



Statement of Environmental Effects (SEE)

Containerised Blood Separation Installation

Teys Australia Wagga

Prepared by:

Richard Beaumont - Project Manager
Teys Australia Pty Ltd Wagga
12th November 2019

1. Table of Contents

1. Table of Contents	2
2. Objective of this SEE.....	2
3. The Proposed Development – Blood Separation & Plasma Concentration System	3
4. Scope of the Development.....	4
5. Objectives of the Development.....	5
6. Likely Environmental Impacts of the Development	5
7. Methodology for Identification of Environmental Impacts	5
8. General Mitigation Measures for Environmental Impact	5
9. Consideration of Statutory Matters	5
10. Context and Setting.....	6
11. Public Domain.....	6
12. Infrastructure.....	6
13. Heritage & Archaeology	6
14. Land Resources	7
15. Soils.....	7
16. Air & Microclimate.....	7
17. Flora & Fauna.....	7
18. Waste.....	7
19. Noise.....	8
20. Natural Hazards	8
21. Social Impact.....	9
22. Economic Development	9
23. Design.....	9
24. Construction.....	10
25. Public Interest.....	10
27. Contact.....	10

2. Objective of this SEE

This statement of environmental effects (SEE) has been prepared for the modification of the existing blood processing arrangement to allow for new blood separation and plasma concentration process at Teys Australia Pty Ltd.

The purpose of this SEE is to allow the DPIE to properly assess Teys proposal to install a Blood Separation System at Teys Wagga facility and to demonstrate the merits of this development.

3. The Proposed Development – Blood Separation & Plasma Concentration System

Teys Australia propose to construct and install a blood separation and plasma collection system located adjacent to the beef slaughter processing facility located at Teys Australia Wagga Wagga Dampier Street Wagga Wagga NSW 2650. The new facility will consist of 2 x concrete hardstands containing a 40' container, storage tanks, CIP tanks and associated piping and pump infrastructure. Currently all blood product is sent to the onsite render process facility for processing into blood meal. Modification to the current system will allow diversion of the blood process flow for separation into blood Plasma and Haemoglobin, with Plasma being separated and stored under controlled conditions for product delivery and further processing and value added revenue stream. Haemoglobin being delivered back to the original process for blood meal production. Taking into consideration separation system failure, the new system can be switched back to the current original system for delivery to the rendering process for blood meal production.



Image 1: Proposed Blood Separation & Plasma Concentration System.

Teys Wagga Blood Separation Process Flow Chart

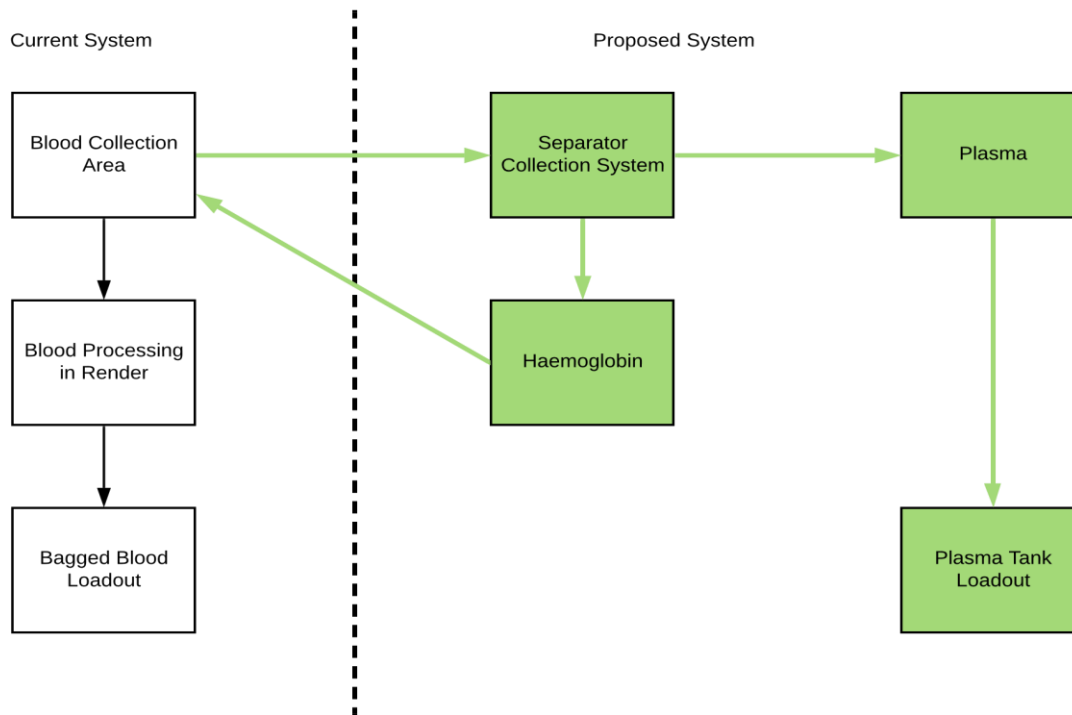


Image 2: Blood Separation Process Flow Chart

4. Scope of the Development

The scope of the development is to:

- Install a bovine blood collection system that separates and value adds adult bovine raw blood into Plasma and Haemoglobin.
- Install slab x 2 Area 1 (20x13m – Blood Separator System) & Area 2 (6 x 4m Concentrated Plasma Tank) including drainage and services (Hot, warm, cold water, air & steam).
- Supply & Install glycol delivery & return service lines to concentrated plasma tank Area 2 (6 x 4m) and separation system Area 1 (20x13m) for required process integrity and product temperature.
- Supply and install all pipe work portal frames and product pipe work connections, including all CIP services and valving.
- Supply and install all blood collection equipment and associated valving and fixtures for product transfer and distribution.
- Supply and install all electrical and control wiring for refrigeration and product services (Hot, warm, cold water, air & steam).

5. Objectives of the Development

The objective of the development is to allow Teys Wagga to create two value streams out of bovine blood (Plasma & Haemoglobin).

6. Likely Environmental Impacts of the Development

Nil significant environmental impacts have been identified for the development.

7. Methodology for Identification of Environmental Impacts

The environmental impacts of the development have been identified through the following actions:

- Review of relevant planning instruments;
- Inspection of the subject site;
- Inspection of sites surrounding the subject site;
- Review of proposed supplier structures including materials offered in proposal;
- Desktop study including systematic review of all items contained in ‘A Guide to Preparing a Statement of Environmental Effects’

8. General Mitigation Measures for Environmental Impact

Given the above restricted impacts of the development, identified general mitigation measures include the following:

- Appropriate disposal of any construction wastes generated by contractors at Teys Wagga site during the project duration will engage in separation and recycling of ferrous and nonferrous metal including concrete overfill and excavated top soil. Top soil to be stored on site as indicated (Refer to Image 3)

9. Consideration of Statutory Matters

Teys have referred to the following planning instruments in formulating this SEE:

- Environmental Planning and Assessment Act NSW (1979) generally;
- Environmental Planning and Assessment Regulation (NSW) 2000 generally and Schedule 1 Forms specifying that a development application must be accompanied by a SEE.

- The Environmental Planning and Assessment Regulation 2000 Part 6 Procedures Relating to Development Applications
- No draft planning instruments that would affect the proposal have been identified by the proponent.
- Under Section 1, clause 23 of POEO Act 1997, EPA *Guide to Licensing* and Teys current fee-based EPL, no change to the scale or capacity of operations onsite will result from the blood separation and plasma concentration system and therefore no change to current licensing will be required. However the site OEMP will be updated and submitted for approval by EPA and DPIE.

10. Context and Setting

The proposal is small in plan extent compared to existing structures and processes on site and structures in the area (refer to Image 1).

11. Public Domain

There are no impacts from the development on sunlight, views, acoustic amenity, access, or convenience. Vehicle manoeuvring and onsite parking has been addressed in the design.

12. Infrastructure

It is not anticipated that the proposal will impact on any of the following: drainage easements or infrastructure, sewerage easements or infrastructure, water supply infrastructure, high or low voltage electrical distribution infrastructure, or communications infrastructure. The presence and location of the services infrastructure relating to the above are well known on site and outside the footprint of the proposed development.

It is not anticipated the proposal will impact on any civil infrastructure including roads, kerbing, or guttering as the development does not encroach on these assets.

13. Heritage & Archaeology

A search of the Aboriginal Heritage Information Management System (AHIMS) database (accessed 28 June 2016) for Lot 1 DP 1213252, which encompasses the project site and existing Beef Processing Facility, revealed there is one artefact located approximately 1.6 km to the south of the site.

An archaeological survey undertaken by HLA-Envirosciences Pty Ltd (HLA-Envirosciences) in 1997 and reported in the Environmental Impact Statement (EIS) for the Beef Processing Facility (HLA-Envirosciences, 2002) identified one isolated artefact (a piece of brown coarse

grained silicate) in the south west of the existing facility. The archaeological report concluded that due to the isolated location of this artefact it was likely to have been transported from elsewhere.

A search of the NSW Heritage Register identified two heritage items located within 500 metres of the project site:

- A local heritage item listed under the Wagga LEP – Bomen Stationmaster’s Residence (58 Dampier Street Bomen) located 425 m north east of the project site.
- A State heritage item – Bomen Railway Station (46 Dampier Street Bomen) located 400 m north east of the project site.

Both listed items are located a considerable distance from the Project site and will not be impacted by the proposed development.

14. Land Resources

There are nil impacts of the proposed development on land resources.

15. Soils

There are no impacts of the proposed development on soils other than minor disturbance to soil immediately surrounding the existing site for excavation of footings. Clean fill can be contained on site to the clean fill area in (Image 3) for further re use onsite.

16. Air & Microclimate

Some dust may be generated with disturbance of soils required for excavation and construction of the proposed plant and equipment. There are no other impacts of the proposed development on air and microclimate.

17. Flora & Fauna

There are no impacts of the proposed development on flora & fauna.

18. Waste

Construction of the proposed development will produce small amounts of construction wastes including concrete over-pour, ferrous steel waste and construction consumables. Wastes will be minimised by segregation of recyclable from general wastes for processing through Teys

Wagga Site. The proposed development in operation will not add to any waste steam currently produced by the abattoir facility.

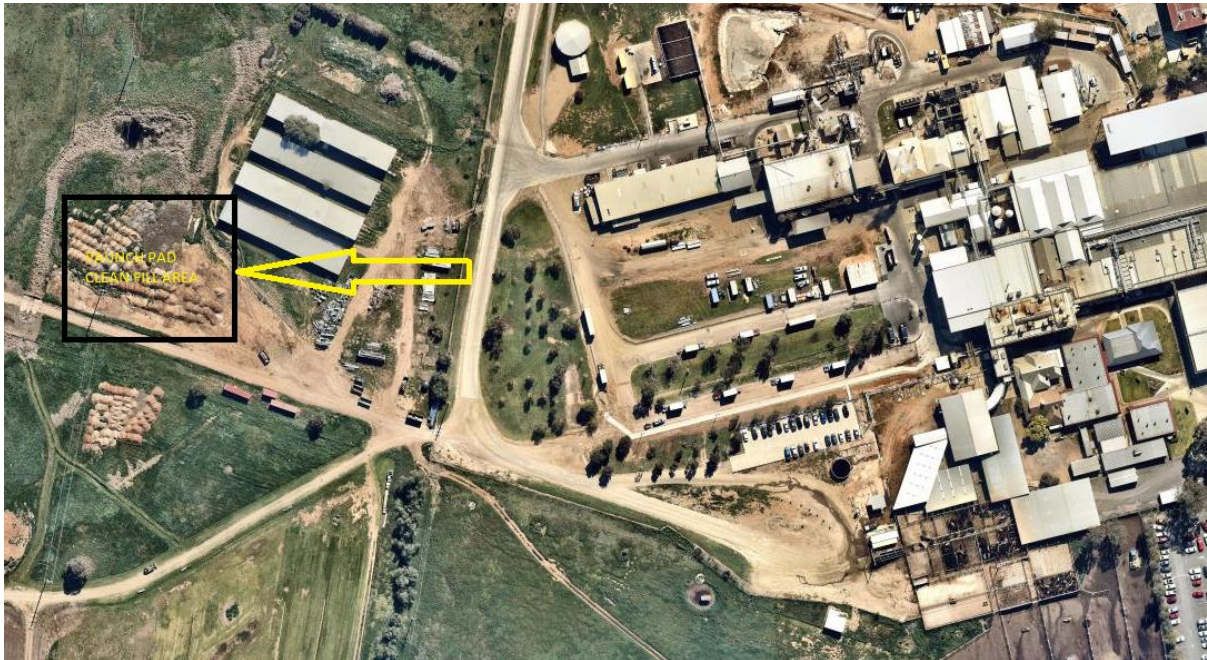


Image 3: Paunch Pad – Clean Fill Area

19. Noise

Proposed development will produce noise during construction for operation of earthmoving equipment including excavator, dump truck, skid steer loader, mobile crane (franna), scissor lift, forklift, cutting tools (concrete, steel & copper). This noise will be within current site operating hours and small c.f. overall noise produced by current operation.

The proposed development in operation will not produce any noise in addition to that currently produced by the existing facility.

20. Natural Hazards

The Teys site is not especially prone to bushfire as there are large areas of sparsely vegetated cultivated farmland surrounding the site. There are no other identified natural hazards that would be relevant to the proposed development. Teys site is identified as inside the river flood zone, however actual mapped impact is limited to the far most corner of the site and not the area for development.

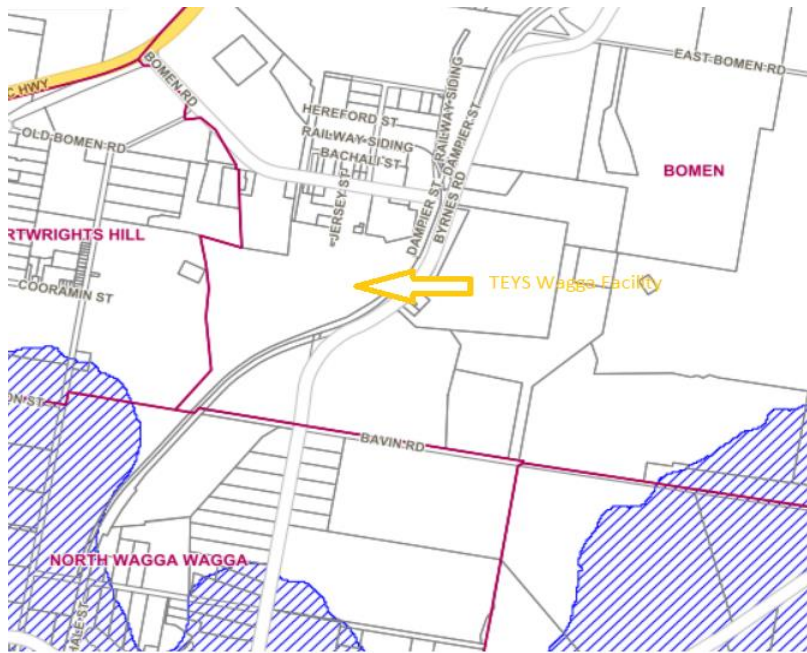


Image 4: WWCC Flood Zone (WWCC LEP 2010)

21. Social Impact

The closest residential neighbours to the proposed development site are located over 1 kilometre from the facility with nil social impact. It is not anticipated the development will have impact on visual amenity of this or any other residential property.

There is no impact of the development on other forms of amenity, overshadowing, privacy, or social character of the area.

22. Economic Development

During the construction phase the proposal will create several full time temporary positions over a duration of 3 month. The development is an enabler for the continued operation of the Teys Wagga facility in sustainably processing beef for key customers Woolworths, Aldi through continual positive project outcomes.

23. Design

The design of the infrastructure is consistent in nature with existing structures and services flow from the slaughter floor production facility. The proposal will not be visually prominent.

The design consists of hard stand designs with open containerised, tank and CIP plant layout with shade & weather cover over critical plant. The proposed development incorporates the design most appropriate in achieving the objectives of the proposal.

Note that the proposed development will be fully contained by fence line chain link compound for security purpose, which will remain in place after construction.

24. Construction

Construction site safety will be addressed through Teys Australia Safety Management System. Crane and excavator operation, like any other high risk work as defined by harmonised WHS legislation, will be subject to development of Safe Work Method Statements incorporating appropriate risk mitigation controls to prevent material damage to existing structures, preserve construction team and site personnel safety, and preserve the safety and welfare of livestock temporarily held in the yards adjacent.

25. Public Interest

The project will address the public interest in improving value add outcomes for animals products from slaughter at the Teys Australia Wagga facility. Addressing Pet food industry additive development.

26. Contact

Please contact Richard Beaumont, Project Manager on 02 6938 3000 if you have any questions or require further information regarding this SEE or the accompanying development application.



Statement of Environmental Effects (SEE)

Turf Farm Effluent Irrigation and Operation

Teys Australia Wagga

Prepared by:

Marnie Mannering – Environmental Officer
Teys Australia Pty Ltd Wagga
12th November 2019

1. Table of Contents

1. Table of Contents	12
2. Objective of this SEE	13
3. The Proposed Development – Turf Farm Effluent Irrigation and Operation	13
4. Scope of the Development	14
5. Objectives of the Development	15
6. Likely Environmental Impacts of the Development	15
7. Methodology for Identification of Environmental Impacts	15
8. General Mitigation Measures for Environmental Impact	15
9. Consideration of Statutory Matters	15
10. Context and Setting	16
11. Public Domain	16
12. Infrastructure	16
13. Heritage & Archaeology	16
14. Land Resources	17
15. Soils	17
16. Air & Microclimate	17
17. Flora & Fauna	17
18. Waste	18
19. Noise	18
20. Natural Hazards	18
21. Social Impact	18
22. Economic Development	19
23. Design	19
24. Construction	19
25. Public Interest	19
27. Contact	19

2. Objective of this SEE

This statement of environmental effects (SEE) has been prepared for the modification of the existing effluent irrigation DA conditions at Teys Australia Southern Wagga Wagga Pty Ltd (Teys Wagga).

The purpose of this SEE is to allow the DPIE to properly assess Teys Wagga proposal to modify the existing conditions to allow for growing of turf crop and associated turf farming activities onsite and to demonstrate negligible environmental impacts through a change of crop.

3. The Proposed Development – Turf Farm Effluent Irrigation and Operation

Teys Wagga have previously received consent through Department of Planning, Industry and Environment (DPIE) DA220-07-2002-i MOD 5 to provide effluent water for lucerne crop in designated approved irrigation areas CFA High and CFA Low (see image 1).

With the nature of the region and different business opportunities, Teys Wagga have altered the operations onsite to now grow different turf crop and operate a turf farming business. Currently, these improved operations onsite produce certified Buffalo, Kikuyu and TifTurf varieties.



Image 1 – Teys Wagga site boundary and approved irrigation areas

4. Scope of the Development

Teys Wagga seek approval to grow turf crop and operate turf farming activities in areas CFA High and CFA Low. Effluent irrigation has previously been approved through 2011 modification to DA approval onsite.

5. Objectives of the Development

The objective of the development is to allow Teys Wagga to irrigate effluent water and operate a turf farm on site.

6. Likely Environmental Impacts of the Development

Teys Wagga refer to the EPA *Use of Effluent by Irrigation 2004* guide table 4.1, to compare the nutrient loading between lucerne and different grass types onsite. As shown on table 4.1 of the guide and in table 1 below, lucerne has a yield of 20 tonnes/ha dry matter which is the same as Kikuyu. Nitrogen % levels are similar between each crop at 3.5% and 2.6% respectively. Phosphorous % levels are insignificantly different at 0.4% for lucerne and 0.3% for kikuyu. Nitrogen and Phosphorus removal have been estimated by multiplying nutrient concentration by yield, as per EPA *Use of Effluent by Irrigation 2004* guide notes under table 4.1.

Furthermore, during the 2018/2019 irrigation period on Teys property, a total of 48.2 ML of effluent water was applied to the approved CFA Low and CFA High areas. Under the current EPL 2262, a total of 420 ML is approved to be applied across both areas during October to April. Overall, 82.2% less effluent than approved was applied and therefore is a considerable difference between actual loads delivered to the soil vs potential at full irrigation.

Due to the reduced level of effluent irrigation, the insignificant difference between nitrogen and phosphorus removal (tonnes/ha/year) demonstrated in table 1 will not result in any environmental impacts by changing the crop type.

Overall, Teys deem no negligible environmental impacts will result from a change of consent condition allowing turf crop and turf farming and that the modified operation will be substantially the same as originally consented.

Crop	Lucerne	Kikuyu
Average Grain Yield (tonnes/ha dry matter)	20	20
Nitrogen %	3.5	2.6
Nitrogen removal (tonnes/ha/yr)	70	52
Phosphorus %	0.4	0.3
Phosphorus removal (tonnes/ha/yr)	8	6

Table 1: Lucerne v. Kikuyu as from EPA *Use of Effluent by Irrigation 2004* guide table 4.1

7. Methodology for Identification of Environmental Impacts

The environmental impacts of the development have been identified through the following actions:

- Review of relevant planning instruments;
- Inspection of the subject site;
- Inspection of sites surrounding the subject site;
- Desktop study including systematic review of all items contained in ‘Preparing an Environmental Impact Statement’

8. General Mitigation Measures for Environmental Impact

Given the above restricted impacts of the development, identified general mitigation measures include the following:

- Daily weather and soil moisture condition records alongside irrigation volumes maintained through Teys Australia Wagga – Effluent Wastewater Management Plan, (appendix H, Teys OEMP);
- Annual soil and ground water sampling independently carried out as per condition 2, P1.3 and concentration limits set through condition 3, L2 of EPL 2262.

9. Consideration of Statutory Matters

Teys have referred to the following planning instruments in formulating this SEE:

- Environmental Planning and Assessment Act NSW (1979) generally;
- Environmental Planning and Assessment Regulation (NSW) 2000 generally and Schedule 1 Forms specifying that a development application must be accompanied by a SEE.
- The Environmental Planning and Assessment Regulation 2000 Part 6 Procedures Relating to Development Applications
- No draft planning instruments that would affect the proposal have been identified by the proponent.
- Under Section 1, clause 23 of POEO Act 1997, EPA *Guide to Licensing* and Teys current fee-based EPL, no change to the scale or capacity of operations onsite will result from changing irrigated crop types and therefore no change to current licensing will be required.

10. Context and Setting

The proposal will operate within an existing approved area and the alteration of crop provides no change to the context and setting.

11. Public Domain

There are no impacts from the development on sunlight, views, acoustic amenity, access, or convenience. Effluent irrigation already occurs within the proposed areas, with a change of crop making negligible impact on public domain.

12. Infrastructure

No impact on infrastructure is predicted through this change of crop.

13. Heritage & Archaeology

A search of the Aboriginal Heritage Information Management System (AHIMS) database (accessed 28 June 2016) for Lot 1 DP 1213252, which encompasses the project site and the existing Beef Processing Facility, revealed there is one artefact located approximately 1.6 km to the south of the site.

An archaeological survey undertaken by HLA-Envirosciences Pty Ltd (HLA-Envirosciences) in 1997 and reported in the Environmental Impact Statement (EIS) for the Beef Processing Facility (HLA-Envirosciences, 2002) identified one isolated artefact (a piece of brown coarse grained silicate) in the south west of the existing facility. The archaeological report concluded that due to the isolated location of this artefact it was likely to have been transported from elsewhere.

A search of the NSW Heritage Register identified two heritage items located within 500 metres of the project site:

- A local heritage item listed under the Wagga LEP – Bomen Stationmaster's Residence (58 Dampier Street Bomen) located 425 m north east of the project site.
- A State heritage item – Bomen Railway Station (46 Dampier Street Bomen) located 400 m north east of the project site.

Both listed items are located a considerable distance from the Project site and will not be impacted by the proposed development.

As a result of changing the crop type irrigated onsite, there will be nil impact on the local heritage or archaeological significance.

14. Land Resources

There are nil impacts of the proposed development on land resources.

15. Soils

Annual sampling of groundwater and soil conditions is carried out in line with current EPL 2262. No detrimental impacts of effluent irrigation have been identified through the sampling records. Nutrient removal levels between Lucerne and Kikuyu are negligible as per EPA Use of Effluent by Irrigation guide Table 4.1. Between these two crop types, there is only a 0.9% difference in nitrogen removal and 0.1% difference in phosphorus removal. As previously mentioned, a significantly reduced volume of effluent was irrigated during the 2018/2019 irrigation period and therefore is a considerable difference between actual loads delivered to the soil vs potential at full irrigation.

When originally consented, NSW dept. of Environment, Climate Change and Water, (*refer to letter Re Cargill Beef Abattoir – Additional Irrigation Area (DA No.220-07-2002-I MOD 5), dated 21 June 2011*) were concerned with the salinity of effluent water being irrigated across CFA Low. At the time of consent (2011), the average conductivity was 2,922 microSiemens per centimetre. For the last 12 months, conductivity in the effluent water has been sampled to an average of 1,203 microSiemens per centimetre through monthly NATA accredited laboratory sampling. Lower levels of salt will allow for greater crop yield and therefore, improved nutrient balance in the soils. By changing from Lucerne to turf crop, there will be negligible impacts on the soils.

16. Air & Microclimate

Through controlled irrigation, which is wind dependant, no impacts of effluent spray or drift have occurred.

Dust is controlled by the effluent irrigation and regular turf crops being regenerated.

17. Flora & Fauna

There are no impacts of the proposed development on native flora & fauna.

Teys Wagga contractors have recently achieved AusGAP certification after demonstrating a successful removal of noxious weed vegetation species such as Silverleaf Nightshade and Bathurst Burrs throughout CFA Low, amongst other quality standards.

18. Waste

No waste is generated from the turf farming activities.

19. Noise

The proposed development in operation will not produce any noise in addition to that currently produced by the existing facility.

20. Natural Hazards

The Teys site is not especially prone to bushfire as there are large areas of sparsely vegetated cultivated farmland surrounding the site. There are no other identified natural hazards that would be relevant to the proposed development. Teys Wagga site is identified as inside the river flood zone, with a history of flooding impacting CFA Low. Issues raised around flooding and the proposed effluent irrigation were addressed during the original consent in 2011 (*refer WWCC letter RE: Cargill Irrigation Proposal, dated 5th August 2011*)

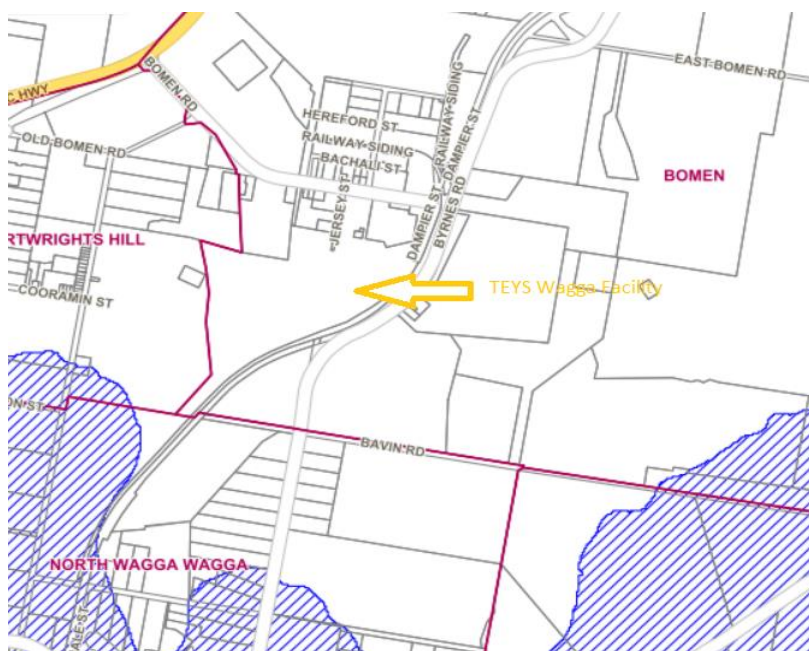


Image 2 - WWCC Flood Zone (from WWCC LEP 2010)

21. Social Impact

There is no impact of the development on other forms of amenity, overshadowing, privacy, or social character of the area. Since originally consented, no complaints have been received from neighbouring properties to the effluent irrigation areas.

22. Economic Development

Turf farming onsite allows for a small business to operate in the region, providing turf to local homes and businesses, as well as sports fields as far away as Canberra. Current operations employ two staff full-time, with another 2 staff employed part-time.

23. Design

There is no change to current designs through this change of crop.

24. Construction

No construction to take place to change consent from Lucerne to turf crops.

25. Public Interest

Teys Wagga do not believe there will be any public interest as effluent irrigation is already consented and turf farming operations already exist.

26. Contact

Please contact Marnie Mannering, Environmental Officer on 02 6938 3000 if you have any questions or require further information regarding this SEE or the accompanying development application.