STATEMENT OF ENVIRONMENTAL EFFECTS FOR THE

DEVELOPMENT OF A COMPOST BEDDED BARN AND EFFLUENT

SYSTEM TO IMPROVE

COW COMFORT AND EFFLUENT MANAGEMENT

FOR MIDDLEBROOK FAMILY

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STATEMENT OF ENVIRONMENTAL EFFECTS

Project name: Middlebrook Barn Development

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The Proposal: Intensive Livestock Agriculture – 750 dairy cows (restricted) including the construction of 1 compost barn (600 cows) and effluent ponds. 150 cows to remain on dry lot through summer with grazing from April to November.

Subject Land: 70/-/DP752297

Land Zone: RU1 Primary Production

Water course proximity: More than 100 metres from natural water courses

SUMMARY OF THE STATEMENT OF ENVIRONMENTAL EFFECTS

INTRODUCTION AND STATEMENT OF INTENT

This Statement of Environmental Effects addresses the design and implications of a proposed development of a 600 cow compost barn to house dairy cattle and the integration of that with existing facilities that will house 150 head of milking cattle.

The proposed development will be at 796 Maxwells Road, NSW 2710 and consists of

- A compost bedded pack barn to house 600 cows
- 3 Sedimentation ponds
- 1 storage pond.

Objectives: The Middlebrook Family, wish to improve the dairy facility on their property at Finley. The proposed changes in property structure have resulted from continuing challenges of climate and water allocation. The Middlebrook family wants to incorporate best farming practice on their dairy, to;

- improve the comfort and health of their cattle,
- improve the environment through dust reduction and lowering the potential for a mud-manure interface and;
- to recycle water and nutrients for fodder production and to reduce the potential for waste run-off from the site;
- improve long-term economic viability.

Key aspects of the plan are the development of a concrete, shaded feed pad and loafing area, the capture of solids and liquid waste in systems designed to capture and re-utilize nutrients.

These developments will allow a greater area of land currently affected by stock feeding to be replaced by pasture, for nutrient wastes to be used on cropping land and for water to be recycled.

The Middlebrook family have the following objectives:

- Establish a viable and sustainable dairy farming enterprise at Finley that efficiently produces high quality milk from healthy cattle by establishing a shaded feed pad and associated loafing areas for their milking herd and pregnant stock.

- Operate as good citizens, through incorporating appropriate facility designs and implementing management strategies (during operation) that ensure local amenity for nearby landholders is not degraded and bio-physical resources (ie. soils and water) are protected by good facility design.

- The preceding objectives reflect the limitations of the current facilities in prolonged dry or excessively wet periods and the commitment of the Middlebrook Family to improve this situation.

The proposed improvements consist of

- a new covered, concrete floored feed pad shed including facilities for the bedding of cattle under shelter in a free-range facility (except under adverse weather) and capture and recycling of water;

- new, improved effluent treatment ponds – 3 sedimentation ponds and 1 storage pond.

- Concrete path from new shed to the milking shed

- Flushing of the concrete feed pad using recycled waste water (new)

- loafing paddocks (approximately 20 ha) to be expanded to cover areas that are currently used to feed, graze and move cattle to reduce dust and increase grazing.

The following existing facilities will remain

- the current and existing milking centre and associated cow handling yards and sheds;
- the existing machinery shed and workshop;
- existing dry lots with shades and feed pad which will contain 150 head of cattle;
- Calf shed.

1. ANALYSIS OF ALTERNATIVES

Essentially, the alternative is maintenance of the status quo or closure of the enterprise.

It is recognised that a continuation of the current situation is likely to lead to sub-optimal feed utilization and cow health and a need to undertake extensive earth and drainage works to allow the status quo to be maintained.

It is estimated that such works would be in the order of $100,000 and that animal health and comfort would not be improved over the current position.

Other alternatives include more expensive facilities such as freestalls, but current experience indicates that cow-comfort is greater, health and productivity are similarly positive in facilities such as this.

2. INTRODUCTION

The Middlebrook Family, wish to improve the dairy facility on their property at Finley. These proposed changes in the property structure have resulted from the extreme wet weather events of the past year. The Middlebrook family wants to incorporate best farming practice onto their dairy, to improve the comfort and health of their cattle, improve the environment through dust reduction and lowering the potential for mud-manure interface and to recycle water and nutrients for fodder production and to reduce waste run-off from the site.

Key aspects of the plan are the development of a concrete, shaded feed pad and loafing area under shade, the capture of waste solids and waste water in systems designed to capture and re-utilize nutrients. These developments will allow a greater area of land currently affected by stock feeding to be replaced by pasture, for nutrient wastes to be used on cropping land and for water to be recycled. Cows will continue to have access to pastures.

3. STATUTORY REQUIREMENTS AND PLANNING INSTRUMENTS

This proposal is consistent with

State Environmental Planning Policy (Primary Production) 2021 (2021-729) accessed 23/12/ 2024

Berrigan Shire Local Environmental Plan 2013 (2013-587) accessed 23/12/ 2024

NSW legislation 2024, Protection of the Environment Operations Act 1997 No 156, NSW legislation, Sydney: https://legislation. nsw.gov.au/view/html/inforce/current/act-1997-156, viewed December 2024

Further,

Planning Guidelines Intensive Livestock Agriculture Development 2019 of the NSW Department of Planning have been utilised and referenced throughout.

This document addresses matters raised in State Environmental Planning Policy (Primary Production and Rural Development) 2021 [NSW]. The latter document and 'Environmental Management Guidelines of the Dairy Industry (2008)', the update of the latter 'NSW Dairy Development and Environmental Guidelines (2024)' and 'National Guidelines for Dairy Feedpads and Contained Housing: Third Edition (2024)' published by Dairy Australia, have been used to guide this document to ensure that the requirements from Berrigan Shire LEP 2013 Clause 5.18 (accessed 24/11/2024) have been met.

Specifically, this SEE addresses the following needs

Berrigan Shire LEP 5.18 Intensive livestock agriculture

(1) The objectives of this clause are—

(a) to ensure appropriate environmental assessment of development for the purpose of intensive livestock agriculture that is permitted with consent under this Plan, and

(b) to provide for certain capacity thresholds below which development consent is not required for that development subject to certain restrictions as to location.

(2) This clause applies if development for the purpose of intensive livestock agriculture is permitted with consent under this Plan.

(3) In determining whether or not to grant development consent under this Plan to development for the purpose of intensive livestock agriculture, the consent authority must take the following into consideration—

(a) the adequacy of the information provided in the statement of environmental effects or (if the development is designated development) the environmental impact statement accompanying the development application,

(b) the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site,

(c) the potential for the pollution of surface water and ground water,

(d) the potential for the degradation of soils,

(e) the measures proposed to mitigate any potential adverse impacts,

(f) the suitability of the site in the circumstances,

(g) whether the applicant has indicated an intention to comply with relevant industry codes of practice for the health and welfare of animals,

(h) the consistency of the proposal with, and any reasons for departing from, the environmental planning and assessment aspects of any guidelines for the establishment and operation of relevant types of intensive livestock agriculture published, and made available to the consent authority, by the Department of Primary Industries (within the Department of Industry) and approved by the Planning Secretary.

We consider that the proposed development will be consistent with all relevant planning instruments.

Related documents

Effluent Management Plan: Middlebrook. Agribusiness Solutions (2024) provides detail of the effluent management plan for the proposal. (Appendix 1)

Middlebrook, Maxwells Road Finley: Geotechnical Investigation for Rhy Tremble Concreting and Engineering. (October 2024) Geotechnical Testing Services. Provide geotechnical details of the proposal. (Appendix 2)

Soil Test results, Middlebrook. (Appendix 3)

4. DESCRIPTION OF THE PROPOSAL

4.1 BACKGROUND: CURRENT DAIRY OPERATION AND MANAGEMENT

Location and site description

The Middlebrook home farm is approximately 728 Ha in size. The property is split into several holdings and lies approximately 10 km northwest of Finley. The farm currently milks approximately 500 cows per annum and feeds these cows for part of the year on a concrete pad with associated earthen loafing areas. Cows are milked in a rotary dairy and production is approximately 4 million litres per annum. The effluent treated pasture areas on the farm are currently 242 HA and benefit from application of waste solids removed from the dairy site (Middlebrook Effluent Plan Final – Appendix 1).

The site has operated as a dairy site from before 1945 and under the current owners since 2002.

4.1.1 Topography, drainage and flooding pattern, vegetation, soil type and groundwater depth

The current effluent system is described in more detail in Section 3 of the attached Appendix 1. In brief, the current dairy infrastructure covers an area of approximately 4 HA and includes

- Effluent ponds and dairy shed
- A dirt-based feed-area – (photos 2 and 3)
- Ancillary Sheds and structures

The current area used for dairying is essentially flat and water is sourced primarily from the irrigation system.

The main feed-pad lies close to the dairy. The current areas of feed-pad are dirt and concrete feed areas. The vegetation of adjacent paddocks is largely improved pasture species including annual ryegrass, cereal plantings, and clover.

The area is not subject to flooding and wastes from the dairy and yards are captured in the current sites.

The soils are primarily sandy silts to clayey sands and silty clays (See Geotechnical Report – Appendix 3).

Groundwater depth is approximately 10 metres based on bore depth.

Photo 1: Cattle feeding on current feed pad

Photo 2: Current layout of Middlebrook Dairy showing existing sheds and structures including existing vegetation.

Photo 3. Extended view of the farm including relationship with surrounding land uses (e.g. distances to any houses, property boundaries or watercourses). Distance to nearest sensitive receptor is 1.326 km (yellow line). From the proposed effluent pond 1.246 km.

The relationship of the current site with surrounding land use is shown in Photos 2 and 3.

The proposed development does not materially alter the current function of the farm in regards to the surrounding land uses, with the exception of water courses that will be further protected by full capture of effluent. The water courses are not natural, nor are there natural water courses within 100 m of the proposed development. The nearest waterway is the Myrtle Park Drain (650 m).

There will be identical proximity of lactating cattle with neighbouring properties. The nearest house will be approximately 1.4 km from the proposed shed (see Photo 3) and 1.246 km from the proposed storage pond.

The current effluent disposal area does have proximity to paddocks (Photos 2 and 3 – it is clear from the pattern of vegetation that little, if any significant runoff reaches these areas now) and this will be further controlled by changes to the areas on which effluent is disposed to take this to paddocks and to establish an extended pasture loafing area for the cows (Figure 1.1 and Appended site plans Middlebrook).

4.1.2 General description of the environment that is likely to be affected by the development or activity, together with a detailed description of those aspects of the environment that are likely to be significantly affected.

The areas currently affected by dairy production are described in the text on the preceding pages (Pages 5 to 7), but encompass an area of approximately 728 HA, best observed in photos 2 and 3.

In brief, cows are currently fed on a concrete feed-pad. The cows loaf associated earthen lots in summer and have access to limited shade. In winter to spring, these graze in pasture paddocks to reduce the amount of mud that is created in the earthen lots. The current arrangements operate well, but when environmental conditions are dry, dust is created and can cause respiratory disease and ocular disease in the cattle and is uncomfortable for workers. Under wet conditions in winter, there is a mud-manure interface created that causes odour and results in delays in milking and mastitis (mammary gland infections) in the cattle.

There are no reported Odour Complaints in regards to the farm. There is a calculation of the odour impact on Page 39.

The proposed development will be based on the areas of the farm identified in Photo 2 and 3 and in Figure 1.1 below to allow for dust areas to be reduced, by use of the concrete feed pad and covered loafing area (Figure 1.1).

The presence of mud-manure interfaces will be markedly reduced or eliminated by the use of the pad, shed and captured rain-water, and by replacing the current dirt-based feeding pad and uncovered loafing areas with a bedded loafing area and grass. This action will reduce odour and dust generation from the current site. Compost bedded pack barns are noted for their capacity to have low odour generation.

There will be little difference to stock or machinery movement (apart from once or twice a day turning of bedding) and it is anticipated that there will be a reduction in noise due to the lower demand on equipment to remove dirt, mud and manure from the current facilities. Maintaining a heavily stocked dry lot requires more large equipment than maintaining a compost bedded pack barn as proposed.

Key changes affecting environment are

- Less dust – eliminate generation by cattle on the current earthen feed-pad
- Less mud and odour – markedly reduce or eliminate mud
- Reduced impact of pugging and compaction of clay soils from cattle grazing in adverse ie wet conditions
- Less noise – fewer extensive cleaning activities in regards to laneways and earthen feed-pad
- Effluent captured and used on a larger area (Appendix 1)
- Water captured from the shed roof and re-used (Appendix 1)
- Improve visual amenity of the farm with permanent pasture, although a large shed will be established
- More control over effluent disposal and control of entry into the environment (Appendix 1)
- Greater comfort for animals and workers
- Lower noise generation – less movements of heavy equipment
- A minimal reduction of ~ 50 metres in proximity of milking cow operations to neighbours.

5. DETAIL: PROPOSED DEVELOPMENT: OPERATION AND MANAGEMENT

5.1 Capital investment value of the development proposal and likely employment costs

The estimated investment is likely to be in the order $3,000,000. This investment will maintain the current number of employees funded by the dairy i.e 10.

5.2 Production, packing and processing facilities, if any

No Change: The current milking shed, a 50-stand rotary, is capable of handling the number of cows to be milked, as the numbers to be milked are similar to those currently milked. There is no change to the milking or feed processing facilities other than re-location of the latter to an area utilised in the past.

5.3 Size of the operation (e.g. the area under production, and/or production targets and estimated value of production per annum)

The area of land utilised for the dairy feed-pad and associated loafing areas is going to increase by approximately 2.4 ha

5.4 Previous and existing operations on the site

The site has been used for dairy production for well in excess of 50 years.

The new development will provide the potential for 600 cows housed in the shed with a further 150 cows held in the existing dry lot.

Pages 5 to 7 above describe the current operation and Photos 1 to 3 show the current site layout.

Cows are fed and milked twice a day and it is possible that these may be milk 3 times a day. The cows currently loaf on dirt and under shade sheds in summer and on pasture in winter.

Feeds are supplied from the Middlebrooks farms and other suppliers and this will not change.

In specific reference to Berrigan Shire LEP 5.18 3 a

(a) the adequacy of the information provided in the statement of environmental effects or (if the development is designated development) the environmental impact statement accompanying the development application

The preceding sections provide detail on the proposed development, the objectives and site and section 5.5 provides detail on the proposed facility. This site has been a long term site for dairy production, it is relatively distant from neighbouring properties (1.246 km to the nearest sensitive receptor), is setback from public roads, is topographically flat but not flood prone, has abundant water and access to feeds, soils suited to a development of this type, will not disturb existing vegetation and is not placed in an area particularly subject to weeds and pests. There are no identified wetlands, waterways, native vegetation sensitive aspects to the proposal. The site has existing power supplies.

Specifically, there are adequate areas for effluent application and the available effluent can be well utilised on the farm for soil improvement. There is full detail on the proposed effluent management systems in the attached document (Appendix 1).

5.5 Site layout plans (See also Figure 1.1 and Appended Documents)

The proposed improvements consist of

- Earth works for the shed and irrigation system changes (RT Concrete and Engineering – Appendix 3; Figure 1.1)
- Solids separation through 3 sedimentation ponds and effluent pond (lagoon). The soil moved for the base of the shed comes from the lagoon (Middlebrook Effluent Management Plan – Appendix 1 and RT Concrete and Engineering – Appendix 2; Figure 1.1)
- New shed and associated concrete for the cows to lie in (see RT Concrete and Engineering – Appendix 2; Figure 1.2).

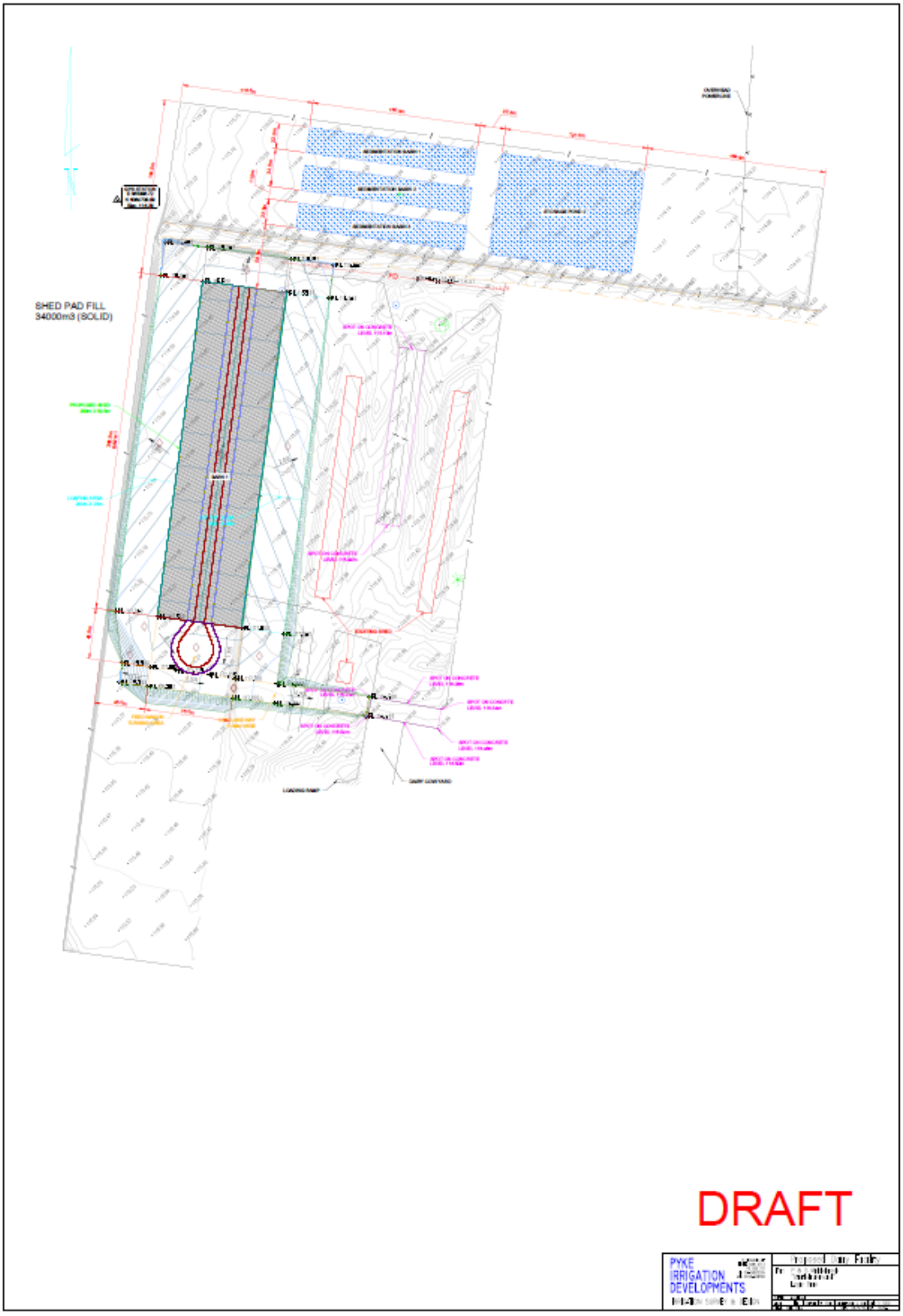
Photograph 4 below shows cows loafing in the Murray Bridge facility developed by Scibus and Provost and Pritchard for David and Karen Altman. The video links https://www.facebook.com/brad.fischer.564/posts/10157005136225389 and https://www.facebook.com/brad.fischer.564/posts/10157005323840389 provides vision of a fly through of the site in Meningie designed by Provost and Pritchard with support from Scibus for Brad and Karin Fischer. Cows have the option to decide where they loaf in these facilities and associated pasture areas. Hence, these cows are not fully confined; they will choose to be where they are, either indoors or outdoors. The cows will have access to the paddocks primarily adjacent to the shed, but can access to all pastures on the farm as appropriate.

Photo 4. Cows loafing in the Altman Dairy Shed

5.6 Location of proposed buildings or works in relation to the land's boundaries and adjoining Development

The nearest house is approximately 1.326 km from the nearest edge of the proposed shed and 1.246 km from end of the lagoon ponds. The layout of the proposed improvement is shown in Figure 1.1.

Figure 1.1 Siting of the barn, sediment ponds and storage pond with grading detail).



5.7 Floor plans of the Feed-pad and shaded loafing area (also see Appended plans from RT Concrete and Engineering)

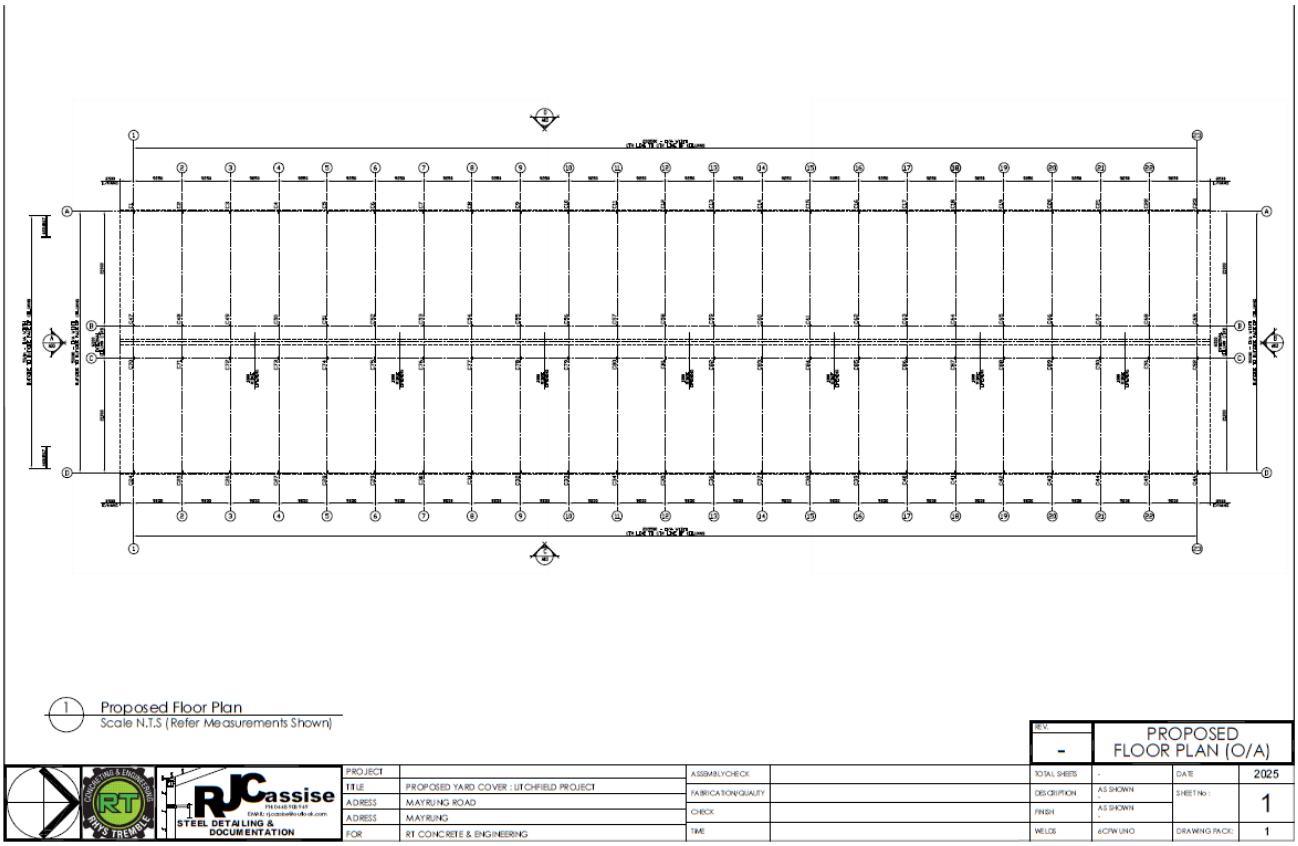


Figure 1.2 Floor plan for the proposed shed.

5.8 Proposed finished levels of the land in relation to existing and proposed buildings and roads

Elevations Figure 1.1 and floor plans of the feed pad and shed are provided in Figures 1.2 and 1.3 and in the appended engineering plans (Plans Middlebrook: See Appended Plans – Appendix 3 and 4). These are provided as PDF files for you to evaluate and enlarge, if needs be.

Odour Management (Berrigan Shire LEP 3 b)

b) the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site,

Page 33 section 14.2 for a calculation of impact

A characteristic of composted loafing areas is a lack of marked odour. This contrasts with areas that have a mud manure interface. Notwithstanding the currently low risk of odour pollution, this facility addresses this risk by

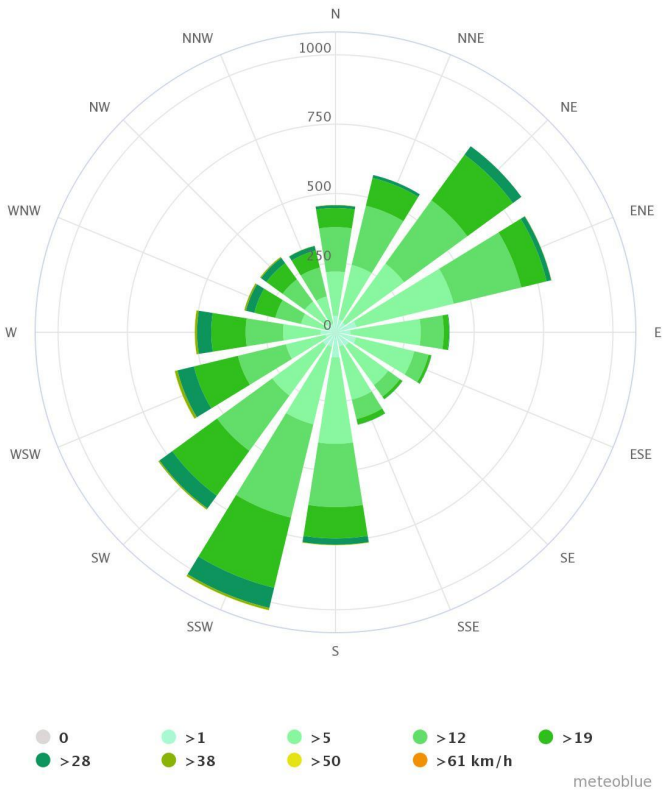
i) Flushing of wastes on the feed-pad into an effluent system that generates little odour

ii) Capturing wastes in the shaded loafing areas.

iii) Reducing dust by using pasture

iv) Appendix 1 pages 24 and 25 address contingency plans to reduce odour if there is any failure that increased odour risk.

Figure 2. The following shows the prevailing winds in Finley (Source Metroblue 23/5/2021)



6. WASTE MANAGEMENT

This section addresses Berrigan Shire LEP 5.18 c) d) e) and f) and is comprehensively addressed in Appendix 1.

c) the potential for the pollution of surface water and ground water, (See pages 11 to 24 Appendix 1)

(d) the potential for the degradation of soils, (see pages 18 to 20 Appendix 1)

(e) the measures proposed to mitigate any potential adverse impacts, (See pages 24 to 27 Appendix 1)

(f) the suitability of the site in the circumstances,

The site suitability is demonstrated through this document and Appendix 1, but clearly the following can be asserted;

- The site is in use as a dairy of similar scale. The proposed development increases the cows milk by approximately 50%, but houses these to reduce dust, odour and machinery noise.
- The site is distant from neighbours with a distance to the nearest sensitive indicator of 1.246 km.
- The site does not impact waterways.
- The site is large enough to safely and efficiently utilise effluent.
- The site is well serviced by amenities such as milk tankers, veterinary services and is relatively close to Finely as a service centre.

6.1 Introduction (Precis – full detail is in Appendix 1)

The wastes generated by the cows are not inherently increased on a per head basis by the feed-pad development over those currently generated. Middlebrook Dairy plans on adding a loafing shed to house the milking herd of this dairy (600 cows) under a roof and allow access to pasture in good weather. This shed will have two housing areas under one roof and either side of a feeding and feed-out area (Figures 1.1/1.2). The existing dry lot will house 150 head of cattle.

6.2 Waste Generation

Liquid and Solids Wastes

Liquid wastes requiring collection and disposal consist of process water from the following areas:

- concrete lanes and yards;
- wash down from the milking centre; and

These total 39,900 L per day as calculated in (Appendix 1 Table 1 Page 8).

Currently, runoff from the dairy roof is directed to rainwater tanks alongside the dairy. Runoff from the dairy yard is directed to the Storage Ponds. The total catchment area of the dairy yards is calculated at 1,144m2. Details of current water use and effluent storage systems are provided in Section 3.5 and 3.6 of Appendix 1, if required.

The flush lanes and milking centre are covered by a roof and all rainwater will be diverted out of the effluent system and stored in the large existing tank and / or dams. Collected rainwater will be used as dairy cleaning water and for drinking water for the cattle.

Flush water will be recycled water sourced from the recycling ponds. Wash down and process water currently used in the milking centre will continue to be sourced from collected rainfall. This water will also provide be used to dilute waste streams if necessary.

Liquid waste from the cows will be generated from manure and urine deposited on concrete surfaces that will be flushed twice daily. It is estimated that the cows will spend up to eight hours each day in the feed shed and associated dairy yards. The remainder of the time the cows will be released into the loafing area of the shed and nearby paddocks. However, it is assumed that 58 percent of cow wastes would be deposited on bedded pack.

The loafing/resting areas will be compost packs, tilled twice daily, and sized appropriately to maintain a compost (45-55% moisture) condition for the number of animals to be housed. Cleanout of this area is anticipated to be once or twice a year with 20% per annum removed.

The second housing area is the feed lane. This area will be flushed daily to remove manure buildup. Flush water will originate from the storage lagoon and return after passing through the sedimentation basins. With the additional manure entering the existing wastewater lagoon from the feed alley, we have evaluated the storage capacity and allowed for 123 days storage over winter (Appendix 1; page 14 and 15).

The sedimentation basins and lagoon are both clay lined with a minimum liner thickness of 400 mm (Appendix 1).

The design parameters for the waste management system are outlined in Appendix 1 pages 13 to 17. The quantity of water generated by the milk barn for its operations on Page 7 of Appendix 1 (39000 L).

The rainfall and water balance for the effluent storage in the sedimentation basins and lagoon is provided in Table 8 on page 16 of Appendix 1. The next consideration is the quantity of manure anticipated to be captured within the flush system of the feed lanes. There is a detailed nutrient budget in Table 9 on page 19 of Appendix 1. In addition to the effluent, channel and roof water could be used to top up the aerobic pond, if required.

7. EFFLUENT MANAGEMENT SYSTEM

This section addresses Berrigan Shire LEP 5.18 c) ie potential for pollution of surface and ground water d) potential for degradation of soils e) the measures proposed to mitigate any potential adverse impacts f) the suitability of the sites in the circumstances.

The effluent management system will operate as follows:

- The feed shed and dairy yards will be flushed two times a day using recycled water;

The dairy shed and equipment would be flushed or hosed down twice or 3 time a day with fresh water supplied from the rainwater system augmented by channel water;

- All wash down and flush water for the feed pad would enter the effluent collection sump located at the northern end of the shed. Gravity will be used to transfer the effluent from the collection sump to the sedimentation ponds and subsequently to the lagoon storage pond;

- Effluent will run through the sedimentation ponds (see Appendix 1 section 5.1 page 13) for siting and plans. Solids collected in the system will dry before being excavated and spread onto crop areas away from the main dairy site;

- Liquid effluent will gravitate from the sedimentation to the lagoon pond for further biological treatment. The lagoon also provides 123 days wet weather storage to temporarily hold effluent during wet periods when irrigation opportunities are reduced;

- Treated effluent from the lagoon storage pond will be pumped to valves inserted in the flush lanes for use as flush water. See Page 13 Appendix 1);

- Treated effluent in excess of recycling requirements for the shed flush will be irrigated across adjacent paddocks to the 242 HA of the dairy currently available for irrigation.

- The lagoon storage pond may need occasional topping up with channel water to maintain an efficient operating level. This top up water would also dilute any remaining solids.

- Contingency plans for effluent system failure are reported on pages 24 to 25 of Appendix 1.

Further details of the effluent treatment system are provided in Appendix 1.

7.1 Treatment Ponds

The effluent management system would include four new biological treatment ponds. The existing effluent system for the dairy will remain to service the dairy and dairy yards and be largely separate from the proposed development (Appendix 1 page 13).

The dimensions of these ponds are summarised in Appendix 1 while their location is shown in Photo 5.

- The effluent from the new barn and dry lot will flow into the new system consisting of 3 sedimentation basins and storage pond (Figure 5 below).

- Rainfall from the roof will be diverted into the recycle drain and will not enter the sediment basins nor storage pond.

Photo 5. Position of sedimentation basins and storage pond.

7.2 Wet Weather Storage (addresses Berrigan Shire LEP 5.18 c and e)

A full water balance is provided in Appendix 1 pages 15 to 17. In brief, the storage lagoon will be used to provide flood wash and the scale of total water storage is conservative but allows for 123 days storage over periods (Winter) when use of water in irrigation onto paddocks may be counterproductive.

Size of the wet weather storage component was based on runoff calculated from precipitation and evaporation estimates during each month. These calculations are included in Appendix 1 with pages 14 (Table 7) and page 17 Figure 2 providing sizing detail.

.7.3 Waste Composition (addresses Berrigan Shire LEP 5.18 c, d and e)

The liquid and solid waste streams are primarily, almost solely, urine and faeces of the cows. The total solids (~58%) will be deposited in the compost facility and of the total solids entering the sedimentation basins 59% % of these will be removed before entering the storage pond. The total nutrients available for reuse are 1,260,785 kg. All calculations including those for nutrient composition are detailed in Appendix 1 (Page 19).

The expected effluent and solids primarily reflect that of the wastes from the cattle and are not altered from those currently produced;

Total Nitrogen 440 mg/L 3.0%

Total Phosphorus 250 mg/L 1.3%

Potassium 460 mg/L 4.0%.

The detailed calculations for nutrient utilisation are on Page 19 of Appendix 1.

7.4 Waste Utilisation (addresses Berrigan Shire LEP 5.18 c, d and e c) ie potential for pollution of surface and ground water d) potential for degradation of soils e) the measures proposed to mitigate any potential adverse impacts.

Liquid wastes in excess of those required in recycling in the flush system will be irrigated onto 242 HA of land with existing infrastructure for recycled effluent water.

Solid wastes will be used to improve the other extensive pasture areas (374 HA) of the Middlebrook Holdings, as is current practice. The current cropping process involves planting of ryegrass and winter cereal crops for hay and grain and sometimes maize plantings in summer. The crops include oats, canola and wheat. The solids removal system allows solids to dry to a point where these are suitable for direct land application or further composting. These would be composted on the dryland paddocks. There is ample land on which the solid nutrients can be distributed on the Middlebrook Farms and additional fertiliser will need to be applied to maintain crop yields at efficient levels. The nutrient distribution based on crop requirements and nutrients available for distribution are outlined in on pages 19 and 20 of Appendix 1. The analysis in Appendix 1 shows there is ample area to distribute these nutrients.

Contingency measures for effluent system failure are outlined on pages 24 to 25 of Appendix 1 and maintenance schedules to reduce the risk of failure are outlined on page 26 and 27 of Appendix 1.

7.5 Surface Water management (addresses Berrigan Shire LEP 5.18 c and d)

Surface water control is to capture all water and utilise this in existing and newly developed areas

- The proposed development will have minimal runoff; flush water is captured by the proposed effluent system and;
- Water from the roof of the feed pad is being captured and fed into recycle system to be used in irrigation when this is appropriate.
- Run-off from the existing dry lot, which will be minimal, will be directed towards the new effluent system.

- Appendix 1 provides details on water capture, salinity risks and contingency measures for water on the farm (pages 21 to 26).

- In particular, salinity management is addressed on Pages 21 to 23 with the conclusion being that the water salinity rating is very low once the salinity of the blended irrigation water, effluent and rainfall is considered.

7.6 Water (further addresses (addresses Berrigan Shire LEP 5.18 c)

Water harvesting and recycling is enhanced over the current facility. Roof runoff is collected into the recycle system. Water from the dry lot will be now directed into the proposed effluent system.

Water from channel sources can be used as an additional resource for cow drinking water supply and wash down of the dairy area. This water would be sourced via the existing irrigation and farming licence held by the Middlebrook Family.

i. Surface Water management

Surface water control is to

- Any minimal amounts of run-off will be directed from the dry lot into the proposed effluent system (Figure 1 Page 13 Appendix 1).

- Water from the roof of the proposed barn is being captured and fed into the recycle system as required.

8. FURTHER MATTER RAISED IN ENVIRONMENTAL MANAGEMENT GUIDELINES FOR THE DAIRY INDUSTRY 2008

8.1 Proposed parking arrangements, vehicle entry and exit points, and provision for movement of vehicles within the site (including dimensions where appropriate)

There are no proposed changes to the existing vehicle movements on the dairy enterprise. Parking will continue to be adjacent to the milking shed and, for heavy vehicles, in the machinery sheds.

8.2 Proposed landscaping and treatment of the land (indicating plant types, as well as their height and maturity

There has been a process of landscaping undertaken over recent years at the farm. The fence-lines on the farm have plantings of eucalypts which are now growing. These are anticipated to reach a height of 20 m or more at maturity in another 5 to 10 years. These may be augmented by further plantings depending on the viability and density of current plantings.

8.3 Proposed methods of draining the land

Figure 1.1 shows the proposed layout and modifications to control flow of water away from the site.

8.4 Water and power supply, road access and proposed truck movements

There is existing power to the site. Road access is identical to that current and feed and milk tanker movements will be similar ie tanker every 1-2 days and feed every 3 days.

8.5 Plan for the storage and disposal of wastes (e.g. effluent from silage bunkers and milking facilities, and mass mortality)

The farm utilises areas to the north-east of the dairy site for silage storage. Silages are stacked on a compressed pad area (to the East of the dairy and evident in the farm photos 2 and 3) which is not impacted by moisture other than in extremely wet weather. It is envisaged that these areas will be developed into a concreted pad over time. The Middlebrook family are highly skilled silage makers and there is very little leachate from the stacks in my experience of over 15 years with the farm.

It uses an area near the backup feed-pad for disposal of dead stock. This is an extensive area and could be used in case of substantial mortality.

The wastes from the dairy are covered by existing disposal methods, ie washdown into the existing ponds.

8.6 Emergency management strategies

Power outage: The farm has backup generator.

Fire: The Middlebrook Family own and use a firecart.

Flood: The area is not subject to flooding.

9. PROPOSED OPERATIONS

The proposed facility has been designed to accommodate 600 milking cows which will have access to paddocks for loafing and a feed shed for consumption of mixed feed rations following milking. A further 150 cows will be managed on the existing dry lot.

Wastes captured in the compost barn and sedimentation basins will be spread onto nearby crop land to reduce costs of fertilizer and to improve soil condition of those lands.

The compost bedded pack barn is designed to provide cows access to feed and water. Feed pad sheds are a clean and comfortable environment for cattle, as these reduce adverse effects caused by sun, heat and rain on cattle. Cows will have access to the feed pad shed 20 hours a day, but we anticipate that cows will rest indoors or outside on pasture for 8-12 hours a day.

Use of the nearby paddocks will be rotated to manage pasture survival. The irrigation (with channel water) of these pastures provides growth under stocking pressure and cools cattle in the summer. The fundamental function of these aspects of the dairy will not change, but will be enhanced by more efficient capture of water and wastes.

Feed facilities include the current facilities for commodities (ie. grain and protein meals), shed and hay shed. Feed rations would be transported to the feed pad shed using a purpose-built feed mixer, as these are currently. Forage is supplied from irrigated crops grown on the farm, locally and in other parts of New South Wales.

Forage production on other parts of the Middlebrook farms will be enhanced by more effective capture and distribution of wastes. This strategy will also ensure that the build-up of nutrients around the shed area is controlled and minimised. A property plan showing the location of the facility in relation to the proposed grazing paddocks is shown on Figure 1.1.

10. CATTLE WELFARE AND COMFORT

addresses Berrigan Shire LEP 5.18 g

Cow comfort is critical for quality milk production. Accordingly, many of the design features associated with the improvement are designed to increase cow comfort over the current facility at the Middlebrook Dairy. Features of the development that improve animal welfare are:

- Cows have access to a shed system connected to exercise/ loafing pastures. The shed is designed to facilitate ventilation and provide shade and shelter. Cows are not currently shaded or cooled apart from briefly before milking. Cows can be showered while feeding and before milking to provide further cooling.

- Cows will have access to a shed in which they can lie on a comfortable, relatively sterile bedded surface under shade or have access to pasture areas. They will have the option of accessing the environment they are most content in (except when the weather is very wet).

- The dairy is a clean, comfortable dry environment for healthy, disease free production of quality milk.

- The shed will be flush washed twice daily and the water and solids will be captured and recycled. Capture of these solids will allow soils on the Middlebrook farm cropping areas to be improved.

- Drinking water is provided in troughs, which will be cleaned regularly.

- Leftover feed will be cleaned from the concrete feeding areas daily. This feed will added to and reformulated to be fed to heifers on the farm. This action reduces feed wastage.

- Cows will be cooled when feeding, if this is required following evaluation of the effectiveness of the shed.

- The dairy is serviced by a consulting nutritionist and veterinary specialist, farm business advisor and by local veterinary services.

11. CHEMICAL USE

Veterinary Chemicals: Veterinary chemicals are utilised as part of normal operations of a dairy. These include mastitis treatments, antibiotics, fertility treatments, vaccines and antiseptics. None of these products are classified as dangerous goods.

12.1 Cleaning Chemicals: Cleaning chemicals are used at the dairy, including alkali washes and iodophores.

All the above products are **currently used** in a QA program audited by an independent auditor through NSW Safe Foods. The products are registered and approved for use by the National Registration Authority (NRA).

12. IDENTIFICATION OF KEY ISSUES

(addresses Berrigan Shire LEP 5.18 a b c d e f g)

12.1 Visual Amenity

The shed is not readily observed from the road, due to tree screening, or from neighbours. As noted, the shed will be visible from Maxwells Road, but trees have been planted along this boundary and new plantings will be undertaken if trees die. It is anticipated that more trees will be planted on the Southern aspect of the dairy.

The pasture areas will enhance the visual amenity.

12.2 Noise

We consider the noise pollution will be reduced over that current. The farm is relatively distant from neighbours and we are not aware of any complaints in regards to the farm noise.

12.3 Effluent Management and Load

The manure and urine outputs of the cattle will likely increase over that of the current enterprise. However, these will be captured into effluent management systems that have been designed to address the nutrient loads (See Appendix 1 and summary in Section 7 of this document).

Liquid wastes on the feed-pad are captured, diluted and used for flushing. Some of these, diluted with channel water will be used to maintain the pasture areas, if necessary. This provides an organic fertiliser for the crops, providing carbon capture and reduces fertiliser inputs for pasture growth.

The solids wastes on the feed-pad are captured and separated and spread over paddocks off site or to the North of the dairy primarily in autumn when these can be incorporated at pasture planting.

Liquid and solids will be captured in the loafing shed and these will be composted and managed to maintain a soft bedding that can be cleared once to twice a year in conjunction with crop planning. This provides an organic fertiliser for the extensive crop areas, providing carbon capture and will reduce fertiliser inputs for crop growth.

The proposed development will reduce the risk of nutrients entering the groundwater table.

The most substantial risk is comprised of heavy rainfall that limits the capacity to dispose of wastes. Several key areas of mitigation are present.

i) Properly scaled holding ponds to capture effluent with 123 days storage (Appendix 1).
ii) 242 HA pasture on which liquids can be applied.
iii) Large areas of farmland (374 HA) to which effluent solids can be applied as required.

12.4 Uncontrolled increases in nutrient density of soils

The Middlebrook holding is large (728 HA) and will allow solid and liquid wastes to be applied to cropping and extensive pasture areas. The capture of the wastes around the dairy (on the feed-pad and loafing barn) will limit the amount of wastes entering the dairy area.

The Middlebrook family currently monitor crop paddocks for nutrients and will continue to monitor change. Appendix 1 addresses the nutrient and salinity balances, risks and mitigation measures in detail (Pages 18 to 26).

In the extremely unlikely event of marked increases, the composted cow manure is a valuable commodity and would be sold.

It can be concluded that the site is suitable in the circumstances for the proposed development (Berrigan Shire 5.18 3 f)

12.5 Animal Well-Being

This will be enhanced by the current development and is at the core of the proposal. The ability to choose the environment in which they rest, whether under shade on bedded composted solids or outside on pasture provides cattle with environments in which they can be comfortable. Heat mitigation and shading address key concerns of keeping cattle comfortable when environmental temperatures are high. Cows can avoid cold, wet and muddy conditions in the wet.

The Middlebrook family intends to comply and exceed the relevant industry codes of practice for the health and welfare of cattle. (Berrigan Shire 5.18 3 f).

12.6 Odour Pollution (See also Page 33 section 14.2 for a calculation of impact)

A characteristic of composted loafing areas is a lack of marked odour. This contrasts with areas that have a mud manure interface. Notwithstanding the currently low risk of odour pollution, this facility addresses this risk by

v) Flushing of wastes on the feed-pad into an effluent system that generates little odour

vi) Capturing wastes in the shaded loafing areas.

vii) Reducing dust by using pastures adjacent to the proposed compost bedded barn.

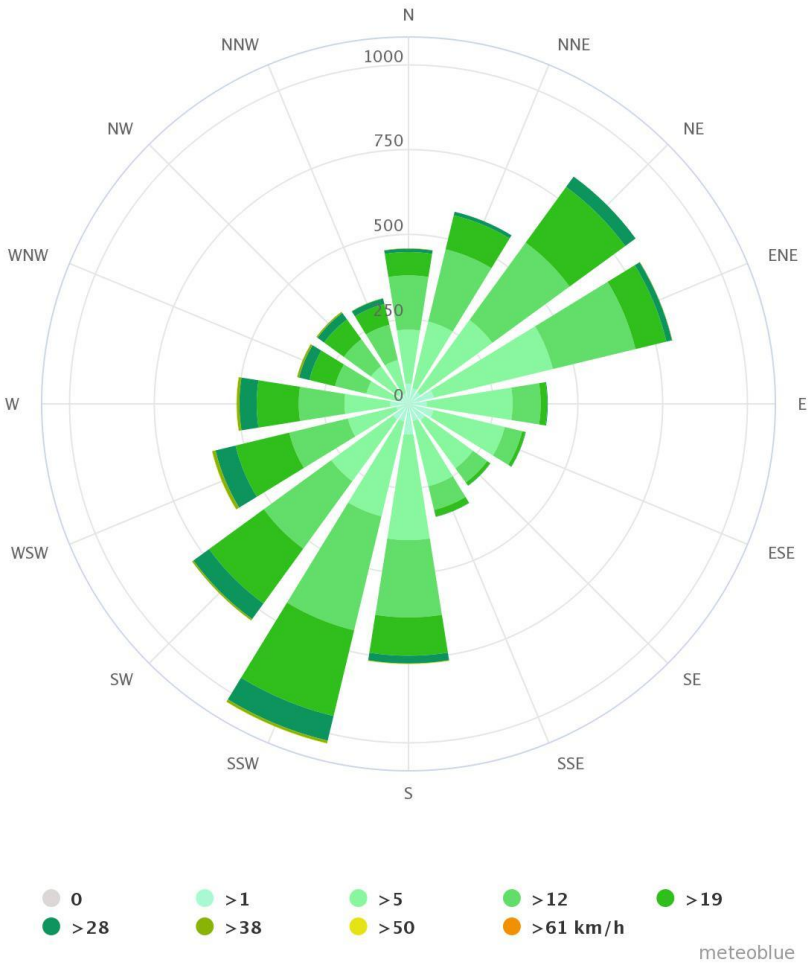


Figure 2. shows the prevailing winds in Finley (Source Metroblue 23/5/2021)

13. ASSESSMENT OF ENVIRONMENTAL CONCERNS

13.1 Air quality, including chemical spray drift, dust and odour

The problems with dust are addressed by use of the shed and development of irrigated pasture areas to replace the current earthen feed pad and loafing areas.

It is important to note that there is very limited chemical spray use planned in the dairy proximity.

As noted above, there are considerable efforts made in the current plan to produce a low odour environment by reducing the mud-manure interface and reducing dust. Further steps include careful irrigation and flushing of wastes on the feed-pad into well-functioning ponding facilities.

13.2 CALCULATION OF ODOUR FROM *Technical notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC, November 2006)*. All Table references in the Table 2 below are to this document

Table 2. Estimation of allowable distance to sensitive receptors from 'Assessment and management of odour from stationary sources' based on beef feedlots (Section 7).

Measure	Input	Source	Result
Estimated stock units	750 head dairy cattle weight 650 kg	Table 7.1	750 x 1.06 = 795 SCU or N
Stocking density factor	based on first class facility and overall area	Table 7.2a	S1
Rainfall	less than 750mm (500 mm) rainfall and shedded	Table 7.2a	S1
Stocking density factor	15 m^2 (roofed design and dry lot)	Table 7.2a	S1 = 52
Receptor factor	Single rural residence	Table 7.3	S2 = 0.3
Terrain factor	Flat between dairy and receptor	Table 7.4	S3 = 1.0
Vegetation factor	Wooded (trees houses and shrubs)	Table 7.5	S4 = 0.7
Wind frequency factor	Normal wind conditions	Table 7.6	S5 = 1.0
Variable Separation Distance	D = SQRT(N) x S1 x S2 x S3 x S4 x S5	= SQRT (796) x 52 x 0.3 x 1.0 x 0.7 x 1.0	**308 metres**

D = 308 metres is well below the distances calculated to the nearest sensitive receptor of 1.246 km.

13.3 Noise issues, especially at night if there are residences nearby (including on truck routes)

There are truck movements associated with the dairy, but these should not increase. There will be a once or twice a day grooming of the compost bedded pack, but this contrasts with the current need to use heavier equipment to clean and groom the feed-pad and loafing area. Milk tanker will remain the same and feed deliveries will increase for grain and some byproducts by approximately 25%.

13.4 Water quality, drainage, flooding, erosion and sedimentation

Water quality matters are addressed through increased capture of nutrients, disposal of these on extensive pasture and crop lands.

The area in which the shed is planned is not subject to flooding and critical to the facility design is the need to maintain a very dry perimeter to the shed. Water may cover the pasture areas on a temporary basis when weather conditions are extreme, but this is a function of the design to control water and waste streams to a high level and minimise erosion and sedimentation.

Figure 1.1 shows the planned earthworks to ensure that water is channelled to ensure drainage and minimise erosion and sedimentation.

13.5 Water supply impacts

The water supply to the farm will be enhanced by the capture of run-off from the roof odf the shed. This will be used to augment the channel water and be used to dilute effluent of be used in irrigation/ fertigation and for flushing the shed alleys.

13.6 Traffic and road impacts

These will not materially alter from the current.

13.7 Lighting impacts

The shed may be lit of a night, but the light will be largely retained within the shed.

13.8 Waste management (e.g. composting, on-site waste water treatment, use and/or disposal, and effluent from silage bunkers and milking facilities)

See Appendix 1 and pages 19-21 for detail on these.

13.9 Native vegetation, as well as threatened species populations (both terrestrial and aquatic), ecological communities and their habitats

There are no likely or envisaged impacts of the development on native vegetation, threatened species or ecological communities that we have identified.

13.10 Visual impacts, taking into consideration the landscape characteristics and viewing sites

This is addressed in Pages 32 and 35 above.

13.11 Social issues, including health risks and potential impacts on amenity

The marked reduction in dust will enhance worker amenity on the farm. Experience with such facilities has demonstrated that workers prefer to work in an environment that has little dust and has very little presence of mud.

13.12 Economic issues, including employment issues

An increase in labour is not envisaged, but the development will provide a sustainable enterprise for some time into the future. This is, in part, a succession planning model and provides current and future employment opportunities in the Finley region.

13.13 List of approvals and licences

Submission of an SEE

Notes regarding - Addressing State Environmental Planning Policy (Primary Production and Rural Development) 2019

From Page 18 – 19 of the document

"In determining whether or not to grant development consent under a relevant EPI to development for the purpose of intensive livestock agriculture, the consent authority must take the following into consideration–

(a) the adequacy of the information provided in the statement of environmental effects or (if the development is designated development) the environmental impact statement accompanying the development application"

This Statement of Environmental Effects provides information to address the environmental effects of the development.

(b) the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site,

These are addressed as follows;
Current situation: Last paragraph Page 15 to 16
Location of nearest dwelling – Photo 3 and Pages 20, 24, 39
Proposed situation: Page 4 and 5 and Photos 2 and 3 and Figure 1.1
Notes on waste management – Pages 24 to 31 and Appendix 1
Effluent Load and Management Page 25 to 27 and Appendix 1 for detail
Odour Modelling Page 39
Risk assessment Page 50

Summary: The proposal will reduce the likelihood of odour impacts from the farm

(c) the potential for the pollution of surface water and ground water,

These are addressed as follows;

Current Situation: Page 13 and Section 3 Appendix 1
Proposed situation: Third paragraph Page 15
Capture of rainwater – Page 13 and 15 and 16 and 28 and Appendix 1
Effluent Capture – Pages 26 to 31 and Appendix 1
Flushing and capture of effluent – Page 26 to 31 and Appendix 1
Notes on waste management – Pages 29 to 30 in particular and Appendix 1
Surface water management as part of effluent management – Page 31
Water quality, drainage, flooding erosion and sedimentation – Appendix 1 and pages 30 and 31
Risk assessment Page 50 and Appendix 1 for detail on effluent and salinity risks

Groundwater: Soils for the sedimentation basins and lagoon are lined by 400 mm of clay to ensure integrity of the lining.

Summary: The proposal will result in greater control of waste and surface water on the farm and manage the potential for groundwater contamination

(d) the potential for the degradation of soils,

Description of soils - Page 13 and Appendix 3
Notes on soil impact through less pugging from hoofed animals on pasture – Page 17
Notes on soils management – Page 29 and Appendix 1 for detail

Comment: Soil health will improve under the proposal

(e) the measures proposed to mitigate any potential adverse impacts,

Comment: These measures are documented throughout the proposal
See also risk assessment odour – Page 39

(f) the suitability of the site in the circumstances,

Comment: This area and the site, in particular, is very suited to developments such as the proposed development
See Pages 12 to 17

(g) whether the applicant has indicated an intention to comply with relevant industry codes of practice for the health and welfare of animals,

Notes on this are on Page
Page 5 in objectives
Page 9 – in Introduction
Page 16 describes the current situation that Middlebrook's wish to improve
Page 34 to 35 addresses cattle welfare and comfort

Summary: The document reflects the strong commitment of the farm to animal well-being

Notes in addressing Berrigan Shire LEP 5.18 a to g

In determining whether or not to grant development consent under this Plan to development for the purpose of intensive livestock agriculture, the consent authority must take the following into consideration— (a) the adequacy of the information provided in the statement of environmental effects or (if the development is designated development) the environmental impact statement accompanying the development application.

(b) the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site,

These are addressed as follows;
Current situation: Last paragraph Page 15 to 16
Location of nearest dwelling – Photo 3 and Pages 20, 24, 39
Proposed situation: Page 4 and 5 and Photos 2 and 3 and Figure 1.1
Notes on waste management – Pages 24 to 31 and Appendix 1
Effluent Load and Management Page 25 to 27 and Appendix 1 for detail
Odour Modelling Page 39
Risk assessment Page 50

Summary: The proposal will reduce the likelihood of odour impacts from the farm

Summary: The proposal will reduce the likelihood of odour impacts from the farm and pose little risk to the nearest neighbours.

(c) the potential for the pollution of surface water and ground water,

These are addressed as follows;

Current Situation: Page 13 and Section 3 Appendix 1
Proposed situation: Third paragraph Page 15
Capture of rainwater – Page 13 and 15 and 16 and 28 and Appendix 1
Effluent Capture – Pages 26 to 31 and Appendix 1
Flushing and capture of effluent – Page 26 to 31 and Appendix 1
Notes on waste management – Pages 29 to 30 in particular and Appendix 1
Surface water management as part of effluent management – Page 31
Water quality, drainage, flooding erosion and sedimentation – Appendix 1 and pages 30 and 31
Risk assessment Page 50 and Appendix 1 for detail on effluent and salinity risks

Groundwater: Soils for the sedimentation basins and lagoon are lined by 400 mm of clay to ensure integrity of the lining.

Summary: The proposal will result in greater control of waste and surface water on the farm and manage the potential for groundwater contamination

(d) the potential for the degradation of soils,

Description of soils - Page 13 and Appendix 3
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Comment: Soil health will improve under the proposal

(e) the measures proposed to mitigate any potential adverse impacts,

Comment: These measures are documented throughout the proposal and in Appendix 1
See also risk assessment – Page 50

(f) the suitability of the site in the circumstances,

Comment: This area and the site, in particular, is very suited to developments such as the proposed development
See Pages 12 to 17

(g) whether the applicant has indicated an intention to comply with relevant industry codes of practice for the health and welfare of animals,

Improved cow comfort is a key goal for the proposal and is a core desire for the Middlebrook family
Notes on this are on Page

Page 5 in objectives
Page 9 – in Introduction
Page 16 describes the current situation that Middlebrook's wish to improve
Page 34 to 35 addresses cattle welfare and comfort

Summary: The document reflects the strong commitment of the farm to animal well-being

Notes regarding addressing Planning Guidelines: Intensive Livestock Agricultural Production 2019

Table 1: Planning considerations

Issue	Task	Supporting information
Land use zone and permissible uses	Checked as RU1	Berringan Shire Maps 22/11/2024
Buffer or separation distances	Buffer distances for risk and biosecurity	Access is via private road offset from the nearest public road.
Community amenity, including proximity to adjoining dwellings	Check whether there are any dwellings or other sensitive receivers that may be affected by noise, dust, odour and other aspects of the proposal.	These are addressed as follows; Current situation: Photo 3 Location of nearest dwelling – Page 15 and 19 Proposed situation: Pages 12 to 16 Notes on waste management – Page 29 to 30 Effluent Load and Management Appendix 1 Odour Modelling Page 39 Risk assessment Page 50 Summary: The proposal will reduce the likelihood of odour impacts from the farm and pose little risk to the nearest neighbours.
Water quality and water flows, and groundwater	Consider whether the proposed siting of the development may adversely affect water, including groundwater and whether there are any risks of water pollution or flooding. Development in some drinking water catchments may be required to show neutral or beneficial effects (NORBE) on water quality.	Current Situation: Photos 1 to 3 Proposed situation: Pages 30 to 32 and Appendix 1 Capture of rainwater – Page 32 Effluent Capture – Pages 24 to 19 Appendix 1 Flushing and capture of effluent – Pages 24 to 19 Appendix 1 Notes on waste management – Pages 24 to 19 Appendix 1 Surface water management as part of effluent management – Page 32 Water quality, drainage, flooding erosion and sedimentation – Page 32 and Appendix 1 for detail Groundwater: Soils for the sedimentation basins and lagoon are lined by 400 mm of clay to ensure integrity of the lining.

		Summary: The proposal will result in greater control of waste and surface water on the farm and manage the potential for groundwater contamination
Soils	Consider the type of soils on the proposed site, and whether they are suitable for both construction of the facility and future operation (including erosion risk, waste and effluent management).	Description of soils - Page 13 and Appendix 3 Notes on soil impact through less pugging from hoofed animals on pasture – Page 17 Notes on soils management – Page 29 and Appendix 1 for detail Comment: Soil health will improve under the proposal
Surface water	Intensive livestock facilities can impact surface waters through increased nutrient runoff and/or sedimentation. Consider how surface water and runoff can be managed to avoid these risks.	Surface water management as part of effluent management – Page 32 Water quality, drainage, flooding erosion and sedimentation – Page 32 and Appendix 1 for detail Groundwater: Soils for the sedimentation basins and lagoon are lined by 400 mm of clay to ensure integrity of the lining. Summary: The proposal will result in greater control of waste and surface water on the farm and manage the potential for groundwater contamination
Topography	Consider landforms and slope when choosing an appropriate site. These can influence drainage, erosion, animal health and air quality impacts.	See earth movement plans (Figure 1.1)
Biodiversity and vegetation	Clearing of native vegetation should be avoided as a first preference. Identify native vegetation present on the site and options to retain and enhance vegetation cover and quality.	There will be no native vegetation cleared.
Biosecurity	Consider the proximity to other intensive livestock operations and other potential risk sources, such as nearby dwellings, transport routes, stock animals,	The selected site is not in close proximity to other cattle or other livestock and does not

	waterbodies and native and pest animals present in the local environment.	have a high density of foxes or feral pigs.
Heritage	Determine if the proposal could harm Aboriginal cultural heritage.	There has been no evidence of aboriginal history on the site.
Access to feed (grain) and water	Check distribution and supply networks to the site, and suitability of on-site storage locations. Consider potential impacts of vehicle movements, such as noise and dust, on neighbours and surrounding land uses.	The site has excellent feed access and truck movements will change very little. The movement of the current feed storage back to its original siting will reduce noise and dust, if any, for the neighbouring house.
Animal welfare	Confirm ability to meet relevant industry standards for animal welfare.	Improved cow comfort is a key goal for the proposal and is a core desire for the Middlebrook family Notes on this are on Page Page 5 in objectives Page 9 – in Introduction Page 16 describes the current situation that Middlebrook's wish to improve Page 34 to 35 addresses cattle welfare and comfort Summary: The document reflects the strong commitment of the farm to animal well-being
Climate	Consider relevant information regarding existing climatic conditions and future projections. This includes making adjustments in consideration of the impact of climate change on agricultural systems. Climate variability needs to be considered in the planning for bushfires, droughts, floods, infrastructure and plant and animal health.	Summary: The document reflects the strong commitment of the farm to animal well-being in the presence of potential for temperature increases. The proposal particularly addresses heat stress mitigation.
Transport infrastructure	Consider the proximity to processing facilities, distribution points and key markets. Identify any access or related transport infrastructure improvements (e.g. load and width limits on roads and bridges) that will be required to support the development.	The site exists and functions well in this regard. The proposal does not substantially alter this.

Utility infrastructure	Identify existing and future utility needs, including water, sewage, electricity, gas and telecommunications	The site exists and functions well in this regard. The proposal does not substantially alter this.
Labour supply and amenities	Consider the availability of labour, including the different needs that may arise during construction and operation of the facility. Also identify any supporting amenities needed for staff, such as bathroom and eating facilities and car-parking	The site exists and functions well in this regard. The proposal does not substantially alter this.
Potential for future expansion	Consider whether the site has capacity for further future expansion.	The potential to expand has been considered, but this is not envisaged in the near future.

Risk Assessment as per Planning Guidelines: Intensive Livestock Agricultural Production 2019

There was only one area of potential risk identified

Risk	**Odour**
Potential outcome	Impact to community amenity
Adverse effect	Nuisance to community and neighbour amenity resulting from odours produced at the site.
Comments	The buffer distance to the nearest sensitive receiver is substantial (1.246 km) and distance to the most substantial odour source the storage pond lagoon is well buffered by houses and trees. The prevailing wind is SW and opposite to the risk of odour.
Initial probability	D unlikely
Initial consequence	Low 4 – unlikely to occur and, if present would be transient
Initial risk	Low 5
Follow Up	Yes – consult with neighbours and investigate any factors that might have triggered such an event
Management Strategy	Our odour modelling showed an adequate buffer especially as the compost shed itself produces little odour. The lagoons are well outside a sensitive distance. There may be a need to note if strong prevailing winds come from the opposite direction to current and additional mitigation under taken.
Final risk	Low

14. DEVELOPMENT SCHEDULE

It is proposed to commence construction in the coming spring-summer. It is expected that construction of the facility would take approximately three to four months.

January 2024 Commence earth works, including cutting, fill and compacting of the site. Redirection of run-off away to the site. Commence effluent ponds.

February 2024 Deliver materials to the site for shed development

March 2024 Commence site building including feedpad and sheds

May- June 2024 Move cattle into completed facility.

References

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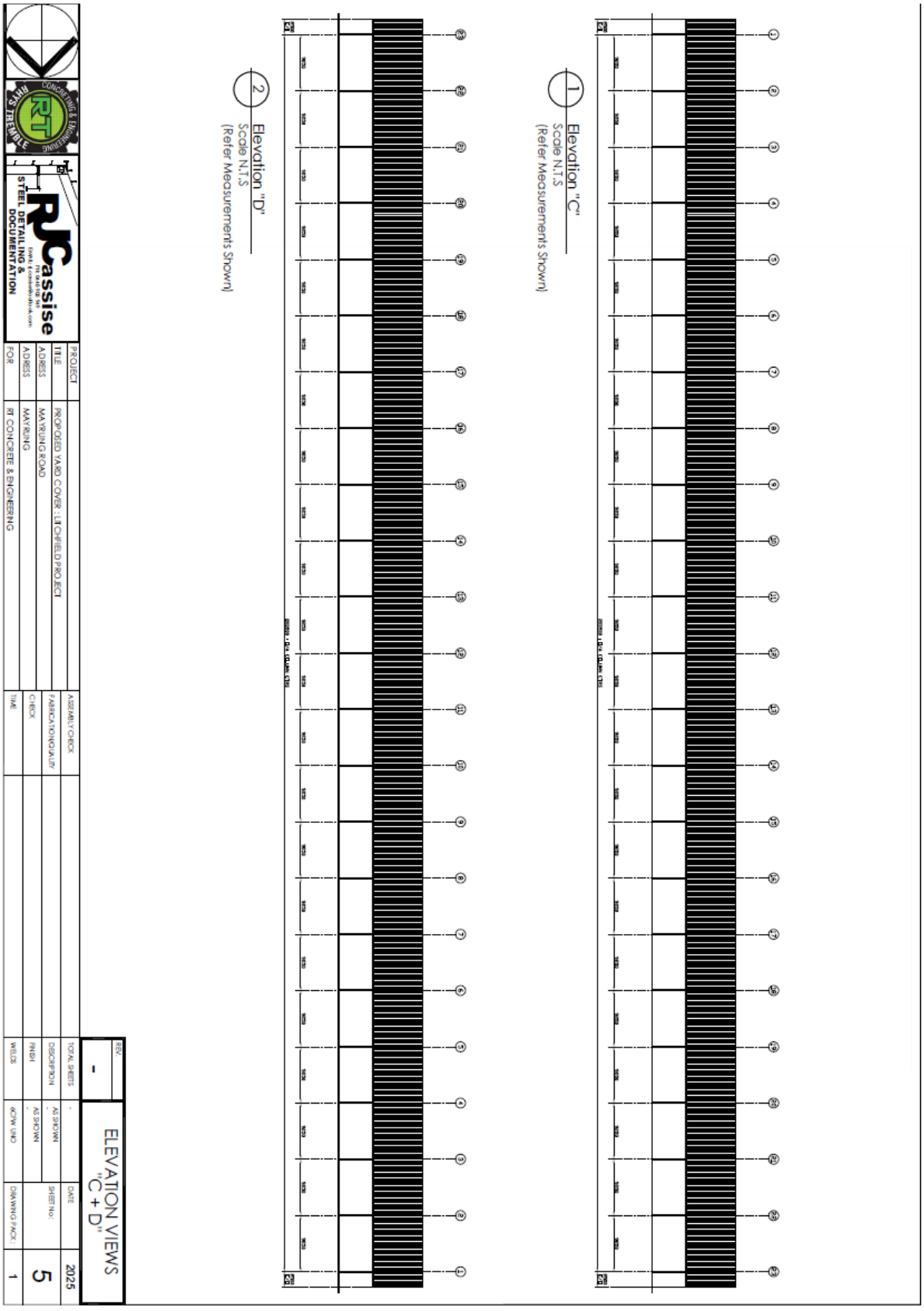
APPENDIX

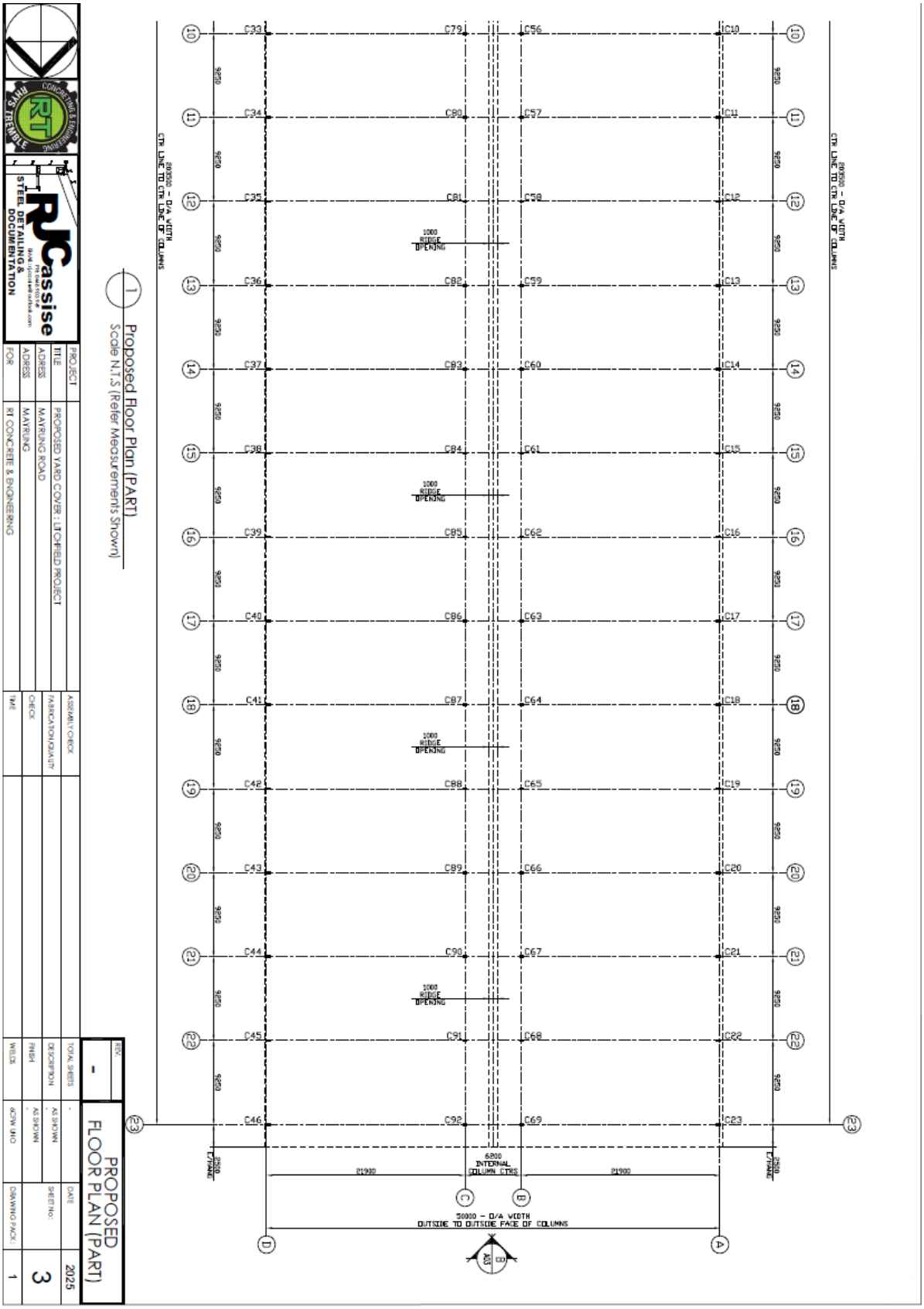
Appendix 1. Effluent Management Plan: Middlebrook. Agribusiness Solutions (October 2024)

Appendix 2: Geotechnical Investigation for Rhy Tremble Concreting and Engineering. Middlebrook, Maxwells Road Finley: (October 2024) Geotechnical Testing Services.

Appendix 3. Soil testing results

Appendix 2. Floor Plan (See also full engineering to follow)




1 Proposed Floor Plan (PART)
Scale N.T.S (Refer Measurements Shown)
RJCassise
STEEL DETAILING & DOCUMENTATION
PROJECT
TITLE
PROPOSED YARD COVER : LITCHFIELD PROJECT
ADDRESS
MAYRUNG ROAD
ADDRESS
MAYRUNG
FOR
RT CONCRETE & ENGINEERING
DATE
CHECK
FABRICATION/QUALITY
ASSEMBLY CHECK
WELDS
FINISH
ACTN SHO
AS SHOWN
TOTAL SHEETS
DESCRIPTION
REV
-
PROPOSED FLOOR PLAN (PART)
DRAWING PAGE
1
SHEET No:
3
DATE
2025
C33
C79
C56
C10
C34
C80
C57
C11
C35
C81
C58
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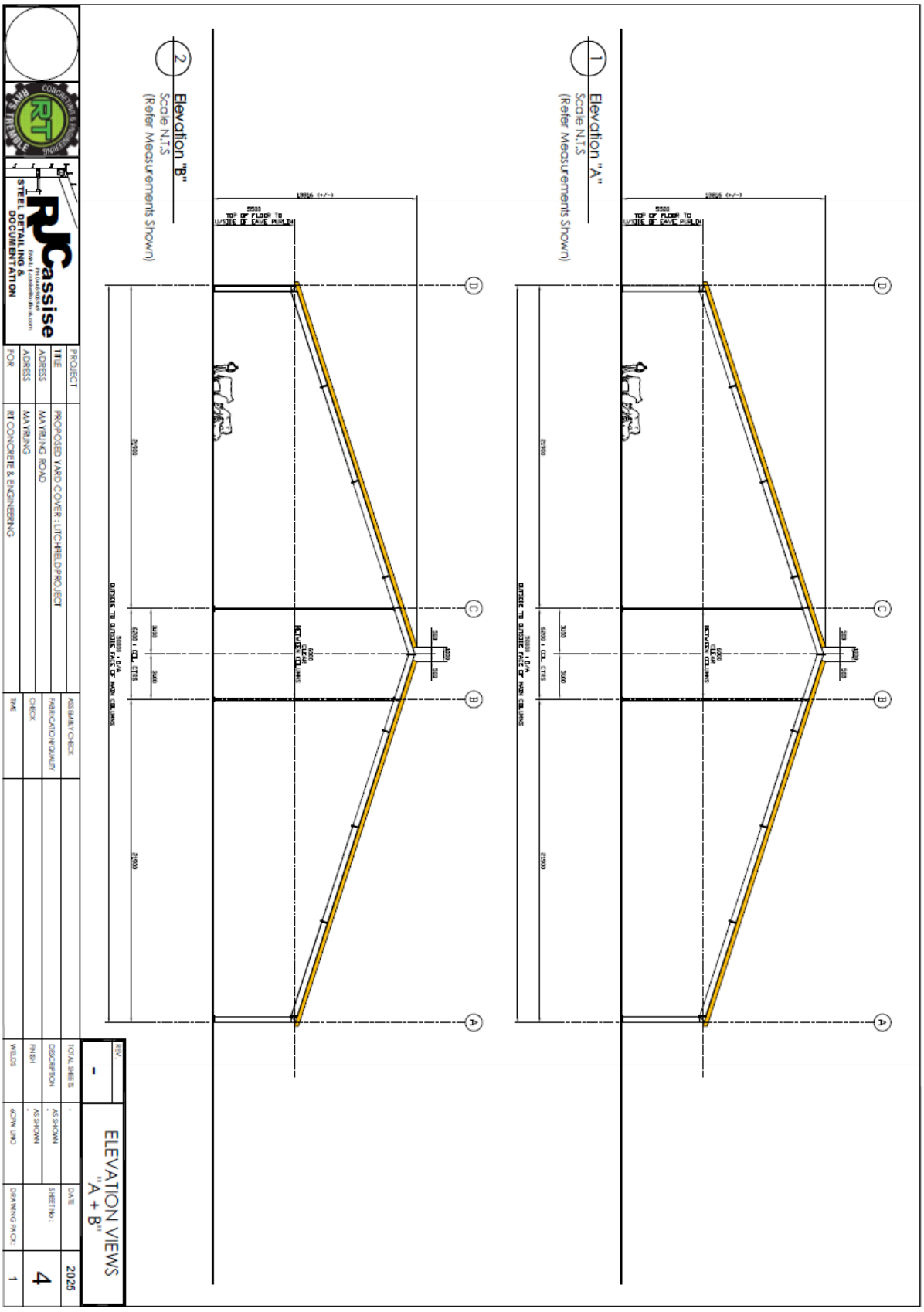
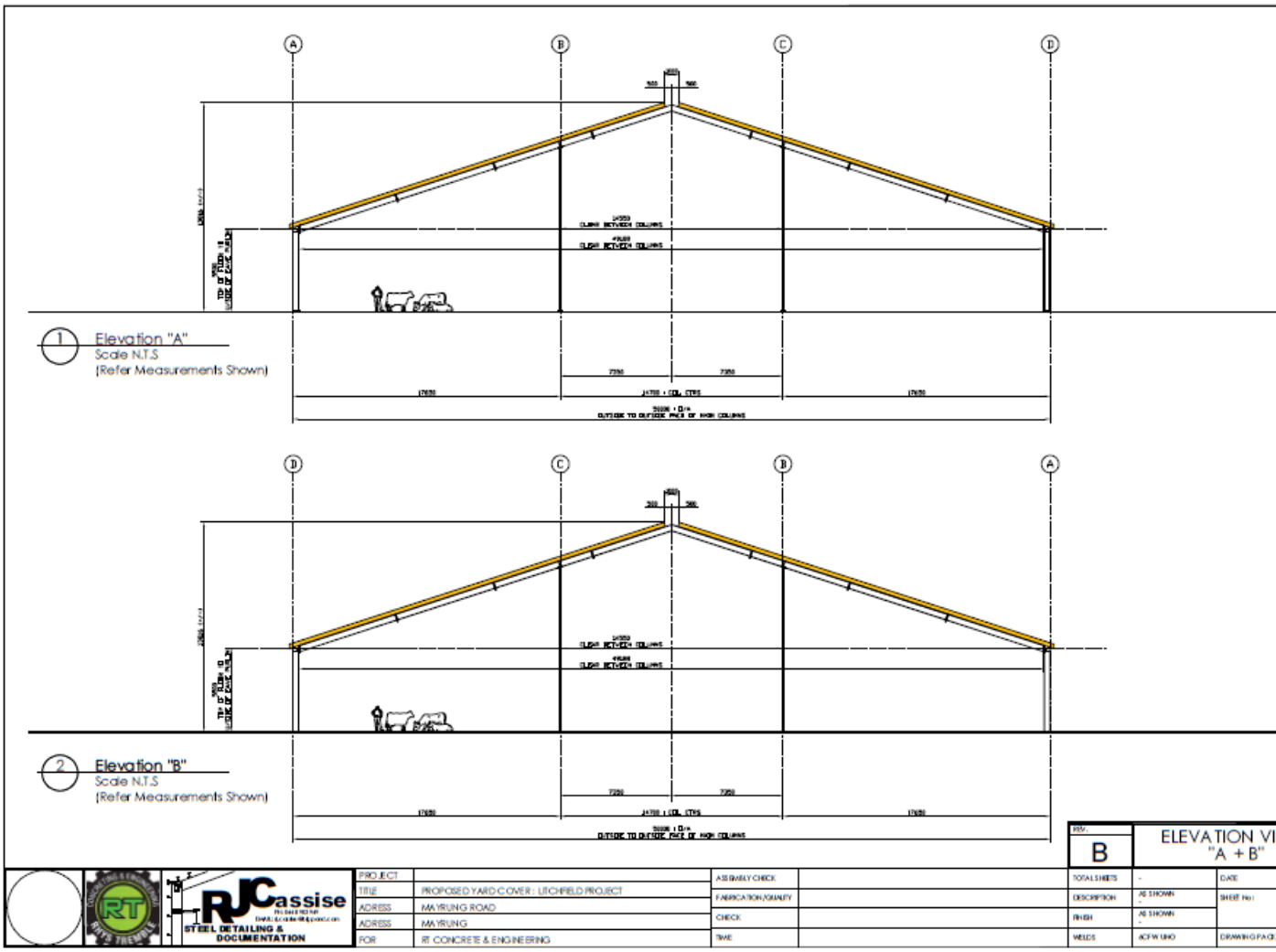
C64
C18
C42
C88
C65
C19
C43
C89
C66
C20
C44
C90
C67
C21
C45
C91
C68
C22
C46
C92
C69
C23
1000 RIDGE OPENING
CTR LINE TO CTR LINE OF COLUMNS
6200 INTERNAL COLUMN CTRS
50000 – O/A WIDTH OUTSIDE TO OUTSIDE FACE OF COLUMNS

Appendix 3. Shed plan – Cross section




A
B
C
D
1 Elevation "A"
Scale N.T.S
(Refer Measurements Shown)
D
C
B
A
2 Elevation "B"
Scale N.T.S
(Refer Measurements Shown)
B
ELEVATION VI
"A + B"
RJC assise
STEEL DETAILING & DOCUMENTATION
PROJECT
TITLE
PROPOSED YARD COVER : LITCHFIELD PROJECT
ADRESS
MAYRUNG ROAD
ADRESS
MAYRUNG
FOR
RT CONCRETE & ENGINEERING
ASSEMBLY CHECK
FABRICATION/QUALITY
CHECK
TIME
TOTAL SHEETS
DESCRIPTION
AS SHOWN
AS SHOWN
WELDS
DATE
SHEET No:
DRAWING PAGE

Company Overview – Scibus

Scibus originated in 1990 when Ian Lean formed a company to consult to cattle producers and conduct independent research for the cattle industries. The company has grown to approximately 15 people consisting of highly trained veterinarians and animal scientists who work with a considerable percentage of the dairy industry. The company is based in Camden, NSW, but works across Australia and beyond.

The company, and Ian Lean in particular, has been involved in the development of dairy facilities since the mid 1990's and has helped develop several intensive dairy sites in NSW, Victoria and South Australia.

The following provides information on Ian Lean who developed this application.

IAN J. LEAN BVSc (Syd), DVSc (Syd), PhD (Calif), MACVSc

Ian's general interests are in improving the profitability of ruminant production. He is Managing Director of Scibus, a company that conducts research and consults to dairy and beef producers. Ian has been the keynote speaker at numerous international conferences in the USA, EU, South America, South Africa, Australia and New Zealand, presenting on nutrition, reproduction, health, meta-analysis and study design. The company is recognized for it's leadership and excellence in meta-analytic research.

Since 1990, Ian has been active in discussing the implications of increasing population on food availability and the roles of technology and activism in addressing these. He has a deep knowledge of factors influencing farm profit from a biological and economic perspective and has presented nationally and internationally on these. Ian is

- a past president of the Australian Association of Cattle Veterinarians and the Cattle Chapter of the Australian College of Veterinary Scientists.
- He has been on faculty at Universities of California and the University of Sydney.
- Ian completed his PhD in 1990 at University of California in Davis with majors in Nutrition and Epidemiology. Awarded his DVSc for excellence in published research by the University of Sydney.
- Awarded the Gilruth Prize, the Australian Veterinary professions highest honour and
- in 2010 awarded the Australian Dairy Science Award.
- In 2018 awarded the American Feed Industry Association Award for excellence in research over the past 10 years
- an Adjunct Professor at the University of Sydney since 2000
- Assisted in the successful development of more than 7 similar sites
- Member of the review of Guidelines for Development of Intensive Dairies with Victorian Department of Primary Industry 2020-2021

Company Overview – Agribusiness Solutions

BRIAN CROCKART MBA, B.Sc. (Ag. Econ.), Dip HR (Dairy), Acc. Effluent System Designer.

Brian has been involved in the dairy industry for the past 29 years and is currently a consultant with Agribusiness Solutions. He brings extensive agricultural expertise to his role, specializing in ruminant nutrition, business management and performance, feasibility studies, succession planning, and human resource management. Over the past six years, he has been engaged in intensive dairy planning, including environmental impact statements and effluent management plans to meet the statutory requirements for large dairy developments. Brian has spent several years developing an in-depth understanding of intensive dairy farming systems and has visited operations in the USA, Canada, Ireland, Europe, South Africa, and New Zealand.

Brian holds a Master of Business Administration, a Bachelor of Science with a major in Agricultural Economics, and a Diploma in Human Resources. He is also an accredited Effluent System Designer.