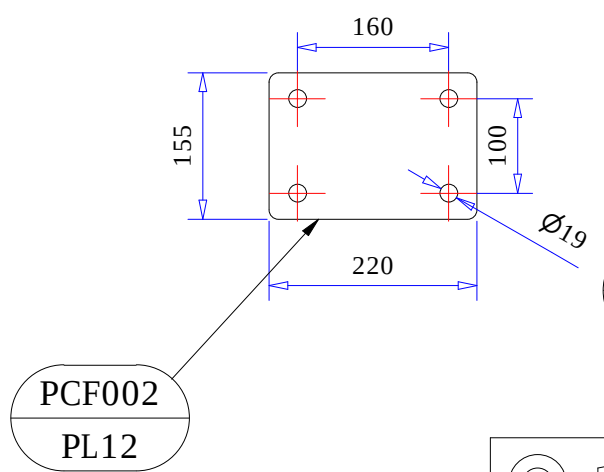
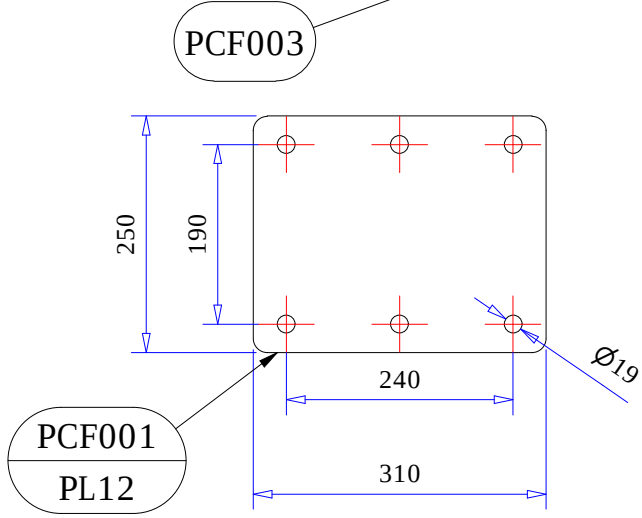
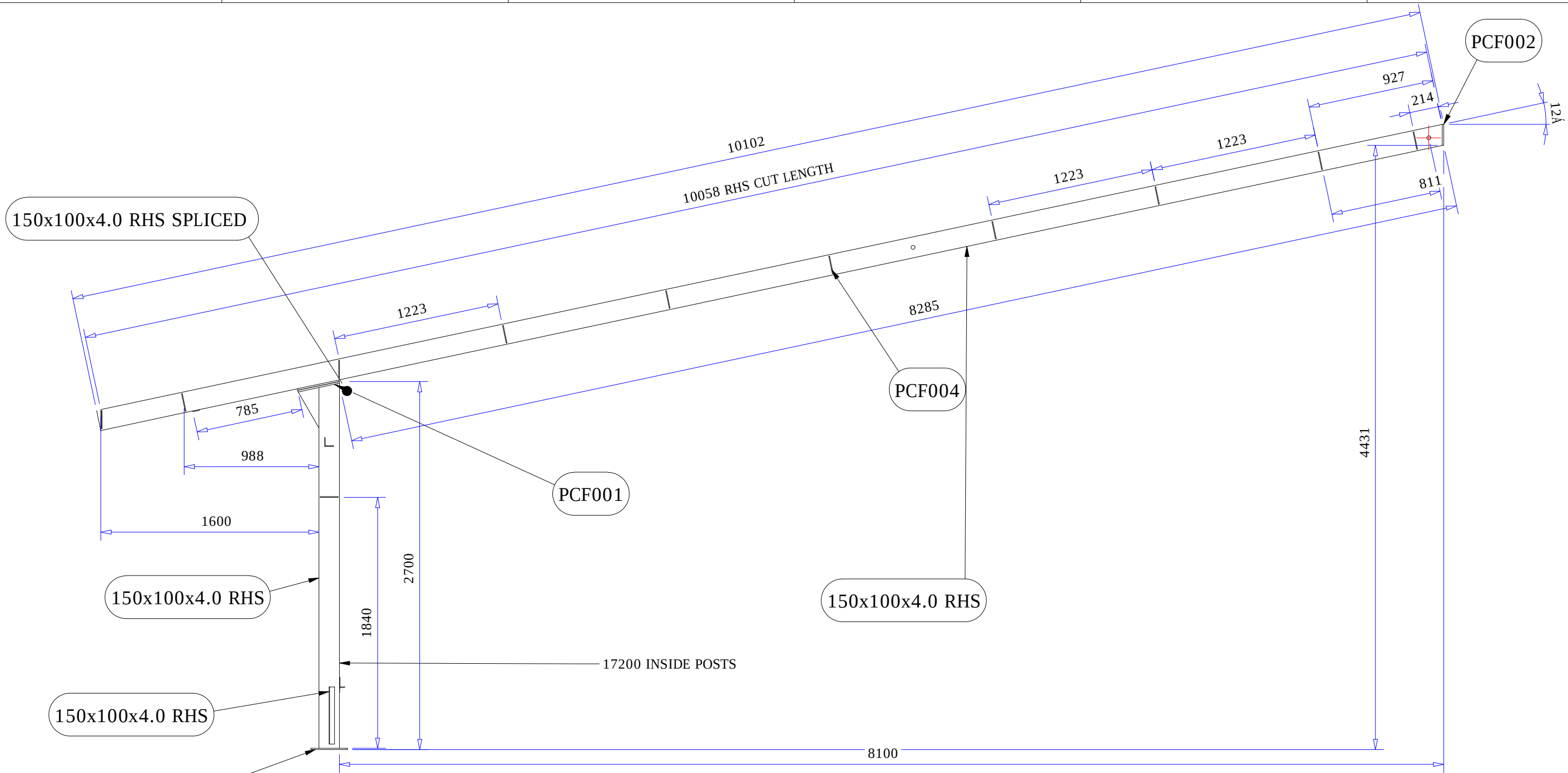


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SECTION & DETAIL					Edition Sheet 3 / 9



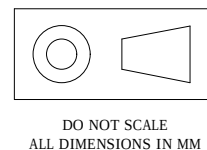
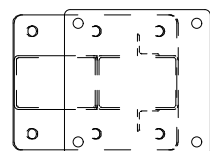
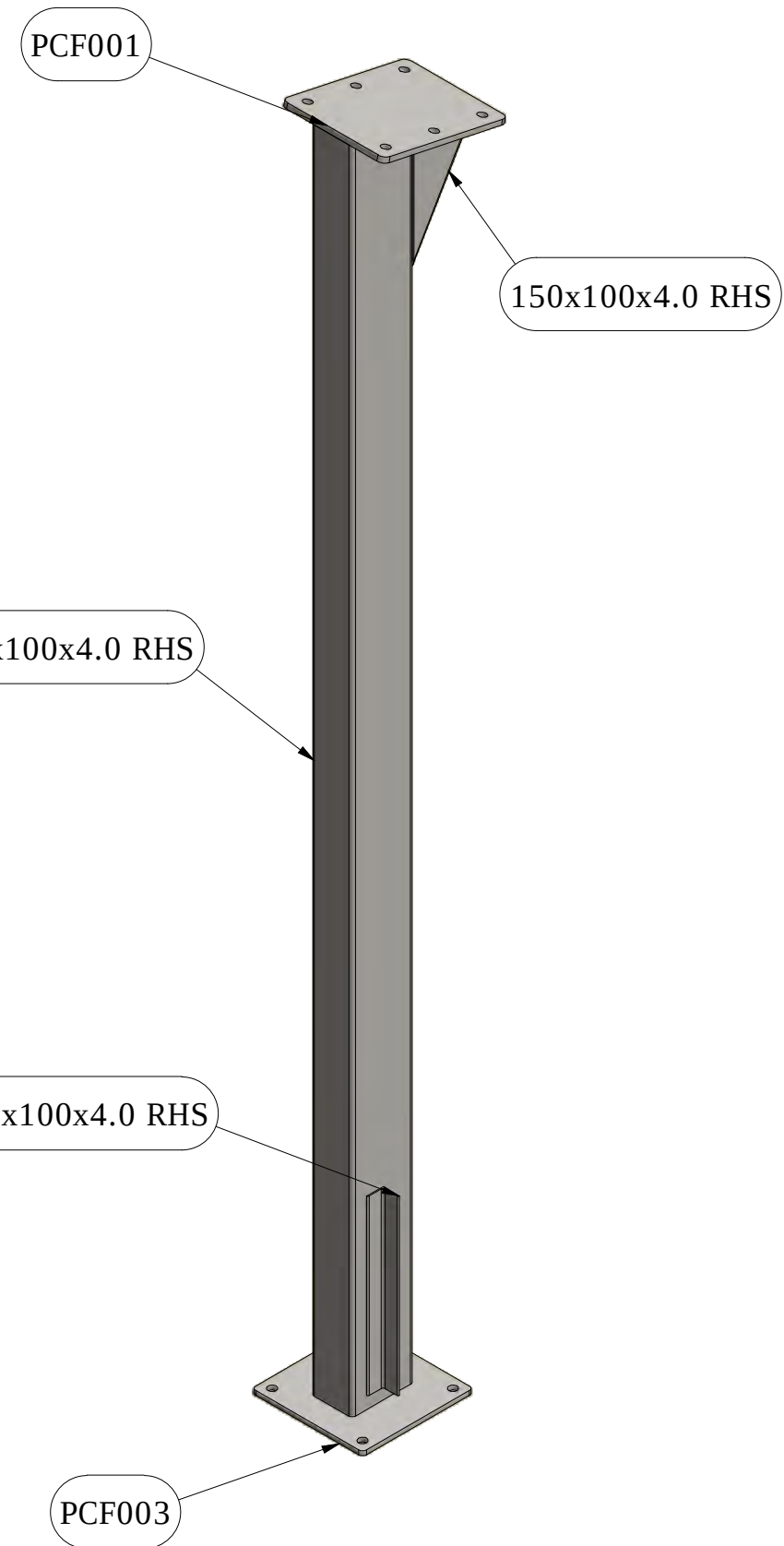
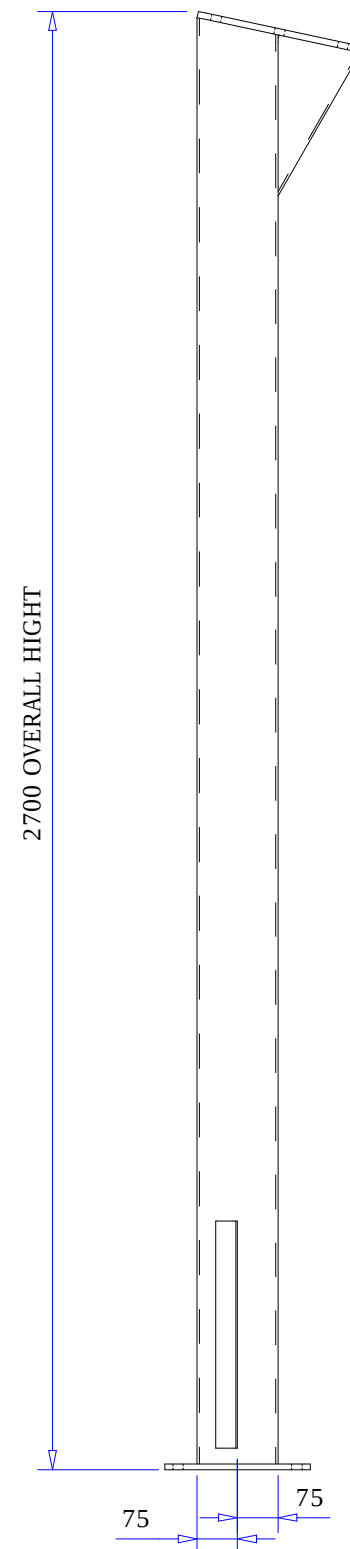
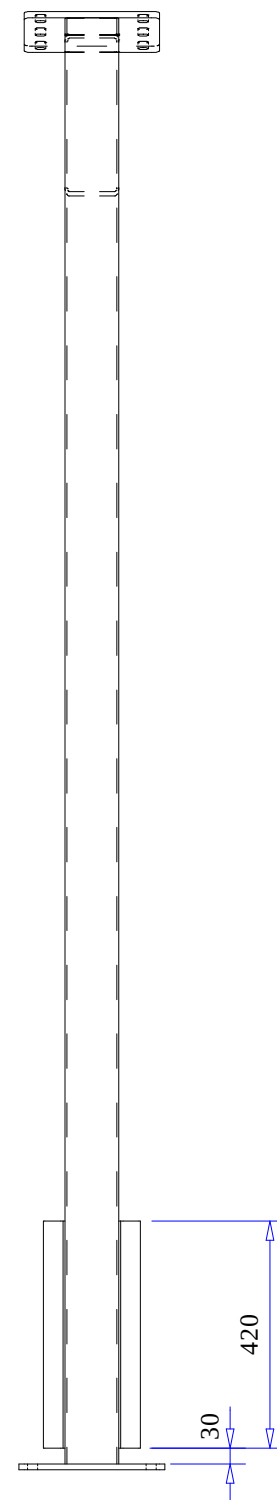
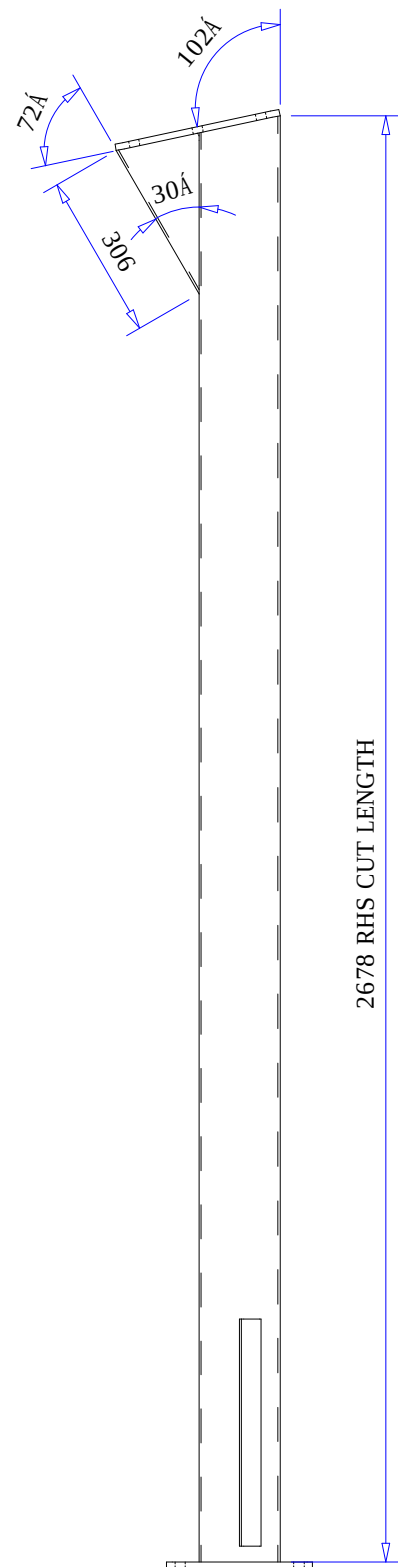
DO NOT SCALE
ALL DIMENSIONS IN MM

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		OVERVIEW			Edition

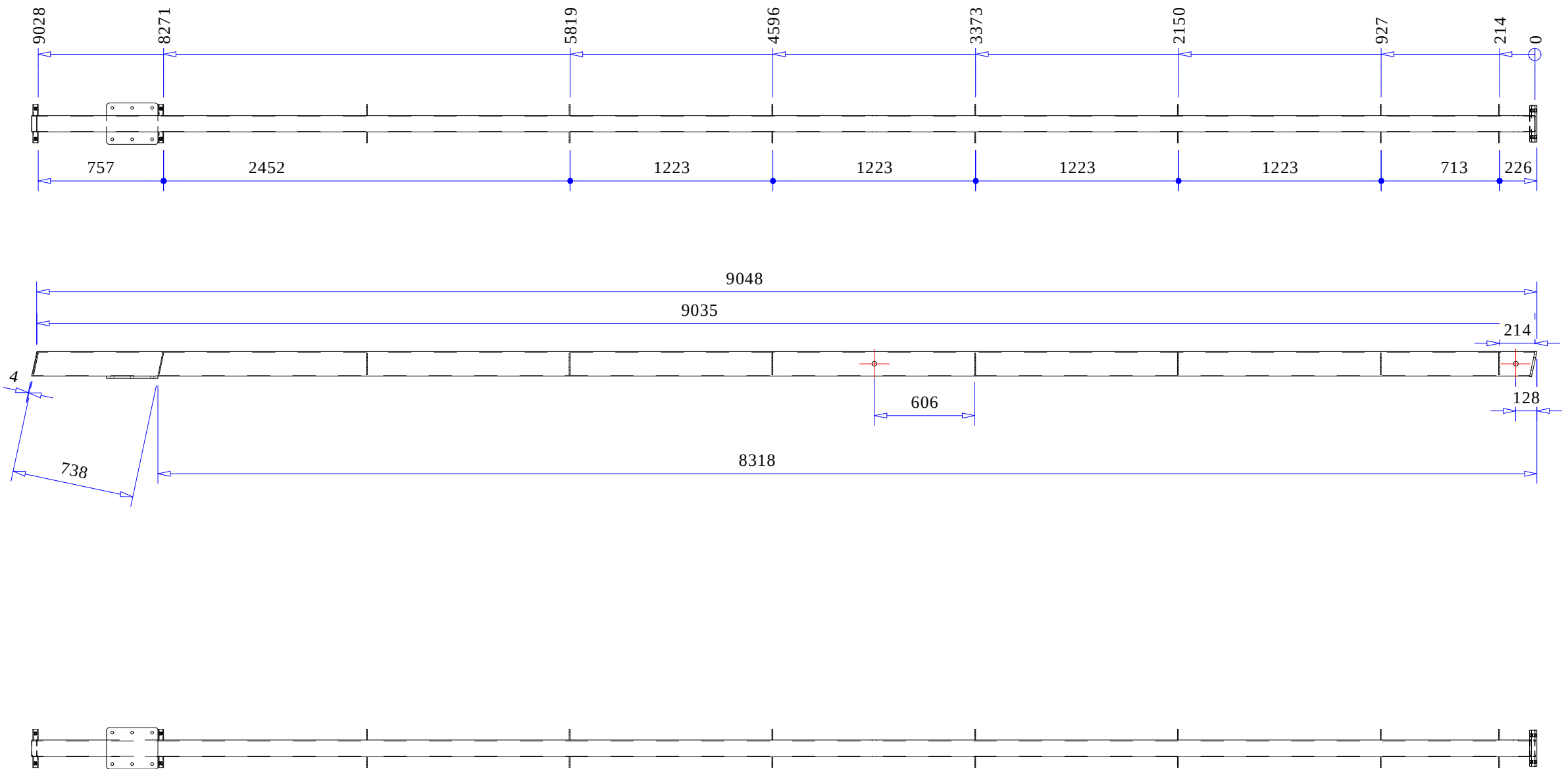


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TYP. PORTAL DETAIL					Edition Sheet 5 / 9

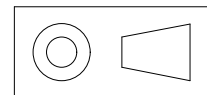
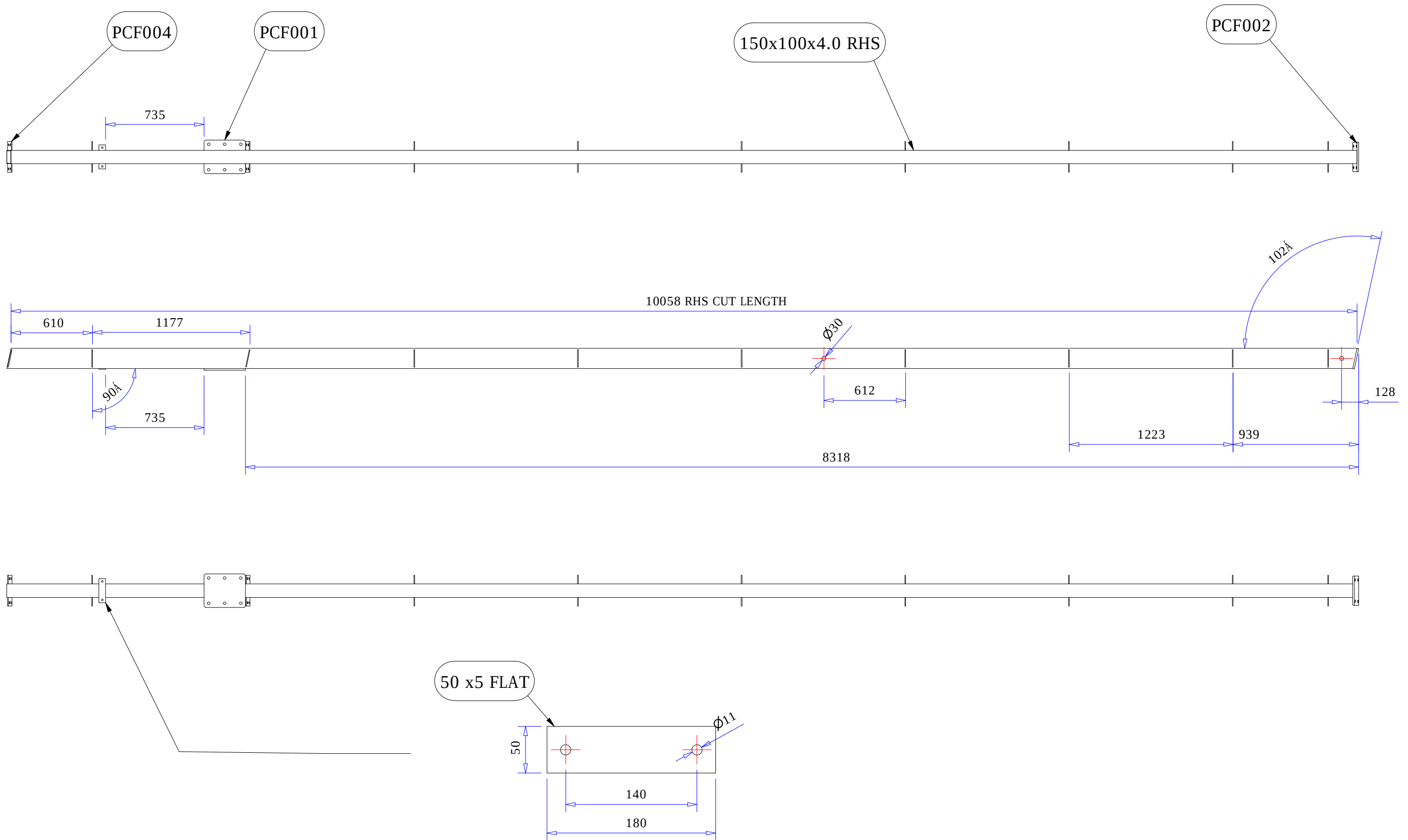


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TYP POST DETAIL					Edition Sheet 6 / 9



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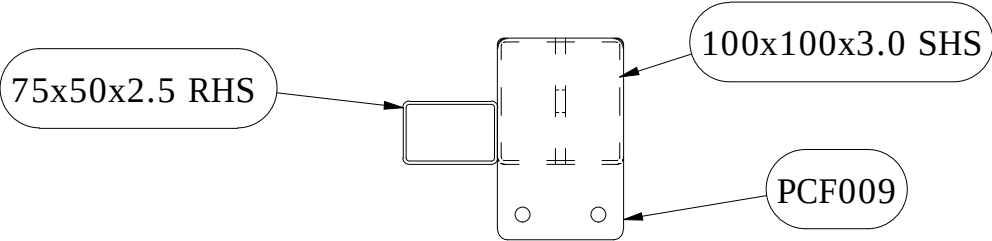
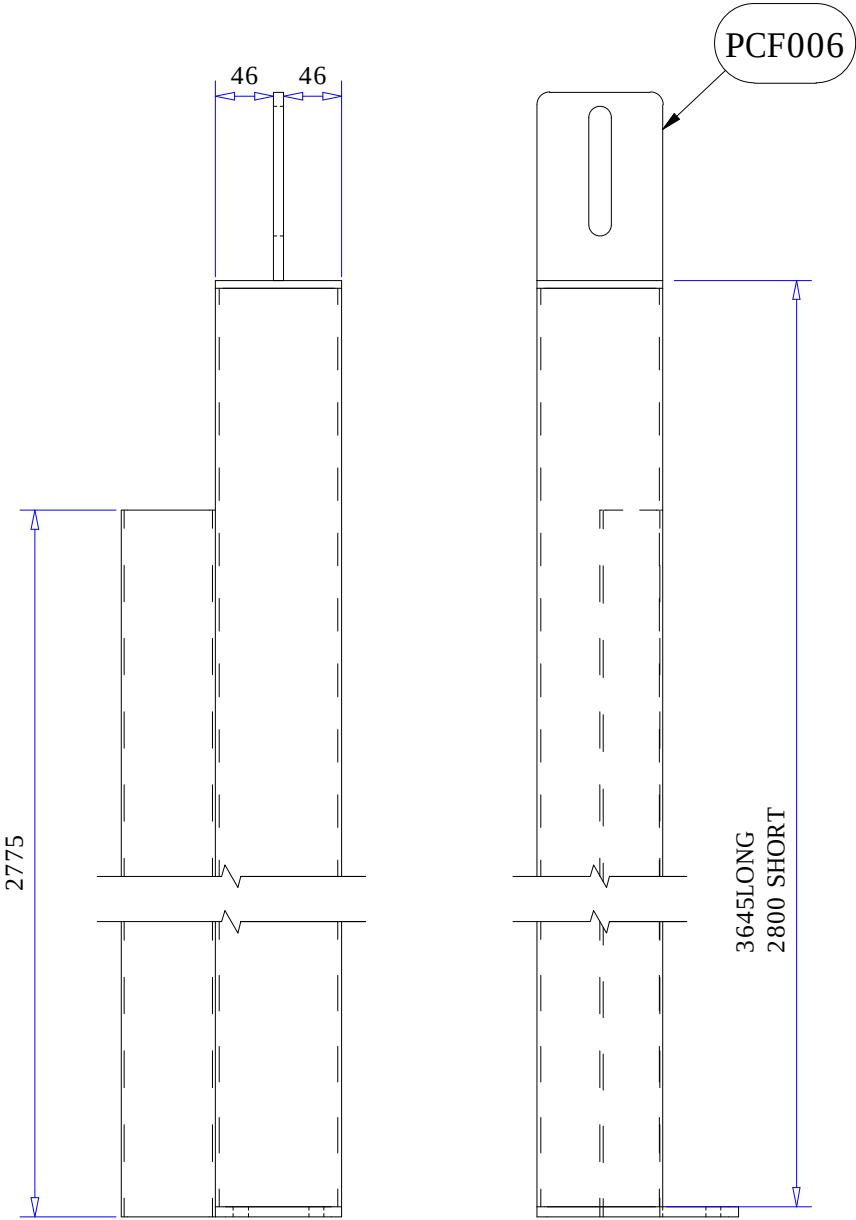
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		TYP BEAM DETAIL			Edition



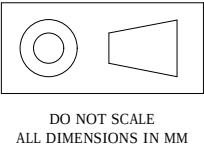
DO NOT SCALE
ALL DIMENSIONS IN MM

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TYP COOLCELL BEAM DETAIL					Edition Sheet 8 / 9

DROP POST DETAIL



Galvanized material to be used were available and cold gal paint to be used on all welds and non galvanized parts



- BRIEF SPECIFICATIONS GENERAL SLAB AND FOOTING REQUIREMENTS:**
- 1. TOP SOIL AND VEGETATION SHALL BE STRIPPED FROM SITE TO A MINIMUM DEPTH OF 100mm.
 - 2. PRIOR TO THE PLACEMENT TO ANY CONTROLLED FILL, THE EXPOSED SUB GRADE SHALL BE COMPACTED TO A MINIMUM 95 % RELATIVE DENSITY.
 - 3. ALL ORGANIC MATTER AND SOFT AREAS SHALL BE REMOVED AND REPLACED WITH GRANULAR MATERIAL. ALL FILLING SHALL BE CLEAR GRANULAR MATERIAL PLACED IN MAXIMUM 150mm COMPACTED LAYERS AND COMPACTED BY WATERING AND USE OF VIBRATING ROLLER OR COMPACTOR TO ACHIEVE CONTROLLED FILL
 - 4. AS PER AS2870. FILL SHALL BE COMPACTED TO MINIMUM AS1289.1.1 (1993), OR WHEN TESTED PASS THE REQUIRED MIN. 100kPa BEARING CAPACITY FOR THE FOOTING.
 - 5. GROUND SURFACES AROUND THE POLTRY SHED TO BE GRADED SO THAT NO WATER PONDS AROUND THE FOOTINGS. PROVIDE 100mm FALL OVER THE FIRST 1000mm FROM THE BUILDINGS. THE BUILDER IS TO DETERMINE THE PRESENCE OF ANY ADDITIONAL FILLED AREAS, WHICH WOULD NECESSITATE THE USE OF MODIFIED FOOTINGS.
- GENERAL NOTES:**
- 1. ALL DIMENSIONS ARE TO BE OBTAINED FROM THE ARCHITECTS DRAWINGS OR FROM SITE. ENGINEERS DRAWINGS MUST NOT BE SCALED.
 - 2. THE APPROVAL OF A SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRA INVOLVED MUST BE TAKEN UP WITH THE ARCHITECT BEFORE WORK COMMENCES.
 - 3. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- STRUCTURAL STEEL**
- 1. ALL STEELWORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AS4100, SAA STEEL STRUCTURES CODE.
 - 2. WELDS TO BE 6mm CONTINUOUS FILLET LAID DOWN WITH APPROVED COVERED ELECTRODE IN ACCORDANCE WITH AS1554 -WELDING CODE. BOLTS 16 mm DIA, BLACK IN 19 mm CLEARANCE
 - 3. HOLES, GUSSET PLATES 10mm THICK UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS NOMINATED 'HS' TO BE SNUG TIGHTENED ONLY UNLESS NOTED.

Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
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		DROP POST & GENERAL NOTES			Edition

LEGEND



Subject Land (121.4832ha)



1000m Buffer



Existing Structures



Proposed Poultry Sheds



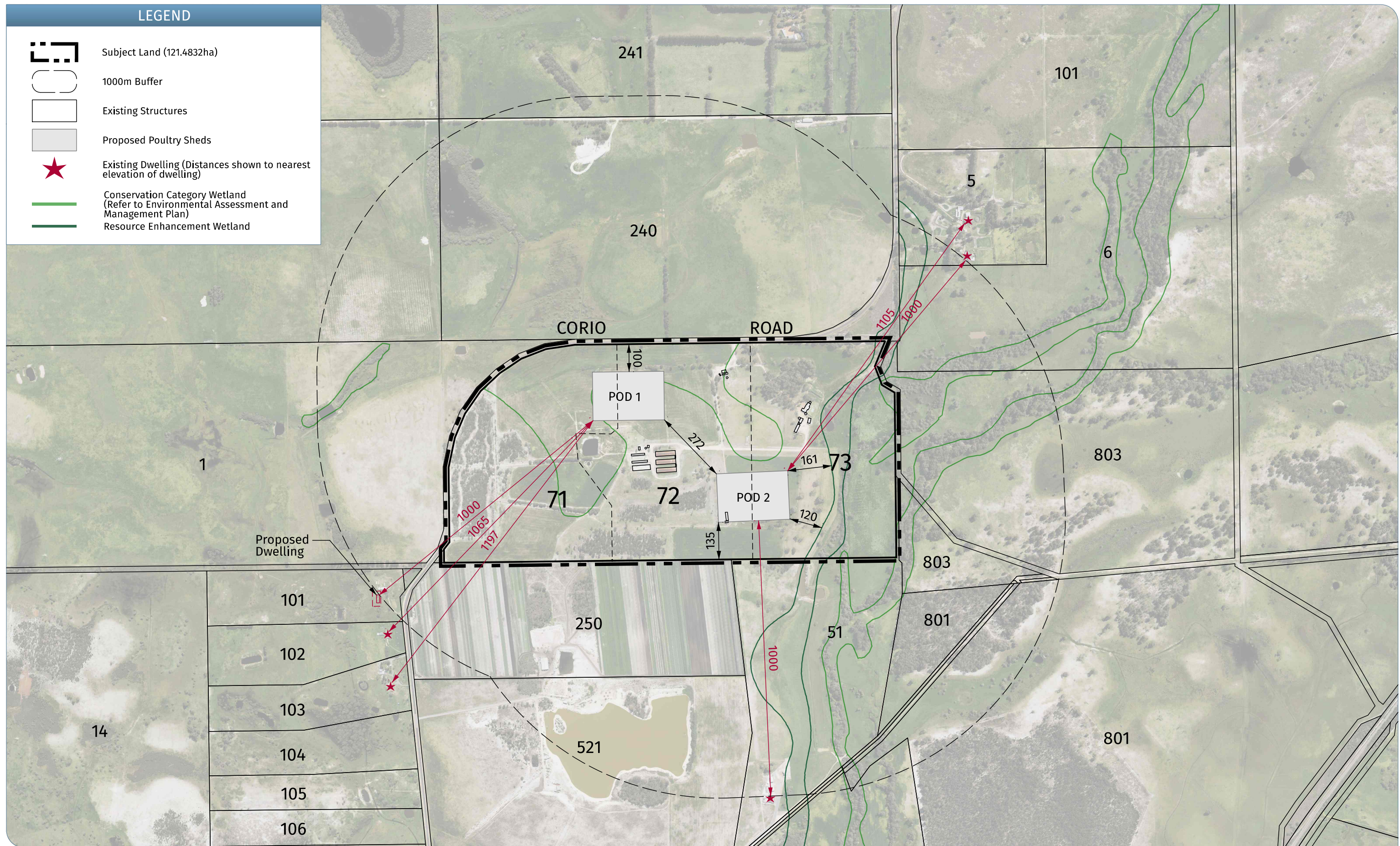
Existing Dwelling (Distances shown to nearest elevation of dwelling)



Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)



Resource Enhancement Wetland



LANDUSE CONTEXT & BUFFER PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-02
Date | 11/06/21
Drawn | NP
Checked | BdR
Revision | D

PERTH & FORRESTDALE:
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15/2 Hensbrook Loop,
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Scale | 1:12500@A3

0 100m 200m 300m



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PLANNING & SURVEY SOLUTIONS



APPLICATION FOR PLANNING APPROVAL – EXPANSION OF POULTRY FARM

Lots 71, 72 and 73 Corio Road, Ravenswood

DOCUMENT CONTROL

Control Version	Date	Status	Distribution	Comment
A	2/3/2021	Draft	Internal	For Review
B	5/3/2021	Draft	Client	For Review
C	5/3/2021	Final	Shire of Murray/WAPC/DAP	For Determination
D	24/3/2021	Final	Shire of Murray/WAPC/ DAP	For Determination

Prepared for: Fairglen Farms Pty Ltd

Prepared by: DM

Reviewed by: BH

Date: 24/03/2021

Job No: 22533

Version: D

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1 INTRODUCTION

This Application for Planning Approval ('the Application') has been prepared by Harley Dykstra on behalf of Fairglen Farms Pty Ltd ('Fairglen Farms'). For the purpose of this application, Fairglen Farms acts under the authority of the registered proprietors of Lot 71, 72 and 73 Corio Road, Ravenswood (Certificates of Title at **Appendix A** refers).

The Application seeks the approval of the Metro Outer JDAP for the upgrading and expansion of the existing broiler (meat bird) poultry farm located at Lot 72 Corio Road, Ravenswood. Lot 72, along with adjoining Lots 71 and 73 Corio Road shall accommodate the new facility and collectively comprise the subject site.

This report includes a description of the site and details the proposed poultry farm expansion. The proposal is supported by comprehensive development plans and in addition to planning considerations, addresses environmental, traffic and bushfire management matters.

As part of the proposed poultry farm upgrade and expansion, the three existing poultry sheds will be replaced by a total of 12 tunnel ventilated sheds located in two (2) pods of six (6) sheds each. The new sheds will operated as a closed system, which means that engineered structures will be used to ensure that waste (e.g. nutrients) are not discharged to the environment.

Other existing incidental structures on the site will be retained and will generally continue to be used as part of the poultry farm operation.

The location of the new sheds has been informed by the relevant planning and environmental guidance to ensure sufficient separation from sensitive premises (dwellings) on surrounding landholdings is achieved.

A copy of the development plans which illustrate the nature and extent of development are included at **Appendix B**.

It is anticipated the Shire of Murray and the Western Australian Planning Commission (WAPC) would each prepare a Responsible Authority Report to inform the JDAP's consideration of the Application.

2 SUBJECT SITE

2.1 Property Description, Ownership and Locality

The subject site is described as Lots 71, 72 and 73 Corio Road, Ravenswood. The subject site is 121.482ha in area and is located approximately 4km north-east of the Ravenswood urban area boundary and 7km south west of the North Dandalup urban area boundary.

A summary of the land particulars is provided in **Table 1** and a copy of the Certificates of Title is included at **Appendix A**.

LOT NO.	PROPERTY ADDRESS	LANDOWNER	AREA	VOL.	FOLIO	PLAN NO.
71	No street address	Robert John Clayton & Teresa Ann Clayton	40.013 ha	2793	432	DP 71624
72	No street address	Robert John Clayton & Teresa Ann Clayton	41.410 ha	2793	433	DP 71624
73	511 Corio Road, Ravenswood	Sprock Group Pty Ltd	40.059 ha	2793	434	DP 71624

TABLE 1 – SUMMARY OF LAND

The site derives access from Corio Road, which is of bitumen sealed construction and connects with Lakes Road to the north and Paterson Road to the south.

An Aerial Locality Plan has been included at **Figure 1** which illustrates the location of the site relative to the Ravenswood and North Dandalup townsites and surrounding land. Surrounding land uses includes intensive agriculture (horticulture) immediately to the south, rural small holdings ('farmlets') comprising lots of approximately (10 -13 ha) to the south-west and other broad acre rural land uses (e.g. livestock grazing).

The location of all dwellings situated within 1000m of the subject site are identified on the Landuse Context and Buffer Plan at **Appendix B**. No other sensitive land use (i.e., schools, caravan parks etc) are located within 1000m of the existing operations.



FIGURE 1 – AERIAL LOCALITY PLAN (SUBJECT SITE OUTLINED IN RED)

2.2 Existing Development

The site currently accommodates a free-range poultry farm comprising three sheds capable of producing 48,000 meat birds (per batch) for the broiler market. The majority of structures on site are located on the central part of Lot 72. In addition to the three poultry sheds, existing structures include two smaller growing sheds for young birds which according to the current landowner, have only ever been used very occasionally. These shed structures would be retained for use as storage, but are not proposed to be used for their originally intended purpose as growing sheds. There is also a legacy concrete pad associated with a poultry shed that has since been removed, a workshop with cool room, amenities building, water tanks and other incidental structures associated with the existing poultry farm operation.

An existing dwelling is located on the northern part of Lot 73. Livestock grazing is also undertaken on cleared areas of the site with established pasture.

The existing use of the site is depicted by **Figure 2** below. **Plates 1 – 4** illustrates the existing use of the site.

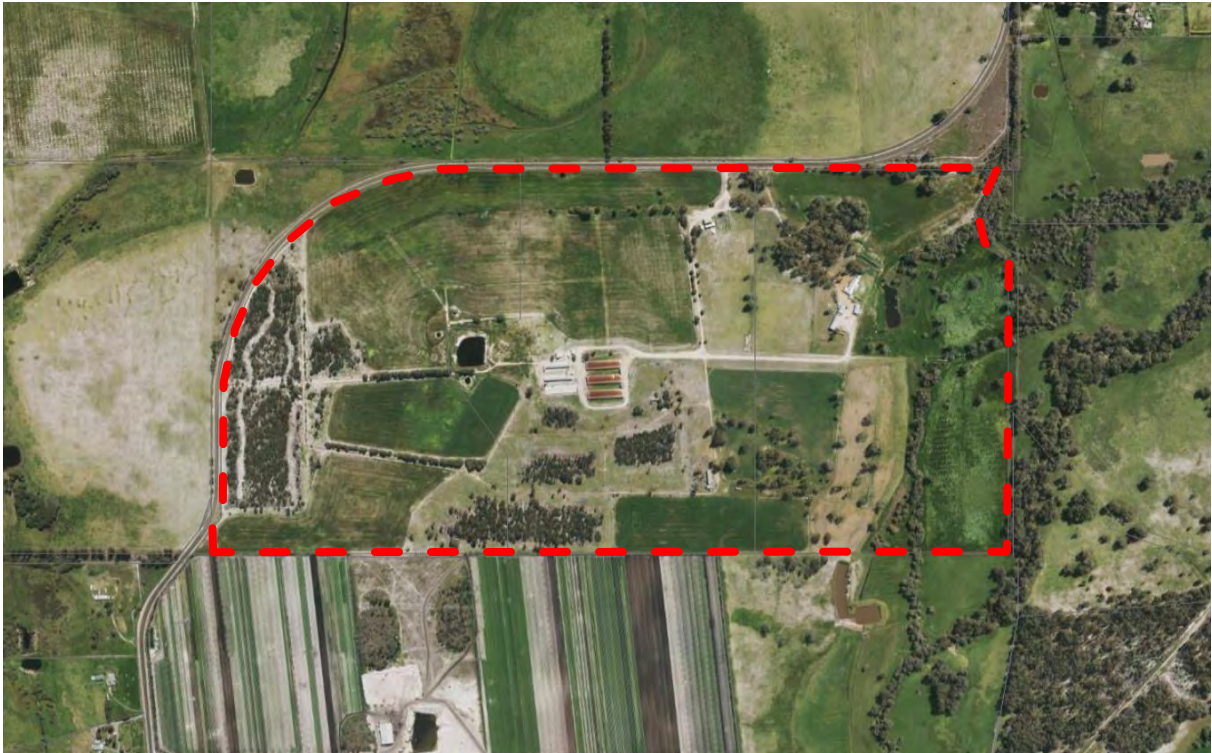


FIGURE 2 – AERIAL PHOTOGRAPH (SUBJECT SITE OUTLINED IN RED)



PLATE 1 – AERIAL PERSPECTIVE FACING SOUTH EAST



PLATE 2 – AERIAL PERSPECTIVE FACING EAST



PLATE 3 – AERIAL PERSPECTIVE FACING SOUTH EAST



PLATE 4— AERIAL PERSPECTIVE FACING NORTH EAST

2.3 Topography and Landform

Contours derived from a site survey indicates the land is relatively flat, with the highest point of approximately 16.5m AHD near the western boundary with the land gently sloping to approximately 10m AHD (associated with a watercourse) near the eastern boundary.

2.4 Geology and Soils and Land Capability

An Environmental Assessment and Management Plan prepared by Aurora Environmental ('the Environmental Assessment' at **Appendix C**) provides a detailed description of site conditions. The Environmental Assessment notes the site is located on the Swan Coastal Plain and according to the Geological Survey of Western Australia, geology associated with the land comprises alluvial and inland eolian deposits and includes Bassendean Sands and Bassendean Sands in a thin veneer over the Guildford Formation.

Further, the Environmental Assessment advises the Department of Primary Industries and Regional Development (DPIRD) soil mapping indicates the subject site contains soil types described as Bassendean B2 Phase, Bassendean B4 Phase and Pinjarra P9 Phase.

The Environmental Assessment considers the phosphorous export risk and waterlogging risk based on Landgate mapping and advises that whilst the areas where Pods 1 and 2 are proposed are mostly not prone to waterlogging,

peripheral areas (e.g. the western portion of Pod 1 at 13.5m AHD) is likely to require some fill to achieve sufficient (1m) separation from groundwater.

2.5 Hydrology

The Environmental Assessment advises a tributary and floodplain of the North Dandalup River traverses the eastern portion of the subject site. This area is designated as sumpland (resource enhancement) on geomorphic wetland mapping. The geomorphic wetland mapping also shows that the floodplain area immediately north of the existing poultry sheds has a 'conservation' management category. However, Aurora Environmental has concluded based on-site inspection and earlier hydrological investigation that the mapped area is degraded and used as pasture with little native vegetation. The area is not associated with groundwater dependent ecosystems and does not warrant retention in its current form (noting that hydrology of the area will not be impacted by the proposal).

Groundwater associated with the subject site was previously characterised by HydroConcepts (2017) as part of the process to secure a groundwater licence from the Department of Water and Environmental Regulation. A groundwater license for the abstraction of 258,500KL per annum is held by the landowner and will be transferred to Fairglen Farms.

Information from these earlier investigations is detailed in the Environmental Assessment and summarised below.

All existing soaks and production bores within the subject site are hosted in Bassendean Sands which forms part of the Perth-superficial Swan aquifer. Groundwater flow within the superficial aquifer is generally towards the south.

There are two DWER monitoring bores located at the north-western corner of the subject site that have been monitored monthly since their installation in 2008. These bores show that groundwater levels are relatively stable with no discernible trend over that period. Seasonal fluctuations are about 1 m annually, with the low in March-April and peak in September-October. The groundwater levels rise quickly following the commencement of winter rainfall to a high of approximately 13 mAHD which results in surface inundation in lower-lying areas to the north of the subject land and suggests that the thin aquifer is close to saturation. Proposed Pod 1 is located on part of the site that has an existing ground level ranging between 13.5m and 15m AHD and the location of Pod 2 has an existing ground level ranging between 14m and 16m AHD. It is proposed to use sand fill to achieve a minimum separation of 1 m to the maximum groundwater level (14 mAHD). Although this is less than the usual 2 m separation, the fact that the operation is a closed system will prevent discharge of nutrients to the environment and 1 m is considered sufficient to reduce the risk of inundation.

2.6 Vegetation

As is evident from the Aerial Photograph at **Figure 2** and **Plates 1-4**, native vegetation on the subject land has largely been cleared, including the area proposed for Pod 1. The construction of Pod 2 will require the removal of approximately 50 paddock trees (refer to Plate 9 of the Environmental Assessment). Further, the

Environmental Assessment advises clearing in relation to the construction of Pod 2 satisfies exemptions available under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* on the basis that:

- The area proposed to be cleared does not contain any riparian vegetation;
- The area of vegetation proposed to be cleared is less than 5 ha.
- The area proposed to be cleared does not comprise an environmentally sensitive area as declared under section 51B of the EP Act. In addition, the area does not contain features such as wetlands. Due to the degraded nature of the understorey, threatened species are unlikely to occur.

2.7 Aboriginal Heritage

The Department of Aboriginal Affairs Heritage database (Department of Planning, Lands and Heritage, 2021b) indicates that no listed Aboriginal heritage places are known to occur on the subject land. The nearest known sites are Registered Site 4325 Gas pipeline 84 – Artefacts and scatters (500 m to north) and Lodged Site: 3305 Gibbs Sandpit, Pinjarra – Artefacts and scatter, camp (700 m to the south). The North Dandalup River is listed as an ‘Other Heritage Place’.

2.8 Bushfire Prone Areas

According to the map of Bushfire Prone Areas, the subject site and surrounds are identified as bushfire prone (refer to **Figure 3**). A Bushfire Management Plan prepared in support of the proposal is included at **Appendix D**.



FIGURE 3 – BUSHFIRE PRONE AREAS MAPPING

3 PLANNING CONTEXT

3.1 STATUTORY FRAMEWORK

3.1.1 Peel Region Scheme

The subject land is zoned 'Rural' in the Peel Region Scheme (PRS), as is the land immediately to the north, west and south. An extract from the PRS zoning maps is included at **Figure 4** below.

The purpose of the Rural zone is:

'to provide for the sustainable use of land for agriculture, assist in the conservation and wise use of natural resources including water, flora, fauna and minerals, provide a distinctive rural landscape setting for the urban areas and accommodate carefully planned rural living developments.'

The proposed use of the subject site for a poultry farm is consistent with the intended purpose of the Rural zone.

The WAPC has made a resolution under Clause 21 of the PRS requiring development for a new poultry farm or for any extension or addition in excess of 100 m² to the improvements of an existing poultry farm to require separate determination by the WAPC under the PRS, in addition to determination by the Shire under Local Planning Scheme No. 4. Given the Application is a Mandatory DAP Application, a dual determination will be made by the JDAP (under the local planning scheme and PRS).

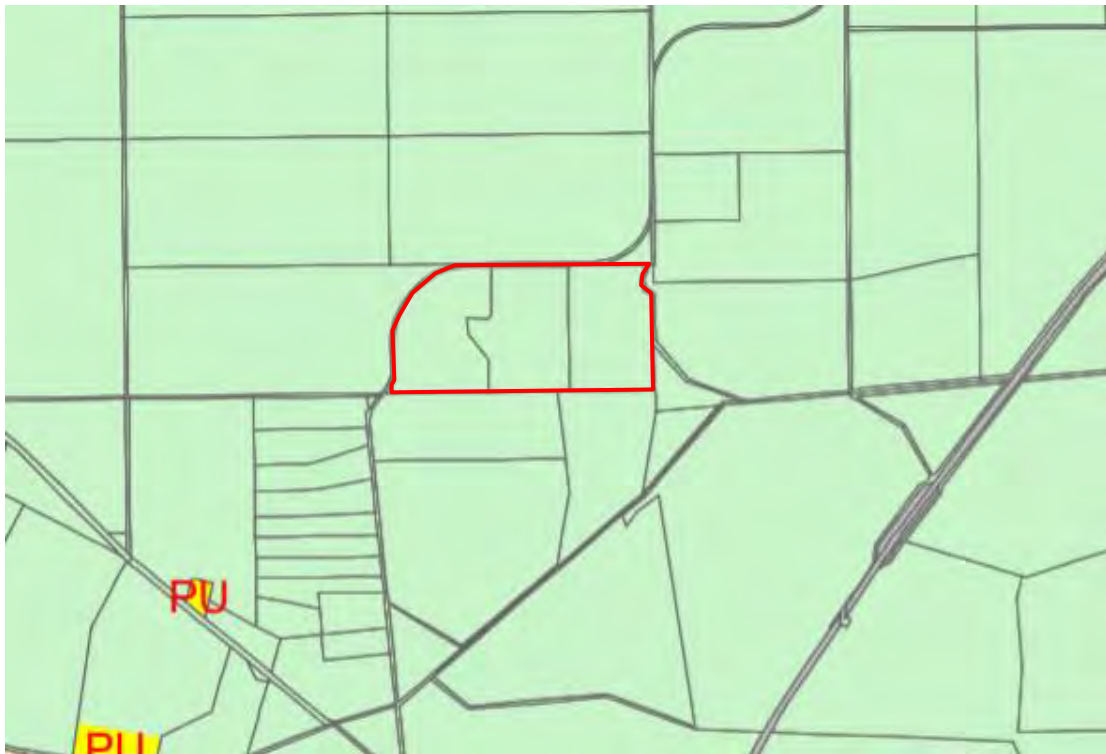


FIGURE 4 – PRS ZONING (SUBJECT SITE OUTLINED IN RED)

3.1.2 Shire of Murray Local Planning Scheme No. 4

The subject land is zoned 'Rural' in the Shire of Murray's Local Planning Scheme No. 4 (LPS 4). An extract from the LPS 4 zoning maps is included at **Figure 5** below.

Land due north, south east and west of the subject site are also zoned Rural. Land to the south-west comprising lots in the order of 10 -13 ha is zoned 'Farmlet'. Lot 5 Corio Road, identified as 'Special Use – Tourist Development' is located to the north-east of the site and land zoned to the north-west is zoned Special Rural (SR40). The 'Special Use – Tourist Development' designation was intended to provide for a tourist development on the subject land. It is understood that a tourist development has never eventuated and that the subject land is currently used as an equestrian training facility.

The proposed upgrading and expansion of the existing poultry sheds would be considered 'Intensive Agriculture' meaning:

'the use of land for the purposes of trade, commercial reward or gain, including such buildings and earthworks, normally associated with the following:

- (a) the production of grapes, vegetables, flowers, exotic and native plants, fruit and nuts;*
- (b) the establishment and operation of plant and fruit nurseries;*
- (c) the development of land for irrigated fodder production and irrigated pasture (including turf farms);*
- (d) the keeping, rearing or fattening of pigs, **poultry (for either egg or meat production)**, rabbits (for either meat or fur production), and other livestock in feed lots, including cattle feed lots, or the development of land for this purpose...'*

(bold text added for emphasis).

Intensive Agriculture is an 'AA' use in the Rural zone, which is a use the Council may, at its discretion permit, provided it is satisfied that such use would not be contrary to the orderly and proper planning of the area.

Part IX – The Peel Harvey coastal Plain catchment states the following with regard to Intensive Agriculture:

9.1.5 In considering an application to develop land for Intensive Agriculture within the PeelHarvey Coastal Plain Catchment the Council shall:

- a) take account of soil types, slope, groundwater flows, surface water drainage and proximity to the Peel-Harvey Estuary;*
- b) take account of the objectives of the Statement of Planning Policy No. 2 with respect to the potential impact of the development on the environment and water quality; and*
- c) consult with the Department of Agriculture and the Department of Environmental Protection and take account of any advice in making its determination or defer its decision pending a formal assessment by the Environmental Protection Authority under Part IV of the Environmental Protection Act.*

Table II – *Non Residential Development Standards* prescribes relevant development standards that are applied to non-residential development and provides:

‘Where a use is permitted in a Zone other than that stated in this Table, the Council may apply the standards to that Zone within which the use is proposed as is appropriate’.

No car parking standard is specified for Intensive Agriculture and hence the manner by which car parking is provided for this land use is open to discretion. Car parking provision is addressed in further detail under Section 4 of this report.

This application demonstrates the use of the subject site for an expansion of the existing poultry farm is consistent with the applicable planning framework and appropriate in this instance having regard to the site layout, environmental, traffic and bushfire management measures set out in this proposal. The proposed management measures, which can be applied via conditions of planning approval, will ensure any potential nuisance impacts from odour, noise and dust are mitigated and suitable environmental controls are complied with at all times.



FIGURE 5 – LPS 4 ZONING (SUBJECT SITE OUTLINED IN RED)

3.2 STRATEGIC FRAMEWORK

3.2.1 Shire of Murray Local Rural Strategy

The Local Rural Strategy (LRS) was initially adopted in 1994 and revised in 1997. The LRS was intended to guide the future planning of the Shire's rural areas. Some portions of the Shire's rural areas have had subsequent plans prepared over them which supersede the earlier provisions and guidelines of the LRS. The Nambellup North Dandalup Local Rural Strategy is one such locality specific plan.

The Shire of Murray is in the process of preparing a new Local Planning Strategy (and Local Planning Scheme) although at this stage the Local Planning Strategy has not reached the stage of being a 'seriously entertained planning proposal'.

3.2.2 Nambellup North Dandalup Local Rural Strategy

The subject site is included within the Nambellup North Dandalup Local Rural Strategy (NNDLRS) area. The purpose of the NNDLRS is to guide future rural land use and allow for some limited additional forms of rural settlement over a 15 -20 year planning horizon (through to approximately 2032).

A key objective of the NNDLRS is:

'To protect agricultural land within the Shire of Murray from land uses and development that lead to its alienation or diminished productivity.'

The NNDLRS recognises a range of agricultural and rural land uses occur within the study area, including specialised intensive uses and seeks to provide for the retention of rural zoned land to facilitate ongoing and future agricultural activities.

With regard to Rural areas, the NNDLRS promotes the use of land for both intensive and extensive agricultural pursuits and to protect the long- term productive capacity of agricultural land from incompatible land uses.

It is considered the proposed upgrading and expansion of the existing poultry farm is consistent with the objectives and purpose of the NNDLRS.

3.2.3 South Metropolitan Peel Sub-Regional Planning Framework

The subject land and surrounds is identified as 'Rural' in the South Metropolitan Peel Sub-Regional Planning Framework (SRPF). No new Rural Residential areas are identified in proximity to the site. A 'Planning Investigation Area' is identified to the north-east of Ravenswood on the north side of Old Mandurah Road, however the extent of this Planning Investigation Area is separated from the subject site by 2.1km (see **Figure 6** overpage).

The SRPF otherwise includes the following key planning principles:

- recognise that the Peel-Harvey catchment requires sensitive land use planning and that management of drainage and environmental issues is paramount;

...

- retain land for rural and agricultural purposes.

Given the above planning principles are upheld by the proposal and the subject site is sufficiently separated from any areas identified for more intensive residential type development, the Application is consistent with the SRPF.

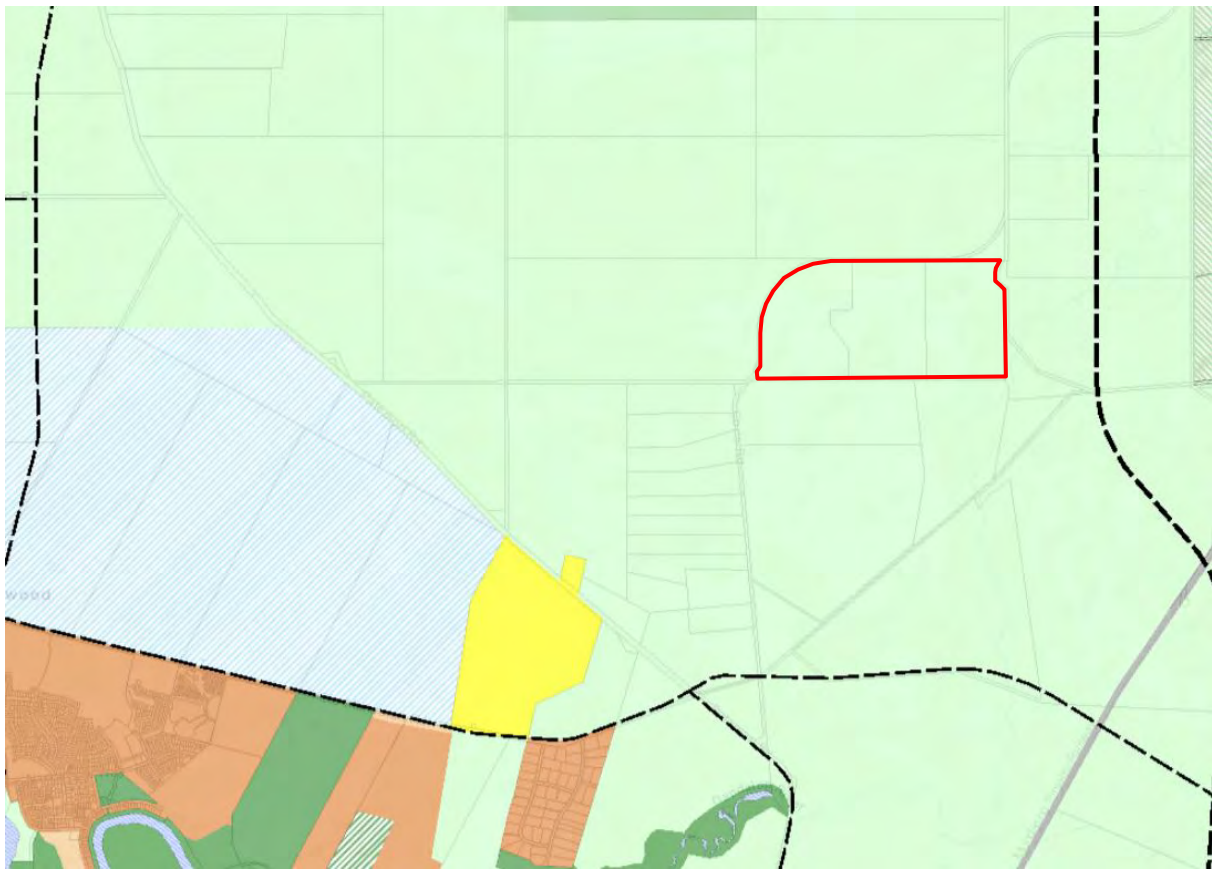


FIGURE 6 – SOUTH METROPOLITAN PEEL SUB REGIONAL PLANNING FRAMEWORK (SUBJECT SITE OUTLINED IN RED)

3.3 POLICIES

3.3.1 Priority Agricultural and Rural Land Use Policy

The Priority Agricultural and Rural Land Use Policy applies to rural land within the Peel Region Scheme area of the Peel-Harvey coastal catchment, and hence is relevant to this proposal. It is noted the subject site is not identified as 'Priority Agricultural Land' under the Policy.

To reduce the risk of nutrient export into the Peel-Harvey coastal plain catchment, 'closed and zero discharge' production systems are encouraged. As the proposed poultry farm development will be a closed system, no

nutrients will be discharged to the environment and there is no risk of nutrient export to the Peel-Harvey coastal plain catchment.

At clause 5.9, the Policy advises proposals for new or expanded agricultural activities must be supported by a land capability assessment. The Environmental Assessment at **Appendix C** addresses land capability and advises that application of sand fill to achieve separation from the maximum groundwater level by 1 m is considered sufficient to protect groundwater and to reduce the risk of inundation.

The Policy advises a quantitative nutrient budget for phosphorus and nitrogen is also required to the satisfaction of the local government (in consultation with the Department of Primary Industries and Regional Development and the Department of Water and Environmental Regulation), demonstrating the proposal and nutrient management practices will not contribute to an increase in nutrient levels in surface or groundwater. Again, given the proposal is for a closed system, which will result in no risk of nutrient export, preparation of a nutrient budget should not be required.

Clause 6.1 of the Policy provides that land uses with the potential to create conflict with agricultural activities should be separated from such activities by buffers, to protect the primacy of agricultural activities within the priority agricultural land areas and, in doing so, protect people from emissions such as spray draft, noise, dust and odour. This Application has been prepared with due regard for this policy objective.

3.3.2 State Planning Policy 2.1 Peel-Harvey Coastal Plain Catchment

The subject site is included within the Peel-Harvey coastal plain catchment and hence SPP 2.1 is applicable to this proposal.

The objectives of SPP 2.1 are to:

- *improve the social, economic, ecological, aesthetic, and recreational potential of the Peel-Harvey coastal plain catchment;*
- *ensure that changes to land use within the catchment to the Peel-Harvey estuarine system are controlled so as to avoid and minimise environmental damage;*
- *balance environmental protection with the economic viability of the primary sector;*
- *increase high water-using vegetation cover within the Peel-Harvey coastal plain catchment;*
- *reflect the environmental objectives in the draft Environmental Protection Policy (Peel-Harvey Estuarine System) 1992; and*
- *prevent land uses likely to result in excessive nutrient export into the drainage system.*

SPP 2.1 provides that intensive agriculture (including poultry farming) which is likely to drain towards the Peel-Harvey Estuarine System shall be managed to reduce or eliminate nutrient export from the land.

The Environmental Assessment at **Appendix C** considers the requirements of SPP 2.1 and advises that as the premises will operate as a closed system, no nutrients will be discharged to the environment. Accordingly, the Application is able to satisfy the objectives of SPP 2.1 via the imposition of appropriate conditions of planning approval relating to nutrient management.

3.3.3 State Planning Policy 2.5 – Rural Planning

This version of SPP 2.5 (December 2016) introduced policy direction for animal premises (including poultry farms). The gazettal of SPP 2.5 also revoked the previous State Planning Policy 4.3: Poultry Farm Policy.

The intent of SPP 2.5 is to *‘protect and preserve Western Australia’s rural land assets due to the importance of their economic, nature resource, food production, environmental and landscape values.’*

The policy objectives are as follows:

- (a) *support existing, expanded and future primary production through the protection of rural land, particularly priority agricultural land and land required for animal premises and/or the production of food;*
- (b) *provide investment security for existing, expanded and future primary production and promote economic growth and regional development on rural land for rural land uses;*
- (c) *outside of the Perth and Peel planning regions, secure significant basic raw material resources and provide for their extraction;*
- (d) *provide a planning framework that comprehensively considers rural land and land uses, and facilitates consistent and timely decision-making;*
- (e) *avoid and minimise land use conflicts;*
- (f) *promote sustainable settlement in, and adjacent to, existing urban areas; and*
- (g) *protect and sustainably manage environmental, landscape and water resource assets.*

Clause 5.1 of SPP 2.5 includes the following relevant provisions regarding the protection of rural land and land uses :

- (d) *protecting land, resources and/or primary production activities through the State’s land use planning framework;*
- (e) *creating new rural lots only in accordance with the circumstances under which rural subdivision is intended in Development Control Policy 3.4: Subdivision of rural land;*
- (f) *preventing the creation of new or smaller rural lots on an unplanned or ad-hoc basis, particularly for intensive or emerging primary production land uses;*
- (g) *comprehensively planning for the introduction of sensitive land uses that may compromise existing, future and potential primary production on rural land; and*
- (h) *accepting the impacts of well-managed primary production on rural amenity.*

SPP 2.5 recognises that animal premises are important contributors to the food needs of Western Australia’s residents and to the State’s economy. With regard to animal premises (including poultry farms) SPP 2.5 provides:

(a) animal premises are a rural land use, and are generally supported and encouraged on rural land provided rural amenity and environmental impacts can be effectively managed;

(b) animal premises that require large sites or buffers, and could limit existing or potential industrial land uses, should generally not be located in State strategic industrial areas or within their buffers;

(c) expansion of existing animal premises may be supported where off-site impacts (such as odour, dust or noise) are mitigated or managed to achieve maintenance or reduction of impacts, in accordance with an accepted code of practice;

(d) in addition to environmental issues, planning decision-makers must consider the following matters in assessing proposals-

(i) the staging of the proposal and ultimate design capacity;

(ii) the transport of animals to and from the site;

(iii) the handling and disposal of deceased or 'retired' animals on or off-site;

(iv) the transport, handling and/or disposal of animal feed and/or waste on or off-site;

(v) outdoor pens or roaming areas for animals;

(vi) the potential impacts of operating hours; (vii) shed configuration, including rotation and/or automation;

(viii) servicing, including location and size of effluent disposal ponds;

(ix) biosecurity (based on advice from the industry); and

(e) where an animal premises proposal may affect the nutrient load of a river, estuary or associated tributary and the system and/or its receiving water body has no further capacity to assimilate nutrients without an adverse impact on ecosystem health, a reduction in nutrient export is to be demonstrated.

Clause 5.12 of SPP 2.5 – 'Preventing and managing impacts in land use planning' provides for the suitability of land uses to be considered having regard to the ability to manage offsite impacts (including impacts on sensitive uses). SPP 2.5 notes separation distances should be applied as set out in environmental policy and health guidance, prescribed standards, accepted industry standards and/or Codes of Practice.

The WAPC has prepared the *Rural Planning Guidelines*, which at Appendix 2 includes a table to assist the implementation of clause 5.12 of SPP 2.5 by identifying the separation distances to sensitive land uses recommended by State government agencies and industry bodies. With regard to poultry farms, the following separation distances are recognized:

- EPA – 300m to 1000m
- National Industry Standard – 250m to 500m
- State Industry Standard – 300m to 500m.

The guidelines state by meeting the EPA standard, the industry standards would also be satisfied (given the industry standards recommend a lesser buffer). This proposal has been informed by the EPA recommended separation distance and further, conservatively adopts a separation distance of 1000m.

Within this Planning Report and via the preparation of an Environmental Assessment and Management Plan (**Appendix C**) and Transport Impact Statement (**Appendix E**) the provisions of SPP 2.5 have been comprehensively addressed.

The proposed expansion of the poultry farm will introduce improved environmental management to minimize nutrient export and achieves separation from sensitive land uses in accordance with the accepted codes of practice and environmental guidance statement and as such satisfies each of the abovementioned policy provisions.

3.3.4 State Planning Policy 3.7 – Planning in Bushfire Prone Areas

State Planning Policy 3.7 (SPP 3.7) seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. SPP 3.7 applies to development applications over land designated as bushfire prone by the Map of Bushfire Prone Areas prepared by the Department of Fire and Emergency Services.

Section 6.5 of the Policy provides that any development application within a designated bushfire prone area is to be accompanied by information that appropriately addresses the *Guidelines for Planning in Bushfire Prone Areas*. Accordingly, a BMP has been prepared by Envision Bushfire Protection in accordance with SPP 3.7 and is included at **Appendix D**. Further details are included at Section 5 of this report.

3.4 OTHER RELEVANT DOCUMENTS

3.4.1 EPA GS3 – Separation Distances between Industrial and Sensitive Land Uses

EPA Guidance Statement 3 provides advice on the use of generic separation distances (buffers) between industrial and sensitive land uses to avoid conflicts between incompatible land uses. The distances outlined in Appendix 1 of the Guidance Statement are intended to operate as a default distance for the purposes of:

- identifying the need for specific separation distance or buffer definition studies; and
- providing general guidance on separation distances in the absence of site specific technical studies.

The Guidance Statement is intended to be consistent with the relevant environmental codes of practice and management guidelines prepared in relation to specific industries, including poultry farming. Under Appendix 1 of the Guidance Statement a generic buffer distance of 300m-1000m is recommended, depending on the size of the poultry farming operation, to manage potential nuisance from noise, dust and odour.

The Application achieves a minimum separation distance of 1000m from the nearest sensitive premises (rural dwellings) as illustrated by the Land Use Context and Buffer Plan at **Appendix B**. Given the higher range generic

buffer distance is satisfied and the details provided in the Environmental Assessment and Management Plan (**Appendix C**) no site specific technical investigations should be required to support the proposal.

3.4.2 WAPC Fact Sheet – Poultry Farms

The WAPC has produced a Fact Sheet which outlines a range of land use planning considerations relevant to the establishment, expansion or modification of poultry farms in Western Australia. This fact sheet was prepared to assist planners implement *State Planning Policy 2.5: Rural Planning*. The Fact Sheet addresses matters including the following:

- Scale of the proposal
- Access to water
- Vehicle access
- Visual impacts
- Buffers
- Waste Management
- Biosecurity

The Application has considered and provided responses to each of the above matters. In terms of the design and layout of poultry farms, the Fact Sheet refers to the *Environmental Code of Practice for Poultry Farms (2004)*. This Code of Practice is discussed below.

3.4.3 Environmental Code of Practice for Poultry Farms in Western Australia 2004

The *Environmental Code of Practice for Poultry Farms in Western Australia 2004* ('Code of Practice') was prepared to provide a point of reference to all stakeholders to better understand the poultry industry by outlining clear and precise guidelines to inform planning, biosecurity and best management practices. The Code of Practice has been given due regard as part of the design and preparation of management strategies for the site. In particular, the following design parameters have been considered and satisfied:

- Existing or future residential zone – 500m
- Existing or future rural residential zone – 300m
- Farm boundary – 100m
- Wetlands, waterways and floodways – 50m (from edge of wetland buffer)

Further details in relation to separation from groundwater and the identified Conservation Category Wetland are addressed by the Environmental Assessment and Management Plan.

3.4.4 Code of Practice for Poultry in Western Australia 2003

This document was prepared by the former Department of Agriculture and Department of Local Government and Regional Development. Whilst not specifically referenced in the *Environmental Code of Practice for Poultry*

Farms in Western Australia 2004 document, it is understood this document has been superseded by the 2004 document.

3.4.5 Planning for the Proposed Peel Food Zone

The Department of Primary Industries and Regional Development (including the former Department of Agriculture and Food WA (DAFWA)) is the lead agency for planning the Peel Food Zone (PFZ) sub-project.

The PFZ project is intended to establish a strategic approach to planning for agriculture and its future in the Peel region specifically and Western Australia more broadly. The proposed PFZ is approximately 42 000ha and includes land that is considered both suitable and unsuitable for agricultural development. The study investigated the feasibility of six land use scenarios that each have the potential to become established in the proposed PFZ. Closed loop livestock systems (including closed poultry farm systems) was one of the land use scenarios considered by the study.

The suitability of each of these land use scenarios for the PFZ was determined using a range of data sets reflecting the environmental, social, infrastructure and physical values of the region. A multi-criteria assessment of these data generated a series of maps illustrating where in the PFZ each land use scenario was most suited. Criteria used to determine land use suitability included:

- Lot area
- Flood Risk
- Groundwater availability
- Proximity to receiving water bodies
- Proximity to 3 phase powerlines
- Proximity to RAV4 vehicle network
- Proximity to sensitive human receptors
- Depth to Groundwater (Separation distance)
- Internet access
- Phosphorous Export Risk
- Land Capability

Assessment of the various land use scenarios against these criteria was expressed in maps contained within the final report. An extract from the Closed Loop Intensive Livestock mapping is included at **Figure 7** below.

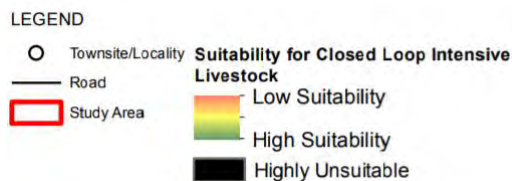


FIGURE 7 – EXTRACT FROM PLANNING FOR PFZ (APPENDIX G)

Whilst parts of the subject site are identified as ‘highly unsuitable’ the majority of the areas proposed for the siting of the new poultry sheds is classified as having high suitability.

It is noted the multicriteria assessment does not include consideration of biosecurity which is a key issue relevant to the design and siting of intensive agricultural uses (as acknowledged by SPP 2.5). Further, it is relevant that the PFZ assessment necessarily is a ‘high level’ tool and that the recommendations of this study should be balanced against detailed site-specific investigations as have been undertaken in support of the Application and reflected in the Environmental Assessment at **Appendix C**. The Environmental Assessment provides more detailed analysis regarding the suitability of closed-system intensive livestock production within the Peel Food Zone.

The final report acknowledges that in order to ensure the PFZ can be implemented, it needs to be incorporated into state and local government planning framework. Implementing the PFZ through these frameworks will provide the high-level recognition of the PFZ’s importance and the framework for controlling appropriate

development. Until the planning framework has been updated to incorporate the PFZ findings, it should be used for general information purposes only.

3.4.6 Shire of Murray Health Local Law 2018

The Shire of Murray Health Local Law 2018 at clause 5.21 (3) advises commercial poultry establishments are to manage operations in accordance with the *Environmental Code of Practice for Poultry Farms in Western Australia 2004* produced by the Western Australian Broilers Growers Association and Poultry Farmers Association of Western Australia, in conjunction with state and local authorities to control environmental and health nuisances.

4 PROPOSED DEVELOPMENT

4.1 DEVELOPMENT & LAND USE SUMMARY

This application seeks to facilitate the upgrading and expansion of the existing poultry farm on the subject site in accordance with the Development Plans included at **Appendix B**.

The existing free range poultry sheds are capable of housing a total of 48,000 birds at any one time. The sheds can support 5.5 batches of birds per year which results in the production of a maximum of 264,000 birds per annum.

The following development is proposed by this application:

- Removal of the three (3) existing free range sheds;
- Construction of 12 new tunnel ventilated sheds (16.2m x 176.2m) in two separate pods each comprising 6 sheds (34,848 m² of sheds in total). Each pod will be 340m apart to enhance biosecurity;
- An additional crossover to Corio Road and internal access driveways to service the sheds; and
- Landscaping/vegetation screening adjacent to Corio Road.

Other ancillary buildings and infrastructure within the central part of Lot 72 will be retained.

Each new shed will house 50,000 birds at any one time with 5.5 batches of birds per year. This will result in the production of approximately 3.3 million birds per annum.

The proposed expansion and upgrades to the existing facility will enable the continued use of the property for a productive intensive agricultural land use. The development will result in significant improvement to the operational efficiencies of the poultry farm, with mitigation of any potential offsite impacts (including nutrient export, noise, odour, dust) through modern shed design and the implementation of best practice facility management.

4.2 BUILT FORM & SHED DESIGN

4.2.1 Position, Setbacks & Orientation

The 12 new 16.2m x 176.2m sheds will be grouped in two pods, each comprising six (6) sheds. Individual sheds shall be 32m apart. The pods will be separated by a distance of 340m and will be setback a minimum of 100m from all external property boundaries. The existing lots will be amalgamated prior to the commencement of the use so that no new structures will cross internal lot boundaries.

Pod 2 will be separated from the mapped Resource Enhancement Wetland traversing the eastern part of the site (through Lot 73) and the associated wetland buffer, by some 68m.

The tunnel ventilated sheds comprise ventilation fans at one end and cool cell pads at the opposite end to facilitate evaporative cooling of the sheds. The primary access to the sheds is via the cool cell pad end which

enables delivery and removal of birds, removal of litter/replacement of bedding etc. The orientation of the sheds is shown on the development plans (**Appendix B**).

The shed orientation enables the majority of poultry shed operations to occur internal to the site, including truck movements and use of loaders, forklifts etc. which will occur on a servicing area adjacent to the primary shed access.

4.2.2 Colours & Materials

The new sheds will be of steel frame construction with 50mm sandwich panel walls and custom orb roof sheeting with a 12 degree roof pitch. One end of the sheds will be clad using cool cell pads along a length of 32m. Specific material colours will be detailed at building permit stage.

4.3 LANDSCAPING

Screening vegetation is proposed to be planted on the northern and western sides of Pod 1 to soften its visual impact when viewed from Corio Road. It is noted there is already a number of mature and semi-mature trees in this location that will be retained to enhance the intended visual screening effect.

4.4 OPERATIONAL DETAILS

4.4.1 Bird Management & Batch Cycle

The overall batch cycle occurs over approximately 58 days.

The floors of the sheds will be concrete and spread with sawdust (or similar) bedding. The sheds are tunnel ventilated to keep the birds at the appropriate temperature year around.

Day old chicks will be transported to the sheds, enclosed and kept warm for approximately 20 days (brooding stage). The young poultry will then be raised in the sheds until they reach a minimum weight. At this stage, approximately 50 days into the cycle, collection of the birds occurs. Collection occurs at night to minimise disruption to the birds, which are then transported to a processing facility. The shed doors are closed at the time birds are collected. Cleaning of the shed then takes approximately seven days.

It is proposed to remove the spent litter, comprising manure and sawdust bedding, from the property for beneficial reuse by a contractor. Removal will be undertaken using a bobcat type front end loader, with litter placed in a covered side tipper truck for removal from the site. Collection of the litter will occur inside the shed with doors closed. Litter shall not be stockpiled or composted on site. Any dead birds will be refrigerated (within the coolroom) and removed from the property every two days by a contractor.

4.4.2 Tunnel Ventilation

Tunnel ventilation sheds have fans at one end of the shed which draw air into the shed through cooling pads in the walls, over the birds and out the fan end of the shed at high speed. Temperature sensors in the poultry house allow the fan, heating and cooling settings to be adjusted as necessary. Tunnel ventilation provides for temperature, humidity and air quality to be checked and adjusted regularly. It allows the operator to exercise a greater degree of control over the climate within each shed in the interests of animal welfare and odour and dust management.

4.5 STAFF & HOURS OF OPERATION

The poultry farm will be a 24 hour per day/7 day per week operation. During normal operations, up to 6 staff (including an onsite manager) will attend the site during the day, between the hours of 7am to 5pm, 7 days per week. The onsite manager will remain in attendance after hours and will reside in the existing dwelling on the site.

Staff parking will be accommodated in the vicinity of the existing amenities building. Given the large area of suitable parking space available on the site, formal construction and line-marking of parking bays is not considered necessary except where to comply with any legislative requirements.

4.6 SERVICING

No reticulated water is available to the site and accordingly water requirements shall be provided by onsite means including via the existing groundwater license.

The existing overhead power supply will be upgraded/relocated as part of the amalgamation of the lots prior to commencement of the proposed poultry farm.

Gas will be delivered to the site at the start of each batch cycle.

4.7 CONSTRUCTION TIMING/STAGING

Construction of the new sheds is anticipated to commence within the first six months following the granting of all necessary approvals. The construction and commencement of the overall development may be undertaken in stages depending on market conditions.

5 SITE MANAGEMENT

5.1 ENVIRONMENTAL MANAGEMENT

5.1.1 Overview

An Environmental Assessment and Management Plan has been prepared in support of the Application to construct and operate 12 new tunnel ventilated poultry sheds on the subject site. A copy of the Environmental Assessment and Management Plan is included at **Appendix C**.

5.1.2 Nutrient Management

Once each batch of chickens is collected, the sheds will be cleaned and sanitised in preparation for the next batch of chickens to arrive. Wash water will not escape the sheds due to the following structural obstructions and operational procedures:

- Sheds will be built on concrete pads, so that any excess wash water can be air dried by the fan system.
- Use of high pressure, low volume spraying units will be used during the cleaning process.

There will be no discharge of wastewater as a result of the cleaning process and all litter will be removed off site (refer below). Management of dead birds will comprise onsite storage in a cool room with pick up every two days by a contractor.

5.1.3 Odour & Dust Management

Odour and dust risks will be minimised by:

- Removing litter from sheds between batches of birds in as short a time as is practicable (this usually takes a day). Removal of litter will take place inside the sheds with doors shut to prevent dust and odour dispersal.
- Immediate removal of litter from the property (i.e. without stockpiling/ storage on the property).
- Maintaining watering and sprinkler systems to ensure that litter does not become too wet (or too dry). Moisture content of between 30 – 40% and less than 50% will reduce the risk of odour generation. Should litter become too wet, it will be rotary hoed or have extra absorbent material added.
- A speed limit of 25km per hour will be applied to vehicles within the property to reduce the risk of dust dispersal. Litter being removed from the property will be covered to prevent discharge of odour and dust.
- Planting screen trees adjacent to Pod 1. Planting will comprise local native species such as jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*). The planting will assist in minimising visual impacts, and will replace the paddock trees to be removed to construct Pod 2.

The preparation and implementation of Odour and Dust Management Plans would be anticipated as a condition of planning approval.

5.1.4 Noise Management

Daytime noise resulting from the operation of the poultry farm will be consistent with that associated with farming activities in a rural area. While some activity will intermittently take place at night, such as catching operations and the arrival and departure of associated vehicles, there is not anticipated to be a high level of noise that would result in offsite disturbance due to the separation distances from the nearest dwellings being no less than 1000m. As such, it is considered the proposed expansion of the poultry farm will comply with the *Environmental Protection (Noise) Regulations 1997* and will not have an adverse impact on the amenity of the locality in relation to noise emissions.

Noise risks will be minimised by:

- Selecting equipment which has specifications for low noise generation (e.g. fans, pumps and other equipment).
- Use of 'quietened' equipment such as forklifts and bobcats which are fitted with lights instead of beepers (subject to Occupational Safety and Health Act and regulation compliance).
- Maintaining and servicing equipment so that it runs smoothly and quietly.
- Induction of staff to ensure that they operate equipment quietly (with signs to reinforce the need for noise minimisation).
- Scheduling most activities to occur during daylight hours (except for collection of birds for removal from farm).
- Bird removal trucks will arrive in the late afternoon and be loaded during the night. The trucks will depart the property at approximately 8am to reduce the risk of truck noise during the night.

The preparation and implementation of a Noise Management Plan would be anticipated as a condition of planning approval.

5.2 BUSHFIRE MANAGEMENT

A BAL Assessment and Bushfire Management Plan has been prepared in support of the application to construct and operate 12 new tunnel ventilated poultry sheds on the subject site. A copy of the Bushfire Management Plan is included at **Appendix D**. The Bushfire Management Plan demonstrates that compliance with SPP 3.7 and the associated Guidelines can be achieved.

The proposal satisfies the Acceptable Solution for Element 1 – *Location* as it shall be sited in an area classified as a 'moderate' threat.

With regard to Element 2 – *Siting and Design of Buildings*, the poultry sheds within both Pods 1 and 2 can achieve a BAL not exceeding BAL-29 via the establishment and ongoing management of an Asset Protection Zone (In the case of Pod 1 this is recommended, not required).

The acceptable solution for Element 3 - *Vehicle Access* requires access to a through-road that provides alternative destinations for evacuation, and alternative directions from which assistance from emergency services can be received. Corio Road satisfies this requirement. In addition, driveways longer than 50 m should comply with the technical requirements for private driveways, width and grade and have provision for a turnaround or to enter and leave in a forward direction. The internal access driveways proposed as part of this development are able to satisfy these standards.

The proposal is able to satisfy the acceptable solution for the provision of a suitable water supply (Element 4 – *Water*).

Whilst the site does not have access to a reticulated water supply, it has access to a soak and ground water. Potable water is provided at the caretaker's residence and the dwelling in domestic tanks. A filter treatment system from the ground water supply is stored in a 110,000 L tank which shall supply water to the sheds. Suitably located water tanks/hydrants shall also be provided.

5.3 TRAFFIC MANAGEMENT

A Transport Impact Statement (TIS) has been prepared in support of the Application to construct and operate 12 new tunnel ventilated poultry sheds on the subject site. A copy of the TIS is included at **Appendix E**.

The TIS considers likely traffic generation during the 58 day growing cycle associated with delivery of day old chicks and bedding, feed delivery, dead bird collection, live bird collection, litter removal and staff attendance. The TIS advises on the basis of a 'worst case' scenario that 33 vehicle movements (66 two-way trips) may be generated during the growing cycle. It is noted that this figure is not reflective of daily traffic due to the cyclical nature of the operations.

In any case, the TIS concludes the proposed development will have no material impact on the safe and efficient operation of the surrounding road network and via swept path analysis, that all internal traffic movements can be accommodated by the site layout and proposed access driveways.

6 CONCLUSION

This application proposes the upgrading and expansion of the existing meat bird poultry farm facility located at Lot 72 Corio Road, Ravenswood. The proposal involves the construction of 12 new tunnel ventilated sheds over Lots 71, 72 & 73 which will operate as a closed system.

The new tunnel ventilated facilities will enable operations to occur in accordance with best practise for meat bird poultry farms. The production capacity of the upgraded facility would be 3.3 million birds per annum.

Recommendations in support of the proposal from the Shire of Murray and WAPC are therefore respectfully requested, along with a favourable determination by the Metro Outer JDAP.

Should any further information be required to facilitate approval, do not hesitate to contact the author of this report.

APPENDIX A | CERTIFICATE OF TITLE

WESTERN



AUSTRALIA

REGISTER NUMBER

71/DP71624DUPLICATE
EDITION**N/A**

DATE DUPLICATE ISSUED

N/AVOLUME
2793FOLIO
432

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 71 ON DEPOSITED PLAN 71624

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

ROBERT JOHN CLAYTON
TERESA ANN CLAYTON
BOTH OF PO BOX 393 PINJARRA
AS JOINT TENANTS

(T N227304) REGISTERED 15/1/2016

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP71624
PREVIOUS TITLE: 1990-498
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MURRAY

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING
L654331

WESTERN



AUSTRALIA

REGISTER NUMBER

72/DP71624DUPLICATE
EDITION**N/A**

DATE DUPLICATE ISSUED

N/A

VOLUME

2793

FOLIO

433

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 72 ON DEPOSITED PLAN 71624

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

ROBERT JOHN CLAYTON
TERESA ANN CLAYTON
BOTH OF PO BOX 393 PINJARRA
AS JOINT TENANTS

(T N227304) REGISTERED 15/1/2016

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
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-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP71624
PREVIOUS TITLE: 1990-498
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MURRAY

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING
L654331

WESTERN



AUSTRALIA

REGISTER NUMBER

73/DP71624DUPLICATE
EDITION**N/A**

DATE DUPLICATE ISSUED

N/AVOLUME
2793FOLIO
434

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

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BGRoberts
REGISTRAR OF TITLES

**LAND DESCRIPTION:**

LOT 73 ON DEPOSITED PLAN 71624

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

SPROCK GROUP PTY LTD OF PO BOX 393 PINJARRA

(T N227306) REGISTERED 15/1/2016

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. *A363740 EASEMENT TO AMPOL EXPLORATION LIMITED, SHELL DEVELOPMENT (AUSTRALIA) PTY LIMITED, TEXACO OVERSEAS PETROLEUM COMPANY AND CALIFORNIA ASIATIC OIL COMPANY. SEE SKETCH ON DEPOSITED PLAN 71624 REGISTERED 15/1/1971.
- *K395712 NOTIFICATION. THE GRANTEES OF EASEMENT A363740 ARE NOW APT PARMELIA PTY LTD PURSUANT TO SECTION 20(5) OF THE PETROLEUM PIPELINES ACT 1969. RECORDED 31/10/2007.
2. *D471316 EASEMENT TO ALCOA OF AUSTRALIA (W.A.) LTD. SEE SKETCH ON DEPOSITED PLAN 71624 REGISTERED 8/5/1987.
3. *O491721 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA REGISTERED 8/9/2020.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
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Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP71624
PREVIOUS TITLE: 1990-498
PROPERTY STREET ADDRESS: 511 CORIO RD, RAVENSWOOD.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MURRAY

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING L654331

APPENDIX B | DEVELOPMENT PLANS

LEGEND



Subject Land (121.4832ha)



1000m Buffer



Existing Structures



Proposed Poultry Sheds



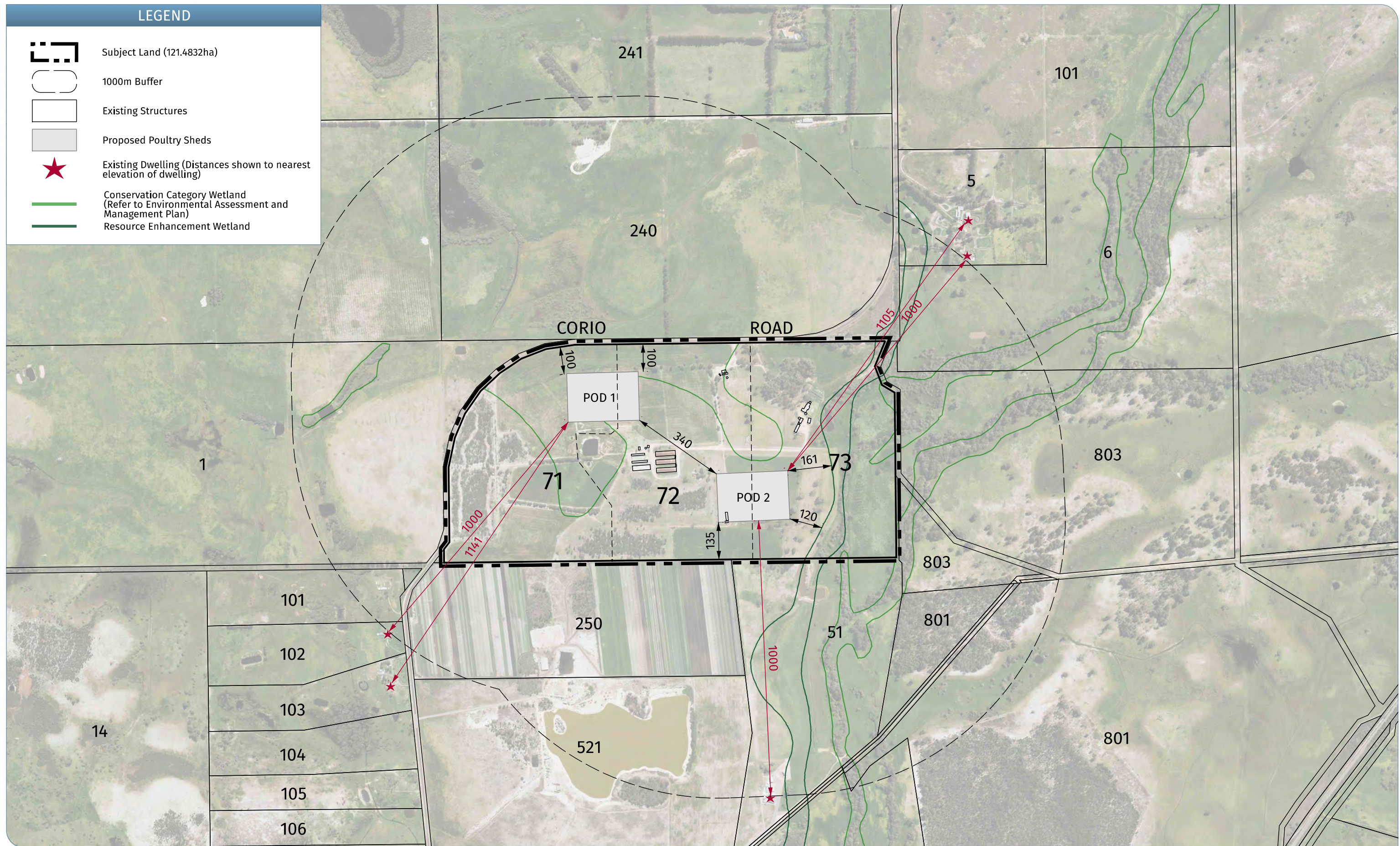
Existing Dwelling (Distances shown to nearest elevation of dwelling)



Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)



Resource Enhancement Wetland



LANDUSE CONTEXT & BUFFER PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-02
Date | 19/02/21
Drawn | NP
Checked | BdR
Revision | C

PERTH & FORRESTDALE:
Lvl 1, 252 Fitzgerald St
PERTH WA 6000
15/2 Hensbrook Loop,
FORRESTDALE WA 6112
T: 08 9495 1947
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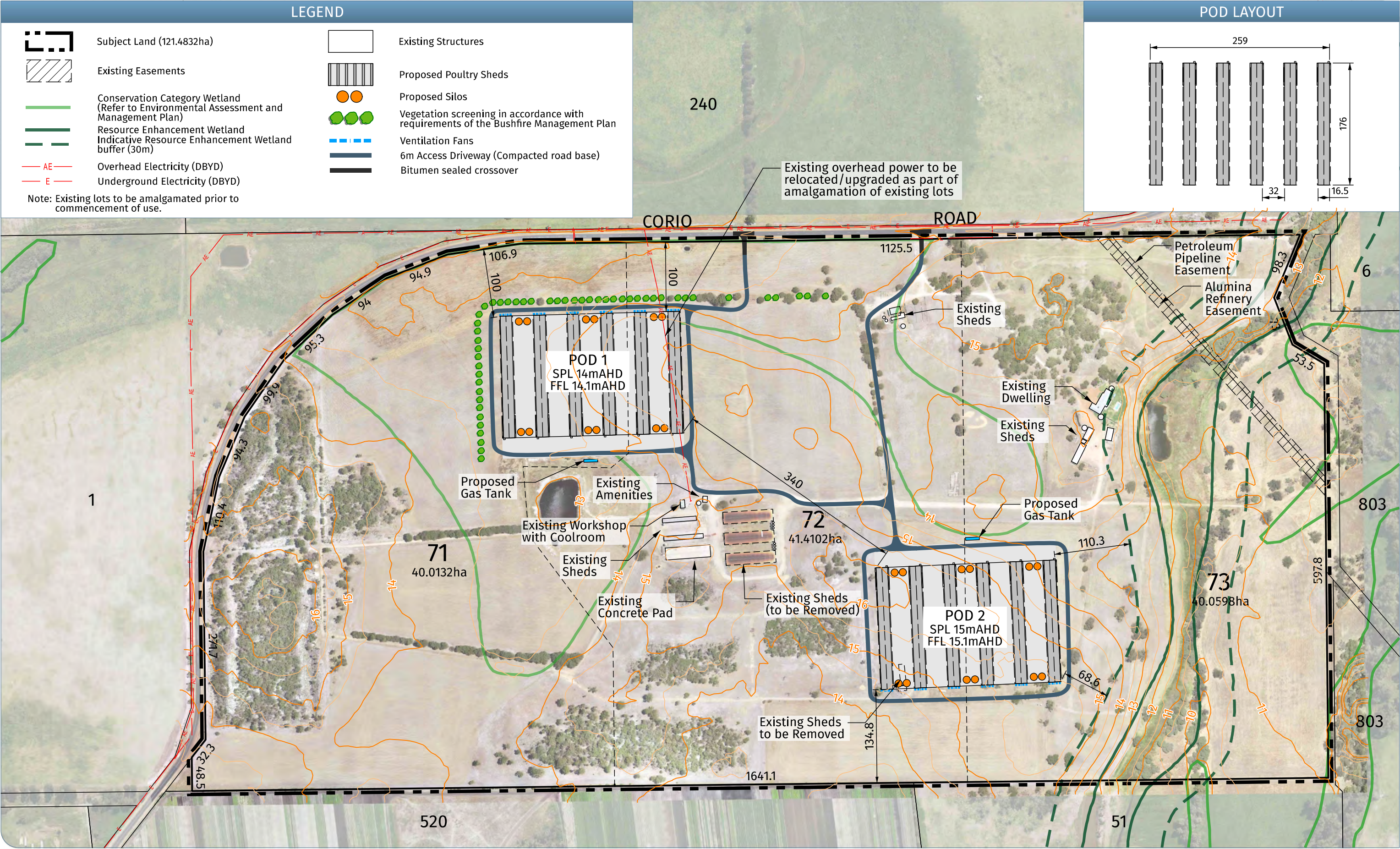


NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey



Harley Dykstra

PLANNING & SURVEY SOLUTIONS



DEVELOPMENT SITE PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-01

Date | 04/03/21

Drawn | NP

Checked | BdR

Revision | D

PERTH & FORRESTDALE:

Lvl 1, 252 Fitzgerald St
PERTH WA 6000
15/2 Hensbrook Loop,
FORRESTDALE WA 6112
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E: metro@harleydykstra.com.au

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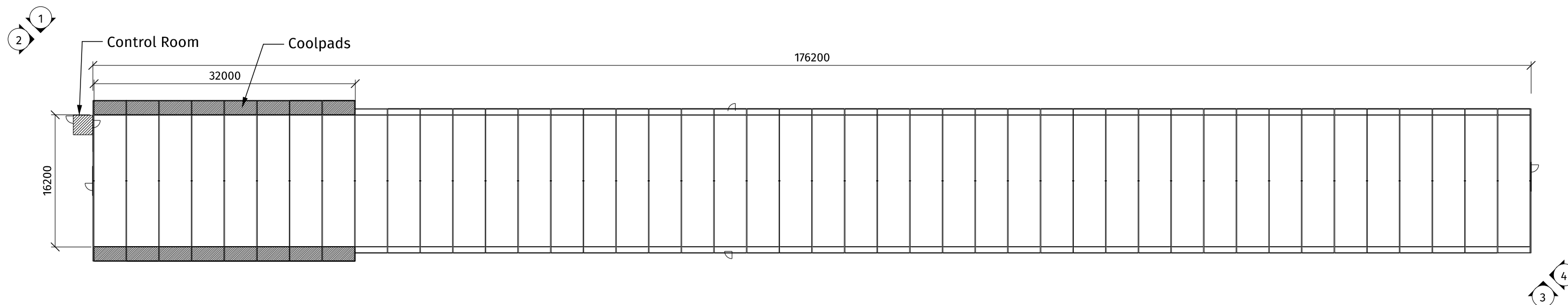
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Harley Dykstra

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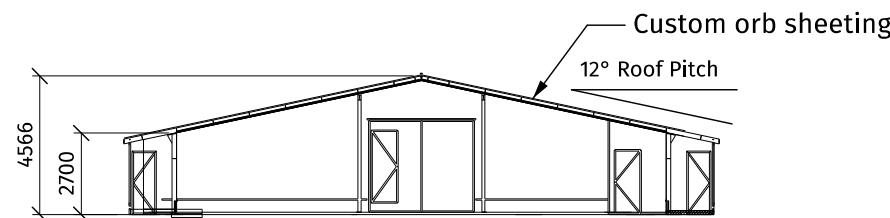
FLOOR PLAN
1:500



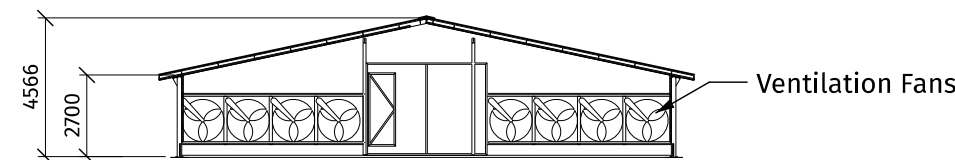
ELEVATION - 1
1:500



ELEVATION - 3
1:500



ELEVATION - 2
1:250



ELEVATION - 4
1:250

NOTE: Design by R&DG Sanday

FLOOR PLAN AND ELEVATIONS

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No.		22533-03	PERTH & FORRESDALE: Lvl 1, 252 Fitzgerald St PERTH WA 6000 15/2 Hensbrook Loop, FORRESDALE WA 6112 T: 08 9495 1947 E: metro@harleydykstra.com.au ALBANY BUNBURY BUSSELTON FORRESDALE PERTH	COPYRIGHT: This document is and shall remain the property of HARLEY DYKSTRA. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.
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Drawn		NP		
Checked		DM		
Revision		A		
Scale		1:500@A3		

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Harley Dykstra
PLANNING & SURVEY SOLUTIONS

APPENDIX C | ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN

Closed System Broiler Poultry Farm Environmental Assessment and Management Plan Lots 71, 72 & 73 Corio Road, Ravenswood Shire of Murray, WA



Prepared For: Fairglen Farms Pty Ltd
Level 6, 2 Bulletin Place
SYDNEY NSW 2000

Report Number: AA2021/042

Report Version: 3

Report Date: 17 March 2021

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Document No: FGF2021-002_EMP_001_mp_V3.docx

Report No: AA2021/042

Author: Melanie Price
Associate Environmental
Scientist

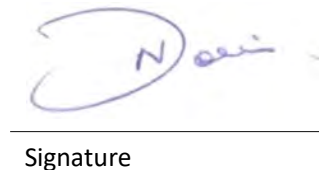


Signature

17 March 2021

Date

Reviewed by: Noel Davies
Manager - Waste & Special
Projects



Signature

17 March 2021

Date

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pdf	FGF2021-002_EMP_001_mp_V2.docx	V2	4 March 2021	Fairglen Farms Pty Ltd	MP
pdf	FGF2021-002_EMP_001_mp_V3.docx	V3	17 March 2021	Fairglen Farms Pty Ltd	MP

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GLOSSARY

Closed system intensive animal production is where facilities (sheds and hardstands) are designed to house and manage livestock in such a way that waste does not enter the environment.

Free range: Animals that are not closely confined and have some access to the outdoors (RSPCA, 2013).

Sensitive land use: Land uses sensitive to emissions include residential developments, hospitals, hotels, motels, hostels, caravan parks, schools, nursing homes, child care facilities, shopping centres, playgrounds, and some public buildings. Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to particular emissions may also be considered “sensitive land uses”. Examples include some retail outlets, offices and training centres, and some types of storage and manufacturing facilities (EPA, 2005).

Separation distances: Distances provided between the operation and sensitive receptors (e.g. residences, recreational areas, towns etc.) are an important secondary measure for reducing the risk of amenity impacts. Separation distances are measured as the shortest distance measured from the operation to the nearest part of a building associated with the sensitive land use (Tucker and O’Keefe, 2013).

LIST OF ABBREVIATIONS

AHD	Australian Height Datum
ASS	Acid Sulfate Soils
BGL	Below ground level
BOM	Bureau of Meteorology
°C	degrees Celsius
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
EHO	Environmental Health Officer
EPP	Environmental Protection Policy
kL	kilolitre
km	kilometre
m	metres
mg/L	milligrams per litre
mm	millimetre
PBI	Phosphorus Buffering Index
PFAWA	Poultry Farmers Association of Western Australia
RSPCA	Royal Society for the Prevention of Cruelty to Animals
SPP	State Planning Policy
TDS	Total dissolved solids
WABGA	Western Australian Broiler Growers Association
WAPC	Western Australian Planning Commission

EXECUTIVE SUMMARY

Aurora Environmental has been engaged to undertake an environmental assessment of Lots 71, 72 and 73 Corio Road, Ravenswood in the Shire of Murray, where Fairglen Farms Pty Ltd intends to replace an existing poultry farm (currently in three sheds) with a modern closed system, which means that engineered structures will be used to ensure that waste (e.g. nutrients) are not discharged to the environment. The 121.483 ha property (Figures 1 and 2) currently operates as a broiler poultry farm, with three sheds on Lot 72 containing 48,000 birds and producing up to 264,000 birds per year. It is proposed that these sheds be removed.

Fairglen Farms proposes to replace the existing sheds with twelve sheds in two pods, which will house up to 300,000 birds at any one time (50,000 birds per shed) with 5.5 batches per year. This will result in an output of approximately 3.3 million birds per year. Approximately 600,000 thousand chickens (of varying ages) will be on the property at any one time in the 12 sheds.

This assessment includes consideration of the environmental setting of the site. Planning policies and guidelines are analysed, including zoning, current policies and recommended separation distances to sensitive receptors. Management strategies have been developed for the operation based on thorough assessment of the environmental and planning matters.

As shown in Appendix A, the operation will be serviced via existing access tracks and include water tanks and feed silos. The new sheds, each comprising 176 m by 16 m x 5 m will be constructed of steel (Appendix B). The floors of the sheds will be concrete and spread with sawdust bedding. The sheds will be tunnel ventilated to regulate temperature year-round.

The grow out cycle starts with the arrival of day-old chicks which are kept in a brooding environment for 20 days. After approximately 30 more days, the poultry will be large enough to remove for processing. At the end of each cycle, the litter (sawdust and manure) will be removed from the property over a seven-day period, prior to cleaning and spreading of new bedding.

The North Dandalup River, located to the east of the subject land, and groundwater is considered the primary environmental receptor. The North Dandalup River flows into the Dandalup River, then the Murray River and ultimately the Peel Inlet. The Peel Inlet forms part of the Peel Yalgorup System which is a nationally significant wetland and listed under the Ramsar Convention.

- The site zoning of 'Rural' is compatible with the proposed poultry farm use.
- The proposed poultry farm has appropriate separation from a tributary of the North Dandalup River of 120 m (390 m to the North Dandalup River).
- Vertical separation from groundwater for most of the pod areas exceeds the 2 m separation to maximum ground water. For areas that do not meet the 2 m separation, fill will be incorporated to 14 m AHD to provide at least a 1 m separation. This is considered acceptable as the closed system will prevent nutrient discharge and adequately protect groundwater quality.
- Management of nutrients will occur through the establishment of a closed system, where birds will be kept in sheds, with concrete floors to prevent the export of nutrients to the Peel Harvey System, which is 20 km to the south west (based on river flow). In addition, removal of waste and cleaning will be done in a way that there will be no residual risk of discharge.
- Separation distances to adjacent residences equals or exceeds 1000 m.

The environmental and planning setting of the site is considered compatible with the proposed expansion of the poultry farm based on recommended separation distances set out in *Environmental Code of Practice for Poultry Farms in Western Australia* (Western Australian Broiler Growers Association (WABGA *et al.*, 2004). Based on available information, it is considered that the proposed development can be operated without impacting on the environment, health or amenity of surrounding property owners and the wider public.

A number of commitments are proposed by Fairglen Farms in order to ensure the site is managed to minimise environmental impacts and nuisance to neighbours. Contingencies are proposed, to allow for appropriate responses, should operational issues be identified.

1 INTRODUCTION

1.1 PROPOSAL

Fairglen Farms Pty Ltd plans to lodge a development application with the Shire of Murray to replace an existing meat bird (broiler) poultry operation at Lots 71, 72 and 73 Corio Road in the locality of Ravenswood. The 121.483 ha land holding is shown in Figures 1 and 2. It is proposed to amalgamate the three lots to create a single lot for the land use.

Broiler poultry are bred for meat and this farm will operate as a closed system, indicating that the birds will remain in a shed at all times.

The operation will comprise the construction of 12 new sheds in two Pods of six sheds each (Appendix A). The new sheds will be 176 x 16 x 4.5 m with door openings on the ends to allow for access and cleaning out of litter (Appendix B). The sheds will be 32 m apart and a minimum of 100 m from the subject land boundary.

The sheds will be airtight, to assist with climate and temperature control for the birds. The floors of the sheds will be concrete and spread with sawdust bedding. Sheds will be tunnel ventilated, with fans at one end of each shed (north for Pod 1 and south for Pod 2). This means that access for operations, at the opposite end of each shed are aligned toward the centre of the subject land to further reduce the risk of noise, dust and odour.

Each new shed will house 50,000 birds at any one time with the 12 new sheds holding 600,000 birds. Each shed will support 5.5 batches of birds per year which results in the production of 3.3 million birds per annum.

Day old chicks will be transported to the sheds, enclosed and kept warm for approximately 20 days (brooding stage). The young poultry will then be retained in the sheds until they reach a minimum weight. At this stage, approximately 50 days into the cycle, collection of the birds will occur at night. Cleaning of the shed then takes approximately seven days.

It is proposed to remove the spent litter, comprising manure and sawdust bedding, from the property for beneficial reuse by a contractor. Removal will be done using a bobcat type front end loader, with litter placed in a covered side tipper truck for removal from the site. Loading of the litter will be done inside the shed with doors closed. Litter is not proposed to be stockpiled or composted on site. Dead birds will be refrigerated and removed from the property every two days by a contractor.

1.2 SCOPE

The scope of this assessment is to:

- Summarise the environmental features of the subject land and surrounds;
- Analyse the capability of the area in the context of planning and environmental frameworks; and
- Outline environmental management approaches in line with legislation, policies and guidelines.

1.3 LEGISLATION, GUIDELINES AND POLICIES

Shire of Murray

The subject land is zoned 'Rural' in the *Shire of Murray Local Planning Scheme No. 4* (Department of Planning, Lands and Heritage, 2021a) and the *Nambeelup and North Dandalup Local Rural Strategy* (Shire of Murray, 2012) indicates that rural land uses will be the predominant land use for the foreseeable future. The purpose of the rural zone is to '*provide for the use of land for intensive and extensive agricultural pursuits and to protect the long-term productive capacity of agricultural land from incompatible land uses, whilst allowing for small scale tourist uses in a rural landscape*' (Shire of Murray, 2012).

Establishment, operation and expansion of poultry farms requires approval from the Shire of Murray as indicated in Local Planning Scheme No. 4 where the land use falls under the category of 'Intensive Agriculture' which is an AA or discretionary use. The scheme describes items that will be considered during the assessment process:

'Part IX – The Peel Harvey Coastal Plain Catchment

Section 9.1.5: In considering an application to develop land for Intensive Agriculture within the Peel-Harvey Coastal Plain Catchment the Council shall:

- (i) Take account of soil types, slope, groundwater flows, surface water drainage and proximity to the Peel-Harvey Estuary;
- (ii) Take account of the objectives of the Statement of Planning Policy No. 2 with respect to the potential impact of the development on the environment and water quality; and
- (iii) Consult with the Department of Agriculture (now Department of Primary Industries and Regional Development, DPIRD) and the Department of Environmental Protection (now Department of Water and Environmental Regulation, DWER) and take account of any advice in making its determination or defer its decision pending a formal assessment by the Environmental Protection Authority under Part IV of the *Environmental Protection Act 1986*.'

These items are addressed in this report.

Western Australian Legislation

DPIRD has responsibility for livestock biosecurity (disease prevention, disease surveillance and eradication or control), animal welfare, chemical residues and soil and land conservation. DPIRD administers the following Acts and regulations relevant to poultry producers:

- *Biosecurity and Agriculture Management (BAM) Act 2007* and Regulations. This legislation aims to manage the impact and spread of those pests already present in the state and safely manage the use of agricultural and veterinary chemicals.
- *Exotic Diseases of Animals Act 1993*. This legislation provides for the detection, containment and eradication of certain diseases affecting livestock and other animals and for incidental matters.
- *Animal Welfare Act 2002*. This legislation provides for the welfare, safety and health of animals, to regulate the use of animals for scientific purposes, and for related purposes.
- *Veterinary Chemical Control and Animal Feeding Stuffs Act 1976*. This legislation provides for the control of veterinary chemical products and regulates the production, marketing and sale of animal feed stuffs.

- *Soil and Land Conservation Act 1945*. This legislation relates to the conservation of soil and land resources and to the mitigation of the effects of erosion, salinity and flooding.

Provisions of the *Health Act 1911* would apply to the poultry farm if a local government Environmental Health Officer determined that operations created a nuisance that was not appropriate for the nature, location and scale of the farm.

Statement of Planning Policy (SPP) No. 2.1 Peel-Harvey Coastal Plain Catchment

The Peel-Harvey coastal plain catchment policy seeks to ensure that land use changes within the Peel-Harvey estuarine system do not cause environmental damage to the estuary. The objectives of this policy are to:

- Improve the social, economic, ecological, aesthetic, and recreational potential of the Peel-Harvey coastal plain catchment.
- Ensure that changes to land use within the catchment to the Peel-Harvey estuarine system are controlled so as to avoid and minimise environmental damage.
- Balance environmental protection with the economic viability of the primary sector.
- Increase high water-using vegetation cover within the Peel-Harvey coastal plain catchment.
- Reflect the environmental objectives in the *Environmental Protection Peel Inlet-Harvey Estuary Policy 1992*.
- Prevent land uses likely to result in excessive nutrient export into the drainage system.

In 2008, a *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System* (Environmental Protection Authority, EPA, 2008a) was released, with a focus on the management of phosphorus. The water quality objective of the plan is to reduce median loadings of total phosphorus to estuarine waters to be less than 75 tonnes per annum in an average year with:

- the median load of total phosphorus flowing in the estuary from the Serpentine River being less than 21 tonnes;
- the median load of total phosphorus flowing in the estuary from the Murray River being less than 16 tonnes; and
- the median load of total phosphorus flowing in the estuary from the Harvey River being less than 38 tonnes.
- Water qualities in streams in winter are to meet mean concentrations of 0.1 mg/L at current mean flows.

Amongst other things, these objectives are to be achieved through management of agricultural land use planning and practices.

Other Policies and Guidelines

Operation and management of issues related to poultry farms is guided by a number of policies and guidelines, listed below and discussed in applicable sections of the document.

Policies and planning documents which are relevant to the proposed development of the site as a poultry farm are identified below:

- *State Planning Policy 2.5 Rural Planning* (Western Australian Planning Commission, WAPC, 2016).
- *Environmental Code of Practice for Poultry Farms in Western Australia* (WABGA et al., 2004).
- *National Water Biosecurity Manual, Poultry Production* (Department of Agriculture, Fisheries and Forestry, 2009).

These operational guidelines and policies are considered in this report.

Under the *Transform Peel* program, the *Peel Food Zone* has been identified as an area for intensive agriculture (where site conditions allow and risk management can be implemented) (DPIRD, 2017). The subject land is in an area that has been identified, using layers of information (land capability, proximity to services) as potentially suitable for 'closed system intensive livestock' (GHD, 2017).

2 EXISTING ENVIRONMENT

2.1 CURRENT LAND USE

Current land uses on the subject land include:

- A residence;
- A broiler poultry farm (three sheds with 48,000 bird capacity at any one time); and
- Livestock grazing.

The subject land has been largely cleared of native vegetation and the only additional clearing that will be required is approximately 50 paddock trees (for Pod 2).

Surrounding land uses are shown in Appendices C and D and comprise:

- Special Use – Tourist Development Zone - Lot 5 Corio Road (to the north east);
- Intensive agriculture (horticulture) immediately to the south;
- Rural small holdings to the south west; and
- Other rural land uses (e.g. livestock grazing).

The area immediately to the south of the subject land has been identified as an extraction area for basic raw materials (Shire of Murray, 2012 and State Planning Policy 2.4 Basic Raw Materials (Government Gazette, 2000).

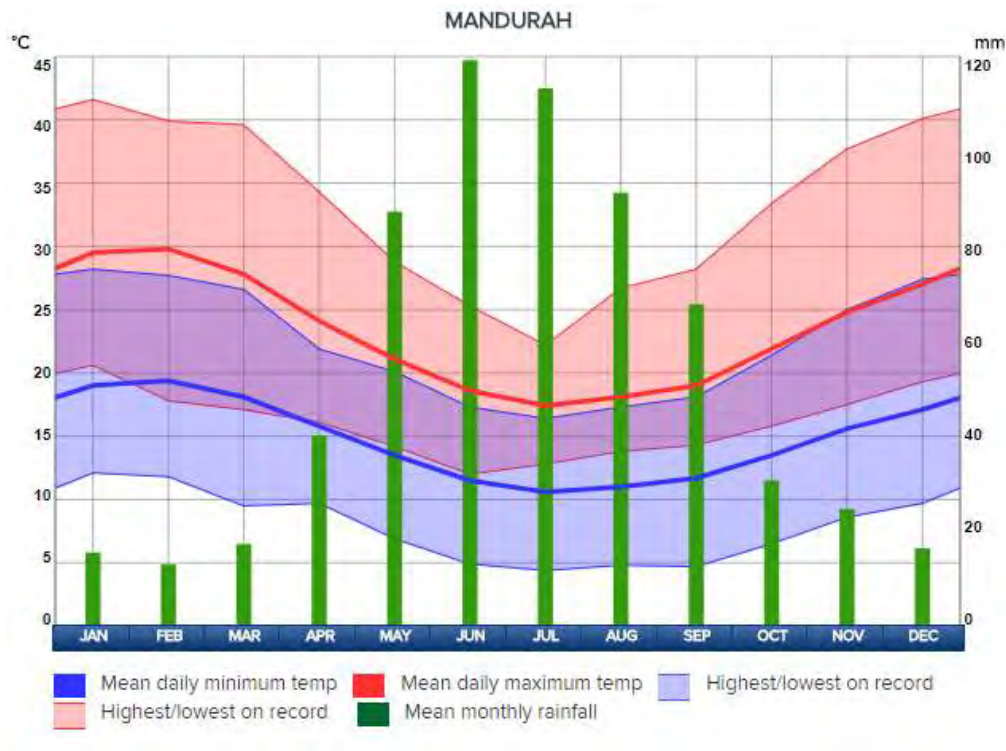
2.2 CLIMATE

The Ravenswood area is described as having a Mediterranean climate, characterised by hot dry summers and mild wet winters. Climate data has been sourced from the Bureau of Meteorology (BOM) averages for the closest weather station which is located in Mandurah (Plate 1) (BOM, 2021).

Mandurah has a Mediterranean climate with hot dry summers and mild wet winters. The warmest month is February with a mean maximum temperature of 29.8°C with an average minimum temperature of 19°C. During Summer, daytime temperatures often exceed 40°C. In winter, the coolest month is July with a mean maximum temperature of 17.4 °C with a mean minimum temperature of 10.6 °C. Ravenswood's distance from the ocean (compared to Mandurah) reduces the ocean's moderating effects, with inland temperatures often 4 or 5 degrees warmer during summer days (or cooler during winter nights). Frosts are rare as a result, but do occur occasionally.

The area receives a moderate seasonal rainfall of about 622.9 mm a year. Mean monthly rainfall is highest in June at 119.2 mm. The lowest mean monthly rainfall is 13 mm in February. Recent trends indicate a declining rainfall (Department of Primary Industries and Regional Development DPIRD, 2020).

PLATE 1: CLIMATE



Source: Weatherzone, 2021 <http://www.weatherzone.com.au/climate/station.jsp?lt=site&lc=9977>

2.3 TOPOGRAPHY

Mapping (Locate V5, 2021) of topographic contours indicates the subject land is relatively flat with the highest point near the western boundary (16 m Australian Height Datum (AHD)), with a gentle slope to approximately 12m AHD (associated with a water course) near the eastern boundary (Figure 2). Proposed Pod 1 is at 13.5 - 15 m AHD and Pod 2 at 13 - 16 m AHD.

2.4 GEOLOGY AND GEOMORPHOLOGY

The subject land is located on the Swan Coastal Plain which has been formed from sedimentary processes to form an undulating plain. Geology associated with the subject land is described as alluvial and inland eolian deposits (Czc; generally quartzose; Myers and Hocking, 1998) and includes Bassendean Sands (Qpb) and Bassendean Sands in a thin veneer over the Guildford Formation (Qpb/Qpa) (Geological Survey of Western Australia, 1978). Bassendean sands generally occur in dunes up to 4- 6 m high with the sand being moderately sorted and fine to medium grained, and individual grains being sub-angular to sub-rounded. It is generally off-white to pale grey and occasionally brown, reflecting increased humus content. If close to the water table, iron oxide coating on grains causes yellow staining of the sand. In much of the Pinjarra area, the sand layer is approximately 0.5 to 2m thick and the overall topography is subdued. The Bassendean sands in this area are usually residual due to erosion processes, with local incorporation of sand derived by weathering of the Guildford Formation.

2.5 SOIL TYPES AND LAND CAPABILITY

DPIRD soil mapping (Soil Landscape Mapping – Best Available (DPIRD-027); Locate, 2021) indicates the subject land contains soil types as shown in Table 1 and Figure 3. The poultry farm infrastructure will be located on soil type BsB2 and BsB4.

The *Murray Drainage and Water Management Plan* (Department of Water, 2011) characterises the Bassendean Sands as follows:

A complex of low dunes, sand plains and swampy flats with pale deep sands and semi-wet and wet soils. The soils are highly leached, infertile and acidic, and the low-lying areas are subject to inundation during winter.

TABLE 1: SOIL TYPES

MAP UNIT	NAME	SUMMARY DESCRIPTION
212Bs_B2	Bassendean B2 Phase	Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale-yellow B horizon or a weak iron-organic hardpan 1-2 m.
212Bs_B4	Bassendean B4 Phase	Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.
213Pj__P9	Pinjarra P9 Phase	Shallowly incised stream channels of minor creeks and rivers with deep acidic mottled yellow duplex soils.

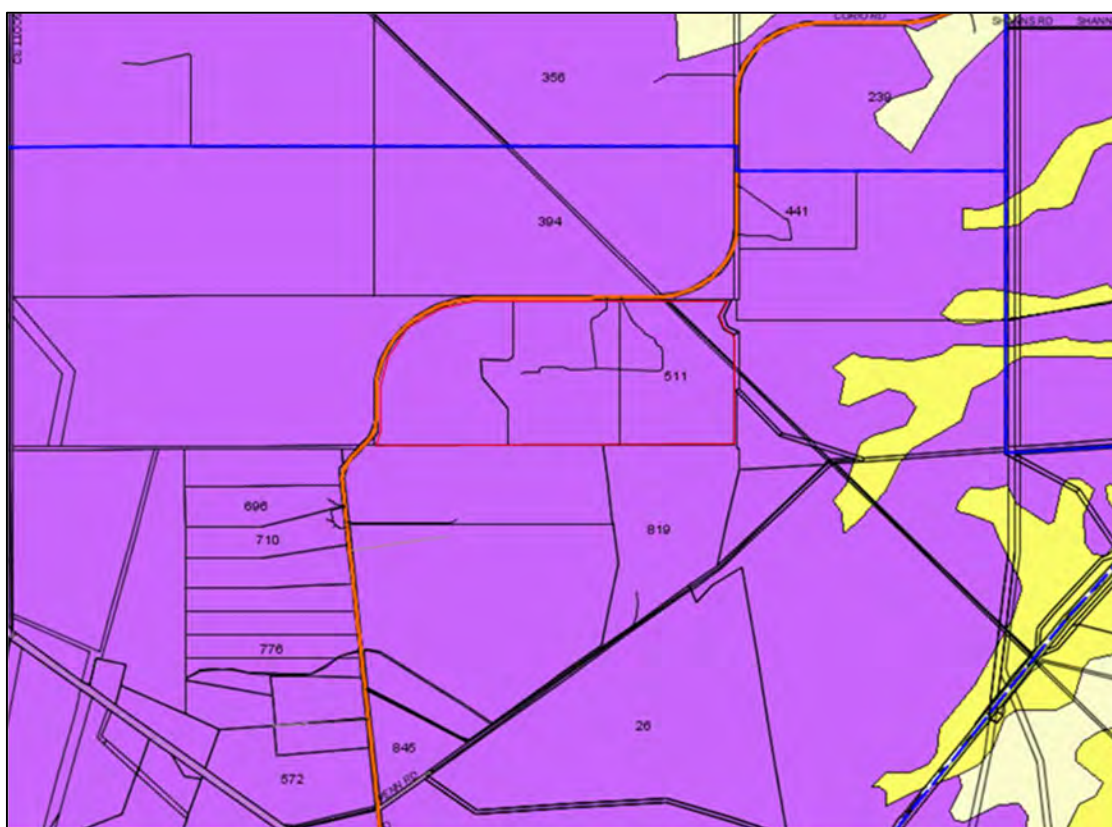
Source: Locate, 2021. DPIRD, Soil-landscape Mapping – Best Available (DPIRD-027).

Phosphorus Export Risk

Land capability mapping (Locate, 2021; Plate 2) indicates that the Bassendean Sands have a limited ability to sorb (retain) phosphorus. Phosphorus is the main nutrient of concern in terms of eutrophication risk of the Peel Harvey Estuarine system.

Soil testing of the subject land as part of the Regional Estuaries Initiative (Appendix E) indicates that the phosphorus buffering index (PBI) is 'exceeding low' for most of the areas tested which comprise Bassendean Sands (PBI less than 2.5; Appendix E). Testing indicates that there has historically been low to no phosphorus applied to most of the subject land so the overall phosphorus status is 'low' except for one paddock to the west of the current poultry operation (with high levels of phosphorus in the soils assessed at 80% of maximum production). High phosphorus status indicates that the soil has an adequate phosphorus level for agricultural production such as grazing. The eastern portion of the subject land which is associated with the North Dandalup River floodplain has a high phosphorus status assessed at 80% of maximum production, which is offset by also having a high PBI of 186.8.

PLATE 2: PHOSPHORUS EXPORT RISK

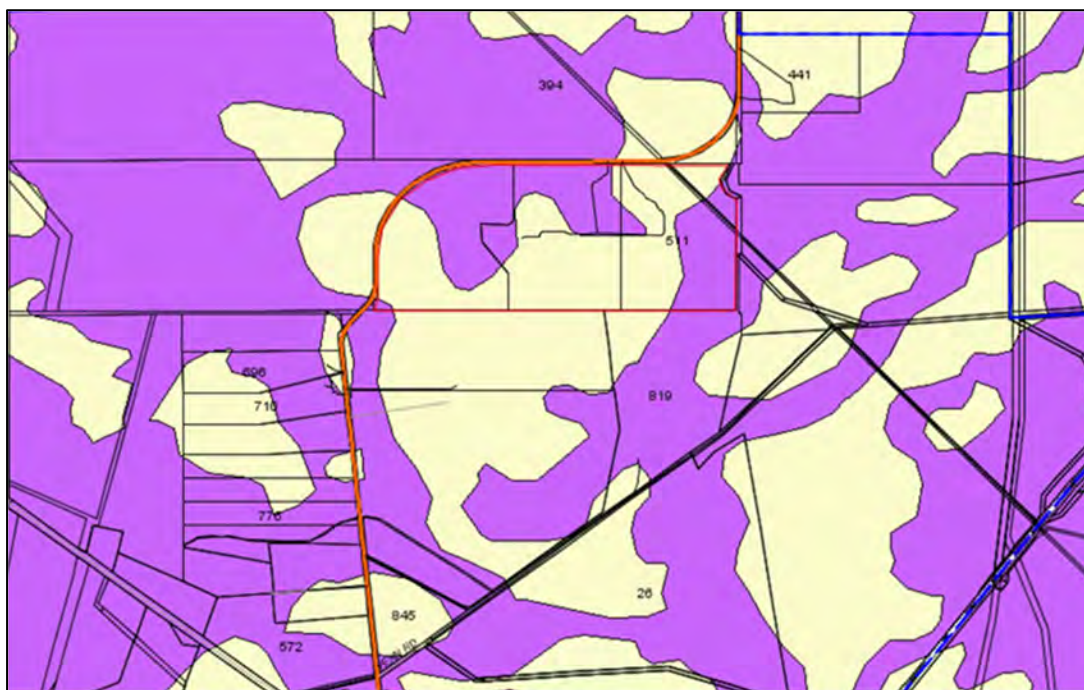


Source: Landgate, 2017 (Soil landscape land quality – Phosphorus Export Risk (Locate, 2021). Purple shading indicates high phosphorus export risk. Yellow shading indicates moderate export risk. White indicates low export risk.

Waterlogging Risk

Land capability mapping (Locate, 2021; Plate 3) indicates that the areas where Pods 1 and 2 are proposed are mostly not prone to waterlogging. Peripheral areas (e.g. western portion of Pod 1 at 12 m AHD) are likely to require fill to minimise waterlogging.

PLATE 3: WATERLOGGING RISK



Source: Locate, 2021 (Soil landscape land quality – Waterlogging Risk. Purple shading indicates high risk of waterlogging. Buff colour indicates low waterlogging risk.

Acid Sulfate Soils

DWER mapping for acid sulfate soils (ASS) on the Swan Coastal Plain (Locate, 2021) does not indicate areas of ASS risk within 1 km of the subject land.

2.6 CATCHMENTS

The subject land is part of the Peel Harvey Estuarine System catchment (Figure 1) which is considered to be of national importance and contains Ramsar Wetlands (Department of Environment and Energy, 2017). Progressive nutrient enrichment of estuarine waters over several decades of catchment land use practices has contributed to lowered estuarine and riverine water quality and the appearance of algal blooms. The goal is to reduce nutrient input into the system through best practice management of intensive agriculture (and other land uses).

The subject land is in the Murray sub catchment with smaller sub catchments divides running from north east to south west across the middle of the subject land (Figure 1). The southern and eastern portion of the subject land is part of the North Dandalup Below Dam subcatchment. Water from this area flows into a tributary of the North Dandalup River, the North Dandalup River then the Dandalup River, then Murray River and ultimately, the Peel Inlet (20 km downstream). The north and western portion of the subject land is in the Dandalup River sub catchment (Figure 1) so water flows into the Dandalup River and ultimately discharges into the Peel Inlet.

2.7 WATERCOURSES AND WETLANDS

A tributary and floodplain of the North Dandalup River is associated with the eastern portion of the subject land and is approximately 120 m from Pod 2 of the proposed poultry operation (Figure 2 and Appendix C).

Consanguineous wetland mapping (Locate, 2021; Hill *et al.* 1993) indicates that the Mungala wetland suite occurs in the area. These wetlands are generally found in the transition between Bassendean Dunes and Pinjarra Plain. Underlying stratigraphy is a complex of sands, clays, calcrete and laterite. Wetlands generally lie along depressions at the distributary ends of the creeks or adjacent to intermittent or disconnected drainage lines. They generally have variable salinity and comprise lakes, sumplands, floodplains and creeks.

Geomorphic wetland mapping (Locate, 2021) indicates that part of the wetland mapped on the northern portion of the subject land comprises a 'Conservation' management category floodplain (Id: 14629 Figure 2). A Conservation category wetland generally supports a high level of attributes and functions and represent the highest priority wetlands for protection and management (EPA, 2008b). However, HydroConcept (2017) and a site visit by Aurora Environmental in September 2017 indicate that the mapped area is degraded and used as pasture, with little native vegetation (Plate 4). The area is not associated with groundwater dependent ecosystems and does not warrant retention in its current form (noting that hydrology of the area will not be impacted by the proposal).

Other wetland areas associated with the North Dandalup River and its tributaries have designations of Sumpland (Resource Enhancement; Id: 16001), Palusplain (Multiple Use; Id: 15802) and Palusplain (Conservation; Id: 5628) (Figure 2). These wetlands are a minimum of 120 m distant from the poultry operation (Appendix C).

There are no *Environmental Protection Swan Coastal Plain Lakes Policy 1992* (EPP) wetlands near the subject land. The closest EPP wetland is 850m north west of the proposed poultry operation.

PLATE 4: AREA MAPPED AS CONSERVATION CATEGORY WETLAND



Note: Photo looking across the subject land, south from Corio Road. The wetland comprises pasture and has no features consistent with a conservation category wetland.

2.8 WATER FEATURES AND GROUNDWATER

Groundwater associated with the subject land has been characterised by HydroConcepts (2017) as part of the process to secure a groundwater licence from DWER. The information is summarised below.

The district supports three distinct aquifers, each assigned the name of its major contributing geological unit which include:

- Perth – superficial Swan (unconfined with semi-confined areas);
- Perth Lower Leederville Aquifer (unconfined to confined depending on location depth and lithology); and
- Yarragadee Aquifer.

All existing soaks and production bores within the subject land are hosted in Bassendean Sands which forms part of the superficial Swan aquifer is up to 15 m thick.

Groundwater flow within the superficial aquifer is towards the south under shallow hydraulic gradients and is recharged from direct infiltration of rainfall. Abstraction from the deepened soak on Lot 520 Corio Road (immediately to the south of the subject land; Plate 5) has produced a drawdown cone that has modified the generally southerly groundwater flow within the aquifer. A portion of this drawdown is likely to extend beneath the subject land.

There are two DWER monitoring bores (HS94A – Code 61410640 and HS94B – Code 61410639; DWER, 2017; Plate 6) located at the north-western corner of the subject land that have been monitored monthly since their installation in 2008. These bores show that groundwater levels are relatively stable with no discernible trend over that period.

Seasonal fluctuations in groundwater level are approximately 1 m annually, with the low in March-April and peak in September-October (Plate 7). The groundwater levels rise quickly following the commencement of winter rainfall to a high of approximately 13 mAHD (Plate 7), which results in surface inundation in lower-lying areas to the north of the subject land and suggests that the thin aquifer is close to saturation.

Approximately 30% of proposed Pod 1 meets the 2 m separation required at 15 m AHD and approximately 80% of Pod 2. It is proposed to use sand fill to achieve a minimum separation of 1 m to maximum groundwater level (approximately 14 mAHD) for the areas which do not meet the 2 m separation. Although this is less than the guidance 2 m separation for part of the Pod areas, the fact that the operation is a closed system will prevent discharge of nutrients to the environment and the 1 m separation above the highest groundwater table is considered sufficient to reduce the risk of inundation.

Water features associated with the subject land include two operating soaks, referred to as Central and Eastern soaks (Plate 5), that have been excavated below the water table and are sustained by groundwater inflow. The soaks are inundated all year round and are up to two metres deep.

There are two bores on the property with one (Chicken Bore) providing water for poultry production and another bore near the house (House Bore) for irrigation of lawns and gardens. The landowners have an abstraction licence for groundwater use of 258,500 KL per annum.

Ground water quality monitoring was undertaken for the subject land in July 2017 (Appendix F). Salinity in the superficial aquifer indicates that the groundwater is typically fresh. The field measured salinity in the soaks were 155 mg/L TDS in the Central Soak and 330 mg/L TDS in the Eastern Soak and 110 mg/L TDS in the House Bore. The field measured pH at Eastern Soak and House Soak was slightly alkaline at 7.4, whilst the pH at Central Soak was slightly acidic at 6.5.

Total Nitrogen levels of the ground water exceeded the trigger value of 0.75 mg/L for south west Australia estuaries (ANZECC, 2000) at Eastern Soak (1.9 mg/L) and Central Soak (4.0 mg/L) but was lower at House Bore (0.2 mg/L).

Total phosphorous levels of groundwater exceeded the trigger value of 0.03 mg/L for south west Australia estuaries (ANZECC, 2000) at Central Soak (0.57 mg/L) with lower values at Eastern Soak (<0.005 mg/L) and House Bore (0.018 mg/L).

These nutrient levels reflect baseline values for the site and reflect existing, surrounding and historic land uses in the area.

The *Murray Drainage and Water Management Plan* (Department of Water, 2011) indicates that values of Total Nitrogen and Total Phosphorus exceeding 3.0 mg/L and 0.25 mg/L respectively are cause for examination of nutrient management in a landscape that has a long-term history of agricultural land uses.

PLATE 5: BORES AND SOAKS



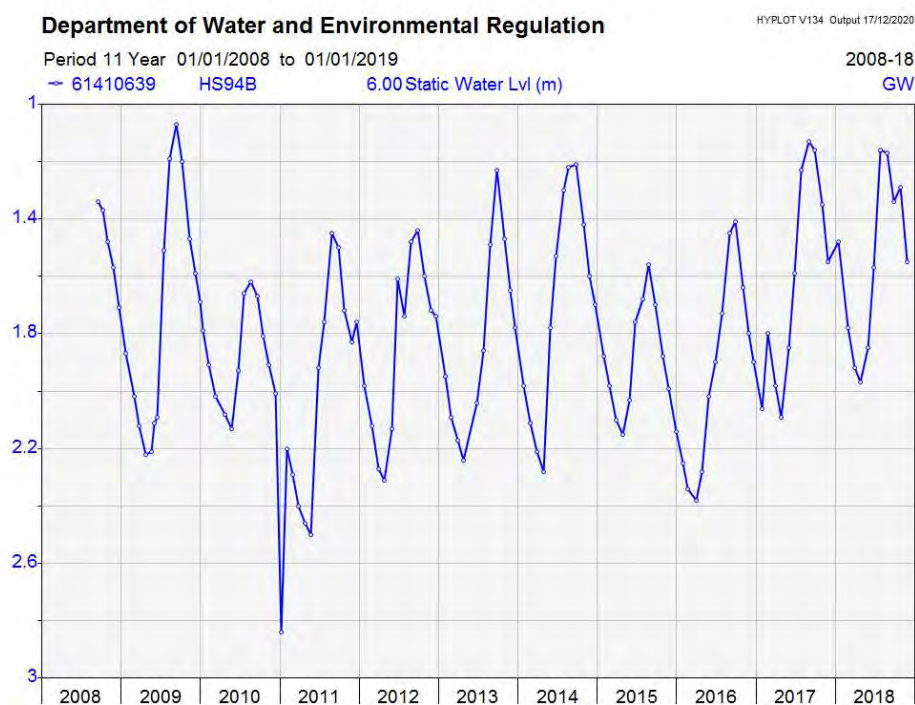
Source: HydroConcept Pty Ltd, 2017.

PLATE 6: WATER INFORMATION NETWORK BORES



Source: Department of Water and Environmental Regulation (2021).

PLATE 7: GROUNDWATER LEVELS AT 61410639



Sourced: Water Information Network (DWER, 2021):

<https://kumina.water.wa.gov.au/waterinformation/WIR/Reports/Publish/61410639/gw02c.htm>

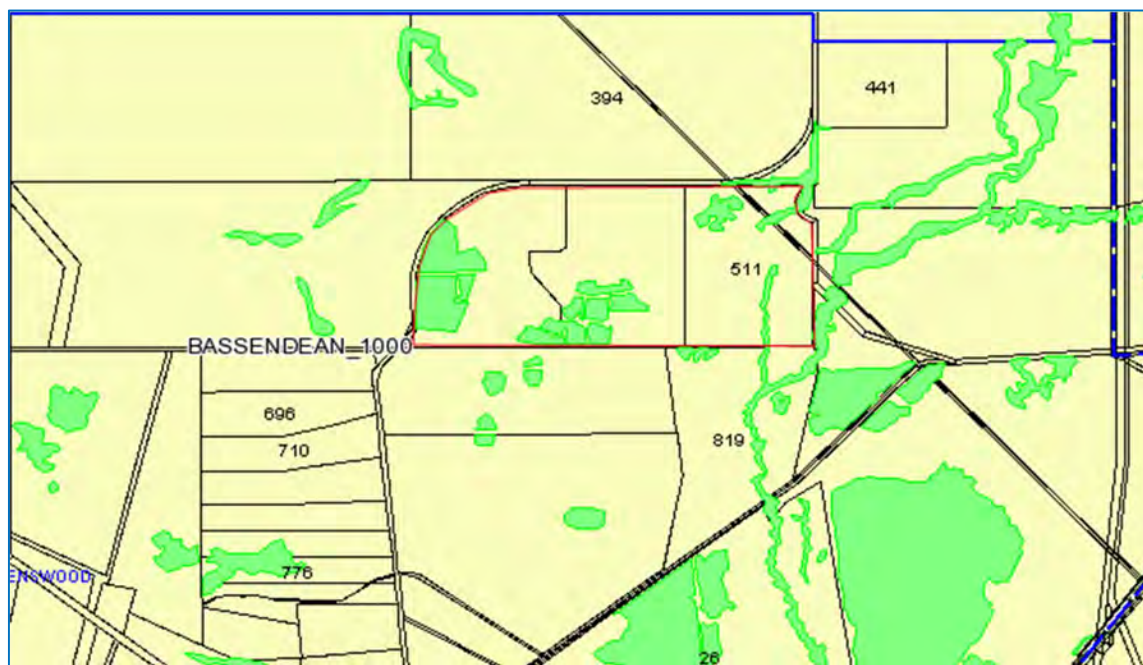
2.9 VEGETATION

The subject land is located in the Perth subregion of the Swan Coastal Plain biogeographical region, one of 89 bioregions recognized under the Interim Biogeographic Regionalisation for Australia (IBRA). This subregion is characterised by a low lying coastal plain, which was historically vegetated with *Banksia* or Tuart on sandy soils, *Casuarina obesa* on outwash plains and paperbarks in swampy areas.

The DPIRD dataset for Pre-European Vegetation indicates that the vegetation historically comprised Bassendean_1000: Woodland/ low woodland/ low forest or woodland (Locate, 2021).

Native vegetation on the subject land has largely been cleared, including the area proposed for Pod 1 (Plate 8). The construction of Pod 2 will require the removal of approximately 50 paddock trees (Plate 9).

PLATE 8: NATIVE VEGETATION



Source: Locate, 2021. Native vegetation Extent.

PLATE 9: Paddock Trees TO BE CLEARED



2.10 HERITAGE

The Department of Aboriginal Affairs Heritage database (Department of Planning, Lands and Heritage, 2021b) indicates that no listed Aboriginal heritage places are known to occur on the subject land. As shown in Appendix G, the nearest known sites are Registered Site 4325 Gas pipeline 84 – Artefacts and scatters (500 m to north) and Lodged Site: 3305 Gibbs Sandpit, Pinjarra – Artefacts and scatter, camp (700 m to the south). The North Dandalup River is listed as an 'Other Heritage Place'.

3 PLANNING AND OPERATIONAL GUIDELINES

This section outlines the guidance provided in various planning documents in relation to poultry farm establishment or expansion. Additional detail about how management strategies will be implemented at the site is presented in the following section.

3.1 PEEL FOOD ZONE

Depth to maximum groundwater level is a key criterion for intensive livestock enterprises which need to be located on land with water tables greater than two metres from the surface throughout the year (WABGA *et al.* 2004).

Data from a maximum groundwater depth model was used in the Peel Food Zone analysis (GHD, 2017). Initially most of the proposed Peel Food Zone was mapped as unsuitable for intensive livestock due to the large areas of low-lying land which is frequently waterlogged during winter.

However, the State Government noted that sand fill is commonly used on the coastal plain to raise the land surface, improve site drainage and increase the separation to shallow water tables. In determining the extent of the Peel Food Zone and suitability for intensive livestock purposes, GHD (2017) assumed that where average water table depth was between 0.5m and 2m, sand fill would be used to increase the separation to the shallow water table, meaning that while these areas were constrained, they could still be considered for intensive agriculture if fill was available and cost effective. Including this assumption increased the area of the proposed Peel Food Zone suitable for closed-system intensive livestock production (Appendix H). Therefore, the use of fill is proposed on the subject land to ensure adequate separation to maximum groundwater level.

3.2 ZONING

State Planning Policy No. 2.5: Rural Planning (SPP 2.5; WAPC, 2016) seeks to protect and preserve Western Australia's rural land assets due to the importance of their economic, natural resource, food production, environmental and landscape values. The policy notes that animal premises are important contributors to the food and economic need of Western Australia. The WAPC policy states that animal premises on rural land are a valid rural land use and are generally supported and encouraged where rural amenity and environmental impacts can be effectively managed.

The subject land is zoned Rural, consistent with this policy (Appendix D). In order for the site to be developed as a poultry farm, however, it requires Shire of Murray approval for this use, as intensive agriculture (which includes poultry farms) is a discretionary land use under Shire of Murray Local Planning Scheme No. 4.

3.3 BUFFER DISTANCES

WAPC *SPP 2.5 Rural Planning* states that avoiding land use conflict can be achieved through application of separation distances based on environmental policy and health guidance, prescribed standards, accepted industry standards and/or codes of practice by considering:

- (i) whether the site is capable of accommodating the land use; and/or
- (ii) whether surrounding rural land is suitable, and can be used to meet the separation distances between the nearest sensitive land use and/or zone, and would not limit future rural land uses; and

- (iii) whether if clauses (i) and/or (ii) are met, a statutory buffer is not required.

The Environmental Protection Authority (EPA) guidance statement *Separation Distances Between Industrial and Sensitive Land Uses* (EPA, 2005) and *Draft Guidance Statement – Separation Distances between Industrial and Sensitive Land Uses* (Department of Environmental Regulation, 2015; withdrawn) acknowledges that the *Environmental Code of Practice for Poultry Farms in Western Australia* (WABGA *et al.*, 2004) guides planning and separation distances and indicates that buffer distances of between 300m and 1000m are recommended, depending on the size of the poultry farm.

A separation distance to rural dwellings is not specified for Western Australia. In New South Wales, a 150 m separation from sheds is considered adequate for rural dwellings (Department of Primary Industries, NSW, 2012).

Appendix C shows dwellings in relation to the proposed operation with the closest dwellings external to the subject land being a minimum of 1000 m from the proposed broiler Pods at:

- Lot 5 (No. 441) on Corio Road (to the north east).
- Lot 102 (No. 696) Corio Road (to the south west);
- Lot 51 (No. 819) Venn Road (to the south).

The next closest residences are 1,105 m on Lot 5 (No. 441) Corio Road (to the north east) and 1,141 m on Lot 103 (No. 710) Corio Road (to the south west).

The *Environmental Code of Practice for Poultry Farms in Western Australia* (WABGA *et al.*, 2004) sets out additional recommended buffer distances between poultry farm infrastructure, adjacent properties and environmental receptors, as summarised in Table 2.

The proposed poultry farm layout meets buffer requirements for ‘new poultry sheds’:

- Recommended 1000m separation from offsite commercial poultry farms. There are no other poultry farms within 1 km.
- Recommended 500 m to existing or future residential zone. The closest area zoned ‘Residential Development’ is 3 km to the south west (south of Old Mandurah Road) and the closest area zoned ‘Residential’ is 4 km to the south (near South West Highway).
- Recommended 300 m to existing or future rural residential zone. The ‘Farmlet’ zone to the south west is 700 m from the nearest shed.
- Recommended 100 m to farm boundary. All sheds will be at least 100 m from the external farm boundary.
- Recommended 50 m separation between poultry shed water discharge and groundwater bores. Other than clean rainwater from the roofs, no waste water will be discharged from the sheds. Central Soak and Chicken Bore (Plate 5) are more than 50 m from the proposed new sheds.
- Recommended 20m between sheds. A minimum of 32 m will apply.
- Recommended 50 m to waterways, wetlands and floodways. The distance to the closest shed from the creekline that runs into North Dandalup River is 120 m to the floodplain. The area currently mapped as a ‘Conservation Wetland’ is not considered to be an accurate representation of the wetland/ floodplain.

- Recommended 100m separation from non-project related groundwater bores. The nearest significant water user is the intensive horticulture operation to the south (Lot 250 Corio Road), which is more than 50 m from the nearest shed.

The recommended vertical separation to groundwater of 2 m cannot be met at all locations within the footprint of Pods 1 and 2, with maximum groundwater at 13m AHD. The majority of proposed Pod 1 at 13.5 m AHD and Pod 2 at 13 - 14 m AHD. In light of this, sand fill will be required to raise the floor level to an acceptable height. Given the closed nature of the systems, it is proposed to ensure that there is a separation of at least 1 m to maximum groundwater. This means that the minimum floor height of each shed will be set at 14 m AHD.

TABLE 2: RECOMMENDED BUFFERS FOR POULTRY FARMS

Facility	Poultry sheds (same farm operator)	Poultry sheds (different Farm operator)	Existing or future residential zone	Existing or future rural residential zone	Farm boundary	Water supply bores	Wetlands, waterways and floodways	Water table
New poultry sheds	20m	1000m	500m	300m	100m	50m from discharge area	50m	2m
New free to range sheds ¹ Not applicable to this operation	20m between enclosures	1000m	500m	300m	100m	50m	200m	3m
Manure storage compounds	Not applicable to this operation							
Burial of dead birds	Not applicable to this operation					100m	50m	3m
Manure/ litter application to land	Not applicable for this operation							

Source: WABGA et al. 2004. Notes: ¹ buffer starts 20 m outwards from the shed perimeter.

3.4 CLEARING OF NATIVE VEGETATION

In 2004, amendments to the *Environmental Protection Act 1986* (EP Act) introduced provisions for regulating the clearing of native vegetation which requires a permit from either the Department of Water and Environmental Regulation (DWER) or the Department of Mines, Industry Regulation and Safety, unless a relevant exemption applies. Under the Act, it is an offence to clear native vegetation without the authority of a permit or an exemption.

There are two types of exemptions. The first is described in Schedule 6 of the EP Act and relates to clearing required by other written laws. The second type of exemption is found in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Regulations). The exemptions under the Regulations do not apply in environmentally sensitive areas (ESAs) declared under section 51B of the EP Act.

Regulation 5, Item 1 exemption applies when clearing to construct a building. Clearing must be done by or with the prior authority of the owner of the property on which the clearing is to take place. The exemption states:

Clearing of a site for the lawful construction of a building or other structure on a property, being clearing which does not, together with all other limited clearing on the property in the financial year in which the clearing takes place, exceed five hectares, if –

(a) the clearing is to the extent necessary; and

(b) the vegetation is not riparian vegetation.

Table 3 outlines the details under which the exemption applies and describes how the proposed clearing in relation to the construction of Pod 2 complies with the exemption. The entity applying the exemption is responsible for ensuring that the clearing meets the requirements outlined in Table 3.

TABLE 3: EXEMPTION FOR CLEARING PERMIT REGULATION 5, ITEM 1

DETAIL	HOW THE EXEMPTION APPLIES TO THE NASHS PROJECT
Clearing of native vegetation for the lawful construction of a building or other structure is exempt as long as other relevant approvals have been obtained, including any planning approvals and building licence.	Fairglen Farms will have a building licence for the project from the Shire of Murray. To exercise the exemption, reference to the proposed clearing in the building licence application is recommended.
“Building” means a roofed building or other roofed structure that is permanently fixed to the ground, and includes a transportable building that is: (a) connected to a sewerage system or septic tank; or (b) intended to be used as a permanent building.	The approval includes the construction of poultry sheds and associated infrastructure which are considered to be buildings.
Clearing may also be carried out for the construction of other structures.	Other structures include water tanks, service sheds and bitumised and kerbed car parks.
Clearing must only be to the extent necessary for the building or other structure.	Clearing will be in accordance with the building licence.
This exemption does not allow clearing of riparian vegetation. “Riparian vegetation” means the distinctive vegetation associated with a wetland or watercourse.	The area proposed to be cleared does not contain any riparian vegetation.
Under this item clearing for a building, combined with other exempt clearing activities on the property, must not exceed five hectares in a financial year.	The area of vegetation proposed to be cleared is less than 5 ha.

This exemption does not apply in an environmentally sensitive area.	The area proposed to be cleared does not comprise an environmentally sensitive area as declared under section 51B of the EP Act. In addition, the area does not contain features such as wetlands. Due to the degraded nature of the understorey, threatened species are unlikely to occur.
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4 MANAGEMENT STRATEGIES

This section sets out management strategies to be employed at the site in order to manage potential environmental impacts associated with site operations. The proposed site layout is presented in Appendix A.

4.1 ODOUR, DUST & NOISE MANAGEMENT PLAN

Risks due to odour, dust and noise are best addressed through the incorporation of adequate separation distances and specific operational practices which are outlined in *Environmental Code of Practice for Poultry Farms in Western Australia* (WABGA *et al.*, 2004) and *Separation Distances between Industrial and Sensitive Land Uses* (EPA, 2005). As outlined in Section 3.2, the nearest residences are located 1 km north east, south west and south of the nearest proposed shed. Therefore, the requirement for the buffer distance for sensitive receptors has been met. All sheds will be set back at least 100m from the subject land boundaries.

Daytime site noise will generally be in line with that associated with farming activities in a rural area. While some activity will take place at the site at night, such as catching operations and the arrival and departure of associated vehicles, there is not anticipated to be a high level of noise that would result in offsite disturbance due to the distances to roads and dwellings.

Odour and dust risks will be minimised by:

- Removing litter from sheds between batches of birds in as short a time as is practicable (this usually takes a day). Loading of litter onto trucks will take place inside the sheds with doors shut to prevent dust and odour dispersal.
- The operational areas of the sheds will be on the southern end for Pod 1 and the northern end of Pod 2, to ensure that operations are located as close to the centre of the subject land as possible.
- Immediate removal of litter from the property (i.e. without stockpiling/ storage on the property).
- Maintaining watering and sprinkler systems to ensure that litter does not become too wet (or too dry). Moisture content of between 30 – 40% and less than 50% will reduce the risk of odour generation (WABGA *et al.*, 2004). Should litter become too wet, it will be rotary hoed or have extra absorbent material added.
- A speed limit of 25km per hour will be applied to vehicles within the property to reduce the risk of dust dispersal. Litter being removed from the property will be covered to prevent discharge of odour and dust.
- Planting screen trees adjacent to Pod 1. Planting will comprise local native species such as jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*). The planting will assist in minimising visual impacts, and will replace the paddock trees to be removed to construct Pod 2.

Noise risks will be minimised by:

- Selecting equipment which has specifications for low noise generation (e.g. fans, pumps and other equipment).
- Use of 'quietened' equipment such as forklifts and bobcats which are fitted with lights instead of beepers (subject to Occupational Safety and Health Act and regulation compliance).
- Maintaining and servicing equipment so that it runs smoothly and quietly.

- Induction of staff to ensure that they operate equipment quietly (with signs to reinforce the need for noise minimisation).
- Scheduling most activities to occur during daylight hours (except for collection of birds for removal from farm).
- Bird removal trucks will arrive in the late afternoon and be loaded during the night. The trucks will depart the property at approximately 8am to reduce the risk of truck noise during the night.

4.2 ACCESS

The access tracks that currently service the existing sheds will be retained and used for the expanded operation (Appendix A). Additional access tracks will be constructed to access individual sheds within the Pods.

4.3 NUTRIENT AND WASTE MANAGEMENT

The subject land is within the area subject to the Environmental Protection Authority's *Environmental Protection (Peel Inlet-Harvey Estuary) Policy* (EPP) (EPA, 1992) and supported in State Planning Policy (SPP) 2.1 Peel-Harvey Coastal Plain Catchment (under review) which sets criteria for planning considerations, including goals for nutrient loads to downstream waterways and wetlands.

The *Peel Sustainable Horticulture* program (Peel Harvey Catchment Council, 2017) has developed model policies which apply to market gardens, but are useful for consideration in this project. The policy states the following:

- *Proposals for new horticulture should not apply phosphorus at rates exceeding 6.5 kg P/ha/year (Kelsey et al., 2011).*
- *Proposals for new horticulture should not apply nitrogen at rates exceeding 45 kg/N/ha/year (Kelsey et al., 2011)*

Once each batch of chickens is collected, the sheds will be cleaned and sanitised for the next batch of chickens to arrive. Wash water will not escape the sheds as they will be built on concrete pads, with any excess wash water air dried by the fan system. In addition, washdown will be done with a high pressure, low volume spraying units.

The risks associated with management of litter (fly breeding, uncontrolled runoff, and nutrient infiltration to groundwater) will effectively be eliminated for this operation as:

- Each shed is a sealed system with no escape of litter or water.
- All litter from the sheds will be removed at the end of each batch period for beneficial reuse as each batch of birds is replaced.
- Removal of litter will be undertaken by an appropriately licensed operator using covered trucks. The contractor will remove the litter to an appropriate site to be processed for use (e.g. as a soil conditioner).
- There will be no storage or deposition of litter on the subject land.
- No wash water will be discharged from the sheds.

In terms of the nutrient content of manure to be removed from the subject land, the Environmental Code (WAGBA *et al.* 2004) suggests that approximately 2 kg of dry manure is produced per bird over a

growing period. Therefore, it is estimated that the operation of 3.3 million birds per year will produce 6,600 tonnes of dry manure (not including wood shavings). Table 4 indicates the volumes of manure and nutrient content. As this will be a closed system, no nutrients will be discharged to the environment.

TABLE 4: COMPOSITION OF BROILER MANURE

	TOTAL N	AMMONIUM NH ₄ –N	TOTAL PHOSPHORUS	POTASSIUM
Dry Poultry Manure Composition (% dry solids) *	2.6	0.5	1.8	1
Poultry Manure – 3.3 million birds for one year producing 6,600 tonnes (dry solids)				
Nutrients (tonnes) (each bird producing approx. 2 kg of dry solids over a growing period)	171.6	33	118.8	66
No nutrient discharge due to closed system and removal of litter				

* Source: WABGA et al. 2004.

4.4 WATER SUPPLY

The landowners currently have a licence to abstract 258,500 KL per annum of groundwater from the subject land.

4.5 BIOSECURITY

Adequate biosecurity is required on a poultry farm to maintain sanitation, disease control and vermin management and is integral to the health of the flock and quality of the product. This means that access to a poultry farm needs to be limited to authorised personnel with a high standard of hygiene at all times. This poultry farm will comply with the *National Farm Biosecurity Manual for Poultry Production* (Department of Agriculture, Fisheries and Forestry, 2009) and *Biosecurity and Agriculture Management Act and Regulations*. In addition, the sheds will be airtight to ensure temperature control, which will assist in reducing the risk of contraction and spread of avian diseases.

4.5.1 Staff and Visitor Management

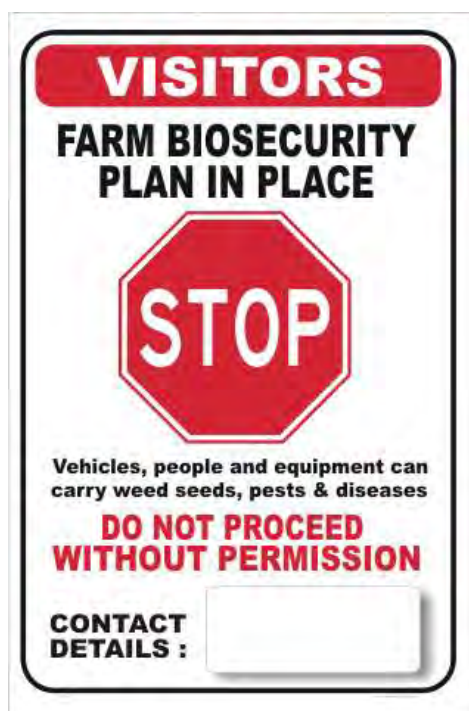
Staff amenities will be provided at the existing house which is present on the subject land.

Staff induction will be a key part of operations to ensure that strict hygiene and management practices are maintained.

Visitors and their vehicles must remain outside of the designated production areas. There will be an induction process for people who visit the production area.

A sign will be placed close to the entry of the production area to advise visitors of biosecurity requirements (Plate 10).

PLATE 10: BIOSECURITY SIGNAGE



4.5.2 Pest Control

The main pests of concern in a poultry grower facility are rodents such as the black rat (*Rattus rattus*) and the European mouse (*Mus musculus*). Foxes (*Vulpes vulpes*) may also pose a risk of loss of poultry by predation. The goal of pest management is to reduce pests to an acceptable level. Pest management will be approached in an integrated manner and will be implemented using the following methods:

- The sheds will be sealed systems, which will assist in excluding rodents and snakes.
- Monitoring of pest levels outside the sheds will be undertaken through deploying sampling devices/traps and visual inspections.
- Preventative measures will include:
 - Feed for poultry will stored securely and will only be supplied inside the sheds, to reduce access by pests;
 - Frequent clean-up of spilled food;
 - Reducing shelter for rats and mice; and
 - Deployment of bait stations.

Stable fly (*Stomoxys calcitrans*) is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007* (BAM Act). Control and management of Stable Fly is guided by the *Biosecurity and Agriculture Management (Stable Fly) Management Plan 2016* which specifies measures to reduce fly breeding in 11 local government areas, including the Shire of Murray. Fly breeding risk for the proposed poultry farm is minimal as litter will be removed from site when sheds are cleaned out (without storage on-site).

4.6 BIRD DEATHS, ACCIDENT MANAGEMENT AND EMERGENCY RESPONSE

A mortality rate of 4-6% of chickens per batch is generally allowed for on broiler farms (WABGA *et al.* 2004). In a year, this could equate to 198,000 birds (if 3.3 million birds are produced per year). The

highest mortality is generally in the first three weeks when the birds are small. Management of dead birds will comprise onsite storage in a cool room with pick up every two days by a contractor.

Mass bird deaths due to factors such as abnormal heat stress or disease rarely occur. However, a plan is required for disposal of the birds should mass deaths occur and management of the issue should the cause be an infectious disease. When disease is the cause of death, the farm owner will obtain a veterinary report and immediately contact the Shire of Murray Environmental Health Officer (EHO). The EHO will assist by reporting the incident to the DPIRD and provide data to the Department of Health. These agencies will provide guidance to the landowner on disease control and hygiene, transport and disposal of diseased dead birds.

4.7 CHEMICAL STORAGE & USE

Various chemicals will be kept at the site for use in site operations, such as disinfectants, pesticides, and pharmaceutical products. This is typical of rural operations. Chemicals will be stored in enclosed areas with concrete floors to minimise the risk of spills affecting soil and groundwater, and absorbent materials (e.g. kitty litter) will be kept on site to assist managing spills which may occur. Chemicals will be used in accordance with manufacturer's directions, and containers will be disposed of in an appropriate manner.

4.8 LIGHTING FOR SHEDS

Sheds will be lit internally for night time collection of birds. Outside lighting will be minimal to meet health and safety requirements for night workers. External lights will be directed away and/or shaded from off-site vantage points. The distances from the sheds to external residences is a minimum of 1km. Night lighting will be minimised, with no spot lights or flood lights to reduce the risk of loss of visual amenity.

4.9 RESPONSE TO COMPLAINTS AND CONTINGENCIES

If the site operators are contacted regarding complaints about odour, noise or any other relevant issue, the complaint will be logged (date received, date/time of event of concern, contact person). The potential cause of the complaint will be considered by the operator and the complainant contacted within one week to provide a response. If repeat complaints are received, management will investigate what site practices are potentially causing the issue and consider modification of these practices in order to resolve the issue. If the complaints do not appear to relate to a particular site activity or weather conditions, it may be necessary to liaise with Shire of Murray staff to try to reach a resolution with the complainant.

5 SUMMARY AND COMMITMENTS

Expansion of the broiler poultry farm on the subject land will require construction of two pods of six new poultry grow out sheds to produce a total of 3.3 million birds per year.

Poultry will be raised in batches of 50 days duration plus cleaning time (5.5 batches per year), and the birds will be taken offsite for processing.

The operation will meet environmental guidance set out in *Environmental Code of Practice for Poultry Farms in Western Australia* (WABGA et al., 2004), with sand fill to ensure that the sheds meet a 1 m clearance to maximum groundwater levels.

A review of available guidelines has identified recommendations for separation distances between poultry farm operations (overall, and for specific farm elements) and various receptors. The proposed site layout meets the lateral separation distance requirements identified, including separation from adjacent residences and setbacks from waterways. The North Dandalup River, groundwater and ultimately the Peel Harvey Estuary system are considered the primary environmental receptors. Management of litter and associated nutrients is shown to meet the output requirements of *Peel Sustainable Horticulture* program (Peel Harvey Catchment Council, 2017).

Approximately 30% of Pod 1 and 80% of Pod 2 have at least 2 m separation to maximum groundwater. The balance of the operational areas will require sand fill to achieve separation from maximum groundwater. It is proposed to set the floor height at 14 m AHD (as maximum groundwater is at approximately 13 m AHD) to provide a minimum of 1 m separation to maximum groundwater. This is considered sufficient to protect groundwater and to reduce the risk of inundation. Having a separation for some areas of 1 m rather than 2 m is considered acceptable as the system is closed, with removal of all litter, with no opportunity for discharge of nutrients to the environment.

In order to ensure that the site is managed in a way that should minimise opportunity for environmental impacts, the commitments listed in Table 5 are made in support of this proposal:

TABLE 5: COMMITMENTS AND RESPONSIBILITIES

ITEM	ACTION	RESPONSIBILITY/ TIMING
Separation distances: Sensitive receptors, waterways and residences	Separation distances to be maintained as outlined in: Environmental Code of Practice for Poultry Farms in Western Australia (WABGA et al., 2004).	Proponent (at all times)
Separation to groundwater	Retain a separation from maximum groundwater of at least 1 m (at approximately 13 m AHD) with floor height of sheds to be a minimum of 14 m AHD.	Proponent (construction)
Site security and biosecurity	Installation of a gate and signage at the site entry. Entry by authorized personnel only.	Proponent
Odour, dust and pest management	Loading of spent litter in sheds with doors closed and transportation in covered trucks. Other commitments as outlined in Section 4.1	Proponent (at all times)
Nutrient management	Construction of sheds as closed systems with no egress of nutrients or wash water.	Proponent (at all times)

ITEM	ACTION	RESPONSIBILITY/ TIMING
	Removal of spent litter from the subject land for beneficial reuse. Other practices as outlined in Section 4.3.	
Management of pests and predators	Monitoring of pests, with treatment and control as required.	Proponent (during operations)
Disposal of dead birds	Storage in cool room and removal from the property by contractor.	Proponent (during operation)
Mass death of birds	Mass death to be dealt with as per Section 4.7	Proponent with advice from relevant agencies and authorities (in case of mass death)
Safe storage and use of chemicals	Storage of chemicals in enclosed areas with concrete floors, located at least 200m from waterways. Availability of materials safety data sheets for chemicals used on site. Use of chemicals in accordance with manufacturer's directions.	Proponent (during operations)
Lighting of sheds	Internal lighting of sheds for night time collection of birds. Minimal external lighting for safety of staff. External lights will be directed away from external vantage points.	Proponent
Response to complaints	Logging of complaints received, review of associated issues, and documentation of follow-up undertaken. Contingencies for operation modification, if required.	Proponent (during operations)

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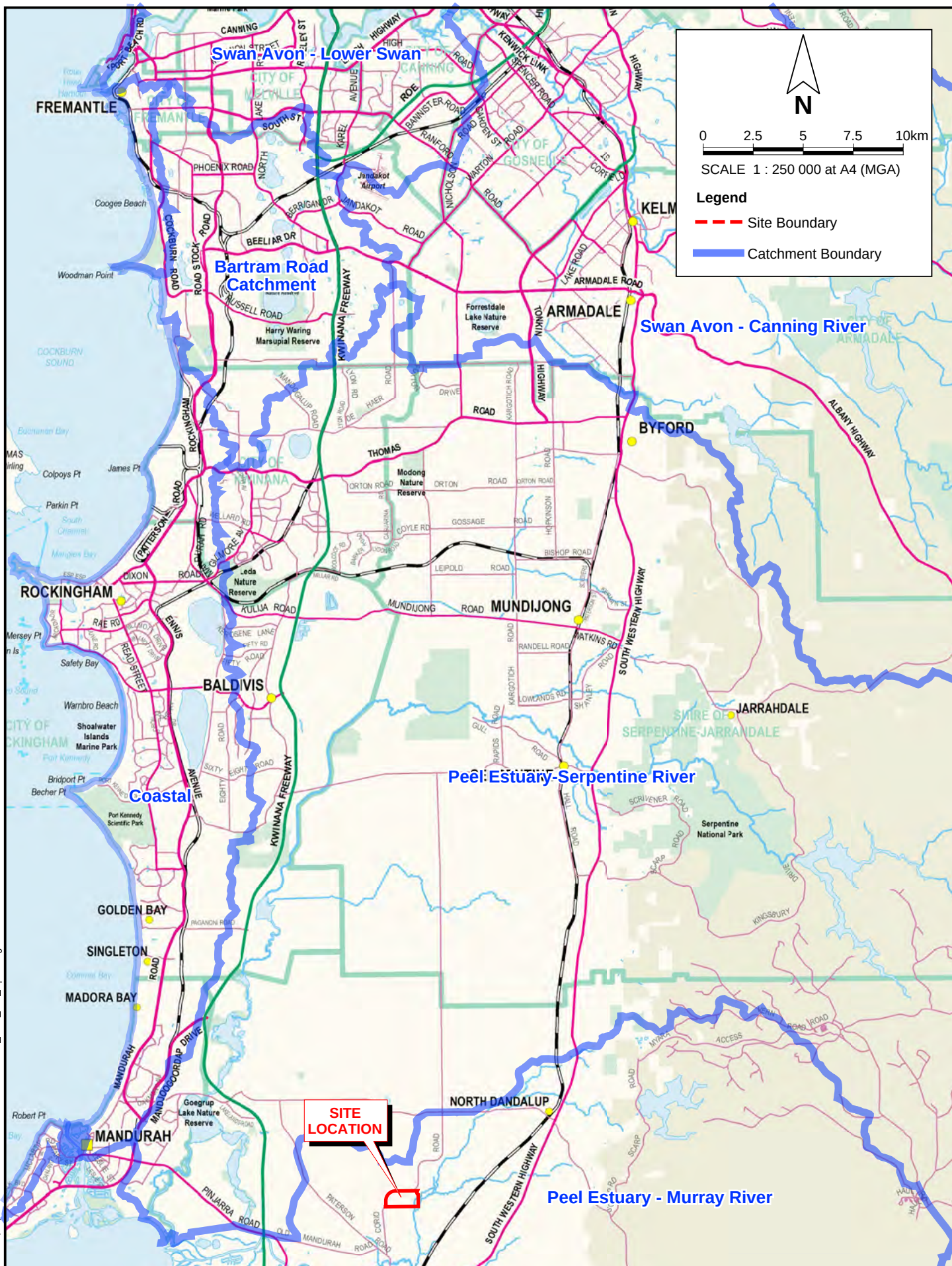
WABGA and PFAWA, Western Australian Broiler Growers Association and the Poultry Farmers Association of Western Australia (2004) Environmental Code of Practice for Poultry Farms in Western Australia. Western Australian Broilers Growers Association, Poultry Farmers Association of Western Australia, Department of Environment, Department of Agriculture, Department of Health, Department for Planning and Infrastructure, Western Australian Local Government Association, Shire of Gingin, Shire of Serpentine Jarrahdale.

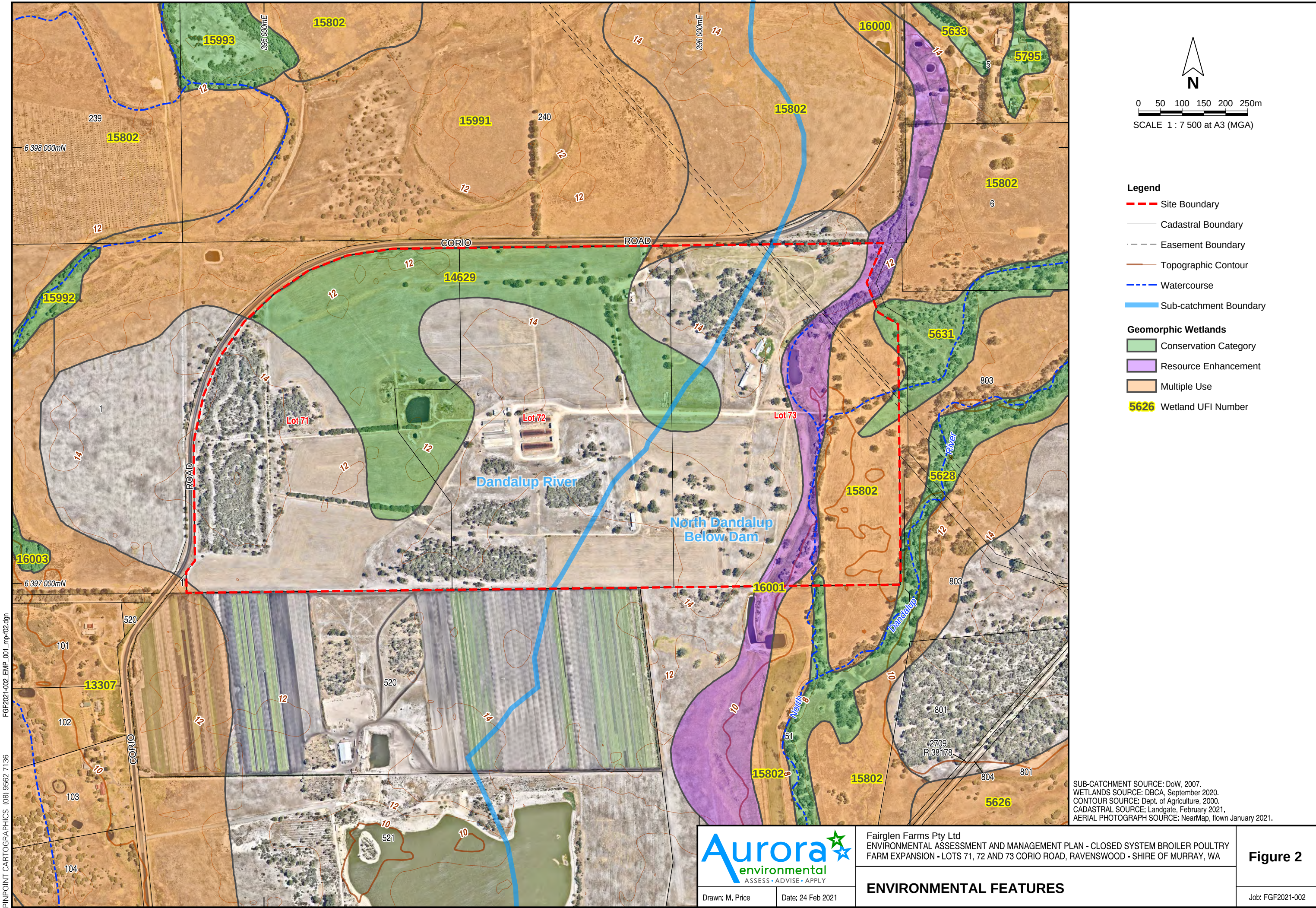
WAPC, Western Australian Planning Commission (2013) Statement of Planning Policy (SPP) No. 2.1 Peel-Harvey Coastal Plain Catchment

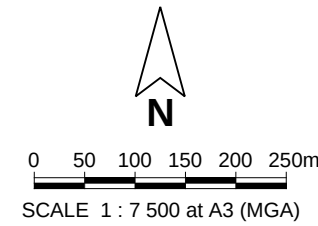
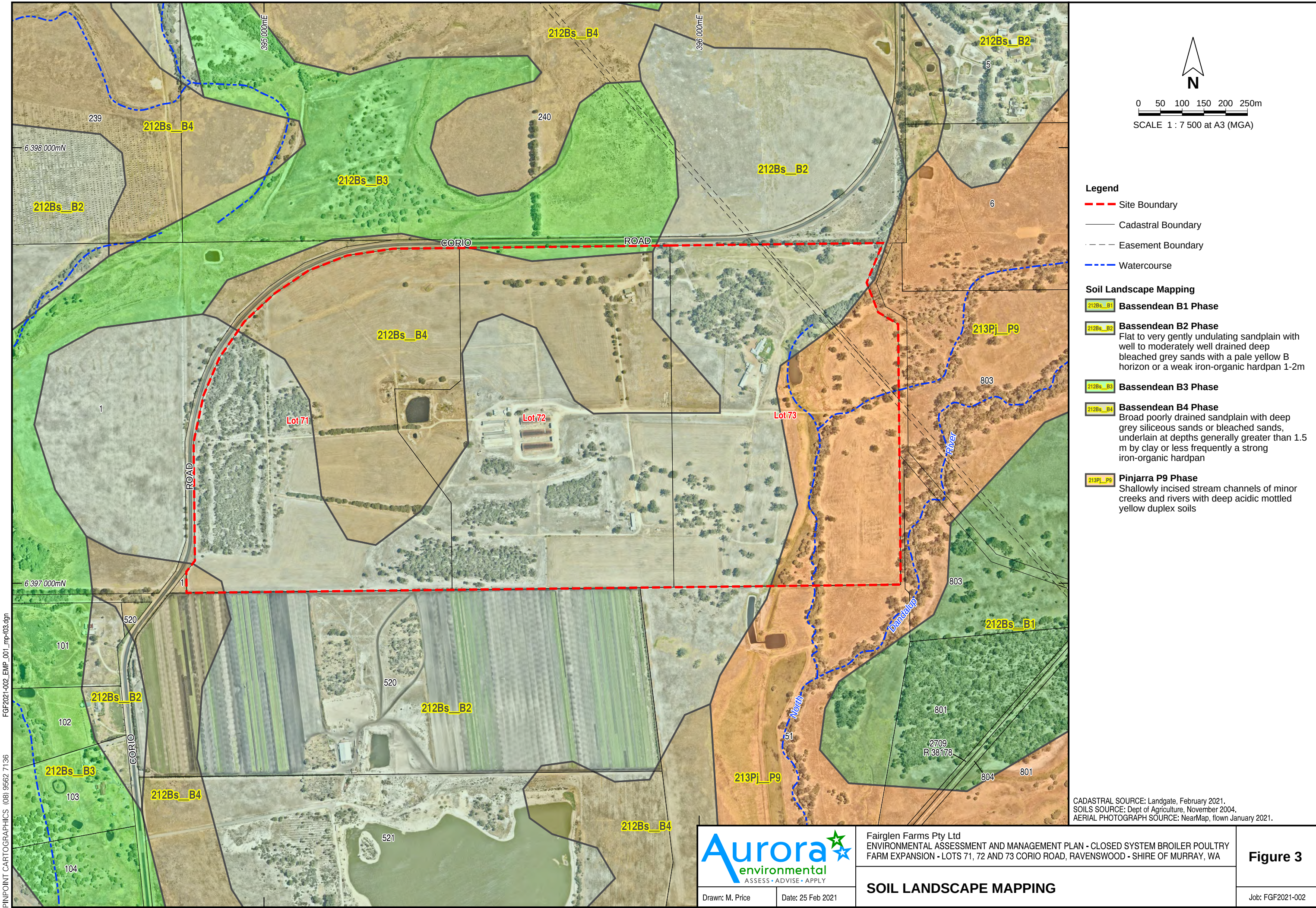
WAPC, Western Australian Planning Commission (2016) State Planning Policy 2.5 Rural Planning. Perth, Western Australia.

Weatherzone (2017) Mandurah Climate. Sourced from: <http://www.weatherzone.com.au/climate/station.jsp?lt=site&lc=9977>

FIGURES







- Legend**
- Site Boundary
 - Cadastral Boundary
 - - - Easement Boundary
 - - - Watercourse
- Soil Landscape Mapping**
- 212Bs_B1 Bassendean B1 Phase**
 - 212Bs_B2 Bassendean B2 Phase**
Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2m
 - 212Bs_B3 Bassendean B3 Phase**
 - 212Bs_B4 Bassendean B4 Phase**
Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan
 - 213Pl_P9 Pinjarra P9 Phase**
Shallowly incised stream channels of minor creeks and rivers with deep acidic mottled yellow duplex soils

CADASTRAL SOURCE: Landgate, February 2021.
SOILS SOURCE: Dept of Agriculture, November 2004.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2021.

 Assess • Advise • Apply	Fairglen Farms Pty Ltd ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN - CLOSED SYSTEM BROILER POULTRY FARM EXPANSION - LOTS 71, 72 AND 73 CORIO ROAD, RAVENSWOOD - SHIRE OF MURRAY, WA		Figure 3
	SOIL LANDSCAPE MAPPING		
Drawn: M. Price	Date: 25 Feb 2021		Job: FGF2021-002

FGF2021-002_EMP_001_mpf-103.dgn
PINPOINT CARTOGRAPHICS (08) 9562 7136

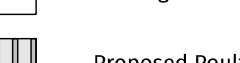
APPENDIX A

Development Site Plan

LEGEND

	Subject Land (121.4832ha)		Existing Structures
	Existing Easements		Proposed Poultry Sheds
	Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)		Proposed Silos
	Resource Enhancement Wetland		Vegetation screening in accordance with requirements of the Bushfire Management Plan
	Indicative Resource Enhancement Wetland buffer (30m)		Ventilation Fans
	Overhead Electricity (DBYD)		6m Access Driveway (Compacted road base)
	Underground Electricity (DBYD)		Bitumen sealed crossover

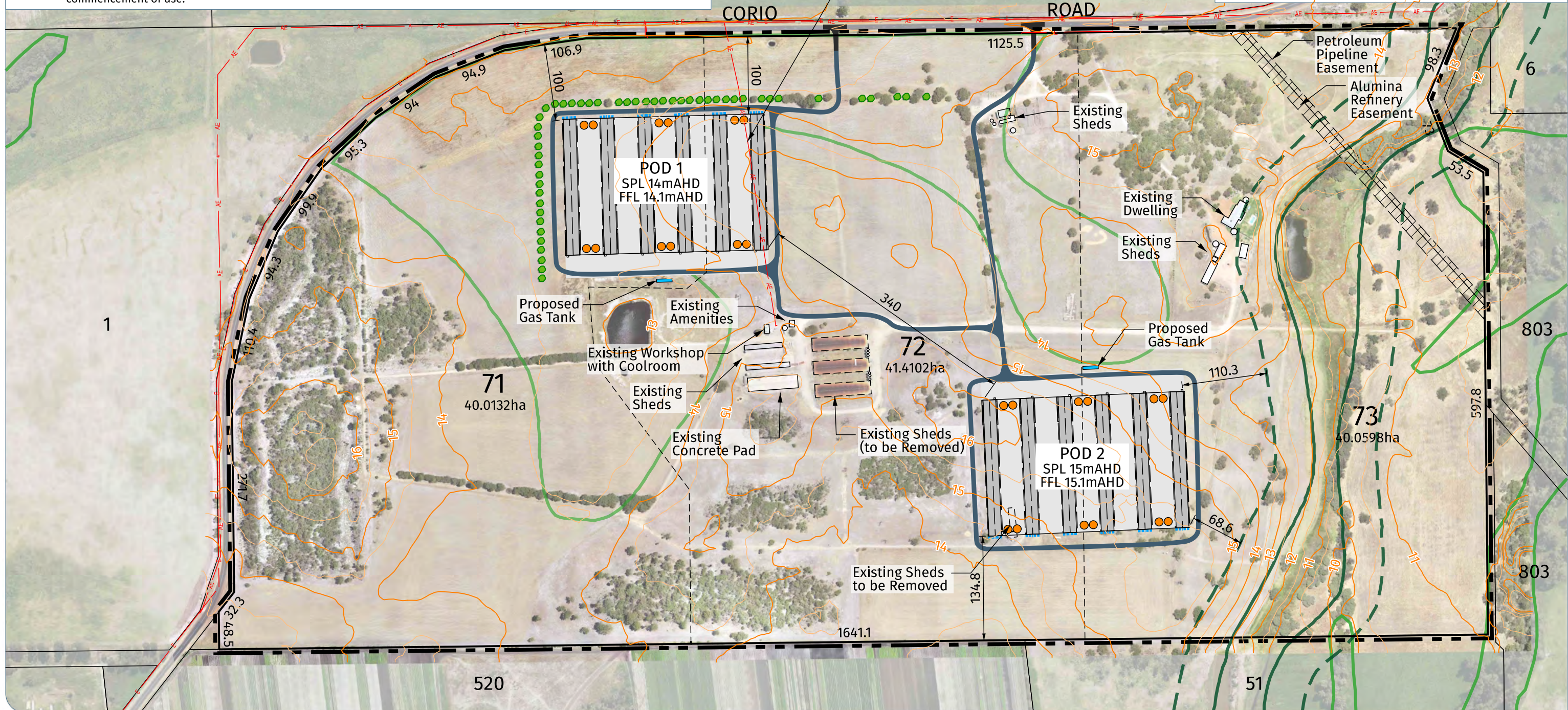
Note: Existing lots to be amalgamated prior to commencement of use.



	Existing Structures
	Proposed Poultry Sheds
	Proposed Silos
	Vegetation screening in accordance with requirements of the Bushfire Management Plan
	Ventilation Fans
	6m Access Driveway (Compacted road base)
	Bitumen sealed crossover

POD LAYOUT

Diagram illustrating the layout of six vertical rectangular units (PODs) arranged in a row. The total width of the arrangement is 259. The height of each unit is 176. The spacing between the units is 32. The width of each individual unit is 16.5.



Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD

PERTH & FORRESTDALE:
Lvl 1, 252 Fitzgerald St
PERTH WA 6000
15/2 Hensbrook Loop,
FORRESTDALE WA 6112
T: 08 9495 1947
E: metro@harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTUN

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

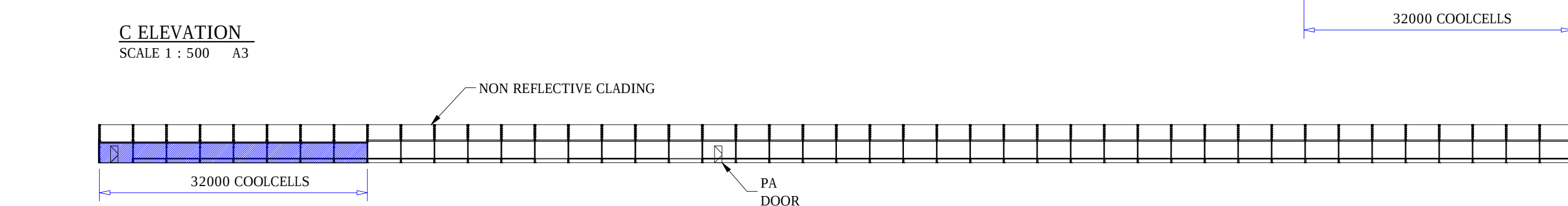
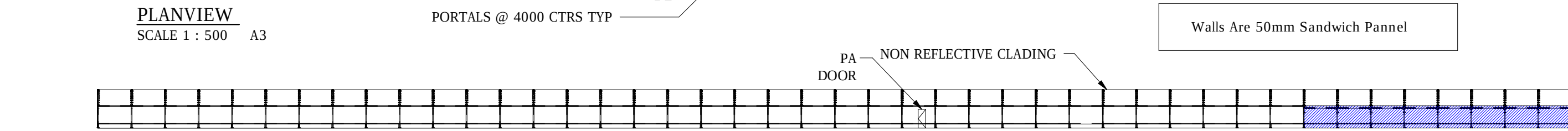
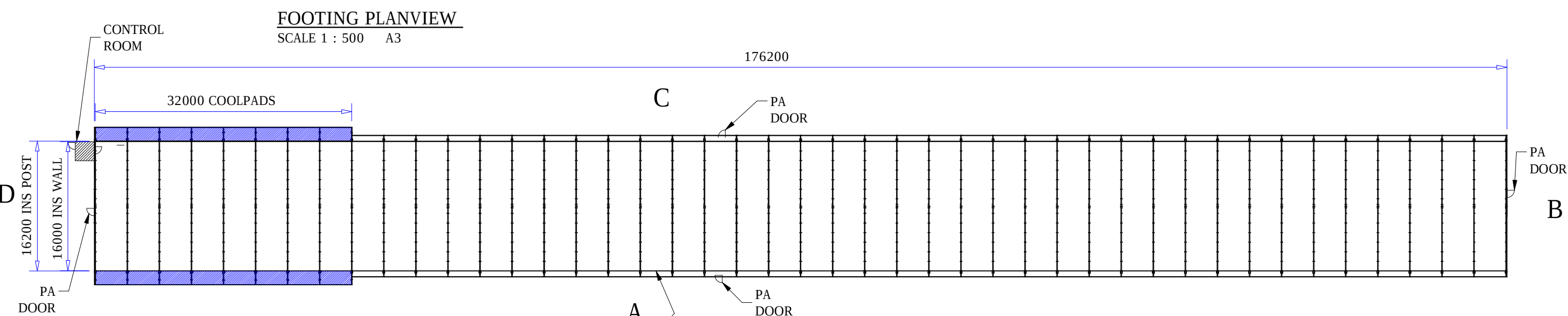
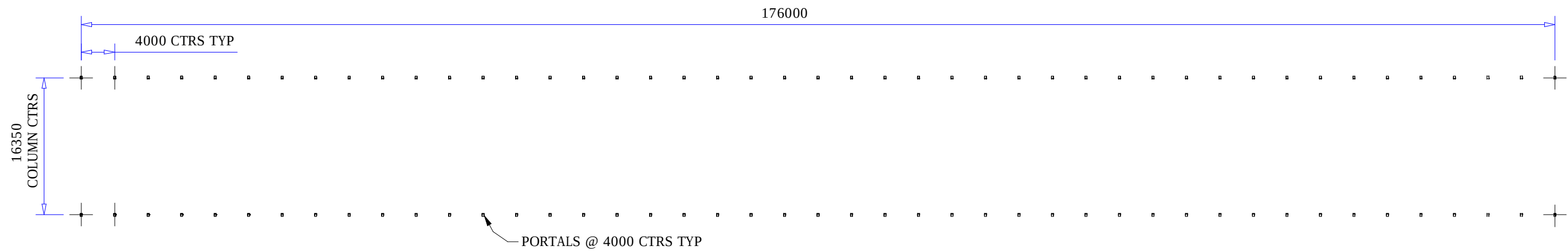


Harley Dykstra

PLANNING & SURVEY SOLUTIONS

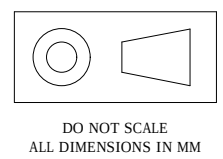
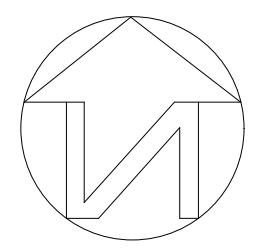
APPENDIX B

Shed Plans and Elevations



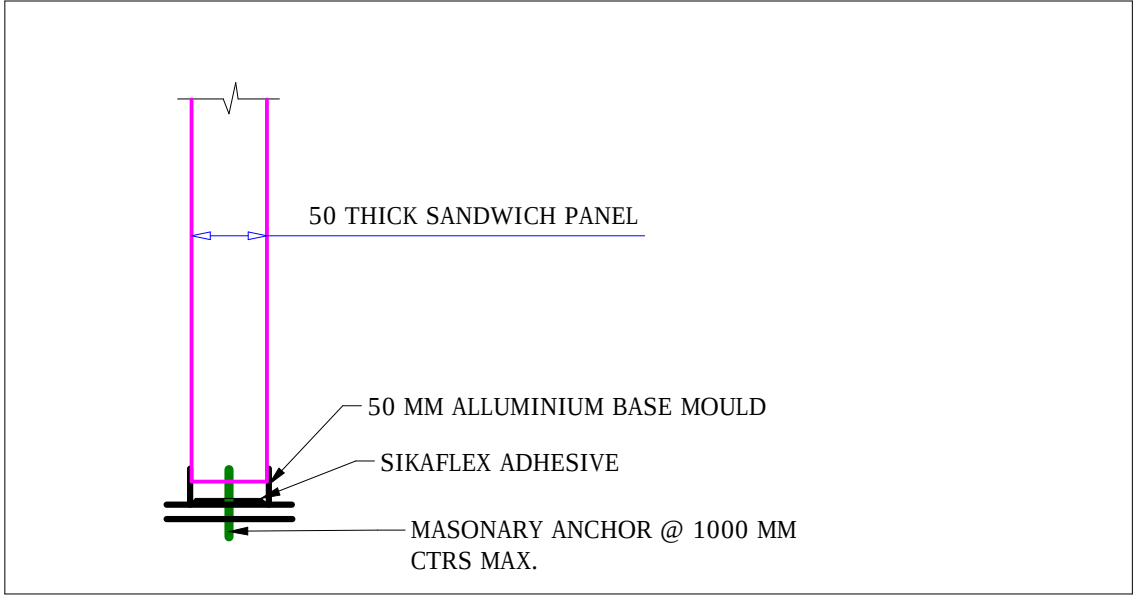
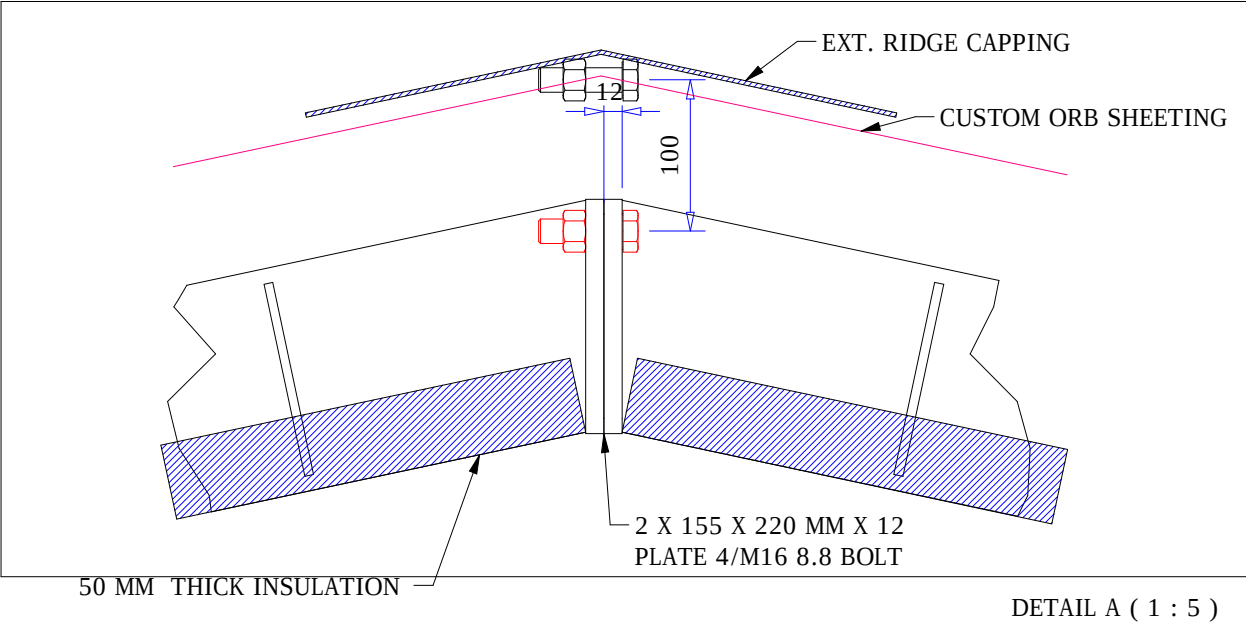
A ELEVATION
SCALE 1 : 500 A3

NOTE :
PA DOORS TO BE OPENED OUTWARD WITH A SINGLE
HANDED DOWNWARD LEAVER ACTION
HANDLE TO BE BETWEEN 900 AND 1100 MM ABOVE FFL

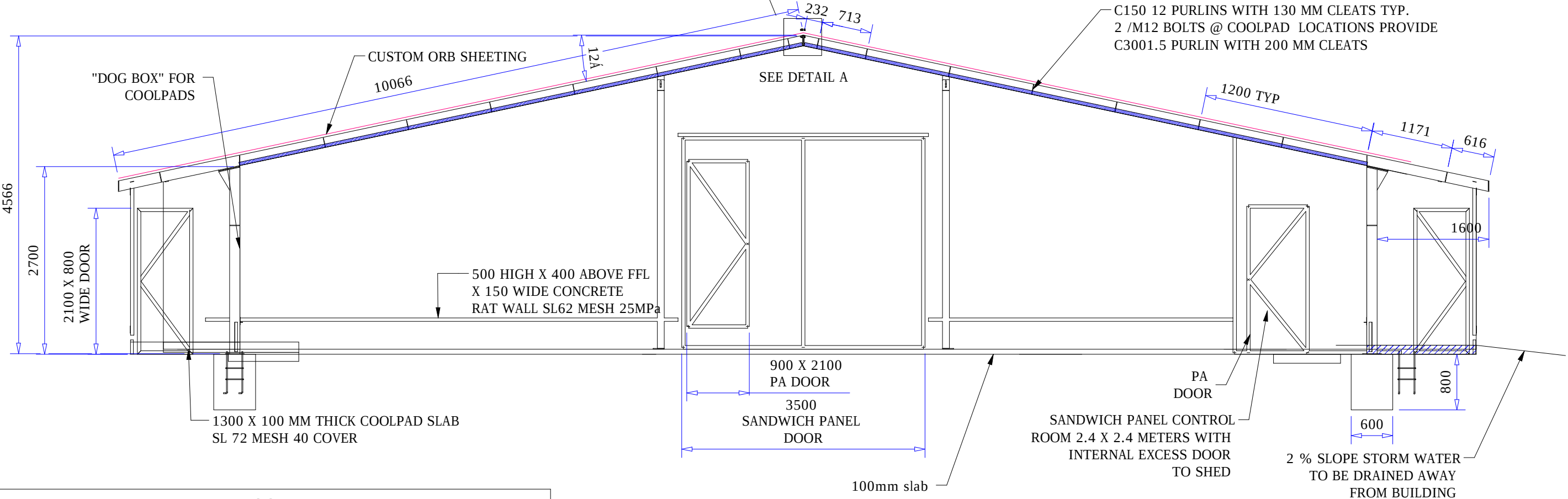


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PLANVIEW & ELEVATIONS					Edition Sheet 1 / 9

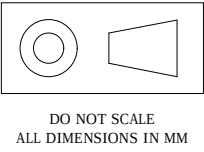
SANDWICH PANEL TO CONCRETE DETAIL



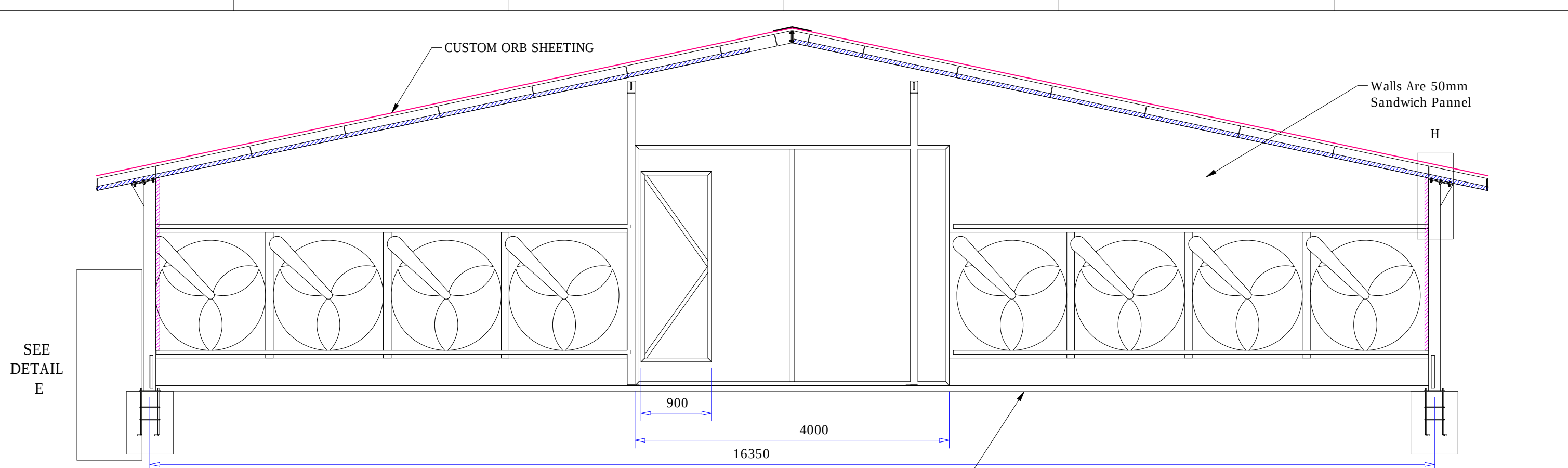
D ELEVATION
SCALE 1 : 50 A3



MEMBER SCHEDULE		
MARK	SIZE	REMARKS
COLUMNS	150 X 100 X 4	GRADE 450
RAFTERS	150 X 100 X 4	GRADE450
ROOF PURLINS	C15012	GALVANISED
PURLINS @ EAVES	C20015	GALVANISED
GIRT G1 @ WALL	C15012	GALVANISED
GIRT G2 @ WALL	100 50 X 2 MM RHS	GALVANISED

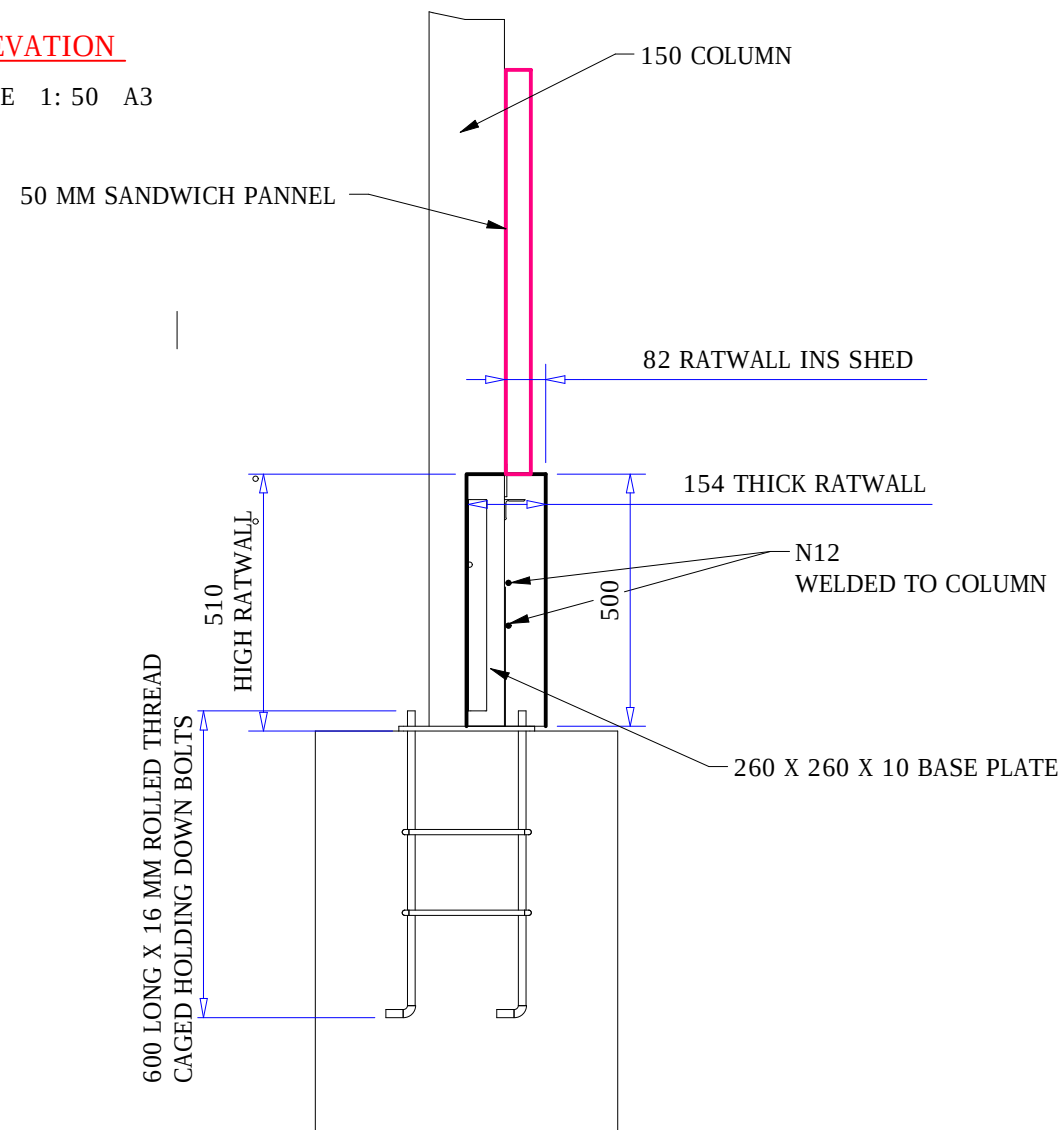


Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
 R&DG SANDAY 40 Glenning Rd Glenning Valley NSW 2261 PH 0404 489 573			SITE ADDRESS: Fairglenn Company Lot 72 Corio Rd, Ravenswood WA		
ELEVATION & SCHEDULE & DETAIL					Edition Sheet 2 / 9



B ELEVATION

SCALE 1: 50 A3

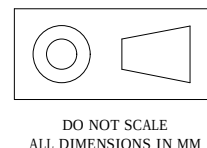


100mm SLAB

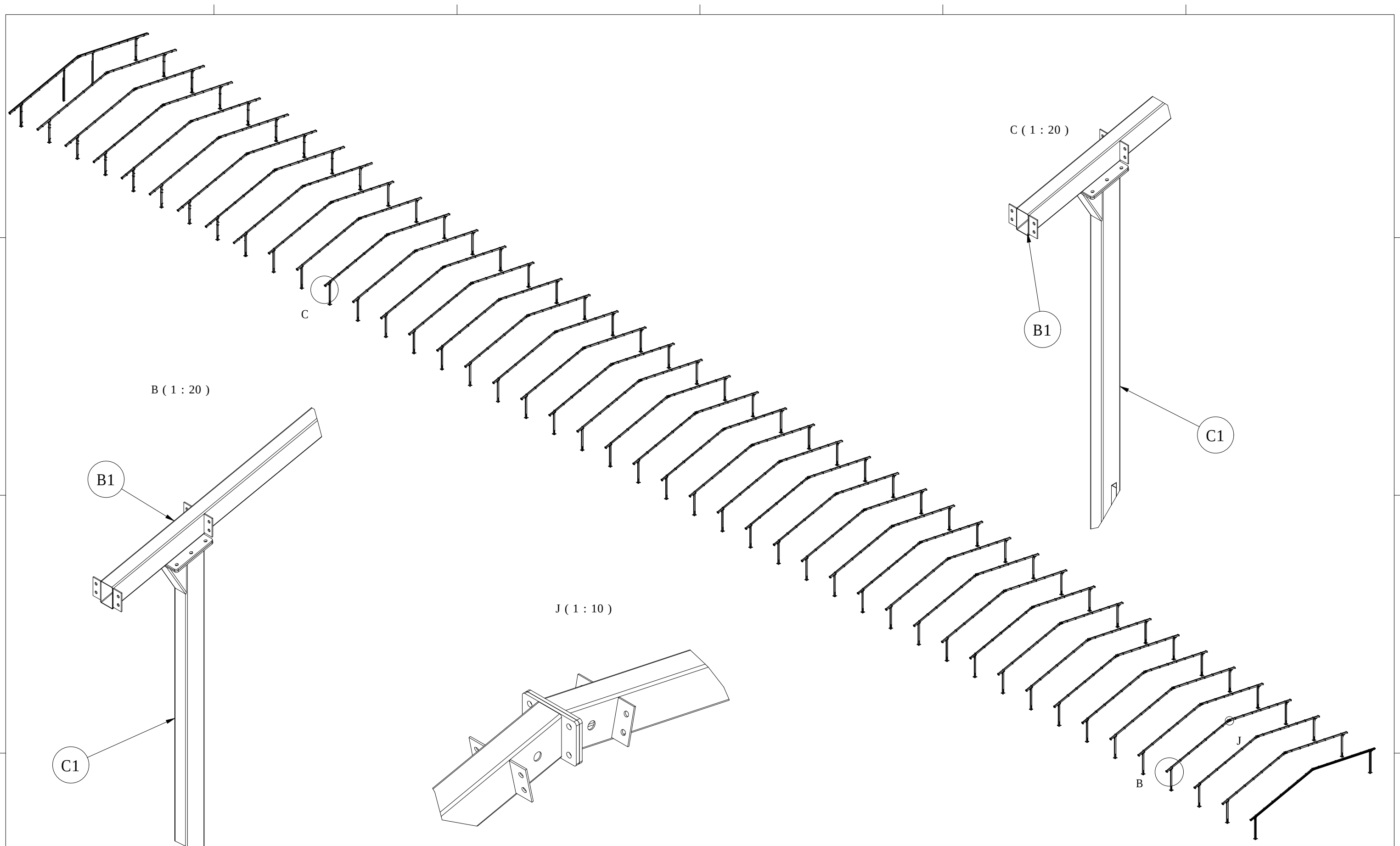
50 MM SANDWICH PANNEL

H (1 : 10)

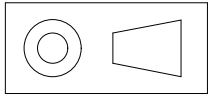
FOOTING DETAIL E (1 : 15) A3



Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
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SECTION & DETAIL					Edition Sheet 3 / 9

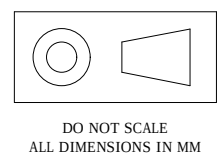
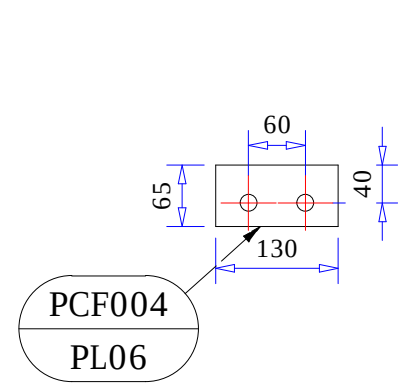
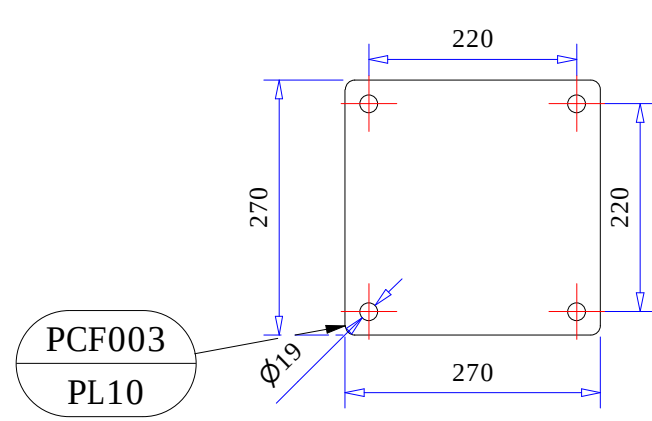
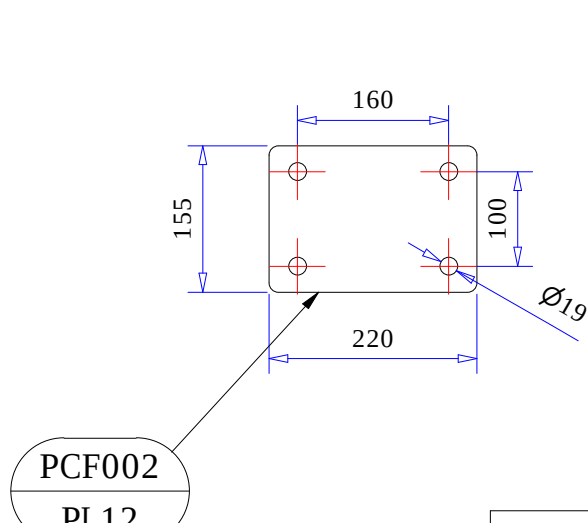
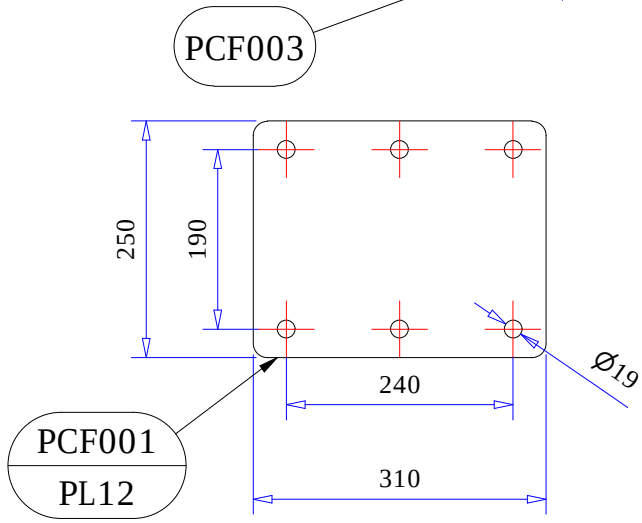
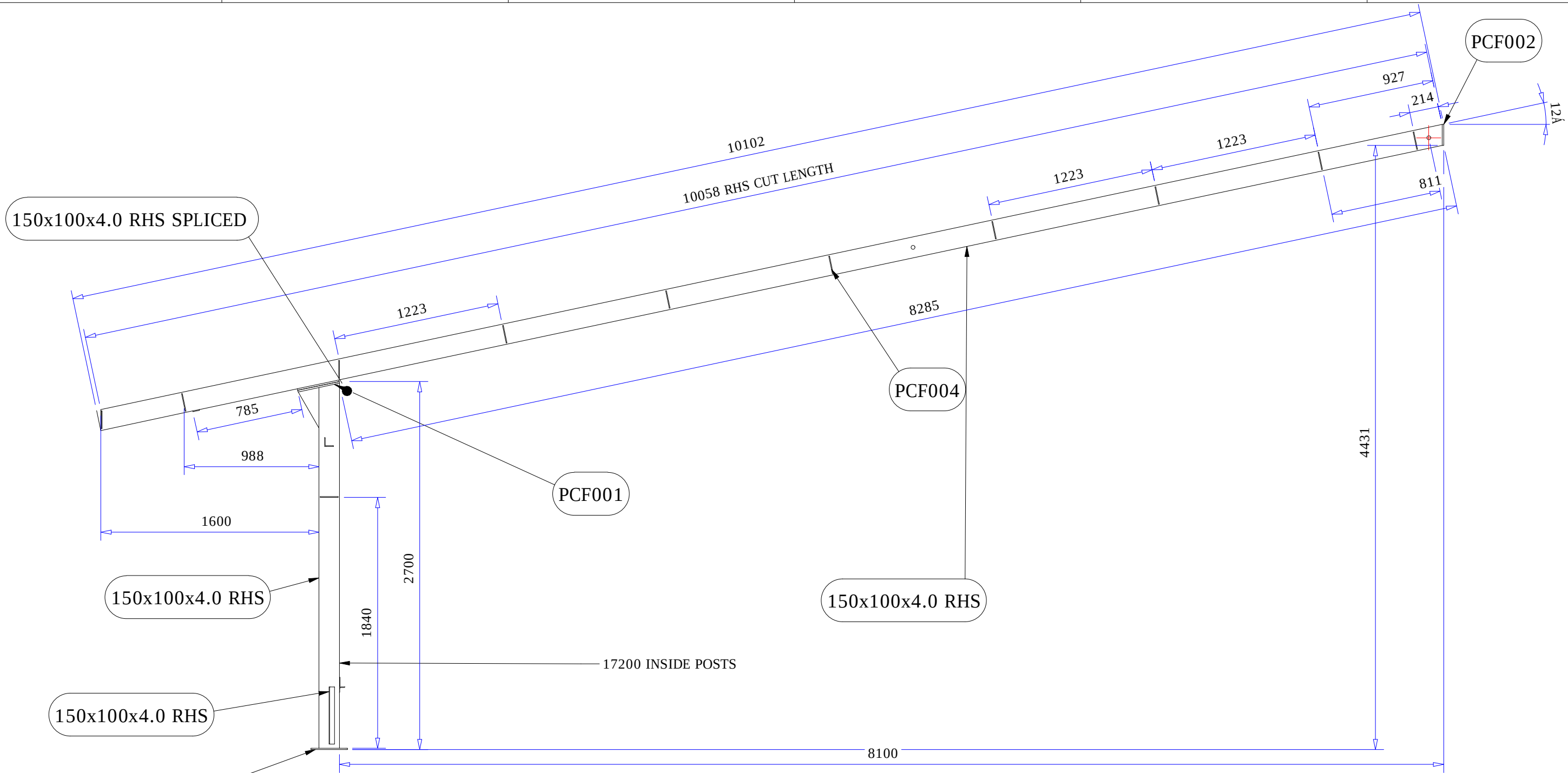


ALL STEELWORK TO BE PAINTED

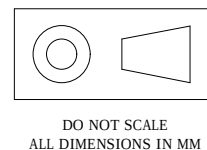
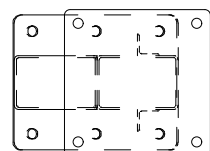
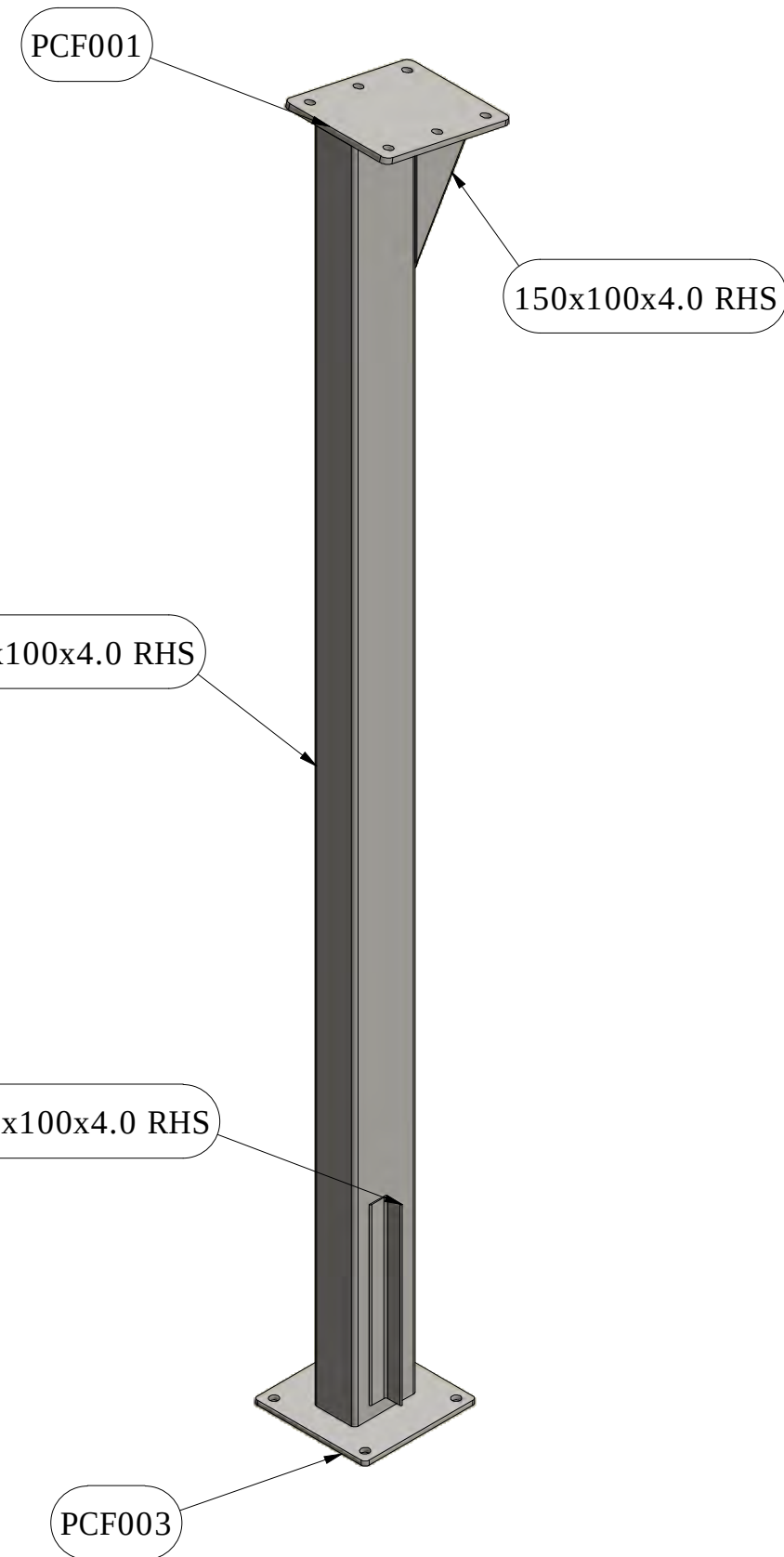
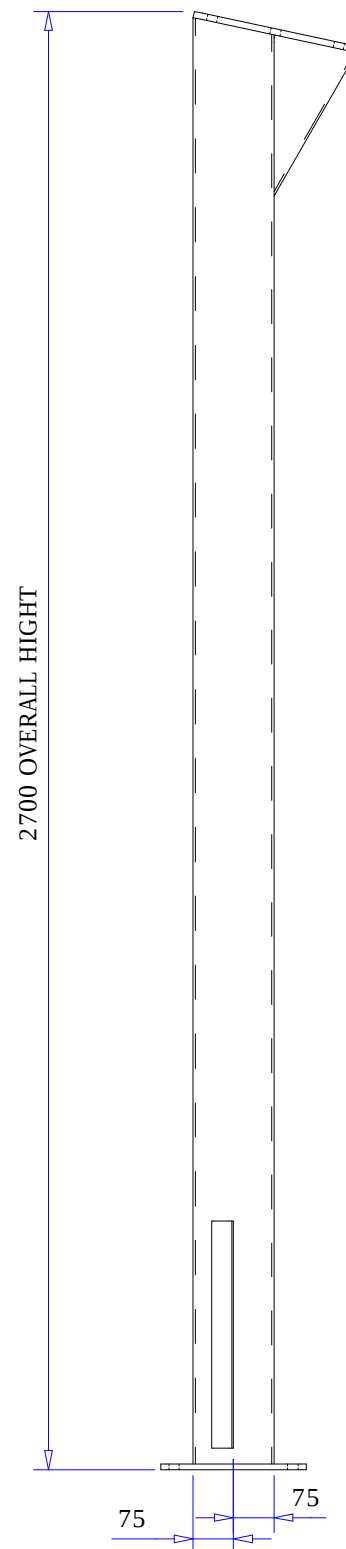
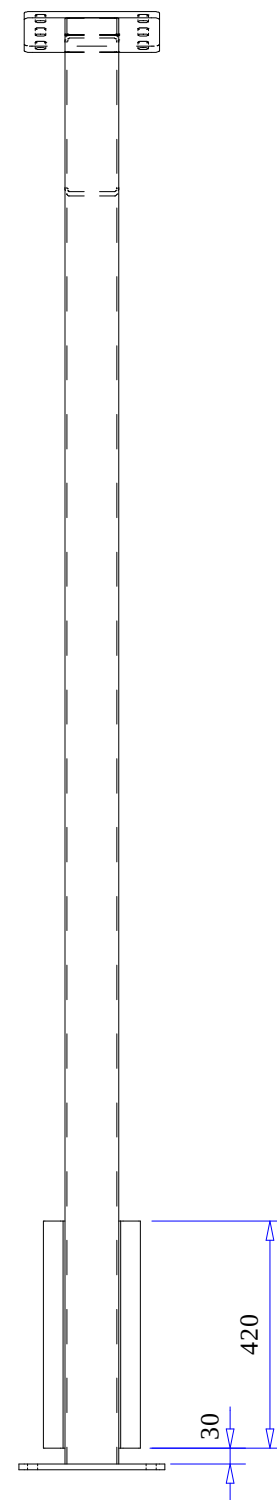
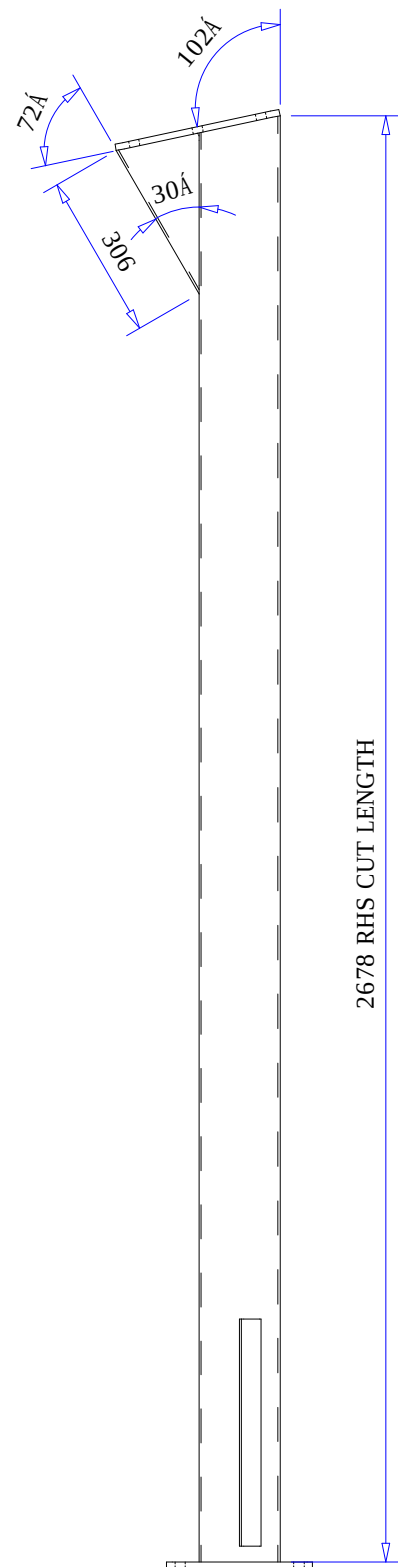


DO NOT SCALE
ALL DIMENSIONS IN MM

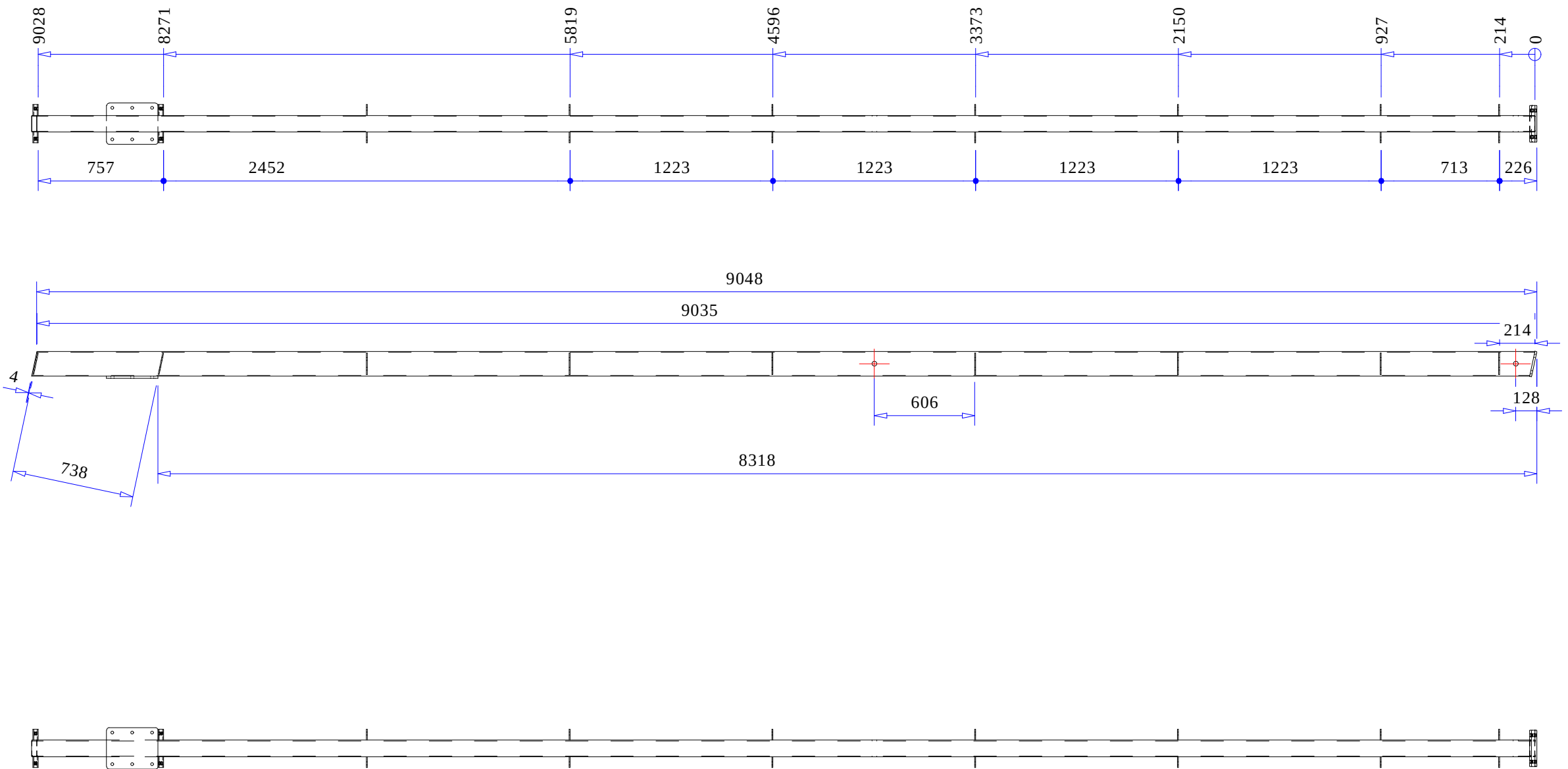
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			OVERVIEW		
				Edition	Sheet 4 / 9



Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
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TYP. PORTAL DETAIL				Edition	Sheet 5 / 9

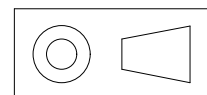
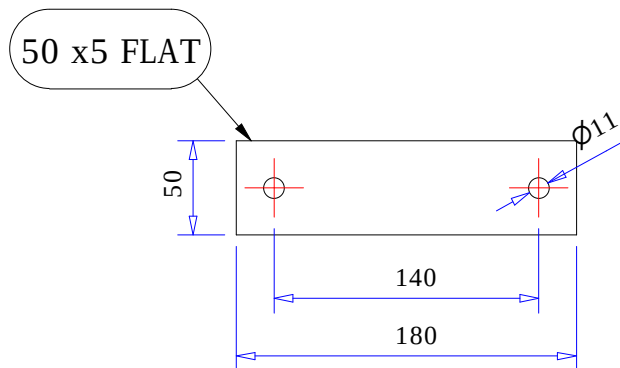
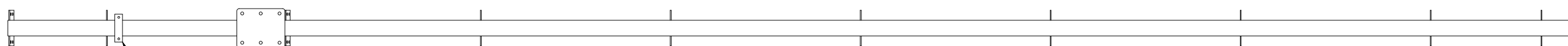
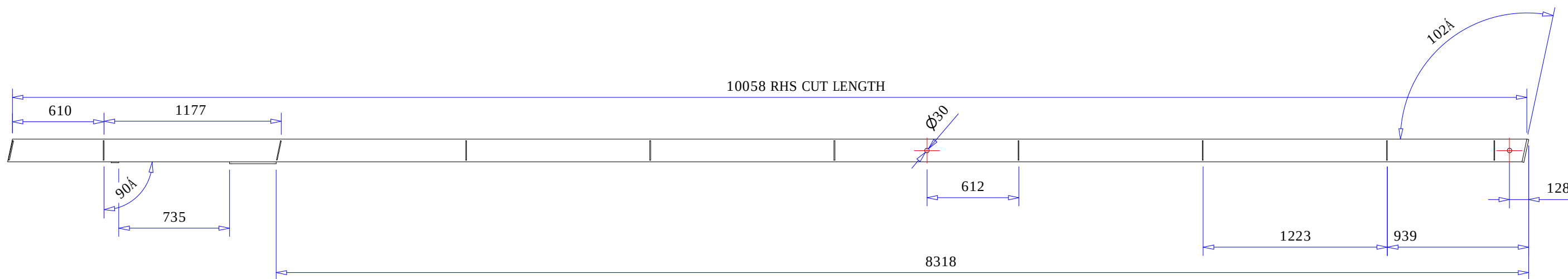
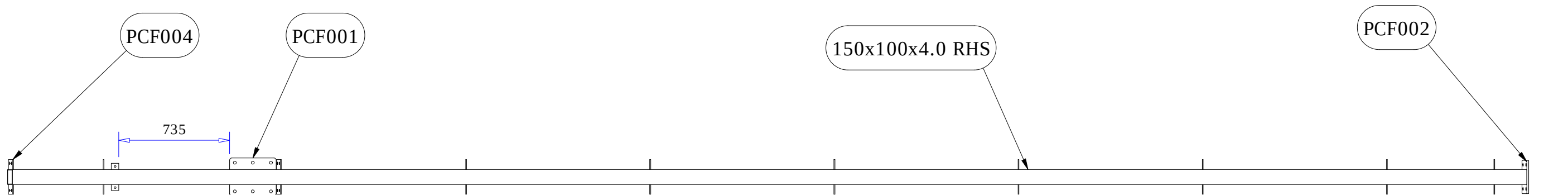


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TYP POST DETAIL					Edition Sheet 6 / 9



DO NOT SCALE
ALL DIMENSIONS IN MM

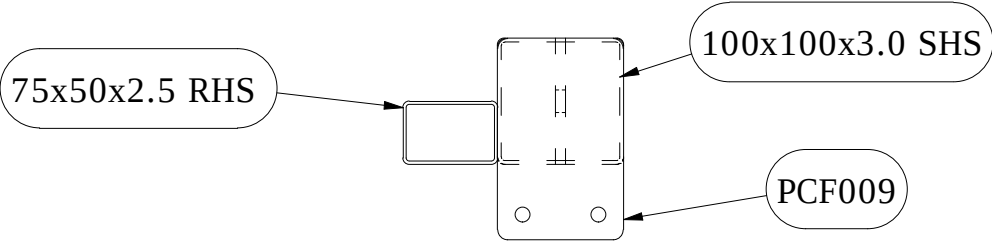
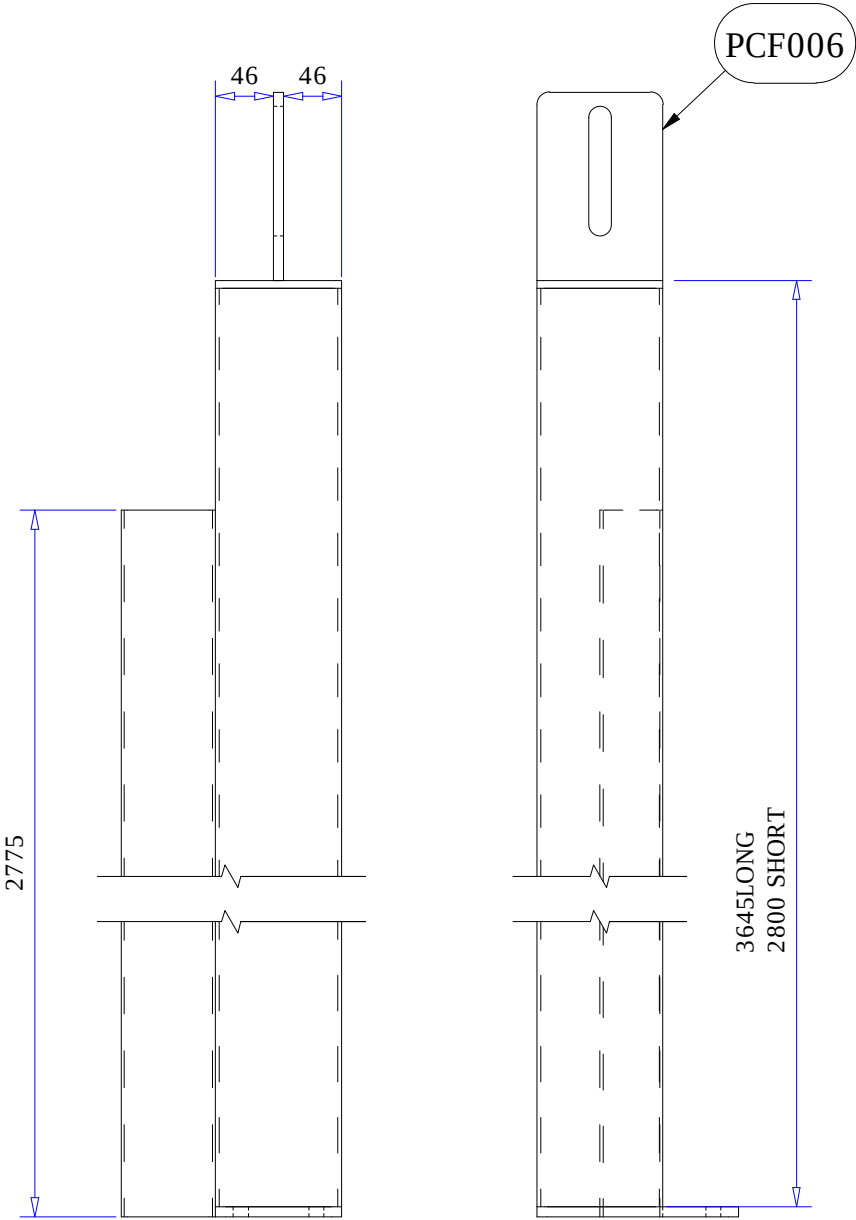
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		TYP BEAM DETAIL			Edition



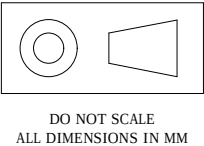
DO NOT SCALE
ALL DIMENSIONS IN MM

Designed by T Belardo	Checked by	Approved by	Date		Date 2/02/2021	AS NOTED A3
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			TYP COOLCELL BEAM DETAIL			Edition Sheet 8 / 9

DROP POST DETAIL



Galvanized material to be used were available and cold gal paint to be used on all welds and non galvanized parts



- BRIEF SPECIFICATIONS GENERAL SLAB AND FOOTING REQUIREMENTS:**
- 1. TOP SOIL AND VEGETATION SHALL BE STRIPPED FROM SITE TO A MINIMUM DEPTH OF 100mm.
 - 2. PRIOR TO THE PLACEMENT TO ANY CONTROLLED FILL, THE EXPOSED SUB GRADE SHALL BE COMPACTED TO A MINIMUM 95 % RELATIVE DENSITY.
 - 3. ALL ORGANIC MATTER AND SOFT AREAS SHALL BE REMOVED AND REPLACED WITH GRANULAR MATERIAL. ALL FILLING SHALL BE CLEAR GRANULAR MATERIAL PLACED IN MAXIMUM 150mm COMPACTED LAYERS AND COMPACTED BY WATERING AND USE OF VIBRATING ROLLER OR COMPACTOR TO ACHIEVE CONTROLLED FILL
 - 4. AS PER AS2870. FILL SHALL BE COMPACTED TO MINIMUM AS1289.1.1 (1993), OR WHEN TESTED PASS THE REQUIRED MIN. 100kPa BEARING CAPACITY FOR THE FOOTING.
 - 5. GROUND SURFACES AROUND THE POLTRY SHED TO BE GRADED SO THAT NO WATER PONDS AROUND THE FOOTINGS. PROVIDE 100mm FALL OVER THE FIRST 1000mm FROM THE BUILDINGS. THE BUILDER IS TO DETERMINE THE PRESENCE OF ANY ADDITIONAL FILLED AREAS, WHICH WOULD NECESSITATE THE USE OF MODIFIED FOOTINGS.
- GENERAL NOTES:**
- 1. ALL DIMENSIONS ARE TO BE OBTAINED FROM THE ARCHITECTS DRAWINGS OR FROM SITE. ENGINEERS DRAWINGS MUST NOT BE SCALED.
 - 2. THE APPROVAL OF A SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRA INVOLVED MUST BE TAKEN UP WITH THE ARCHITECT BEFORE WORK COMMENCES.
 - 3. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- STRUCTURAL STEEL**
- 1. ALL STEELWORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AS4100, SAA STEEL STRUCTURES CODE.
 - 2. WELDS TO BE 6mm CONTINUOUS FILLET LAID DOWN WITH APPROVED COVERED ELECTRODE IN ACCORDANCE WITH AS1554 -WELDING CODE. BOLTS 16 mm DIA, BLACK IN 19 mm CLEARANCE
 - 3. HOLES, GUSSET PLATES 10mm THICK UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS NOMINATED 'HS' TO BE SNUG TIGHTENED ONLY UNLESS NOTED.

Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
 R&DG SANDAY 40 Glenning Rd Glenning Valley NSW 2261 PH 0404 489 573		SITE ADDRESS: Fairglenn Company Lot 72 Corio Rd, Ravenswood WA			
		DROP POST & GENERAL NOTES			Edition

APPENDIX C

Landuse Context

LEGEND



Subject Land (121.4832ha)



1000m Buffer



Existing Structures



Proposed Poultry Sheds



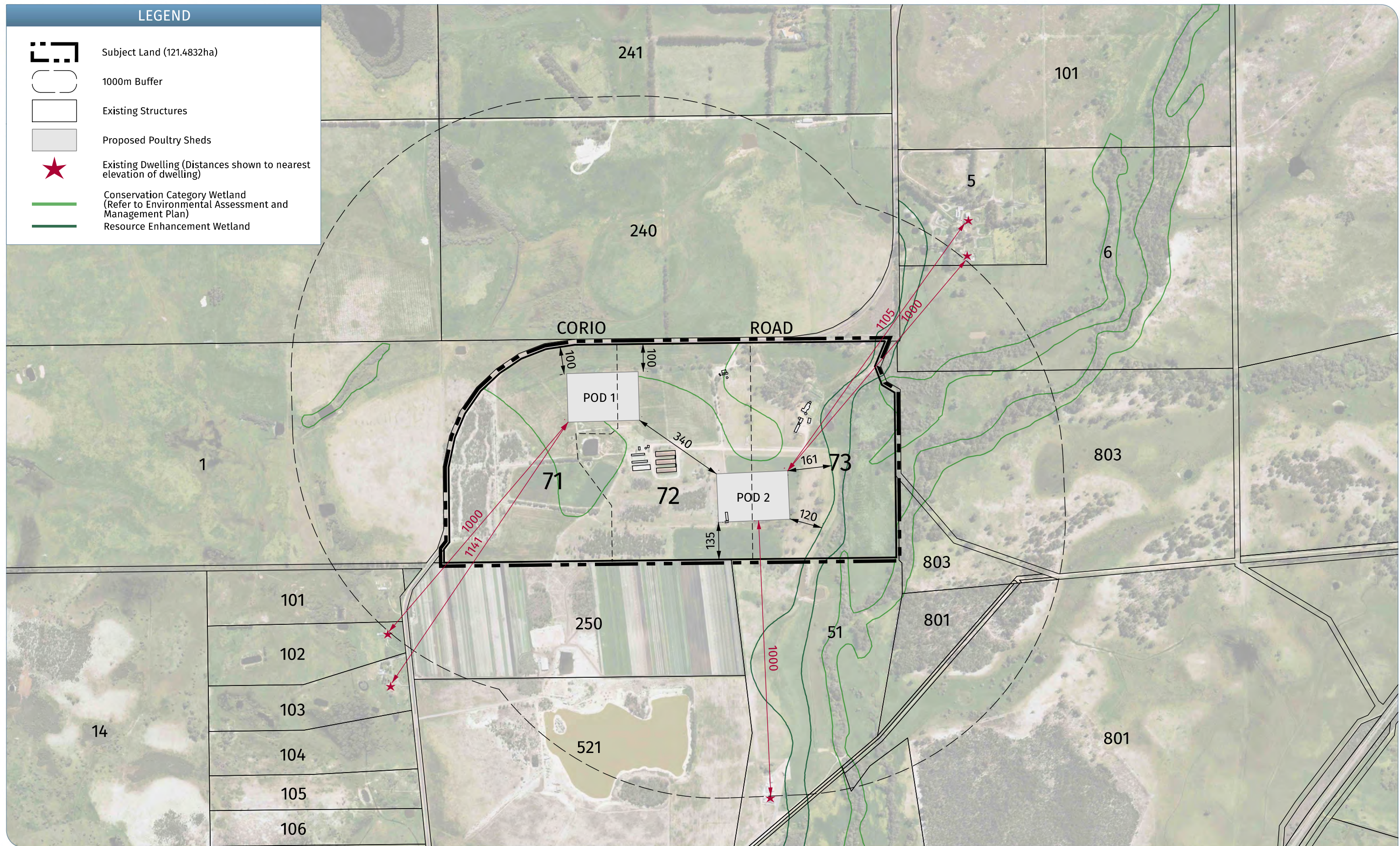
Existing Dwelling (Distances shown to nearest elevation of dwelling)



Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)



Resource Enhancement Wetland



LANDUSE CONTEXT & BUFFER PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-02
Date | 19/02/21
Drawn | NP
Checked | BdR
Revision | C

PERTH & FORRESTDALE:
Lvl 1, 252 Fitzgerald St
PERTH WA 6000
15/2 Hensbrook Loop,
FORRESTDALE WA 6112
T: 08 9495 1947
E: metro@harleydykstra.com.au

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Unauthorised use of this document in
any form whatsoever is prohibited.

Scale | 1:12500@A3

0 100m 200m 300m



NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

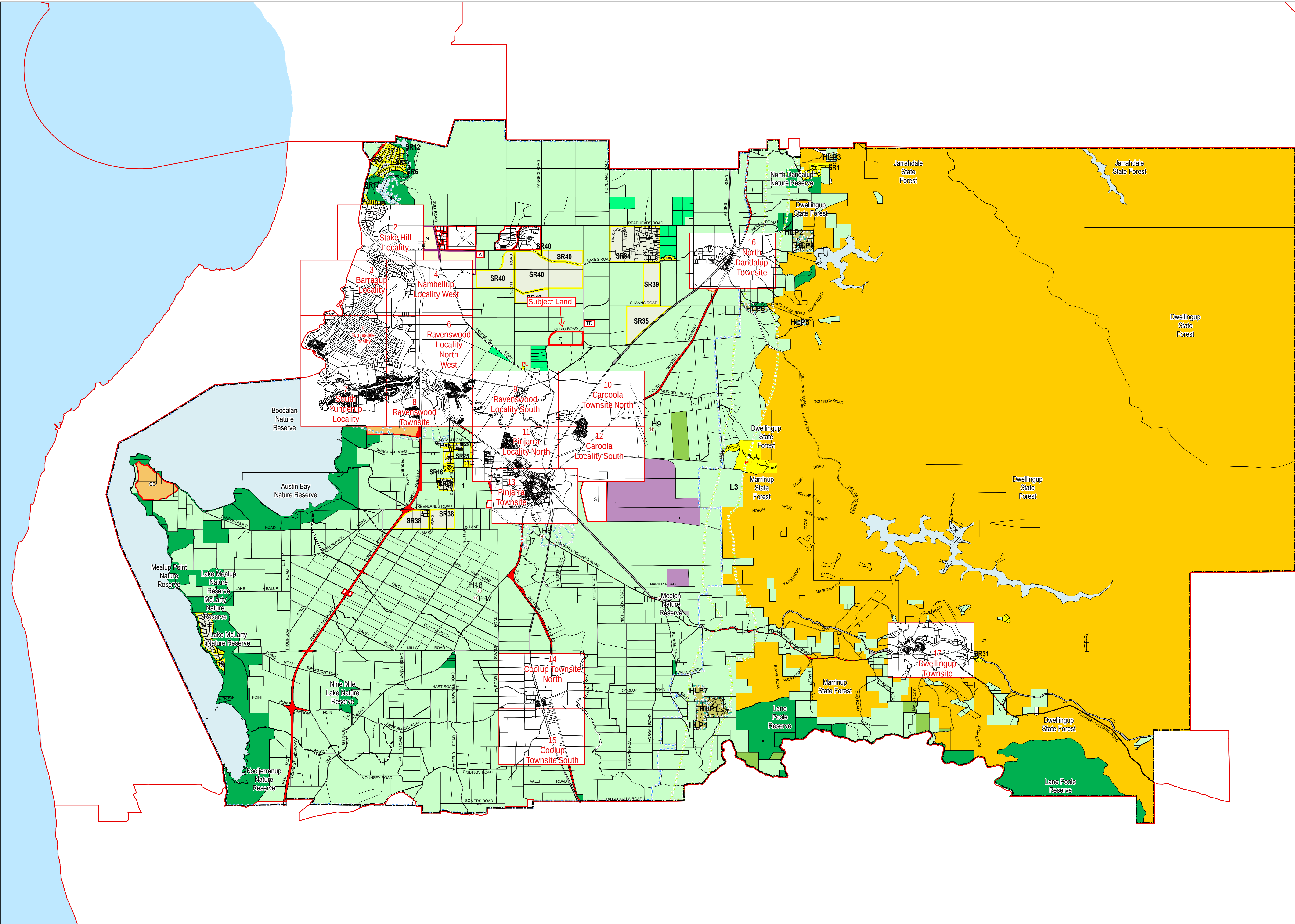


Harley Dykstra

PLANNING & SURVEY SOLUTIONS

APPENDIX D

Zoning



LEGEND

REGION SCHEME RESERVES (PRS)

	Other Regional Roads		Public Purposes
	Regional Open Space		Public Purposes - High School
	Primary Regional Roads		Public Purposes - Hospital
	Railways		Public Purposes - Public Utilities
	State Forests		Public Purposes - Special Uses
	Waterways		Public Purposes - University

LOCAL SCHEME RESERVES

	Civic / Cultural		Public Purposes : Primary School
	Major Highway		Public Purposes : Public Works Department
	Public Purposes		Public Purposes : Public Utility
	Public Purposes : Ambulance		Public Purposes : Race Course and Show Ground
	Public Purposes : Cemetery		Public Purposes : SEC Depot
	Public Purposes : Drain		Public Purposes : Sewage Pumping Station
	Public Purposes : Fire Fighting Facility		Public Purposes : Telecom
	Public Purposes : Government Requirements		Public Purposes : Water Supply
	Public Purposes : Hall Site		Public Recreation / Conservation
	Public Purposes : High School		Railway
	Public Purposes : Hospital		Road to be closed
	Public Purposes : Office and Stables		State Forest
	Public Purposes : Police		
	Public Purposes : Pre-school		

LOCAL SCHEME ZONES

	Canal Development		Special Use : Art/Craft Village
	Commercial		Special Use : Employment and Training Centre
	Farmlet		Special Use : Freeway Service Centre
	Hills Landscape Protection		Special Use : Garden Centre
	Hotel / Motel		Special Use : Home Business
	Industry		Special Use : Kennel
	Private Clubs and Institutions		Special Use : Masonic Lodge and Function Centre
	Residential		Special Use : Place of Worship
	Residential Development		Special Use : Processing of Agricultural Chemicals
	Rural		Special Use : Recreation Hall
	Service Commercial		Special Use : Residential,Resort,Retirement,Hire Accom
	Special Residential		Special Use : Residential/Horse Training,Trotting,Stabling
	Special Rural		Special Use : Roadhouse
	Special Use		Special Use : Service Station
	Town Centre		Special Use : Service Station and Boat Display
	Caravan / Chalet Park		Special Use : Service Station and Shop
	Namboolup Industrial Development		Special Use : Single Residential
	Pinjarra Industrial Development		Special Use : Stable
	Private Recreation		Special Use : Tourist Development
	Special Development		Special Use : Various (see scheme text)
	Special Use : Abattoir		

OTHER CATEGORIES

(see scheme text for additional information)

	Scheme Area Boundary
	Local Government boundary
	R20 R Codes
	A1 Additional Uses
	SR1 Special Rural Area
	Floodprone Areas (100 Year Flood)
	HLP1 Hills Landscape Protection Area
	1 Peel - Harvey Coastal Plain Catchment Area
	L1 Places of Landscape Value
	DCA1 SCA - Development Contribution Area
	Places of Heritage Value
	No Zone

VERSION No 1

Shire of Murray

Town Planning Scheme No. 4

(District Scheme)



Department of Planning,
Lands and Heritage

Whilst all care has been taken to accurately portray the current Scheme provisions, no responsibility shall be taken for any omission or errors in this documentation.

Consultation with the respective Local Government should be made to view a legal version of the Scheme. Please advise the Department of Planning, Lands and Heritage of any omissions or errors in the document at Spatialdata@dph.wa.gov.au

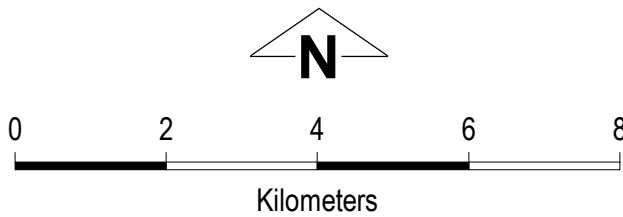
Produced by GeoSpatial Research and Modelling,
Department of Planning, Lands and Heritage.

Base Information Supplied by the Western Australian
Land Information Authority, SLIP 1180-2020-1

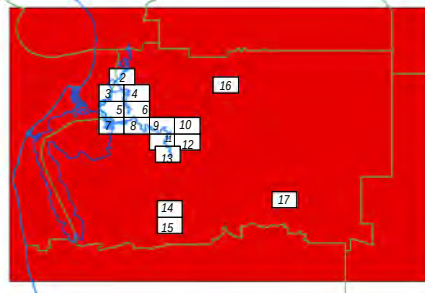
Shire of Murray

Town Planning Scheme No. 4

(District Scheme)



MAP OVERVIEW



Authorised: T.Servaas

Plot Date: 16 November 2020

G.Gazette: Friday, 23 June 1989

Town Planning Scheme Map No. 1 of 17
MAP: Murray Overall

APPENDIX E

Subject Land Nutrient Mapping

Interpreting your whole farm nutrient maps

Summary

A set of 14 maps, a tabular report and a farm summary status sheet are provided as part of your involvement in the Regional Estuaries Initiative (REI) or Revitalising Geographical Waterways (RGW) projects. The paddock boundaries shown in the presented maps are based on the information you verified as representing your paddocks.

Soil sampling followed transects in paddocks after a discussion between you and the soil sampling team. Composite soil samples comprising at least 30 sub-samples, each 0/10 cm, from each paddock were collected. The composite sample was dried, sieved, and sent to an Australasian Soil and Plant Analysis Council (ASPAC) certified laboratory for analysis. The raw soil test data was classified and used to colour code the paddock maps and provided tables.

The map set includes:

- an outline map showing paddock boundaries and names
- a map showing the sampling transects
- a colour coded map of soil phosphorus buffering index (PBI)
- a colour coded map of the soils pH status
- four colour coded maps of soil phosphorus (P) status for different production levels
- a phosphorus environmental risk index map
- a colour coded map of soil potassium (K) status
- a colour coded map of soil sulphur (S) status
- three colour coded maps of fertility indices for P, K and S

In each map the paddock colour coding indicates the status of that soil test. Most maps are colour coded using a traffic light approach, being green, yellow and red, or green and blue shades for people with colour blindness. Using the traffic light metaphor, green means that the status is high or "OK", yellow is medium status and means you may need to consider applying a particular nutrient or amendment, and red is regarded as low status and means you need to stop and closely examine this paddock because the level is low and a fertiliser or amendment is likely required. The status is described in the key provided for each map. The actual soil test value or index is shown in each paddock.

The farm summary status sheet includes information on the number of paddocks that were sampled, the total area sampled, and the areas (ha) of varying classifications of PBI, pH

status, P status, K status, S status and PER status on your farm. The tabular report contains the raw soil test data, colour coded in a similar way to the maps.

Further details and supporting information for these maps and tables is provided on the following pages and the maps themselves.

Transect map

This map shows the transects used for sampling in each paddock that was sampled. Each point represents a location in the paddock where a 0/10 cm sub sample was collected. The collected sub samples were combined into a composite sample, which was then dried, sieved, and sent to an ASPAC (<http://www.aspac.australasia.com>) laboratory for analysis. Where GPS data was not captured, transects are generalised from hand drawn lines on field maps by the sampler. In some cases, sampling transects may cross paddock boundaries due to poor satellite reception, differences found between mapped and actual paddock boundaries when sampling was undertaken, or because of requests by landowners to sample in particular locations. Transects may not be straight due to paddock hazards and vegetation.

Phosphorus Buffering Index

Phosphorus Buffering Index (PBI) is the agreed national measure to estimate how strongly a soil will retain P (Burkitt et al., (2002), and is a reflection of soil type. Phosphorus Buffering Index is used in conjunction with Colwell P to determine the soils P status (Windsor et al., 2010, Bolland et al., 2010b, Gourley et al., 2007). The PBI classes used here (Table 1) include some modification of the Australian PBI standards (Gourley et al., 2007) for soils with PBI < 15 to suit the sandy soils in WA (Windsor et al., 2010, Bolland et al., 2010b).

Table 1. Phosphorus Buffering Index ranges, classification, and expected soil texture

PBI	Classification	Typical Soil Texture
<5	Exceedingly low	Sand ↑ ↓ Loam/Clay
≥5-10	Excessively low	
≥10-15	Extremely low	
≥15-35	Very Very low	
≥35-70	Very low	
≥70-140	Low	
≥140-280	Medium	
≥280-840	High	

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Low PBI values are usually associated with sandy soils while high PBI values are associated with clay and loam soils that are red, brown and orange in colour. Soils with finer texture (clays and loams) will commonly have high PBI values, as these tend to contain soil minerals such as iron and aluminium oxides that retain P and other nutrients. Coarse textured sandy soils have a low surface area and are often comprised of soil minerals such as quartz that have little capacity to retain P or other nutrients.

Soil Acidity

Soil acidity is assessed by classifying soil pH (measured in Calcium Chloride, CaCl_2) into one of four pH ranges (Table 2). The target soil pH above which your soil acidity is regarded as being "OK" is 5.5 (Gazey and Davies, 2009). Below this value, soil pH is arbitrarily broken up by 0.5 pH increments to result in marginal pH (5.0/5.5), low pH (4.5/5.0) and very low pH (<4.5). The classification of pH is made on the basis of pH to influence the relative availability of nutrients (Truog, 1948), not its influence on aluminium concentration and aluminium's effect on plant roots. It is difficult to maintain productive pastures when the soil is acidic (low pH). Acidity reduces the availability of many plant nutrients in the soil and can damage plant roots.

Table 2. Soil pH ranges defining soil pH status

pH (CaCl_2)	Status
<4.5	Very Low
≥ 4.5 -5.0	Low
≥ 5.0 -5.5	Marginal
≥ 5.5	OK

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Phosphorus Status

Four P status maps are provided to represent different production levels (80%, 85%, 90%, 95% of maximum production) to cater for differing production goals of growers, and in recognition that P is a key nutrient to manage for water quality purposes (Ruprecht et al., 2013). Those with a lower stocking rate (80 to 85% production target, beef and sheep enterprises) are likely to require less P in the soil than those with a high requirement for feed (90 to 95%, dairy enterprises).

The maps are colour coded by P status where green is regarded as high P status (P fertiliser likely not required), yellow/orange is regarded as medium P status (P may be required depending upon economics and your production goals), and red is regarded as low P status (you need to stop and closely examine this paddock because the level is low and a P based fertiliser is likely required).

The Phosphorus (P) soil test (Colwell, 1965) is used in conjunction with the soils Phosphorus Buffering Index (PBI) (Burkitt et al., 2002) to determine soil P status. The PBI



can be likened to a measure of the soil type, with sandy soils having a low PBI and heavier clay soils having a much higher PBI. The higher the PBI, the more P is needed to overcome what is bound by the soil. The amount of P required to increase production for each level of PBI has been determined from field trials and the soil test level corresponding to target production levels are called critical levels. The critical levels of P used to assess your soil test are derived from field trials that were used to create the Australian standards (Gourley et al., 2007), with some modification for soils with PBI < 15 to suit the sandy soils in WA (Windsor et al., 2010; Bolland et al., 2010b). The classification of your P soil test into high, medium or low P status is based on a conversion of the tabular or stepped ranges (Table 3) provided by Bolland et al. (2010b) into smooth mathematical functions.

Table 3. Critical Colwell P values defining soil P status for different PBI ranges at 80%, 85%, 90% and 95% of maximum production (Bolland et al., 2010b)

80% maximum production				85% maximum production		
	Colwell P (mg kg ⁻¹)			Colwell P (mg kg ⁻¹)		
PBI	Low	Medium	High	Low	Medium	High
<5	<4	4-6	>6	<5	5-7	>7
≥5-10	<6	6-8	>8	<7	7-10	>10
≥10-15	<8	8-11	>11	<10	10-13	>13
≥15-35	<11	11-14	>14	<13	13-16	>16
≥35-70	<14	14-16	>16	<16	16-18	>18
≥70-140	<16	16-18	>18	<18	18-21	>21
≥140-280	<18	18-21	>21	<21	21-25	>25
≥280-840	<21	21-30	>30	<25	25-35	>35

90% maximum production				95% maximum production		
	Colwell P (mg kg ⁻¹)			Colwell P (mg kg ⁻¹)		
PBI	Low	Medium	High	Low	Medium	High
<5	<6	6-8	>8	<7	7-10	>10
≥5-10	<8	8-11	>11	<10	10-15	>15
≥10-15	<11	11-15	>15	<15	15-20	>20
≥15-35	<15	15-20	>20	<20	20-25	>25
≥35-70	<20	20-22	>22	<25	25-29	>29
≥70-140	<22	22-25	>25	<29	29-34	>34
≥140-280	<25	25-30	>30	<34	34-40	>40
≥280-840	<30	30-42	>42	<40	40-55	>55

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Note!that!the!critical!levels!used!to!determine!P!status!are!aimed!at!growing!clover,!which!has!a!higher!P!requirement!than!grasses.!If!your!pasture!is!dominated!by!grass!then!it!is!likely!that!the!critical!levels!used!may!overPestimate!your!P!needs!

If!your!soil!has!low!P!status!and!does!need!P,!refer!to!Summers!and!Weaver!(2011)!as!a!guide,!or!engage!a!Fertcare!accredited!advisor!to!determine!how!much!P!to!apply!to!achieve!your!desired!production!level.!

Phosphorus Environmental Risk Index

Phosphorus!Environmental!Risk!Index!(PERI)!is!determined!as!the!ratio!of!Colwell!P!to!PBI,!and!provides!insight!into!the!degree!of!saturation!of!the!soil!with!P.!PERI!is!only!one!of!a!range!of!factors!that!should!be!considered!in!understanding!P!loss!risk,!and!is!associated!with!the!likelihood!that!soluble!P!can!be!lost!from!the!soil!via!a!range!of!pathways.!Consideration!should!also!be!given!to!landscape!slope,!landscape!shape,!proximity!to!watercourses,!depth!to!groundwater,!the!degree!of!waterlogging,!drainage,!pasture!type!and!cover,!fertiliser!timing,!Colwell!P,!PBI!and!stocking!rate!to!better!understand!the!risk!of!P!loss,!and!the!forms!of!P!that!may!be!lost!from!paddocks!and!the!farm.!The!classification!ranges!(Table!4)!used!are!notional!based!on!knowledge!gained!for!Fertcare!Accredited!Advisor!training!(Chris!Dowling,!BackPaddock!pers.!comm.).!

Table 4. PERI ranges and classification

PERI range	Classification
<0.3	Low
0.30-0.65	Marginal
0.65-1.00	High
1.00-1.30	Very high
>1.30	Extreme

Potassium Status

Soil!Potassium!(K)!status!(low,!medium,!high)!is!determined!by!classifying!Colwell!K!into!one!of!three!soil!K!ranges!(Summers!and!Weaver,!n.d.!Table!5).!The!critical!K!levels!used!(0P50,!50P100,!>100!mg/kg)!are!consistent!with!Bolland!and!Russell!(2010a),!and!similar!to!the!critical!Colwell!K!values!provided!by!Gourley!et!al.!(2007).!Gourley!et!al.!(2007)!stratifies!critical!Colwell!K!values!by!soil!texture.!Using!the!equations!provided!by!Gourley!et!al.!(2007)!for!sandy!soils!(typically!found!in!the!coastal!catchments!associated!with!these!projects),!a!Colwell!K!value!of!100!mg/kg!yields!90%!of!maximum!production,!which!is!the!critical!value!used!here.!



Table 6. Critical Colwell K values defining K status

Colwell K (mg kg^{-1})	Status
<50	Low
≥ 50 -100	Marginal
≥ 100	OK

The K soil test result is commonly low in coastal soils and muriate of potash (KCl) often needs to be applied to overcome the deficiency. The application of approximately 1 unit of K (1 kg of K) will be needed to raise the soil test by 1 unit for soils with PBI < 300. For soils with PBI > 300, approximately 2 units of K (2 kg of K) is required to increase the soil test by 1 unit (Meat and Livestock Australia, n.d.).

Sulphur Status

The critical levels of Sulphur (S) used to assess your soil test are derived from Australian standards (Gourley et al., 2007 Table 6). The S soil test (Blair et al., 1991 KCl40S) is classified as high S status when the value is > 5.9 (90% of maximum production). Medium S status is arbitrarily assigned when the S soil test value results in $< 5\%$ reduction in maximum production, and low S status when $> 5\%$ reduction in maximum production is achieved. Sandier soils are more likely to need S applications as the S can leach from these soils. The need for S is commonly associated with the need for K in spring on clover pastures grown on sandy soils after winter rains.

Table 6. Critical KCl40S values defining S status

KCl40S (mg kg^{-1})	Status
<4.9	Low
≥ 4.9 -5.9	Marginal
≥ 5.9	OK

Sulphur is relatively cheaply available as coarse rock gypsum, which if applied in autumn will remain available until spring when it is needed most on sandy soils. Applications of very soluble S in fertilisers designed for hay making are only suitable when applied in spring.

Sulphur in superphosphate is in a good coarse form of S, but if P is not needed then it is an expensive form of S when compared to gypsum.

Fertility Index Maps

There are three fertility index maps, one each for P, K, and S showing an index assessed against critical values for 90% of maximum production. The index maps provide additional



information about your soils' P, K and S status. The index is a ratio of your measured soil P, K or S value to the critical value (Simpson et al., 2011).

Index values near to 1 are optimal, while values less than 1 are considered deficient and values greater than 1 are considered in excess. How far above or below 1 your index values are will tell you how far above or below the desired target value your soil test levels are (Table 7).

Table 7. Fertility index ranges and classification

Index range	Classification
<0.75	Very deficient
0.75-0.90	Deficient
0.90-1.10	Optimal
1.10-1.50	Excess
>1.50	Well in excess

For index values of 1 or above, application of that nutrient would not be expected to deliver additional pasture growth. Whilst for index values less than 1 additional pasture growth would be expected when the nutrient for that index is applied.

For example, the critical K value at which you should achieve 90% of maximum production is 100 parts per million (ppm). If your soil test measured 100 ppm of K, your K fertility index value would be 1 or on target. If your soil test measured 50 ppm of K, your K fertility index value would be 0.5, or half as much as it should be to achieve 90% of maximum production. If your soil test measured 200 ppm of K, your K fertility index value would be 2, or twice as much as it needs to be to achieve 90% of maximum production.

Tabular Report

The tabular report following your maps contains the raw soil test data for PBI (Burkitt et al., 2002), Colwell P (Colwell, 1965), Colwell K (Colwell, 1965), KCl40S (Blair et al., 1991) and pH (CaCl₂) (Gazey and Davies, 2009), using the same classifications as for the maps. In addition, the tabular report includes the fence to fence paddock area (hectares), classifications of K and S status for 80%, 85%, 90% and 95% of maximum production, P, K and S fertility indices (Simpson et al., 2011) for 80%, 85%, 90% and 95% of maximum production and the soils PERI status. These tables use the same traffic light colour scheme as the maps. Rows in the table that do not contain data represent paddocks that were not sampled.

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Rob Clayton, 2010/2011 Status Summary

Paddocks and Areas

paddocks nominated: _____ 18
paddocks sampled: _____ 18
area sampled (ha): _____ 83.63

PBI class (ha)

exceedingly low: _____ 46.01
excessively low: _____
extremely low: _____ 10.81
very very low: _____ 7.78
very low: _____
low: _____
medium: _____ 19.03
high: _____

pH status (ha)

very low: _____ 16.92
low: _____ 35.59
marginal: _____ 12.52
OK: _____ 18.6

P status (ha)

high: _____ 25.4
medium: _____ 7.67
low: _____ 50.56

K status (ha)

high: _____ .65
medium: _____
low: _____ 82.98

S status (ha)

high: _____ 21.09
medium: _____
low: _____ 62.54

PERI status (ha)

low: _____ 31.25
marginal: _____
high: _____ 22.51
very high: _____ 6.37
extreme: _____ 23.5

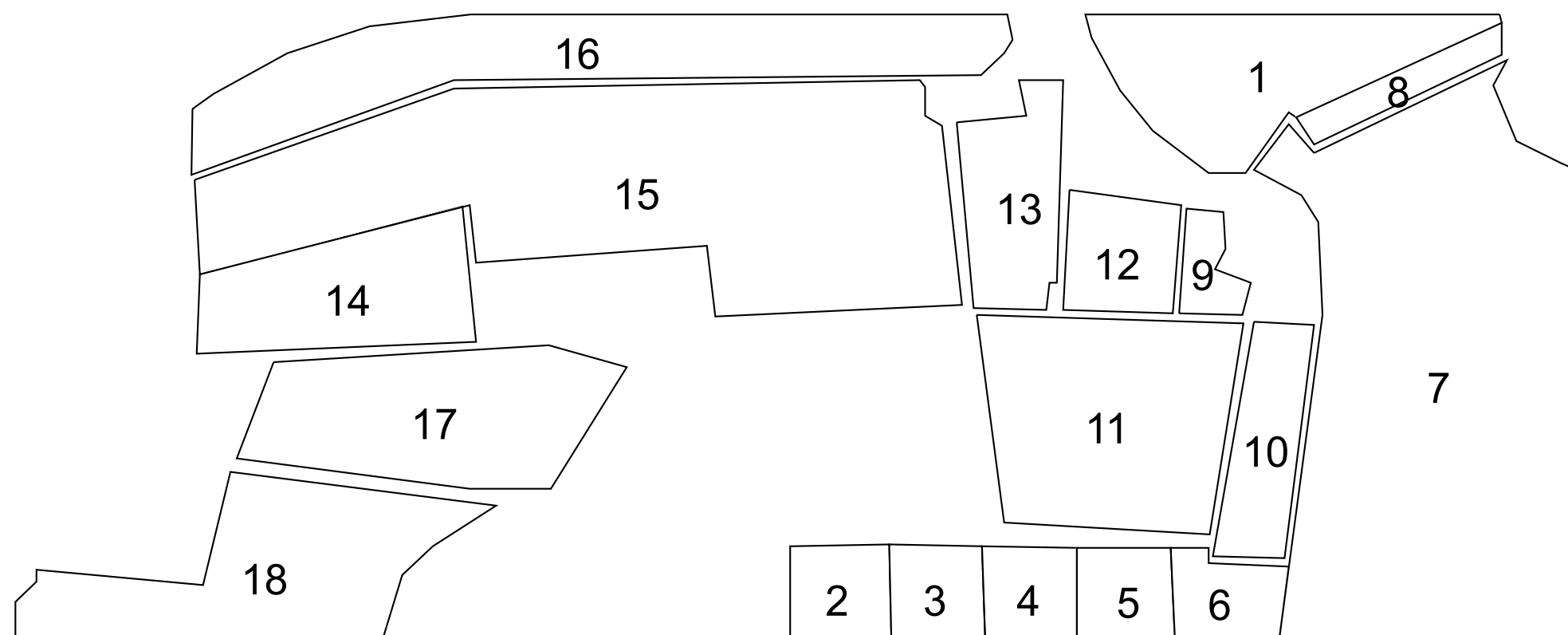
Note: Area calculations for P, K and S status determined at 90% of maximum production



Rob Clayton, 2016/2017

Paddock outline

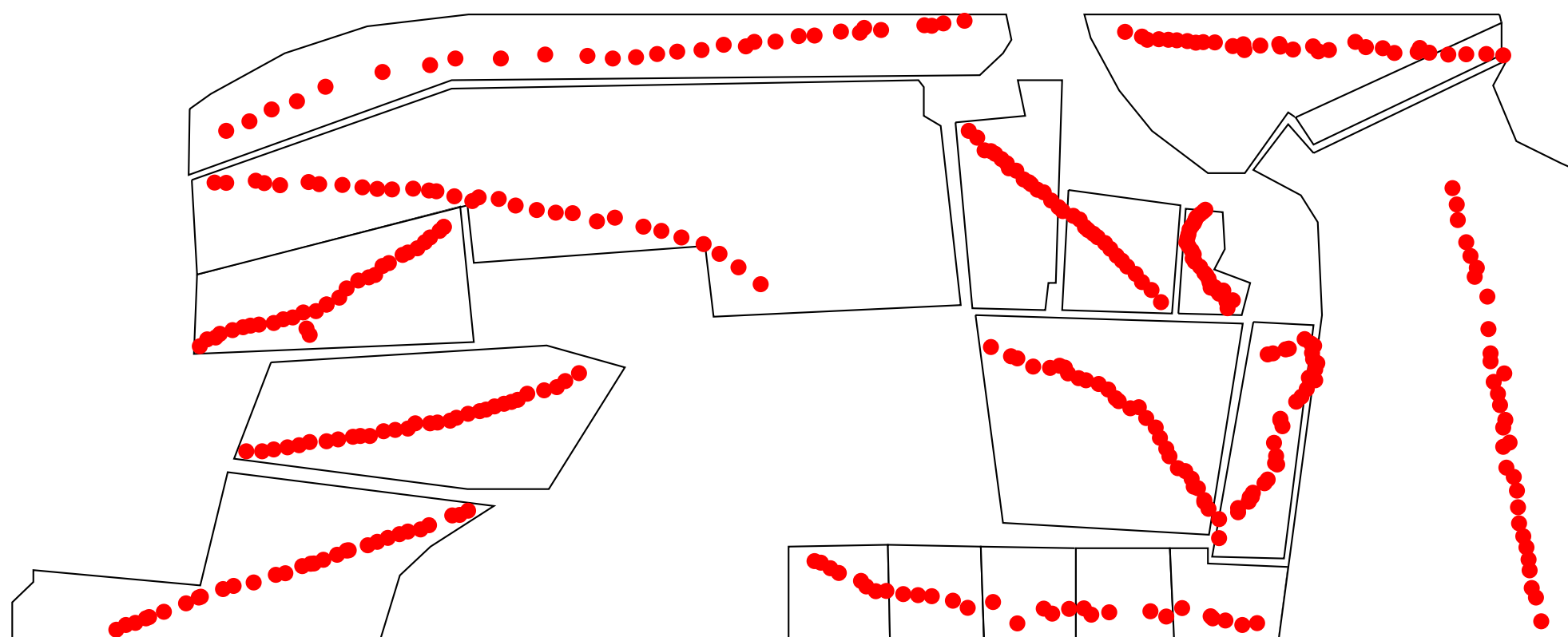
This map shows the outline of your paddocks and paddock names based on the information you verified as representing your paddocks. The paddock boundaries provide the basis for the colour coded maps that follow.



Rob Clayton, 2016/2017

Paddock transects

This map shows the transects used for sampling in each paddock that was sampled. Each point represents a location in the paddock where a 0-10 cm sub sample was collected. The collected sub samples were combined into a composite sample, which was then dried, sieved, and sent to an ASPAC (<http://www.aspac-australia.com>) laboratory for analysis. Where GPS data was not captured, transects are generalised from hand drawn lines on maps by the sampler. In some cases, sampling transects may cross paddock boundaries due to poor satellite reception, differences found between mapped and actual paddock boundaries when sampling was undertaken, or because of requests by farmers to sample in particular locations. Transects may not be straight due to paddock hazards and vegetation. Transects may occupy specific regions of paddocks when advice regarding paddock soil type variation has been provided by the farmer. Extraneous points not associated with the general transect trend can be ignored.



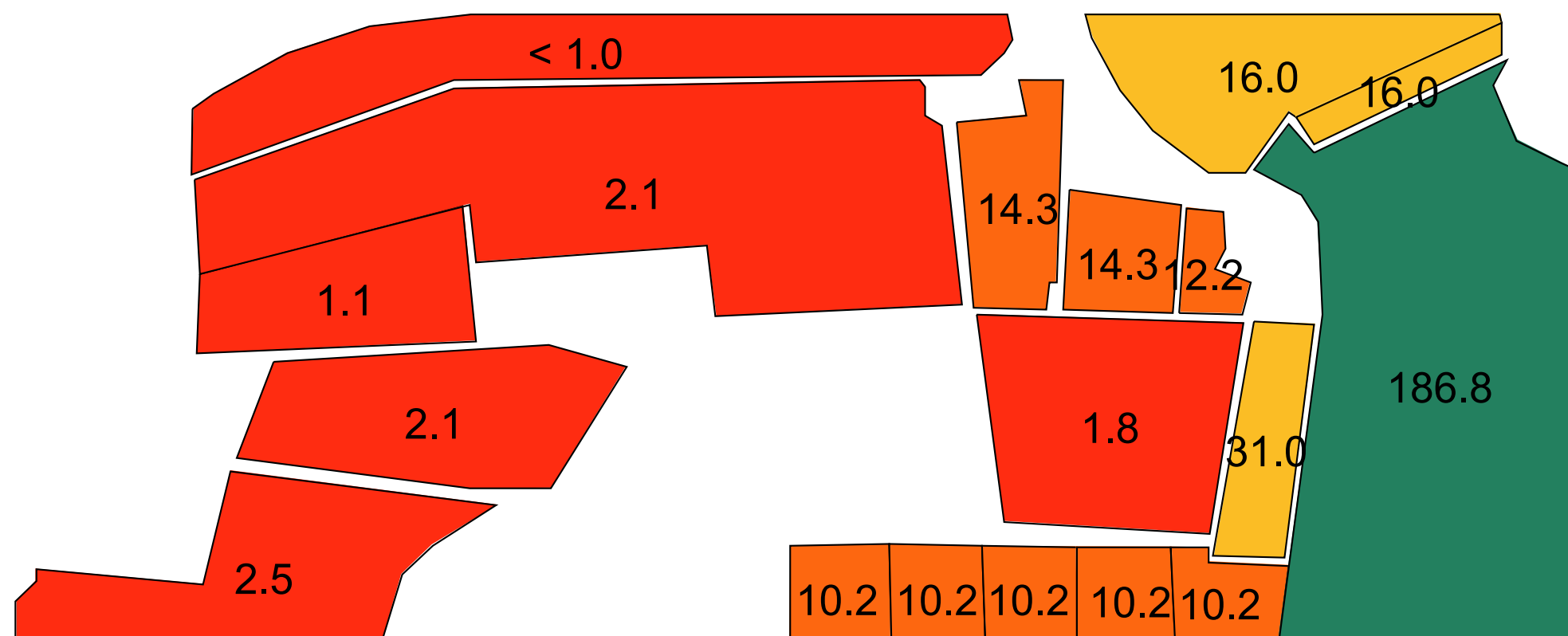


Rob Clayton, 2016/2017

Phosphorus buffering index



This map uses a colour scale to classify soil phosphorus buffering index (PBI). Examine the map key and associated colours to determine PBI status. Paddocks shaded black have no data. Phosphorus buffering index is the agreed national measure to estimate how strongly a soil will retain phosphorus (Burkitt et al., (2002). The PBI classes used here include some modification of the Australian PBI standards (Gourley et al., 2007) for soils with PBI < 15 to suit the sandy soils in WA (Windsor et al., 2010; Bolland et al., 2010).





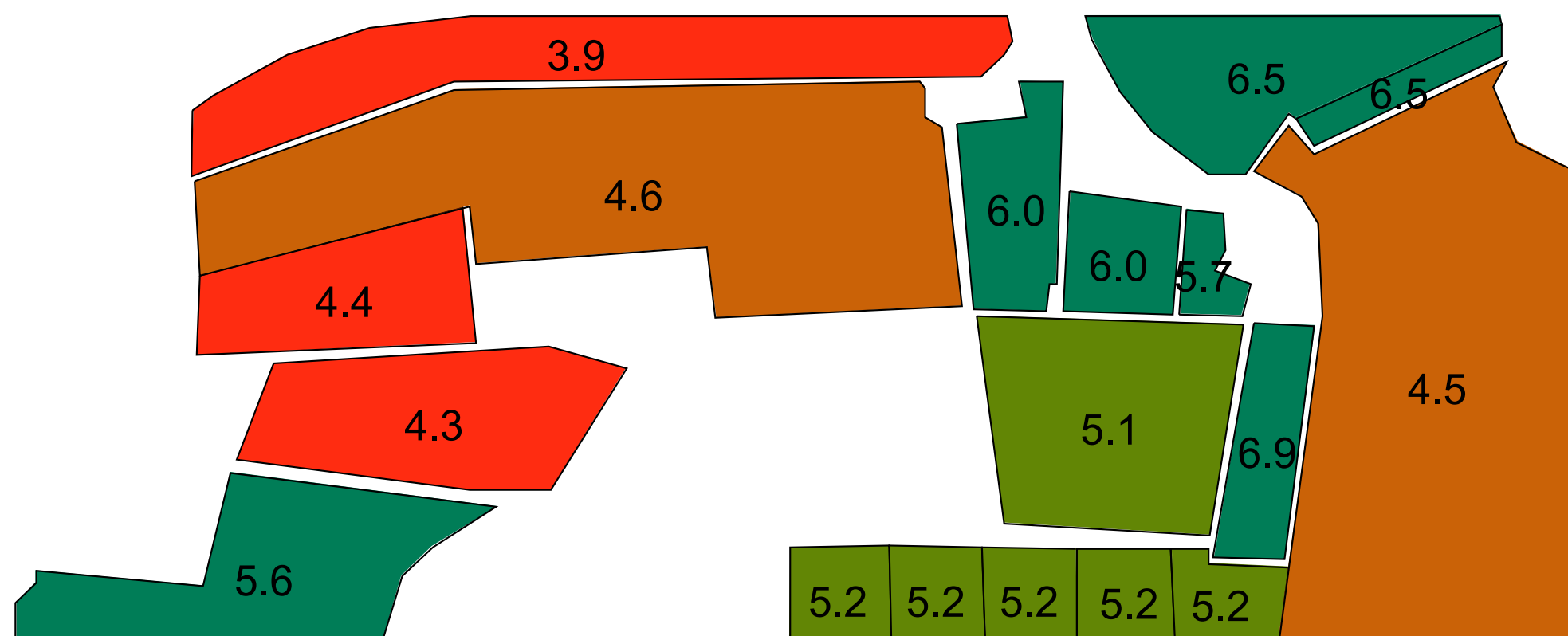
Rob Clayton, 2016/2017

Soil acidity status



This map uses a colour scale to classify soil acidity. Examine the map key and associated colours to determine your soils pH status. Paddocks shaded black have no data.

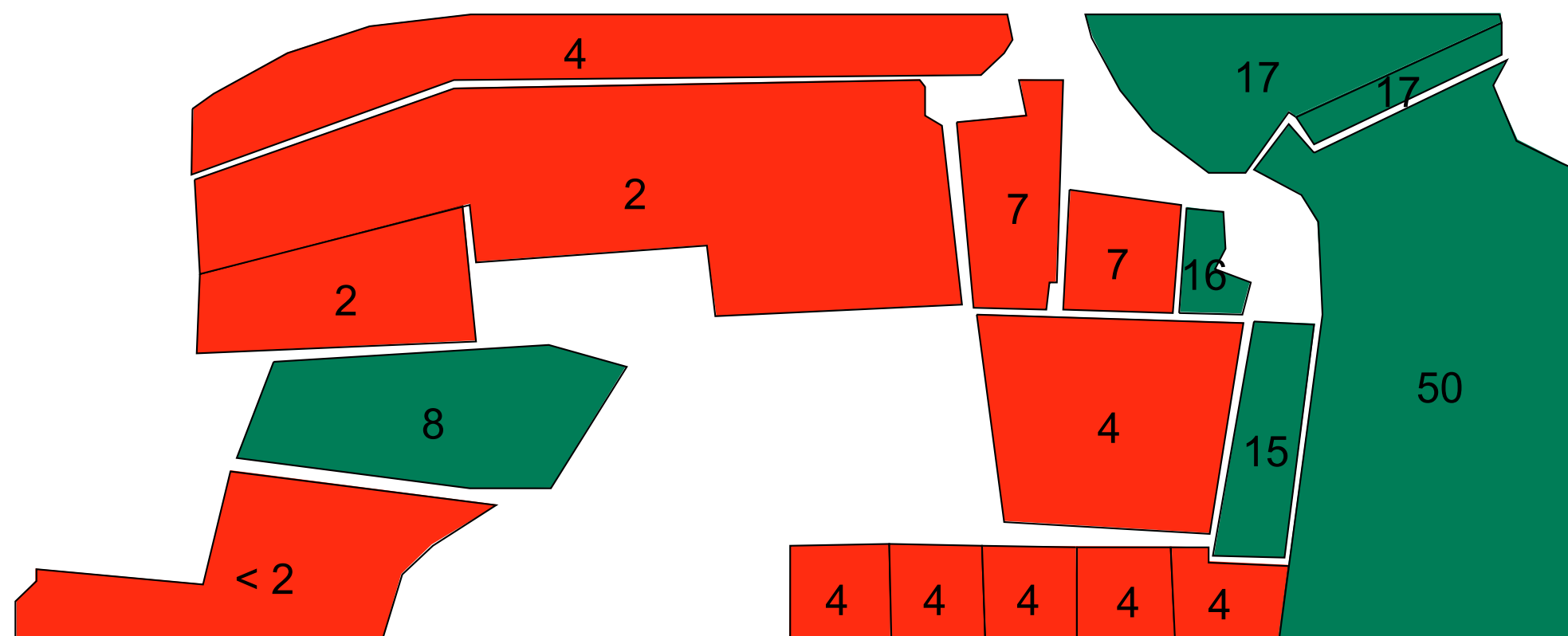
Soil acidity is assessed by classifying the soil pH into one of four pH ranges. The target soil pH above which your soil acidity is regarded as being "OK" is 5.5 (Gazey and Davies, 2009). Below this value, soil pH is arbitrarily broken up by 0.5 pH increments to result in marginal pH (5.0-5.5), low pH (4.5-5.0) and very low pH (<4.5).





Rob Clayton, 2016/2017

Phosphorus status assessed at 80% of maximum production

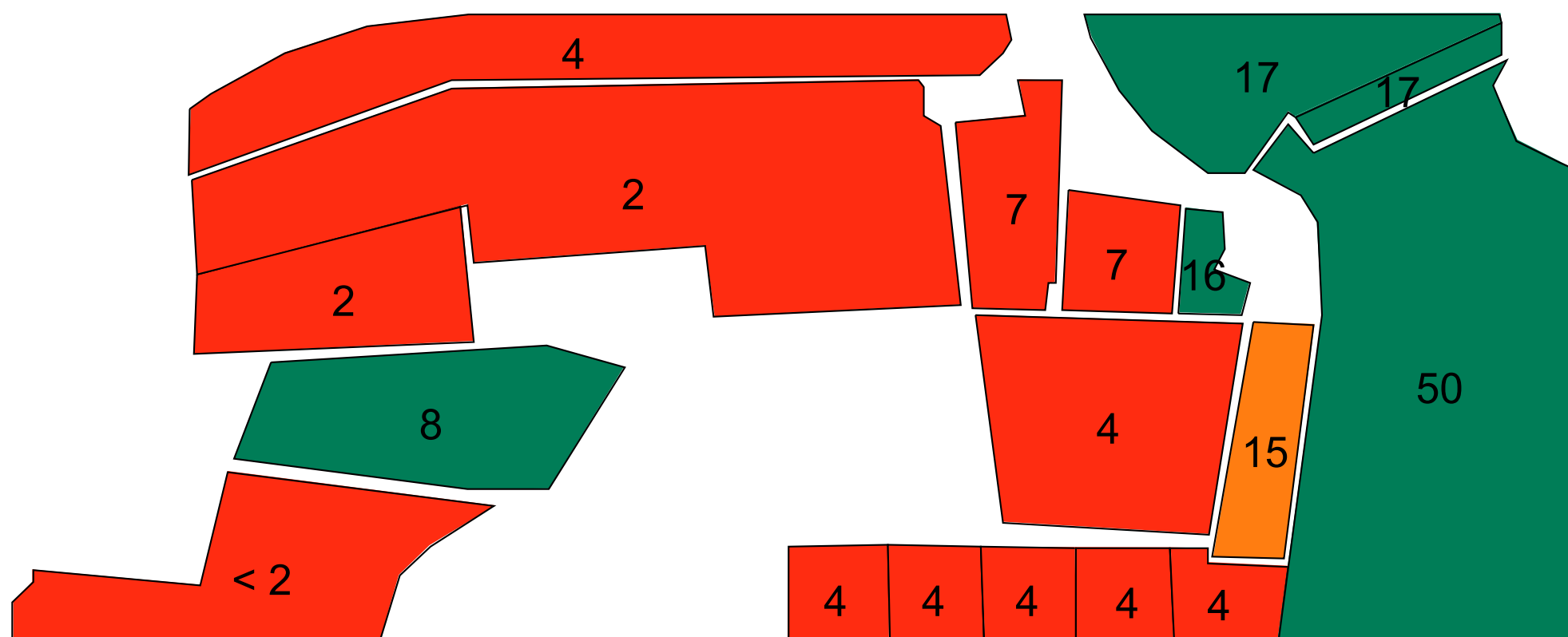


This map uses a colour scale to classify soil phosphorus (P). Examine the map key and associated colours to determine nutrient status. Paddocks shaded black have no data.

The Colwell P soil test (Colwell, 1965) is used in conjunction with the soils Phosphorus Buffering Index (PBI; Burkitt et al., 2002) to determine soil P status. The critical levels of Colwell P used are derived from Australian standards (Gourley et al., 2007) with modification for soils with PBI < 15 (Windsor et al., 2010; Bolland et al., 2010).

Four P status maps are provided to represent different production levels (80%, 85%, 90%, 95% of maximum production) to cater for differing production goals of growers.

Phosphorus status assessed at 85% of maximum production

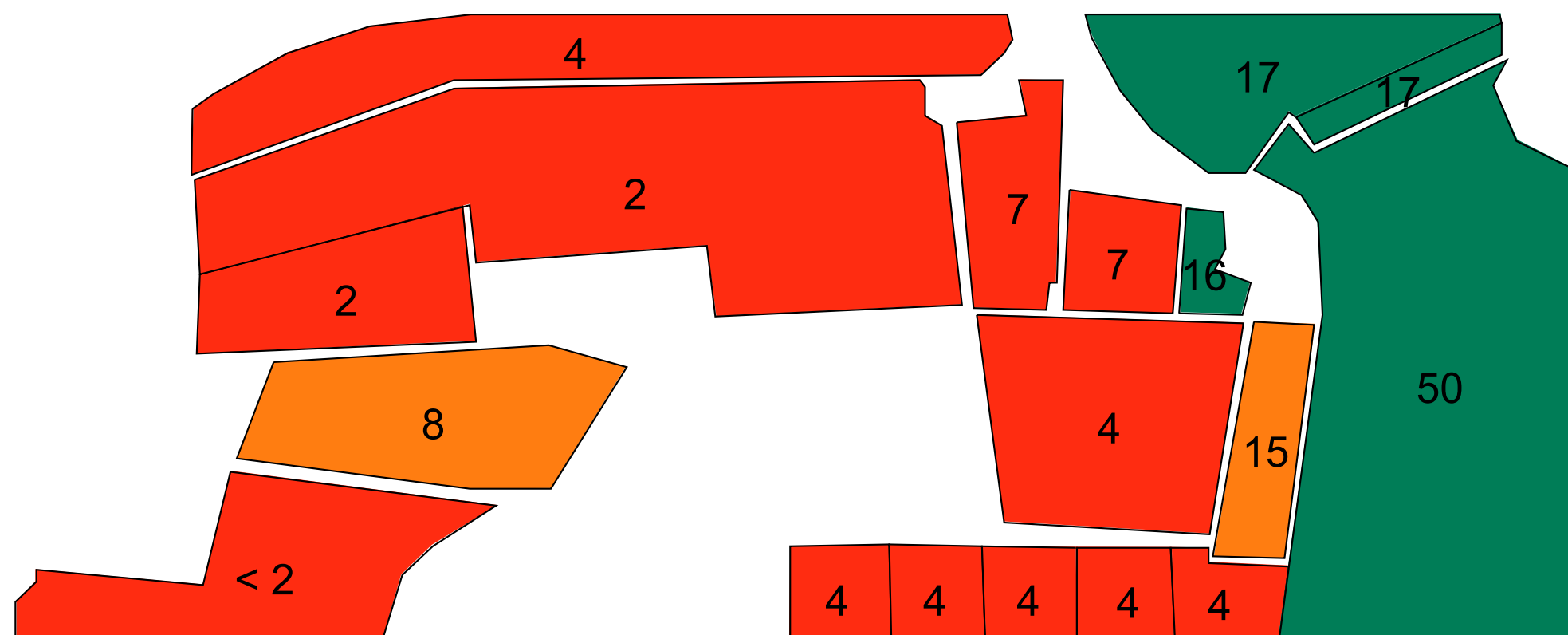


Four P status maps are provided to represent different production levels (80%, 85%, 90%, 95% of maximum production) to cater for differing production goals of growers.



Rob Clayton, 2016/2017

Phosphorus status assessed at 90% of maximum production



This map uses a colour scale to classify soil phosphorus (P). Examine the map key and associated colours to determine nutrient status. Paddocks shaded black have no data.

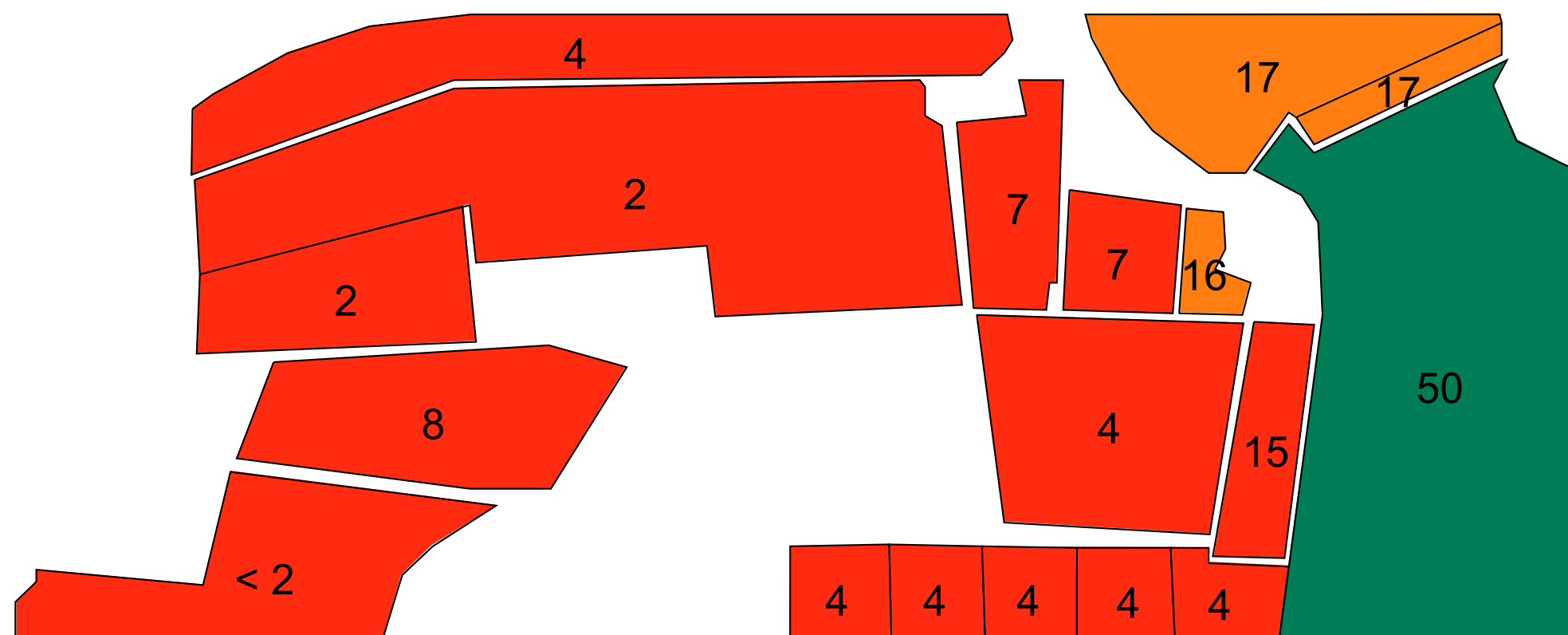
The Colwell P soil test (Colwell, 1965) is used in conjunction with the soils Phosphorus Buffering Index (PBI; Burkitt et al., 2002) to determine soil P status. The critical levels of Colwell P used are derived from Australian standards (Gourley et al., 2007) with modification for soils with PBI < 15 (Windsor et al., 2010; Bolland et al., 2010).

Four P status maps are provided to represent different production levels (80%, 85%, 90%, 95% of maximum production) to cater for differing production goals of growers.



Rob Clayton, 2016/2017

Phosphorus status assessed at 95% of maximum production



This map uses a colour scale to classify soil phosphorus (P). Examine the map key and associated colours to determine nutrient status. Paddocks shaded black have no data.

The Colwell P soil test (Colwell, 1965) is used in conjunction with the soils Phosphorus Buffering Index (PBI; Burkitt et al., 2002) to determine soil P status. The critical levels of Colwell P used are derived from Australian standards (Gourley et al., 2007) with modification for soils with PBI < 15 (Windsor et al., 2010; Bolland et al., 2010).

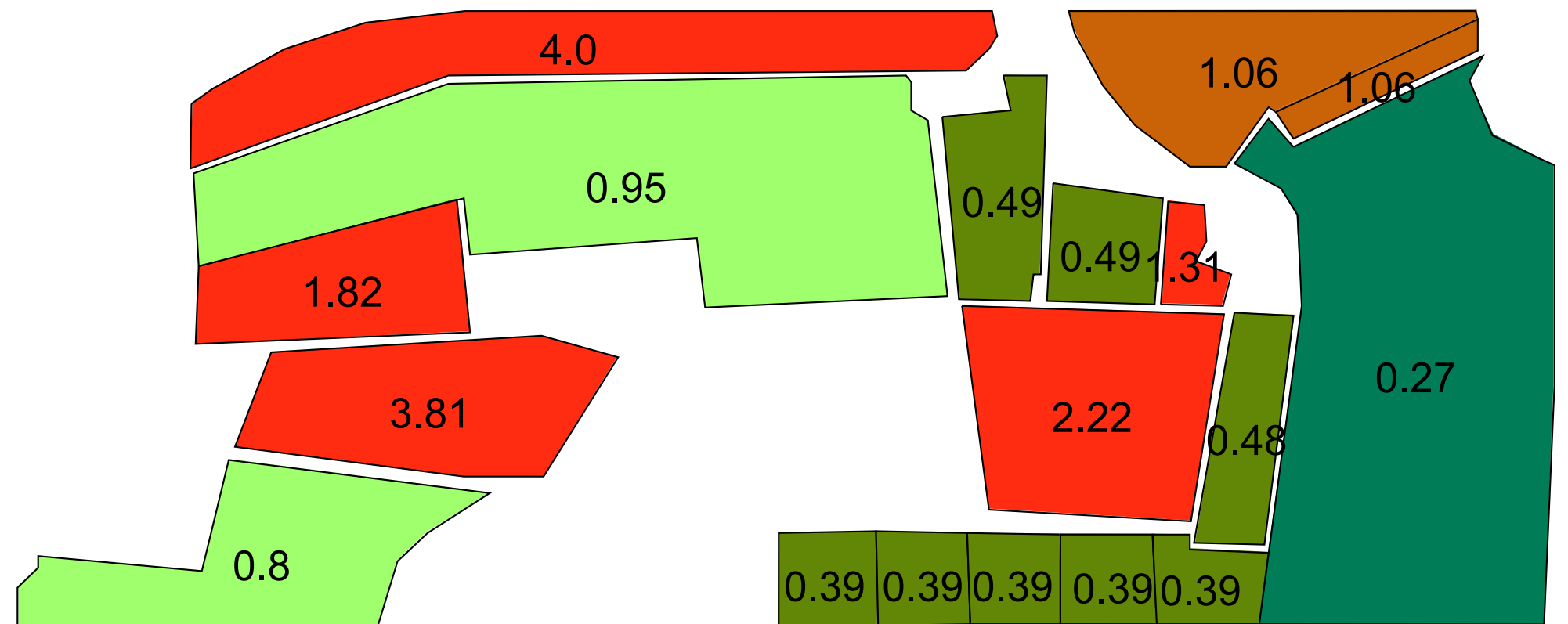
Four P status maps are provided to represent different production levels (80%, 85%, 90%, 95% of maximum production) to cater for differing production goals of growers.

Rob Clayton, 2016/2017

Phosphorus Environmental Risk Index



This map uses a colour scale to classify the Phosphorus Environmental Risk Index (PERI). Examine the map key and associated colours to determine PERI. Paddocks shaded black have no data. PERI is determined as the ratio of Colwell P to PBI, and provides insights into the degree of saturation of the soil with phosphorus (P). PERI is only one of a range of factors that should be considered in understanding P loss risk, and is associated with the likelihood that soluble P can be lost from the soil via a range of pathways. Consideration should also be given to landscape slope, landscape shape, proximity to watercourses, depth to groundwater, the degree of waterlogging, drainage, pasture type and cover, fertiliser timing, Colwell P, PBI and stocking rate to better understand the risk of P loss, and the forms of P that may be lost from paddocks and the farm.





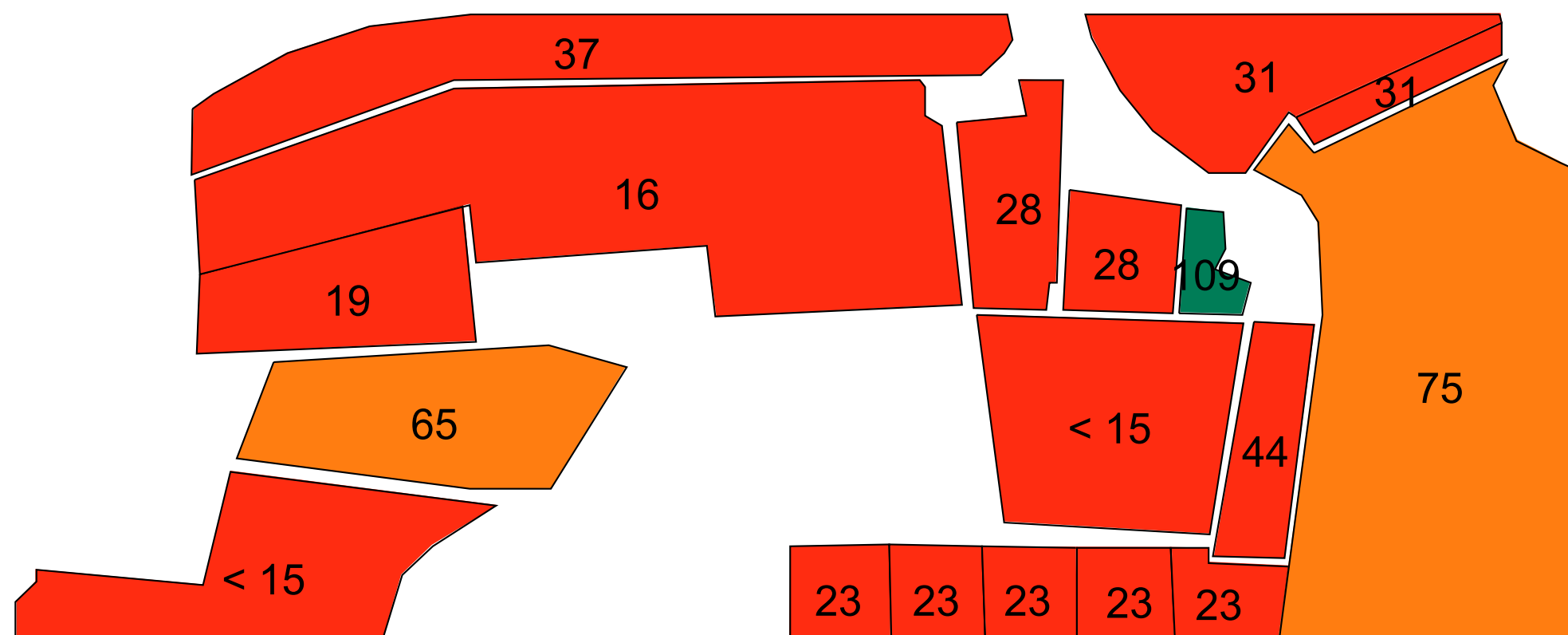
Rob Clayton, 2016/2017

Potassium status assessed at 90% of maximum production



This map uses a colour scale to classify soil potassium (K). Examine the map key and associated colours to determine nutrient status. Paddocks shaded black have no data.

Soil Potassium (K) status (low, medium, high) is determined by classifying Colwell K into one of three soil K ranges (Summers and Weaver, n.d.). The critical Colwell K levels used (0-50; low, 50-100; medium, >100 mg/kg; high) are similar to the critical Colwell K values provided by Gourley et al. (2007) for sandy soils. A Colwell K value of 100 mg/kg yields 90% of maximum production, and is the critical value used here to differentiate high K status.





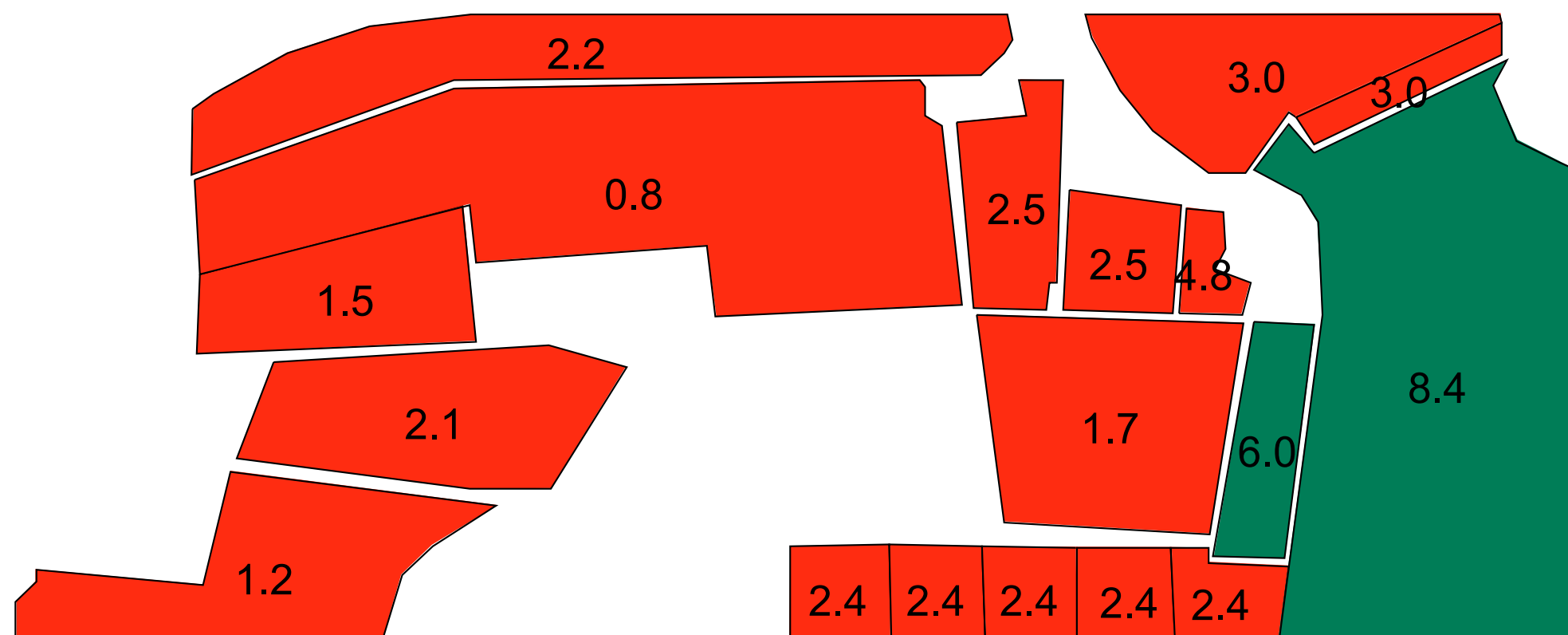
Rob Clayton, 2016/2017

Sulphur status assessed at 90% of maximum production



This map uses a colour scale to classify soil sulphur (S). Examine the map key and associated colours to determine nutrient status. Paddocks shaded black have no data.

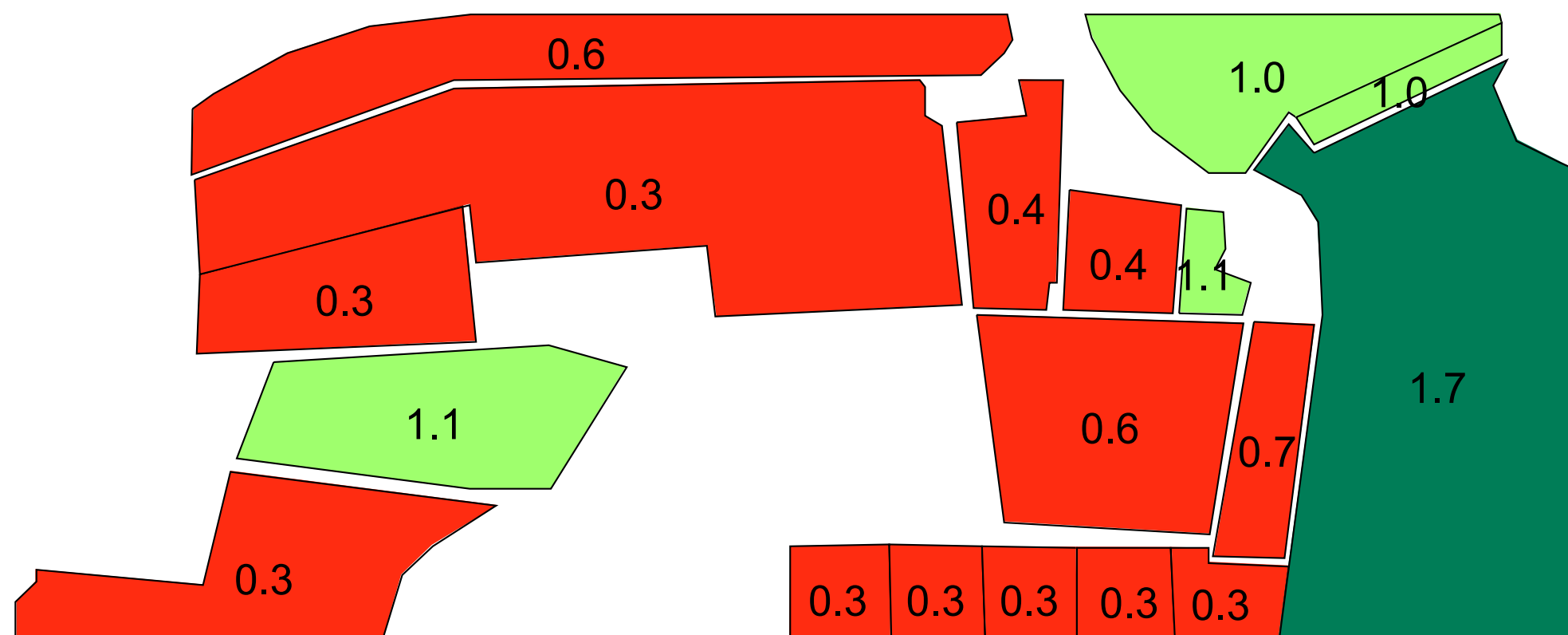
The critical levels of KCl40S (potassium chloride extractable S at 40°C; Blair et al., 1991) used to assess your soil test are derived from Australian standards (Gourley et al., 2007). The KCl40S soil test is classified as high S status when the value is > 5.9 (90% of maximum production). Medium S status is arbitrarily assigned when the S soil test value results in <5% reduction in maximum production (85-90% of maximum production), and low S status when >5% reduction in maximum production (<85% of maximum production) is achieved.



Phosphorus Fertility Index assessed at 90% of maximum production



Index values near to 1 are optimal, whilst values less than 1 are considered deficient, and values greater than 1 are considered in excess. How far above or below 1 your index values are will tell you how far above or below the desired target value your soil test levels are.





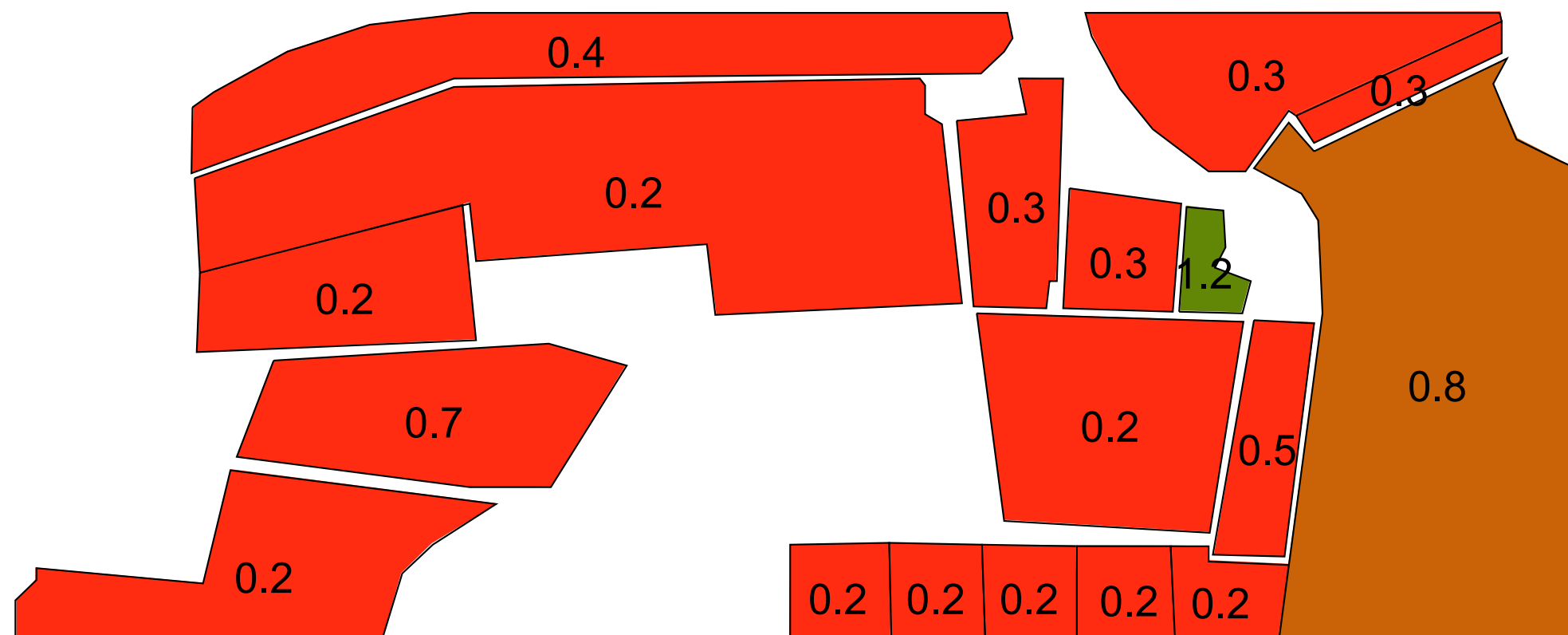
Rob Clayton, 2016/2017

Potassium Fertility Index assessed at 90% of maximum production



This map uses a colour scale to classify soil potassium (K) fertility index assessed against critical values for 90% of maximum production. Examine the map key and associated colours to determine the fertility index. Paddocks shaded black have no data. The index maps provide additional information about your soils K status. The index is a ratio of your measured Colwell K to the critical Colwell K value (Simpson et al., 2011).

Index values near to 1 are optimal, whilst values less than 1 are considered deficient, and values greater than 1 are considered in excess. How far above or below 1 your index values are will tell you how far above or below the desired target value your soil test levels are.



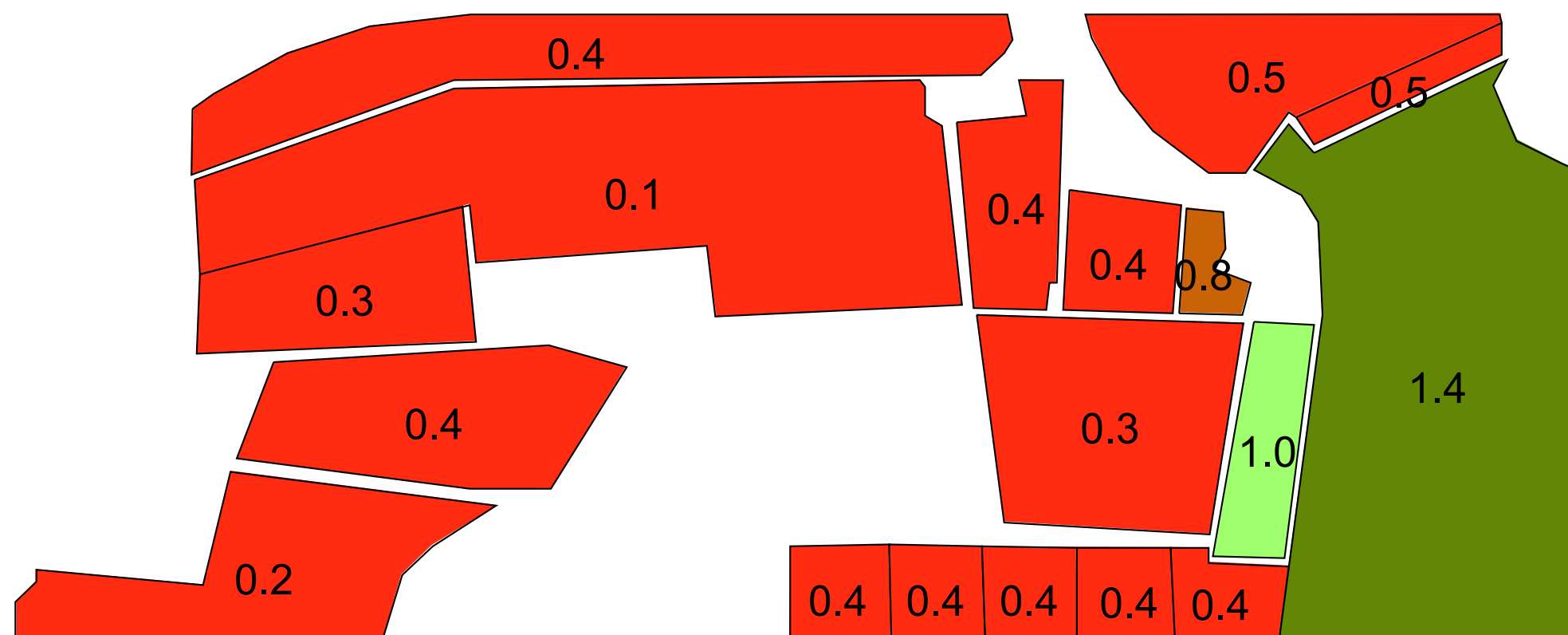
Rob Clayton, 2016/2017

Sulphur Fertility Index assessed at 90% of maximum production



This map uses a colour scale to classify soil sulphur (S) fertility index assessed against critical values for 90% of maximum production. Examine the map key and associated colours to determine the fertility index. Paddocks shaded black have no data. The index maps provide additional information about your soils S status. The index is a ratio of your measured KCl40S to the critical KCl40S value (Simpson et al., 2011).

Index values near to 1 are optimal, whilst values less than 1 are considered deficient, and values greater than 1 are considered in excess. How far above or below 1 your index values are will tell you how far above or below the desired target value your soil test levels are.



ID	Paddock	Area ¹	Status ⁷						Fertility Indices ⁸													PERI ⁹							
			PBI ²	Colwell P ³				Colwell K ⁴				KCI40S ⁵				pH (CaCl ₂) ⁶	Phosphorus				Potassium				Sulphur				
				80	85	90	95	80	85	90	95	80	85	90	95		80	85	90	95	80		85	90	95	80	85	90	95
REI58	1	4.8	16.0	17				31				3.0				6.5	1.4	1.2	1.0	0.8	0.5	0.4	0.3	0.3	0.7	0.6	0.5	0.4	1.06
REI59	2	1.3	10.2	4				23				2.4				5.2	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.6	0.5	0.4	0.3	0.39
REI60	3	1.2	10.2	4				23				2.4				5.2	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.6	0.5	0.4	0.3	0.39
REI61	4	1.1	10.2	4				23				2.4				5.2	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.6	0.5	0.4	0.3	0.39
REI62	5	1.2	10.2	4				23				2.4				5.2	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.6	0.5	0.4	0.3	0.39
REI63	6	1.2	10.2	4				23				2.4				5.2	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.6	0.5	0.4	0.3	0.39
REI64	7	19.0	186.8	50				75		8.4				4.5	2.5	2.1	1.7	1.3	1.1	1.0	0.8	0.6	2.0	1.7	1.4	1.1	0.27		
REI65	8	0.9	16.0	17				31				3.0				6.5	1.4	1.2	1.0	0.8	0.5	0.4	0.3	0.3	0.7	0.6	0.5	0.4	1.06
REI66	9	0.7	12.2	16				109		4.8		5.7				1.5	1.3	1.1	0.8	1.6	1.4	1.2	0.9	1.2	1.0	0.8	0.6	1.31	
REI67	10	2.1	31.0	15		44				6.0		6.9				1.0	0.9	0.7	0.6	0.7	0.6	0.5	0.4	1.5	1.2	1.0	0.8	0.48	
REI68	11	6.6	1.8	4				15				1.7				5.1	0.8	0.7	0.6	0.4	0.2	0.2	0.2	0.1	0.4	0.3	0.3	0.2	2.22

1. Hectares. Fence to fence area, not cleared area
2. Phosphorus Buffering Index. Burkitt LL, Moody PW, Gourley CJP, Hannah MC (2002) A simple phosphorus buffering index for Australian soils. Australian Journal of Soil Research, 40, 497-513. <http://dx.doi.org/10.1071/SR01050>
3. units = mg/kg. Colwell JD, (1965) An automatic procedure for the determination of phosphorus in sodium hydrogen carbonate extracts of soil. Chem Ind 13: 893-895.
4. units = mg/kg. Colwell JD, (1965) An automatic procedure for the determination of phosphorus in sodium hydrogen carbonate extracts of soil. Chem Ind 13: 893-895.
5. units = mg/kg. Blair GJ, Chinoim N, Lefroy RDB, Anderson GC, Crocker GJ (1991) A soil sulfur test for pastures and crops. Soil Research, 29, 619-626. <http://dx.doi.org/10.1071/SR9910619>
6. pH measured in 0.01M Calcium Chloride
7. Status based on adaption of Gourley CJP, Melland AR, Waller RA, Awty IM, Smith AP, Peverill KI, Hannah MC (2007) Making better fertiliser decisions for grazed pastures in Australia. Department of Primary Industries Victoria.; Bolland, M, and Russell, B. (2010), Potassium for high rainfall pastures. Department of Agriculture and Food, Western Australia, Perth. Bulletin 4802.; Windsor D, Bolland M, Weaver DM, Russell B (2010) Implementing the Fertiliser Action Plan: an industry led approach based on Fertcare. Australian Fertilizer Industry Conference. Gold Coast, Queensland, August 2010.; Bolland MDA, Russell B, Weaver DM (2010) Phosphorus for high rainfall pastures. Bulletin 4808. Department of Agriculture and Food Western Australia. ISSN: 1833-7236. Status reported for 80%, 85%, 90%, 95% of maximum production to allow for varied production goals.
8. Fertility indices estimated using the approach of Simpson R, Oberson A, Culvenor R, Ryan M, Veneklaas E, Lambers H, Lynch J, Ryan P, Delhaize E, Smith F, Smith S, Harvey P, Richardson A (2011) Strategies and agronomic interventions to improve the phosphorus-use efficiency of farming systems. Plant and Soil, 349, 89-120. Fertility indices assessed against 80%, 85%, 90%, 95% of maximum production to allow for varied production goals.
9. Phosphorus Environmental Risk Index (PERI). This is the ratio of Colwell P to PBI and is an indication of the risk of soluble P loss by various transport pathways. Additional factors need to be considered to understand P loss risk from different pathways and in different forms.
* Rows in the table that do not contain data represent paddocks that were not sampled.

ID	Paddock	Area ¹	Status ⁷					Fertility Indices ⁸																PERI ⁹			
			PBI ²	Colwell P ³				Colwell K ⁴	KCI40S ⁵				pH (CaCl ₂) ⁶	Phosphorus				Potassium				Sulphur					
				80	85	90	95		80	85	90	95		80	85	90	95	80	85	90	95	80	85		90	95	
REI69	12	1.7	14.3	7				28	2.5				6.0	0.6	0.5	0.4	0.3	0.4	0.4	0.3	0.2	0.6	0.5	0.4	0.3	0.49	
REI70	13	2.5	14.3	7				28	2.5				6.0	0.6	0.5	0.4	0.3	0.4	0.4	0.3	0.2	0.6	0.5	0.4	0.3	0.49	
REI71	14	3.9	1.1	2				19	1.5				4.4	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.4	0.3	0.3	0.2	1.82	
REI72	15	16.6	2.1	2				16	0.8				4.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.95	
REI73	16	7.4	1.0	4				37	2.2				3.9	0.8	0.7	0.6	0.4	0.6	0.5	0.4	0.3	0.5	0.4	0.4	0.3	4.00	
REI74	17	5.6	2.1			8			65	2.1				4.3	1.6	1.3	1.1	0.8	1.0	0.8	0.7	0.5	0.5	0.4	0.4	0.3	3.81
REI75	18	6.0	2.5	2				15	1.2				5.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.80	

1. Hectares. Fence to fence area, not cleared area

2. Phosphorus Buffering Index. Burkitt LL, Moody PW, Gourley CJP, Hannah MC (2002) A simple phosphorus buffering index for Australian soils. Australian Journal of Soil Research, 40, 497-513. <http://dx.doi.org/10.1071/SR01050>

3. units = mg/kg. Colwell JD, (1965) An automatic procedure for the determination of phosphorus in sodium hydrogen carbonate extracts of soil. Chem Ind 13: 893-895.

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6. pH measured in 0.01M Calcium Chloride

7. Status based on adaption of Gourley CJP, Melland AR, Waller RA, Awty IM, Smith AP, Peverill KI, Hannah MC (2007) Making better fertiliser decisions for grazed pastures in Australia. Department of Primary Industries Victoria.; Bolland, M, and Russell, B. (2010), Potassium for high rainfall pastures. Department of Agriculture and Food, Western Australia, Perth. Bulletin 4802.; Windsor D, Bolland M, Weaver DM, Russell B (2010) Implementing the Fertiliser Action Plan: an industry led approach based on Fertcare. Australian Fertilizer Industry Conference. Gold Coast, Queensland, August 2010.;

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9. Phosphorus Environmental Risk Index (PERI). This is the ratio of Colwell P to PBI and is an indication of the risk of soluble P loss by various transport pathways. Additional factors need to be considered to understand P loss risk from different pathways and in different forms.

* Rows in the table that do not contain data represent paddocks that were not sampled.

APPENDIX F

Groundwater Quality



16-18 Hayden Court, Myaree, Western Australia 6154
PO Box 4023 Myaree BC, Western Australia 6960
tel: +61 8 9317 2505

email: lab@mpl.com.au
envirolab.com.au

Envirolab Services (WA) Pty Ltd trading as
MPL Laboratories | ABN 53 140 099 207

CERTIFICATE OF ANALYSIS 198747

Client:

Cash Sale

Lots 71-73 Lorio Road
Ravenswood
WA

Attention: Teresa Clayton

Sample log in details:

Your Reference:

No. of samples:

Date/Time samples received:

Date completed instructions received:

Location:

Sprock Pty Ltd

3 Water

27/07/2017 / 14:25

27/07/2017

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last pages of this report for any comments relating to the results.

Report Details:

Date results requested by:

3/08/17

Date of Preliminary Report:

Not issued

Issue Date:

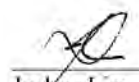
3/08/17

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing

Tests not covered by NATA are denoted with *.

Results Approved By:


Joshua Lim
Operations Manager

MPL Reference: 198747
Revision No: R 00



Miscellaneous Inorganics				
Our Reference:	UNITS	198747-1	198747-2	198747-3
Your Reference	-----	Central Soak	Eastern Soak	House Bore
Date Sampled	-----	27/07/2017	27/07/2017	27/07/2017
Type of sample		Water	Water	Water
Date prepared	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
pH	pH Units	5.6	7.5	6.3
Electrical Conductivity (EC)	µS/cm	680	540	170
Total Dissolved Solids (grav)	mg/L	410	320	100
Ammonia as N	mg/L	0.32	0.020	0.022
Phosphate as P	mg/L	0.57	<0.005	0.018
Nitrate as NO ₃	mg/L	7.0	5.3	<0.5
Free Carbon Dioxide as CO ₂	mg/L	12	<5	8
Total Nitrogen	mg/L	4.0	1.9	0.2

Ionic Balance Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	198747-1 Central Soak 27/07/2017 Water	198747-2 Eastern Soak 27/07/2017 Water	198747-3 House Bore 27/07/2017 Water
Date prepared	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
Calcium - Dissolved	mg/L	10	27	<0.5
Potassium - Dissolved	mg/L	4.5	6.9	0.8
Magnesium - Dissolved	mg/L	4.5	12	2.5
Sodium - Dissolved	mg/L	31	68	29
Bicarbonate HCO ₃ as CaCO ₃	mg/L	9	98	18
Carbonate CO ₃ ²⁻ as CaCO ₃	mg/L	<5	<5	<5
Hydroxide OH ⁻ as CaCO ₃	mg/L	<5	<5	<5
Total Alkalinity as CaCO ₃	mg/L	9	98	18
Chloride	mg/L	49	95	31
Sulphate	mg/L	21	22	17
Ionic Balance	%	7.4	3.2	-2.9
Hardness as CaCO ₃	mg/L	44	120	10

Dissolved Metals in Water				
Our Reference:	UNITS	198747-1	198747-2	198747-3
Your Reference	-----	Central Soak	Eastern Soak	House Bore
Date Sampled	-----	27/07/2017	27/07/2017	27/07/2017
Type of sample		Water	Water	Water
Date prepared	-	31/07/2017	31/07/2017	31/07/2017
Date analysed	-	31/07/2017	31/07/2017	31/07/2017
Boron-Dissolved	mg/L	0.03	<0.02	<0.02
Iron-Dissolved	mg/L	5.3	0.19	0.09
Manganese-Dissolved	mg/L	0.063	0.009	<0.005
Silica*	mg/L	17	6.5	11

Method ID	Methodology Summary
INORG-001	pH - Measured using pH meter and electrode base on APHA latest edition, Method 4500-H+. Please note that the results for water analyses may be indicative only, as analysis can be completed outside of the APHA recommended holding times. Soils are reported from a 1:5 water extract unless otherwise specified.
INORG-002	Conductivity and Salinity - measured using a conductivity cell at 25°C based on APHA latest edition Method 2510. Soils reported from a 1:5 water extract unless otherwise specified.
INORG-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180±5°C
INORG-057	Ammonia by colourimetric analysis based on APHA latest edition 4500-NH3 F.
INORG-060	Phosphate- determined colourimetrically. Soils are analysed from a water extract.
INORG-081	Anions - a range of anions are determined by Ion Chromatography based on APHA latest edition Method 4110 -B. Soils and other sample types reported from a water extract unless otherwise specified (standard soil extract ratio 1:5).
INORG-005	Free Carbon Dioxide - determined titrimetrically in accordance with APHA latest edition, 4500-CO2 C.
INORG-055	Total Nitrogen by colourimetric analysis based on APHA 4500-P J, 4500-NO3 F.
METALS-020	Metals in soil and water by ICP-OES.
INORG-006	Alkalinity - determined titrimetrically based on APHA latest edition, Method 2320-B. Soils reported from a 1:5 water extract unless otherwise specified.
INORG-040	Ion Balance Calculation: Cations in water by ICP-OES; Anions in water by IC; Alkalinity in water by Titration using APHA methods.
METALS-008	Hardness calculated from Calcium and Magnesium as per APHA latest edition 2340B.
METALS-022	Determination of various metals by ICP-MS.

Client Reference: Sprock Pty Ltd

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorganics						Base II Duplicate II %RPD		
Date prepared	-			28/07/2017	198747-1	28/07/2017 28/07/2017	LCS-1	28/07/2017
Date analysed	-			28/07/2017	198747-1	28/07/2017 28/07/2017	LCS-1	28/07/2017
pH	pH Units		INORG-001	[NT]	198747-1	5.6 [N/T]	LCS-1	102%
Electrical Conductivity (EC)	µS/cm	1	INORG-002	<1	198747-1	680 [N/T]	LCS-1	99%
Total Dissolved Solids (grav)	mg/L	5	INORG-018	<5	198747-1	410 [N/T]	LCS-1	101%
Ammonia as N	mg/L	0.005	INORG-057	<0.005	198747-1	0.32 [N/T]	LCS-1	92%
Phosphate as P	mg/L	0.005	INORG-060	<0.005	198747-1	0.57 [N/T]	LCS-1	114%
Nitrate as NO ₃	mg/L	0.5	INORG-081	<0.5	198747-1	7.0 6.9 RPD: 1	LCS-1	98%
Free Carbon Dioxide as CO ₂	mg/L	5	INORG-005	<5	198747-1	12 [N/T]	LCS-1	94%
Total Nitrogen	mg/L	0.1	INORG-055	<0.1	198747-1	4.0 [N/T]	LCS-1	104%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Ionic Balance						Base II Duplicate II %RPD		
Date prepared	-			28/07/2017	198747-1	28/07/2017 28/07/2017	LCS-1	28/07/2017
Date analysed	-			28/07/2017	198747-1	28/07/2017 28/07/2017	LCS-1	28/07/2017
Calcium - Dissolved	mg/L	0.5	METALS-020	<0.5	198747-1	10 [N/T]	[NR]	[NR]
Potassium - Dissolved	mg/L	0.5	METALS-020	<0.5	198747-1	4.5 [N/T]	[NR]	[NR]
Magnesium - Dissolved	mg/L	0.5	METALS-020	<0.5	198747-1	4.5 [N/T]	[NR]	[NR]
Sodium - Dissolved	mg/L	0.5	METALS-020	<0.5	198747-1	31 [N/T]	[NR]	[NR]
Bicarbonate HCO ₃ as CaCO ₃	mg/L	5	INORG-006	<5	198747-1	9 [N/T]	LCS-1	109%
Carbonate CO ₃ ²⁻ - as CaCO ₃	mg/L	5	INORG-006	<5	198747-1	<5 [N/T]	LCS-1	109%
Total Alkalinity as CaCO ₃	mg/L	5	INORG-006	<5	198747-1	9 [N/T]	LCS-1	109%
Chloride	mg/L	1	INORG-081	<1	198747-1	49 49 RPD: 0	LCS-1	98%
Sulphate	mg/L	1	INORG-081	<1	198747-1	21 21 RPD: 0	LCS-1	100%
Hardness as CaCO ₃	mg/L	3	METALS-008	<3	198747-1	44 [N/T]	[NR]	[NR]

Client Reference: Sprock Pty Ltd

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Dissolved Metals in Water						Base Duplicate %RPD		
Date prepared	-			31/07/2017	198747-1	31/07/2017 31/07/2017	LCS-1	31/07/2017
Date analysed	-			31/07/2017	198747-1	31/07/2017 31/07/2017	LCS-1	31/07/2017
Boron-Dissolved	mg/L	0.02	METALS-022	<0.02	198747-1	0.03 0.02 RPD: 40	LCS-1	120%
Iron-Dissolved	mg/L	0.01	METALS-022	<0.01	198747-1	5.3 5.2 RPD: 2	LCS-1	101%
Manganese-Dissolved	mg/L	0.005	METALS-022	<0.005	198747-1	0.063 0.061 RPD: 3	LCS-1	93%
Silica*	mg/L	0.2	METALS-020	<0.2	198747-1	17 [N/T]	[NR]	[NR]
QUALITY CONTROL Miscellaneous Inorganics	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Date prepared	-	[NT]		[NT]		198747-2	28/07/2017	
Date analysed	-	[NT]		[NT]		198747-2	28/07/2017	
pH	pH Units	[NT]		[NT]		[NR]	[NR]	
Electrical Conductivity (EC)	µS/cm	[NT]		[NT]		[NR]	[NR]	
Total Dissolved Solids (grav)	mg/L	[NT]		[NT]		[NR]	[NR]	
Ammonia as N	mg/L	[NT]		[NT]		[NR]	[NR]	
Phosphate as P	mg/L	[NT]		[NT]		[NR]	[NR]	
Nitrate as NO ₃	mg/L	[NT]		[NT]		198747-2	114%	
Free Carbon Dioxide as CO ₂	mg/L	[NT]		[NT]		[NR]	[NR]	
Total Nitrogen	mg/L	[NT]		[NT]		[NR]	[NR]	
QUALITY CONTROL Ionic Balance	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Date prepared	-	[NT]		[NT]		198747-2	28/07/2017	
Date analysed	-	[NT]		[NT]		198747-2	28/07/2017	
Calcium - Dissolved	mg/L	[NT]		[NT]		[NR]	[NR]	
Potassium - Dissolved	mg/L	[NT]		[NT]		[NR]	[NR]	
Magnesium - Dissolved	mg/L	[NT]		[NT]		[NR]	[NR]	
Sodium - Dissolved	mg/L	[NT]		[NT]		[NR]	[NR]	
Bicarbonate HCO ₃ as CaCO ₃	mg/L	[NT]		[NT]		[NR]	[NR]	
Carbonate CO ₃ ²⁻ as CaCO ₃	mg/L	[NT]		[NT]		[NR]	[NR]	
Total Alkalinity as CaCO ₃	mg/L	[NT]		[NT]		[NR]	[NR]	
Chloride	mg/L	[NT]		[NT]		198747-2	103%	
Sulphate	mg/L	[NT]		[NT]		198747-2	101%	
Hardness as CaCO ₃	mg/L	[NT]		[NT]		[NR]	[NR]	

Client Reference: Sprock Pty Ltd

QUALITY CONTROL Dissolved Metals in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	198747-2	31/07/2017
Date analysed	-	[NT]	[NT]	198747-2	31/07/2017
Boron-Dissolved	mg/L	[NT]	[NT]	198747-2	112%
Iron-Dissolved	mg/L	[NT]	[NT]	198747-2	91%
Manganese-Dissolved	mg/L	[NT]	[NT]	198747-2	93%
Silica*	mg/L	[NT]	[NT]	[NR]	[NR]

Report Comments:

Definitions:

NT: Not tested NA: Test not required INS: Insufficient sample for this test PQL: Practical Quantitation Limit
<: Less than >: Greater than RPD: Relative Percent Difference LCS: Laboratory Control Sample
NS: Not Specified NEPM: National Environmental Protection Measure NR: Not Reported

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.



ENVIROLAB GROUP - National phone number 1300 424 344

Darwin Office - Envirolab Services
Unit 7, 17 Willes Rd, Berrimah, NT 0820
Ph: 08 8967 1201 / darwin@envirolab.com.au

Client: SPRACIL ITM LTD	Client Project Name / Number / Site etc. (I.e. Report Title):
Contact Person: TERESA CLAYTON	
Project Mgr: " "	PO No.:
Sampler: SETH JOHNSON - HYDROCONCEPTS	Envirolab Quote No. :
Address: LOTS 71, 72-73 CORIO ROAD RAVENS WOOD WA	Date Results Required:
	Or Choose: standard / same day / 1 day / 2 day / 3 day Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Phone: 0401 351510 Mob: 0409 977 881	Additional Report Format: esdat / equis /
Email: seth@hydroconcept.com.au teresa.clayton@bigpond.com	Lab Comments: (call for payment)

[illegible]

APPENDIX G

Aboriginal Heritage

Search Criteria

2 Other Heritage Places in Custom search area - Polygon - 115.865996808913°E, 32.5710660367588°S (GDA94) : 115.865996808913°E, 32.5389450521316°S (GDA94) : 115.905393094924°E, 32.5389450521316°S (GDA94) : 115.905393094924°E, 32.5710660367588°S (GDA94) : 115.865996808913°E, 32.5710660367588°S (GDA94)

Disclaimer

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South West Settlement ILUA Disclaimer

Your heritage enquiry is on land within or adjacent to the following Indigenous Land Use Agreement(s): Gnaala Karla Booja Indigenous Land Use Agreement.

On 8 June 2015, six identical Indigenous Land Use Agreements (ILUAs) were executed across the South West by the Western Australian Government and, respectively, the Yued, Whadjuk People, Gnaala Karla Booja, Ballardong People, South West Boojarah #2 and Wagyl Kaip & Southern Noongar groups, and the South West Aboriginal Land and Sea Council (SWALSC).

The ILUAs bind the parties (including 'the State', which encompasses all State Government Departments and certain State Government agencies) to enter into a Noongar Standard Heritage Agreement (NSHA) when conducting Aboriginal Heritage Surveys in the ILUA areas, unless they have an existing heritage agreement. It is also intended that other State agencies and instrumentalities enter into the NSHA when conducting Aboriginal Heritage Surveys in the ILUA areas. It is recommended a NSHA is entered into, and an 'Activity Notice' issued under the NSHA, if there is a risk that an activity will 'impact' (i.e. by excavating, damaging, destroying or altering in any way) an Aboriginal heritage site. The Aboriginal Heritage Due Diligence Guidelines, which are referenced by the NSHA, provide guidance on how to assess the potential risk to Aboriginal heritage.

Likewise, from 8 June 2015 the Department of Mines, Industry Regulation and Safety (DMIRS) in granting Mineral, Petroleum and related Access Authority tenures within the South West Settlement ILUA areas, will place a condition on these tenures requiring a heritage agreement or a NSHA before any rights can be exercised.

If you are a State Government Department, Agency or Instrumentality, or have a heritage condition placed on your mineral or petroleum title by DMIRS, you should seek advice as to the requirement to use the NSHA for your proposed activity. The full ILUA documents, maps of the ILUA areas and the NSHA template can be found at <https://www.wa.gov.au/organisation/departments/departments-of-the-premier-and-cabinet/south-west-native-title-settlement>.

Further advice can also be sought from the Department of Planning, Lands and Heritage at AboriginalHeritage@dplh.wa.gov.au.

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Coordinate Accuracy

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Terminology (NB that some terminology has varied over the life of the legislation)

Place ID/Site ID: This a unique ID assigned by the Department of Planning, Lands and Heritage to the place.

Status:

- Registered Site: The place has been assessed as meeting Section 5 of the *Aboriginal Heritage Act 1972*.
- Other Heritage Place which includes:
 - Stored Data / Not a Site: The place has been assessed as not meeting Section 5 of the *Aboriginal Heritage Act 1972*.
 - Lodged: Information has been received in relation to the place, but an assessment has not been completed at this *stage* to determine if it meets Section 5 of the *Aboriginal Heritage Act 1972*.

Access and Restrictions:

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- Restrictions:
 - No Restrictions: *Anyone* can view the information.
 - Male Access Only: Only *males* can view restricted information.
 - Female Access Only: Only *females* can view restricted information.

Legacy ID: This is the former unique number that the former Department of Aboriginal Sites assigned to the place. This has been replaced by the Place ID / Site ID.

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Aboriginal Heritage Inquiry System

List of Other Heritage Places

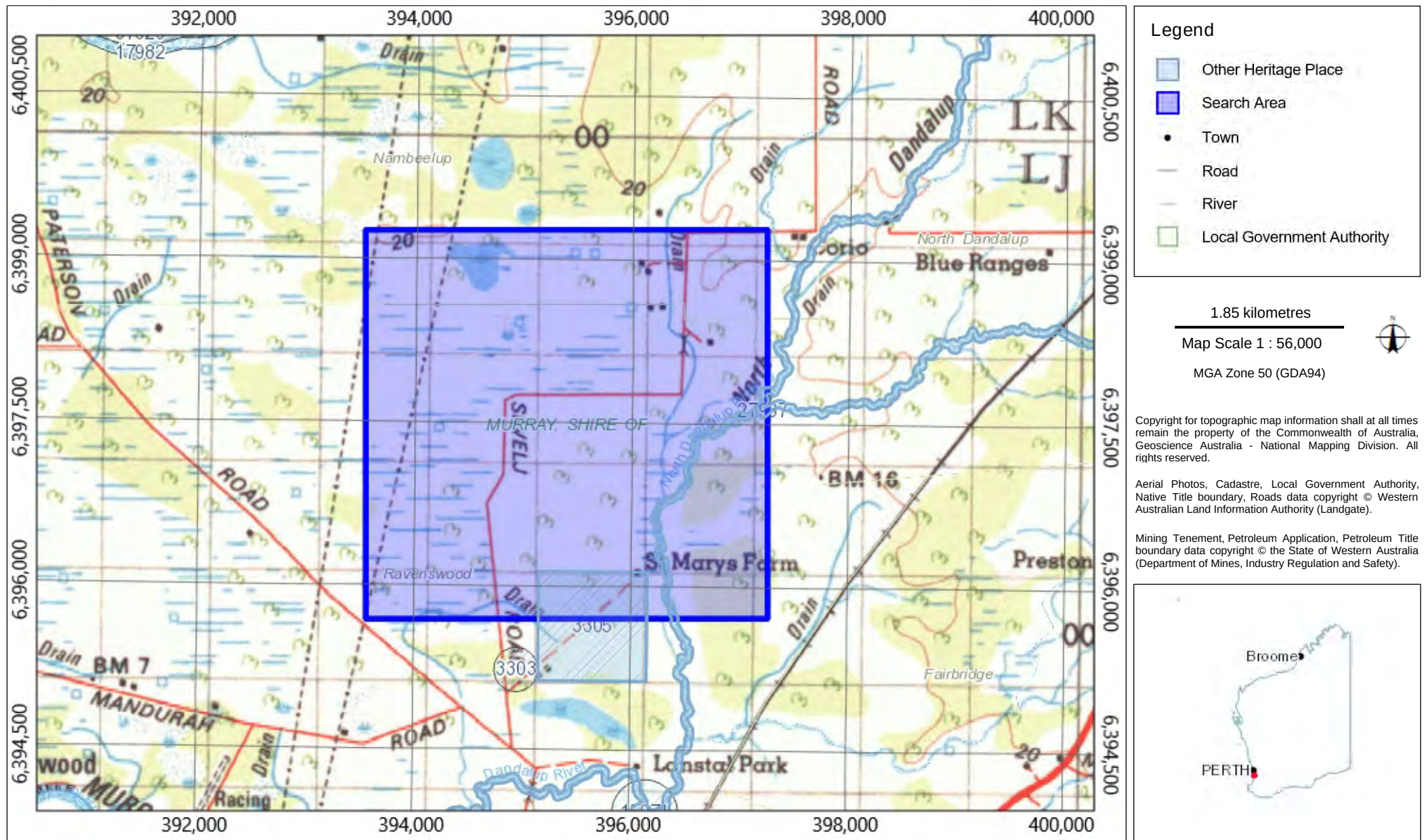
For further important information on using this information please see the
Department of Planning, Lands and Heritage's Disclaimer statement at
<https://www.dplh.wa.gov.au/about-this-website>

ID	Name	File Restricted	Boundary Restricted	Restrictions	Status	Type	Knowledge Holders	Coordinate	Legacy ID
3305	GIBBS SANDPIT, PINJARRA.	No	No	No Gender Restrictions	Lodged	Artefacts / Scatter, Camp	*Registered Knowledge Holder names available from DAA	395639mE 6395648mN Zone 50 [Unreliable]	S00201
27937	Dandalup River	No	No	No Gender Restrictions	Stored Data / Not a Site	Mythological, Hunting Place, Natural Feature, Plant Resource, Water Source	*Registered Knowledge Holder names available from DAA	411593mE 6391902mN Zone 50 [Reliable]	



Aboriginal Heritage Inquiry System

Map of Other Heritage Places



Search Criteria

1 Registered Aboriginal Sites in Custom search area - Polygon - 115.874365301175°E, 32.5694871592338°S (GDA94) : 115.874365301175°E, 32.5469526356927°S (GDA94) : 115.900801153226°E, 32.5469526356927°S (GDA94) : 115.900801153226°E, 32.5694871592338°S (GDA94) : 115.874365301175°E, 32.5694871592338°S (GDA94)

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Aboriginal Heritage Inquiry System

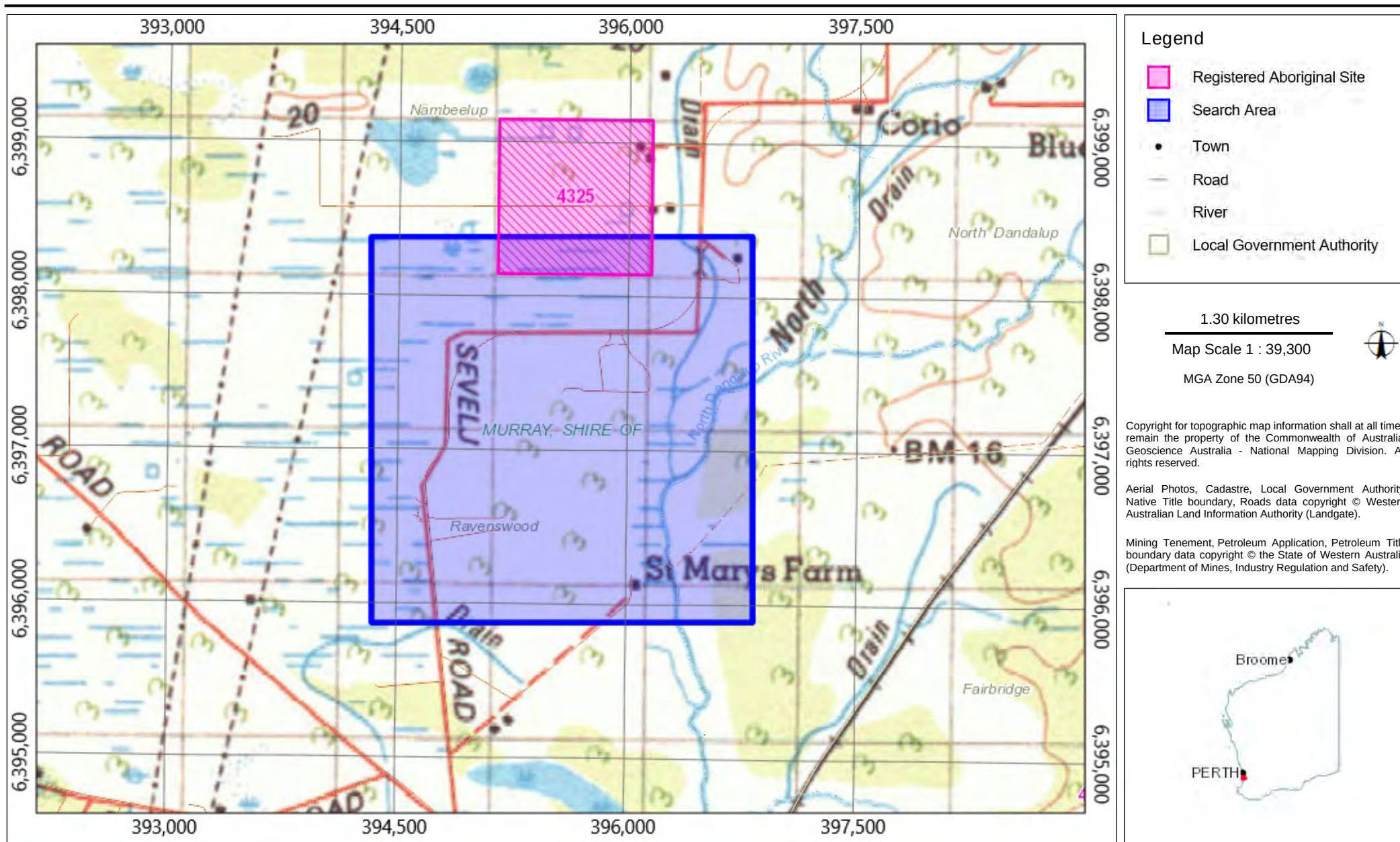
List of Registered Aboriginal Sites

ID	Name	File Restricted	Boundary Restricted	Restrictions	Status	Type	Knowledge Holders	Coordinate	Legacy ID
4325	GAS PIPELINE 84	No	No	No Gender Restrictions	Registered Site	Artefacts / Scatter	*Registered Knowledge Holder names available from DAA	395639mE 6398649mN Zone 50 [Unreliable]	S00816



Aboriginal Heritage Inquiry System

Map of Registered Aboriginal Sites



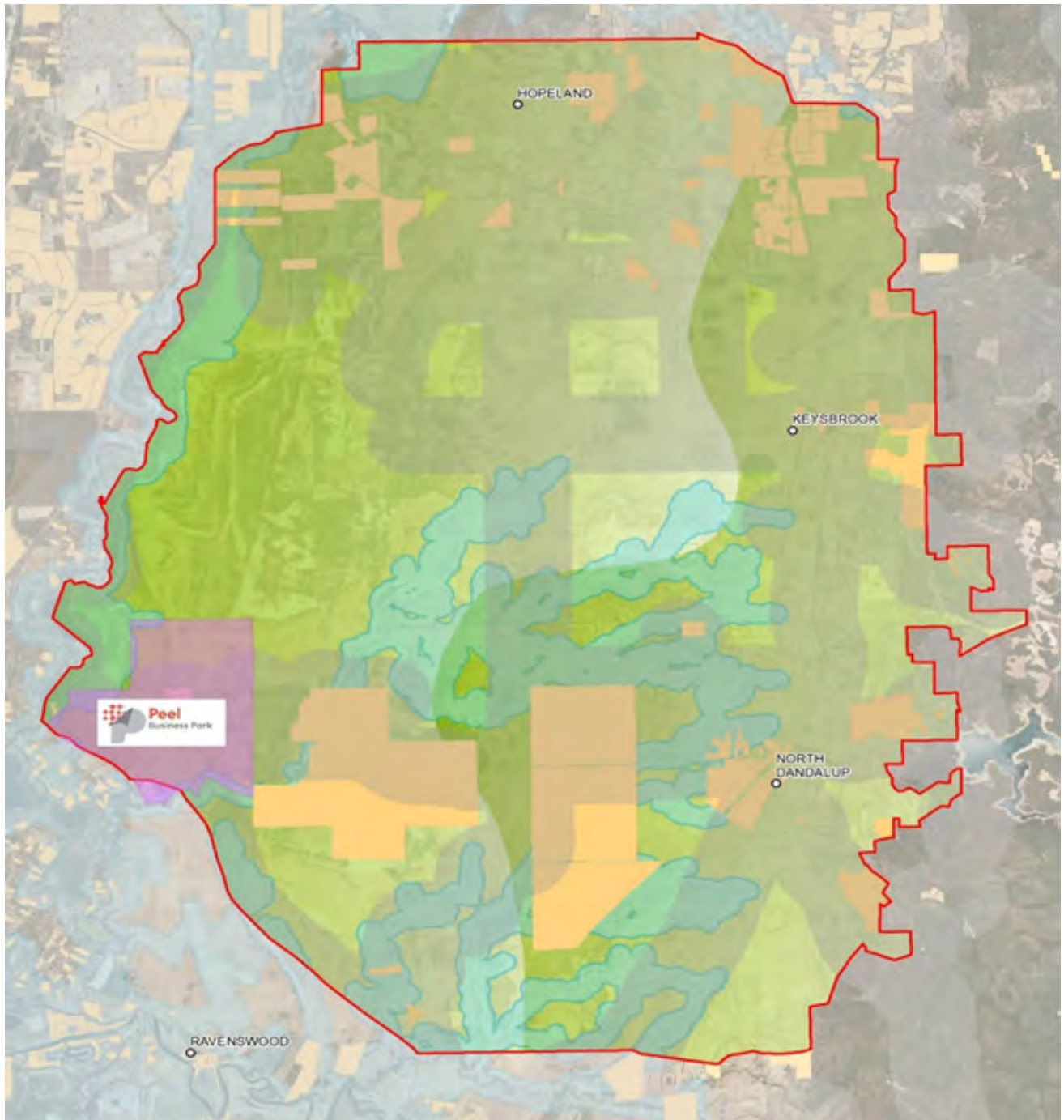
APPENDIX H

Peel Food Zone (GHD, 2017)



Planning for the Proposed Peel Food Zone

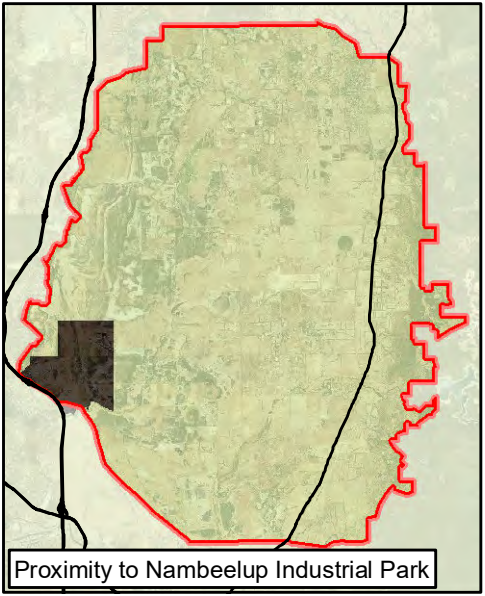
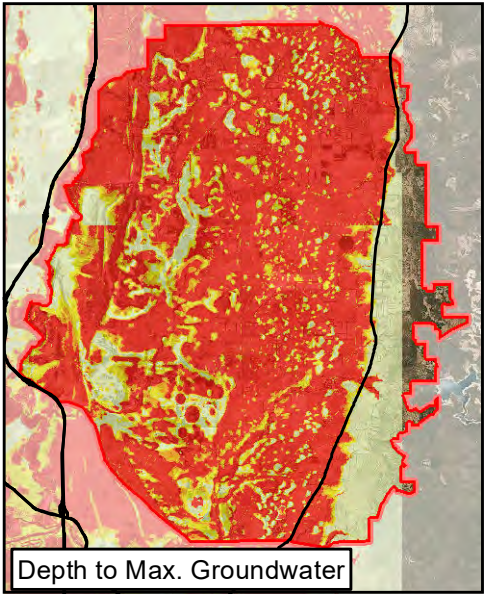
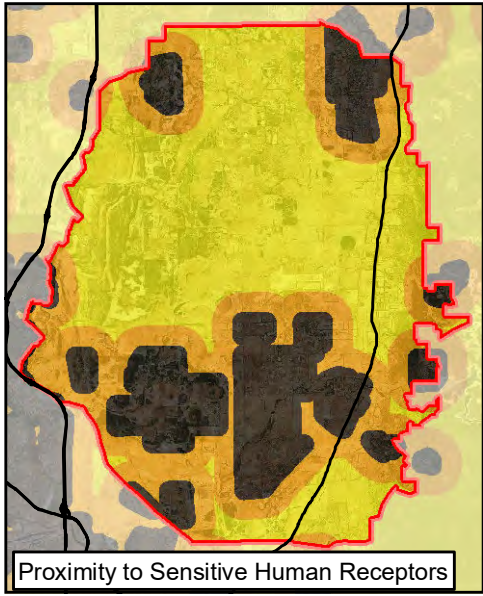
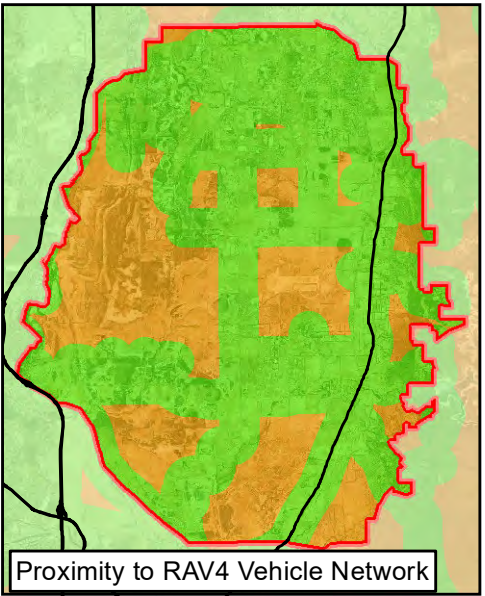
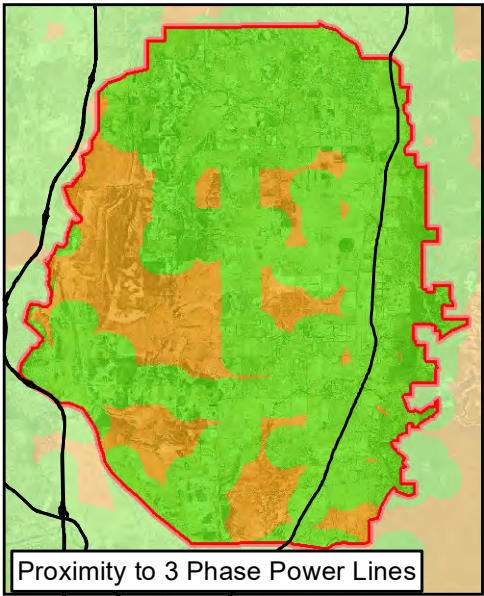
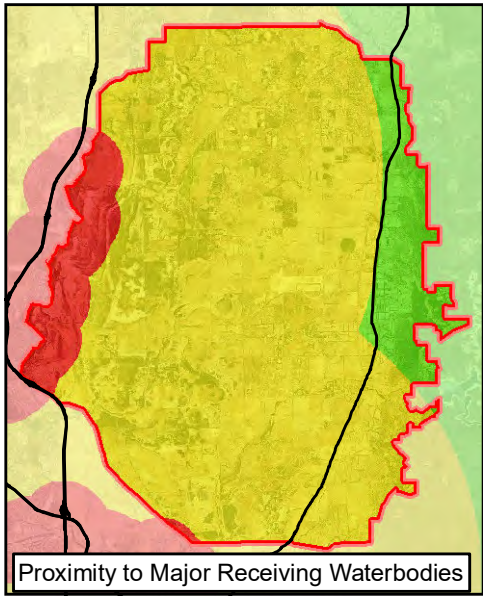
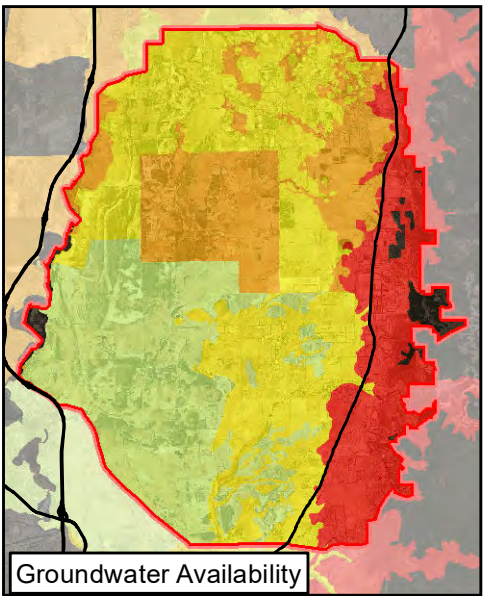
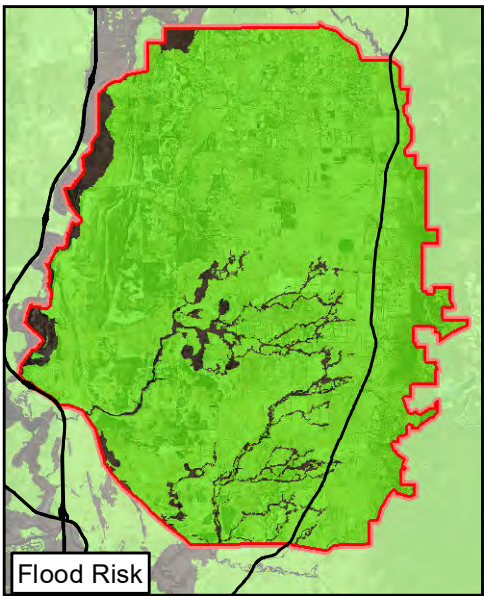
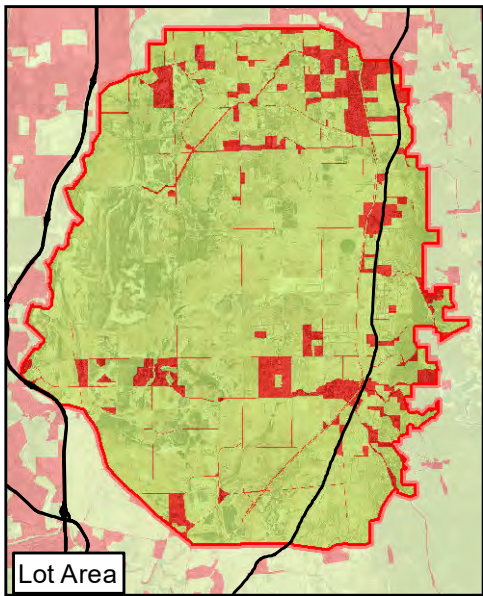
2017



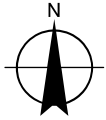
Department of
Agriculture and Food



Appendix G – Closed loop intensive livestock



Paper Size A3
0 2.5 5
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50



LEGEND

- State Road
- Study Area
- Unsuitable
- Highly Constrained
- Moderately Constrained
- Neutral
- Opportunity



Department of Agriculture and Food
Planning for the Peel Food Zone Study
Spatial Multi-Criteria Analysis

Job Number 61-35283
Revision 0
Date 01 Jun 2017

Closed-loop intensive livestock -
Criteria and Suitability Summary **Appendix G9**



○ Townsite/Locality

— Road

▭ Study Area

Suitability for Closed Loop Intensive Livestock

Low Suitability

High Suitability

Highly Unsuitable

Paper Size A3

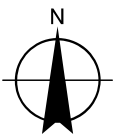
0 2 4

Kilometres

Map Projection: Transverse Mercator

Horizontal Datum: GDA 1994

Grid: GDA 1994 MGA Zone 50



Department of Agriculture and Food
Planning for the Peel Food Zone Study
Spatial Multi-Criteria Analysis

Job Number	61-35283
Revision	0
Date	29 May 2017

Closed loop intensive livestock -
Overall Suitability

Appendix G10

GHD
Unit 6 10 Victoria St
Bunbury WA 6230
T: 9721 0711 E: fionnuala.hannon@ghd.com

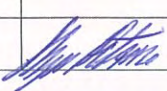
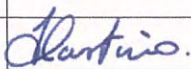
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6135283-

68234/[https://projects.ghd.com/oc/WesternAustralia/planningforthepeelfo/Delivery/Documents/Proposed Peel Food Zone Final Report.docx](https://projects.ghd.com/oc/WesternAustralia/planningforthepeelfo/Delivery/Documents/Proposed%20Peel%20Food%20Zone%20Final%20Report.docx)

Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	F. Hannon	J. Lane		J. Lane		04.05.17
0	F. Hannon	K. Petani		F. Castino		12.06.17

APPENDIX D | BUSHFIRE MANAGEMENT PLAN

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lots 71, 72 and 73 Corio Road RAVENSWOOD

Site visit: Yes ☒ No ☐

Date of site visit (if applicable): Day 11 Month February Year 2021

Report author or reviewer: Anthony Rowe

WA BPAD accreditation level (please circle):

Not accredited ☐ Level 1 BAL assessor ☐ Level 2 practitioner ☐ Level 3 practitioner ☒

If accredited please provide the following.

BPAD accreditation number: 36690 Accreditation expiry: Month December Year 2021

Bushfire management plan version number: v2

Bushfire management plan date: Day 27 Month February Year 2021

Client/business name: Fairglen Farms Pty Ltd

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☒
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?	☐	☒

Is the proposal any of the following (see [SPP 3.7 for definitions](#))?

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☐
Strategic planning proposal (including rezoning applications)	☐	☐
High risk land-use	☐	☐
Vulnerable land-use	☐	☐

None of the above ☒

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer



Date 28 February 2021

Bushfire Management Plan

Poultry Farm Expansion (Farm Buildings)

Lots 71, 72 and 73 Corio Road RAVENSWOOD

Client – Fairglen Farms Pty Ltd

February 2021



This Bushfire Management Plan ('BMP') has been prepared to align a proposal to construct Poultry Sheds at Lot 72 Corio Road RAVENSWOOD (the site) with State Planning Policy 3.7. *Planning in Bushfire Prone Areas*.

Envision Bushfire Protection

ABN: 90958370365

124 Derby Road SHENTON PARK WA 6008

P: 0439 112 179

Email: admin@envisionbp.com.au

Version Control

Lot 72 Corio Road RAVENSWOOD			
Version	Date	Author	
V1	23/02/2021	Anthony Rowe	Draft
V2	27/02/2021	Anthony Rowe	Revised orientation of Pod 2

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Importantly the measures contained in this report cannot guarantee, human safety or an absence of harm, or that the building will not be damaged or would survive a bushfire event on every occasion. This is due to the unpredictable nature of fire behaviour (knowledge in this field continues to develop) and the unpredictable nature of extreme weather conditions.

Scope of this report

Envision Bushfire Protection has been engaged to provide expert bushfire safety and planning advice.

The scope of the advice has been to assess the proposal for compliance with the policy measures described in State Planning Policy 3.7 and identify appropriate mitigation measures to be considered by the determining authority. This is described in a Bushfire Management Plan and prepared following the Department of Planning Lands and Heritage templates.

Client relationship

I was engaged in providing expert bushfire safety and planning advice. My relationship with the client is a standard commercial contract, and no private, personal, or other matter has influenced the content of the BMP or my findings.

STATEMENT OF CONFORMITY – PLANNING AND DEVELOPMENT ACT 2005



Anthony Rowe Level 3 - BPAD36690

Principal



The signatory declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7 and the Guidelines for Planning in Bushfire Prone Areas V1.3.

SUMMARY

The proposal is to construct additional poultry sheds at Lot 72 Corio Road RAVENSWOOD (the site).

The site is located within a Bushfire Prone Area (OBRM September 2019) and requires assessment against State Planning Policy 3.7 Planning in Bushfire Prone Areas and the associated Guidelines for Planning in Bushfire Prone Areas V1.3 (the Guidelines).

Two locations ('Pods') are proposed on the site with each to accommodate six poultry sheds. Each shed is 16.5 m x 176 m, each pod is 259 m x 176 m. Pod 1 is to the north west of the site and Pod 2 is to the south east of the site. The site presently has 3 large poultry sheds in a central area of the site which will be removed as part of the development and provide the biosecurity separation between Pod 1 and Pod 2. The site has a single dwelling and a separate caretaker's residence. The site has been predominantly cleared of native trees, and has been used for agriculture production, pasture and intensive animal keeping (poultry).

This BMP has been prepared in accordance with the WAPC template *BMP template for a complex development application*.

Compliance with the Bushfire Protection Criteria

The proposal was assessed for compliance with the bushfire criteria in SPP.3.7 policy measures 6.2, 6.4, and 6.7 and Appendix 4 of the Guidelines.

Element 1 - Location

The Acceptable Solution for Element 1 requires a strategic planning proposal, that will, be a moderate or low bushfire hazard level on completion. In a contextual consideration of an 'area' (2 km) the site is located within an area that is flat and predominantly grassland used for pastoral purpose. The area is classified as a moderate threat.

Element 2 - Siting and Design

Element 2 requires all buildings regardless of building class, if located within a bushfire prone area as identified by the Map, are to be sited not be exposed to a BAL exceeding BAL-29. This may be achieved by having a separation space (Asset Protection Zone) sufficient to achieve BAL-29.

The site is large, 121 ha, and the proposed sheds, Pods 1 and 2, are inset from the site boundary.

Pod 1, it is to be noted, is not within an area identified as bushfire prone, other than for the route of the private driveway. The compliance of Pod 1 with the bushfire protection criteria, described below, other than for the matter of access, is therefore voluntary.

The site is identified to contain areas of conservation category geomorphic wetland. Pod 1 is substantially within the Geomorphic wetland (affecting 60%), whereas Pod 2 is not affected. The location of Pod 1 is unavoidable due to the required separation from dwellings and the biosecurity separation between the pods.

Pod 1 is within an area of the site identified as grassland, notwithstanding it is identified to be a conservation category geomorphic wetland (Landgate SLIP - DBCA-019). An 8 m setback (Asset Protection Zone) is required by AS3959:2018 from grassland to achieve BAL - 29, but usually a greater distance (21 m) is applied at planning for continuity and separation from heavier bushfire fuels; to provide flexibility for the future use of the site, such as may be anticipated for the conservation category geomorphic wetland.

Given Pod 1 is outside of the bushfire map, there is no mandatory requirement to undertake works to establish an Asset Protection Zone but it is strongly recommended.

The Asset Protection Zone is an additional benefit to the general requirements of the *Bushfire Act 1954* and the protection it provides. The *Bushfires Act 1954* applies regardless of the bushfire prone area map. It requires the management of land to prevent an ignition and spread of fire. There are exemptions from the requirement as it applies to conservation areas, but broadly it applies to the management of all grassland

areas; requiring them to be slashed to below 100 mm and clearing around buildings as a means to protect them from bushfire.

An Asset Protection Zone of 21 m is proposed around Pod 2 to provide flexibility for the future use of the site without diminishing the BAL – 29.

There is no restriction upon establishing an Asset Protection Zone of 21 m around Pod 2.

Element 3 - Vehicle Access

The acceptable solution requires access to a through-road that provides providing alternative destinations for evacuation, and alternative directions from which assistance from emergency services can be received. Corio Road is a public road that, traverses predominantly pastoral land, and is flat. The road has a 5.5 m seal and shoulders exceeding 1 m either side: in turn compliant with the minimum horizontal width of 6 m.

The acceptable solution requires driveways if longer than 50 m should comply with the technical requirements for private driveways, width and grade and have provision for a turnaround or to enter and leave in a forward direction. The site is large and open, and the proposed buildings, and existing residence are more than 50 m from a public road.

The Guidelines refer to the provision of internal fire breaks being provided in accordance with the Shire's annual firebreak notice requirement. Arrangements between local government and the practical placement vary, and owners may seek variations to the requirements from the Shire. This matter is best addressed as a condition of approval to the satisfaction of the Local Government before operation.

Element 4 - Water

The site does not have access to a reticulated water supply but has access to a soak and ground water. Potable water is provided at the caretaker's residence and the dwelling in domestic tanks. A filter treatment system from the ground water supply is stored in a 110,000 L tank which supplies water to the sheds.

The proposed poultry sheds each exceed 2000 m² and are therefore classed as Farm Buildings requiring fire services (water capacity) in accordance with Part H3 of the National Construction Code 2019.

The tank/hydrant should be centrally located, accessible to the driveway and provided with an Asset Protection Zone to BAL 29.

Additional Bushfire Management Strategies

No further 'Additional' management strategies have been identified to those matters addressed in the compliance criteria. It is expected that the owner of the property is aware of the bushfire risk and will respond to the requirement of the Shire Fire Break Notice and DFES publications including the Homeowners Bushfire Survival Manual.

RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

LANDOWNER/OCCUPIER – ONGOING	
No.	Management action
1.	Pod 2: The establishment of an Asset Protection Zone (APZ) in accordance with the Standards for Asset Protection Zones (Schedule 1 Guidelines for Planning in Bushfire Prone Areas V1.3). Pod 1: Voluntary Asset Protection Zone (APZ), 8 m to grassland and grassland maintained to 21 m from the buildings. Any 'screening trees' are to be set no closer than 21 m from the buildings.
2.	The private driveways are to be constructed and maintained in accordance with Guidelines for Planning in Bushfire Prone Areas, Appendices, Element 3 Table 6, including a perimeter access around the pod, sufficient for a type 3.4 appliance to enter and leave on a forward direction.

3.	Firebreaks are to be maintained inside all boundaries in accordance with the Shire Firebreak notice.
4.	The provision of a centrally located water tank/hydrant (Farm Building Part H3 NCC: 2019), with 21 m APZ to BAL-29, couplings prescribed (Part H3 NCC: 2019) by Shire specifications.
LOCAL GOVERNMENT – ONGOING MANAGEMENT	
No.	Management action
1.	Maintaining public road reserves under their management to appropriate standards, where required/applicable.
2.	Administer the requirement of the Bushfires Act 1954, s.33(1) to ensure private land is maintained to likely to be conducive to the outbreak of bushfire or the spread or extension of a bushfire.

Figure EX 1 - Spatial representation of the proposed risk management strategies



Notes

1. Pod 2: The establishment of an Asset Protection Zone (APZ) in accordance with the Standards for Asset Protection Zones (Schedule 1 Guidelines for Planning in Bushfire Prone Areas V1.3).
2. Pod 1: Voluntary Asset Protection Zone (APZ), 8 m to grassland and grassland maintained to 21 m from the buildings. Any 'screening trees' are to be set no closer than 21 m from the buildings.
3. Private driveway access is to be provided in accordance with the Technical requirements provided in the Guidelines at Element 3 Table 6 column 3.
4. Firebreaks are to be maintained inside all boundaries in accordance with the Shire Firebreak notice.
5. The provision of a centrally located water tank/hydrant (Farm building Part H3 NCC: 2019), with 21 m APZ to BAL-29, couplings prescribed (Part H3 NCC: 2019) and Shire specifications.

Note: Pod 1 compliance with SPP 3.7 is volunteered.

LEGEND

- Site Boundary
- Asset Protection Zone
- Accessway
- Water tank for firefighting
- Firebreak-Shire of Murray Firebreak Notice

Property Assessment Details

Prepared by: Anthony Rowe
 Accreditation Level: Level 3
 Accreditation Number: 36690
 Date: 27 February 2021

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1. PROPOSAL DETAILS

1.1 Introduction

The proposal is to construct 12 additional poultry sheds (2 pods of 6) at Lot 72 Corio Road Ravenswood (the site).

The site is partially located within a Bushfire Prone Area (OBRM September 2019 map) and therefore requires assessment against State Planning Policy 3.7 Planning in Bushfire Prone Areas and the associated Guidelines for Planning in Bushfire Prone Areas V1.3 (the Guidelines).

In accordance with SPP 3.7, the planning authority in determining an application in a declared bushfire prone area must be satisfied the proposal is consistent with the Policy intent, ***to implement effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.***

Two areas (pods) are proposed on the site with each to accommodate six poultry sheds. Each shed is 16.5 m x 176 m, each pod is 259 m x 176 m in dimension. Pod 1 is at the north west of the site, and outside of the bushfire prone area map, and Pod 2 is to the south east of the site. The site presently has 3 large poultry sheds in a central area of the site (to be removed). The site also has a single dwelling and a separate caretaker's residence.

The site has been predominantly cleared of native trees (earliest photo is 1979) and has been used for agriculture production, pasture and in 2006 intensive animal keeping (poultry).



Plate 1: Site boundary, bushfire prone area (OBRM 2019) (pink)



Plate 2: Proposed development locations, the green shade is the Geomorphic wetland extent.

2. ENVIRONMENTAL CONSIDERATIONS

A fundamental consideration in the assessment of development under SPP 3.7 is to avoid instances where bushfire risk management measures would conflict with or be limited by other biodiversity management measures.

In accordance with the Department of Planning Lands and Heritage template (Bushfire Management Plan template to support a BAL Contour Assessment) a review of the listed databases has been undertaken as part of this assessment to identify whether restrictions or other specific considerations may apply that would affect the implementation of any bushfire protection initiatives that may otherwise be identified.

2.1 Native Vegetation – Modification and Clearing

Is the land affected by:	Yes/No	Comment
Conservation Wetland or buffer (DBCA-019 DBCA-017)	Yes	The site is occupied by a Conservation Category Geomorphic Wetland affecting 60% of Pod 1.
RAMSAR Wetland (DBCA-010)	No	Not identified
Threatened and Priority Flora (DBCA-036)	No	Not identified
Threatened and Priority Fauna (DBCA-037)	No	Not identified
Threatened Ecological Communities (DBCA-038)	No	Not identified
Bush Forever (COP-071)	No	The site is not affected nor is one identified within the area.
Environmentally Sensitive Area (DWER-046)	No	Not applicable
Regionally Significant Natural Areas (DWER-070)	No	Not applicable
Aboriginal Heritage	No	Not applicable
Conservation Covenant (DPIRD-023)	No	Not applicable
Does the proposal require the removal of restricted vegetation?	Yes	No

The purpose of this section is to identify possible restraints to the implementation of bushfire protection measures.

Pod 1 is located outside of the bushfire prone map, and therefore not affected by the requirements of SP 3.7, or the National Construction Code, as it relates to bushfire. Pod 1 is within an area mapped as conservation Geomorphic Wetland. Given the buildings in Pod 1 are outside of the bushfire protection area the normal consideration of an Asset Protection Zone is not required or volunteered. The *Bushfires Act 1954* applies to the whole site, to control the ignition and spread of bushfire from the site that could damage a neighbour. It seeks to avoid damages claims, by avoiding damage in the first instance. This is mostly addressed annually in the Shire Firebreak Notice, which can balance land management with environmental objectives; the main focus is on an external escape of a fire. The protection of assets on site, is in the owner's interest and a business decision.

Pod 2 is not within an area identified as a conservation category geomorphic wetland. There is no restriction to establishing an APZ over grass/woodland in this instance (Woodland trees can generally be retained, due to canopy separation if above grass that is maintained to less than 100 mm in height)

2.1 Re-vegetation/Landscape Plans

Re-vegetation/landscape plans are not included.

Planning and Development Act 2005 - SPP 3.7

On 7 December 2015 the State Government introduced, a state map of Bushfire Prone Areas by order under the *Fire and Emergency Services Act 1998* and introduced development controls in Bushfire Prone Areas through the *Planning and Development Act 2005*. These controls were authorised by State Planning Policy 3.7 (Planning in Bushfire Prone Areas) regulations introduced under Part 10A Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015* and guided by the *Guidelines for Planning in Bushfire Prone Areas*.

The State Planning Policy, Regulations, and Guidelines now form the foundation for fire risk management planning in WA at a community and land development level. The Policy Intent of SPP 3.7 is ***to preserve life and reduce the impact of bushfire on property and infrastructure***.

Part 10A Schedule 2 of the Planning and Development (Local Planning Scheme) Regulations 2015

Part 10A establishes the exemptions from the application of SPP 3.7 for certain development types that are located within an area that is Mapped as Bushfire Prone area (OBRM 2019). Sheds other than habitable buildings can be exempt from the considerations of SPP 3.7.

In this instance the Poultry shed is considered to meet the definition of a habitable building because, the building is enclosed and it is used for the purpose of work, although unlikely to be occupied by more than two people at any one time (contemporary poultry practice).

As a habitable building the considerations of SPP 3.7 apply, but because the building is not a class 1-3 and 10a, the bushfire construction requirements do not apply. The building siting requirements, to not exceed BAL 29 apply.

The Building Act 2011

The Building Act 2011, and Building Regulations 2012, applies the construction standards of the Building Code of Australia (National Construction Code) where it relates to an 'applicable' building.

The Bushfire Construction requirements in the National Construction Code NCC (Vol 2, s.3.10.5) address only class 1-3, and class 10 buildings.

NCC has introduced (Part H3) certain concessions for Class 7 and Class 8 buildings used for farming because these buildings pose a lower risk to occupants than buildings of the same class that are not used for farming.

The size of the building and level of occupancy are the two criteria that differentiate between a 'farm building' and a 'farm shed'. This differentiation allows further concessions to be applied to 'farm sheds', which present less hazard than 'farm buildings'.

Part H3 of the NCC 2019 addresses the building (fire) requirements for a 'farm building' and a 'farm shed'. The main features to be addressed include (*note H3 should be referred to for the full list of requirements*).

A farm shed need not comply with the building fire provisions of Parts C, if it is separated from any other building or allotment boundary by a distance of not less than 6 m, it is required to be provided with a fire extinguisher for every 500 m² of floor space.

Whilst the proposed sheds are likely to comply with the total number of persons accommodated at any time not exceeding two (farm shed), the buildings are larger than 2000 m² and therefore farm buildings.

A farm building is to have fire hydrants and water supplies comprising a minimum total capacity of 144 000 litres, located within 60 m of the building, positioned to enables emergency services vehicles access to within 4 m 'and fitted with small bore suction connection' and 'large bore suction connection' to the specifications in AS 2419.1

Bushfires Act 1954

Section 33 of the *Bushfires Act 1954* recognises the responsibility of all landowners to prevent the spread of bushfire. Local government at any time, may give notice in writing to an owner or occupier of land within the district of the local government.

The *Bushfires Act 1954* applies at large. Its operation is not restricted to the bushfire prone area and is applicable to all landowners.

The Notice may specify works to be undertaken including the management of grasses on the property usually to be maintained at less than 10 cm during the fire season.

It also provides that the identified works can be undertaken as a separate operation or in coordination with the neighbouring land.

Clearing Native Vegetation

Generally, the clearing of native vegetation is permitted by the exemption under the *Environment Protection Act 1986*, if associated with another authorisation.

The 'exemptions' are described below. The site is not within an Environmentally Sensitive Area, but it is uncertain whether an APZ is included in the exemption "as necessary to construct an approved building".

In this instance Pod 1 is presently surrounded by pasture grasses, no clearing of regulated vegetation is apparent, however it will displace land identified a conservation category geomorphic wetland.

Approval from the Department of Water and Environmental Regulation (DWER) will be required for the affect upon the affect upon conservation category geomorphic wetland, by the buildings, the associated site works and the Asset protection zone.

Environment Protection Act 1986 and Environmental Protection (clearing native vegetation) Regulation 2004

It is an offense to clear native vegetation without the authority of a permit or an exemption. The act of clearing native vegetation, requires a permit from either the Department of Water and Environmental Regulation (DWER) or the Department of Mines, Industry Regulation and Safety (DMIRS), unless an exemption applies.

Exemptions include:

Environment Protection Act 1986

- **Clearing required by local government Section 33 Bushfire Act 1954.**
- Clearing in accordance with the terms of a subdivision approval.
- Clearing in accordance with a permit under the Bushfires Act 1954 (prescribed burning) and clearing by a bushfire control officer.

Environmental Protection (clearing native vegetation) Regulation 2004 (exemptions do not apply in Environmentally Sensitive Areas, and clearing > than 5ha)

<https://www.der.wa.gov.au/your-environment/environmentally-sensitive-areas>

- Clearing to the extent necessary to construct an approved building.
- Clearing that is for fire hazard reduction burning.
- Clearing to maintain an area cleared in the last ten years.

(WA) Biodiversity Conservation Act 2016 and Bio-diversity Conservation Regulations 2018

The *Biodiversity Conservation Act, 2016*, replaces the *Wildlife Conservation Act, 1950*, and the *Sandalwood Act, 1929*, it became operational with the *Bio-diversity Conservation Regulations 2018*, on 1 January 2019.

The Act provides for fauna conservation (in turn its habitats) and lists species, threatened ecological communities (TECs), key threatening processes, and critical habitats. It introduces criteria for listing species

'endangered', 'critically endangered' or 'vulnerable,' to align with the Environment Conservation and Biodiversity Conservation Act 1999 (Cth).

Commonwealth Environment Protection Biodiversity Conservation Act 1999

The Commonwealth Environment Protection Biodiversity Conservation Act 1999 provides for the protection of matters of national environmental significance. National environment law does not generally regulate fire prevention measures taken by state and territory governments, but no specific exemptions are provided.

3. BUSHFIRE ASSESSMENT

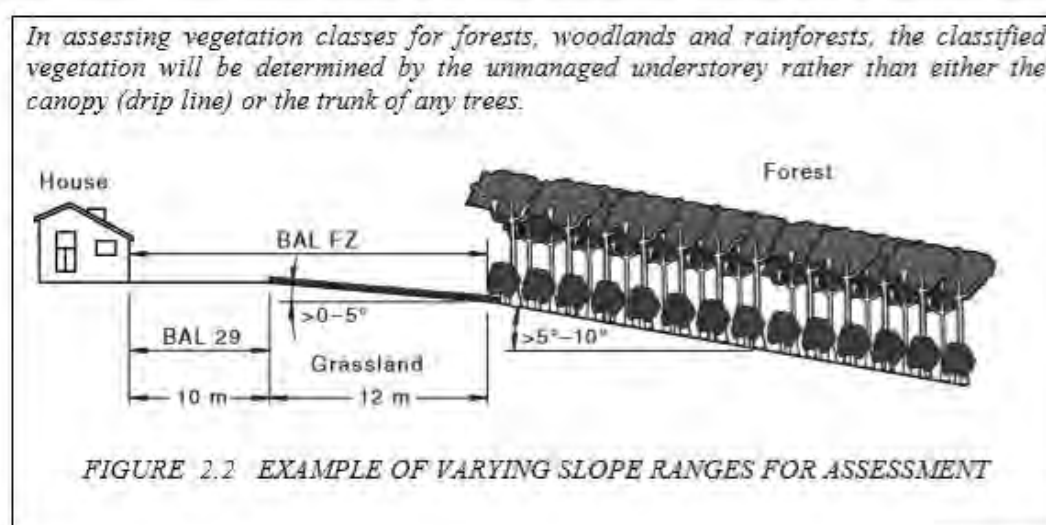
3.1 Bushfire Attack Level Assessment (Inputs)

The following assessment has applied the methodologies described in AS3959:2018, the Guidelines, and has used the Fire Protection Association Australia accredited practitioner methodology for the preparation of Bushfire Attack Level (BAL) assessments. All vegetation within 150 m (context) of the proposed building has been classified following Clause 2.2.3 (AS 3959:2018) to determine the Bushfire Hazard Level at the locality. The BAL Contour Plan, however, is measured within 100 m of the site boundary following the requirement for a BAL assessment, which is 100 m.

AS 3959:2018 prescribes six categories of Bushfire Attack Level (BAL): BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40, and BAL-FZ. In addition, BAL-FZ describes only performance solutions where the separation from classified vegetation (on completion) is less than 10 m. The BAL level is used for determining the siting of development (to be less than BAL-40) and in turn the construction standard that is equivalent to the BAL at the proposed building location.

The BAL rating has been determined through site inspection and assessment of the following parameters:

- Fire Danger Index (FDI) rating; assumed to be FDI - 80 for Western Australia;
- A separation distance between the building and the classified vegetation source(s) within 100 m (for BAL impact) the separation distance is measured from the wall face (receiver) to the unmanaged understory rather than the canopy edge (dripline) *see below*; and
- Slope of the land under the classified vegetation.



INPUT FIGURES (Refer to Appendix 1)

Figure 1 Topographic features and vegetation and slope

Figure 2a Identification of the present site vegetation.

All vegetation within 150m of the site classified in accordance with Clause 2.2.3 of AS 3959:2018 from a site inspection undertaken on 11 February 2021.

The inspection followed the Fire Protection Association Australia accredited practitioner methodology (Template) for the preparation of Bushfire Attack Level (BAL) assessments, including photo verification and is attached in Appendix 1.

Figure 2b Identification of the post development site vegetation.

3.2 Determined Bushfire Attack Level (Outputs)

Figure 3 Bushfire Attack Level Contour Map Attainable BAL – Post Development.

The BAL Contour map has been volunteered for the development application to be applied to the immediate development site. Each band represents a georeferenced distance following the technical specification for slope from vegetation class used in AS3959:2018 table 2.5.

A method 1 BAL assessment of the vegetation, the slope under vegetation, and the applied FDI, identified the applicable habitable setbacks that will apply within the site.

Determined BAL rating

Pod 1:

No separation from grassland = BAL FZ.

Pod 2:

No separation from grassland, or woodland = BAL FZ.

Indicative BAL rating

Pod 1:

No mandatory Asset Protection Zone, separation from grassland, is required which would result in direct flame contact from grassland and BAL FZ.

A volunteered Asset Protection Zone is recommended and to achieve BAL 29 from grassland is 8 m, subject to approval within the conservation category geomorphic wetland. This is based upon an assumption of contiguous grassland extending beyond 29 m from the buildings.

Pod 2:

An Asset Protection Zone 21 m is recommended and is equal to BAL 29, for forest, to provide future land use flexibility. This equals BAL -19 from nearest Woodland, and BAL 12.5 from grassland.

4. IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

Factors affecting bushfire behaviour depend upon the fuel (size, quantity, type, moisture, and its distribution), weather conditions (temperature, humidity, wind speed, and atmospheric stability) and the topography (slope aspect and interaction with wind). These factors affect the speed of the fire, the flame height, the spotting behaviour (burning embers) and the intensity. Fires travel faster, and the flame length is closer to the ground traveling uphill. The speed of a fire doubles for every 10 degree upslope increases.

The prevailing summer winds (February) afternoon winds suggests a propensity for winds from the south, south west. Major fires in the region are therefore expected to arrive at the site from the south, south-west.

The context of the site is a location within a bushfire threat from multiple aspects, predominantly through grassland. The site is 7 km west from the foot of the Darling Range, and extensive and contiguous forest that extends east. Forest fire can eject embers up to 5 km, and fires in the Darling Ranges typically travel east under easterly winds. The site at seven km is unlikely to be affected.

Fires in pastoral lands are often started by machinery failures, sparks from slashing, or hot works. Grass fires are fast moving but light weight fuels of a short but intense duration. They do not generate heavy embers and require the ignition progressively heavier fuels. After the passage of the fire front tenable conditions quickly establish to enable heavier fuels at the commencement of their ignition to be addressed and extinguished.

Appropriate facilities should be provided to enable suppression after the fire front's passing. The site has two arrival routes and is an open landscape that can assist the attendance of firefighters, but in a landscape fire competing priority means their attendance cannot be relied upon.

5. BUSHFIRE PROTECTION CRITERIA ASSESSMENT

This BMP provides an outline of the mitigation strategies. For each of the elements listed within Appendix 4 of the Guidelines for Planning in bushfire-prone areas, the 'intent' must be achieved either by the proposal meeting the applicable acceptable solution, as one solution; or where the acceptable solutions cannot be met, then by a performance principle-based solution that can achieve the 'Intent.'

5.1 Compliance Criteria

Table 2: Bushfire Protection Criteria assessment.

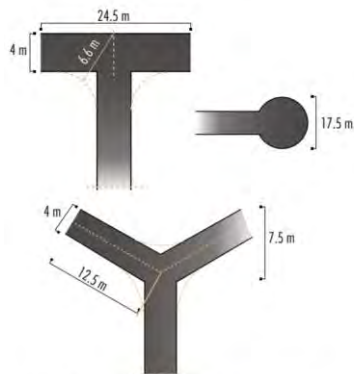
✓	Acceptable solution provided	C	An Acceptable Solution to be conditioned
N/A	Not Applicable	P	Performance Principle solution see 5.2

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
Element 1: location To ensure that strategic planning proposals, subdivision, and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property, and infrastructure	A1.1 Development location The strategic planning proposal, subdivision, and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL-29 or below.	✓		The site is within an area classed as predominantly grassland and therefore is a moderate Bushfire Hazard Level.

Element 2: Siting and Design To ensure that the siting and design of development minimises the level of bushfire impact	A2.1 Asset Protection Zone Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements: • Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29) in all circumstances. • Location: the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes). • Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones.' (see Schedule 1).	✓	The Acceptable solution A2.1 requires that the development site can achieve on completion a BAL not exceeding BAL-29, by an APZ within the boundaries of the lot. Pod 1 is not within the Bushfire Prone Area and therefore not affected by the requirement although it is open to the owner to volunteer. In this instance this ability is to be balanced by the requirements for the conservation category geomorphic wetland. The site is surrounded by grassland and grassland/pastureland will be displaced by the buildings. Subject to authority approval (DWER), it is recommended a minimum of 8 m around the outside of Pod 1 be established as Asset Protection Zone (APZ), (Mineral earth or maintain the first eight meters of grass at less than 100 mm in height) and maintain an area of 21 m from the outside of the buildings as grassland. <i>An APZ distance of 8 m from grassland is equivalent to BAL - 29, but this is based on a background of contiguous grass. If a heavier vegetation (fuel classification) occurs, such as regeneration for forest (the highest fuel classification) then 21 m would be required for flat ground. Setting a distance of 21 m for maintaining grass, therefore, maximises the flexibility to use the surrounding land without exceeding BAL - 29 at the building.</i> Screening trees, a single row, are proposed to be set around the Pod curtilage. These are to be set at 21 m, as they would become a continuation of forest if regeneration occurred. An Asset Protection Zone of 21 m is proposed around Pod 2, it will provide a BAL < BAL 29 at the building. The distance of 21 m provides flexibility for the future use of the site, including regenerations of forest plantation. A portion of the APZ will encroach upon an out edge of the conservation category geomorphic wetland (SLIP maps) but the area affected is presently compacted and used as an aircraft runway and driveway. Pod 2 can achieve compliance with A 2.1.
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Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies																																																
Element 3: Vehicular Access To ensure that the vehicular access serving a subdivision/development is available and safe during a bushfire event	A3.1 Two access routes Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations, and are available to all residents/the public at all times and under all weather conditions.	✓		Corio Road is a through road and is compliant with A 3.1																																																
	A3.2 Public road A public road is to meet the requirements in Table 6, Column 1. Table 6: Vehicular access technical requirements <table><tr><th>TECHNICAL REQUIREMENTS</th><th>1 Public road</th><th>2 Cul-de-sac</th><th>3 Private driveway</th><th>4 Emergency access way</th><th>5 Fire service access routes</th></tr><tr><td>Minimum trafficable surface (m)</td><td>6*</td><td>6</td><td>4</td><td>6*</td><td>6*</td></tr><tr><td>Horizontal clearance (m)</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td></tr><tr><td>Vertical clearance (m)</td><td>4.5</td><td>N/A</td><td>4.5</td><td>4.5</td><td>4.5</td></tr><tr><td>Maximum grade <50 metres</td><td>1 in 10</td><td>1 in 10</td><td>1 in 10</td><td>1 in 10</td><td>1 in 10</td></tr><tr><td>Minimum weight capacity (t)</td><td>15</td><td>15</td><td>15</td><td>15</td><td>15</td></tr><tr><td>Maximum crossfall</td><td>1 in 33</td><td>1 in 33</td><td>1 in 33</td><td>1 in 33</td><td>1 in 33</td></tr><tr><td>Curves minimum inner radius (m)</td><td>8.5</td><td>8.5</td><td>8.5</td><td>8.5</td><td>8.5</td></tr></table> *Refer to E3.2 Public roads: Trafficable surface	TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes	Minimum trafficable surface (m)	6*	6	4	6*	6*	Horizontal clearance (m)	6	6	6	6	6	Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5	Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10	Minimum weight capacity (t)	15	15	15	15	15	Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33	Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5	✓		Corio Road is a public road with a 5.5 m sealed carriageway and shoulders exceeding 1.2 m. The road traverses flat ground and is through predominantly pasture grassland. Roadside vegetation does not encroach into the vertical height requirement of 4.5 m.
	TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes																																														
Minimum trafficable surface (m)	6*	6	4	6*	6*																																															
Horizontal clearance (m)	6	6	6	6	6																																															
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5																																															
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10																																															
Minimum weight capacity (t)	15	15	15	15	15																																															
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33																																															
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5																																															
A3.3 Cul-de-sac (including a dead-end road) Requirements in Table 6, Column 2; - Maximum length: 200 metres (if public emergency access is provided between cul-de-sac heads maximum length can be increased to 600 metres provided no more than eight lots are serviced and the emergency access way is no more than 600 metres); and - Turn-around area requirements, including a minimum 17.5 metre diameter head.	N/A																																																			

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
	A3.4 Battle-axe Requirements in Table 6, Column 3; Maximum length: 600 metres; and Minimum width: six metres.	N/A		

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
	A3.5 Private driveway longer than 50 m Requirements in Table 6, Column 3; - Required where a house site is more than 50 metres from a public road; - Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres); - Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house; and - Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes. - All-weather surface (i.e. compacted gravel, limestone or sealed)  Figure 22: Design requirements for a private driveway longer than 50 metres Turning areas should allow type 3.4 fire appliances to turn safely	✓		The site is large requiring driveways exceeding 50 m in length. A turnaround is provided at the existing dwelling and care takers residence which is located adjacent the domestic tanks. The existing poultry sheds in addition to a turnaround also have a perimeter road immediate to the buildings. The same arrangement of a perimeter road immediate to the buildings is expected to be applied to Pod 1 (subject to conservation category geomorphic wetland approval) and Pod 2 The sheds are considered to constitute farm buildings, Compliance with PART H3 – NCC 2019, will be required because each pod is separated. A water supply equivalent to 144 000 litres, to be located within 60 m of the building, and positioned to enable emergency service vehicles access within 4 m of the driveway.

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
	A3.6 Emergency access way Requirements in Table 6, Column 4; • No further than 600 metres from a public road; • Provided as right of way or public access easement in gross to ensure accessibility to the public and fire services during an emergency; and • Must be signposted.	N/A		
	A3.7 Fire service access routes (perimeter roads) Requirements Table 6, Column 5; • Provided as right of ways or public access easements in gross to ensure accessibility to the public and fire services during an emergency; • Surface: all-weather (i.e. compacted gravel, limestone or sealed) Dead end roads are not permitted; • Turn-around areas designed to accommodate type 3.4 appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres); • No further than 600 metres from a public road; • Allow for two-way traffic and; • Must be signposted	N/A		

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
	A3.8 Firebreak width,	✓		Firebreaks are to be maintained in accordance with the Shire of Murray's annual Firebreak and Fuel Hazard Reduction Notice (Bushfire Act 1954). This is best addressed as a condition of approval, to the satisfaction of the Shire, to be resolved prior to building occupation/operational commencement.
Element 4: Water To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be	A4.1 Reticulated areas The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services. E4.1: The Water Corporation's 'No. 63 Water Reticulation Standard' is deemed to be the baseline criterion for developments and should be applied unless local water supply authorities' conditions apply.	N/A		

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
defended from bushfire	A4.2 Non-reticulated areas - Volume: minimum 50,000 litres per tank; Ratio of tanks to lots: minimum one tank per 25 lots (or part thereof); - Tank location: no more than two kilometres to the furthestmost house site within the residential development to allow a 2.4 fire appliance to achieve a 20 minute turnaround time at legal road speeds; - Hardstand and turn-around areas suitable for a type 3.4 fire appliance (i.e. kerb to kerb 17.5 metres) are provided within three metres of each water tank; and - Water tanks and associated facilities are vested in the relevant local government	✓		The site does not have access to a reticulated water supply. The dwelling and caretakers residence have potable water supplied in a domestic tank. A filter treatment system from the ground water supply is stored in a 110,000 L tank supplies water to the sheds. Part H3 NCC 2019 will require each pod is supplied with a tank or hydrant of a capable capacity of no less than 144 000 L although a range of sources can be used, including a dam. DFES has water quality standards in addition to the NCC requirements. <i>GL-06: ACCEPTABLE SOURCES OF WATER SUPPLY FOR FIRE HYDRANT/SPRINKLER SYSTEMS. (BORES, DAMS, RIVERS, LAKES AND SEAWATER)</i> On site firefighting equipment presently includes a slip-on fire unit, and “irrigation pump” that runs roof sprinklers and ground sprinklers from the dam.
	A4.3 Individual lots within non-reticulated areas (Only for use if creating 1 additional lot and cannot be applied cumulatively) Single lots above 500 square metres need a dedicated static water supply on the lot that has the effective capacity of 10,000 litres.	N/A		

5.2 Spatial representation of the bushfire management strategies

The *Spatial representation of the bushfire management strategies* is provided in Figure EX1 in the Executive Summary.

6. RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

The owner responsibilities have been identified to affirm compliance with the Bushfire Protection Criteria identified in section 5.1 of this BMP.

These responsibilities have been listed in the Executive Summary together with the *Spatial representation of the proposed risk management strategies* Figure EX1.

APPENDIX 1 - BAL Assessment

Bushfire Attack Level Assessment Report

Prepared by a BPAD Accredited Practitioner



Fire Protection Association Australia Life Property Environment



AS 3959 BAL Assessment Report

This report has been prepared by an Accredited BPAD Practitioner using the Simplified Procedure (Method 1) as detailed in Section 2 of AS 3959 – 2018 (Incorporating Amendment Nos 1, 2 and 3). FPA Australia makes no warranties as to the accuracy of the information provided in the report. All enquiries related to the information and conclusions presented in this report must be made to the BPAD Accredited Practitioner.

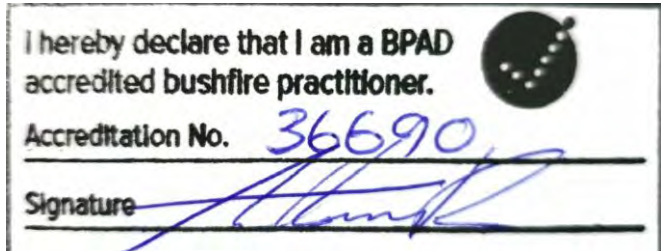
Property Details and Description of Works

Address Details	Unit no	Street no	Lot no	Street name / Plan Reference		
			551	Corio Road		
	Suburb Ravenswood				State WA	Postcode 6208
Local government area	Shire of Murray					
Main BCA class of the building	Class 7b			Use(s) of the building	Intensive Agriculture	
Description of the building or works	Poultry Sheds					

Report Details

Report / Job Number	Report Version	Assessment Date	Report Date
	2	11 February 2021	27 February 2021

BPAD Accredited Practitioner Details

Name ANTHONY ROWE – BPAD 36690	 <i>Authorised Practitioner Stamp</i>
Company Details Envision Bushfire Protection Ph - 0439 112 179 Email - admin@envisionbp.com.au ABN 90958370365 	

Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated report issued.

Figure 2: Vegetation Classification - Lot 551 Corio Road Ravenswood

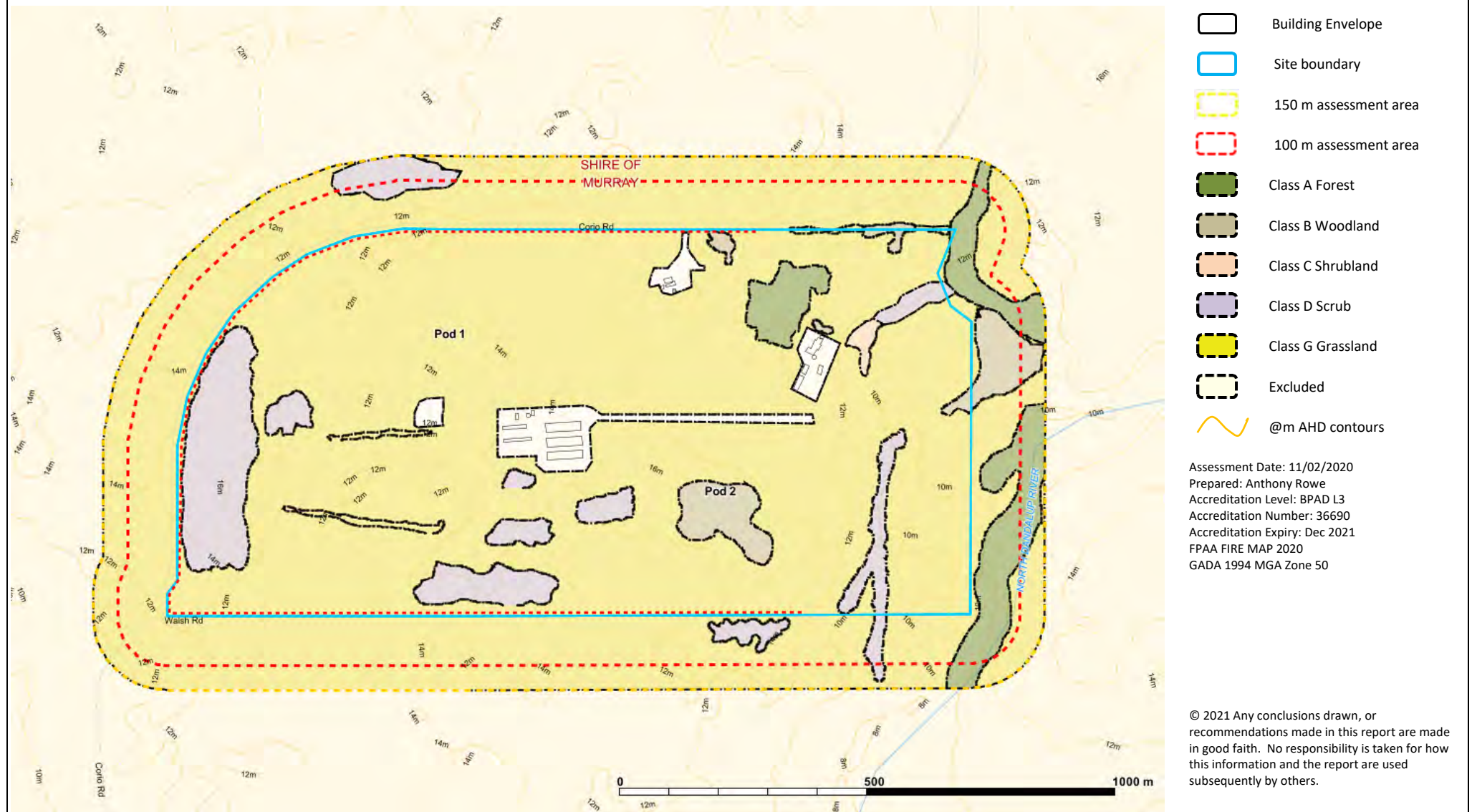


Figure 2: Vegetation Classification - Lot 551 Corio Road Ravenswood

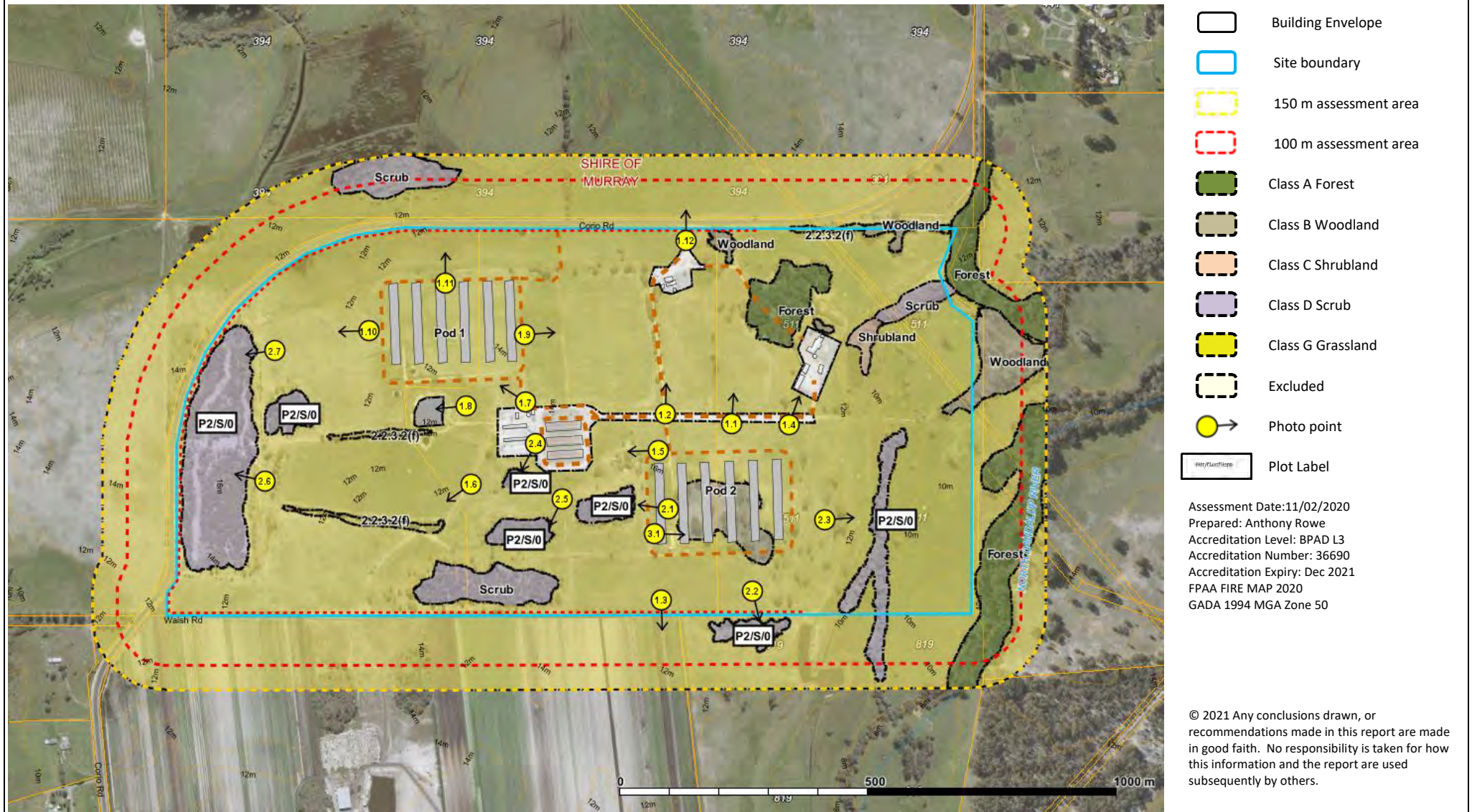


Figure 3: BAL Contour (Post Development) - Lot 551 Corio Road Ravenswood



Vegetation Classification

All vegetation within 150m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

PLOT: 1			
Vegetation Classification	PHOTO ID: 1.1		PHOTO ID: 1.2
Class G Grassland – Sown pasture G-26	298°NW (T) ● 32°33'22"S, 115°53'31"E ±13ft ▲ 49ft 		1°N (T) ● 32°33'21"S, 115°53'25"E ±9ft ▲ 44ft 
Slope			
Flat			
Description (AS3959)			
All forms (except tussock moorlands) including situations with shrubs and trees if the overstorey foliage cover is less than 10%. Includes pasture and cropland. NOTE: Grassland managed in a minimal fuel condition and non-curing cropland is regarded as low threat vegetation for the purposes of Clause 2.2.3.2.			
Observation/Justification for classification	PHOTO ID: 1.3 179°S (T) ● 32°33'30"S, 115°53'27"E ±13ft ▲ 40ft 		PHOTO ID: 1.4 284°W (T) ● 32°33'23"S, 115°53'35"E ±13ft ▲ 51ft 
Post development			
To be retained	Comment: pasture grasses south of pod 2		Comment: pasture grasses north of pod 2

Plot 1		
Vegetation Classification	PHOTO ID: 1.5	PHOTO ID: 1.6
Class G Grassland – Sown pasture G-26		
Slope		
Flat		
Description (AS3959)		
All forms (except tussock moorlands) including situations with shrubs and trees if the overstorey foliage cover is less than 10%. Includes pasture and cropland. NOTE: Grassland managed in a minimal fuel condition and non-curing cropland is regarded as low threat vegetation for the purposes of Clause 2.2.3.2.		
Observation/Justification for classification	Comment: pasture grasses west of pod 2	Comment: pasture grasses south of pod 1
	PHOTO ID: 1.7	PHOTO ID: 1.8
		
Post development		
To be retained	Comment: pasture grasses south of pod 1	

PLOT: 1		
Vegetation Classification	PHOTO ID: 1.9	PHOTO ID: 1.10
Class G Grassland – Sown pasture G-26		
Slope		
Flat		
Description (AS3959)		
All forms (except tussock moorlands) including situations with shrubs and trees if the overstorey foliage cover is less than 10%. Includes pasture and cropland. NOTE: Grassland managed in a minimal fuel condition and non-curing cropland is regarded as low threat vegetation for the purposes of Clause 2.2.3.2.	Comment: pasture grasses east of pod 1	Comment: pasture grasses west of pod 1
Observation/Justification for classification	PHOTO ID: 1.11	PHOTO ID: 1.12
		
	Comment: pasture grasses north of pod 1 view to Corio Road	Comment: pasture grasses north of pod 2
Post development		
To be retained		

PLOT: 2		
Vegetation Classification	PHOTO ID: 2.1	PHOTO ID: 2.2
Class D Scrub - Closed scrub D-13		
Slope		
Flat		
Description (AS3959)	Comment: Scrub, west of pod 2	Comment: Scrub, south of pod 2
Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high. Typical of coastal areas and tall heaths up to 6 m in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres		
Observation/Justification for classification		
Post development	PHOTO ID: 2.3	PHOTO ID: 2.4
		
	Comment: Scrub, east of pod 2	Comment: Scrub, south of pod 1
To be retained.		

PLOT: 2		
Vegetation Classification	PHOTO ID: 2.5	PHOTO ID: 2.6
Class A Forest - Low open forest A-04		
Slope		
Flat		
Description (AS3959)	Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high. Typical of coastal areas and tall heaths up to 6 m in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres	Comment: Scrub, south of pod 1
Observation/Justification for classification		
	PHOTO ID: 2.7	
		
Post development		
To be retained	Comment: Scrub, west of pod 1	

PLOT: 3

Vegetation Classification	PHOTO ID: 3.1	
Class B Woodland - Woodland B-05		
Slope		
Flat		
Description (AS3959)		
Trees 10 m - 30 m high; 10% - 30% foliage cover dominated by eucalypts and/or callistris with a prominent grassy understorey. May contain isolated shrubs.		
Observation/Justification for classification	Comment: Woodland within proposed Pod 2 – to be cleared during development	
Post development		
Cleared		

Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

Fire Danger Index

FDI 40 ☐

Table 2.7

FDI 50 ☐

Table 2.6

FDI 80 ☒

Table 2.5

FDI 100 ☐

Table 2.4

Potential Bushfire Impacts

The potential bushfire impact from each of the identified vegetation plots identified in Figure 2 are identified below. These are taken from table 2.5 AS3959:2018 with the relevant plot assigned. The BAL - 29 for the proximity of the proposed building locations has been used to establish the Asset Protection Zone distances.

Plot	Vegetation classification	Effective slope	Separation Distance (AS 3959:2018 Table 2.5)	BAL
Plot 1	Grassland	Flat/upslope	< 6 m	BAL-FZ
			6 - < 8 m	BAL-40
			8 - < 12 m	BAL-29
			12 - < 17 m	BAL-19
			17 - < 50 m	BAL-12.5
			> 50 m	BAL-LOW
Plot 2	Scrub	Flat/upslope	< 10 m	BAL-FZ
			10 - < 13 m	BAL-40
			13 - < 19 m	BAL-29
			19 - < 27 m	BAL-19
			27 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW
Plot 3	Woodland	Flat/upslope	< 10 m	BAL-FZ
			10 - < 14 m	BAL-40
			14 - < 20 m	BAL-29
			20 - < 29 m	BAL-19
			29 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW

Potential Bushfire Impacts - FDI 80

The potential bushfire impact to each pod from the identified vegetation plots within 100 m are identified below.

Pod 1	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class G Grassland	Flat	0	BAL – FZ

Table 1: BAL Analysis

Pod 2	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class G Grassland	Flat	0	BAL – FZ
2	Class D Scrub	Flat	75	BAL – 12.5
3	Class B Woodland	Flat	0	BAL – FZ

Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level - Pod 1	BAL – FZ
Determined Bushfire Attack Level - Pod 2	BAL – FZ

Pod 1	Vegetation Classification	Effective Slope	Separation (m)	BAL
1*	Class G Grassland	Flat	8	BAL – 29
Pod 2	Vegetation Classification	Effective Slope	Separation (m)	BAL
1**	Class G Grassland	Flat	21	BAL – 12.5
2	Class D Scrub	Flat	75	BAL – 12.5
3	Class B Woodland	Flat	21	BAL – 19

*Recommend that grassland be retained in its current state up to 21 m from the building, to provide an opportunity for regeneration of the area, potentially as forest without affecting the Buildings BAL rating. Grass is to be managed as low threat < 100 mm within 8 m of the building.

**21 m is recommended for the APZ to allow flexibility at the site for regeneration or plantations up to Forest classification.

APPENDIX 2 - APZ Guidelines

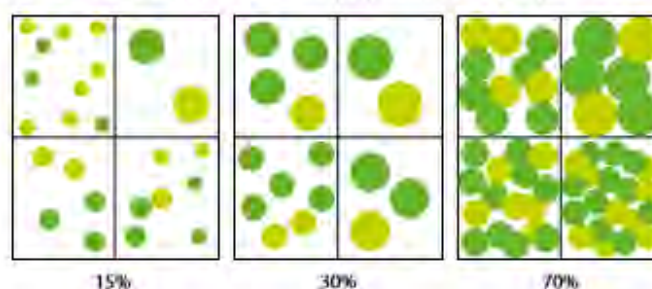
Element 2 – Siting and Design (Guidelines for Planning in Bushfire Prone Areas v1.3)

ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

- **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

APPENDIX 3 - Vehicular Access Requirements

Element 3 – Vehicle Access (Guidelines for Planning in Bushfire Prone Areas v1.3)

Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5

*Refer to E3.2 Public roads: Trafficable surface

E3.5 Private driveway longer than 50 metres

For a driveway shorter than 50 metres, fire appliances typically operate from the street frontage however where the distance exceeds 50 metres, then fire appliances will need to gain access along the driveway in order to defend the property during a bushfire. Where house sites are more than 50 metres from a public road, access to individual houses and turn-around areas should be available for both conventional two-wheel drive vehicles of residents and type 3.4 fire appliances.

Turn-around areas should be located within 50 metres of a house. Passing bays should be available where driveways are longer than 200 metres and turn-around areas in driveways that are longer than 500 metres. Circular and loop driveway designs may also be considered. These criteria should be addressed through subdivision design.

Passing bays should be provided at 200 metre intervals along private driveways to allow two-way traffic. The passing bays should be a minimum length of 20 metres, with the combined width of the passing bay and the access being a minimum of six metres.

Turn-around areas should allow type 3.4 fire appliances to turn around safely (i.e. kerb to kerb 17.5 metres) and should be available at the house sites and at 500 metre intervals along the driveway.

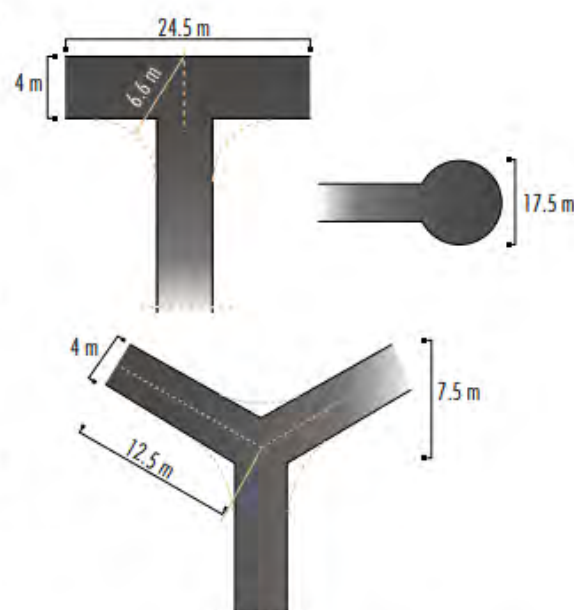


Figure 22: Design requirements for a private driveway longer than 50 metres

Turning areas should allow type 3.4 fire appliances to turn safely

APPENDIX 4 - References

GENERAL REFERENCES

SA Department of Environment and Natural Resources, Government of South Australia, 2012 *Overall Fuel Hazard Guide for South Australia*

WA Department of Planning 2016, *Visual Guide for bushfire risk assessment in Western Australia*

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Western Australian Planning Commission and Department of Fire and Emergency Services (WAPC and DFES) 2017, *Guidelines for Planning in Bushfire Prone Areas Version 1.3*, Western Australia.

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<https://maps.slip.wa.gov.au/landgate/bushfireprone/>>

Office of Bushfire Risk Management (OBRM), Bushfire Risk Management (BRM) Plan Guidelines, viewed February 2021

APPENDIX E | TRANSPORT IMPACT STATEMENT

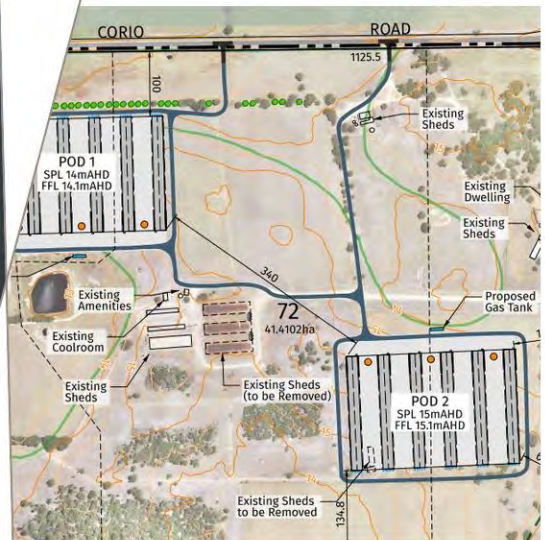
Transport Impact Statement

No. 511 (Lots 71, 72 & 73) Corio Road, Ravenswood - Proposed Poultry Farm Expansion

CW1160600

Prepared for
Fairglen Farms Pty Ltd

4 March 2021



Contact Information

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Our report is based on information made available by the client. The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Cardno is both complete and accurate. Whilst, to the best of our knowledge, the information contained in this report is accurate at the date of issue, changes may occur to the site conditions, the site context or the applicable planning framework. This report should not be used after any such changes without consulting the provider of the report or a suitably qualified person.

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Appendix A WAPC Checklist

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1 Introduction

1.1 Background

Cardno was commissioned by Fairglen Farms Pty Ltd (“the Client”) to prepare a Transport Impact Statement (TIS) for a proposed poultry farm expansion located at No. 511 (Lots 71, 72 & 73) Corio Road, Ravenswood (‘Site’), within the Shire of Murray.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included in **Appendix A**.

1.2 Existing Site Context

The Site is located at No. 511 (Lots 71, 72 & 73) Corio Road, Ravenswood. **Figure 1-1** shows an aerial image of the Site.

Figure 1-1 Aerial Image of Site

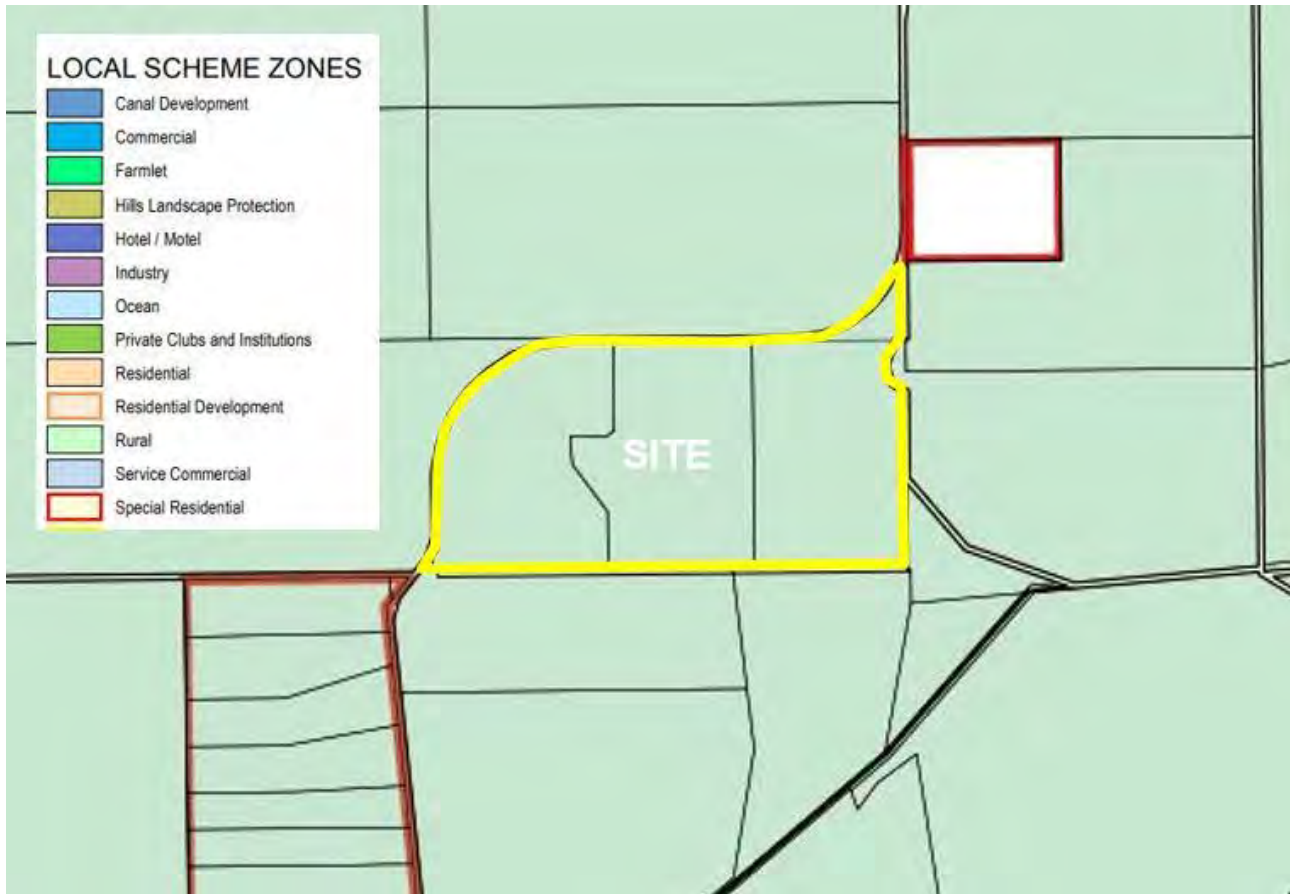


Source: Nearmap (2021)

1.3 Surrounding Land Uses

Pursuant to the *Shire of Murray Local Planning Scheme No. 4* (LPS4), the Site is zoned 'Rural' as shown in **Figure 1-2**. The Site is wholly surrounded by other rural land uses.

Figure 1-2 Shire of Murray Zoning



Source: *Shire of Murray Town Planning Scheme No. 4*

1.4 Existing Road Network

Road classifications are defined in the Main Roads Functional Hierarchy as follows:

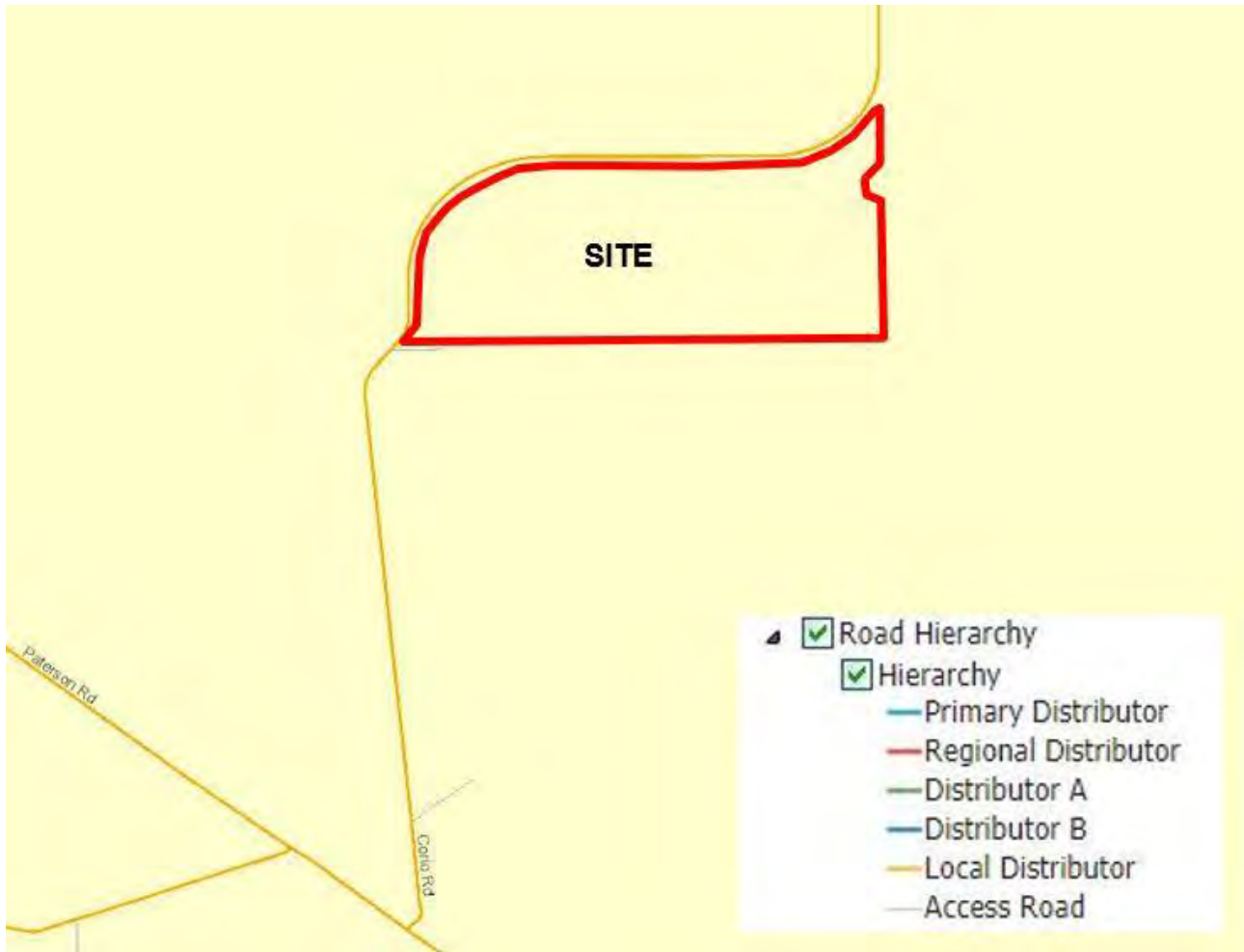
- > **Primary Distributors (light blue):** Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes and all are National or State Roads WA.
- > **Regional Distributors (red):** Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.
- > **District Distributor A (green):** These carry traffic between industrial, commercial and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining properties. They are managed by Local Government.
- > **Distributor B (dark blue):** Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- > **Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local Government.
- > **Access Roads (grey):** Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local Government.

The Site is bounded by Corio Road to the north and west. The surrounding road network is further described in **Table 1-1** and shows the hierarchy as per the Main Roads WA Road Information Mapping System, whilst **Figure 1-3** shows the road hierarchy.

Table 1-1 Road Network Classification

Street Names	Road Hierarchy			Road Network		
	Road Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Width (m)	Posted Speed
Corio Road	Local Distributor	Local Government	2	0	8	80

Figure 1-3 Road Hierarchy



Source: Road Information Mapping System

1.5 Traffic Volumes

Cardno contacted the Shire of Murray to request the most recent traffic count volumes which are included in **Table 1-2**.

Table 1-2 Daily Traffic Volumes

Road Names	Year	Average Weekday Daily Traffic Volume	%HV
Corio Road (Approx. 510m from Paterson Road)	2019	657	-

Source: Shire of Murray

1.6 Crash Assessment

A crash assessment for the surrounding road network of the Site has been completed using the Main Roads WA Reporting Centre and summarised in **Table 1-3** and **Table 1-4**. The assessment covers all the recorded accidents for the 5-year period between 1 January 2015 to 31 December 2019.

Table 1-3 Total Crashes

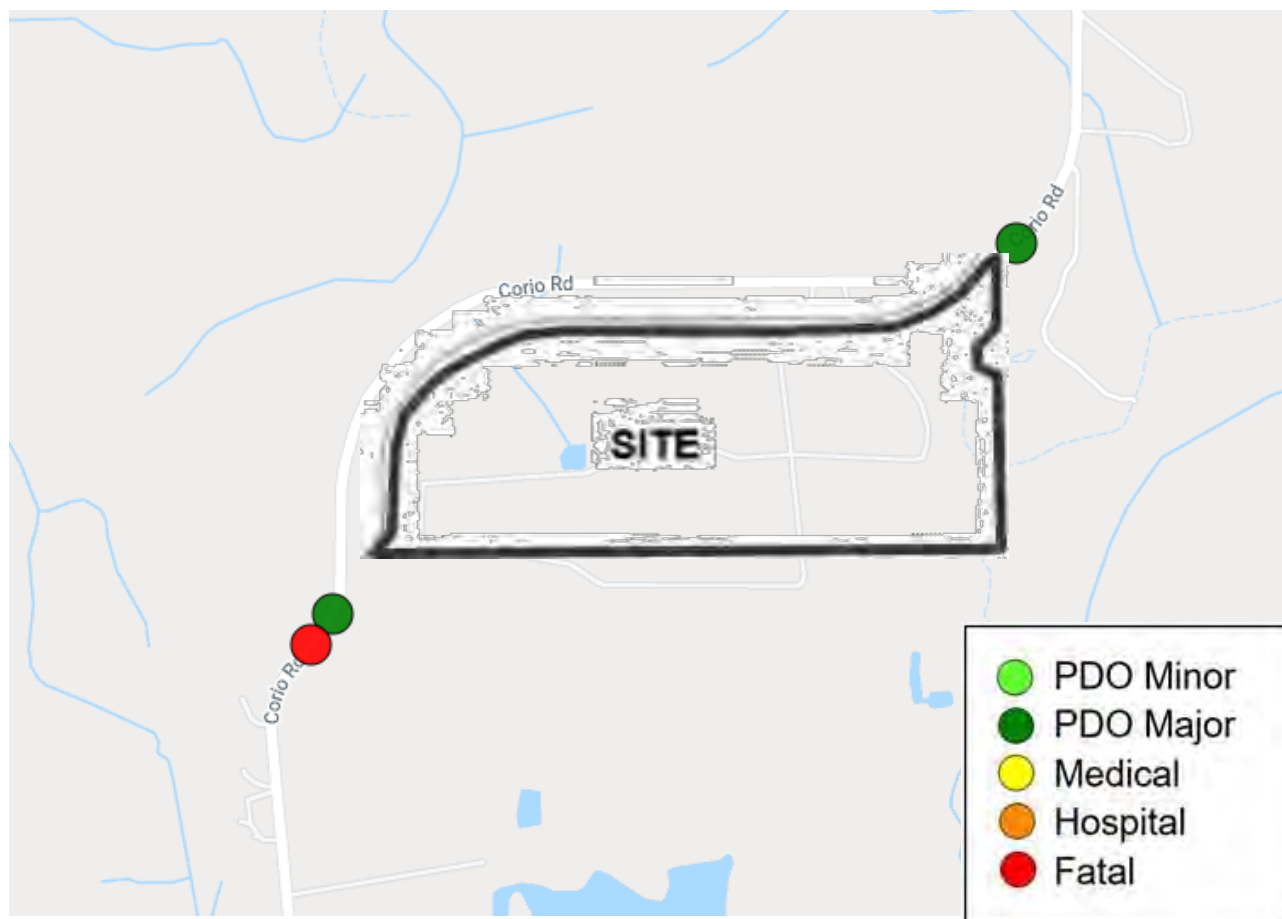
TOTAL CRASHES						
Type of Crash (RUM Code)	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Non-Collision	1	-	-	1	-	2
Hit Animal	-	-	-	1	-	1
Total	1	-	-	2	-	3

Table 1-4 Midblock Crashes

MIDBLOCK CRASHES						
Road Name	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Corio Rd	1	-	-	2	-	3
Total	1	-	-	2	-	3

Figure 1-4 shows the crash locations and their intensity along Corio Road.

Figure 1-4 Crash Locations



A summary of the crash data is as follows:

- > 3 crashes were recorded in total;
- > 2 of the crashes resulted in major property damage;
- > 1 fatality was recorded as a result of a motorcycle veering through a gravel shoulder.

2 Public Transport Facilities

2.1 Existing Public Transport Facilities

The nearest bus stops to the Site are located approximately 9.9km away as shown in **Figure 2-1**. The Australind Train route is serviced from this stop along Railway Avenue and the train stops between Perth and Bunbury Train Station are shown in **Figure 2-2**. Currently the train service is closed due to maintenance issues and is currently being serviced by a substitute TransWA bus service. The train service is expected to resume in 2021.

Figure 2-1 Nearest Transit Stops



Source: Google map (2021)

Figure 2-2 Existing Train Timetable

B02	B56	
Daily	Daily	From Bunbury
AM 6:00	PM 2:45	 Bunbury Passenger Terminal 
6:15	3:02	 Brunswick Junction*
6:31	3:17	 Harvey*
6:39	3:24	 Cookernup*
6:44	3:29	 Yarloop*
6:54	3:38	 Waroona*
7:10	3:55	 Pinjarra*
7:22	4:07	 North Dandalup*
7:34	4:18	 Serpentine*
7:40	4:24	 Mundijong*
7:46	4:32	 Byford*
7:52	4:39	 Armadale Station
8:30	5:15	 Perth Station 

Source: TransWA (2021)

2.2 Future Public Transport Facilities

Cardno contacted the Public Transport Authority and were advised that there are no proposed changes to the network in this area.

3 Pedestrian/Cycle Networks and Facilities

3.1 Existing Pedestrian/Cycle Network Facilities

There is no pedestrian or cycling infrastructure along Corio Road, with the nearest pedestrian footpaths being located 9.9km away in North Dandalup.

3.2 Future Pedestrian/Cycle Network Facilities

Cardno contacted the Shire of Murray and understand there are no proposed changes to the network.

4 Proposed Development

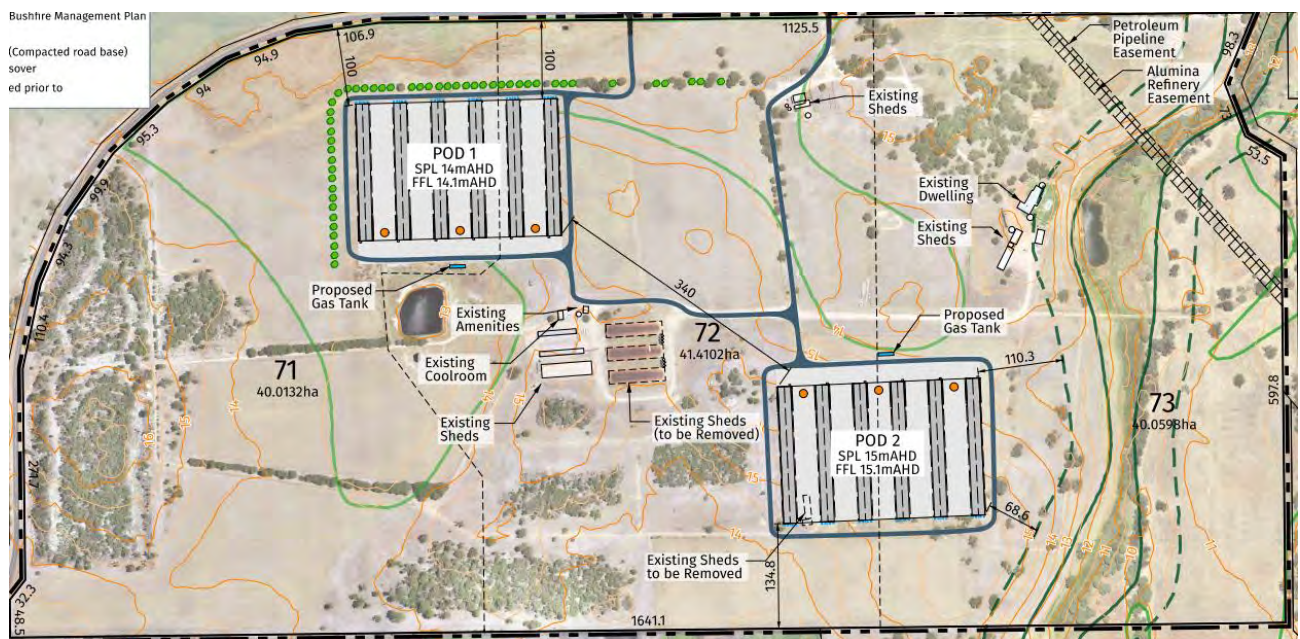
4.1 Proposed Development

The proposed development consists of the following components:

- > 2 pods comprising 6 sheds (12 sheds in total)
- > 2 gas tanks.

The layout of the proposed poultry shed at the Site is shown in **Figure 4-1**. A larger version is included in **Appendix B**.

Figure 4-1 Site Plan



Source: Harley Dykstra

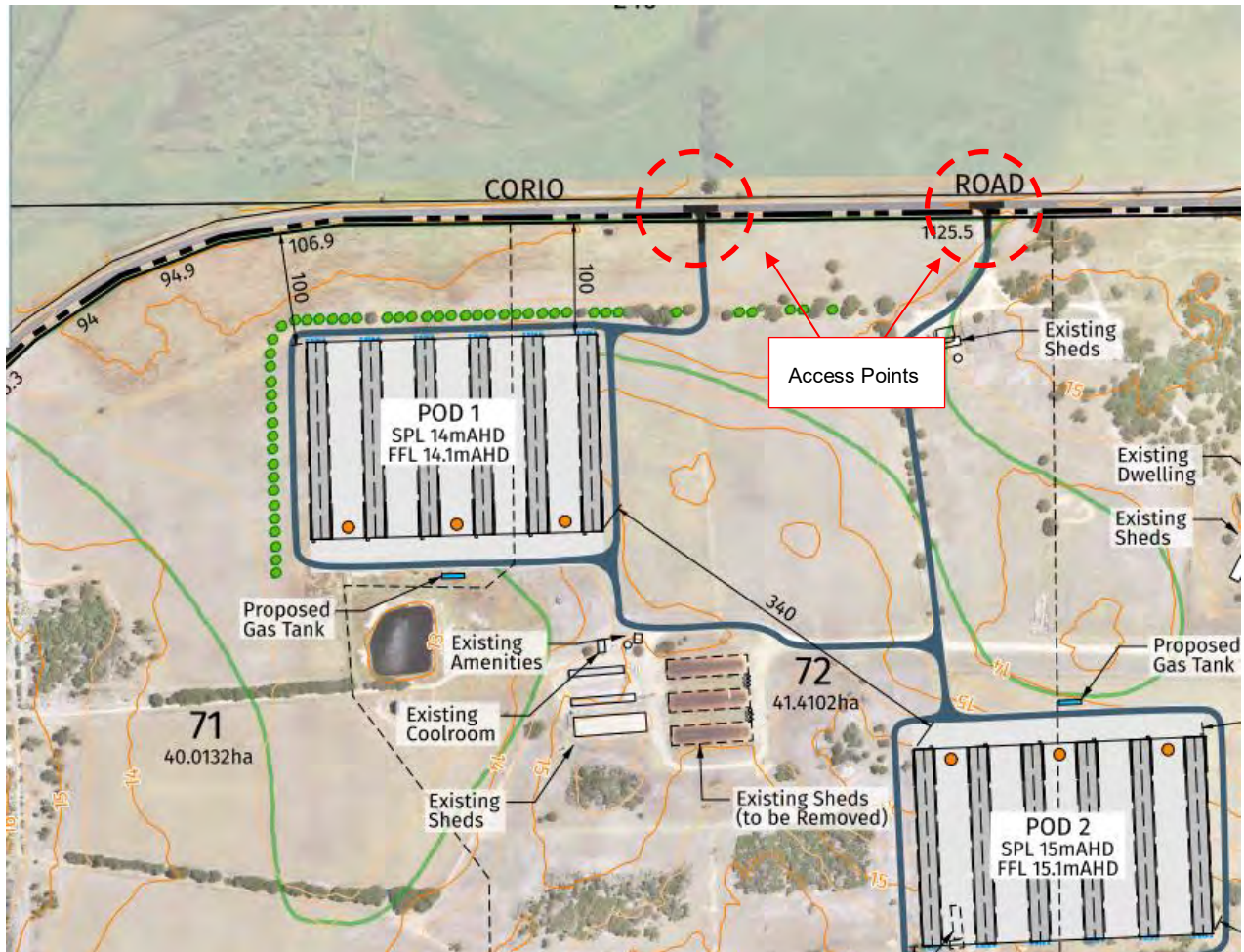
4.2 Operating Hours

The Poultry Farm proposes to operate seven (7) days a week 24 hours a day.

4.3 Access Arrangements

The Site is proposed to be accessed from two crossovers (an existing and new) along Corio Road as illustrated in **Figure 4-2**. Both crossovers are anticipated to be able to facilitate entry and exit into the Site for large heavy rigid vehicles.

Figure 4-2 Access Arrangements



Source: Harley Dykstra

4.4 Sight Lines

To ensure sufficient distance is provided between the proposed crossover (B) and the existing crossover (A), as illustrated in **Figure 4-3**, and to allow drivers to safely react to vehicles slowing down to turn into the Site, a desirable Sight Stopping Distance (SSD) is required to be met. As shown in **Table 4-1**, an extract from *Austrroads Guide to Road Design Part 3: Geometric Design*, the desirable minimum SSD is 151m for a road with a design speed of 90km/h (posted speed + 10km/hr).

As per the *Main Roads WA Supplement to Austrroads Guide to Road Design – Part 4A*, a minimum reaction time of 2.5 seconds is desirable.

Table 4-1 Austrroads Sight Stopping Distance (SSD) Requirements

Design speed (km/h)	Absolute minimum values Only for specific road types and situations ⁽¹⁾ based on $d = 0.46^{(2),(3)}$			Desirable minimum values for all road types based on $d = 0.36$			Values for major highways and freeways in flat terrain ⁽⁷⁾ based on $d = 0.26$	
	$R_T = 1.5 \text{ s}^{(4)}$	$R_T = 2.0 \text{ s}^{(4)}$	$R_T = 2.5 \text{ s}$	$R_T = 1.5 \text{ s}^{(4)}$	$R_T = 2.0 \text{ s}^{(4)}$	$R_T = 2.5 \text{ s}$	$R_T = 2.0 \text{ s}$	$R_T = 2.5 \text{ s}$
40	30	36	–	34	40	45	–	–
50	42	49	–	48	55	62	–	–
60	56	64	–	64	73	81	–	–
70	71	81	–	83	92	102	113	123
80	88	99	–	103	114	126	141	152
90	107	119	132	126	139	151	173	185
100	–	141	155	–	165	179	207	221
110	–	165	180	–	193	209	244	260
120	–	190	207	–	224	241	285	301
130	–	217	235	–	257	275	328	346

Source: Austrroads (2016)

Figure 4-3 illustrates the proposed and existing crossover locations along Corio Road as well as illustrates the sight distance between the two crossovers is approximately 260m. In addition, the sight distance to the west of the proposed new crossover and to the east of the existing crossovers also exceeds the minimum SSD requirements and is considered adequate.

Figure 4-3 Crossover Sight Distance



Source: Nearmap 2021

4.5 Traffic Generation

As this development comprises of a unique land use, trip generation data is not readily available for this land use and therefore, a first principles approach was undertaken to determine the trip generation. The methodology used is detailed below:

- > Information on the anticipated vehicle movements for the development was provided by the client and summarised as follows:
- > Typically, the development operates on a 58-day cycle with truck movements associated with the following operations:
 - Arrival of day-old chickens and new bedding. Day old chicks arrive in trucks and are unloaded by manual labour. As this typically only occurs during the start of each batch, the truck movements for this operation has not been included in the calculation of the trip generation;
 - Gas Delivery. Happens at the start of the growing cycle and during daylight hours;
 - Feed truck deliveries. The feed trucks use a pneumatic motor to unload feed into the silos. The trucks operate for up to twenty-five minutes at a time. The feed truck deliveries become more frequent with the maturing age of the birds;
 - Live bird pickups. During each cycle there are approximately four live bird pickups per shed that operate on average at days thirty-four, thirty-eight, forty-eight and fifty-five. The pickups operate outside of normal business hours and the times vary. The majority of pickups operate within the hours of 8pm to 10am the following morning;
 - Dead Bird Collection. Dead birds are kept in a cool room until the truck comes to collect them; and
 - Removal of Manure. A telehandler is used to load spent litter and manure into either a spreader and loaded into truck and dog combinations for transport to other properties for use as an organic fertilizer.

The “worst-case” scenario is assumed to occur during periods where feed delivery, dead bird collection, live bird collection, litter removal and staff arrivals/departures all occur on the same day.

Table 4-2 below provides a summary of the traffic volumes anticipated for the Site.

Table 4-2 Total Vehicle Movements

Operations	Total Vehicles per day
Bedding and day old chick delivery	13 (not included in trip generation total as this operation only occurs during the beginning of each batch cycle)
Feed delivery	3
Dead bird collection	2
Live bird collection	19
Litter removal	3
6 Staff	6
Total	33 vehicles per day (equivalent to 66 two way trips per day)

An estimated total of 66 daily vehicle trips are anticipated for the Site for the worst case scenario. As the Site operates 24 hours per day, there is no definitive peak period for the Site as there will be vehicles arriving or leaving at any time throughout the day. It should be noted that it is unlikely that the daily number of vehicles estimated would be experienced on this site given the cyclic nature of the poultry farm business processes.

Corio Road is classified as Local Distributor road under the Metropolitan Functional Road Hierarchy which can accommodate desirable traffic volumes of up to 6,000 vehicles per day.

The estimated trips generated by the Site results in traffic flows that are well within the maximum desirable traffic volumes and is consistent with the intended function and amenity of a Local Distributor road.

Based on the estimated trip generation, the Site is anticipated to have no material impact of the surrounding road network.

4.6 Servicing

The largest vehicle anticipated to enter and exit the Site is a 19m Semi-Trailer.

Swept path analysis for this size vehicle are shown in **Figure 4-4**, **Figure 4-5**, **Figure 4-6** and **Figure 4-7**. Larger swept path drawings are attached in **Appendix C**. The results show that the Site can accommodate the design vehicle.

Figure 4-4 Swept Paths at Entrance 1 to the Site

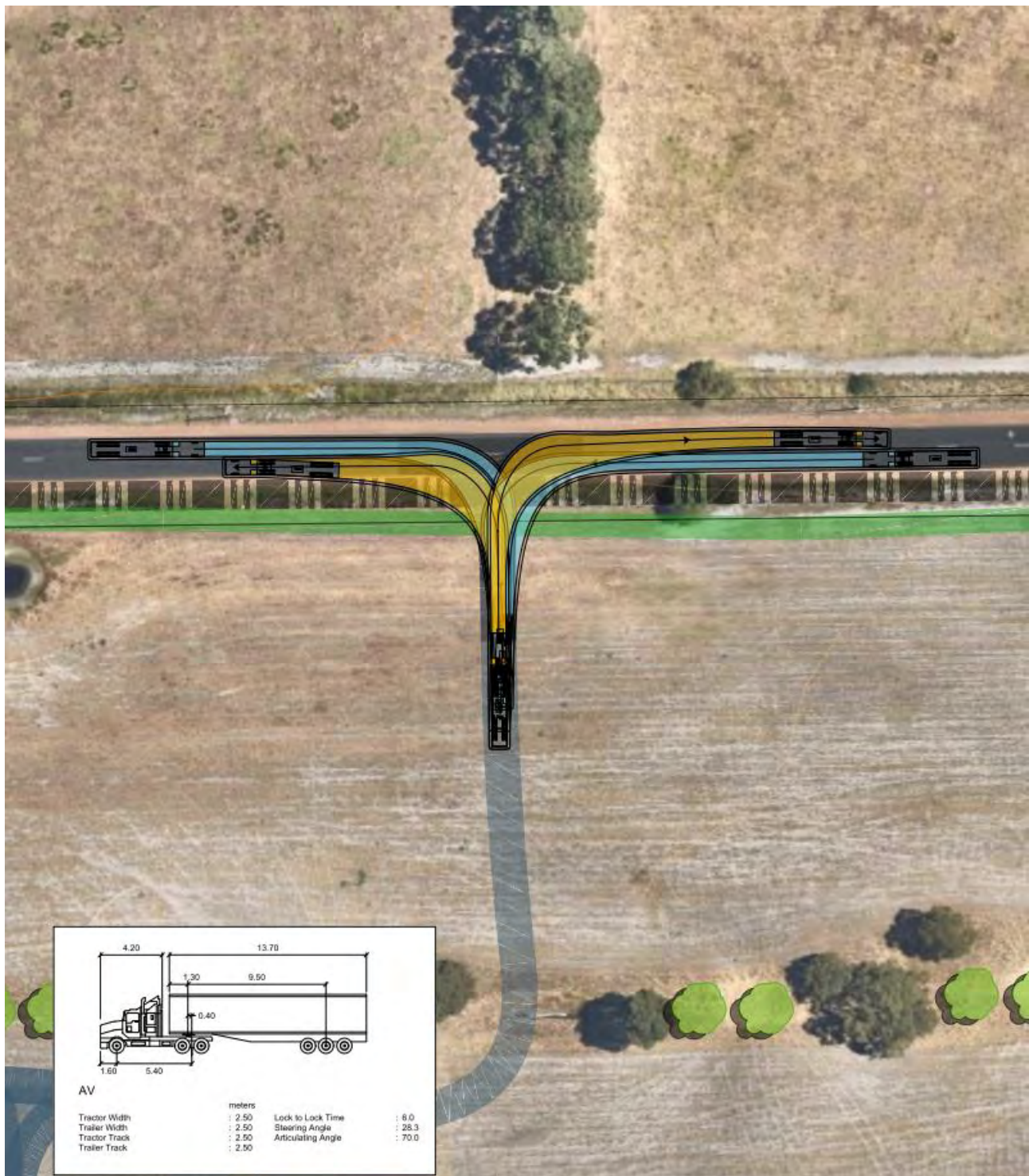


Figure 4-5 Swept Path at Entrance 2 to the Site



Figure 4-6 Swept Paths internal to the site

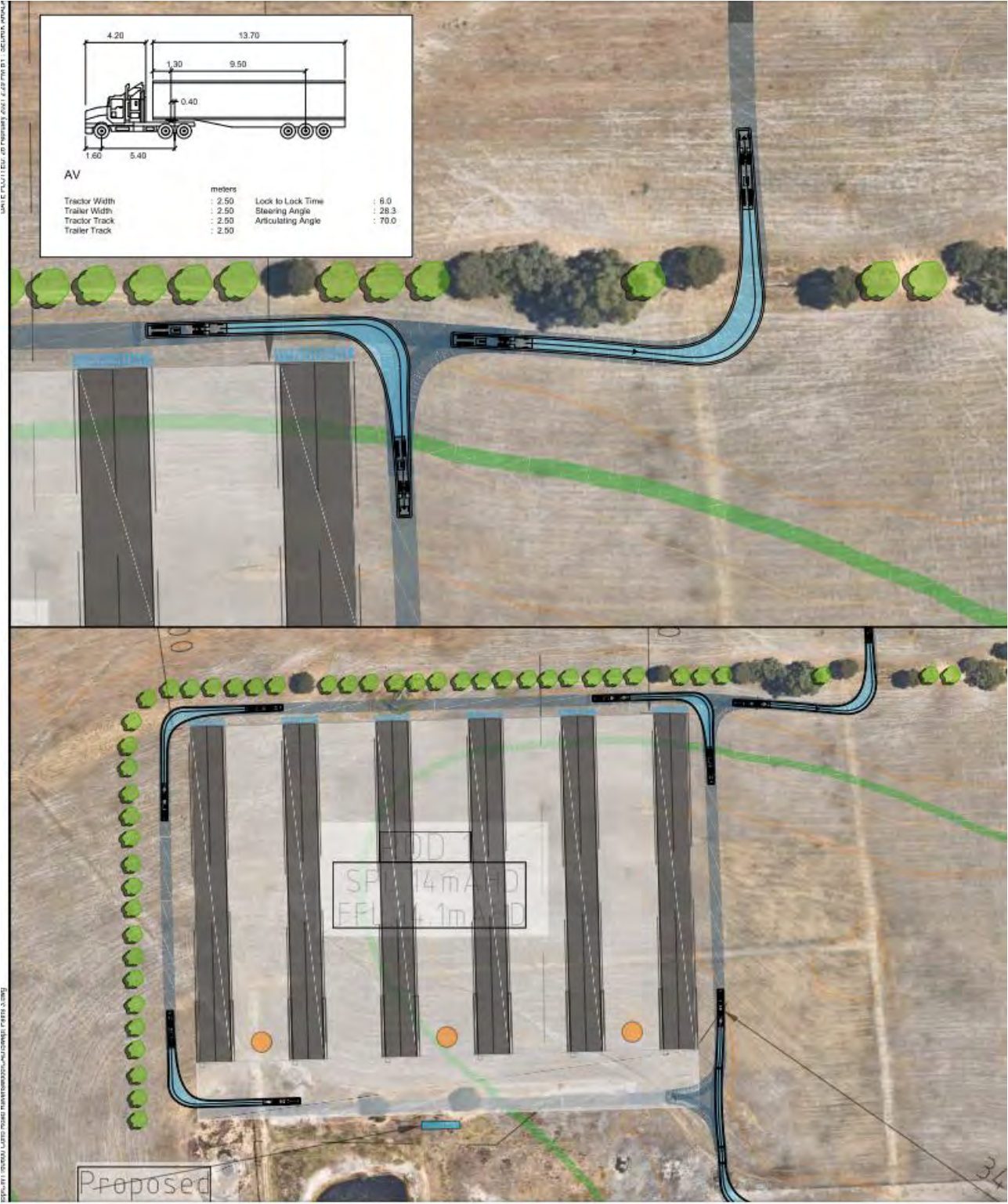


Figure 4-7 Swept Paths internal to the site



5 Parking Supply

5.1 Parking Requirements

The statutory parking requirements, in accordance with the Shire of Murray No. 4 (LPS 4), have been considered in the context of the proposed expansion to this development.

Table II in the Shire's LPS4 – *Non-Residential Development Standards* states:

'Where a use is permitted in a Zone other than that stated in this Table, the Council may apply the standards to that Zone within which the use is proposed as is appropriate'.

Given no car parking standard is specified for Intensive Agriculture, Staff parking will be accommodated in the vicinity of the existing amenities building. Given the large area of suitable parking space available on the site, formal construction and line-marking of parking bays is not considered necessary except where to comply with any legislative requirements.

The provision of on-site parking will be sufficient and adequate to accommodate the requirements of the proposed poultry farm addition.

5.2 Bicycle Parking Requirements

Under the Shire of Murray Local Planning Scheme No. 4, no bicycle parking is required for a Light, General and Service Industry or Stables.

5.3 Staff Parking Arrangements

Given the large area of suitable parking space available on the site, staff parking is expected to be adequately accommodated in the vicinity of the existing amenities building.

6 Summary

This Transport Impact Statement outlines the transport aspects of the proposed development focusing on traffic operations, access and provision of car parking. Included are discussions regarding pedestrian, cycle and public transport considerations.

This statement has been prepared in accordance with the *WAPC Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)*.

The following conclusions are evident about the proposal:

- > The proposal is for an expansion of an existing Poultry Farm Site comprising 2 Pods each comprising 6 sheds (12 sheds in total) and 2 gas tanks;
- > An estimated total of 66 vehicle trip per day are anticipated for the Site for the worst-case scenario. As the Site operates 24 hours per day, there is no definitive peak period for the Site as there will be vehicles arriving or leaving at any time throughout the day. Additionally, traffic volumes generated by the Site will also depend on the operational requirements during the batch cycle.
- > Overall, the Site is anticipated to have no material impact on the surrounding road network and no material impact on the residential amenity.

No. 511 (Lots 71, 72 & 73) Corio Road,
Ravenswood - Proposed Poultry Farm
Expansion

APPENDIX

A

WAPC CHECK LIST

Item	Status	Comments/Proposals
Proposed development		
proposed land use	Section 4	
existing land uses	Section 1	
context with surrounds	Section 1	
Vehicular access and parking		
access arrangements	Section 4	
public, private, disabled parking set down / pick up	Section 5	
Service vehicles (non-residential)		
access arrangements	Section 4	
on/off-site loading facilities	N/A	
Service vehicles (residential)		
Rubbish collection and emergency vehicle access	Section 4	
Hours of operation (non-residential only)		
Traffic volumes		
daily or peak traffic volumes	Section 1	
type of vehicles (e.g. cars, trucks)	Section 1	
Traffic management on frontage streets		
Public transport access		
nearest bus/train routes	Section 2	
nearest bus stops/train stations	Section 2	
pedestrian/cycle links to bus stops/train station	Section 3	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 3	
proposed pedestrian facilities within development	Section 3	
existing pedestrian facilities on surrounding roads	Section 3	
proposals to improve pedestrian access	NA	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 3	
proposed cycle facilities within the development	Section 5	
existing cycle facilities on surrounding roads	Section 3	
proposals to improve cycle access	N/A	
Site specific issues		N/A
Safety issues		
identify issues	Section 4	
remedial measures	N/A	

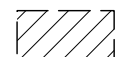
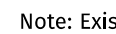
No. 511 (Lots 71, 72 & 73) Corio Road,
Ravenswood - Proposed Poultry Farm
Expansion

APPENDIX

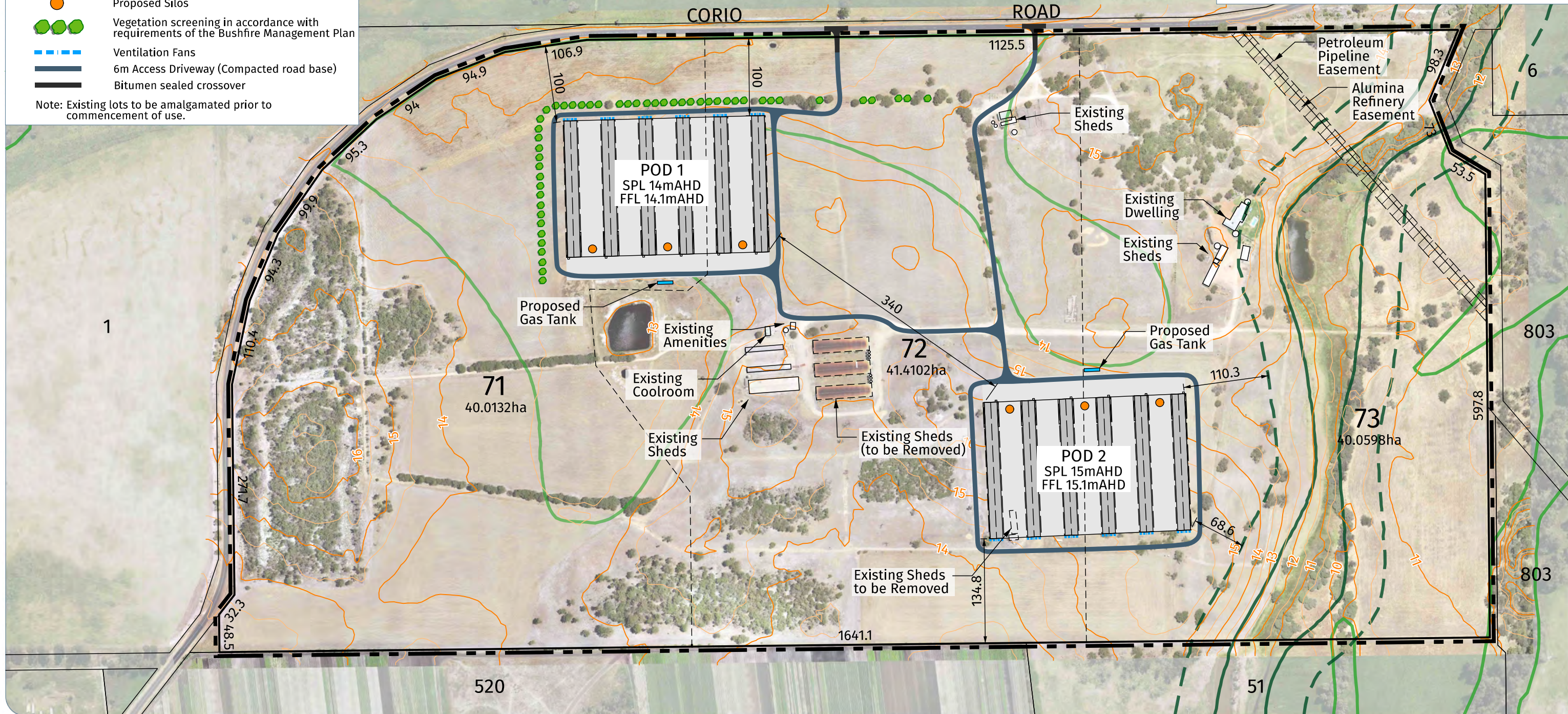
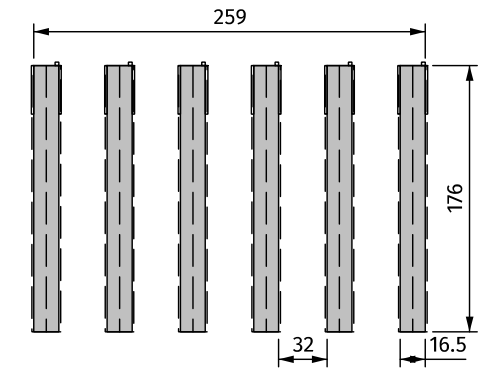
B

SITE PLANS

LEGEND

-  Subject Land (121.4832ha)
 -  Existing Easements
 -  Existing Structures
 -  Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)
 -  Resource Enhancement Wetland
 -  Indicative Resource Enhancement Wetland buffer (30m)
 -  Proposed Poultry Sheds
 -  Proposed Silos
 -  Vegetation screening in accordance with requirements of the Bushfire Management Plan
 -  Ventilation Fans
 -  6m Access Driveway (Compacted road base)
 -  Bitumen sealed crossover
- Note: Existing lots to be amalgamated prior to commencement of use.

POD LAYOUT



DEVELOPMENT SITE PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-01
Date | 18/02/21
Drawn | NP
Checked | BdR
Revision | C

PERTH & FORRESTDALE:
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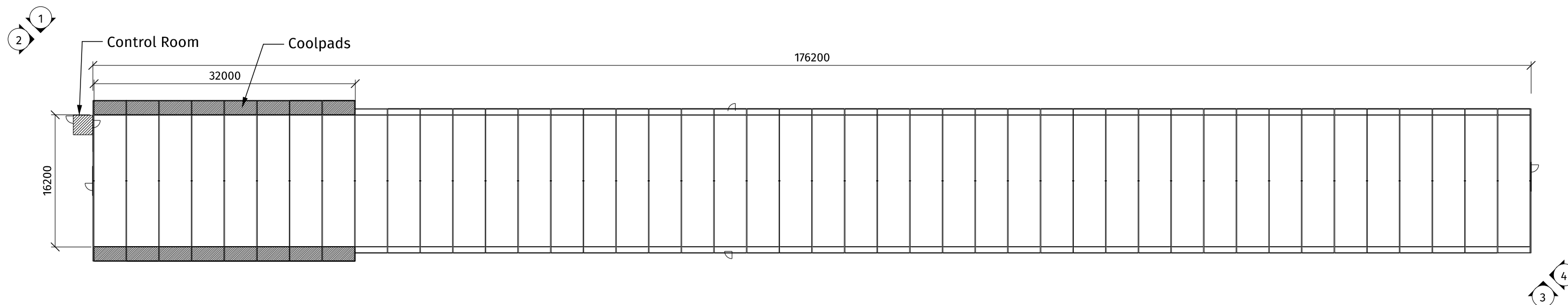
0 50m 100m 150m

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

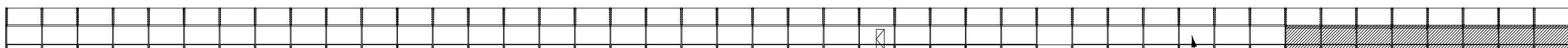


Harley Dykstra

PLANNING & SURVEY SOLUTIONS



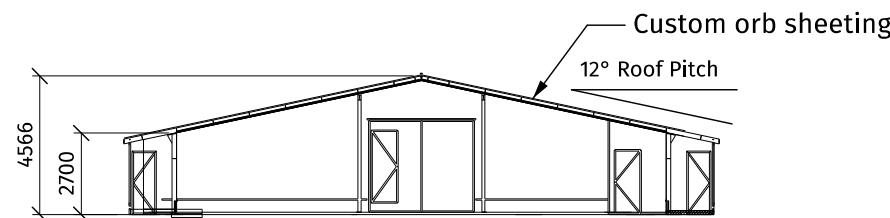
FLOOR PLAN
1:500



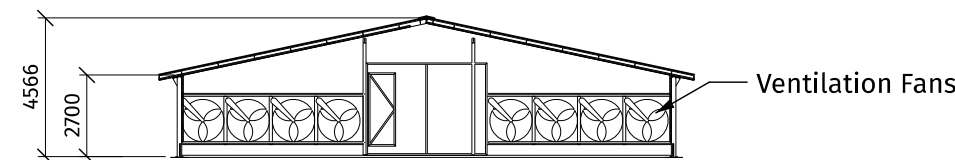
ELEVATION - 1
1:500



ELEVATION - 3
1:500



ELEVATION - 2
1:250



ELEVATION - 4
1:250

NOTE: Design by R&DG Sanday

FLOOR PLAN AND ELEVATIONS

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No.		22533-03	PERTH & FORRESDALE: Lvl 1, 252 Fitzgerald St PERTH WA 6000 15/2 Hensbrook Loop, FORRESDALE WA 6112 T: 08 9495 1947 E: metro@harleydykstra.com.au ALBANY BUNBURY BUSSELTON FORRESDALE PERTH	COPYRIGHT: This document is and shall remain the property of HARLEY DYKSTRA. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.
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Checked		DM		
Revision		A		
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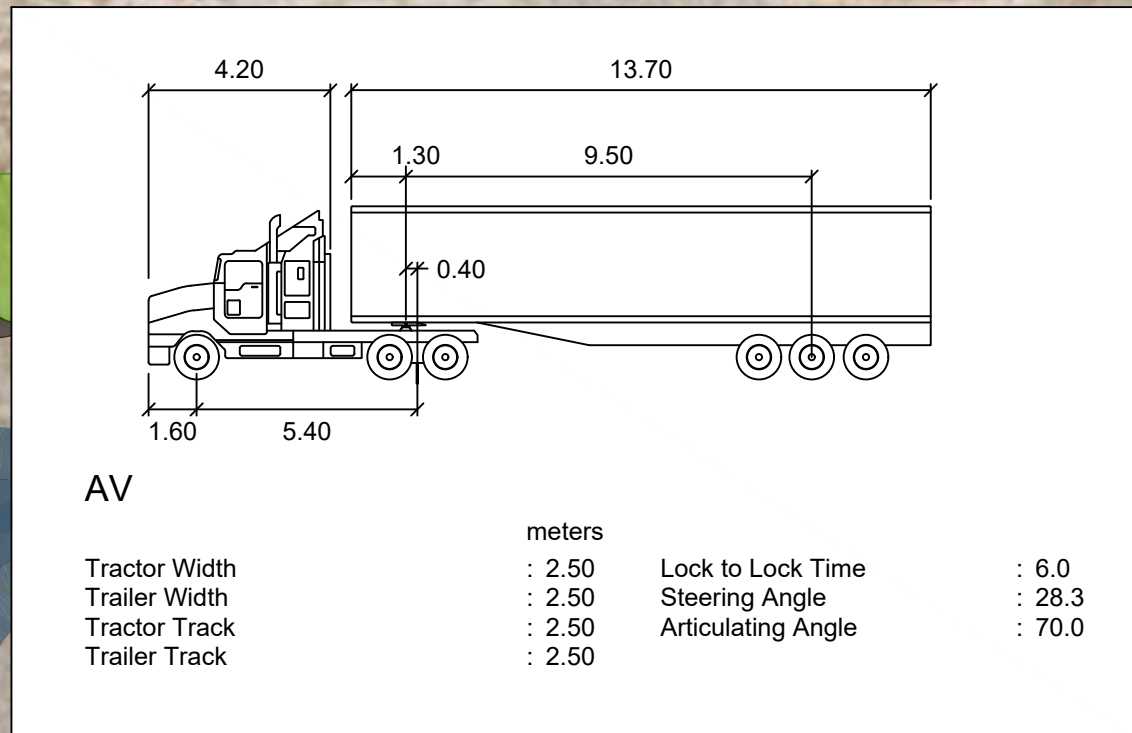
Harley Dykstra
PLANNING & SURVEY SOLUTIONS

No. 511 (Lots 71, 72 & 73) Corio Road,
Ravenswood - Proposed Poultry Farm
Expansion

APPENDIX

C

SWEPT PATHS

[illegible]

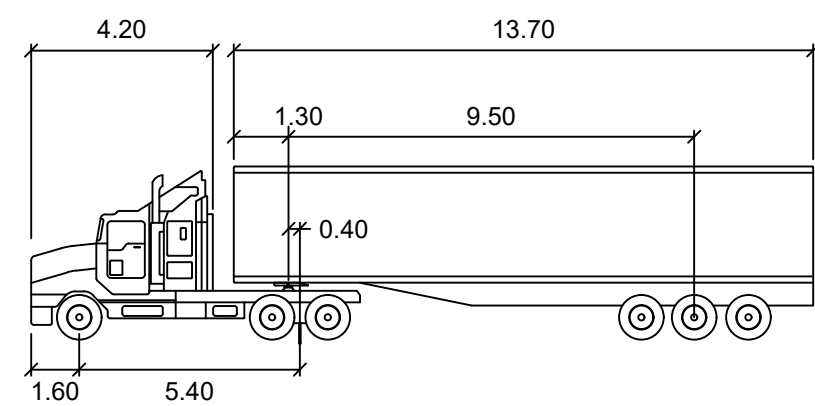
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Designed	####	Date	####
Verified	####	Date	####
Approved			####
	####		####

#	Client	Harley Dykstra
#	Project	Transport Impact Statement
#		Lot 71, 72 and 73 Corio Road Ravenswood
#		CW1160600
#	Title	Swept Path Analysis
#		19m Articulated Vehicle
#		Existing and Proposed Access

PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Status		Scale	Size A1
Drawing Number SK-02		Revision A	



AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



REVISION IN PROGRESS

=					
Rev.	Date	Description	Des.	Verif.	Appd.

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	Verified ####
	Approved ####

Date ####	Client	Harley Dykstra
Date ####	Project	Transport Impact Statement
Date ####		Lot 71, 72 and 73 Corio Road Ravenswood
Date ####		CW1160600
Date ####	Title	Swept Path Analysis
####		19m Articulated Vehicle

Status		PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES	
		Scale	Size
			A1
Drawing Number			Revision
SK-01			A

From: [Lyndon Mutter](#)
To: [Shire of Murray](#)
Cc: [Gregory Delahunty](#)
Subject: P047/2021 - Proposed Expansion of Poultry Farm - Lot 73 (511) Corio Road, Ravenswood
Date: Tuesday, 18 May 2021 4:44:29 PM
Attachments: [image001.png](#)

With reference to your correspondence dated 26 March 2021, the Department of Biodiversity Conservation and Attractions (DBCA) has no comments on the application. While a portion of the property is currently mapped as a Conservation category wetland (CCW) , the area no longer supports wetland values commensurate with a CCW.

Regards,

Lyndon Mutter
Senior Landuse Planning Officer | Swan Region
Parks and Wildlife Service
Department of Biodiversity, Conservation and Attractions
P: (08) 9442 0342; M: 0408 920 985; E: lyndon.mutter@dbca.wa.gov.au

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Office Location: Cnr of Australia II Drive and Hackett Drive, Crawley WA 6609

DBCA_Signatureblock



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Your ref: P047/2021
Our ref: PA041032, RF9821
Enquiries: Nicolene Gault, Ph 9550 4237

Shire of Murray
PO Box 21
Pinjarra WA 6208

Attention: Mary Frances Russell

Dear Mary

**RE: LOT 71, 72 AND 73 CORIO ROAD, RAVENSWOOD – APPLICATION
FOR EXPANSION OF POULTRY FARM**

Thank you for providing the application for the expansion of a poultry farm at Lots 71, 72 and 73 Corio Road, Ravenswood received on 26th March 2021 for the Department of Water and Environmental Regulation (the Department) to consider.

The Department has identified that the proposed development will impact on environment and water resource values and management. The Department therefore objects to the proposal in its current form. Key issues and recommendations are provided below, and these matters must be addressed to the satisfaction of the Department.

Issue

Geomorphic Wetlands

Recommendation

A Conservation Category Wetland (CCW) is located along the northern boundary of the development area. Additionally, there is a wetland classified as Resource Enhancement (REW) within the proposal area.

Within section 5.3 (ii) of the *State Planning Policy 2.9 Water Resources*, its objective is to manage, conserve and enhance the environmental attributes, functions and values of significant wetlands, such as Ramsar wetlands, conservation category wetlands and wetlands identified in any relevant environmental protection policy.

In particular, the location of Pod 1 is proposed to be partially located within the CCW and Pod 2 is also located just outside the mapped boundary of the same CCW as well as in close proximity to the mapped REW, which means within the potential required buffer areas. *The Environmental Code of Practice for Poultry Farms in Western*

Australia (Department of Environment, 2004) states "a minimum vegetated buffer of 200 metres is recommended between the end of the roaming area to any wetland or waterway to prevent the possibility of contaminated soils being carried away during a storm event (pp.42).

The development should manage and mitigate pollutant runoff and ensure appropriate buffers are in place to protect the environmental values of this wetland. For further guidance, please refer to the following documents:

- *Water Quality Protection Note 6 – Vegetated buffers to sensitive water resources* (DWER, 2006); and
- *Guideline for the Determination of Wetland Buffer Requirements* (Western Australian Planning Commission, 2005).

The Department of Biodiversity, Conservation and Attractions (DBCA) is to be consulted with regards to any modifications to the Geomorphic Wetlands Swan Coastal Plain Database (proposed modification of mapped wetland management category and boundaries), set back requirements, and development near these wetlands.

Upon the resolution of the above matter, the Department would like to provide the following advice.

Issue

Peel Harvey Coastal Plain Catchment

Advice

The proponent is to be advised that the proposal is located within the Peel-Harvey coastal plain catchment and the provision of the *Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992* and the *Statement of Planning Policy No 2.1, Peel-Harvey Coastal Plain Catchment* (SPP 2.1) shall apply.

Consistent with SPP 2.1, it is recommended the Department of Primary Industries and Regional Development is consulted regarding this proposal, and any advice regarding stocking rates, nutrient inputs and land management measures are to be adhered to.

Issue

Environmental Code of Practice for Poultry Farms

Recommendation

The Department acknowledges that this development is proposed to be a "closed loop" operation and recognises proposed best management practices. With regards to the siting, setback distances, design and operations, the proposed activity shall comply with the *Environmental Code of Practice for Poultry Farms in Western Australia* (Department of Environment, 2004) and *Code of Practice for Poultry in Western Australia* (Department of Agriculture and Department of Local Government and Regional Development, 2003).

This includes, but not limited to:

- shed location, design and construction including sealed concrete pads,
- management of waste, litter and manure,
- wash down water directed to treatment system,
- storage and handling of toxic and hazardous substances, and
- monitoring and reporting.

In regards to the above, poultry facilities should be established on elevated sites more than 2m above the maximum groundwater level. It does appear to be achievable within this area as LiDAR elevation contours indicate 15m AHD with the Murray Regional groundwater contours indicating 13 -11m AHD.

Issue

Acid Sulfate Soils

Advice

Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a moderate to low risk of ASS occurring within 3 metres of the natural soil surface. The Department advises that a model ASS related condition or advice note is not considered necessary in this instance as there is no indication in the proposal to suggest that dewatering or ground disturbance is proposed.

Issue

Floodplain Management

Recommendation

The Department provides advice and recommends guidelines for development on floodplains with the object of minimising flood risk and damage. Our guiding principles for floodplain management are to ensure that:

- Proposed development has adequate flood protection from a 1 in 100 Annual Exceedance Probability (1% AEP) flood.
- Proposed development does not detrimentally impact on the existing flooding regime of the general area.

The Murray River Flood Study shows that Lots are affected by flooding during major river flows (refer to attached plan). It is recommended that the finished floor level be at least 0.5 m above the 1% AEP flood level.

With regards to this proposal the following comments are provided in regards to major flooding risk:

- The proposed developments on the Lots are acceptable with respect to major flooding;
- the proposed minimum floor levels of ~15.1 m AHD for Pod 2 will provide adequate flood protection;
- The proposed minimum floor level of ~ 14.1 m AHD for Pod 1 will provide adequate flood protection;
- should non-habitable developments be considered acceptable below this recommended floor level it is recommended all electrical installations should be located 0.5 m above the adjacent 1 in 100 (1%) AEP level and suitably insulated;
- The 1% AEP flood level is 12.75 m AHD near Pod 1 and 11.0 m AHD near Pod 2.

Consequently, we have no objections to the proposal with respect to major flooding.

Please note that this advice is related to major flooding only and does not take into account local drainage or groundwater inundation. Other planning issues, such as environmental and ecological considerations, may also need to be addressed.

Issue

Native Vegetation

Advice

Under section 51C of the *Environmental Protection Act 1986* (EP Act), clearing of native vegetation is an offence unless undertaken under the authority of a clearing permit, or the clearing is subject to an exemption. Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside of environmentally sensitive areas (ESAs) are contained in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (the Clearing Regulations).

Proposed clearing outside of the ESA for the buildings is likely to be exempt under Regulation 5, Item 1, however should any clearing be required for the buildings located within the mapped ESA, a clearing permit would be required.

Additional information on how to apply for a clearing permit is available here: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Fact_sheets/Fact_Sheet_-_how_to_apply.pdf

Issue

Groundwater Licence

Advice

The subject area is located in the Murray groundwater area (Nambeelup subarea) as proclaimed under the *Rights in Water and Irrigation Act 1914*. Any groundwater abstraction in this proclaimed area for purposes other than domestic and/or stock watering taken from the superficial aquifer, is subject to licensing by the Department including water to irrigate paddocks.

The Department can confirm that the proponent currently holds a Groundwater Licence for 258,500KL/annum. It should be noted that this groundwater resource is now fully allocated. If the proponent requires additional non-potable water, a source may be secured through either a water trade agreement from another groundwater user in the area, or an alternative water source.

The issuing of a groundwater licence is not guaranteed but if issued will contain a number of conditions that are binding upon the licensee. Please contact the water licensing section on 9550 4222 for further advice.

Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licenses and/or approvals.

In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.

Should you require any further information on the comments please contact Nicolene Gault on 9550 4237.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Brett Dunn', with a stylized, flowing script.

Brett Dunn
Program Manager – Planning Advice
Kwinana Peel Region

05 / 05 / 2021

Lots 71, 72, 73 **Pericho Close** **RAVENSWOOD**

LOCALITY MAP



LEGEND

- Lot 71 72 73 Corio Rd RAVENSWOOD
- FPM Flood Level Points (m AHD)
- 1 in 100 (1%) AEP floodplain
- 1m LIDAR contours (m AHD)
- Road
- Cadastral



0 90 180 270
Metres

Datum and Projection Information

Vertical Datum: AHD71
Horizontal Datum: GDA94
Projection: MGA250
Spheroid: GRS80

Project Information

Client: Nicolson Gault
Map Author: Renee Dixon
Task ID: 9531
Compilation date: 12/04/2021
Edition: Version 1

SOURCES

The Department of Water acknowledges the following datasets and their custodians in the production of this map.

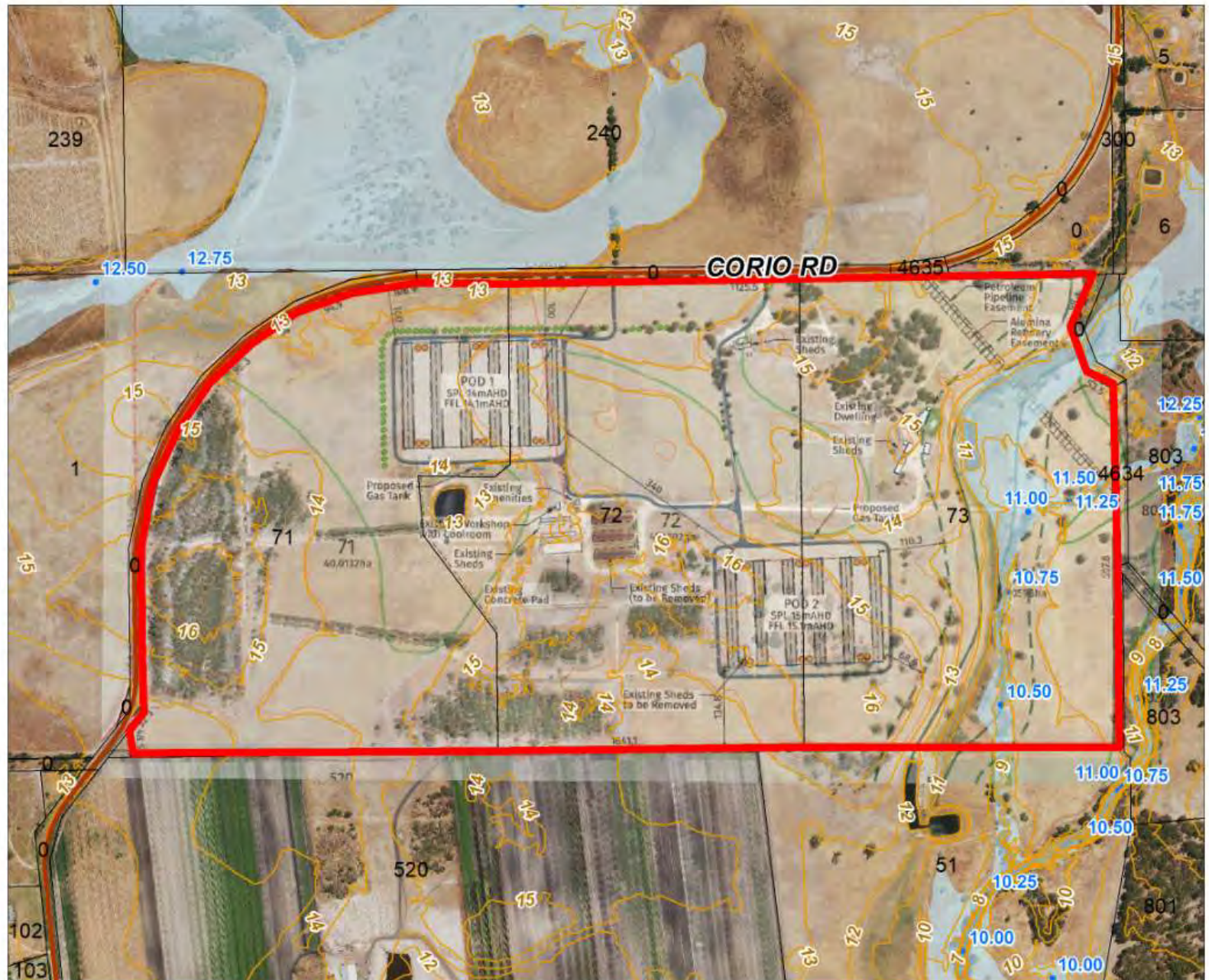
Road Centrelines, DLI - Landgate - 01/02/2019
Spatial Database/Database - Landgate - 01/02/2017
Browns Plains South 15cm - Landgate 17



Government of Western Australia
Department of Water and Environmental Regulation

This map is a product of the Department of Water and Environmental Regulation.
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While the Department of Water and Environmental Regulation has made every effort to ensure the accuracy of this data, the Department accepts no responsibility for any inaccuracies and persons relying on this data do so at their own risk.



From: [Jane Sturgess](#)
To: [Gregory Delahunty](#)
Subject: RE: FW: P047/2021 - Proposed Expansion of Poultry Farm - Lot 73 (511) Corio Road, Ravenswood
Date: Thursday, 3 June 2021 11:50:03 AM
Attachments: [image001.jpg](#)
[image002.jpg](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.jpg](#)
[image007.jpg](#)
[image008.jpg](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)
[image012.png](#)

Hi Greg,

Advice from our Waterways Policy officer is that once the *draft Wetland Evaluation of the Swan Coastal Plain dataset* is approved, the wetland will be reclassified from CCW to MU wetland (unless the DBCA, being the custodians of the existing *Geomorphic Wetlands Swan Coastal Plain dataset*, updates the mapping in the meantime). The revaluation of the wetland is indicative of the few remaining attributes, functions and values for a MU wetland. The objective would then be to manage water resources in the catchment (ie ensuring there is adequate separation to groundwater, finished floor levels of the sheds to be at least 0.5 m above the 1% AEP flood level, nutrient management, etc). A 200m buffer would not be required.

Thanks Greg and any issues, feel free to call.

Regards,

Jane

Jane Sturgess

Senior NRMO

Planning Advice

Kwinana Peel Region

Please note I am available Mon-Wed, and Thurs & Fri 9am to 2.30pm

[Department of Water and Environmental Regulation](#)

107 Breakwater Parade, MANDURAH WA 6210

PO Box 332, MANDURAH WA 6210

T: (08) 9550 4228

E: jane.sturgess@dwer.wa.gov.au | www.dwer.wa.gov.au

Twitter: [@DWER_WA](#)

From: Jane Sturgess

Sent: Thursday, 3 June 2021 10:09 AM

To: Gregory.Delahunty@murray.wa.gov.au

Subject: RE: FW: P047/2021 - Proposed Expansion of Poultry Farm - Lot 73 (511) Corio Road, Ravenswood

Hi Greg

I have been dealing with this one while Nicolene is on leave.

Arran from DPLH had a query too about the wetland mapping and associated native veg requirements. I'm just waiting on some further advice from head office and I'll get back to you shortly.

Regards,

Jane

From: Gregory Delahunty <Gregory.Delahunty@murray.wa.gov.au>

Sent: Thursday, 3 June 2021 9:27 AM



Department of
Primary Industries and
Regional Development

Your reference: P047/2021

Our reference: LUP 1056

Enquiries: Heather Percy

Attention: Greg Delahunty
Manager Planning Services

Dean Unsworth
Chief Executive Officer
Shire of Murray
mailbag@murray.wa.gov.au

Date: 12 May 2021

Dear Dean

P047/2021 - Proposed Expansion of Poultry Farm - Lot 73 (511) Corio Road, Ravenswood

Thank you for inviting the Department of Primary Industries and Regional Development (DPIRD) to comment on the proposed expansion of the poultry farm at Lot 73 (511) Corio Road, Ravenswood and for the time extension.

DPIRD does not object to the proposal. The application has satisfactorily addressed most of the requirements set out in section 7.1 of the Environmental Code of Practice for Poultry Farms in Western Australia (Code of Practice) with some exceptions as described below.

Closed system poultry farms require a two metre separation to groundwater

The Code of Practice states on "*a well-run poultry farm, all nutrient-rich material that is produced is effectively contained until removal off-site*", indicating a preference for a 'closed system' of nutrient management. It then states that to "*ensure all nutrient-rich material can be contained, poultry facilities should be established on elevated sites, more than two metres above the maximum recorded groundwater table*" (p 13).

The Code of Practice requires that broiler sheds in Western Australia are constructed on a concrete base or an otherwise impermeable layer and that poultry sheds are located at least two metres above maximum groundwater level.

The 2014 National Environmental Management System for the Meat Chicken Industry¹ is consistent with WA's Code of Practice on groundwater management stating:

- *Meat chicken farms should not be located on areas with shallow groundwater.*
- *The base of sheds, spent litter storage areas and carcass disposal pits should be at least 2 m above the water table at all times.*
- *The base of sheds, spent litter storage areas and carcass disposal pits should be adequately sealed by compacting with clay or other suitable material to prevent leaching of nutrients. Highly vulnerable sites may require the construction of a concrete base. Appropriately constructed shed floors will aid in shed clean out. (p A22)*

The proponent's application argues that the two metre separation is not required as the proposal is a closed system and proposes fill will be used to achieve a minimum of one metre. DPIRD does not agree and recommends the location or design of the pods and sheds is changed to achieve the required two metre separation. Additional fill may require additional planning or environmental approvals.

Buffer to wetlands

The Code of Practice states that "*As a guide, a buffer of no less than 50 metres (measured from each poultry shed to the outside edge of wetland/waterway fringing vegetation) is required provided there is adequate fringing nutrient filter vegetation, and suitable design and management measures are proposed. Where fringing vegetation has been cleared, revegetation with appropriate local native species is required.*"(p 13).

While the proposal meets the 50 m buffer requirement, the buffers to waterways and wetlands needs to include revegetation with appropriate native species.

Waste Management Plan

The Code of Practice recommends proposals include a Waste Management Plan. Information on disposal methods for litter and dead birds and information about the licensed waste disposal facilities is required and could form part of a Waste Management Plan for the facility.

Stormwater and drainage

The 12 tunnel sheds will increase runoff onto the pod areas especially during storm events. The application does not describe how the extra runoff and stormwater will be managed to mitigate waterlogging and localised inundation. The Manual of Good Practice for the Meat Chicken Industry (Part A), in the National Environmental Management System for the Meat Chicken Industry, includes a section on surface water management. A Stormwater Management Plan is recommended for the proposal.

Accidental spray drift

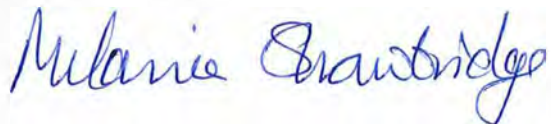
DPIRD recommends the proponent assess and mitigate potential accidental pesticide spray drift from the vegetable farm immediately south of the proposed sheds.

¹ Rural Industries Research and Development Corporation (2014) *National environmental management system for the meat chicken industry – version 2* Publication No. 14/100 Project No. PRJ-005765

Attachment 1 compares the contents of application and Environmental Assessment and Management Plan to section 7.1.

For more information, please contact Ms Heather Percy on 9780 6262 or heather.percy@dpird.wa.gov.au

Yours sincerely



Dr Melanie Strawbridge
**Director Agriculture Resource Management Assessment
Sustainability and Biosecurity**

Attachment 1: Comparison of application with the 2004 Environmental Code of Practice For Poultry Farms in Western Australia -Appendix 7.1 and Table 1

Attachment 1: Comparison of application with the 2004 Environmental Code of Practice For Poultry Farms in Western Australia - Appendix 7.1 and Table 1

7.1 Information required for poultry farm proposals	Included in application
In submitting an initial proposal to a local council (and government agencies if required) the following information should be provided:	
a) A brief description of the project, including land area, number and type of vehicle movements and the maximum number of poultry to be held at any time;	Yes described in application and in greater detail in the Environmental Assessment and Management Plan.
b) A plan of the property on which the farm is to be located, showing site access, parking/loading areas, setbacks from boundaries, shed dimensions, the location of existing facilities and proposed improvements including waste treatment and disposal facilities;	Yes – development site plan
c) A map showing any neighbouring dwellings within 1000 metres of the site, any patches of remnant vegetation, any bores, wells, wetlands (Conservation Category Wetlands or wetlands listed in Environmental Protection Policies), surface water, drains or water courses within 500 metres of the shed or enclosure;	Yes – DPIRDs Native Vegetation extent (Plate 8); wetlands and waterway Environmental Features (Figure 2)
d) A description of land form, soil types and contours (or details of land slope) and (if applicable) groundwater depth, quality and flow direction	Yes –DPIRD soil landscape mapping (Figure 3), phosphorus export hazard (Plate 2) and waterlogging risk (Plate 3) mapping; Contours on Environmental Features (Figure 2) and development site plan; 2.8 Water features and groundwater including Bores and soaks (Plate 5) and water information network bores (Plate 6); Groundwater levels at 61410639 (Plate 7).
e) Details of on-site drainage, waste and stormwater handling facilities. This should include details of rainfall, evaporation, infiltration and run-off factors. Data is available from the Bureau of Meteorology and <i>Australian Rainfall and Runoff</i> , published by the Institution of Engineers Australia;	Yes -climate data including rainfall and evaporation data; Gap - No information about runoff and stormwater from the additional sheds in Pods 1 and 2.
f) Identification of 1 in 100 year flood level (generally available from Department of Environment), or areas of flood prone land;	Gap – flood risk not discussed. Located in GHD Peel Food Zone maps
g) A Waste Management Plan, detailing waste quantities produced, the method of treatment, recycling and disposal;	Some information about waste included in section 4.3 Nutrient and waste management; More information about the proposed waste disposal methods and appropriate approvals for waste disposal contractor.
h) Details of any land area to be used for waste disposal and a description of the land form; and	Not applicable as on-site disposal not proposed
i) Identification of any aboriginal archaeological sites or other significant areas.	Section 2.10

The information provided does not have to be professionally drafted, but must be clear, unambiguous and provide an understanding of the proposed treatment and control methods.

Proposals to establish or expand an existing poultry farm in sensitive environments will require additional information. This information ensures that all aspects of nutrient and waste management are considered.

Other information	Included in application
Some recognised sensitive environments include:	
Waterway systems protected by the <i>Waterways Conservation Act 1976</i>, e.g. the Avon River,	Not applicable
Peel-Harvey and Swan-Canning catchments;	Reference made to Statement of Planning Policy (SPP) No. 2.1 Peel-Harvey Coastal Plain Catchment
Lakes and wetlands subject to policy protection under the <i>Environmental Protection Act 1986</i> e.g. the Yalgorup Lakes catchment, incorporating Lakes Clifton and Preston, the Peel	Not applicable
Inlet - Harvey Estuary Environmental Protection Policy area;	Reference made to Statement of Planning Policy (SPP) No. 2.1 Peel-Harvey Coastal Plain Catchment
Public and private drinking water sources;	Not applicable
Wetlands with recognised conservation values; and	Conservation and resource allocation wetlands mapped with greater than 50 m buffers
Waterways with significant ecological, commercial or recreational value.	Not applicable
Other generic environments regarded as sensitive:	
Land subject to seasonal flooding; and	Not discussed, water risk map included
Locations with buffer distances less than those shown in Table 1.	Buffers considered but required 2 metre separation to watertable is not achieved in current proposal – use of fill to provide 1 metre separation only.

Table 1 Recommended minimum buffer distances

Facility	Poultry sheds (same farm operator)	Poultry sheds (different farm operator)	Existing or future residential zone	Existing or future rural residential zone	Farm boundary	Water supply bores	Wetlands, waterways and floodways [#]	Water table
New poultry sheds	20m (less than this distance is acceptable for tunnel sheds)	1000m	500m	300m	100m	50m from discharge area	50m	2m
New free to range sheds <i>(buffer starts 20 m outwards from the shed perimeter)</i>	20m between enclosures	1000m	500m	300m	100m	50m	200m	3m
Manure storage compounds * <i>(construction in accordance with Figure 5)</i>	300m	1000m	500m	300m	100m	50m	50m	2m
Burial of dead birds <i>(where permitted) (buffer starts from closest edge or base of burial pit)</i>	N/A	N/A	N/A	N/A	N/A	100m	50m	3m
Manure/litter application to land <i>(in accordance with recommendations – see Appendix 7.4)</i>	20m	100m	500m	300m	50m	50m	50m	2m

* Integrators may negotiate some of these buffers

Recommended minimum distance to adequately vegetated buffer, actual buffer should be determined using biophysical criteria.

Notes:

1. Sources of data: Statement of Planning Policy No. 4.3 – Poultry Farms Policy (1998), Water Quality Protection Note – Poultry Farms in PDWSA, Water Note – Wetland Buffers, Consensus view presented by working party.
2. N/A means not applicable.



5th May 2021

APA Reference: 448755
Your Reference: 616-245-1

Western Australian Planning Commission
Gordon Stephenson House
140 William Street
PERTH WA 6000

EMAIL OUT: : referrals@planning.wa.gov.au

Dear Luke

RE: Proposed development at 511 Corio Road, Ravenswood
Application No. 616-245-1

Thank you for your referral request received on 6th April 2021 in relation to the proposed development at the above mentioned site.

APA Group (APA) is Australia's largest natural gas infrastructure business and has direct management and operational control over its assets and investments. APA's gas transmission pipelines span across Australia, delivering approximately half of the nation's gas usage. APA owns and operates over 15,000km's of high pressure gas transmission pipelines across Australia. APA is the Pipeline Licensee for the Parmelia Gas Pipeline which runs diagonally in the north eastern corner of the subject site.

APA's Role

As a Licensee under the Petroleum Pipelines Act 1969 (WA), APA is required to operate high pressure gas transmission pipelines (HPGTP) in a manner that minimises adverse environmental impacts and protects the public and property from health and safety risks. Once a HPGTP is in place, APA is required to constantly monitor both the pipeline easement and also a broader area within which we are required to consider land use changes and development and to assess what such changes means to the risk profile of the HPGTP.

APA has a number of responsibilities and duties to perform under a complex framework of legislation, standards and controls across Federal, State and Local Government landscapes. In particular, our HPGTPs are required to be operated in accordance with Australian Standard 2885 (Pipelines – Gas and Liquid Petroleum) (AS2885). In discharging our regulatory responsibilities, APA needs to continuously review what is happening around its assets, what land use changes are occurring and what development is taking place to ensure it remains in a position to comply with applicable operational and safety standards and legislation whilst meeting its commercial obligations and imperatives.

Safety Management Study (Pipeline Protection Plan)

AS2885 requires a Safety Management Study (SMS) to be undertaken whenever the land use classification of land within the ML. The purpose of an SMS is to assess the risk associated with a

change in land use, including both construction risks and ongoing land use risks. The SMS will also develop appropriate controls to reduce risks to 'as low as reasonably practicable' (ALARP).

It is APA's assessment that the proposed development of the two sheds will not require a Pipeline Risk Assessment.

Comments

On the basis of the information provided, APA does not object to the proposal subject to the following condition and advisory notes being included within any approval issued for the proposal:

Conditions:

1. No works within the Pipeline easement are to be commenced without an APA representative onsite.
2. No stockpiles or storage of material is to be stored on the gas pipeline easement at anytime.
3. All plans which include the area of the gas pipeline must have the pipeline easement clearly identified with hatching. The area must also be clearly labelled as '*high pressure gas pipeline right of way – no works to occur without the prior authorisation of the pipeline operator*'.

Notes

- If you are planning on undertaking any physical works on property containing or proximate to a pipeline, or are seeking details on the physical location of a pipeline, please contact Dial Before You Dig on 1100, or APA directly on APAprotection@apa.com.au

For any further enquiries in relation to this correspondence, please contact myself on (+61) 425 070 212 or APA's Infrastructure, Planning & Approvals team by email at PlanningWA@apa.com.au

Yours faithfully,



Zijad Bajrektarevic
Urban Planner & Projects Approval
Infrastructure Planning & Approvals
APA Group



31 May 2021

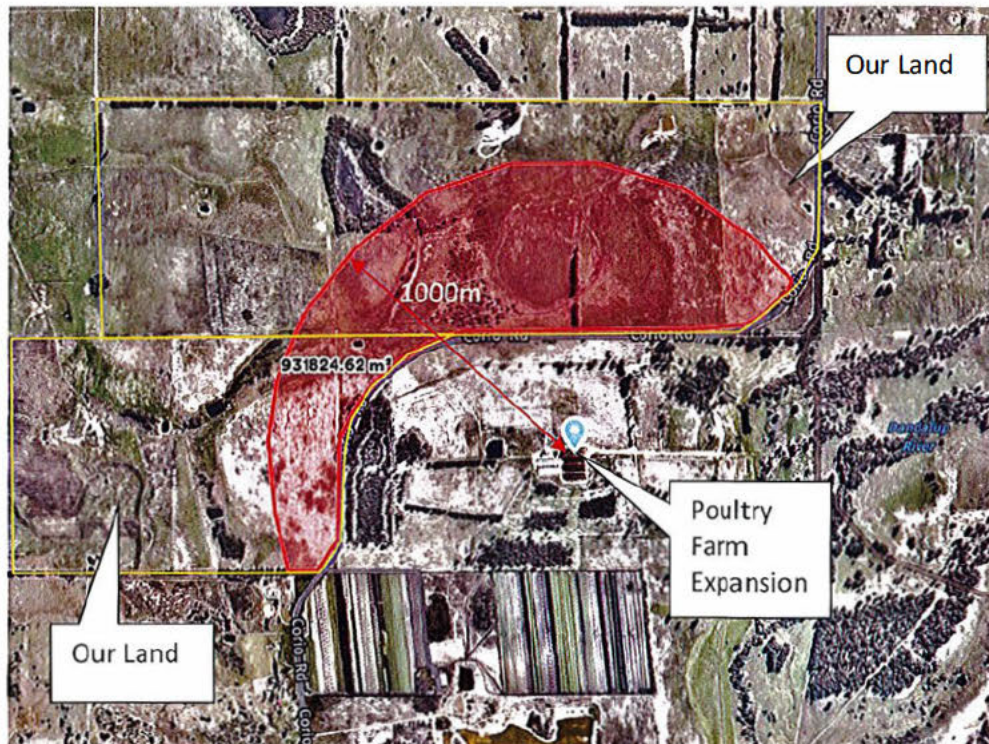
Presiding Member
Metro Outer Joint Development Assessment Panel
Department of Planning, Lands and Heritage
Locked Bag 2506
PERTH WA 6001

OBJECTION AGAINST APPLICATION FOR EXPANSION OF POULTRY FARM – LOTS 71, 72, 73 CORIO ROAD, RAVENSWOOD (DAP APPLICATION REFERENCE: DAP/21/01966)

It has come to my attention that the Shire of Murray has received a JDAP Application for Expansion of Poultry Farm on the subject site. The Shire has **NOT** consulted any affected landowners in the area citing the proposal does not require advertising under its Local Planning Scheme.

As an affected landowner on Corio Road, I **object strongly** to the proposed poultry farm expansion for the following reasons:

- The proposal is a poultry industry that will require a buffer distance of 1000m (or 1km) under the Department of Water and Environmental Regulation' Regulatory Framework from sensitive receptors. The poultry farm expansion will have a huge impact on our land and will sterilise our land within 1000m from the proposed chook farm as indicated below:





- As indicated on the diagram, 93 hectares of our land will be impacted and quarantined from development. This is an extensive area on one landowner and is totally unacceptable.
- It is deplorable that the poultry farm expansion will affect us and prevent us from building a single residence on each of our property, which we are entitled to.
- The poultry farm expansion will impose unreasonable restrictions on our land on how and when we can to use it. It is wrong, unfair and unjust for the Shire and JDAP to consider the proposal for the benefit of a single business by a single operator, all at the expense of all the other surrounding and adjoining landowners.
- The Nambeelup area is fast becoming an important Peel Food Zone through the Transform Peel initiative. A wide range of land use sensitive to emissions from the poultry farm will be prohibited and inconvenienced. The following list of land uses are all permitted discretionary uses that can be approved in the Rural Zone; however, the poultry farm expansion will eliminate nearly all of them thereby removing the all-important range of services that could otherwise be provided in the growing area.

Ancillary Accommodation
Home Office
Single House
Camping Area
Licensed Restaurant
Café
Vet Hospital
Research Centre

Caretaker's Dwelling
Home Occupation
Chalet Park
Bed and Breakfast
Winery
Family Day Care Centre
Rural Produce Stalls

Home Business
Rural Worker's Dwelling
Caravan Park
Park Home Park
Shop
Vet Centre
Cattery

Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to particular emissions may also be considered 'sensitive land uses'

- The proposed poultry farm expansion is significant given it is approximately \$12m and will effectively prevent the permissible services (identified above) within 1000m from the poultry farm operation.
- In fact, a prospective community group Regional Regeneration Alliance who was seeking to build the 'Peel Regeneration Hub' – a place that supports the most vulnerable people in the Peel community, namely disadvantaged and disengaged youth on our land was turned away by the Shire. It was for a good cause that will build individual growing plots for sponsorship, teaching youth foundational skills in horticulture, whilst providing a safe place for them to connect to the natural environment and each other. The food grown would be donated to Foodbank providing food relief for those most vulnerable in the community.



I urge the JDAP to carefully consider the impact and repercussions the proposed poultry farm expansion will have to the affected landowners, local residents, community, and the potential sterilization of land in the area for many years to come.

I trust the above clarifies our position. Please call me on [REDACTED] if you have further queries.

Yours sincerely,

[REDACTED]
[REDACTED]

[REDACTED]

CORIO ROAD, LOTS 71, 72 AND 73 - RAVENSWOOD – INTENSIVE AGRICULTURE - EXPANSION OF POULTRY FARM

Form 1 – Responsible Authority Report (Regulation 12)

DAP Name:	Metro Outer Joint Development Assessment Panel	
Local Government Area:	Shire of Murray	
Applicant:	Harley Dykstra Pty Ltd	
Owner:	Robert John and Teresa Ann Clayton; Sprock Group Pty Ltd	
Value of Development:	\$12 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	Western Australian Planning Commission	
Authorising Officer:	Planning Director, Land Use Planning	
WAPC Reference:	616-245-1	
DAP File No:	DAP/21/01966	
Application Received Date:	29 March 2021	
Report Due Date:	16 July 2021	
Application Statutory Process Timeframe:	60 Days	
Attachment(s):	1. Lodged Development Plans 2. Modified Development Plans dated 17 June 2021 3. Aerial Plan 4. Applicant Context Plan 5. Peel Region Scheme Zoning Plan 6. TPS 4 Zoning Plan 7. Wetland Mapping 8. Vegetation Mapping 9. BAL Contour Map and Management Strategies 10. Landowner Submission	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ Yes	Complete Responsible Authority Recommendation section
	☒ N/A	
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer Joint Development Assessment Panel resolves to:

- Approve** DAP Application reference DAP/21/01966 and accompanying modified plans date stamped **17 June 2021** by the Department of Planning, Lands and Heritage (22533-02, rev D; 22533-01, rev F; 22533-04, rev B; 22533-03, rev A; 22533-05, rev B and 22533-06, rev A) in accordance the provisions of Clause 21 of the Peel Region Scheme subject to the following conditions:

Conditions

1. This decision constitutes planning approval only and is valid for a period of four years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
2. All stormwater is to be contained and disposed of on-site at all times, to the specification of the Shire of Murray and to the satisfaction of the Western Australian Planning Commission.
3. All recommendations and implementation measures identified in section 6 of the bushfire management plan (version 2, prepared by Envision Bushfire Protection, dated 27 February 2021) shall be satisfactorily implemented prior to the occupation of the development, and for the ongoing duration of the development, to the specification of the Shire of Murray and to the satisfaction of the Western Australian Planning Commission.

Advice Notes

1. This decision constitutes development approval under the Peel Region Scheme only. It is the proponent's responsibility to comply with all other applicable legislation and obtain all required approvals, licences and permits prior to commencement of this development.
2. The Western Australian Planning Commission acknowledges that the development is proposed over multiple lots. In this regard, the landowner/applicant is advised that an application for subdivision approval will be required to be lodged to the Western Australian Planning Commission under Part 10 of the *Planning and Development Act 2005* for approval to amalgamate the subject lots into a single lot prior to the commencement of development.
3. In relation the Parmelia Pipeline easement, APA Group advises the landowner/applicant of the following:
 - no works shall occur on the easement area without prior authorisation and require an APA representative onsite; and
 - no stockpiles or storage of material is to be stored within the easement area.
4. The land is located within the Murray groundwater area (Nambeelup subarea) as proclaimed under the *Rights in Water and Irrigation Act 1914*. The Department of Water and Environmental Regulation advises the landowner/applicant of the following:
 - any groundwater abstraction in this proclaimed area for purposes other than domestic and/or stock watering taken from the superficial aquifer, is subject to licensing by the Department of Water and Environmental Regulation including water to irrigate paddocks;
 - the groundwater resource is fully allocated. If additional water resources are required, a source may be secured through either a water trade agreement from another groundwater user in the area, or an alternative water source.

The landowner/applicant is advised to liaise with the Department of Water and Environmental Regulation in this respect.

Details: outline of development application

Region Scheme	Peel Region Scheme
Region Scheme - Zone/Reserve	Rural
Local Planning Scheme	Shire of Murray Local Planning Scheme No.4
Local Planning Scheme - Zone/Reserve	Rural
Lot Size:	Lot 71 - 40.013ha Lot 72 - 41.410ha Lot 73 - 40.056ha 121.482ha total
Existing Land Use:	Existing Poultry Farm, Sheds and Residence
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

The application seeks development approval under Clause 21 of the Peel Region Scheme for works over Lots 71, 72 and 73 Corio Road, Ravenswood relating to the upgrading and expansion of the existing broiler (meat bird) poultry farm currently present on Lot 72.

In seeking to upgrade and expand the existing poultry farm, the proposal will result in the increase in the production of number of birds from 264,000 birds per annum to approximately 3.3 million birds per annum. It is understood that approximately 600,000 birds will be on the property at any one time.

The specific elements of the proposal are outlined as follows:

- removal of the three existing free range sheds located on Lot 72;
 - construction of twelve new ventilated sheds (16.2m x 176.2m) in two separate pods (Pod 1 and Pod 2). The pods are proposed to be 340 metres apart for biosecurity purposes and each pod is to comprise of six sheds (34,848m² of sheds in total);
 - an additional crossover to Corio Road and the construction of six metre wide internal access driveways to service the proposed development (constructed with compacted road base); and
 - landscaping/vegetation screening on Lot 71, adjacent to Corio Road.
- (Attachment 1 - Lodged Development Plans)**

The existing dwelling and associated structures on Lot 73 are proposed to be retained as a managers residence. Existing buildings and infrastructure located within Lot 72, ancillary to the current operations, are also to be retained.

The application is supported by the following technical assessment documents, including:

- Bushfire Management Plan, prepared by Envision Bushfire Protection (dated 27 February 2021, version 2);
- Environmental Assessment and Management Plan, prepared by Aurora Environmental (dated 17 March 2021, version 3; ref: AA2021/042); and
- Transport Impact Statement, prepared by Cardno (dated 4 March 2021, version A; ref: CW1160600).

The cost of developed is estimated at \$12 million and is expected to be completed within 18 months.

Shed design and setbacks

The twelve proposed new sheds within each pod are to be located 32 metres apart, with each pod separated by a proposed distance of 340 metres and will be setback a minimum 100 metres from all external property boundaries.

Operating hours

The development is proposed to be operated on a 24 hours per day/ 7 days per week operation basis. The proponent has advised that during normal operations, up to six staff (including an onsite manager) will attend the site between 7am to 5pm, seven days per week with the manager residing on site after hours.

Modified plans

Modified development plans, dated 17 June 2021, have been submitted by the proponent. The modified plans do not materially alter the scope of proposal, however, proposes to reconfigure the development footprint to maintain a 1000 metre separation from adjoining development, including proposed development on Lot 101 Corio Road. As a result, a slightly reduced internal separation distance of 272 metres is proposed (**Attachment 2 - Modified Development Plans dated 17 June 2021**).

Proposed Land Use	Intensive Agriculture (Poultry Farm)
Proposed Net Lettable Area	N/A
Proposed No. Storeys	N/A
Proposed No. Dwellings	N/A

Background:

Site context

The application relates to Lots 71. 72 and 73 Corio Road, Ravenswood (the land), located within the Shire of Murray. The land has a combined area of 121.482 hectares and is located approximately 4 kilometres from Ravenswood and approximately 68 kilometres from the Perth CBD.

Corio Road forms the western and northern boundaries of the land. Broadacre rural properties surround the land, including a horticulture farm, which forms the southern boundary (**Attachment 3 - Aerial Plan**).

A number of large rural smallholdings properties are located southwest of the land (Lots 101-111 Corio Road). These properties, and other surrounding dwellings, are located in excess of 1000 metres from the proposed development (**Attachment 4 - Applicant Context Plan**).

The Parmelia Pipeline, operated by APA Group traverses the northeastern corner of the land on Lot 73 in the same alignment as pipeline easements registered under the *Petroleum Pipelines Act 1969* and the *Alumina Refinery (Pinjarra) Agreement Act 1976* on the certificate of title of Lot 73. No development is located in the vicinity of the pipeline.

Zoning

The land, and surrounding area, is zoned Rural in the Peel Region Scheme (**Attachment 5 - Peel Region Scheme Zoning Plan**).

Under the Shire of Murray Town Planning Scheme No.4, the land and the majority of the surrounding properties are zoned Rural. Lots 101-111 Corio Road, located to the southwest, are zoned Farmlet. Lot 5 Corio Road, located to the northwest, is zoned Special Use - Tourist Development (**Attachment 6 - TPS 4 Zoning Plan**). Despite its zoning, it does not appear that Lot 5 is currently used for tourist development purposes.

Requirement for Development Approval

Subject to development approval not being required under Clauses 19 and 20, Clause 18 of the Peel Region Scheme requires the prior approval of the Western Australian Planning Commission prior to the commencement of development for:

- a) development on reserved land; or
- b) development of a kind or class specified in a resolution made by the Western Australian Planning Commission under Clause 21.

Under the delegations DEL 2008/12, applications for development approval under the Peel Region Scheme on zoned land is ordinarily delegated from the Western Australian Planning Commission to the relevant local government.

This notwithstanding, the Western Australian Planning Commission resolution 2014/02 under Clause 21 of the Peel Region Scheme, Schedule 1, Clause 7 specifies that the following types of development on zoned land requires the prior approval of the Western Australian Planning Commission under the Peel Region Scheme:

- development for a new poultry farm; or
- additions to an existing poultry farm in excess of 100m².

As the application proposes extensions to the existing poultry farm in excess of 100m², the approval of the Western Australian Planning Commission is required.

The application also requires development approval under the Shire of Murray Town Planning Scheme No.4 and will be the subject of a dual determination.

As the estimated cost of development exceeds the mandatory \$10 million threshold, the application requires determination by the Metropolitan Outer Joint Development Assessment Panel in accordance with regulation 5(b) of the *Planning and Development (Development Assessment Panel) Regulations 2011*.

Environmental

Geomorphic wetlands

The *Geomorphic Wetlands of the Swan Coastal Plain* dataset indicates that a mapped floodplain conservation category wetland (UFI: 14629) is located on the northern portion of the land (**Attachment 7 - Wetland Mapping**).

The Environmental Assessment and Management Plan submitted in support of the application states that the mapped wetland area is degraded and used as pasture with little native vegetation present and is not associated with groundwater dependent ecosystems.

A wetland mapped as a resource enhancement wetland is located on the land and traverses Lot 73.

Banksia woodland

The land contains threatened ecological communities and priority ecological communities in several, scattered pockets. The *Banksia dominated woodlands of the Swan Coastal Plain* is listed as a 'Priority 3' priority ecological community under the *Biodiversity Conservation Act 2016* and Endangered threatened ecological community under the *Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth) (**Attachment 8 - Vegetation mapping**).

The proposed development does not impact on any areas of threatened or priority ecological communities.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005*
- *Peel Region Scheme, Part 6*
- *Planning and Development (Development Assessment Panels) Regulations 2011*

State Government Policies

State Planning Policy 2.1 - Peel-Harvey Coastal Plain Catchment

State Planning Policy 2.5 - Rural Planning

State Planning Policy 3.7 - Planning in Bushfire Prone Areas

EPA Guidance Statement 3 - Separation Distances between Industrial and Sensitive Land Uses

Other relevant policies/documents

WAPC Fact Sheet - Poultry Farm

Environmental Code of Practice for Poultry Farms in Western Australia

Consultation:

Department of Biodiversity, Conservation and Attractions

The Department of Biodiversity, Conservation and Attractions provided no comment on the proposal.

Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation (DWER) advise that the development is proposed within, and adjacent to, the location of the mapped conservation category wetland. DWER also advise that in accordance with the *Environmental Code of Practice for Poultry Farms in Western Australia*, a minimum 200 metre vegetated buffer is to be provided between the end of any roaming area to any wetland to prevent potential for contamination to the wetland.

The above notwithstanding, DWER have since advised that the conservation category wetland is to be reclassified as a multiple use wetland as part of the proposed revised *draft Wetland Evaluation of the Swan Coastal Plain dataset* which is indicative of the few remaining attributes, functions and values of the wetland.

DWER also advise:

- the land is shown by the Murray River Flood Study as affected by flooding during major river flows and recommends that finished floor levels are minimum 0.5 metres above the 1% AEP flood level (12.75 metre AHD near Pod 1 and 11.0 metres AHD near Pod 2);
- the proponent holds a groundwater licence for 258,500KL/annum within the Murray groundwater area (Nambeelup subarea) which is fully allocated; and
- the land is located within an area mapped as representing a moderate to low risk of acid sulfate soils occurring within three metres of the natural soil surface, however, advise that development is unlikely to result in dewatering of ground disturbance that would warrant a acid sulfate soils management plan.

Department of Primary Industries and Regional Development

The Department of Primary Industries and Regional Development (DPIRD) raise no objection to the proposal but provide advise that a two metre groundwater separation for the proposed sheds are required in accordance with the *Environmental Code of Practice for Poultry Farms in Western Australia*. In this regard, the proponent has provided modified plans which indicate the extent of cut and fill required to achieve the minimum two metre groundwater separation (**refer Attachment 2**)

DPIRD also identify the need for various management plans relating to waste, stormwater and spray drift. Advice in relation to the requirement to provide for a 50 metre vegetated buffer to the wetland is since superseded by DWER advice, above.

Department of Health

The Department of Health advise that the proposed development will require increased waste water system.

APA Group

APA Group raise no objection to the proposal, recommending conditions relating to the Parmelia Pipeline easement on Lot 73. No development is proposed in, over, or adjacent to the easement. As such, it is recommended that this is conveyed to the proponent by way of advice.

Submission from adjoining landowner

A submission, lodged by G&G Corp, as an adjoining landowner was lodged as a direct submission to the Presiding Member of the Metro Outer Joint Development Assessment Panel.

The submission, dated 31 May 2021, outlines the landowners objection to the proposal based on the impact of the proposed development on the potential for the proposal to sterilise development potential on their landholdings.

The matter of this submission is further discussed in the planning assessment section of this report, below.

Planning Assessment:

South Metropolitan Peel Sub-regional Planning Framework

The *South Metropolitan Peel Sub-Regional Planning Framework* (Framework) designates the land as Rural. The proposed development of the land is consistent with the Framework.

Peel Region Scheme

Clause 34 of the Peel Region Scheme requires the decision-maker to have regard to a range of matters in the determination of applications for development approval (provided within Clause 34(a)-(zc)).

The following addresses relevant matters provided under Clause 34.

Compatibility with the Peel Region Scheme

The proposed development is located on land zoned Rural under the Peel Region Scheme. Clause 12(e) of the Peel Region Scheme provides the following objective for the Rural zone:

'to provide for the sustainable use of land for agriculture, assist in the conservation and wise use of natural resources including water, flora, fauna and minerals, provide a distinctive rural landscape setting for the urban areas and accommodate carefully planned rural living developments.'

The proposal represents the expansion and upgrading of an existing poultry farm, a use which is consistent with the intended purpose of the Rural zone.

Compatibility of development with its setting and preservation of amenities

The development is proposed within, and is generally compatible with, the predominately rural nature of the surrounding area. A minimum separation of 1000 metres, consistent with *Guidance Statement 3 - Separation Distances between Industrial and Sensitive Land Uses* is proposed by the development.

The development is considered to maintain the rural character of the locality and maintains a level of amenity through its internal separations and boundary setbacks. Minimal vegetation is required to be cleared to accommodate the development and areas of threatened and priority ecological communities are not impacted.

Additional vegetation is proposed along the northern and western frontages of Pod 1 to screen the impact of the proposed development from Corio Road.

Subsequent to advice from the Shire of Murray concerning an approved building envelope plan for Lot 101 Corio South, southwest of the land, modified development plans have been submitted by the proponent to relocate the development to ensure a 1000 metre separation from any adjoining sensitive land uses (**refer Attachment 2**).

Environmental values

Whilst portion of the land is currently identified as a floodplain conservation category wetland by the *Geomorphic Wetlands of the Swan Coastal Plain dataset*, DWER have advised that a draft review of the dataset identifies that the wetland has few remaining attributes, functions and values that warrants its conservation classification and is proposed to be reclassified as a multiple use wetland.

This is supported by the Environmental Assessment and Management Plan (Aurora Environmental) which finds that the mapped wetland area is degraded and used as pasture with little native vegetation present and is not associated with groundwater dependent ecosystems.

The Environmental Assessment and Management Plan also indicates that the construction of the development will prevent wash water spillage. Management measures will be in place (removal of litter and dead animals) to prevent unnecessary nutrient leaching to the environment.

Transport

The traffic impact statement prepared in support of the application finds that the development will result in a 'worst case' scenario of 33 vehicle movements (66 two-way trips) that will be generated by the development during the 58 days growing cycle. The traffic impact statement states that the growing cycle is not reflective of daily traffic due to the cyclical nature of the operations.

The development is not considered to have any material impact on the surrounding network or result in a substantial increase of heavy vehicle traffic that would have a material impact on amenity of sensitive land uses.

Amenity

In addition to maintain a 1000 metre separation distance, the Environmental Assessment and Management Plan indicates various measures to alleviate any potential amenity impacts on neighbouring sensitive land uses. It is understood that various conditions of development approval relating to management plans addressing amenity impacts will be recommended as part of a determination under the Shire of Murray Town Planning Scheme No.4.

Consistency with relevant planning policies

State Planning Policy 2.1 - Peel-Harvey Coastal Plain Catchment (SPP 2.1)

The main policy objectives of SPP 2.1 are to ensure that changes to land use within the catchment of the Peel-Harvey estuarine system are controlled so as to avoid/minimise environmental damage and to balance environmental protection with the economic viability of the primary sector.

With the proposed reclassification of the conservation category wetland and general management measures identified by the Environmental Assessment and Management Plan, the proposal is considered to not adversely impact the environmental values of the Peel-Harvey Catchment.

State Planning Policy 2.5 - Rural Planning (SPP 2.5)

SPP 2.5 guides the development and protection of land zoned for rural purposes. The application is considered consistent with the objectives of SPP 2.5 as it will support the use of existing rural land for primary production activities, is consistent with the surrounding land uses and appropriately mitigates impacts on the environment.

As required for poultry farms in the WAPC's *Poultry Farms Fact Sheet* to implement the policy measures and objectives of SPP 2.5, the Environmental Assessment and Management Plan has been provided to implement management practices to minimise the environmental impact of the on-site activities. The report includes management practices in relation to odour, noise, dust, waste, traffic and drainage. It is considered that the report provides for appropriate management of the associated impacts of poultry farm operations.

State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP 3.7)

The land is partly identified as a bushfire prone area by the Map of Bushfire Prone Areas, and as such, SPP 3.7 applies. SPP 3.7 seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.

The Bushfire Management Plan prepared in support of the application finds that the proposed development is capable of compliance with the bushfire protection criteria, within Appendix 4 of the *Guidelines for Planning in Bushfire Prone Areas*.

Pod 2 is required to maintain a 21 metre asset protection zone to ensure development of the site can occur at BAL-29 or less, the implementation of which is not limited by the presence of any significant vegetation. The Bushfire Management Plan notes that, whilst Pod 1 is located outside of a bushfire prone area, a voluntary 8 metre asset protection zone is recommended given the classification of adjoining land as grassland, to facilitate development at BAL-29 or less.

The proposal is located on Corio Road which provides two way access (to Lakes Road to the north and South Western Highway and Pinjarra Road to the south via Paterson Road).

The Bushfire Management Plan requires the internal driveways to be constructed in accordance with Element 3 of the bushfire protection criteria, including a perimeter access around each pod, sufficient for a fire appliance to enter and leave in forward gear.

As the site is not connected to reticulated water, the development is required to provide suitable water tanks to comply with Element 4 of the bushfire protection criteria. The Bushfire Management Plan proposes the use of water tanks to satisfy Element 4.

As the development is contingent on the above measures to comply with the bushfire protection criteria, a condition is recommended for the implementation of the measures of the Bushfire Management Plan (**Attachment 9 - BAL Contour Map and Management Strategies**).

Submission from adjoining landowner

G&G Corp have lodged a direct submission to the Presiding Member of the Metro Outer Joint Development Assessment Panel objecting to the proposed development (**Attachment 10 - Landowner submission**).

Acting on behalf of the registered landowners of the adjoining land (Lot 1 on Diagram 72094 and Lots 239, 240 and 242 on Plan 2087), G&G Corp contend that the proposed development will result in the sterilisation of development potential of a portion of their landholding, as a result of the separation distance requirements under the EPA *Guidance Statement 3 - Separation Distances between Industrial and Sensitive Land Uses*.

The subject landholdings account to approximately 525 hectares which are identified as Rural land under the *South Metropolitan Peel Sub-regional Planning Framework*, Peel Region and the Shire of Murray Town Planning Scheme No.4.

A number of land uses, which are either designated by Town Planning Scheme No.4 as permitted or discretionary land uses, are identified by the submission as being prohibited by the proposed development. These land uses are sensitive in nature and primarily residential, commercial and tourism in nature and may not necessarily align with the predominately rural character of the area.

This notwithstanding, it is considered that there is still sufficient area within the balance of the submitters landholding, should the listed land uses be pursued. Approval of the proposed development does not prohibit the use and enjoyment of the submitters landholdings in accordance with Town Planning Scheme No.4, within or outside of the 1000 metre separation distance proposed by the development.

The existing poultry farm is the subject of a lawful approval to operate over the subject land and the use is consistent with the Rural zoning under the Peel Region Scheme and Town Planning Scheme No.4. The proposed development seeks approval for the upgrading of the existing operations and does not propose the introduction of a new land use into the area.

In this regard, it is recommended that the Metro Outer Joint Development Assessment Panel acknowledges, but ultimately, dismisses the submission from G&G Corp dated 31 May 2021.

Amalgamation of land

As the application proposes development located over existing lot boundaries, the proponent has advised that an application for subdivision approval will be made to the WAPC to amalgamate the land into a single landholding prior to the implementation of the development.

Any application to amalgamate land will be the subject of a separate assessment by the WAPC. Conditions may be imposed as part of any approval relating to the upgrading of servicing to the land.

Substantial commencement

In relation to the substantial commencement of works, it is noted that:

- (a) Clause 37(1)(a) of the Peel Region Scheme specifies a two year period in which approved development is to be substantially commenced from the date of determination;
- (b) the *Planning and Development (Development Assessment Panels) Regulations 2011*, in r.16A, state that where a development assessment panel grants approval to an application, the development must be substantially commenced within four years of the date of the determination;
- (c) the *COVID-19 Response and Economic Recovery Omnibus Act 2020*, in s.33, provides for the automatic two year extension of a substantial commencement period, provided the approval is issued after 8 April 2020 and during a state of emergency; and
- (d) the application indicates works are expected to be completed within a period of eighteen months.

Based on the above, the standard four year substantial commencement period is considered sufficient.

Conclusion:

The proposed development is consistent with the intent and purpose of the Rural zone under the Peel Region Scheme and is consistent with its setting and preservation of amenities.

It is recommended that the application for development approval under the Peel Region Scheme be approved, subject to conditions.

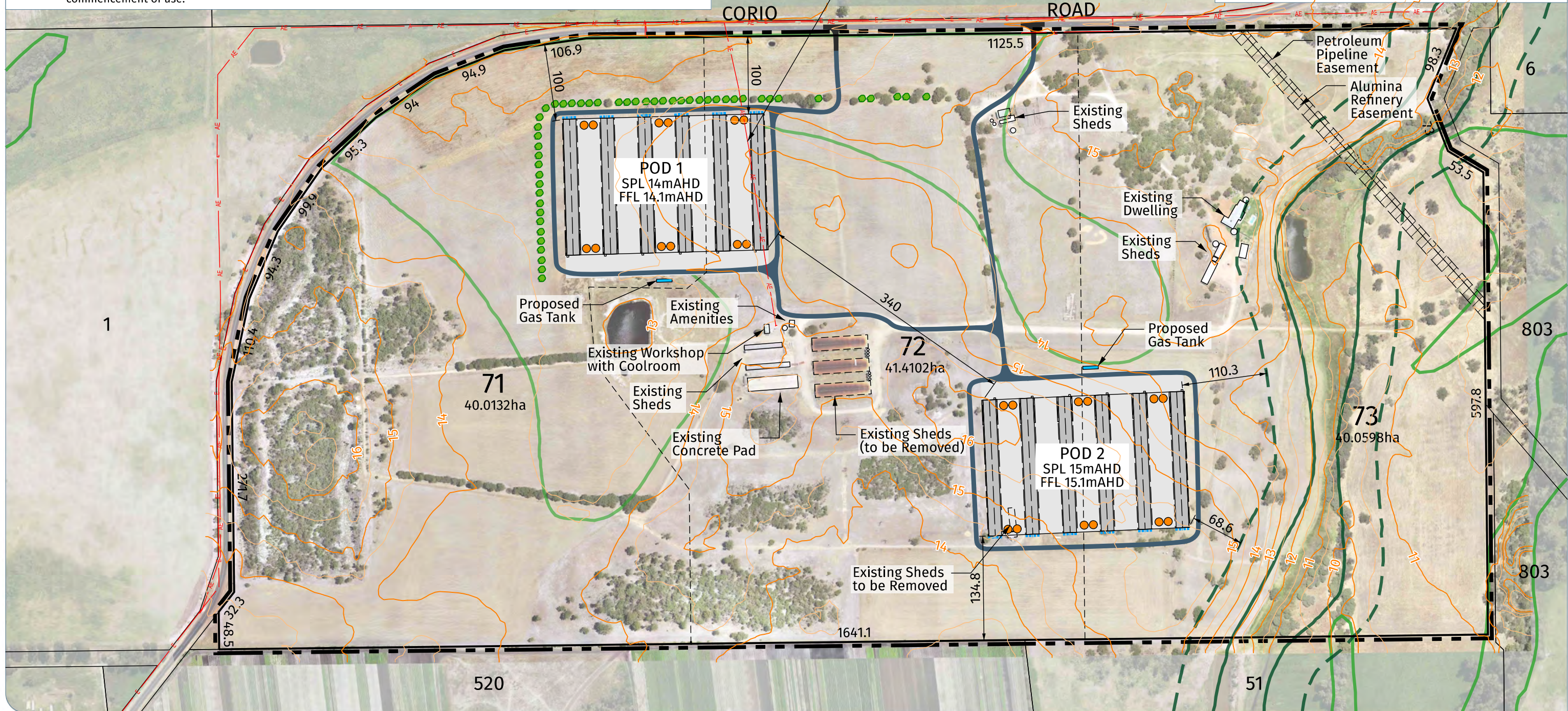
LEGEND

	Subject Land (121.4832ha)		Existing Structures
	Existing Easements		Proposed Poultry Sheds
	Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)		Proposed Silos
	Resource Enhancement Wetland		Vegetation screening in accordance with requirements of the Bushfire Management Plan
	Indicative Resource Enhancement Wetland buffer (30m)		Ventilation Fans
	Overhead Electricity (DBYD)		6m Access Driveway (Compacted road base)
	Underground Electricity (DBYD)		Bitumen sealed crossover

Note: Existing lots to be amalgamated prior to commencement of use.

POD LAYOUT

Diagram illustrating the layout of six vertical rectangular units (PODs) arranged in a row. The total width of the arrangement is 259. The height of each unit is 176. The spacing between the units is 32. The width of each individual unit is 16.5.



Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD



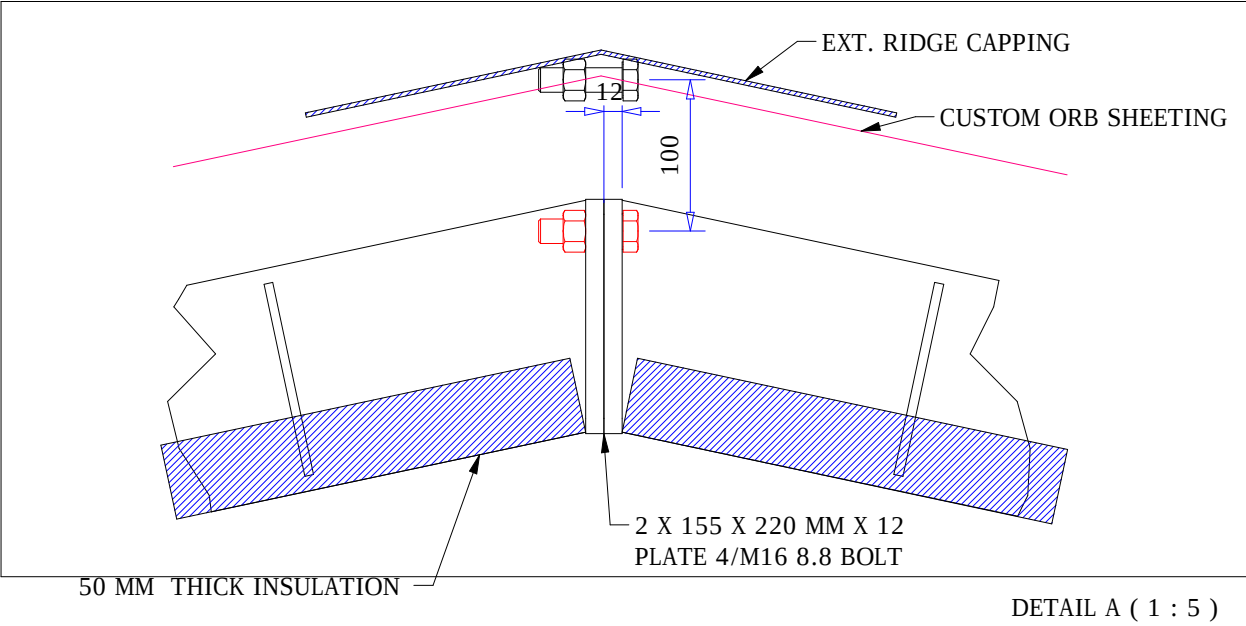
NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey



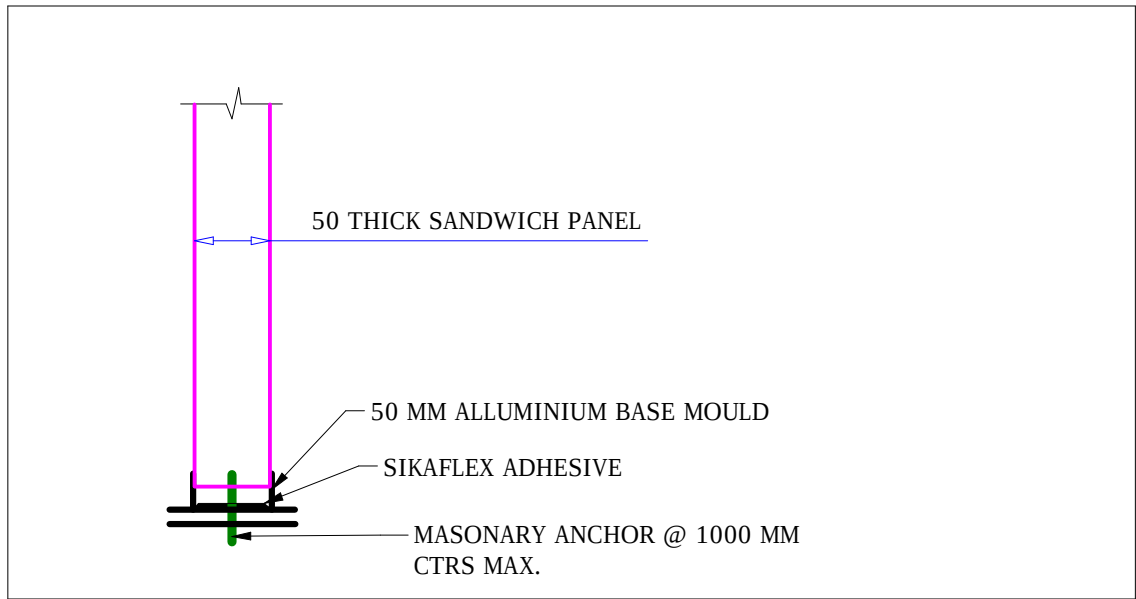
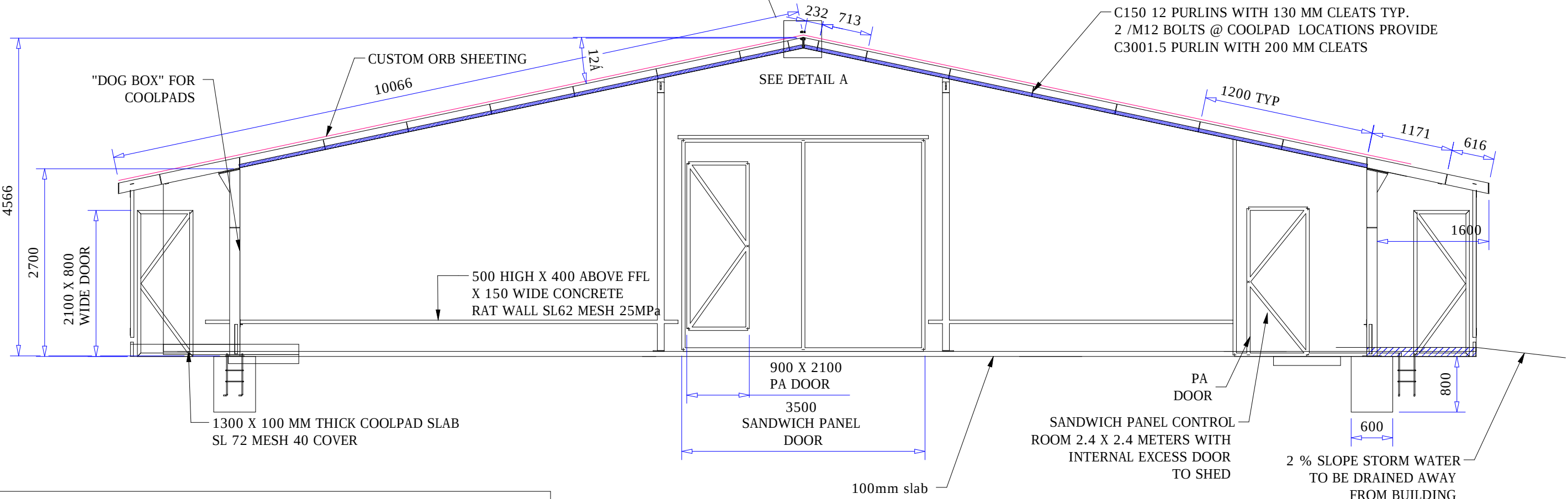
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PLANNING & SURVEY SOLUTIONS

SANDWICH PANEL TO CONCRETE DETAIL



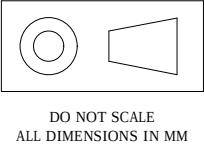
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SCALE 1 : 5 A3

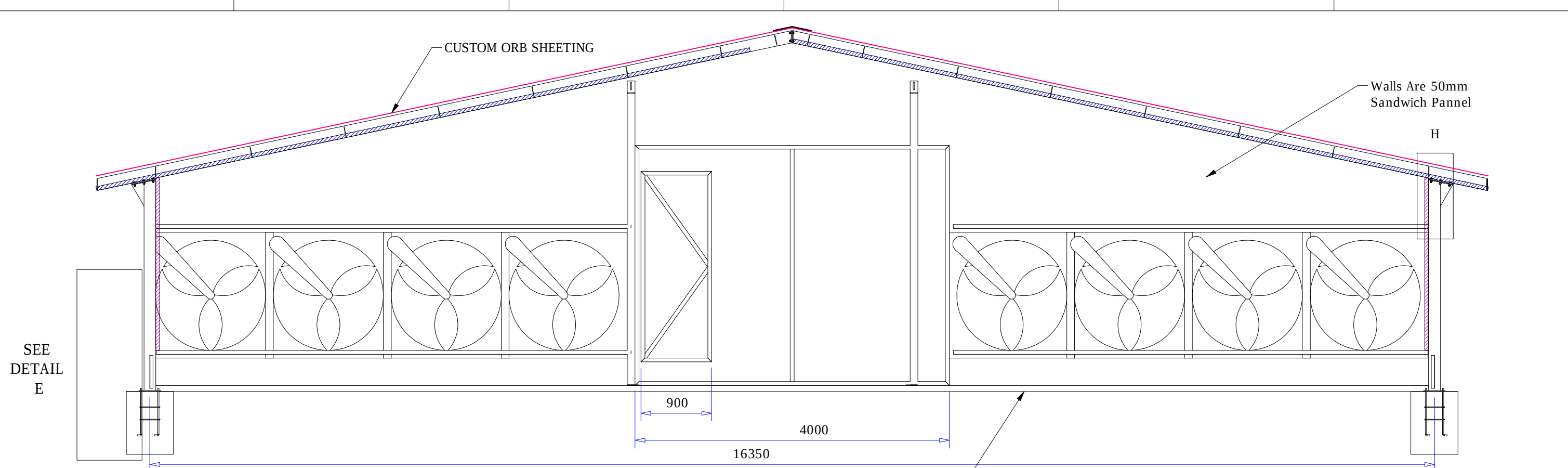
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MARK	SIZE	REMARKS
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RAFTERS	150 X 100 X 4	GRADE450
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PURLINS @ EAVES	C20015	GALVANISED
GIRT G1 @ WALL	C15012	GALVANISED
GIRT G2 @ WALL	100 50 X 2 MM RHS	GALVANISED

DEPARTMENT OF PLANNING, LANDS AND HERITAGE	
DATE	FILE
31-Mar-2021	616-245-1



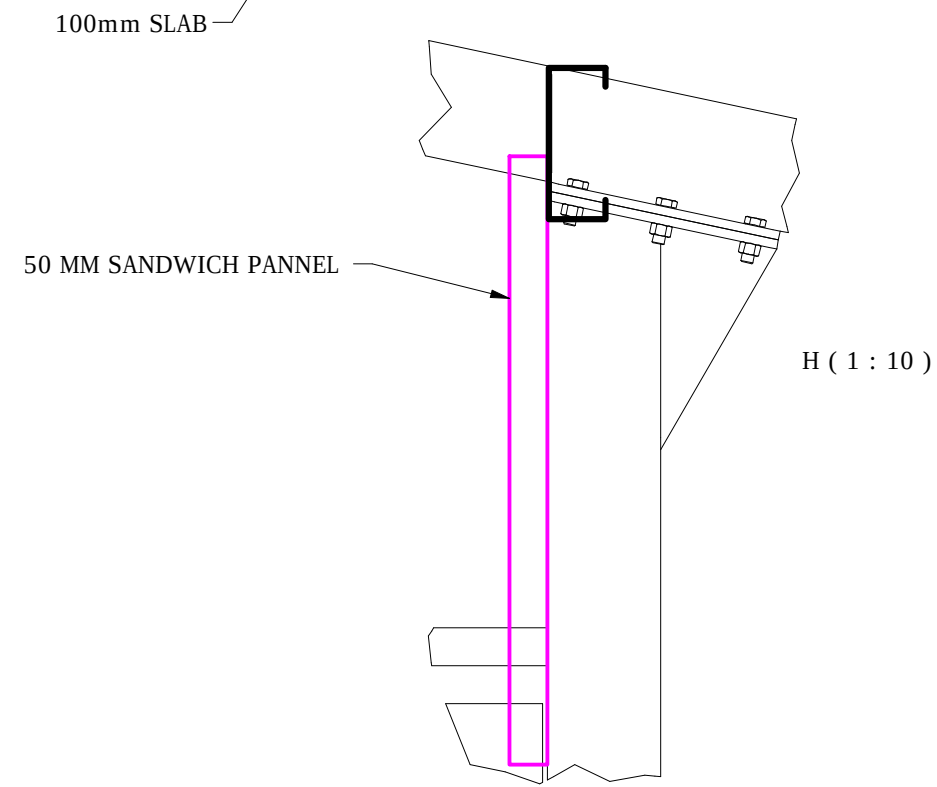
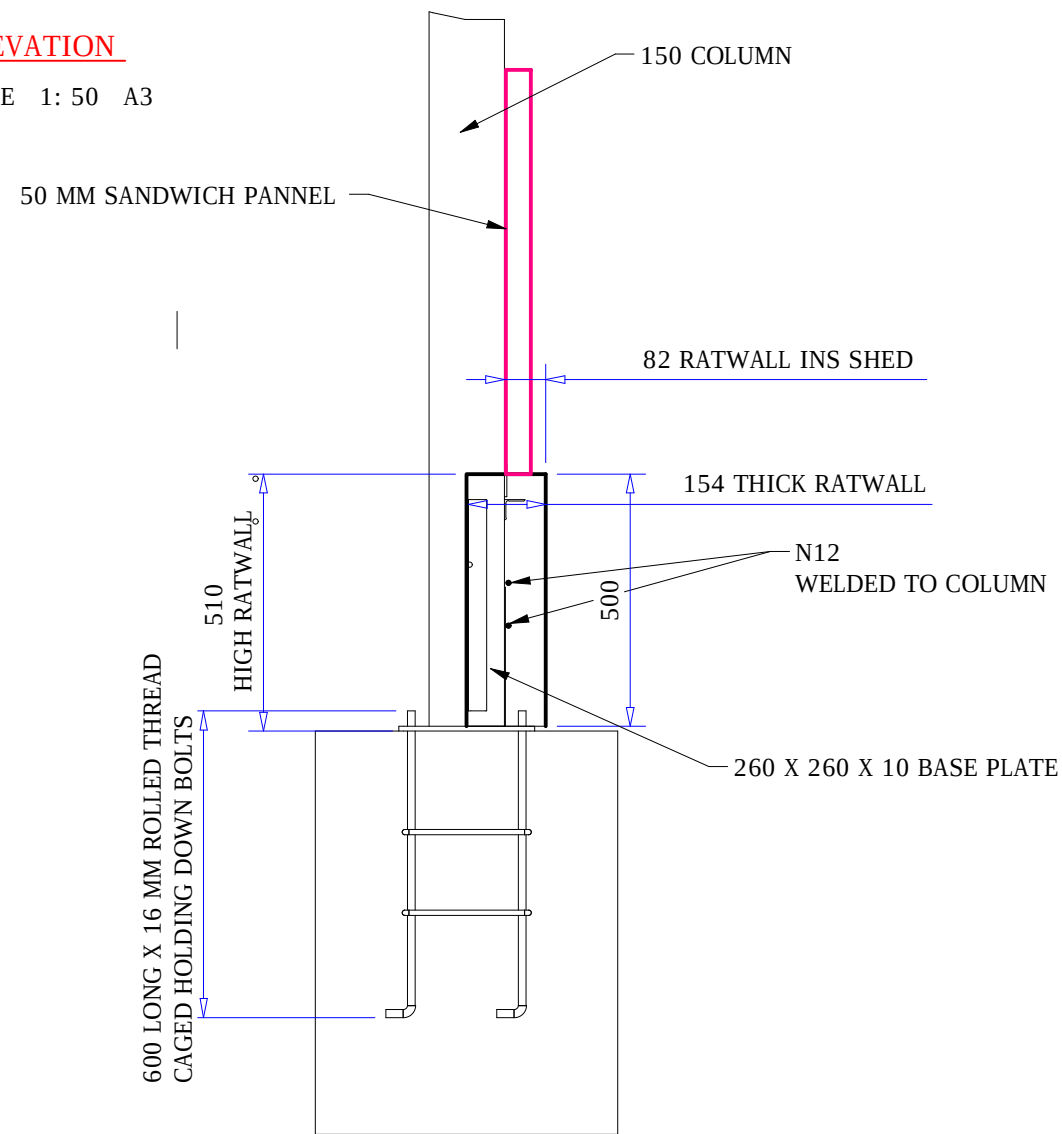
DO NOT SCALE
ALL DIMENSIONS IN MM

Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
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ELEVATION & SCHEDULE & DETAIL					Edition Sheet 2 / 9



B ELEVATION

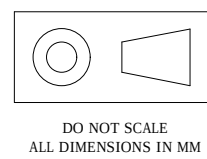
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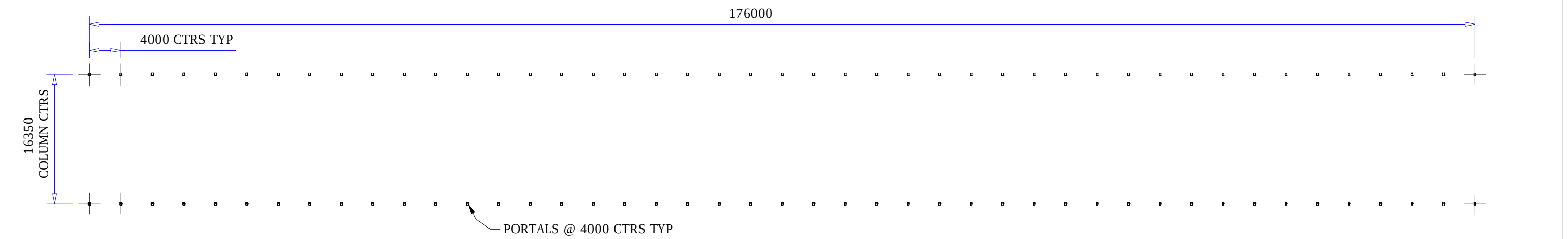
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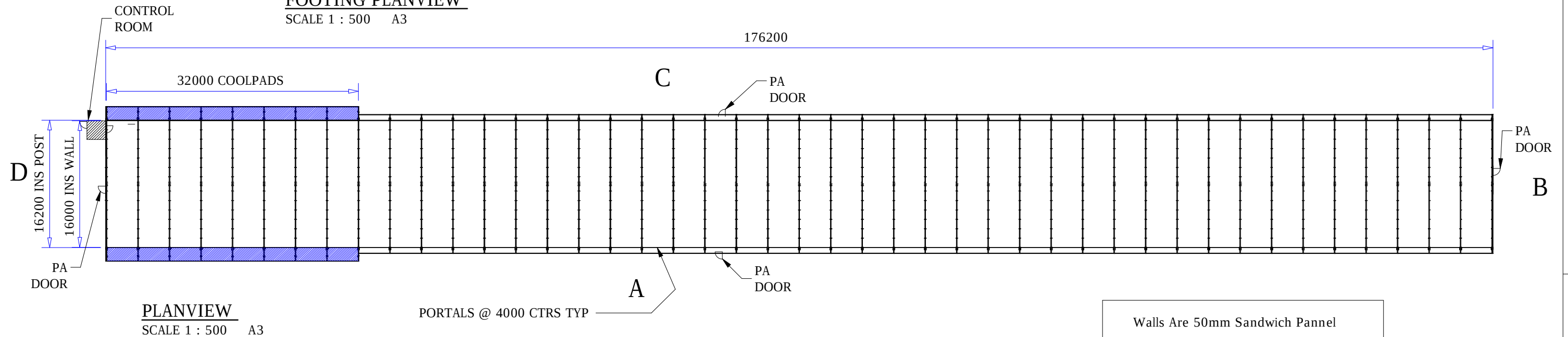


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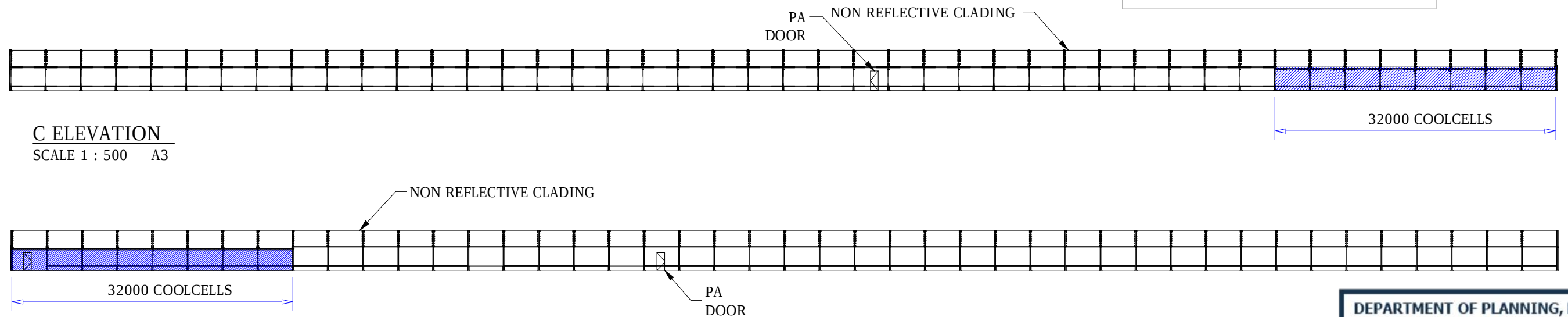
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SECTION & DETAIL					Edition Sheet 3 / 9



FOOTING PLANVIEW
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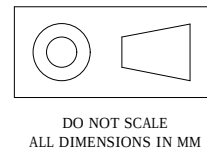
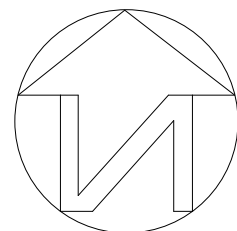


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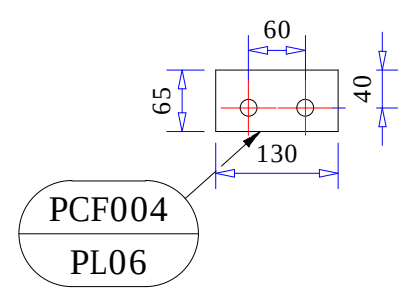
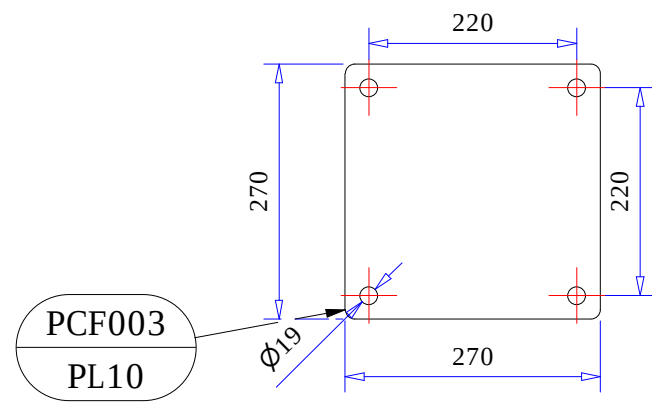
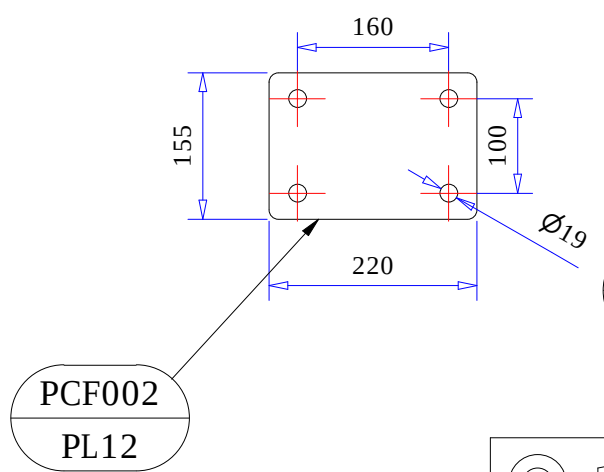
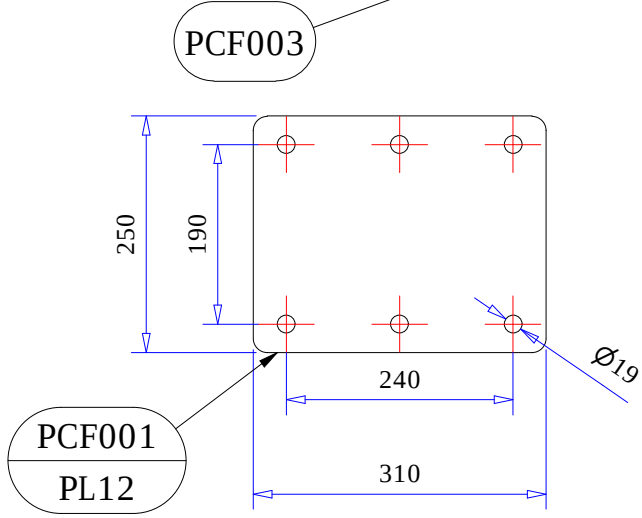
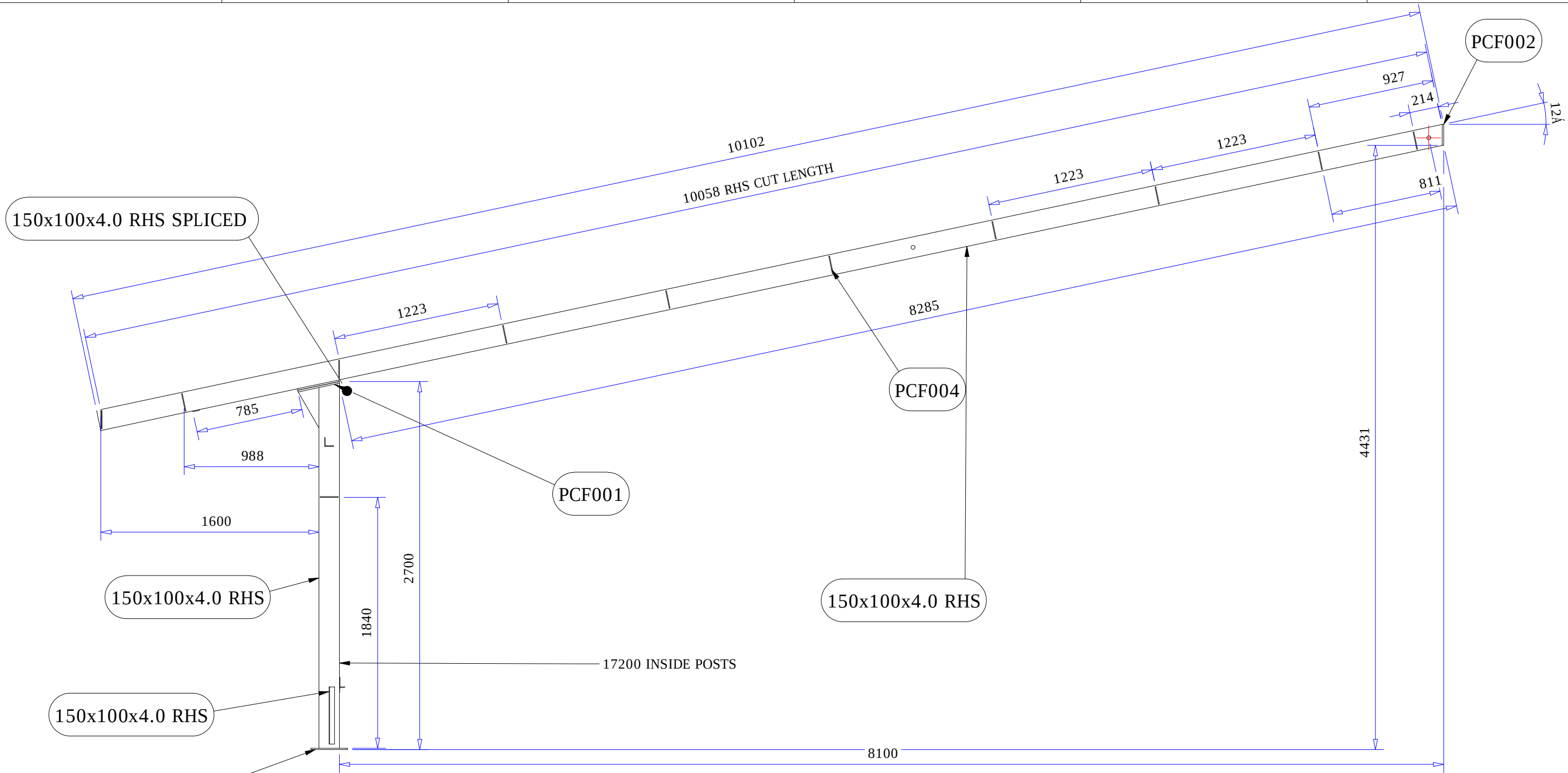


A ELEVATION
SCALE 1 : 500 A3

NOTE :
PA DOORS TO BE OPENED OUTWARD WITH A SINGLE
HANDED DOWNWARD LEAVER ACTION
HANDLE TO BE BETWEEN 900 AND 1100 MM ABOVE FFL

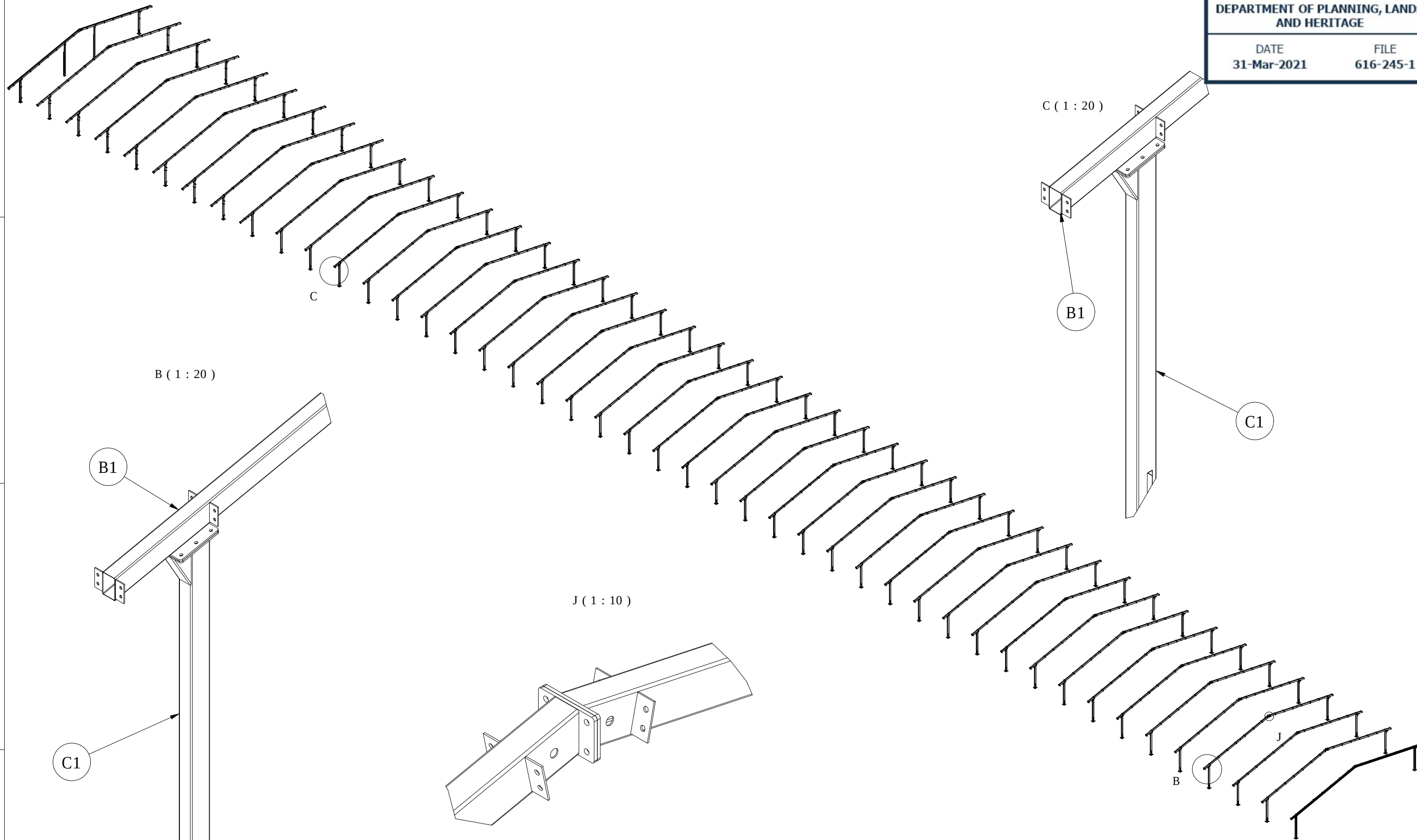


Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
 R&DG SANDAY	R&DG SANDAY 40 Glenning Rd Glenning Valley NSW 2261 PH 0404 489 573	SITE ADDRESS: Fairglenn Company Lot 72 Corio Rd, Ravenswood WA			
		PLANVIEW & ELEVATIONS			Edition

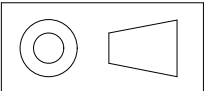


DO NOT SCALE
ALL DIMENSIONS IN MM

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TYP. PORTAL DETAIL					Edition Sheet 5 / 9

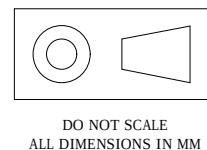
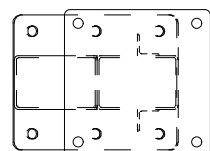
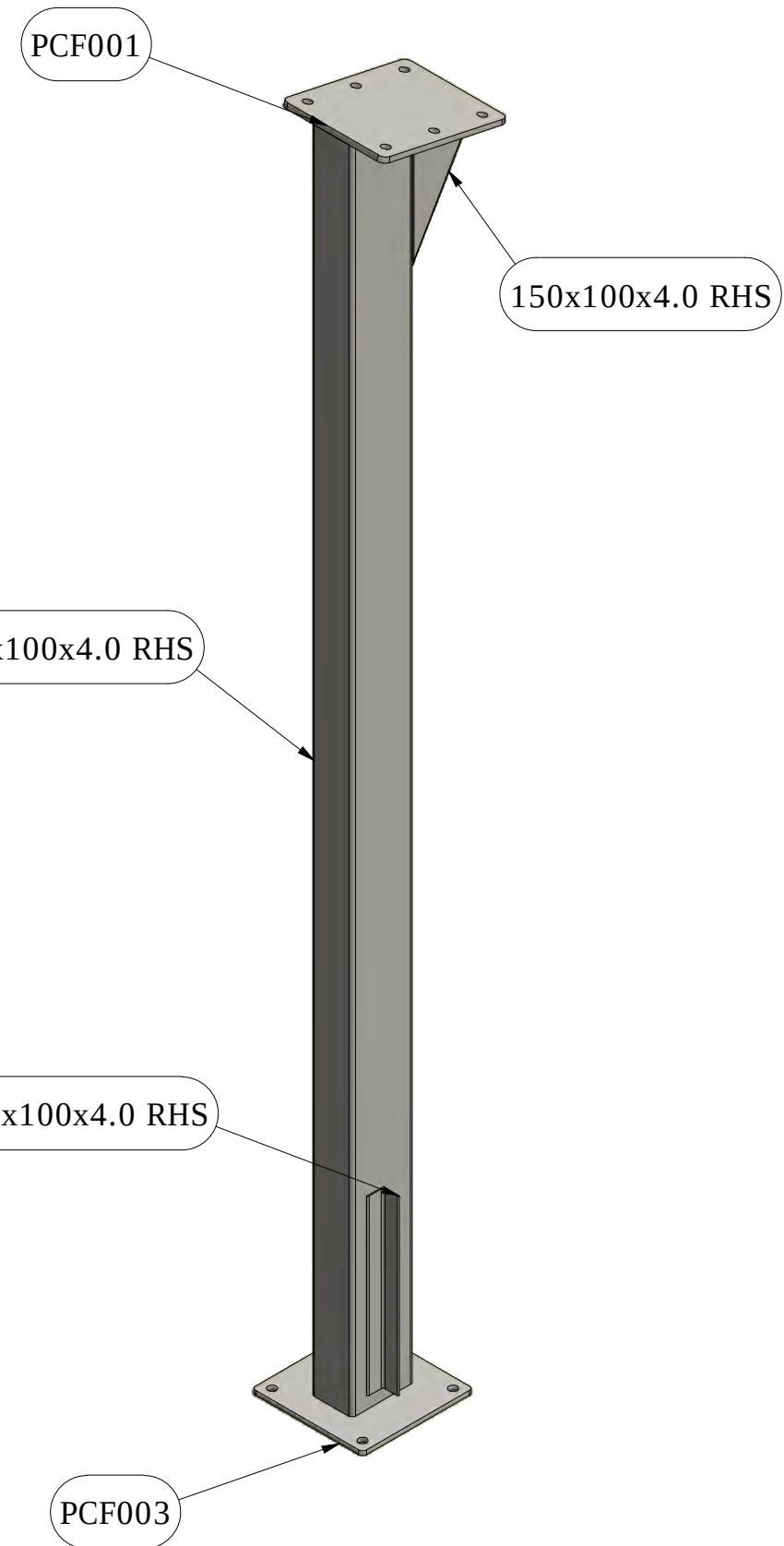
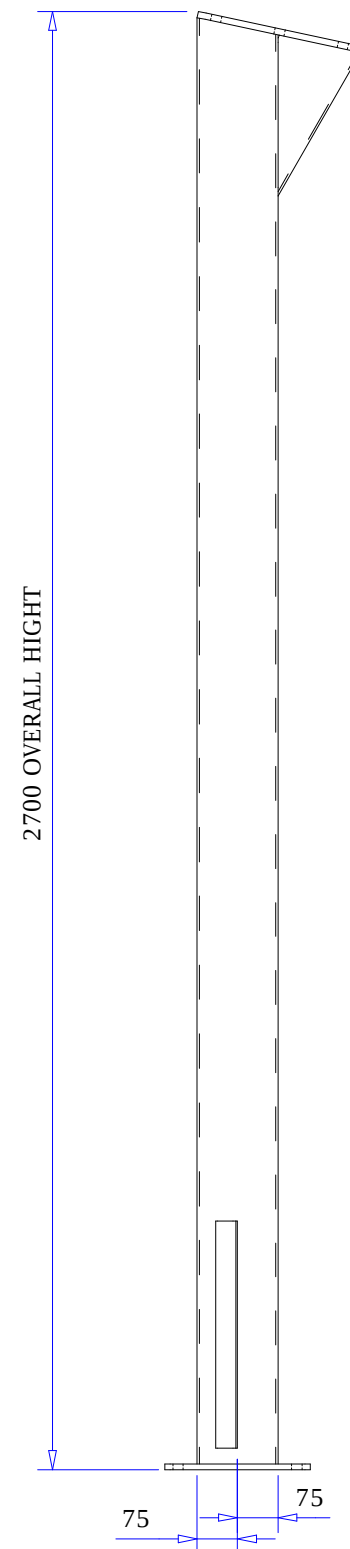
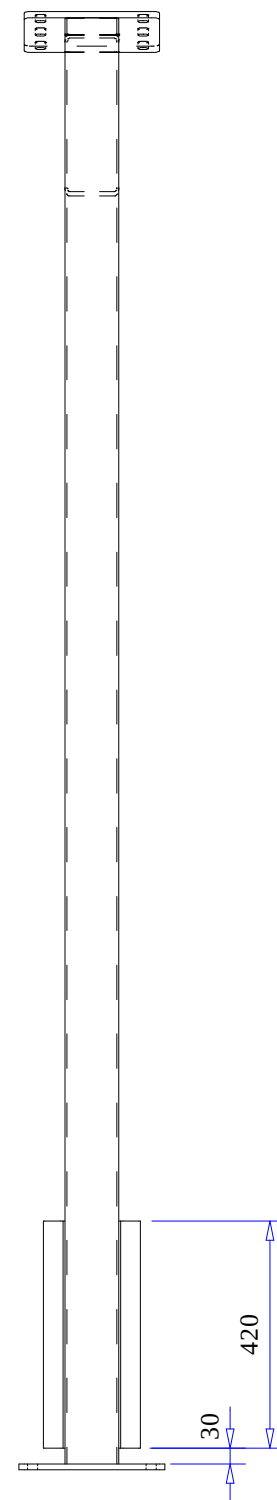
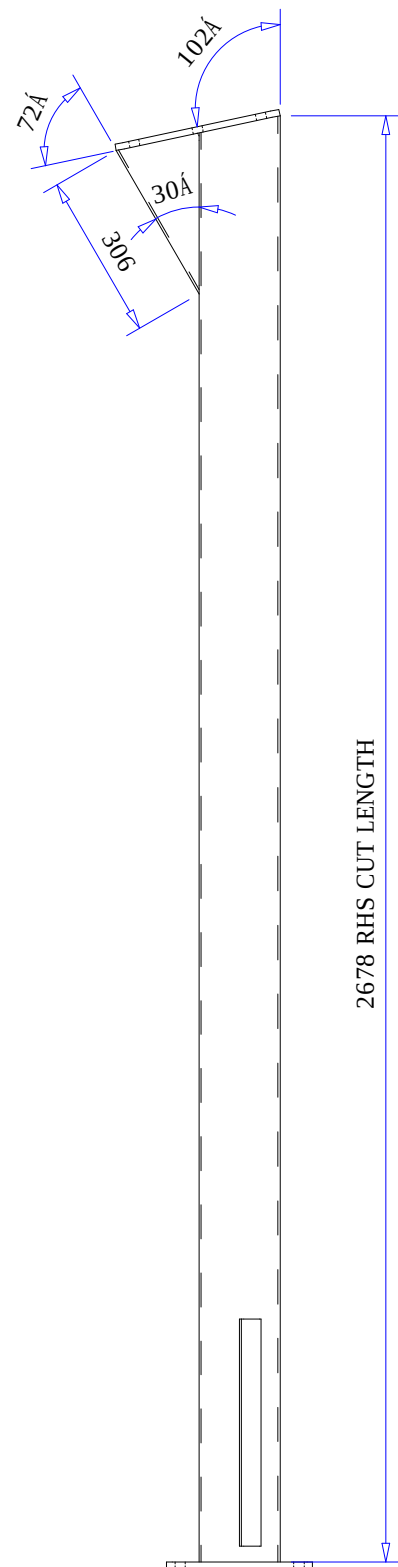


ALL STEELWORK TO BE PAINTED

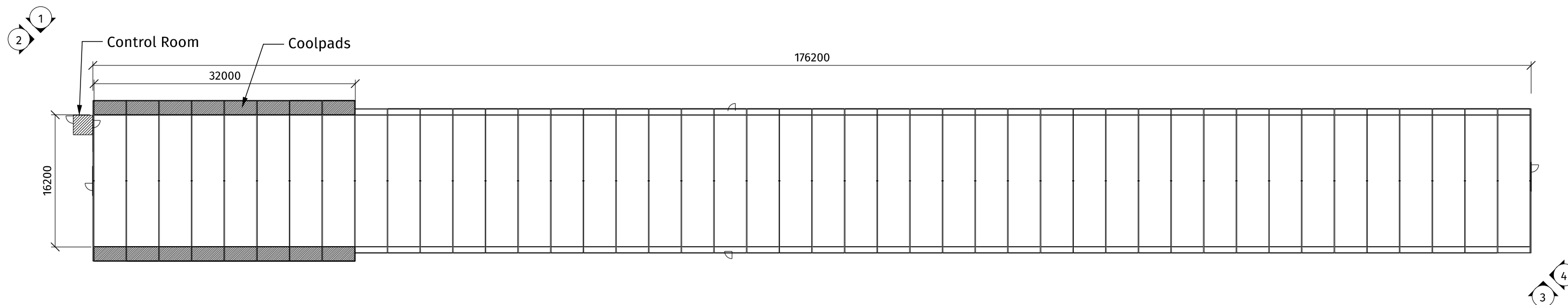


DO NOT SCALE
ALL DIMENSIONS IN MM

Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
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OVERVIEW					Edition Sheet 4 / 9



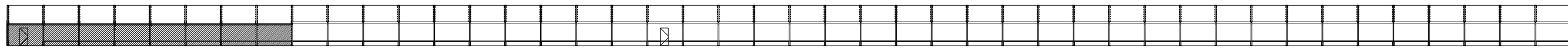
Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
R&DG SANDAY 40 Glenning Rd Glenning Valley NSW 2261 PH 0404 489 573			SITE ADDRESS: Fairglenn Company Lot 72 Corio Rd, Ravenswood WA		
TYP POST DETAIL					Edition Sheet 6 / 9



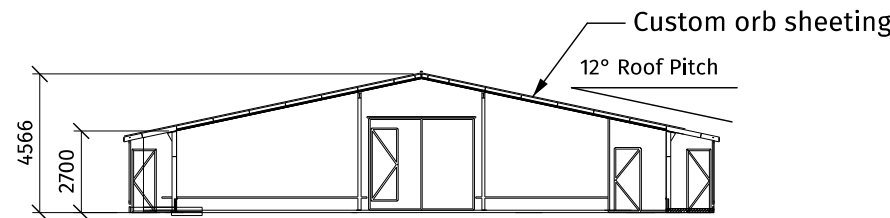
FLOOR PLAN
1:500



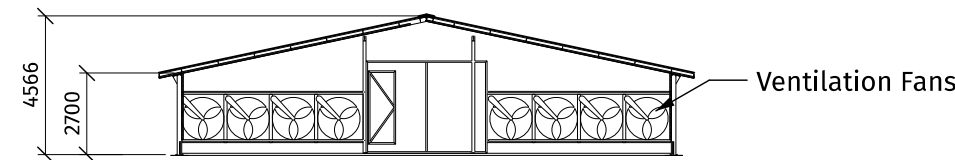
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1:500



ELEVATION - 3
1:500



ELEVATION - 2
1:250



ELEVATION - 4
1:250

NOTE: Design by R&DG Sanday

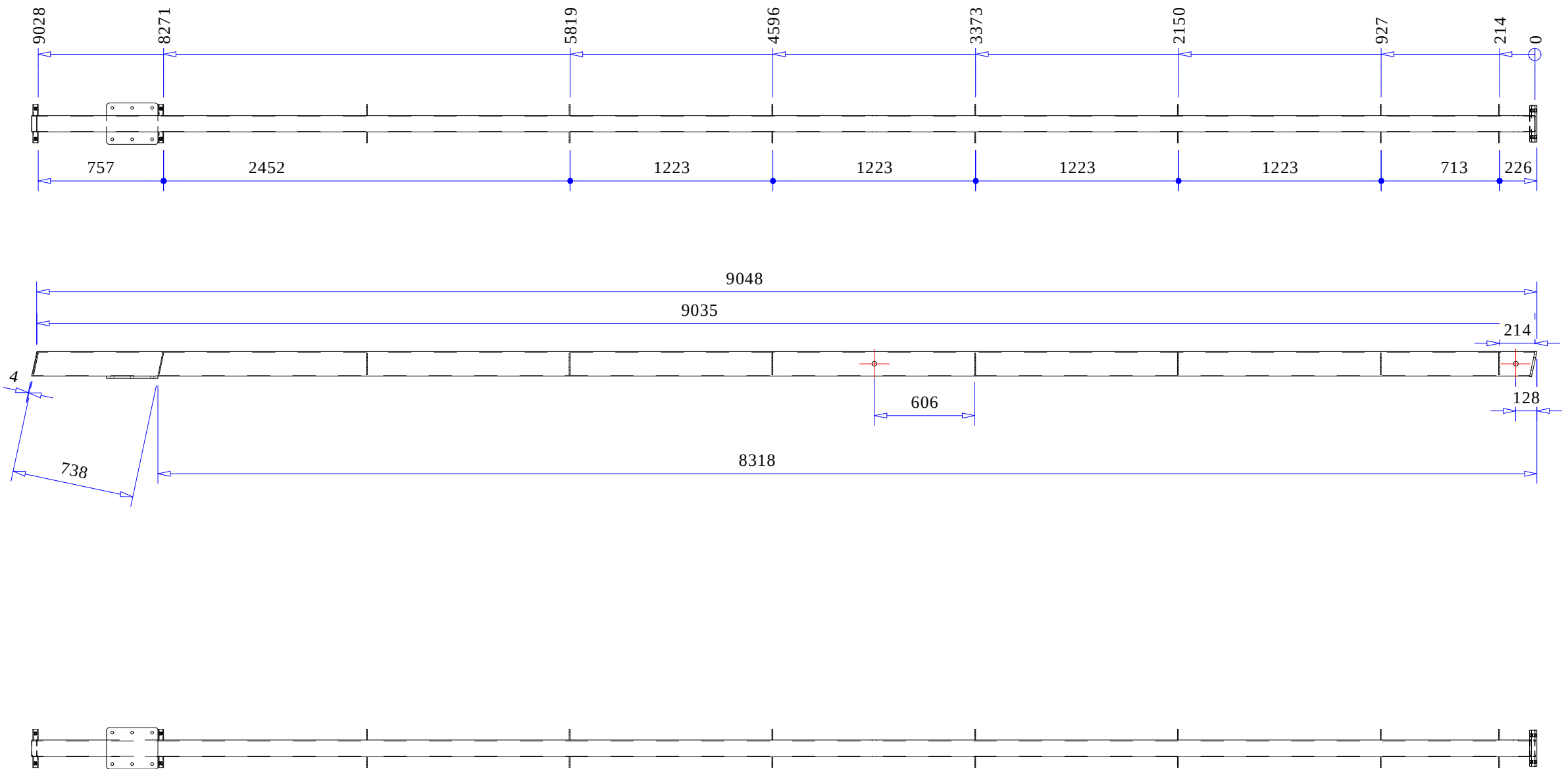
FLOOR PLAN AND ELEVATIONS

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No.		22533-03	PERTH & FORRESDALE: Lvl 1, 252 Fitzgerald St PERTH WA 6000 15/2 Hensbrook Loop, FORRESDALE WA 6112 T: 08 9495 1947 E: metro@harleydykstra.com.au ALBANY BUNBURY BUSSELTON FORRESDALE PERTH	COPYRIGHT: This document is and shall remain the property of HARLEY DYKSTRA. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.
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Drawn		NP		
Checked		DM		
Revision		A		
Scale		1:500@A3		

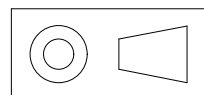
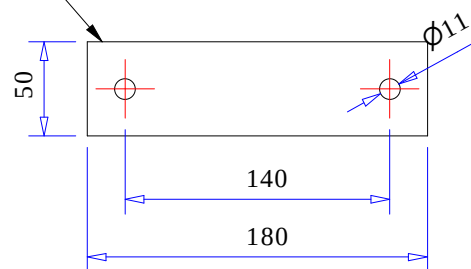
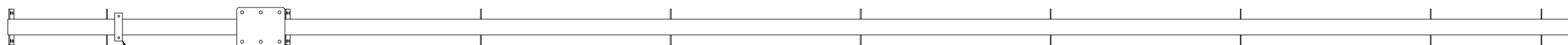
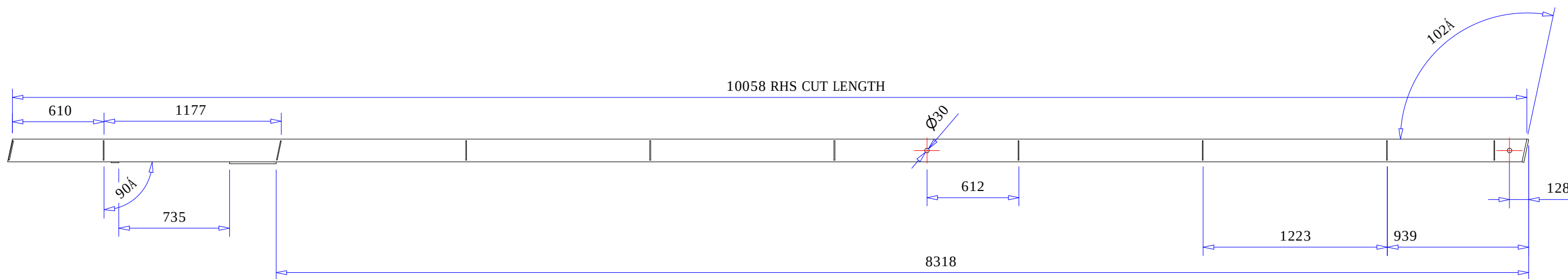
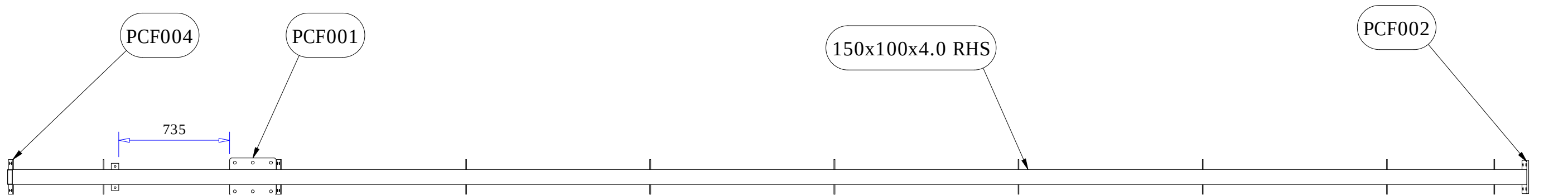
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PLANNING & SURVEY SOLUTIONS



DO NOT SCALE
ALL DIMENSIONS IN MM

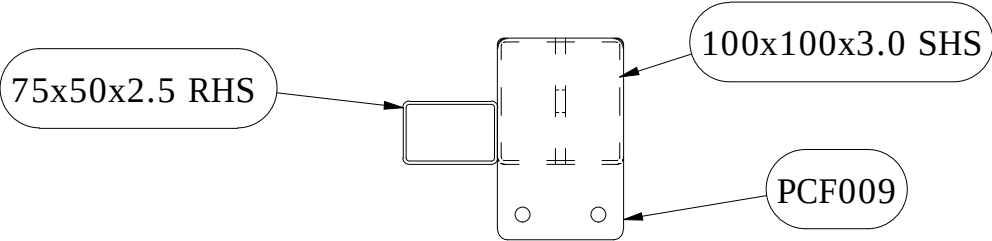
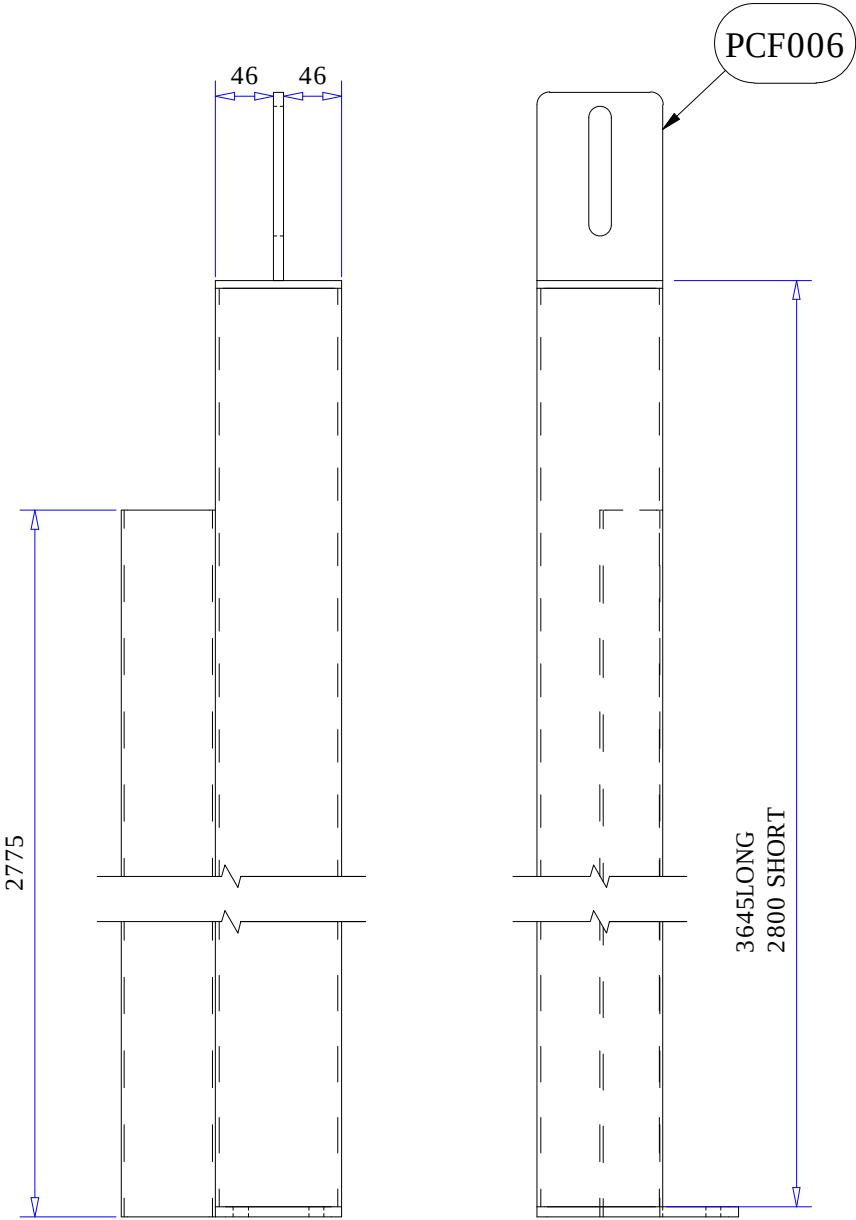
Designed by T Belardo	Checked by	Approved by	Date	Date 2/02/2021	AS NOTED A3
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		TYP BEAM DETAIL			Edition



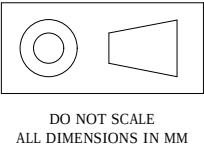
DO NOT SCALE
ALL DIMENSIONS IN MM

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TYP COOLCELL BEAM DETAIL					Edition Sheet 8 / 9

DROP POST DETAIL



Galvanized material to be used were available and cold gal paint to be used on all welds and non galvanized parts



- BRIEF SPECIFICATIONS GENERAL SLAB AND FOOTING REQUIREMENTS:**
- 1. TOP SOIL AND VEGETATION SHALL BE STRIPPED FROM SITE TO A MINIMUM DEPTH OF 100mm.
 - 2. PRIOR TO THE PLACEMENT TO ANY CONTROLLED FILL, THE EXPOSED SUB GRADE SHALL BE COMPACTED TO A MINIMUM 95 % RELATIVE DENSITY.
 - 3. ALL ORGANIC MATTER AND SOFT AREAS SHALL BE REMOVED AND REPLACED WITH GRANULAR MATERIAL. ALL FILLING SHALL BE CLEAR GRANULAR MATERIAL PLACED IN MAXIMUM 150mm COMPACTED LAYERS AND COMPACTED BY WATERING AND USE OF VIBRATING ROLLER OR COMPACTOR TO ACHIEVE CONTROLLED FILL
 - 4. AS PER AS2870. FILL SHALL BE COMPACTED TO MINIMUM AS1289.1.1 (1993), OR WHEN TESTED PASS THE REQUIRED MIN. 100kPa BEARING CAPACITY FOR THE FOOTING.
 - 5. GROUND SURFACES AROUND THE POLTRY SHED TO BE GRADED SO THAT NO WATER PONDS AROUND THE FOOTINGS. PROVIDE 100mm FALL OVER THE FIRST 1000mm FROM THE BUILDINGS. THE BUILDER IS TO DETERMINE THE PRESENCE OF ANY ADDITIONAL FILLED AREAS, WHICH WOULD NECESSITATE THE USE OF MODIFIED FOOTINGS.
- GENERAL NOTES:**
- 1. ALL DIMENSIONS ARE TO BE OBTAINED FROM THE ARCHITECTS DRAWINGS OR FROM SITE. ENGINEERS DRAWINGS MUST NOT BE SCALED.
 - 2. THE APPROVAL OF A SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRA INVOLVED MUST BE TAKEN UP WITH THE ARCHITECT BEFORE WORK COMMENCES.
 - 3. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- STRUCTURAL STEEL**
- 1. ALL STEELWORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AS4100, SAA STEEL STRUCTURES CODE.
 - 2. WELDS TO BE 6mm CONTINUOUS FILLET LAID DOWN WITH APPROVED COVERED ELECTRODE IN ACCORDANCE WITH AS1554 -WELDING CODE. BOLTS 16 mm DIA, BLACK IN 19 mm CLEARANCE
 - 3. HOLES, GUSSET PLATES 10mm THICK UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS NOMINATED 'HS' TO BE SNUG TIGHTENED ONLY UNLESS NOTED.

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		DROP POST & GENERAL NOTES			Edition

APPENDIX C

Landuse Context

LEGEND



Subject Land (121.4832ha)



1000m Buffer



Existing Structures



Proposed Poultry Sheds



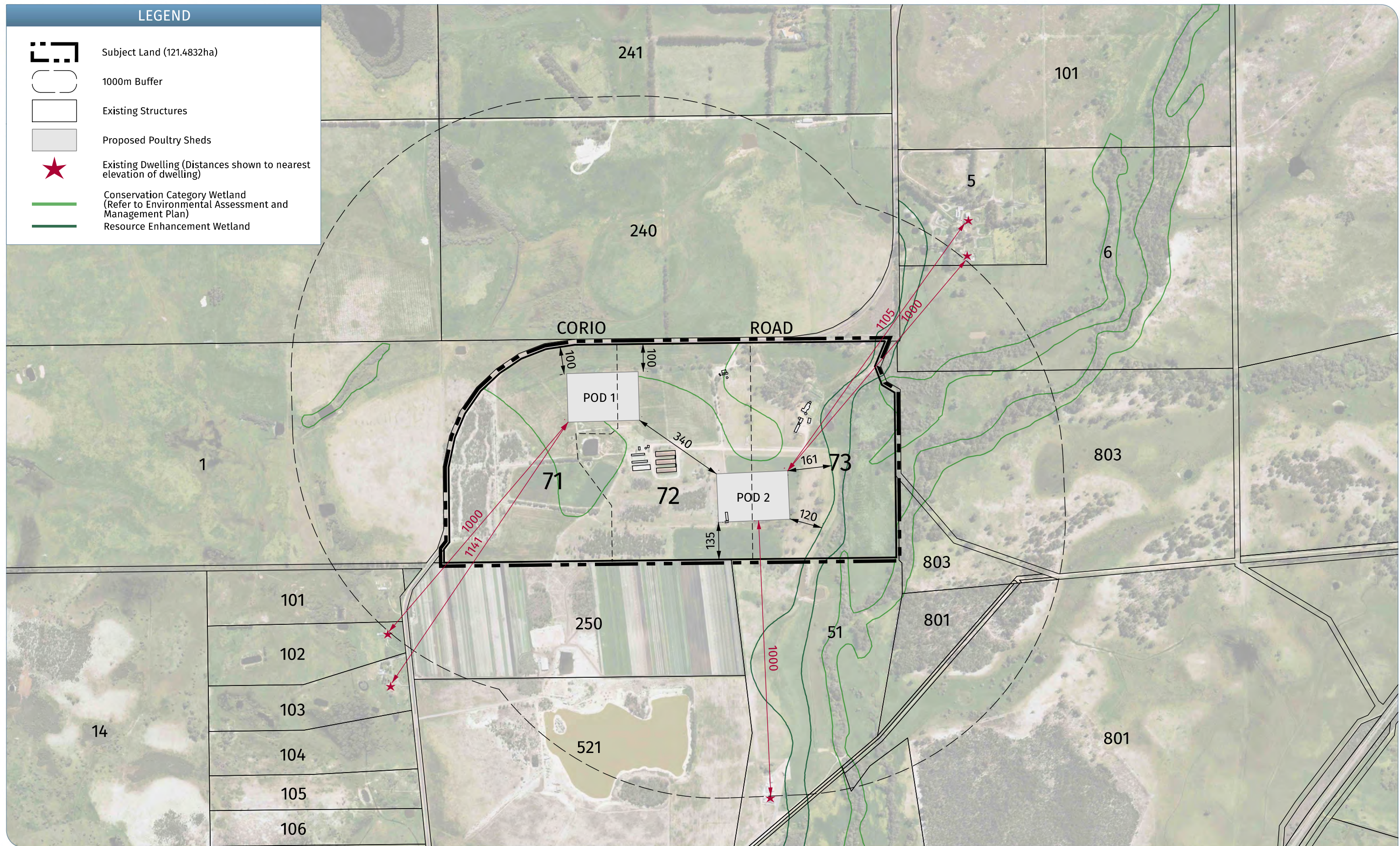
Existing Dwelling (Distances shown to nearest elevation of dwelling)



Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)



Resource Enhancement Wetland



LANDUSE CONTEXT & BUFFER PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-02
Date | 19/02/21
Drawn | NP
Checked | BdR
Revision | C

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Scale | 1:12500@A3

0 100m 200m 300m



NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey



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PLANNING & SURVEY SOLUTIONS

LEGEND



Subject Land (121.4832ha)



1000m Buffer



Existing Structures



Proposed Poultry Sheds



Existing Dwelling (Distances shown to nearest elevation of dwelling)



Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)

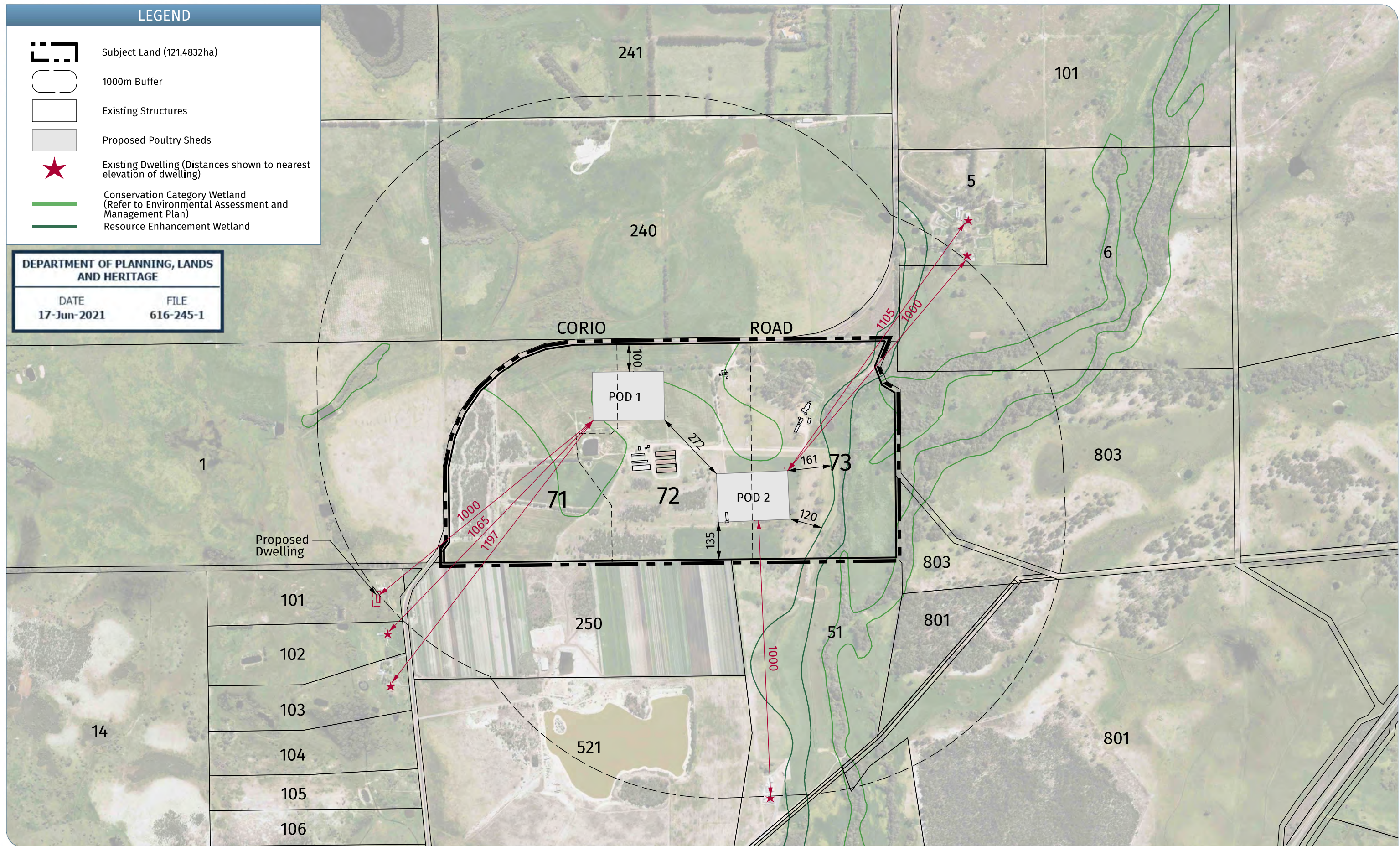


Resource Enhancement Wetland

DEPARTMENT OF PLANNING, LANDS
AND HERITAGE

DATE
17-Jun-2021

FILE
616-245-1



LANDUSE CONTEXT & BUFFER PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-02
Date | 11/06/21
Drawn | NP
Checked | BdR
Revision | D

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Scale | 1:12500@A3

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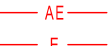
 Subject Land (121.4832ha)

 Existing Easements

 Existing Structures

 Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)

 Resource Enhancement Wetland Indicative Resource Enhancement Wetland buffer (30m)

 AE Overhead Electricity (DBYD)

 E Underground Electricity (DBYD)

 Proposed Poultry Sheds

 Proposed Silos

 Vegetation screening in accordance with requirements of the Bushfire Management Plan

 Ventilation Fans

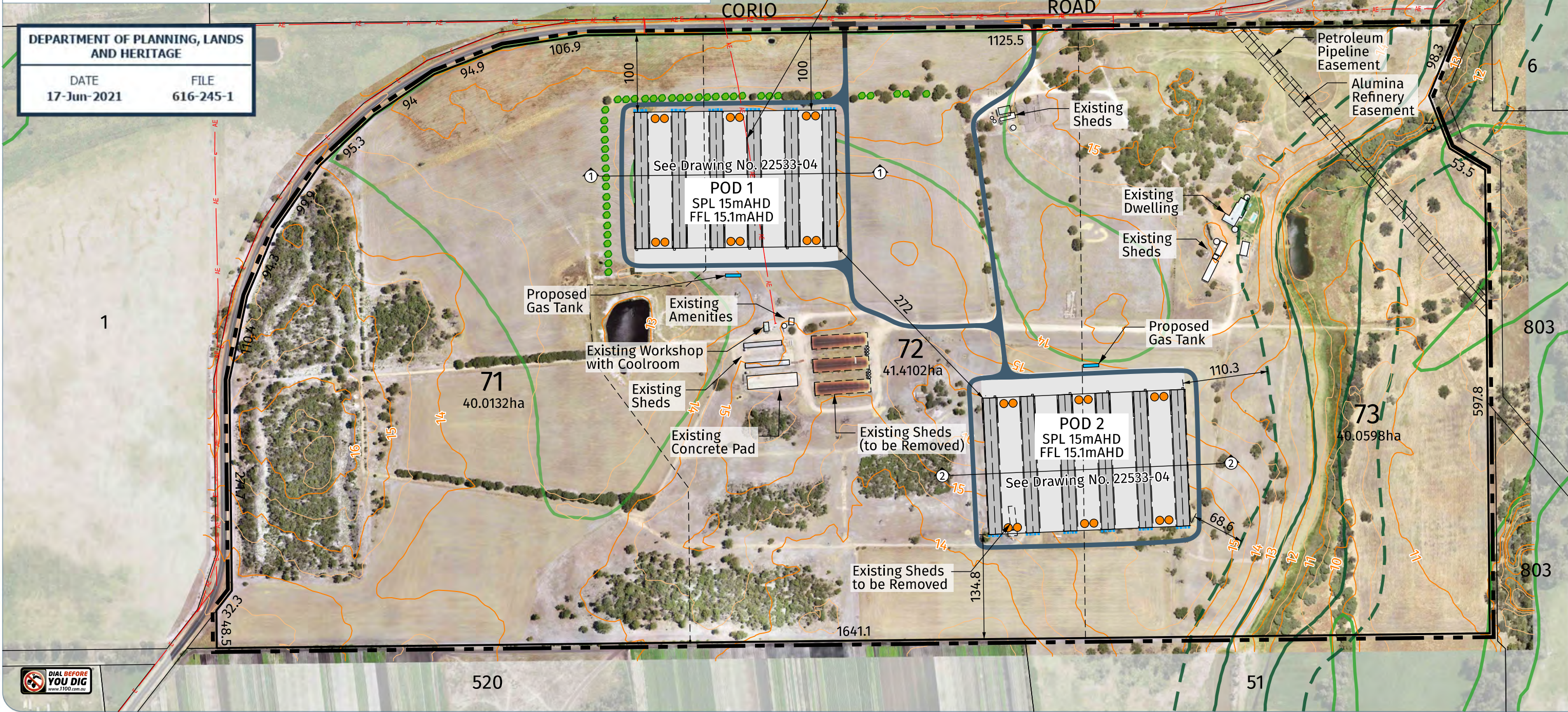
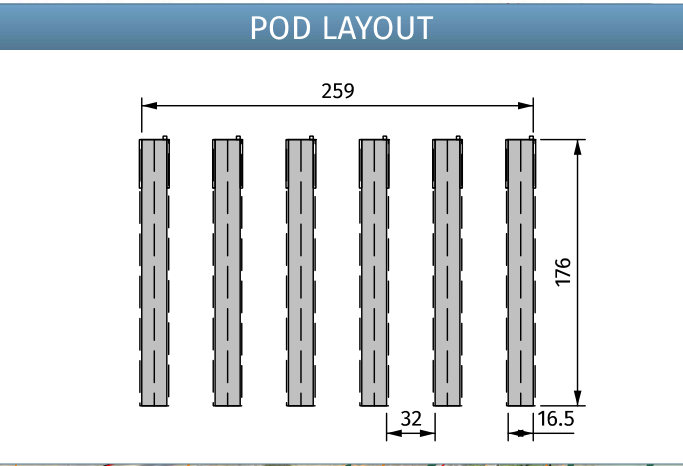
 6m Access Driveway (Compacted road base)

 Bitumen sealed crossover

Notes:

1. Existing lots to be amalgamated prior to commencement of use.

2. Maximum ground water level 13m AHD (Aurora Environmental 2021)



DEVELOPMENT SITE PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-01

Date | 17/06/21

Drawn | NP

Checked | BdR

Revision | F

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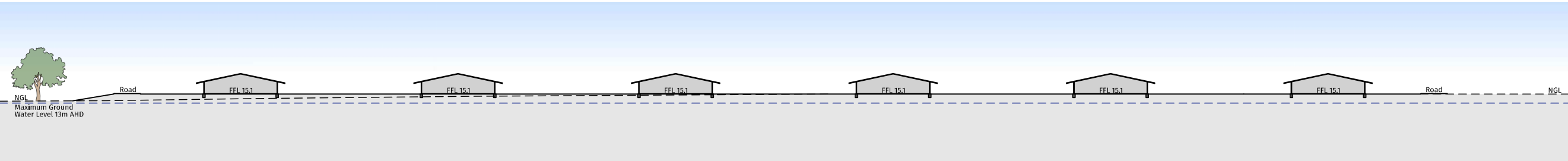




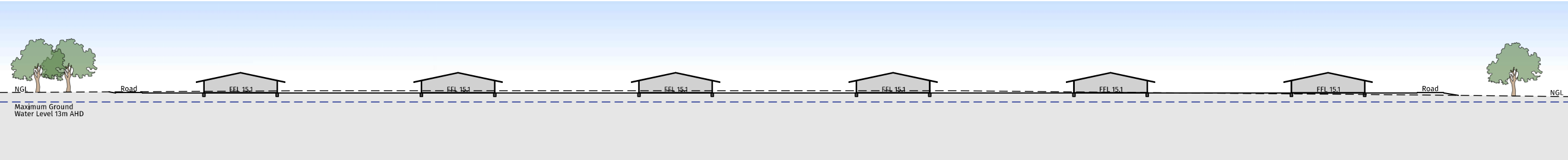


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SECTION 1: POD 1



SECTION 2: POD 2

SECTION PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-04

Date | 15/06/21

Drawn | NP

Checked | DM

Revision | B

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10m

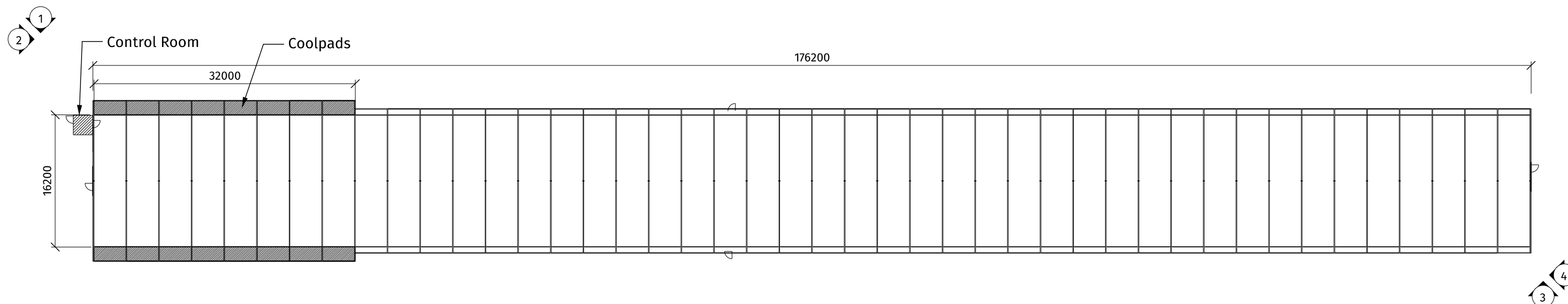
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30m

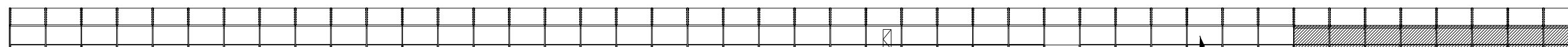
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NO
SOL
SOUTH
PERMANENT

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FLOOR PLAN
1:500

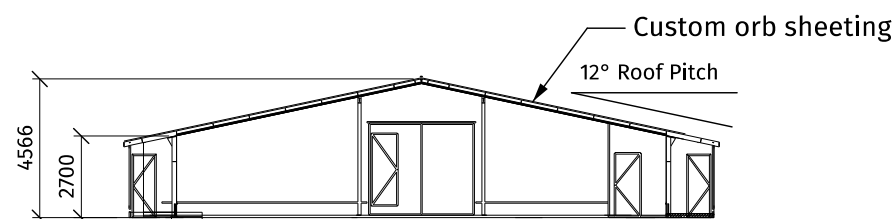


ELEVATION - 1
1:500

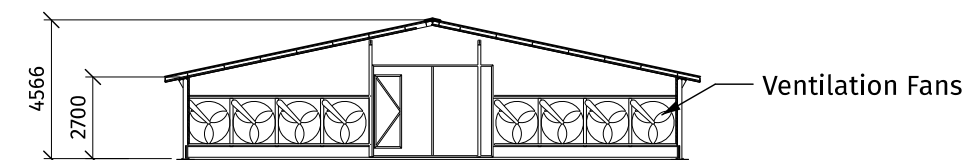
50mm Sandwich Panel Wall



ELEVATION - 3
1:500



ELEVATION - 2
1:250



ELEVATION - 4
1:250



NOTE: Design by R&DG Sanday

FLOOR PLAN AND ELEVATIONS

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-03
Date | 17/02/21
Drawn | NP
Checked | DM
Revision | A

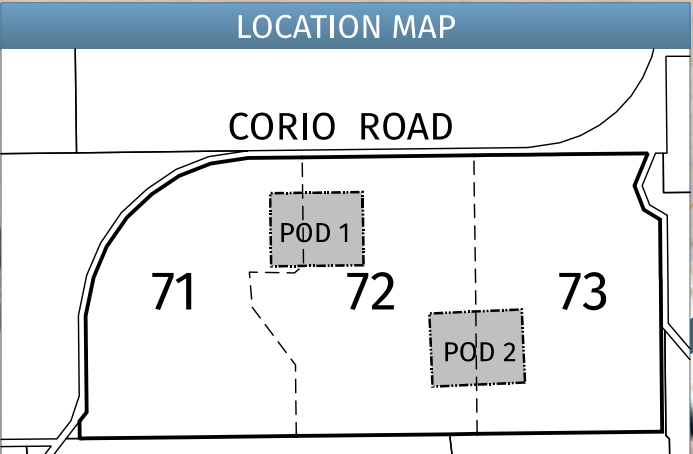
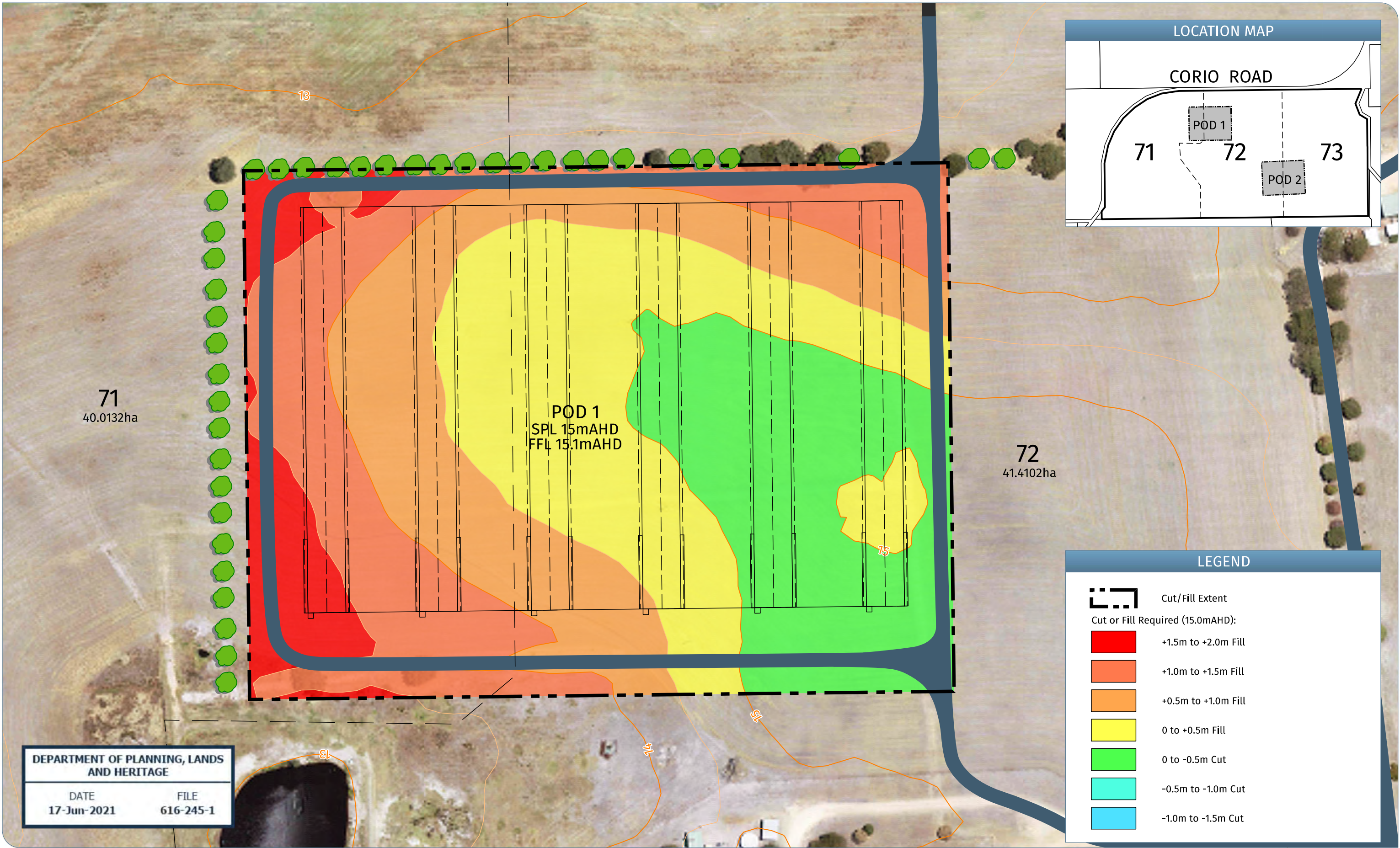
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DEPARTMENT OF PLANNING, LANDS
AND HERITAGE

DATE: 17-Jun-2021
FILE: 616-245-1

DEVELOPMENT SITE PLAN

FILL REQUIREMENTS - POD 1

Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD

Plan No. | 22533-05
Date | 17/06/21
Drawn | NP
Checked | DM
Revision | B

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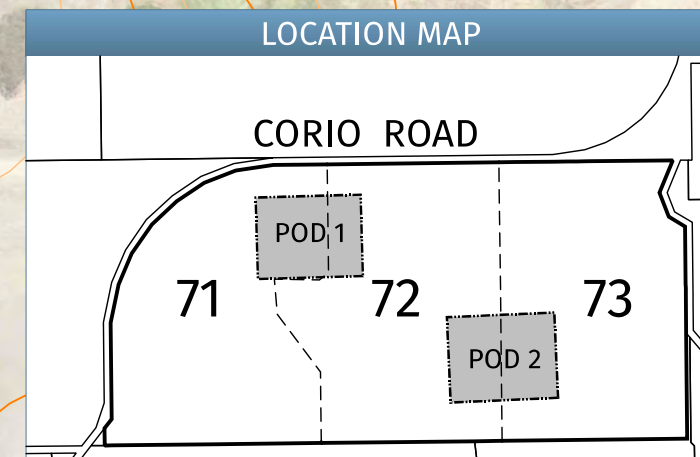
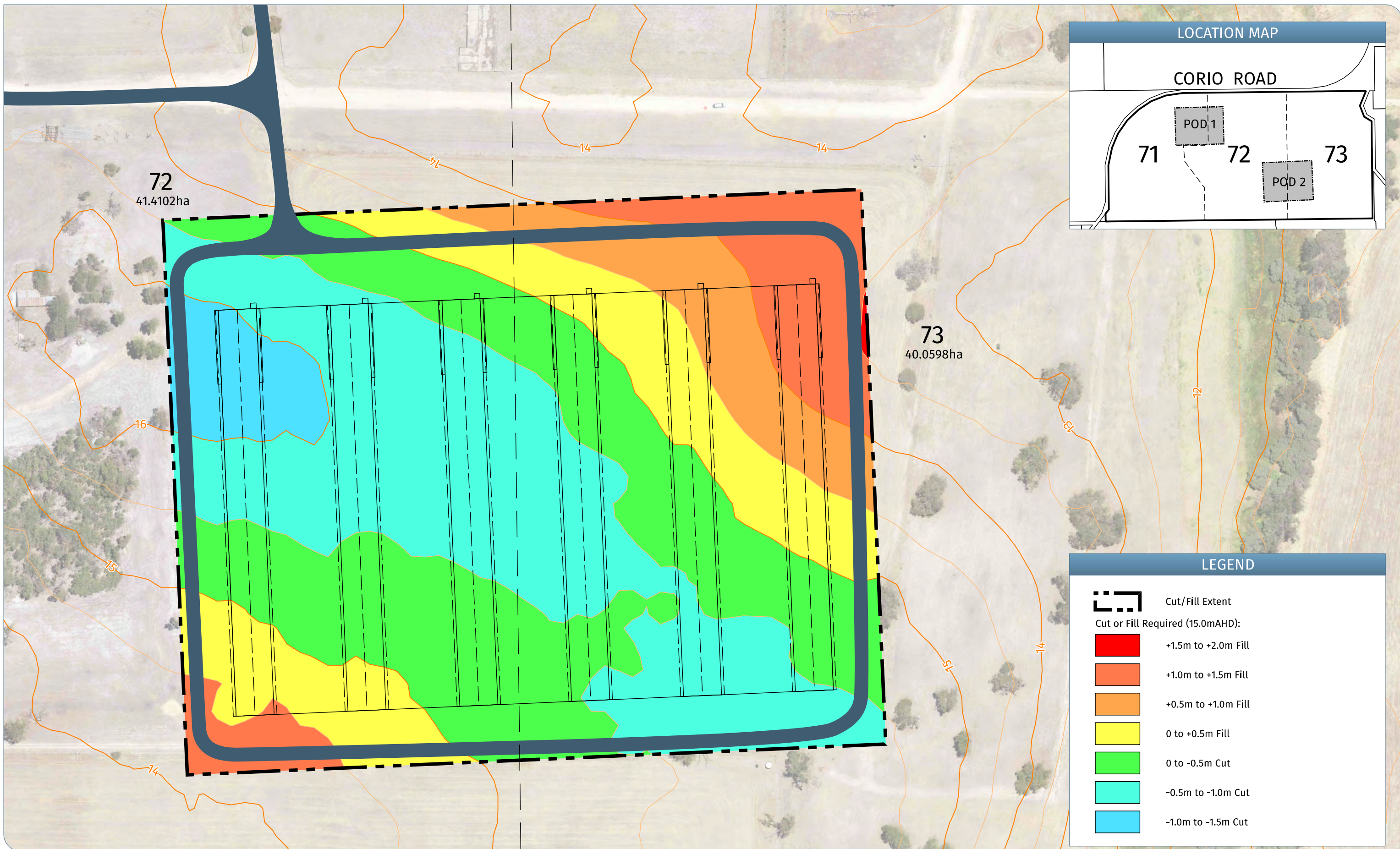
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

Scale | 1:1500@A3

0 20m 40m

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey





DEVELOPMENT SITE PLAN

FILL REQUIREMENTS - POD 2

Lots 71, 72 & 73 (No. 511) Corio Road, RAVENSWOOD

Plan No. | 22533-06
 Date | 01/06/21
 Drawn | NP
 Checked | DM
 Revision | A

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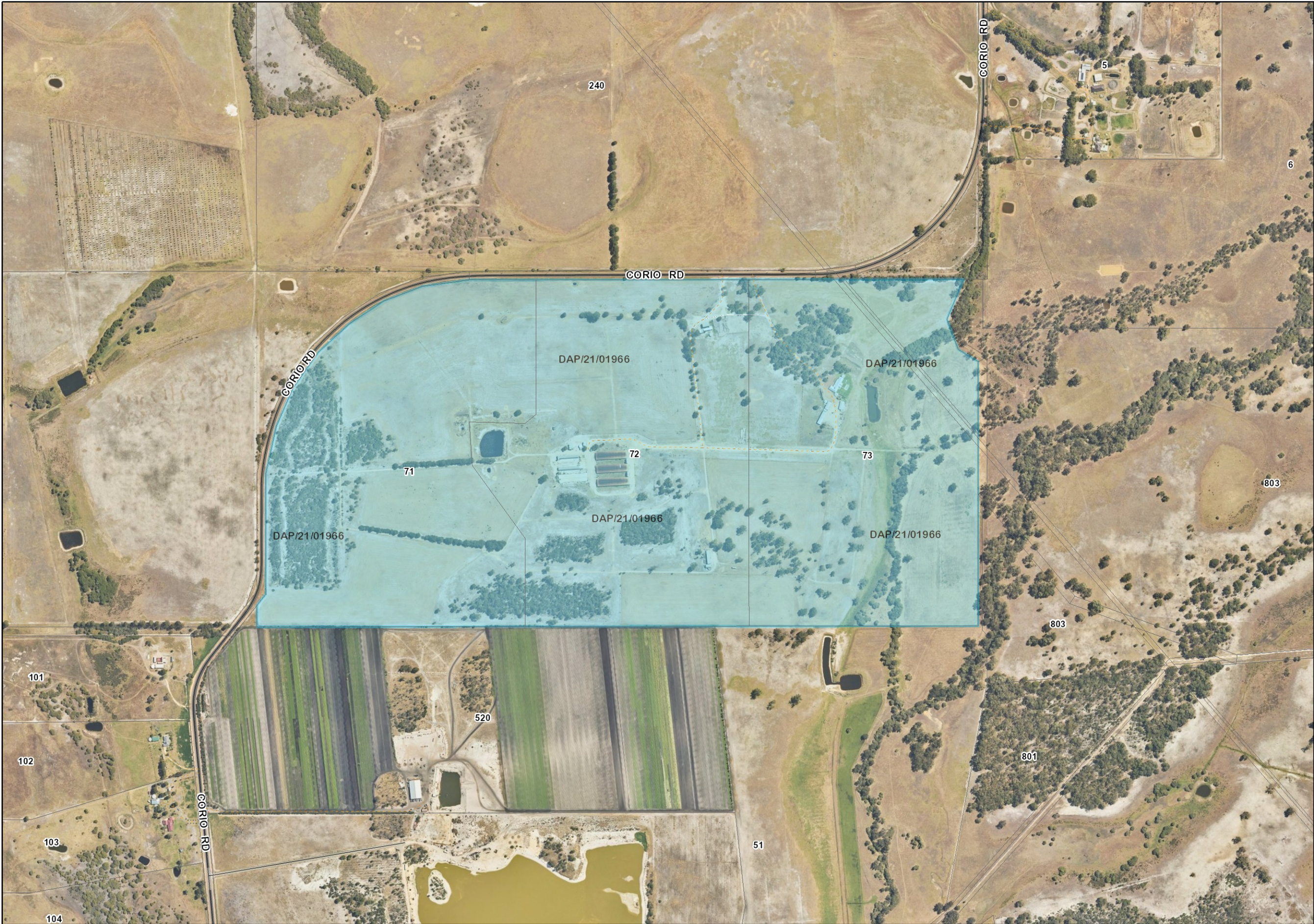
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

Scale | 1:1500@A3

0 20m 40m

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Department of Planning,
Lands and Heritage

Legend

☐ Cadastre (View 1)

Roads

— Minor

— Track

--- Not Applicable

DAP Application Boundary

■ Current

Notes:

* The data that appears on the map may be out of date, not intended to be used at the scale displayed, or subject to license agreements. The map should only be used in matters related to Department of Planning, Lands and Heritage business.

* This map is not intended to be used for measurement purposes.

Map was produced using DPLH's InQuery.

Date produced: 06-Jul-2021

Attachment 3 - Aerial Plan

DPLH BUSINESS USE ONLY

Internal Spatial Viewer

N

00.220.43 Kilometres

1: 10,000
at A3

Projection: WGS 1984 Web Mercator Auxiliary Sphere

LEGEND



Subject Land (121.4832ha)



1000m Buffer



Existing Structures



Proposed Poultry Sheds



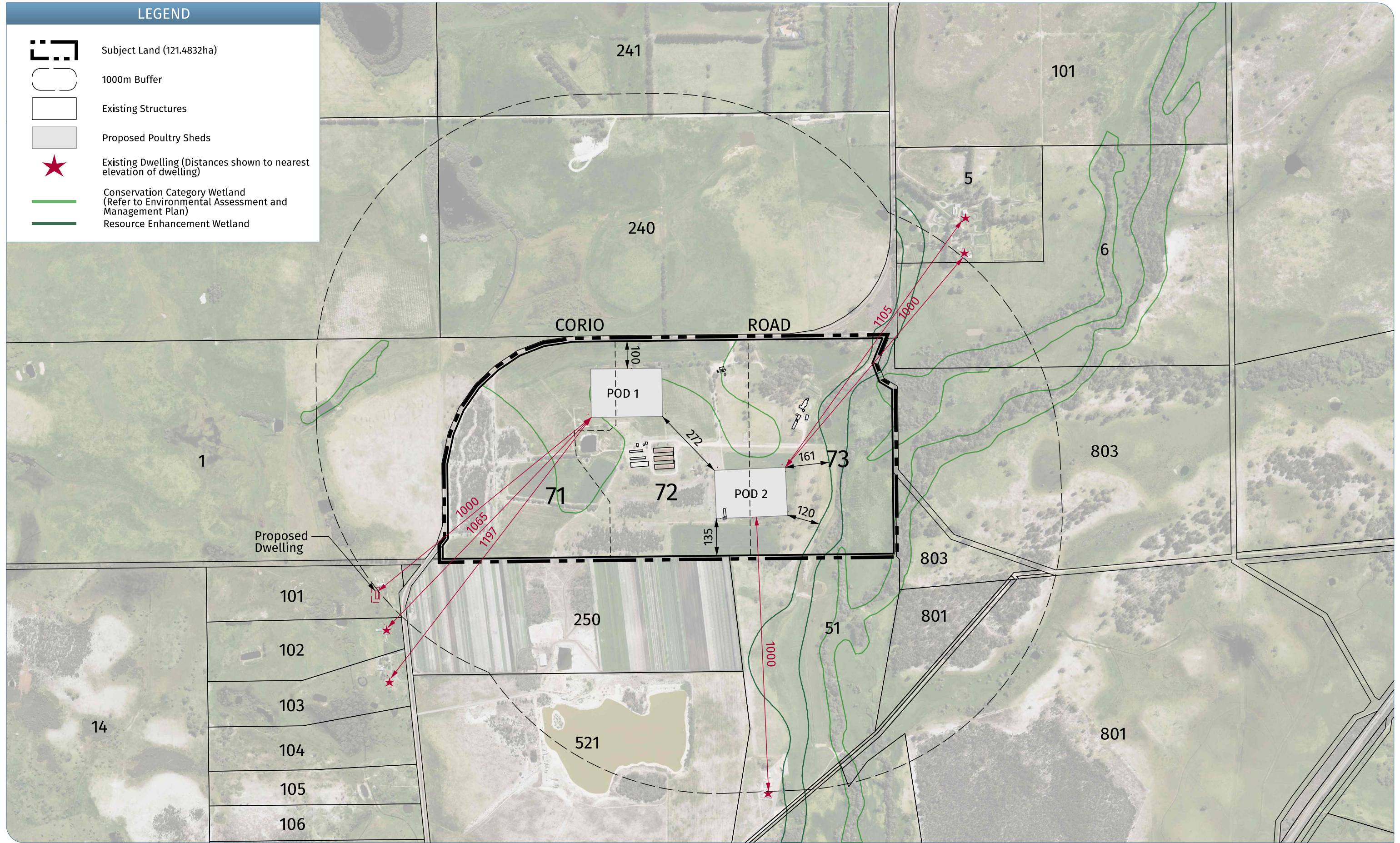
Existing Dwelling (Distances shown to nearest elevation of dwelling)



Conservation Category Wetland (Refer to Environmental Assessment and Management Plan)



Resource Enhancement Wetland



LANDUSE CONTEXT & BUFFER PLAN

Lots 71, 72 & 73 (No. 511) Corio Road,
RAVENSWOOD

Plan No. | 22533-02
Date | 11/06/21
Drawn | NP
Checked | BdR
Revision | D

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any form whatsoever is prohibited.

Scale | 1:12500@A3

0 100m 200m 300m



NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey



Harley Dykstra

PLANNING & SURVEY SOLUTIONS



Legend

☐ Cadastre (View 1)

Roads

— Minor

- - - Track

- - - Not Applicable

DAP Application Boundary

☒ Current

☒ Region Scheme Boundary

Region Scheme Zones and Reserves

☒ Public purposes - public utilities

☒ Railways

☒ Rural

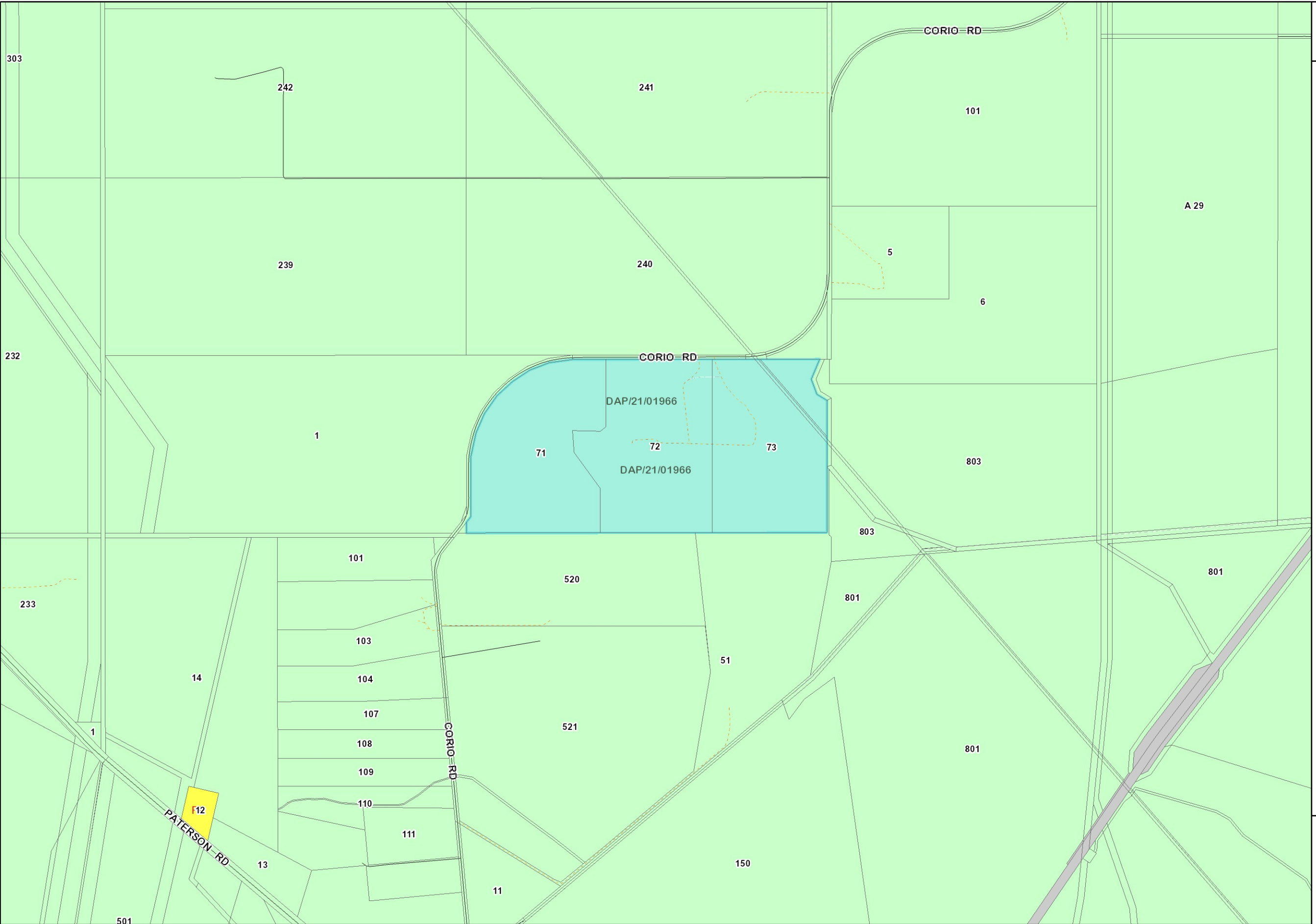
Notes:

* The data that appears on the map may be out of date, not intended to be used at the scale displayed, or subject to license agreements. The map should only be used in matters related to Department of Planning, Lands and Heritage business.

* This map is not intended to be used for measurement purposes.

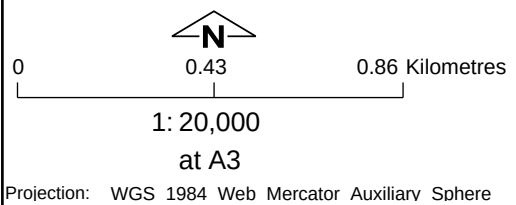
Map was produced using DPLH's InQuery.

Date produced: 06-Jul-2021



Attachment 5 - Peel Region Scheme Zoning Plan

DPLH BUSINESS USE ONLY





Legend

☐ Cadastre (View 1)

Roads

— Minor

— Track

--- Not Applicable

DAP Application Boundary

☒ Current

☒ Local Planning Scheme
Boundary

☐ Other Categories - Areas (SCA,
DCA, DA etc)

LP Scheme Zones and Reserves

☒ Farmlet

☒ Rural

☒ Special rural

☒ Special use

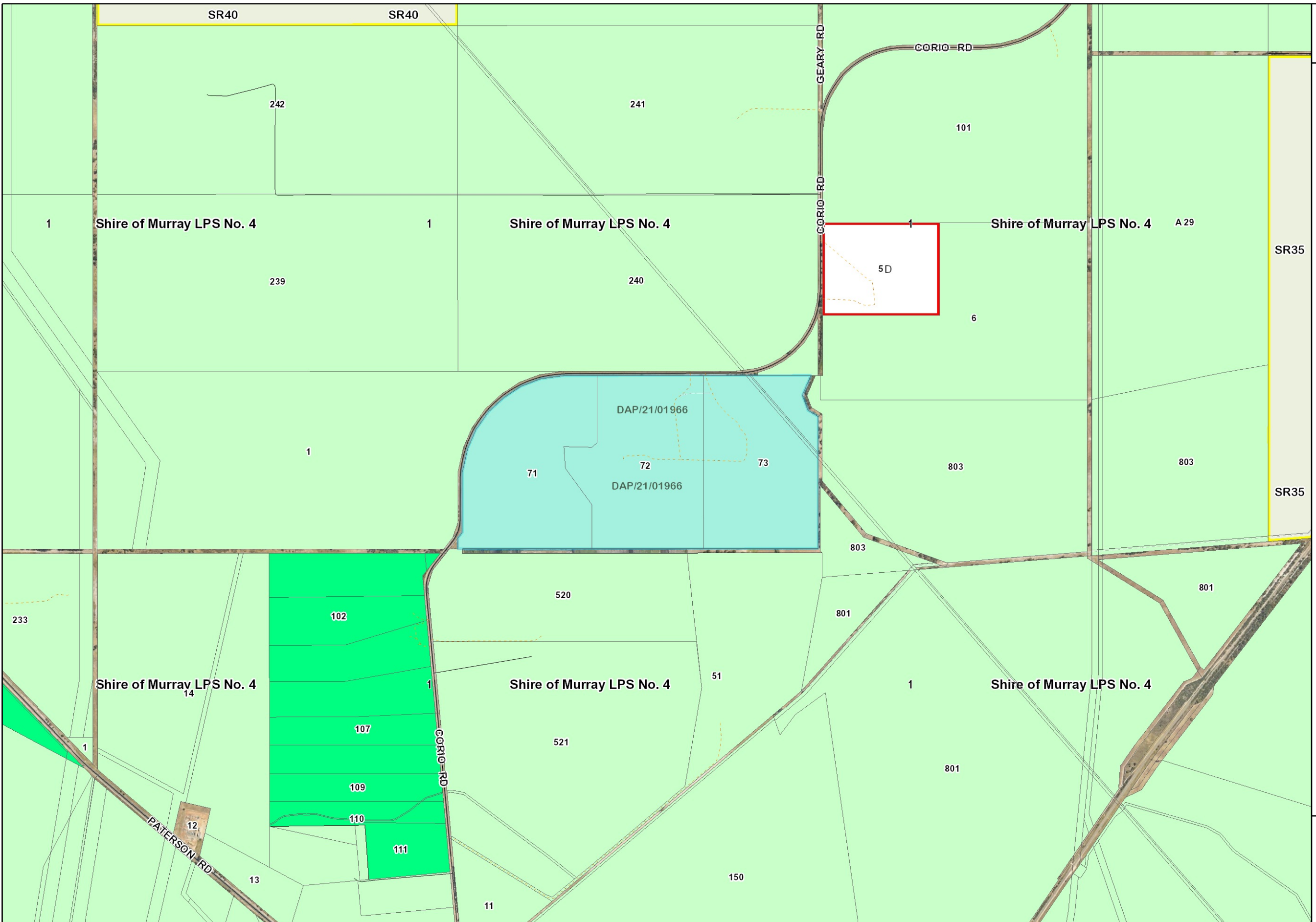
Notes:

* The data that appears on the map may be out of date, not intended to be used at the scale displayed, or subject to license agreements. The map should only be used in matters related to Department of Planning, Lands and Heritage business.

* This map is not intended to be used for measurement purposes.

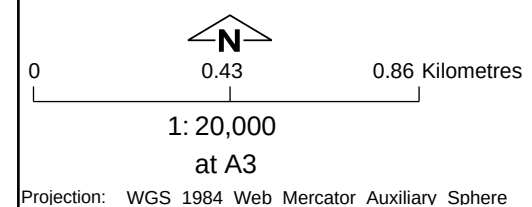
Map was produced using DPLH's InQuery.

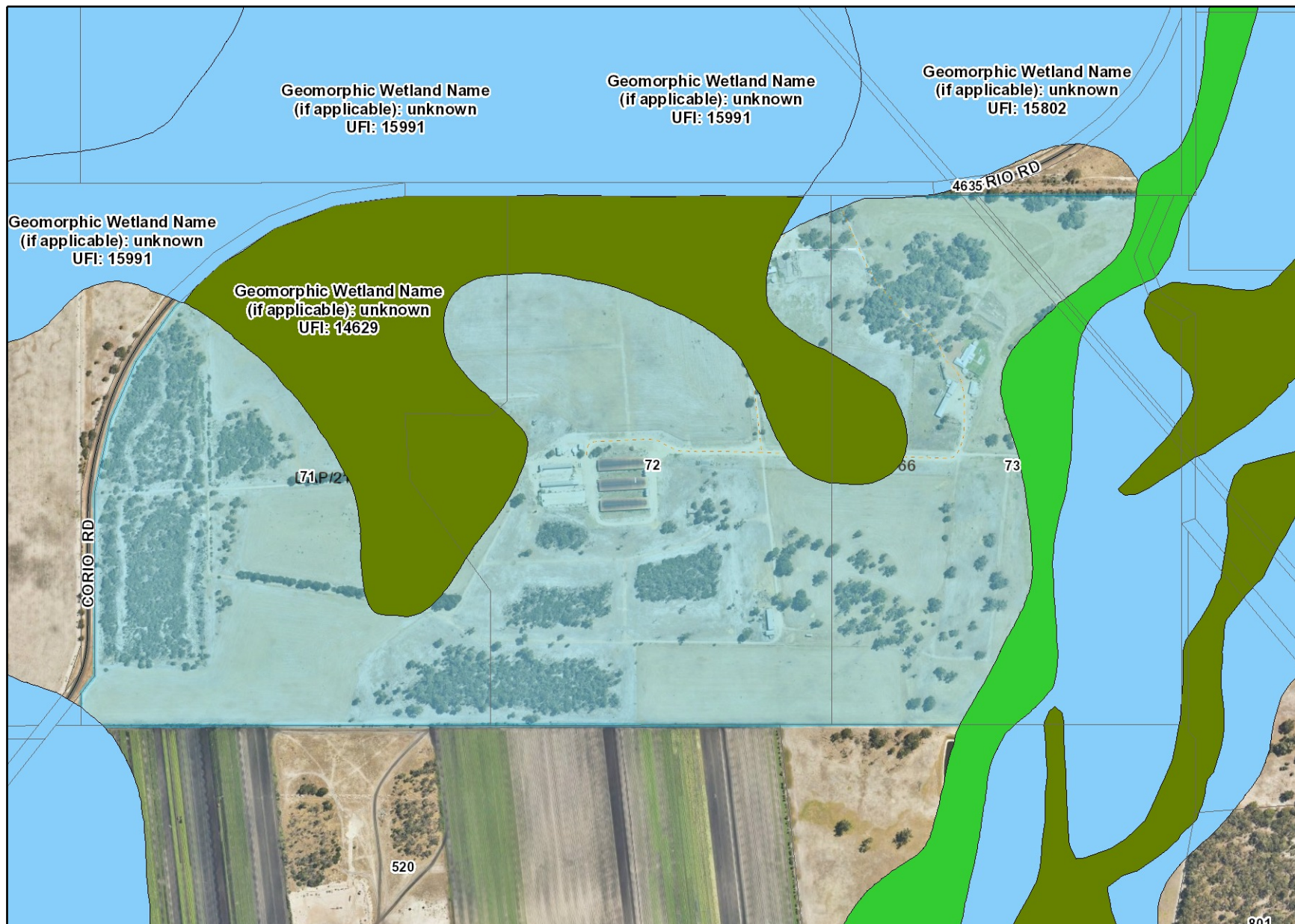
Date produced: 06-Jul-2021



Attachment 6 - TPS 4 Zoning Plan

DPLH BUSINESS USE ONLY





Legend

☐ Cadastre (View 1)

Geomorphic Wetlands - Swan Coastal Plain

- Conservation
- Multiple Use
- Resource Enhancement

Roads

- Minor
- Track
- Not Applicable

DAP Application Boundary

- Current

Notes:

* The data that appears on the map may be out of date, not intended to be used at the scale displayed, or subject to license agreements. The map should only be used in matters related to Department of Planning, Lands and Heritage business.

* This map is not intended for measurement purposes.

Attachment 7 - Wetland Mapping

DPLH BUSINESS USE ONLY



0 0.22 0.43 Kilometres

1: 10,000

at A4

Projection: WGS 1984 Web Mercator Auxiliary Sphere



Legend

☐ Cadastre (View 1)

WA Threatened and Priority
Ecological Communities

■ Priority 3

Commonwealth Threatened
Ecological Communities

■ Endangered

Roads

— Minor

--- Track

--- Not Applicable

DAP Application Boundary

■ Current

Notes:

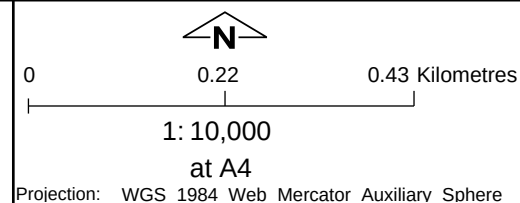
* The data that appears on the map may be out of date, not intended to be used at the scale displayed, or subject to license agreements. The map should only be used in matters related to Department of Planning, Lands and Heritage business.

* This map is not intended for measurement purposes.

Attachment 8 - Vegetation Mapping

DPLH BUSINESS USE ONLY

Internal Spatial Viewer



Date produced:

06-Jul-2021

Figure 3: BAL Contour (Post Development) - Lot 551 Corio Road Ravenswood



Figure EX 1 - Spatial representation of the proposed risk management strategies



Notes

1. Pod 2: The establishment of an Asset Protection Zone (APZ) in accordance with the Standards for Asset Protection Zones (Schedule 1 Guidelines for Planning in Bushfire Prone Areas V1.3).
2. Pod 1: Voluntary Asset Protection Zone (APZ), 8 m to grassland and grassland maintained to 21 m from the buildings. Any 'screening trees' are to be set no closer than 21 m from the buildings.
3. Private driveway access is to be provided in accordance with the Technical requirements provided in the Guidelines at Element 3 Table 6 column 3.
4. Firebreaks are to be maintained inside all boundaries in accordance with the Shire Firebreak notice.
5. The provision of a centrally located water tank/hydrant (Farm building Part H3 NCC: 2019), with 21 m APZ to BAL-29, couplings prescribed (Part H3 NCC: 2019) and Shire specifications.

Note: Pod 1 compliance with SPP 3.7 is volunteered.

LEGEND

- Site Boundary
- Asset Protection Zone
- Accessway
- Water tank for firefighting
- Firebreak-Shire of Murray Firebreak Notice

Property Assessment Details

Prepared by: Anthony Rowe
 Accreditation Level: Level 3
 Accreditation Number: 36690
 Date: 27 February 2021



31 May 2021

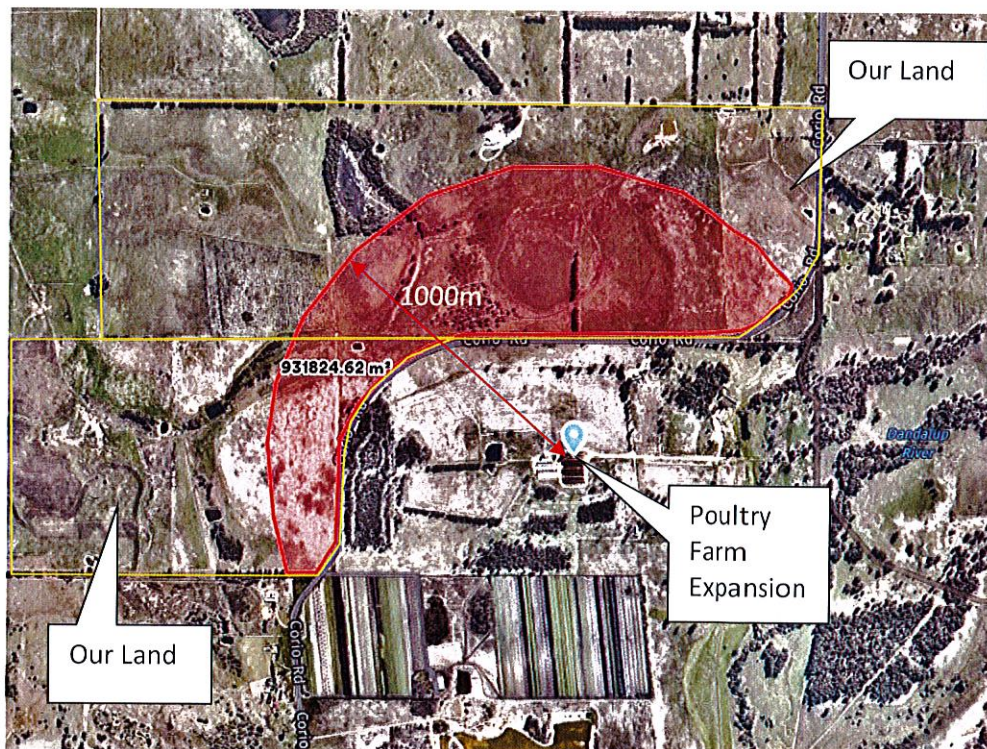
Presiding Member
Metro Outer Joint Development Assessment Panel
Department of Planning, Lands and Heritage
Locked Bag 2506
PERTH WA 6001

OBJECTION AGAINST APPLICATION FOR EXPANSION OF POULTRY FARM – LOTS 71, 72, 73 CORIO ROAD, RAVENSWOOD (DAP APPLICATION REFERENCE: DAP/21/01966)

It has come to my attention that the Shire of Murray has received a JDAP Application for Expansion of Poultry Farm on the subject site. The Shire has **NOT** consulted any affected landowners in the area citing the proposal does not require advertising under its Local Planning Scheme.

As an affected landowner on Corio Road, I **object strongly** to the proposed poultry farm expansion for the following reasons:

- The proposal is a poultry industry that will require a buffer distance of 1000m (or 1km) under the Department of Water and Environmental Regulation' Regulatory Framework from sensitive receptors. The poultry farm expansion will have a huge impact on our land and will sterilise our land within 1000m from the proposed chook farm as indicated below:





- As indicated on the diagram, 93 hectares of our land will be impacted and quarantined from development. This is an extensive area on one landowner and is totally unacceptable.
- It is deplorable that the poultry farm expansion will affect us and prevent us from building a single residence on each of our property, which we are entitled to.
- The poultry farm expansion will impose unreasonable restrictions on our land on how and when we can to use it. It is wrong, unfair and unjust for the Shire and JDAP to consider the proposal for the benefit of a single business by a single operator, all at the expense of all the other surrounding and adjoining landowners.
- The Nambeelup area is fast becoming an important Peel Food Zone through the Transform Peel initiative. A wide range of land use sensitive to emissions from the poultry farm will be prohibited and inconvenienced. The following list of land uses are all permitted discretionary uses that can be approved in the Rural Zone; however, the poultry farm expansion will eliminate nearly all of them thereby removing the all-important range of services that could otherwise be provided in the growing area.

Ancillary Accommodation
Home Office
Single House
Camping Area
Licensed Restaurant
Café
Vet Hospital
Research Centre

Caretaker's Dwelling
Home Occupation
Chalet Park
Bed and Breakfast
Winery
Family Day Care Centre
Rural Produce Stalls

Home Business
Rural Worker's Dwelling
Caravan Park
Park Home Park
Shop
Vet Centre
Cattery

Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to particular emissions may also be considered 'sensitive land uses'

- The proposed poultry farm expansion is significant given it is approximately \$12m and will effectively prevent the permissible services (identified above) within 1000m from the poultry farm operation.
- In fact, a prospective community group Regional Regeneration Alliance who was seeking to build the 'Peel Regeneration Hub' – a place that supports the most vulnerable people in the Peel community, namely disadvantaged and disengaged youth on our land was turned away by the Shire. It was for a good cause that will build individual growing plots for sponsorship, teaching youth foundational skills in horticulture, whilst providing a safe place for them to connect to the natural environment and each other. The food grown would be donated to Foodbank providing food relief for those most vulnerable in the community.

G&G CORP

1/219 Midland Road, Hazelmere 6055 Western Australia
Tel: 08 9250 1122 Fax: 08 9250 2236 admin@ggcorp.com.au



I urge the JDAP to carefully consider the impact and repercussions the proposed poultry farm expansion will have to the affected landowners, local residents, community, and the potential sterilization of land in the area for many years to come.

I trust the above clarifies our position. Please call me on 0417913178 if you have further queries.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Joe Gangemi', with a large, sweeping flourish at the end.

Joe Gangemi
G & G Corp Pty Ltd