10.5 To Use and Develop Land for a Solar Farm in Lemnos

Disclosures of conflicts of interest in relation to advice provided in this report
Under section 80C of the *Local Government Act 1989* officers and persons engaged under a contract providing advice to Council must disclose any conflicts of interests, including the type and nature of interest.

No Council officers or contractors who have provided advice in relation to this report have declared a conflict of interest regarding the matter under consideration.

Council Officers involved in producing this report
Author: Statutory Planner
Proof reader(s): Team Leader Statutory Planning, Manager Building Planning
Approved by: Director Sustainable Development

Executive Summary
The application seeks planning approval to use and develop land at 1190 Cosgrove Lemnos Road, 1220 Cosgrove Lemnos Road, 260 Tank Corner East Road, 875 Boundary Road and 85 Crooked Lane (the land) for a 100MW renewable energy facility (solar farm). The application represents a $175 million investment in the region.

The land is within the Farming Zone (FZ). The land is within an area of cultural heritage significance. Despite this a cultural heritage management plan is not required as the land contains no areas of cultural heritage sensitivity.

Officers have advertised the application and 19 objections to the proposal have been lodged with Council. The objections largely relate to the following issues:
- Loss of native vegetation (22 trees);
- Creation of a micro climate as a result of the solar farm;
- Loss of productive agricultural land;
- Creation of an eyesore in the rural environment;
- Noise disturbance;
- Fire concerns during the operational phase of the solar farm;
- Impacts on the locality during construction of the solar farm including dust emissions and vehicle movements;
- Impact on flood flows in the area;
- Impact on bicycle safety;
- Potential contamination of water;
- Impact on shedding of sheep;
- Impact on drone use in agriculture;
- Devaluation of land;
- Lack of scientific research in relation to issues such as impact on local climate and electromagnetic radiation;
- Impact on native birds i.e. 'birds be scorched, injured or killed when flying over the proposed development'
- Lack of community consultation;
- Setback from property boundaries;
- Impact on community and culture of the area; and
- Glare from solar panels.

The key issue for consideration is whether the loss of productive agricultural land in a food bowl of national significance for a solar farm is acceptable.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

The Greater Shepparton Planning Scheme (the scheme) places a strong emphasis on the retention of agricultural land and the discouragement of non-agricultural uses in farming areas. This application proposes to remove about 482 hectares from agriculture for at least 25 years.

The Rural Regional Land Use Strategy (Rural Strategy) identifies that agriculture within the study region (Campaspe, Moira and Shepparton) consists of about 500,000ha of which 317,000ha is irrigated with about 1.5 million megalitres of water used. Agriculture is without question the main economic driver of the region.

The FZ does not prohibit renewable energy facilities such as solar farms.

The state planning policy seeks to promote and facilitate renewable energy facilities. Clause 19.01-1 (provision of renewable energy) objective is:

To promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.

Clause 52.42 (renewable energy facility) of the scheme seeks to *'facilitate the establishment and expansion of renewable energy facilities, in appropriate locations, with minimal impact on the amenity of the area'.*

In this instance officers are required to consider conflicting policies between agriculture and state policy support for renewable energy facilities and decide in the favour of the net community benefit and sustainable development for the benefit of present and future generations.

Officers note that it is a difficult task in determining this matter, both food and energy production is of fundamental importance to all Victorians.

Officers recommended that a notice of decision to grant a permit be issued for the proposed solar farm for the following reasons:

- Officers acknowledge that this proposal will result in the loss of productive agricultural land. Officers also acknowledge that the land is identified as being strategic agricultural land and that agriculture is the driver of the region's economy. Despite this, a solar farm is not a prohibited use and the generation of electricity like food production is essential to the lives of Victorians. Officers note there are other non-agricultural uses in FZ such as mines, quarries and schools. Whilst reducing valuable agricultural land is not an ideal outcome, the proposed solar farm is an acceptable outcome, the loss of 482ha in a food bowl of 317,000ha does not warrant refusal of the application. The solar farm will produce power to assist in the meeting of future electricity demands;
- Generation of solar energy will assist in achieving the Victorian Government's renewable energy target being 25% of generation by 2020 and 40% generation by 2025;

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10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Officers engaged Sustainable Energy Transformation to undertake an expert review of the grounds of objection. The conclusion of this expert review is:

> *The technical aspects raised in the objections have been reviewed. Some aspects have been found to be without a technical basis and others can be adequately addressed with appropriate requirements in management plans for the site development.*

Based on this expert assessment officers are satisfied that there is no technical energy basis to refuse the application.

Wangaratta
A state government advisory committee considered an expansion of the Countrywide Energy Solar Farm at Wangaratta North. Whilst the issues were different in the Wangaratta case, the advisory committee did support the solar farm application and made the following comments:

> *Having considered all matters and material that it is required to consider, the Committee concludes that an amended planning permit should be issued. The proposed expansion of the solar farm represents a significant investment in the Wangaratta area, and will provide economic stimulation to the region, and increased energy security for other businesses and industries in the region, as well as the broader regional community. The solar farm will also assist Victoria to reduce its overall carbon emissions, and contribute to reaching the State's renewable energy generation targets. These are positive environmental and social outcomes for the region, and for the State more broadly.*

Officers recommend that a notice of decision to grant a permit be issued by Council.

RECOMMENDATION

In relation to Planning Application 2017-301, on the basis of the information before Council and having considered all relevant matters as required by the *Planning and Environment Act 1987,* Council resolves to issue a notice of decision to grant a planning permit subject to the following conditions:

Plans Required

Before the development starts, plans to the satisfaction of the responsible authority must be submitted to and approved by the responsible authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and a minimum of two copies (or as specified) must be provided. The plans must be generally in accordance with the plans submitted with the application but modified to include any necessary information listed in Council's Infrastructure Design Manual.

a) Plans to show the solar arrays are setback at least 50 metres from the lands boundary

b) A detailed fencing plan that achieves compliance with the GBCMA conditions

c) Floor and elevation plans of all proposed buildings

d) Setbacks of buildings and solar panel to comply with GMW conditions

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

e) Details of the water tanks and associated screening (Tank Corner East Road)

Before the operation of the solar farm all buildings and works shown on the endorsed plans must be completed to the satisfaction of the responsible authority.

Layout Not Altered

The use and development of the land for a solar farm as shown on the endorsed plans must not be altered without the written consent of the responsible authority.

Section 173 Agreement

Prior to the use commencing, the owner must enter into an agreement with the Responsible Authority, pursuant to Section 173 of the *Planning and Environment Act 1987* (the Act). This agreement must be registered on the title to the land pursuant to Section 181 of the *Planning and Environment Act 1987*. The owner must pay the reasonable costs of the preparation, execution and registration of the section 173 agreement. The agreement must provide for:

a) Within three months of the solar farm use ending a decommissioning and rehabilitation management plan prepared by a suitably qualified person must be submitted to the responsible authority for approval. The plan must include but is not limited to:

1. identification of structures, including but not limited to all solar panels, substation, buildings and electrical infrastructure, including underground infrastructure to be removed and how they will be removed;

2. details of how the land will be rehabilitated back to its pre-development condition, including irrigation layout and soil profile

Within 12 months of the endorsement of the decommissioning and rehabilitation management plan all the decommissioning and rehabilitation must be completed to satisfaction of the responsible authority.

b) The photovoltaic arrays (solar panels) must be orientated so that the panels are perpendicular to the ground within 30 minutes of sunset until within 30 minutes of sunrise to facilitate night radiant cooling.

c) The operator of the solar farm accepts and acknowledges that the solar farm operations may be subject to disturbance from agricultural activities including but not limited to spray drift, dust emissions and heavy vehicle use.

The said agreement is to be prepared by Council. Council will undertake to have the agreement prepared upon written notification from the applicant. All costs associated with the preparation and registration of the agreement shall be borne by the applicant including Council's administration fee. All fees associated with the documentation must be fully paid prior to execution and registration of the document by Council.

Civil Construction Requirements

Before any of the development starts, detailed plans with computations to the satisfaction of the responsible authority must be submitted to and approved by the responsible authority. When approved, the plans will be endorsed and will then form part of the permit. The information submitted must show the details listed in the Council's Infrastructure Design Manual (IDM) and be designed in accordance with the

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requirements of that manual.

a) details (and computations) of how the works on the land are to be drained including drains conveying stormwater to the legal point of discharge;

b) details of how the drainage design allows for the continuation of existing overland flow paths across the land;

c) documentation demonstrating approval from the relevant authority for the legal point of discharge;

d) maximum discharge rate shall not be more than 1.2 l/sec/ha;

e) detailed plans of the proposed vehicle crossing from Cosgrove Lemnos Road (labelled main entrance on the plans);

f) carparking areas, circulation lanes and access shall be designed and constructed in accordance with AustRoads Publication 'Guide to Traffic Engineering Practice : Part 11 Parking,' 'Australian Standard AS2890.1-2004 (Off Street Parking)' & 'AS2890.6 (Off Street Parking for People with Disabilities);'

g) the site shall be properly illuminated with lighting designed, baffled and located to the satisfaction of the responsible authority to prevent any adverse effect on adjoining land;

h) details of the perimeter fencing of the land

to the satisfaction of the responsible authority.

All parking spaces must be designed to allow all vehicles to drive forwards both when entering and leaving the property.

The access and parking areas must be constructed and drained to prevent diversion of flood or drainage waters, and maintained in a continuously useable condition to the satisfaction of the responsible authority.

Parking spaces, access lanes and driveways must be kept available for these purposes at all times.

Before the operation of the solar farm commences all buildings and works as shown on the endorsed plans must be constructed in accordance with the endorsed plans to the satisfaction of the responsible authority.

Landscape Plan

Before the development starts a landscape plan must be submitted to and approved by the responsible authority. When approved, the plan will be endorsed and will then form part of the permit. The plan must be drawn to scale with dimensions and three copies must be provided;

a) a survey of all existing vegetation and natural features showing plants (greater than 1200mm diameter) to be removed;

b) a schedule of all proposed trees, shrubs and ground cover, including the location, number and size at maturity of all plants, the botanical names and the location of areas to be covered by grass, lawn or other surface materials as specified;

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

c) how the land under the solar arrays maintains ground cover at a reasonable level and the management of fire risk

d) details of permanent screening trees and shrubs with a minimum of six rows using a mixture of local trees and understorey species

All species selected must be to the satisfaction of the responsible authority.

Before the commencement of the use or by such a later date as is approved by the responsible authority in writing, landscaping works shown on the endorsed plan must be carried out and completed to the satisfaction of the responsible authority.

Once the landscaping planting is carried out the landscaping must be maintained including the replacement of any dead or diseased plants to the satisfaction of the responsible authority.

Construction Management Plan

Prior to commencement of works, a Construction Site Management Plan in accordance with Council's Infrastructure Design Manual must be prepared, approved and implemented to the satisfaction of the responsible authority. The plan must show:

a) measures to control erosion and sediment and sediment laden water runoff, including the design details of structures;
b) measures to retain dust, silt and debris onsite, both during and after the construction phase;
c) locations of any construction wastes and the method of disposal, equipment, machinery and/or earth storage/stockpiling during construction;
d) where access to the site for construction vehicle traffic will occur;
e) tree protection zones;
f) the location of trenching works, boring, and pits associated with the provision of services;
g) the location of any temporary buildings or yards;
h) measures to ensure conflicts between cyclists and construction activities are managed;
i) submission of written approval from AusNet Services to use vehicles and equipment exceeding 3 metres in height on the AusNet easement

General Amenity

The use and development permitted by this permit must not, in the opinion of the responsible authority, adversely affect the amenity of the locality by reason of the processes carried on; the transportation of materials, goods or commodities to or from the subject land; the appearance of any buildings, works or materials; the emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit, or oil; the presence of vermin, or otherwise.

Prior to the use commencing any security alarm installed on the premises must be 'silently wired' to a security firm or the Victoria Police.

Prior to the use commencing any lighting within the site must be designed, baffled and located in such positions so as to effectively illuminate all pertinent public areas, without spilling onto the road reserve or adjoining land, and must be connected to a time clock switch or other approved system to the satisfaction of the responsible authority.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Native Vegetation Offsets

Native vegetation offsets are required to offset the removal of 22 native scattered trees approved as part of this permit. The applicant must provide a native vegetation offset that meets the following requirements, and is in accordance with the *Permitted clearing of native vegetation – Biodiversity assessment guidelines and the Native vegetation gain scoring manual (Department of Environment and Primary Industries):*

The offset must:

a) contribute gain of at least 0.059 biodiversity equivalence units

b) be located within the Goulburn Broken Catchment Management Authority boundary or Greater Shepparton City Council Municipal district

c) have a strategic biodiversity score of at least 0.101

Native Vegetation Offset Evidence

Before any native vegetation is removed, evidence that an offset has been secured must be provided to the satisfaction of and approved by the Responsible Authority. This offset must meet the offset requirements set out in this permit and be in accordance with the requirements of the Permitted clearing of native vegetation – Biodiversity assessment guidelines and the Native vegetation gain scoring manual (Department of Environment and Primary Industries).

Offset evidence can be either:

a) An allocated native vegetation credit register extract from the Native Vegetation Credit Register; or

b) A security agreement to the required standard for the offset site or sites, including a 10-year Offset Management Plan to the satisfaction and approval of the Responsible Authority.

Every year, for ten years from the date of approval of the Offset Management Plan, the applicant must provide to the Responsible Authority, notification of actions undertaken towards implementation of the Offset Management Plan, an offset site condition statement and site monitoring photographs.

The Offset Management Plan must be in accordance with Permitted clearing of native vegetation; First party general offset kit (Department of Environment and Primary Industries) and include:

i. The gain in biodiversity equivalence units and strategic biodiversity score to be achieved by the offset actions
ii. Location of where offsets are to be provided and size of area (to be drawn to scale)
iii. Type of offsets to be provided
iv. If applicable, revegetation details including the method(s), number of trees, shrubs and other plants, species, mix and density
v. Activities that will be forgone within the offset area, such as grazing, removal of fallen timber and standing trees and other development/uses
vi. Management actions that will be undertaken to ensure long term sustainability of offset(s) such as permanent fencing, weed control, revegetation maintenance, retention of timber/branches and other habitat management actions
vii. Method of permanent protection for offset(s) such as a formal agreement

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

viii. Person(s) responsible for implementing and monitoring the Offset Management Plan
ix. Time frame for implementing the Offset Management Plan

No alteration to Offset requirements
The requirements noted in an approved and endorsed Offset Plan must not be altered without the written consent of the responsible authority.

Country Fire Authority Requirements

Before the development starts, plans to the satisfaction of CFA must be submitted and approved by CFA and the responsible authority. When approved, the plans will be endorsed and then form a part of the permit. The plans mentioned above must include the following:

- Fire Management Plan;
- Bushfire Risk Assessment, incorporating water supply requirements;
- Fuel Reduction and Maintenance Plan;
- Emergency Management Plan; and
- Any other risk management information for the site.

Goulburn Murray Water Requirements

a) No buildings are to be constructed within 30 metres of OKeefe Creek and Goulburn-Murray Water's open channels and drains, or within the Floodway Overlay (FO).
b) No solar panels (or associated works) are to be constructed within 30 metres of Goulburn-Murray Water's drains no. 6/11 and 8/4. All other solar panels must be setback at least five metres from Goulburn-Murray Water's easements, freehold or reserves containing Goulburn-Murray Water infrastructure.
c) Prior to commencement of works, the applicant must obtain a 'Construction and Use of Private Works Licence' from Goulburn-Murray Water for any works carried out on GMW freehold land, easement or reserves.
d) All construction and ongoing activities must be in accordance with sediment control principles outlined in 'Construction Techniques for Sediment Pollution Control' (EPA, 1991).

AusNet Services

a) The plan must show the AusNet Transmission Group easement fully dimensioned.
b) No part of the proposed development is permitted on AusNet Transmission Group's easement unless otherwise agreed to in writing by AusNet Transmission Group.
c) Access to and along the easement must be maintained at all times for AusNet Transmission Group's vehicles, staff and contractors.
d) Natural ground surface levels on the easement must not be altered by the stockpiling of excavated material or by landscaping without prior written approval from AusNet Transmission Group.
e) The use of vehicles and equipment exceeding 3 metres in height are not permitted to operate on the easement without prior written approval from AusNet Transmission Group.
f) Approval must be obtained from AusNet Transmission Group as to the position and/or suitability of any roads that are proposed within the easement.
g) Details of any proposed services within the easement must be submitted to

10. SUSTAINABLE DEVELOPMENT DIRECTORATE

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

AusNet Transmission Group and approved in writing prior to the commencement of work on site.

Goulburn Broken Catchment Management Authority Requirements

a) The finished floor levels of the proposed substation, control room and O & M building must be constructed at least 300 millimetres above the applicable 100-year ARI flood level of 115.2 metres AHD, i.e. 115.5 metres AHD, or higher level deemed necessary by the responsible authority.

b) A 200 metres length of fencing along the Cosgrove-Lemnos Road and within the Rural Floodway Overlay must be constructed as post and wire or post and rail farm type fencing. Alternatively, pool type fencing with vertical bars spaced at least 150 millimetres apart.

c) A 200 metres length of fencing along the western boundary of the property, and immediately north of the Goulburn Murray Channel 7A/14, within the Rural Floodway Overlay, must be constructed as post and wire or post and rail farm type fencing. Alternatively, pool type fencing with vertical bars spaced at least 150 millimetres apart.

Time for Starting and Completion

This permit will expire if one of the following circumstances applies:

a) the development and use has not started within ***two (2) years*** of the date of this permit;
b) the development is not completed within ***four (4) years*** of the date of this permit.

Moved by Cr Giovanetti
Seconded by Cr Adem

That the Council resolve to:

1. Note that by letter dated 13 February 2018 the Minister for Planning gave notice that the Minister:
   a) has agreed to the Council's request under section 97C of the *Planning and Environment Act 1987* that the Minister for Planning decide the following solar farm planning permit applications: 2017-162; 2017-274; 2017-301; 2017-344;
   b) intends to establish a combined Panel to consider those planning permit applications.
2. Note that as a result the Council is no longer the decision maker for the planning permit applications that were referred to the Minister and the Council must not proceed further with the applications.
3. Through its representatives, appear and make submissions at the hearing(s) by a combined Panel appointed by the Minister for Planning for planning permit application 2017-301 and make available Council Planning Officer's reports.
4. Note the complexities of planning permit application 2017-301 and that there are community concerns in relation to that application.
5. Write to the Panel and request that the hearing(s) be held in Shepparton
6. Authorise the Chief Executive Officer (who may in turn delegate these authorisations to any of his or her delegates) to:
   a) take whatever steps as they see fit so as to implement this resolution, including but not limited to engaging legal representatives and appointing expert witnesses;

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

b) comply with any directions of the Minister for Planning given to the Council as the referring responsible authority; and
c) instruct the Council's legal representatives regardless of Council's position to provide the following draft conditions to the Panel:

Plans Required

Before the development starts, plans to the satisfaction of the responsible authority must be submitted to and approved by the responsible authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and a minimum of two copies (or as specified) must be provided. The plans must be generally in accordance with the plans submitted with the application but modified to include any necessary information listed in Council's Infrastructure Design Manual.

a) Plans to show the solar arrays are setback at least 50 metres from the lands boundary
b) A detailed fencing plan that achieves compliance with the GBCMA conditions
c) Floor and elevation plans of all proposed buildings
d) Setbacks of buildings and solar panel to comply with GMW conditions
e) Details of the water tanks and associated screening (Tank Corner East Road)

Before the operation of the solar farm all buildings and works shown on the endorsed plans must be completed to the satisfaction of the responsible authority.

Layout Not Altered

The use and development of the land for a solar farm as shown on the endorsed plans must not be altered without the written consent of the responsible authority.

Section 173 Agreement

Prior to the use commencing, the owner must enter into an agreement with the Responsible Authority, pursuant to Section 173 of the *Planning and Environment Act 1987* (the Act). This agreement must be registered on the title to the land pursuant to Section 181 of the *Planning and Environment Act 1987*. The owner must pay the reasonable costs of the preparation, execution and registration of the section 173 agreement. The agreement must provide for:

a) Within three months of the solar farm use ending a decommissioning and rehabilitation management plan prepared by a suitably qualified person must be submitted to the responsible authority for approval. The plan must include but is not limited to:
    1. identification of structures, including but not limited to all solar panels, substation, buildings and electrical infrastructure, including underground infrastructure to be removed and how they will be removed;
    2. details of how the land will be rehabilitated back to its pre-development condition, including irrigation layout and soil profile

    Within 12 months of the endorsement of the decommissioning and rehabilitation management plan all the decommissioning and rehabilitation must be completed to satisfaction of the responsible authority.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

b) The photovoltaic arrays (solar panels) must be orientated so that the panels are perpendicular to the ground within 30 minutes of sunset until within 30 minutes of sunrise to facilitate night radiant cooling.

c) The operator of the solar farm accepts and acknowledges that the solar farm operations may be subject to disturbance from agricultural activities including but not limited to spray drift, dust emissions and heavy vehicle use.

The said agreement is to be prepared by Council. Council will undertake to have the agreement prepared upon written notification from the applicant. All costs associated with the preparation and registration of the agreement shall be borne by the applicant including Council's administration fee. All fees associated with the documentation must be fully paid prior to execution and registration of the document by Council.

Civil Construction Requirements

Before any of the development starts, detailed plans with computations to the satisfaction of the responsible authority must be submitted to and approved by the responsible authority. When approved, the plans will be endorsed and will then form part of the permit. The information submitted must show the details listed in the Council's Infrastructure Design Manual (IDM) and be designed in accordance with the requirements of that manual.

a) details (and computations) of how the works on the land are to be drained including drains conveying stormwater to the legal point of discharge;

b) details of how the drainage design allows for the continuation of existing overland flow paths across the land;

c) documentation demonstrating approval from the relevant authority for the legal point of discharge;

d) maximum discharge rate shall not be more than 1.2 l/sec/ha;

e) detailed plans of the proposed vehicle crossing from Cosgrove Lemnos Road (labelled main entrance on the plans);

f) carparking areas, circulation lanes and access shall be designed and constructed in accordance with AustRoads Publication 'Guide to Traffic Engineering Practice : Part 11 Parking,' 'Australian Standard AS2890.1-2004 (Off Street Parking)' & 'AS2890.6 (Off Street Parking for People with Disabilities);'

g) the site shall be properly illuminated with lighting designed, baffled and located to the satisfaction of the responsible authority to prevent any adverse effect on adjoining land;

h) details of the perimeter fencing of the land

to the satisfaction of the responsible authority.

All parking spaces must be designed to allow all vehicles to drive forwards both when entering and leaving the property.

The access and parking areas must be constructed and drained to prevent diversion of flood or drainage waters, and maintained in a continuously useable condition to the satisfaction of the responsible authority.

Parking spaces, access lanes and driveways must be kept available for these

purposes at all times.

Before the operation of the solar farm commences all buildings and works as shown on the endorsed plans must be constructed in accordance with the endorsed plans to the satisfaction of the responsible authority.

Landscape Plan

Before the development starts a landscape plan must be submitted to and approved by the responsible authority. When approved, the plan will be endorsed and will then form part of the permit. The plan must be drawn to scale with dimensions and three copies must be provided;

a) a survey of all existing vegetation and natural features showing plants (greater than 1200mm diameter) to be removed;

b) a schedule of all proposed trees, shrubs and ground cover, including the location, number and size at maturity of all plants, the botanical names and the location of areas to be covered by grass, lawn or other surface materials as specified;

c) how the land under the solar arrays maintains ground cover at a reasonable level and the management of fire risk

d) details of permanent screening trees and shrubs with a minimum of six rows using a mixture of local trees and understorey species

All species selected must be to the satisfaction of the responsible authority.

Before the commencement of the use or by such a later date as is approved by the responsible authority in writing, landscaping works shown on the endorsed plan must be carried out and completed to the satisfaction of the responsible authority.

Once the landscaping planting is carried out the landscaping must be maintained including the replacement of any dead or diseased plants to the satisfaction of the responsible authority.

Construction Management Plan

Prior to commencement of works, a Construction Site Management Plan in accordance with Council's Infrastructure Design Manual must be prepared, approved and implemented to the satisfaction of the responsible authority. The plan must show:

a) measures to control erosion and sediment and sediment laden water runoff, including the design details of structures;
b) measures to retain dust, silt and debris onsite, both during and after the construction phase;
c) locations of any construction wastes and the method of disposal, equipment, machinery and/or earth storage/stockpiling during construction;
d) where access to the site for construction vehicle traffic will occur;
e) tree protection zones;
f) the location of trenching works, boring, and pits associated with the provision of services;
g) the location of any temporary buildings or yards;
h) measures to ensure conflicts between cyclists and construction activities are managed;
i) submission of written approval from AusNet Services to use vehicles and equipment exceeding 3 metres in height on the AusNet easement

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

General Amenity

The use and development permitted by this permit must not, in the opinion of the responsible authority, adversely affect the amenity of the locality by reason of the processes carried on; the transportation of materials, goods or commodities to or from the subject land; the appearance of any buildings, works or materials; the emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit, or oil; the presence of vermin, or otherwise.

Prior to the use commencing any security alarm installed on the premises must be 'silently wired' to a security firm or the Victoria Police.

Prior to the use commencing any lighting within the site must be designed, baffled and located in such positions so as to effectively illuminate all pertinent public areas, without spilling onto the road reserve or adjoining land, and must be connected to a time clock switch or other approved system to the satisfaction of the responsible authority.

Department of Environment, Land, Water and Planning

a) Prior to works commencing, the permit holder must advise all persons undertaking the vegetation removal or works on site of all relevant permit conditions and associated statutory requirements or approvals.
b) The total area of native vegetation proposed to be removed must not exceed 22 large scattered trees, as stated in GHD report supplied November 2017.
c) To offset the permitted clearing in accordance with Permitted clearing of Native Vegetation-Biodiversity assessment guidelines 2013 the permit holder must secure general offset of 0.059 general habitat units:
    a. located within the Goulburn Broken Catchment Management boundary or Greater Shepparton municipal area; and
    b. with a minimum strategic biodiversity score of at least 0.101.
d) Prior to any native vegetation removal, evidence that the required offset has been secured must be provided to the responsible authority.
    Offset evidence can be either:
    a. an established first party offset site including a security agreement signed by both parties, and a management plan detailing the 10-year management actions and ongoing management of the site; or
    b. credit extract allocated to the permit from the Native Vegetation Credit Register.

Country Fire Authority Requirements

Before the development starts, plans to the satisfaction of CFA must be submitted and approved by CFA and the responsible authority. When approved, the plans will be endorsed and then form a part of the permit. The plans mentioned above must include the following:

a) Fire Management Plan;
b) Bushfire Risk Assessment, incorporating water supply requirements;
c) Fuel Reduction and Maintenance Plan;
d) Emergency Management Plan; and
e) Any other risk management information for the site.

Goulburn Murray Water Requirements

a) No buildings are to be constructed within 30 metres of OKeefe Creek and Goulburn-Murray Water's open channels and drains, or within the Floodway Overlay (FO).

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10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

b) No solar panels (or associated works) are to be constructed within 30 metres of Goulburn-Murray Water's drains no. 6/11 and 8/4. All other solar panels must be setback at least five metres from Goulburn-Murray Water's easements, freehold or reserves containing Goulburn-Murray Water infrastructure.
c) Prior to commencement of works, the applicant must obtain a 'Construction and Use of Private Works Licence' from Goulburn-Murray Water for any works carried out on GMW freehold land, easement or reserves.
d) All construction and ongoing activities must be in accordance with sediment control principles outlined in 'Construction Techniques for Sediment Pollution Control' (EPA, 1991).

AusNet Services

a) The plan must show the AusNet Transmission Group easement fully dimensioned.
b) No part of the proposed development is permitted on AusNet Transmission Group's easement unless otherwise agreed to in writing by AusNet Transmission Group.
c) Access to and along the easement must be maintained at all times for AusNet Transmission Group's vehicles, staff and contractors.
d) Natural ground surface levels on the easement must not be altered by the stockpiling of excavated material or by landscaping without prior written approval from AusNet Transmission Group.
e) The use of vehicles and equipment exceeding 3 metres in height are not permitted to operate on the easement without prior written approval from AusNet Transmission Group.
f) Approval must be obtained from AusNet Transmission Group as to the position and/or suitability of any roads that are proposed within the easement.
g) Details of any proposed services within the easement must be submitted to AusNet Transmission Group and approved in writing prior to the commencement of work on site.

Goulburn Broken Catchment Management Authority Requirements

a) The finished floor levels of the proposed substation, control room and O & M building must be constructed at least 300 millimetres above the applicable 100-year ARI flood level of 115.2 metres AHD, i.e. 115.5 metres AHD, or higher level deemed necessary by the responsible authority.
b) A 200 metres length of fencing along the Cosgrove-Lemnos Road and within the Rural Floodway Overlay must be constructed as post and wire or post and rail farm type fencing. Alternatively, pool type fencing with vertical bars spaced at least 150 millimetres apart.
c) A 200 metres length of fencing along the western boundary of the property, and immediately north of the Goulburn Murray Channel 7A/14, within the Rural Floodway Overlay, must be constructed as post and wire or post and rail farm type fencing. Alternatively, pool type fencing with vertical bars spaced at least 150 millimetres apart.

Time for Starting and Completion

This permit will expire if one of the following circumstances applies:

a) the development and use has not started within ***two (2) years*** of the date of this permit;

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10. SUSTAINABLE DEVELOPMENT DIRECTORATE

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

b) the development is not completed within ***four (4) years*** of the date of this permit.

.CARRIED.

Property Details

Land/Address	1190 Cosgrove Lemnos Road 1220 Cosgrove Lemnos Road 260 Tank Corner East Road 875 Boundary Road 85 Crooked Lane All the land is within Lemnos. The total land size is 482ha. O'Keefe Creek crosses the land.
Zones and Overlays	Farming Zone Floodway Overlay Land Subject to Inundation Overlay
Why is a permit required	a) 35.07-1 Use of the land for a solar farm in the Farming Zone b) 35.07-4 Buildings and works in the Farming Zone c) 44.03-1 Buildings and works in the Floodway Overlay d) 44.04-1 Buildings and works in the Land Subject to Inundation Overlay 52.17-2 Removal of native vegetation (22 trees)
Covenants	No
Area of cultural heritage sensitivity	Yes, however no CHMP is triggered.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Locality Plan



Proposal in Detail
The planning application form describes the proposal as *'use of land for a renewable energy facility (solar farm) buildings and works and native vegetation removal'*. The application was lodged on 13 October 2017.

The application seeks permission for the following:

- A 100MW solar farm comprising of 400,000 solar panels;
- 40,000 piles (screwed or hammered into the ground)
- 4,500 tracker units;
- 56 photovoltaic boxes or skids (raised platforms unroofed) containing inverters and a transformer in each
- Batteries to store electricity
- On site cabling;

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

- 66kv substation;
- Internal tracks;
- Operational and maintenance office including staff amenities office;
- Security fencing;
- Landscaping around the site (where required)
- New access point from Cosgrove- Lemnos Road

The proposal includes the removal of 22 native trees.

A plan of the proposed development is below.

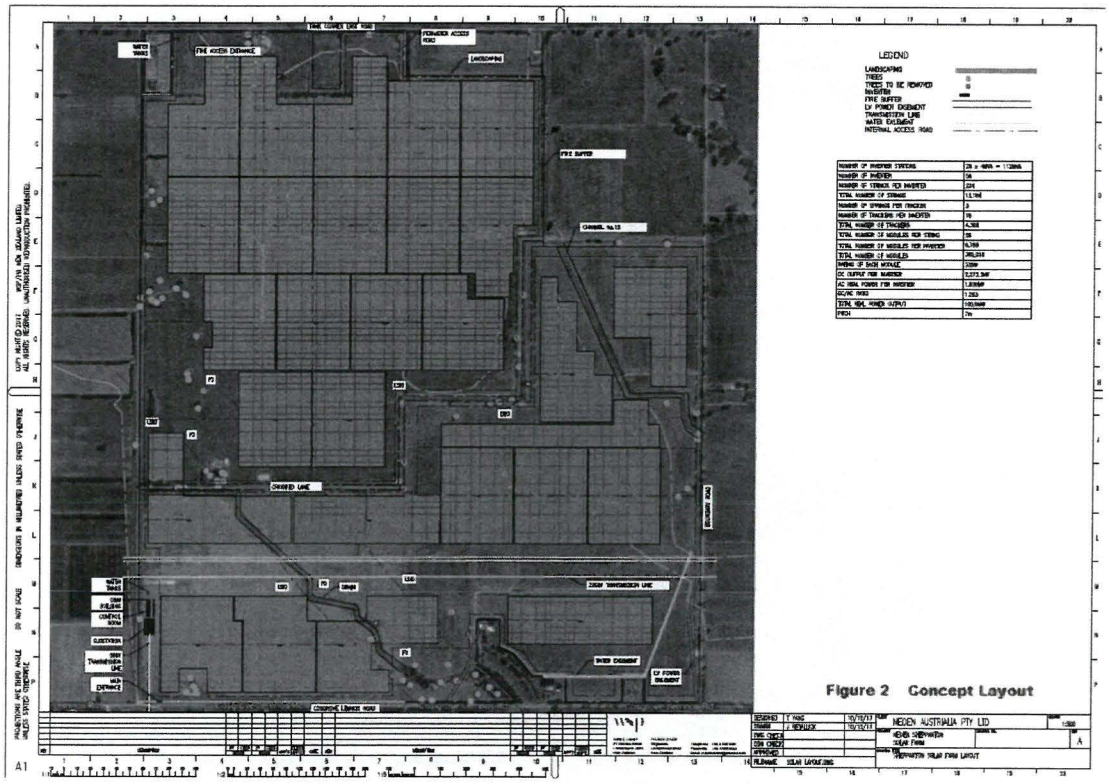


Figure 2 Concept Layout

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

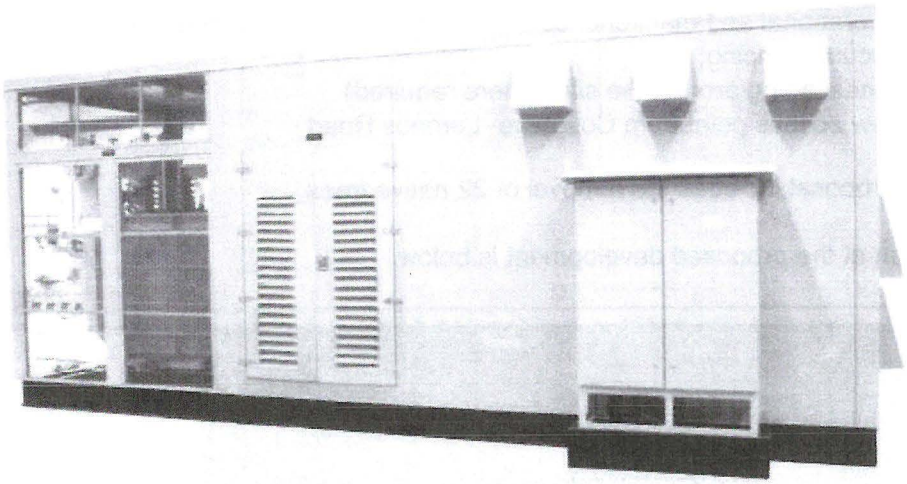


Figure 7 Example of a containerised photovoltaic box

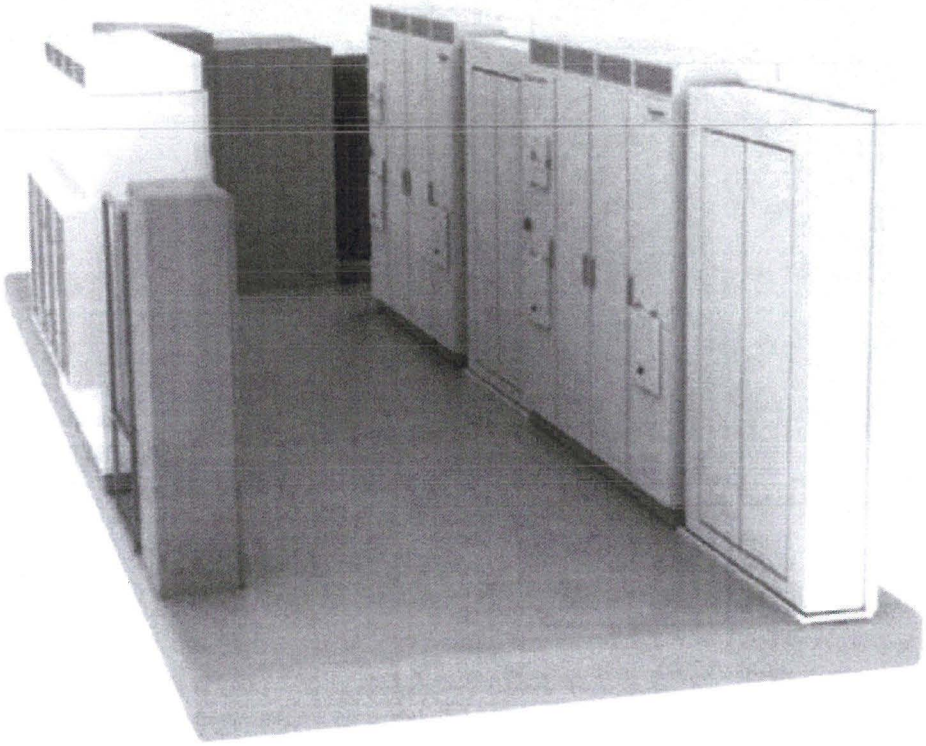
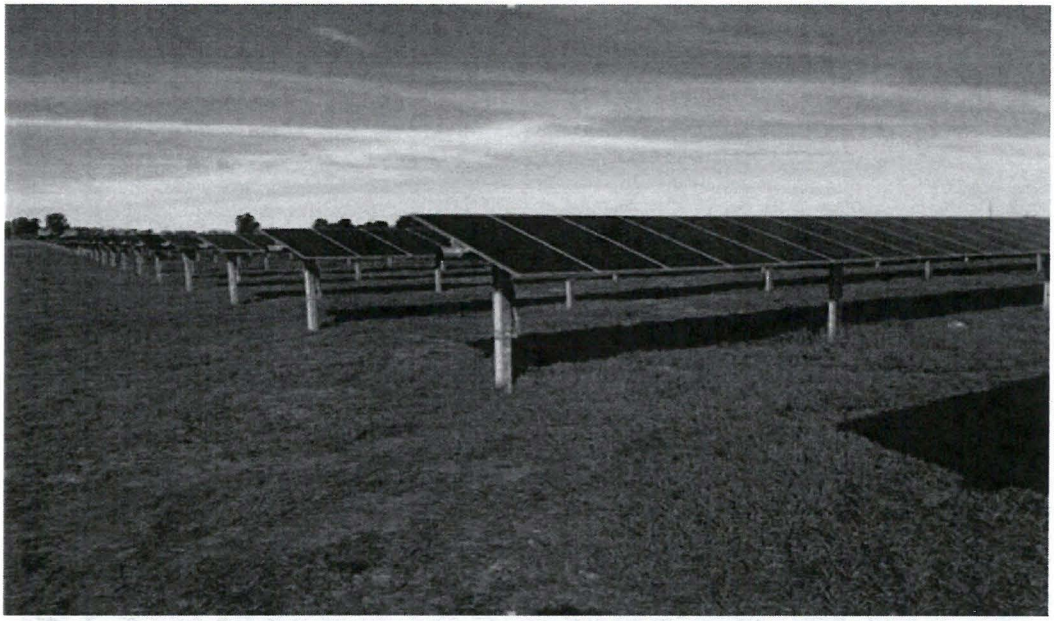


Figure 8 Example of a photovoltaic skid platform

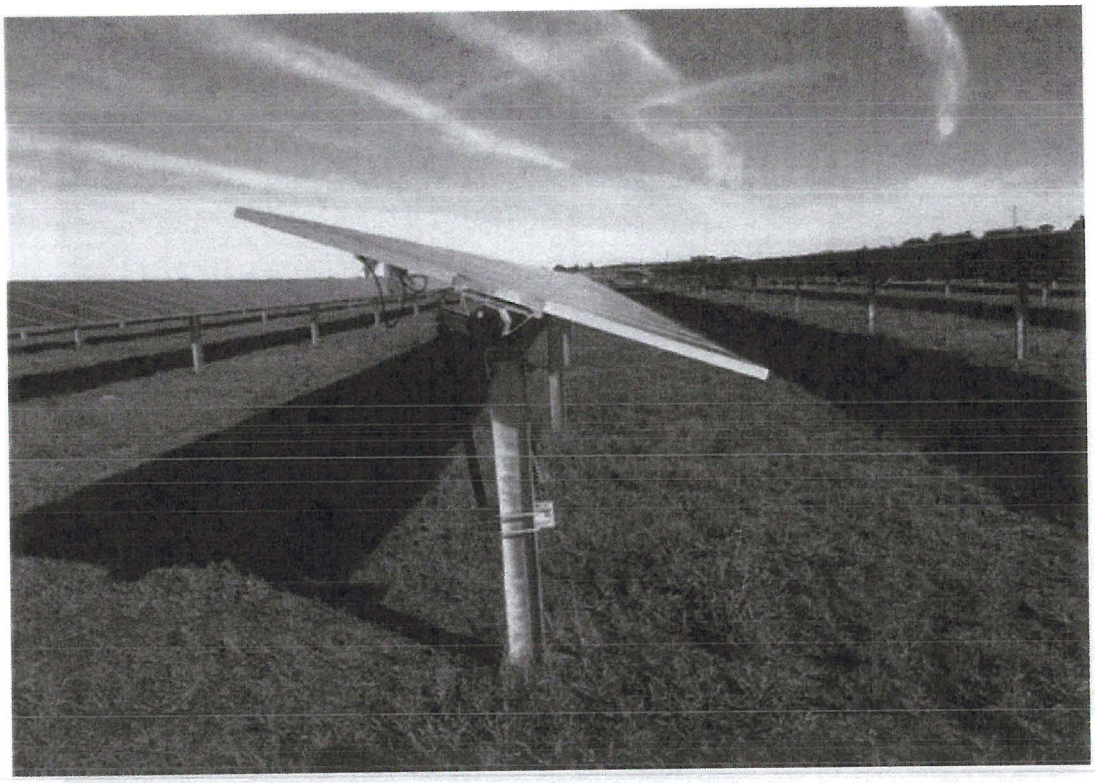
10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Below are photos from the Parkes solar farm, to provide a visual example of a constructed solar farm.





10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)



Summary of Key Issues

- The application has been advertised and 19 objections received. Grounds of objection are varied and include themes of impact to agricultural land uses, impact on amenity and impact on the environment including loss of native vegetation.
- Officers engaged Sustainable Energy Transformation an expert solar consultant to review technical matters raised in the grounds of objection. The expert review concluded the following:
  The technical aspects raised in the objections have been reviewed. Some aspects have been found to be without a technical basis and others can be adequately addressed with appropriate requirements in management plans for the site development.
- The main assessment concern associated with the application and raised by objectors is the loss of productive agricultural land. Officers acknowledge the importance of agriculture to the region, despite this it is considered the loss of 482ha of agricultural land in a food bowl of 317,000ha is an acceptable outcome. Officers also note that the solar farm has a limited life of 25 to 30 years and that rehabilitation of the site can allow future farming of the land.
- Officers are concerned about the possibility that the solar farm could increase temperatures in the locality which could detrimentally impact on horticulture. Scientific research on this issue is not yet conclusive.

Despite this, given the importance of horticulture to the region officers require that night time cooling be provided for by turning the panels perpendicular to the ground. Additionally a 50 metre setback of the solar arrays to property boundaries will be required to reduce heat spill from the solar farm to neighbouring land.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Background
Economic Development officers met with the applicant prior to the application being lodged.

At the November 2017 Ordinary Council Meeting Council resolved the following:
That the Council direct the Chief Executive Officer to write to the Minister of Planning:

- *requesting under section 97C of the Planning and Environment Act 1987 that the Minister for Planning decide the solar farm planning applications referred to the Minister in the Greater Shepparton City Council local government area*
- *inviting the Minister for Planning to establish a process that provides a fair and proper opportunity for all affected stakeholders to be heard.*

Subsequently officers formally requested that the Minister for Planning call in the solar applications to a Panel Hearing. In addition to this written request a meeting was held between the Minister for Planning, the Mayor, Chief Executive Officer and Manager of Planning to discuss the referral of the solar applications.

Despite these efforts the Minister for Planning has decided not to accept Council's invitation to refer the solar applications to an independent planning panel. Consequently Council is required to decide on this application.

Request for Information
On 19 October 2017, officers requested the following additional information.

1. *Confirmation that the "activity area" in terms of the AH Act coincides with the land to which the planning permit application applies and mapping of the activity area in accordance with any relevant Department of Premier and Cabinet guidelines.*
2. *An extract from the relevant 1:100,000 scale mapping of areas of cultural heritage sensitivity published on the Department of Premier and Cabinet website that clearly shows the land that is the subject of the permit application.*
3. *An extract from the Planning Maps Online website that clearly shows the subject land and cultural heritage sensitivity information.*
4. *Confirmation as to whether or not all or part of the activity area is within an area of cultural heritage sensitivity.*
5. *Confirmation as to whether or not the whole of the part of the activity area that is within an area of cultural heritage sensitivity has been subject to significant ground disturbance in terms of the AH Act, and if so:*
   a) *the nature of the significant ground disturbance;*
   b) *the means by which the significant ground disturbance was carried out;*
   c) *who carried out the significant ground disturbance;*
   d) *the dates or periods that the significant ground disturbance was undertaken;*
   e) *the parts of the subject land that were subject to the significant ground disturbance; and*
   f) *evidence, on the balance of probabilities, as to the occurrence of the relevant facts relating to the significant ground disturbance.*
   g) *Whether the activities for which a planning permit is sought are high impact activities in terms of the AH Act and the basis for and evidence supporting any such finding*
   - *A plan to show the location of all easements on the land and all affected properties.*
   - *Description to show how the proposal would not impact on the easements.*
   - *A Biodiversity Assessment Report including a photograph and description of each tree proposed to be removed.*

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

The request for information contained a lapse date of 20 November 2017. On 16 November 2017 the lapse date was extended until 19 December 2017. On 18 December 2017 the lapse date was further extended to 22 December 2017.

On 22 December 2017 officers received a satisfactory response to the request for information.

Assessment under the Planning and Environment Act
Planning permission is required to use and develop the land for a solar farm in the FZ and LSIO.

The scheme has two themes which form the basis of this assessment being support for agriculture and renewable energy production.

Examples of this policy direction are below:

11.12-5 Hume Regional Growth Plan

This growth plan identifies the subject site as 'strategic agricultural land'.

A strategy for the Hume region is:

- *Support agricultural production through the protection and enhancement of infrastructure and strategic resources such as water and agricultural land, including areas of strategic agricultural land.*

The Hume strategy also includes:
- *Create renewable energy hubs that support co-location of industries to maximise resource use efficiency and minimise waste generation.*

14.01-1 Protection of agricultural land

- *To protect productive farmland which is of strategic significance in the local or regional context.*

19.01-1 Provision of renewable energy

Provision of renewable energy
Objective
To promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.

Strategies
- *Facilitate renewable energy development in appropriate locations.*
- *Protect energy infrastructure against competing and incompatible uses.*
- *Develop appropriate infrastructure to meet community demand for energy services and setting aside suitable land for future energy infrastructure.*
- *In considering proposals for renewable energy, consideration should be given to the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.*

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10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

- *In planning for wind energy facilities, recognise that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year.*

21.06-1 Agriculture

Irrigated primary production and the processing of that product underpin the municipality and the Region's economy. The level of production is nationally important and the region is responsible for significant parts of the nation's milk production, deciduous canned fruit production, stone fruit crop and tomato processing production.

The land is within a consolidation area.

Consolidation areas being areas that support existing farm businesses to operate and expand. Consolidation areas typically include land with good soils and include many of the former closer settlement areas, but their lot sizes are no longer reflective of current farm sizes. Consolidation areas are considered to provide opportunities for development of growing agricultural enterprises that can, over time, expand and consolidate through a process of property restructure. In this regard 'consolidation' includes the consolidation of land or the consolidation of farming enterprises through acquisition of non-contiguous land to increase farm size.

The development of additional dwellings threatens expanding agricultural enterprises and accordingly, new dwellings within these areas are discouraged. The use of re-subdivision and excisions within consolidation areas will be considered in recognition that the excision of a dwelling from a farm can provide businesses an opportunity to consolidate property holdings based on the value of land for agriculture. The minimum subdivision size in these areas has been set at 40ha and a dwelling needs a planning permit on all land less than 60ha in area.

Rural Regional Land Use Strategy

The key objective of this rural strategy is to secure and promote the future of agriculture across the region through the respective Council planning schemes. This strategy will ensure that the planning schemes of the three municipalities are responsive to rural issues, and in particular support agricultural growth and change.

Irrigated primary production and the processing of that product underpin the Region's economy. The level of production is nationally important; for instance the region is responsible for

- *25% of the nation's milk production*
- *90% of the national deciduous canned fruit production*
- *45% of Australia's stone fruit crop*
- *90% of the national tomato processing production.*

Clause 10.04 Integrated decision making

Planning authorities and responsible authorities should endeavour to integrate the range of policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Officers Assessment
In principle, a proposal for the generation of renewable energy that reduces fossil fuel dependency is worthwhile. The assessment difficulty with this application is considering if agricultural land of strategic importance should be made unproductive for at least 25 years for a solar farm.

The subject site is irrigated land that is adjacent to an orchard.

A renewable energy facility is a section 2 use in the FZ subject to the following condition which the application complies with:

Must meet the requirements of clause 52.42

Officers acknowledge that the scheme provides strategic direction to protect strategic agricultural land from non-agricultural uses.

Throughout the FZ there are non-agricultural uses such as quarries, mines, dwellings and jails. Whilst these uses do not contribute to primary production they are allowable uses in the FZ. Likewise the scheme provides discretion to allow renewable energy facilities like solar farms in the FZ.

Clause 21.06-4 provides the following policy guidelines which provide an assessment guide for this application.

It is policy to:

Discourage industrial use and development (other than rural industry) in rural areas, except where:

Decision Guideline	Officers Response
It is unable to be accommodated in existing industrial zoned areas;	The substantial land size required for solar farms means that insufficient land is available in zones other than the FZ.
It does not compromise the surrounding existing and future agricultural practices;	Council's expert review by Sustainable Energy Transformation has considered impacts on surrounding agricultural land in relation to heat islands and decline of insects. To protect existing and future fruit trees a permit condition will require mitigation of the heat island effect by turning the PV arrays at night to a vertical position to allow night radiant cooling.
It adds value to the agricultural base of the municipality	The proposed solar farm removes land from production for at least 25 years; as a result the solar farm does not add value to the agricultural base.
It is a rural-based enterprise	A solar farm is a rural based enterprise as the only practical location that large scale solar farms can be located is within a non-urban area.
It provides for the reuse of existing large scale packing sheds and cool stores.	The proposal does not reuse a vacant cool store type building.

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10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

The FZ contains various decision guidelines. Officers consider compliance with these decision guidelines is achieved as:

- The solar farm subject to appropriate conditions such as landscape screening and measures to mitigate potential heat islanding is compatible with adjoining and nearby land uses;
- The proposal is located to connect to existing electricity transmission infrastructure;
- Unlike occupants of a dwelling, the solar farm does not limit intensive agricultural uses that could impact on the amenity of the locality such as spray drift, scare guns and heavy vehicle movements.

52.42-3 (renewable energy facility) includes the following decision guidelines:

Decision Guideline	Officers Response
The effect of the proposal on the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference	Council's expert technical advisor has advised that the proposed solar farm will not result in unacceptable amenity impacts to neighbouring properties.
The impact of the proposal on significant views, including visual corridors and sightlines.	The Lemnos locality is a flat irrigated landscape that is largely cleared of significant remnant vegetation. The solar panels are about three metres above nature surface level which ensures the panels will not be dominate in the landscape.
The impact of the proposal on the natural environment and natural systems.	The land has no significant environmental or natural systems given that the land has been cleared to accommodate irrigated agriculture.
Whether the proposal will require traffic management measures.	A permit condition requires the submission of a construction management plan that in part addresses traffic measures during the construction phase.

Based on this assessment officers are satisfied that the proposal complies with the decision guidelines under 52.42-3.

Native vegetation

Permission is sought to remove native vegetation (22 trees) under the moderate risk based pathway.

The GHD Flora and Fauna report states that 132 scattered trees were counted on the land of which 113 were Grey box trees.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Existing Tree Plan



10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

52.17-5 includes decision guidelines for applications to remove native vegetation.

Officers are satisfied that the application achieves acceptable native vegetation outcomes for the following reasons:

- The applicant as part of pre-application discussions agreed to reduce the extent of the solar farm to avoid the removal of 22 trees i.e. the proposed tree removal was reduced from 44 trees to 22 trees
- Permit conditions will require that the native vegetation loss be appropriately offset

2017-2021 Council Plan/Key Strategic Activity
Council Vision

Greater Shepparton, Greater Future.
A thriving economy in the foodbowl of Victoria with excellent lifestyles, innovative agriculture, a diverse community and abundant opportunities.

Environment

An objective under this section of the report is:

Alternative energy sources with both environmental and economic gains are promoted and encouraged.

Risk Management

Risks	Likelihood	Consequence	Rating	Mitigation Action
Incorrect notification	A	5	Low	The application has been properly advertised which allowed objections to be lodged with the Council. These objectors will be informed of Council's decision on the application.

Policy Considerations
The application has been considered against the policies contained within the Greater Shepparton Planning Scheme and found to achieve acceptable planning outcomes.

Financial Implications
This planning application has no significant financial implications on Council.

Legal/Statutory Implications
Should either the applicant or objector be dis-satisfied with Council's decision an application for review can be lodged at VCAT.

Cultural Heritage
The *Aboriginal Heritage Act 2006* provides protection for all Aboriginal places, objects and human remains in Victoria, regardless of their inclusion on the Victorian Aboriginal Heritage Register or land tenure.

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

The *Aboriginal Heritage Act 2006* introduces a requirement to prepare a Cultural Heritage Management Plan (CHMP) if all or part of the activity is a listed high impact activity, resulting in significant ground disturbance, and all or part of the activity area is an area of cultural heritage sensitivity, which has not been subject to significant ground disturbance.

The land is within an area of cultural heritage sensitivity. Despite this, a cultural heritage management plan is not required as the land contains no areas of cultural heritage sensitivity.

Environmental/Sustainability Impacts
The use has no detrimental impact on the environment subject to the inclusion of appropriate drainage conditions should it be decided to grant a permit.

Social Implications
Section 60(1)(f) of the Act states the following:

Before deciding on an application, the responsible authority, if the circumstances appear to so require, must consider—

- *Any significant social effects and the economic effects which the responsible authority considers the use or development may have.*

This application does not raise social issues that warrant the refusal of the application.

Economic Impacts
Approval of the use and development will see new investment within the municipality and associated job creation.

Referrals/Public Notice

External Referrals Required by the Planning Scheme:
c)

Section 55 -Referrals Authority	List Planning clause triggering referral	Determining or Recommending	Response
GBCMA	44.03-5 and 44.04-5	Recommending	The GBCMA consented to the application subject to one condition which requires buildings to be constructed 300mm above general ground surface level.
Ausnet Services	66.02-4	Determining	Aus Net consented to the application subject to seven conditions all of which are included in the proposed notice of decision to grant a permit.

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10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

External Notice to Authorities:

Section 52 - Notice Authority	Response
AusNet Services	AusNet consented to the application without requiring any conditions.
GMW	GMW consents to the application subject to their standard siting and drainage conditions.
CFA	The fire authority has consented to the application subject to a number of conditions.
Powercor	Powercor have consented to the proposed solar farm subject to conditions.

The application has been advertised pursuant to Section 52 of the *Planning and Environment Act 1987*, by:

Sending notices to the owners and occupiers of adjoining land
Placing a sign on site
Notice in the Shepparton News on 17 November 2017

Council received 19 objections to the application.

All objectors were issued with an acknowledgment letter.

The key issues that were raised in the objections are as follows:

Ground of Objection	Response to Objection
Creation of a micro climate as a result of the solar farm (the heat island effect)	Council's expert advisor Sustainable Energy Transformation examined two published studies which considered the likelihood of a heat island effect and the possibility of increased temperatures in the surrounding farmland. It is not possible to definitively rule out the possibility of a heat island effect. Impacts on fruit set and shedding of sheep depend largely on the extent to which any heat island effect would spill over to surrounding properties. At present this is unanswerable with the information available. Assessing heat island impacts on pest insect populations is challenging. Once again the extent to the heat island effect spill into surrounding regions may be critical because the physical environment of a solar farm itself is unlikely to be conducive to harbouring insect populations due to its limited vegetation. Further, while it is the case that temperature is an important factor influencing insect behaviour, distribution, development, survival, and reproduction, the drivers on insect populations dynamics are complex and other factors are relevant. Rainfall is also often an important variable, as is population size. As the population increases so does its vulnerability to disease and predation and the impact of competition within the population and with other

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Ground of Objection	Response to Objection
	species. In the event that a heat island effect did occur, two potential mitigation options are apparent: The first relates to reducing the heat island effect. Barron-Gafford et al. noted that the warming may be due to heat trapping of re-radiated heat from the ground under the stationary PV arrays at night. If this is the case, a simple mitigation option would be to turn the PV arrays (which will be on a tracker) toward the vertical position thereby opening up the 'view' to the sky to facilitate night radiant cooling. The second relates to biological control of insect populations. In an agricultural setting planting of trees and or shrubs for visual screening purposes will create the opportunity to both boost local biodiversity and increase the populations of insectivorous birds and other species which could assist in reducing insect pest numbers on nearby surrounding properties.
Noise disturbance	Based on similar proposals, the noise levels from typical solar farm operations are expected to be minimal and compliant with noise standards. Tracking solar PV moves at an unobtrusive and slow rate, producing minimal noise. Solar PV farms are generally very silent during the operational phase. The only noise emitted from an operational solar farm would be from the substation and inverters, which can be inaudible if appropriate buffer distances to sensitive receivers or equipment housing are used. There is no noise from inverters at night due to daytime operation of solar panels. Noise impacts would largely be restricted to the construction phase and these could be managed through mitigation measures. During plant operations, other minor sources of noise would be from a small number of vehicles accessing the site per day, aeolian and/or corona noise from transmission lines and any intermittent noise from maintenance activities. Overall, at operational stage, solar farms generate low levels of noise. Any infrastructure with the potential to generate noise could be setback from any sensitive areas in the surrounding area or placed within an enclosed building to minimise noise impacts.
Loss of productive agricultural land	Officers acknowledge that this proposal will result in the loss of productive agricultural land. Officers also acknowledge that the land is identified as being strategic agricultural land and that agriculture is the driver of the regions economy. Despite this, a solar farm is not a prohibited use and the generation of electricity like food production is essential to the lives of Victorians. Officers note there are other non-agricultural uses in FZ such as mines, quarries and schools. Whilst reducing

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10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Ground of Objection	Response to Objection
	valuable agricultural land is not an ideal outcome, the proposed solar farm is an acceptable outcome, the loss of 482ha in a food bowl of 317,000ha does not warrant refusal of the application.
Loss of native vegetation	The loss of native vegetation is not an ideal outcome. Officers are satisfied that the loss of native vegetation has been minimised. During pre-application discussions officers required that the number of trees to be lost be reduced by about 22 trees.
Creation of an eyesore in the rural environment	Rural environments are not pristine in view; it is for example not uncommon to observe large buildings, horticultural trellising, frost fans, high transmission power lines and silos. A solar farm whilst new in the landscape is at a low level (3 metres in height) and overtime will be screened by plantings.
Fire concerns during the operational phase of the solar farm	The application has been reviewed by the CFA. The CFA have required that before the development starts a number of fire plans be submitted and approved by the CFA. Based on the CFA consent to the proposal officers are satisfied that fire issues can be managed.
Impacts on the locality during construction of the solar farm including dust emissions and vehicle movements	Officers accept that during the construction phase there is potential for disturbance to the area. It is recommended that these construction works be managed through the approval of a site and construction management plan.
Impact on flood flows in the area	GMW have reviewed the application and required that development on both sides of O'Keefe Creek for a distance of 30 metres not be allowed. The purpose of this 60m exclusion area is to allow the flow of flood waters through the land.
Impact on bicycle safety	A requirement of the site and construction management plan will include measures to ensure safe bicycle travel can continue within the locality and that gravel debris being dragged onto sealed roads is minimised.
Potential contamination of water	Officers understand this concern relates to battery storage on the land. The submitted application does not propose battery storage and any on site battery will be subject to further planning permission. Officers note that battery storage is dealt with in 3.4.2 of the GHD report, the report includes the following sentence: *'Neoen would consult with Council prior to submitting revised drawings for the battery storage building'.*

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

Impact on drone use in agriculture	The land where drone flights are undertaken are separated by Tank Corner East Road, this setback should minimise conflict between drone flights and the proposed solar farm.
Devaluation of land	Property devaluation is not a relevant planning consideration.
Lack of scientific research in relation to issues such as impact on local climate and electromagnetic radiation	Officers do not disagree that there is gaps in the scientific research in regards to solar farms. Officers have engaged a solar expert to advise on the best scientific data available to date. Officers have relied on the expert views of Sustainable Energy Transformation in this report.
Lack of community consultation	Officers have undertaken public notice of the application which has resulted in 19 objections being lodged to the application. Objectors have briefed Council on their concerns associated with the applications. Officers understand that some objectors are disappointed about the applicant's lack of consultation. This is not something that planning officers can control.
Setback from property boundaries	In Australia, there are no standard setback distances for solar farms from adjoining property boundaries. They are determined according to local planning guideline requirements, and any restrictions, if required, are typically established as part of assessments for the project's environmental management plan. Internationally, there is no consistent standard. A similar approach to Australia is used in the United Kingdom. In America, codified distances from residential dwellings range from 6 to 30.5 metres. In Ireland, a number of cases have upheld 22 metres as a setback distance from adjacent residential boundaries. It appears that these codified setbacks are related to a subjective offsite amenity appraisal as opposed to any technical concern regarding PV technology. The proposed setback of 50 metres from the site boundary including a screen of native vegetation is deemed sufficient to mitigate any likely effects on the neighbouring residential properties.
Glare from solar panels and impact on bird life	In general, modern PV panels are designed to absorb as much sunlight as possible to convert it into electricity. The panels are single axis tracking aligned North/South. Consequently, they rotate from facing toward the East in the morning across the sky to facing West at sunset. Under the proposal, the maximum tilt of the panels is 60°. This would not allow reflection onto neighbouring properties under normal operating

10.5 To Use and Develop Land for a Solar Farm in Lemnos (continued)

	conditions, as when the sun is at the lowest point any light reflected would be upwards. If there were to be any glare, surrounding and screening vegetation would disrupt any light rays parallel to the ground from the collector or supporting infrastructure. The materials and colour of onsite infrastructure (other than the solar panels) will be non-reflective and in keeping with the materials and colouring of the landscape. This infrastructure will be similar to common infrastructure on farm properties, such as sheds.

Officers believe that appropriate consultation has occurred and the matter is now ready for Council consideration.

Strategic Links
a) Greater Shepparton 2030 Strategy (GS2030)
Environment

At 6.4 of GS2030 the below two strategic objectives are identified:

- *To manage irrigated and non-irrigated land for long-term sustainable production purposes.*
- *To reduce greenhouse gas emissions by local actions, in the interests of current and future generations*

Conclusion
Officers in this report are in no way underplaying the significance of agriculture to the region; the Goulburn Valley is a food bowl of national importance. So much so that Governments have invested more than 2 billion dollars to modernise the irrigation network.

Despite this, it is recommended that permission be granted to use and develop the land for a solar farm on the basis that the development will assist in providing clean power generation.

Attachments

Nil

10. SUSTAINABLE DEVELOPMENT DIRECTORATE

10.6 To Use and Develop Land for a Solar Farm at 1090 Lemnos North Road, Congupna

Disclosures of conflicts of interest in relation to advice provided in this report
Under section 80C of the *Local Government Act 1989* officers and persons engaged under a contract providing advice to Council must disclose any conflicts of interests, including the type and nature of interest.

No Council officers or contractors who have provided advice in relation to this report have declared a conflict of interest regarding the matter under consideration.

Council Officers involved in producing this report
Author: Statutory Planner
Proof reader(s): Manager Planning
Approved by: Director Sustainable Development

Executive Summary
The application seeks planning approval to use and develop land at 1090 Lemnos North Road, Congupna for a 68MW renewable energy facility (solar farm). The proposed development includes the removal of six scattered paddock trees and business identification signage. The application represents a development of $48 million in the municipality.

- The land is within the Farming Zone (FZ). The land is within an area of cultural heritage significance and as a result the proposed development triggers the need for a cultural heritage management plan (CHMP). An approved CHMP was provided to officers on 22 January 2018.

Officers have advertised the application and three objections to the proposal have been lodged with Council. The objections largely relate to the following issues:
- Loss of productive agricultural land
- Conflict between agricultural activities and the operation of the solar farm i.e. dust caused by farming and then settling on the solar panels
- Devaluation of land
- Impact on flood flows
- Fire risk

The key issue for consideration is whether the loss of productive agricultural land in a food bowl of national significance for a solar farm is acceptable.

The Greater Shepparton Planning Scheme (the scheme) places a strong emphasis on the retention of agricultural land and the discouragement of non-agricultural uses in farming areas. This application proposes to remove about 160 hectares from agriculture for at least 25 years.

The Rural Regional Land Use Strategy (Rural Strategy) identifies that agriculture within the study region (Campaspe, Moira and Shepparton) consists of about 500,000ha of which 317,000ha is irrigated with about 1.5 million megalitres of water used. Agriculture is without question the main economic driver of the region.

The FZ does not prohibit renewable energy facilities such as solar farms.

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Department of Environment, Land, Water & Planning

Regional Planning – Hume Region
15 Hume & Hovell Road
PO Box 879 , Seymour
Victoria 3660
Telephone: (03) 5735 4300
Facsimile: (03) 5792 3230

Your Ref: 2017-301
Our Ref: SP462858
Contact: Carmel O'Dwyer
Date: 14/02/2018

Tim Watson
Senior Statutory Planner
Greater Shepparton City Council
By email: council@shepparton.vic.gov.au

Dear Tim

Planning Permit Application:	**2017-301**
Proposal:	**Use and development of the land for a 100-megawatt solar farm and removal of native vegetation.**
Location:	**1190 & 1220 Cosgrove-Lemnos Road, 260 Tank Corner East Road, 875 Boundary Road and 85 Crooked Lane Lemnos- VIC 3631.**

I refer to the above described Planning Permit Application received by the Department of Environment, Land, Water & Planning (DELWP) on the 17 January 2018 pursuant to *Section 55* of the *Planning and Environment Act 1987*.

The subject land is located in the Farming Zone and is affected by the Floodway and Land Subject to Inundation Overlay controls.

The application proposes to remove 22 large scattered trees on proposed solar farm site, 1190 and 1220 Cosgrove-Lemnos Rd, 260 Tank Corner East Rd, 875 Boundary Rd and 85 Crooked Lane, Shepparton.

DELWP has assessed this application in accordance with *Permitted clearing of Native Vegetation-Biodiversity assessment guidelines 2013*. As the application was lodged before the 12/12/2017, the application was assessed against 2013 guidelines that have since been replaced by the current *Guidelines for the removal destruction or lopping of native vegetation DELWP 2017*.

The Department of Environment, Land, Water and Planning (DELWP) does not object to the granting of a permit for the above application on biodiversity grounds, and recommends the following conditions be included on any permit granted:

1. Prior to works commencing, the permit holder must advise all persons undertaking the vegetation removal or works on site of all relevant permit conditions and associated statutory requirements or approvals.
2. The total area of native vegetation proposed to be removed must not exceed 22 large scattered trees, as stated in GHD report supplied November 2017.

Privacy Statement
Any personal information about you or a third party in your correspondence will be protected under the provisions of the Privacy and Data Protection Act 2014. It will only be used or disclosed to appropriate Ministerial, Statutory Authority, or departmental staff in regard to the purpose for which it was provided, unless required or authorised by law. Enquiries about access to information about you held by the Department should be directed to the Privacy Coordinator, Department of Environment, Land, Water and Planning, PO Box 500, East Melbourne, Victoria 8002

VICTORIA State Government

3. To offset the permitted clearing in accordance with *Permitted clearing of Native Vegetation- Biodiversity assessment guidelines 2013* the permit holder must secure general offset of **0.059** general habitat units:

    - located within the Goulburn Broken Catchment Management boundary or Greater Shepparton municipal area and
    - with a minimum strategic biodiversity score of at least **0.101**.

4. Prior to any native vegetation removal, evidence that the required offset has been secured must be provided to the responsible authority.

    Offset evidence can be either:

    - an established first party offset site including a security agreement signed by both parties, and a management plan detailing the 10-year management actions and ongoing management of the site,

      or

    - credit extract allocated to the permit from the Native Vegetation Credit Register.

In accordance with Section 66 of the *Planning and Environment Act 1987,* the Department would appreciate if the Greater Shepparton City Council provide a copy of the permit, if one is granted, or any notice to grant or refusal to grant a permit to the above address.

If you have any questions or further correspondence regarding this matter, please quote our reference number which is listed at the top of this letter. I can be contacted at the Seymour Office of the Department on 57 354364.

Yours sincerely

Carmel O'Dwyer

Carmel O'Dwyer
Senior Statutory Planner
Hume Region.

VICTORIA State Government

Fire Safety Referrals
Fire & Emergency Management
Email: firesafetyreferrals@cfa.vic.gov.au
Telephone: 03 9262 8578

Our Ref: 69260-61295-76091
Council Ref: 2017-301

4 December 2017

Ronan Murphy
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON VIC 3630

Dear Ronan,

COMMENT ON SECTION 52 REFERRAL FOR A PLANNING PERMIT

Application No:	**2017-301**
Applicant:	**Brad George C/- Ghd Pty Ltd**
Site Name:	**Solar Farm**
Address:	**1190 & 1220 Cosgrove Lemnos Road Lemnos**
Purpose:	**Construction Of A Solar Farm**

I refer to correspondence dated 14th November 2017 seeking comments on the above application.

CFA acting under a notice in accordance with the provisions of Section 52 of the *Planning and Environment Act, 1987* (**Act**) has considered the included documentation and makes the following recommendations:

Vegetation Management

CFA recommends ensuring that vegetation within the property, and at property boundaries, is appropriately managed to mitigate risk in the event of a fire; CFA recommends ensuring that vegetation be maintained between 5-10 centimetres during the fire danger period, and that vegetation does not obstruct access on site at any time.

Access

CFA recommends the following access requirements:

- All weather construction;
- A load limit of at least 15 tonnes;
- Provide a minimum trafficable width of 4mts; and
- Be clear of encroachments for at least 0.5mts on each side and at least 4mts vertically.

Building

All proposed building plans are to be referred to CFA for comment prior to any building permit approval.

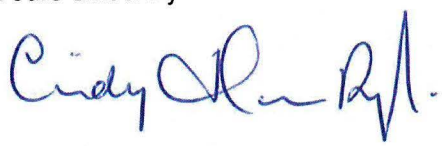
Submission of Plans to CFA

Before the development starts, plans to the satisfaction of CFA must be submitted and approved by CFA and the responsible authority. When approved, the plans will be endorsed and then form a part of the permit. The plans mentioned above must include the following:

- Fire Management Plan;
- Bushfire Risk Assessment, incorporating water supply requirements;
- Fuel Reduction and Maintenance Plan;
- Emergency Management Plan; and
- Any other risk management information for the site.

If you wish to discuss this matter in more detail, please do not hesitate to contact Cindy Harrison-Roberts on 5240 2918.

Yours sincerely



Cindy Harrison-Roberts
Fire Safety Officer
FIRE & EMERGENCY MANAGEMENT

GOULBURN-MURRAY WATER

GMW Ref: PP-17-00836
File Ref: 2017/58/1
DM Ref: 4517755

Greater Shepparton City Council
Planning Department
council@shepparton.vic.gov.au

30 November 2017

Dear Sir and/or Madam,

Planning Permit Application - Utility Installation - Solar Farm

Application No: 2017-301
Applicant: Neoen Australia Pty Ltd
Location: 1220 Cosgrove-Lemnos Rd Lemnos

Thank you for your letter and information received 15 November 2017 in accordance with Section 52 of *the Planning and Environment Act 1987.*

Goulburn-Murray Water's (GMW) areas of interest are surface water and groundwater quality, use and disposal. GMW requires that development proposals do not impact detrimentally on GMW's infrastructure and the flow and quality of surface water and groundwater. Applicants must ensure that any required water supplies are available from an approved source.

GMW notes the site in question is subject to a Land Subject to Inundation Overlay (LSIO) and Floodway Overlay (FO). Most of the designated area is bounded by GMW channels and drains, and GMW channel no. 15 traverses Lot 2 on PS438919. Please note solar panels must be setback at least five meters from GMW easements, freehold or reserves containing GMW assets. OKeefe Creek and GMW drain no. 6/11 also traverse the site through CA 136, 136A and Lot 3 on TP216608. This is a major drainage flow path partly covered by Floodway Overlay and should not be obstructed. Please note no solar panels (or associated works) are to be constructed within 30 metres of GMW's drains no. 6/11 and 8/4. Furthermore, as set out in conditions below, no buildings are to be constructed within 30 metres of OKeefe Creek, GMW's open channels and drains, or within the Floodway Overlay (FO).

GMW also notes the plans provided with the application show transmission lines (marked yellow) crossing GMW's drain no. 6/11 and also an internal access track (marked red) impinging on the drain in question. Please note the applicant must obtain a Construction and Use of Private Works Licence' from GMW for any works carried out on GMW freehold land, easement or reserves.

Should any works be required which may impinge on the Creek a 'Works on a Waterway Licence' may be required from the relevant Catchment Management Authority.

Based on the information provided and in accordance with Section 56 (b) of *the Planning and Environment Act 1987*, GMW has no objection to this planning permit being granted subject to the following conditions:

1. No buildings are to be constructed within 30 metres of OKeefe Creek and Goulburn-Murray Water's open channels and drains, or within the Floodway Overlay (FO).

2. No solar panels (or associated works) are to be constructed within 30 metres of Goulburn-Murray Water's drains no. 6/11 and 8/4. All other solar panels must be setback at least five metres from Goulburn-Murray Water's easements, freehold or reserves containing Goulburn-Murray Water infrastructure.

3. Prior to commencement of works, the applicant must obtain a 'Construction and Use of Private Works Licence' from Goulburn-Murray Water for any works carried out on GMW freehold land, easement or reserves.

4. All construction and ongoing activities must be in accordance with sediment control principles outlined in 'Construction Techniques for Sediment Pollution Control' (EPA, 1991).

Planning Note:

- Application must be made to Goulburn-Murray Water prior to construction of any dams on the subject land. A licence must be obtained where surface or groundwater supplies are taken and used for commercial irrigation purposes or if a dam is to be constructed on a waterway as defined under the Water Act 1989. For further information, the applicant should contact Goulburn-Murray Water Diversion Operations on 1800 013 357.

- The subject property is located within an area of Cultural Heritage Sensitivity. Should the activity associated with proposed development require a Cultural Heritage Management Plan (CHMP), planning permits, licences and work authorities cannot be issued unless a CHMP has been approved for the activity.

- Should any works be required which may impinge on the Creek a 'Works on a Waterway Licence' may be required from the relevant Catchment Management Authority.

- Applications for a 'Construction and Use of Private Works Licence' can be made by contacting Goulburn Murray Water on 1800 013 357 or by following the link the http://www.g-mwater.com.au/customer-services/forms

If you require further information please e-mail planning.referrals@gmwater.com.au or contact 1800 013 357.

Yours sincerely

(Original signed by Ranine McKenzie)

Ranine McKenzie
SECTION LEADER STATUTORY PLANNING

40

15 November 2017

Our Reference: 500000229811
Your Reference: 2017-301

Manager Planning
Moira Shire Council
PO Box 578
COBRAM 3644

Dear Sir/Madam

APPLICATION NO: 2017-301
DESCRIPTION OF LAND: NEOEN SOLAR FARM - LEMNOS

CONDITIONAL CONSENT TO ISSUE OF PLANNING PERMIT

Powercor Australia Ltd does not object to the issue of a planning permit in respect of the above-mentioned application if the permit is subject to the following conditions:

CONDITIONS REQUIRED BY POWERCOR AUSTRALIA LTD

1. The applicant shall:-

- Negotiate with Powercor for the connection of the development, to the existing power distribution network.

- Any buildings must comply with the clearances required by the Electricity Safety (Installations) Regulations.

- Any construction work must comply with Energy Safe Victoria's "No Go Zone" rules.

- Set aside for the use of Powercor Australia Ltd reserves and/or easements satisfactory to Powercor Australia Ltd where any electric substation (other than a pole mounted type) is required.

  Alternatively, at the discretion of Powercor Australia Ltd a lease(s) of the site(s) and for easements for associated powerlines, cables and access ways shall be provided. Such a lease shall be for a period of 30 years at a nominal rental with a right to extend the lease for a further 30 years. Powercor Australia Ltd will register such leases on the title by way of a caveat prior to the registration of the plan of subdivision.

- Provide easements satisfactory to Powercor Australia Ltd, where easements have not been otherwise provided, for all existing Powercor Australia Ltd electric lines on the

land and for any new powerlines required to service the lots and adjoining land, save for lines located, or to be located, on public roads set out on the plan. These easements shall show on the plan an easement(s) in favour of "Powercor Australia Ltd" for "Power Line" pursuant to Section 88 of the Electricity Industry Act 2000.

- Obtain for the use of Powercor Australia Ltd any other easement external to the development.

***** END OF CONDITIONS *****

Yours faithfully

Michael Patten

Michael Patten
Customer Requests Officer

Telephone: (03) 5440 5767

(Office Use Only: CR 306319581)

Application Number : 2017-301

Property Address : 1190 and 1220 Cosgrove – Lemnos Road , 260 Tank Corner East Road ,875 Boundary Road and 85 Crooked Lane , Lemnos Vic 3631

We write to add further to our objections to the above Lemnos Solar Farm.

Our Dairy Farm is directly to the west of this proposed solar farm, described by Neoen as a fragmented farm. We share a boundary of at least 1km long. We milk 200 cows on our perennial permanent pasture, which we irrigate all through the irrigation season for our cows to feed on grass all year round.

Our utmost concern is that given we regularly get hot northerly winds throughout the summer months, these hot winds will hit the hot Solar Panels , which will then increase the temperature of these winds further, these winds will then be directed on to our Dairy Farm. The hot winds will now suck more moisture out of our paddocks , requiring us to irrigate our pastures at more regular intervals during the summer months. This will be the "Wind Heating Factor" the opposite to the "Wind Chill Factor", in effect working in the same manner as a hair dryer works.

We asked Neoen (23/01/18) to provide us with wind behaviour pattern diagrams , similar to what "shadow diagrams " do for building requirements for town planning applications, regrettably to date this information has not been supplied

The only contact we have had with Neoen is when their solicitor visited our property on 23/01/18. We asked what height the panels would be and were told waist high, now we are told, from council documents, these panels will be 3m high, clearly deflecting the hot northerly winds onto our Dairy Farm.

Neoen say they plan to do landscaping inside the boundaries of the solar farm, yet on the boundary we share with them there is no landscaping proposed, and even if there is to be landscaping , it will take time for this to establish, and even then the landscaping is for aesthetic purposes only, leaving our Dairy Farm exposed during this establishment stage. We asked the solicitor to clear this up for us, and once again they have failed to provide us with this information.

We asked the solicitor to provide us with information regarding the proposed tracks on their western boundary, as this is very important to us in relation to Flood Behaviour, being down stream of the solar farm. Once again this information has not been provided.

We believe we will need to irrigate our farm more regularly, this will require us to purchase more temporary water each year . Extra water required:

November	35 mgs
December :	70 mgs
January :	70 mgs
February :	70 mgs

March : 35 mgs

Therefore total extra water required will be 280 megalitres per year at an average cost of $100 per megalitre means we will have to find another $28000 per year and over the lifetime of the project 25 years then the true cost to us will be (25years x $28000) $700,000.

We believe there will be similar costs on other adjoining business, and therefore encourage you to reject this application.

Yours faithfully

Patrick and Elizabeth Macgill

Clement-Stone
TOWN PLANNERS

16 December 2017

Planning Manager
Greater Shepparton City Council
Locked Bag 1000
Shepparton VIC 3632

Attn Tim Watson

OBJECTION AGAINST APP. NO. 2017-301
1190 and 1220 COSGROVE-LEMNOS ROAD, 260 TANK CORNER EAST ROAD, 875 BOUNDARY ROAD and 85 CROOKED LANE, LEMNOS
'Use and Development of Land for a Solar Farm, and Removal of Native Vegetation'

Dear Tim Watson,

We refer to Councils notice in relation to application 2017-301 which seeks approval for **'the use and development of land for a solar farm and removal of native vegetation** at 1190-1220 Cosgrove-Lemnos Road, 260 Tank Corner East Road, 875 Boundary Road, and 85 Crooked Lane, Lemnos (the subject site).

We act for a number of residents who own land within close proximity of the subject site, noting that the land holdings of our clients are varied in nature.

The following is a list of the parties we represent, along with their addresses and associated land use.

Objector	Address	Land use
Elita Ymer (Valley Star Pty Ltd)	1337 Cosgrove-Lemnos Road, 1175 Lemnos Cosgrove Road, and 215 Hill Road.	Agricultural
Frank Majcen	1215 Cosgrove-Lemnos Road	Horticultural
Siaosi Hikila	1215 Cosgrove-Lemnos Road	
Rod Sutherland	1245 Cosgrove-Lemnos Road	Horticultural
Victor & Connie Kyriakou	1265 Cosgrove-Lemnos Road	Primary Production
Mick Kiriacos	1185 Cosgrove-Lemnos Road	Residential & Hobby Farming

2 HERCULES STREET TULLAMARINE VIC 3043
TELEPHONE: (03) 9334 2060 FACSIMILE: (03) 9334 2061 EMAIL: info@townplanners.com.au WEB: www.townplanners.com.au

Chris Georgopoulos	1215-1265 Cosgrove-Lemnos Road	Horticultural
Howard & Kay Cooper	1170 Cosgrove-Lemnos Road	Residential
Lynette & Ronald Cobbledick	1165 Cosgrove-Lemnos Road	Agricultural
Jim Mehmet (Mehmet Super Pty Ltd)	1295 Cosgrove-Lemnos Road	Horticultural
Steven & Rachel Chenery	1180 Cosgrove-Lemnos Road	Small Acreage
Allan Michael Fox	1375 Cosgrove-Lemnos Road	Fodder & Agistment

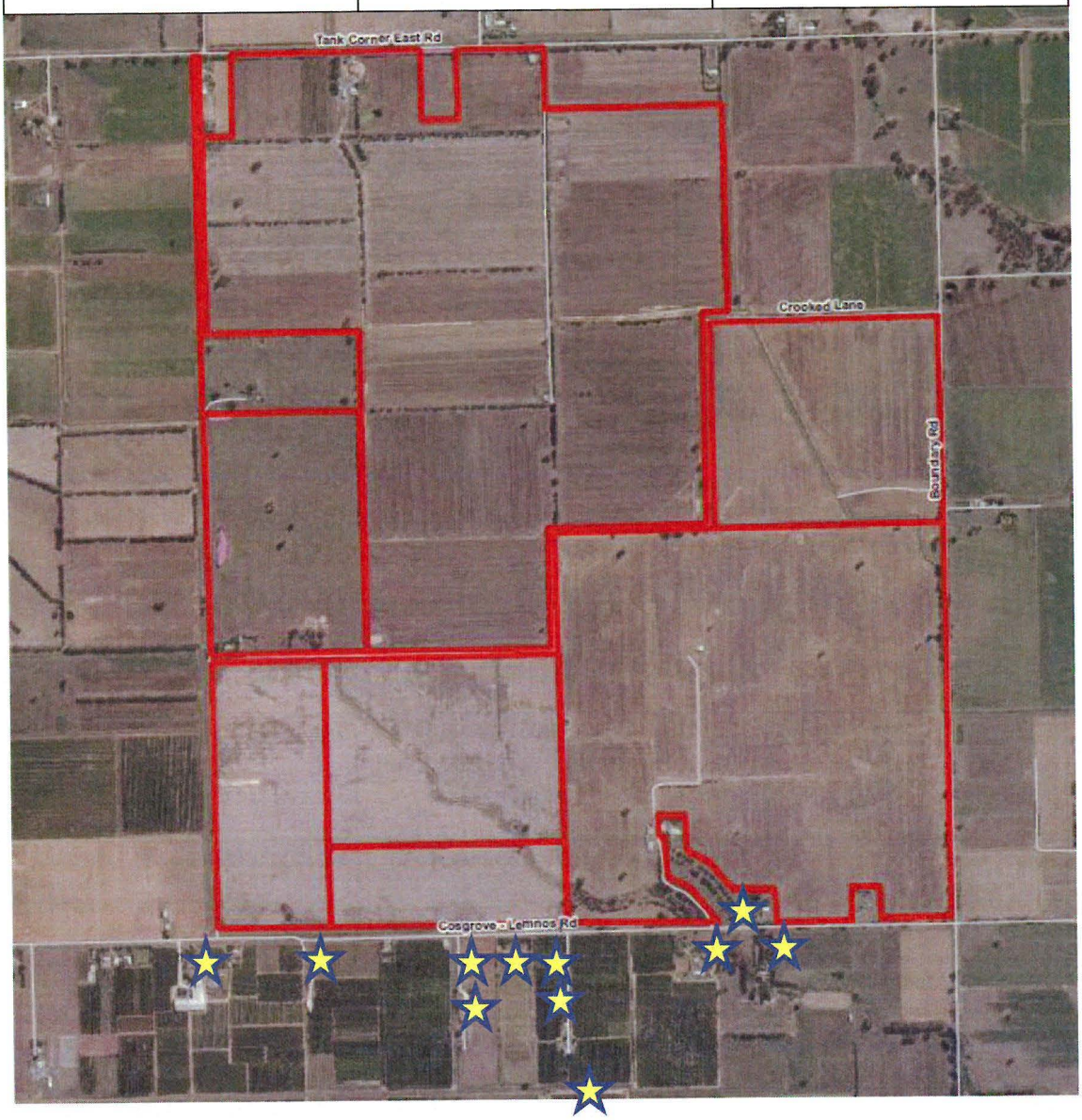


Figure 1 - Subject site within red line, objectors starred

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We have been instructed by our clients to undertake a review of the proposed use and development against the relevant planning controls, and as a result provide the following grounds of objection against the abovementioned proposal for Councils consideration in their assessment.

We understand that Council have requested that the Minister for Planning take over assessment of these types of applications, and request that these submissions be provided to the Minister in the event that he accepts that request.

Grounds of Objection

1. Agriculture is a key driver of the Shires economic development, and this is reflected throughout the MSS and in the zoning controls which affect the subject site (Farming Zone 1 - recognising its classification as **growth area** farming land), and particularly at Clause 21.02 which states;

    - *The rural areas of the municipality are considered to be productive agricultural land based on the soil types, subdivision pattern and climate and the significant level of irrigation infrastructure. Protection and retention of this land for agriculture is of primary strategic importance to the City.*

2. This is a proposal that seeks to remove irrigated farming land from utilisation and production for a period of at least 30 years, to allow for a use which has not adequately justified itself against the provisions of the Greater Shepparton Planning Scheme or the purposes of the Farming Zone or its decision guidelines.

3. The application documentation fails to provide an impact assessment of any Photovoltaic Heat Island Effect (PVHI Effect) which may be caused through operation of the solar farm and its impact on our clients agricultural operations, which rely on consistent air temperatures in order that growth and production not be adversely compromised.

4. The PVHI effect is supported by recent research conducted at the University of Arizona, which explored the changes in ambient air temperatures above and surrounding solar farms and panels[1] (attached).

5. That research concludes that solar farms can increase ambient air temperatures by 3-4 degrees Celsius over night in comparison to nearby areas.

6. The PVHI effect has the potential to significantly impact on surrounding agricultural and farming uses, particularly in relation to the growing of stone fruits associated with the Orchard businesses along Cosgrove-Lemnos Road, as per the below extract from the Department of Agriculture's website[2]

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[1] Barron-Gafford, G. A. *et al.* The Photovoltaic Heat Island Effect: Larger Solar Power Plans Increase Local Temperatures, Scientific Reports 6, 35070 (2016)

[2] http://agriculture.vic.gov.au/agriculture/horticulture/fruit-and-nuts/stone-fruit/chill-units-of-stone-fruit

Stone fruit trees such as peaches and nectarines develop their vegetative and fruiting buds in the summer. As winter approaches, the already developed buds go dormant in response to both shorter day lengths and cooler temperatures. This dormancy or sleeping stage protects buds from the effects of cold weather. Once buds have started dormancy, they will be tolerant to temperatures much below freezing and will not grow in response to mid-winter warm spells.

Chill Units

These buds remain dormant until they have accumulated sufficient chilling units (CU) of cold weather. A chill unit is allocated when temperatures spend time within certain parameters (Refer to chill accumulation models). When enough chilling accumulates, the buds are ready to grow in response to warm temperatures. As long as there have been enough CUs the flower and leaf buds develop normally. If the buds do not receive sufficient chilling temperatures during winter to completely release dormancy, trees will develop one or more of the physiological symptoms associated with insufficient chilling:

- *Delayed foliation*
- *Reduced fruit set and buttons*
- *Reduced fruit quality*

7. If the proposed use of the solar farm increases ambient air temperatures, there is a real risk that produce grown by our clients will not received sufficient chilling through the winter months. This will result in direct detrimental impacts on their business and on the agricultural potential and viability of their land.

8. The impacts on heat island effects on other land uses has also not been appropriately addressed.

9. Further work is required to demonstrate that this aspect of the proposal is addressed and that offsite impacts based on ambient heating will not cause detriment to the viability of our clients land.

Response to Clause 21.06-1 Agriculture

10. Clause 21.06 provides strategic directions in relation to Economic Development. In this case, Clause 21.06-1 provides guidance and direction having regard to Agriculture and agricultural land.

11. Importantly, Clause 21.06-1 provides;

- *It is increasingly evident that prospective agricultural investment is jeopardized, deterred, or completely lost by land uses and developments that have the potential to compromise the scale and location of such investment.*

12. It is those and other various competing factors and uses which has led Council to adopt the Regional Rural Land Use Strategy (2008) in order to better categorise farming land and to provide direction in relation to its future use.

13. This application which seeks to establish a non-agricultural use is a good case in point.

14. Clause 21.06 classifies the subject site as a **growth area**, being "*areas for growth and expansion of existing farm businesses and for new investment*".

15. The subject sites designation as a Growth area is further solidified at Clause 21.08 which lays out the implementation strategy for the Municipality and provides the following;

    - *Apply the Farming Zone to the 'growth' and 'consolidation' (FZ1) areas; and 'niche' (FZ2) areas in accordance with the Rural Regional Land Use Strategy (RRLUS).*

16. This site is within the Farming Zone (Schedule 1)

17. Having regard to the **Objectives** outlined with 21.06, they are as follows;

    - *To ensure that agriculture is and remains the major economic driver in the region*
    - *To facilitate growth of existing farm businesses*
    - *To facilitate growth of new agricultural investment*
    - *To provide for small scale, specialized agriculture*

18. Those Objectives will be achieved through the following **Strategies** which are, as relevant to this proposal;

    - *Encourage growth and expansion of existing farm businesses and new investment in growth and consolidation areas.*
    - *Discourage land uses and development in the Farming Zone, Schedule 1 that would compromise the future agricultural use of the land, including farm related tourism.*
    - *Discourage non-agricultural uses on rural land other than rural based industry*

19. A solar farm, being a non-agricultural use, does not adequately respond to the issues raised within the MSS or the above objectives for agricultural land which are included within the planning scheme, as follows;

    - The proposed does not facilitate the growth of an existing farm business, or the growth of a new agricultural investment.
    - This operation is not 'small scale, specialized agriculture' – it is not agriculture at all.
    - The site is located within an area that encourages and prefers growth and expansion of farm businesses, and this proposal will remove a substantial area of viable, irrigated, agricultural land from future production.

- This proposal will prevent consolidation of the site with other nearby lots, and will actively preclude the growth and expansion sought by the Greater Shepperton Planning Scheme.
- This proposal will actively prevent the future agricultural use of the land, and will effectively remove this land from agricultural production for the life of the solar farm. Non-agricultural use is discouraged by policy, and this is clearly a non-agricultural use.
- The proposal would adversely impact other agricultural uses such as our client's orchard by way of the PVHI effect and other offsite impacts.

- The removal of agricultural land for at least 30 years is an inappropriate outcome within this area and within the farming zone

20. The use is non-agricultural in nature, and does not deserve or receive support from the Municipal Strategic Statement. The applicant has relied on broad and non-planning justifications that relate to the economic benefits associated with renewable energy production and the short term economic growth associated with construction of the facility, however in the process they have ignored the land use directives and Planning Policy which relate to how, where, and why uses should be located.

21. The continued use of this land for agricultural economic productivity is enshrined within the MSS and within the Zone provisions.

22. This proposal fails at a fundamental level, and we submit that Council or any Responsible Authority cannot decide to grant a permit in relation to this application without ignoring the provisions of the scheme which relate to this area and this site.

23. It is also important that there are numerous solar farm proposals currently within various stages of the planning process with Council, predominantly located within the Farming Zone. The cumulative impact of these proposals needs to be considered in order to ensure that viable high growth farming land is not segmented and taken out of production within the broader Shepparton area.

Response to Clause 35.07 Farming Zone (Schedule 1)

24. A Renewable Energy Facility is a Section 2 use within the Farming Zone. Any application for a planning permit needs to have regard to the purposes and decision guidelines of Clause 35.07 before a permit can be contemplated or granted.

25. This proposal fails to meet those purposes and decision guidelines, as per the below, and as relevant to the proposal;

Purpose

- *To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
    - The proposal fails to respond to Clause 21.06 and other directions within the MSS which relate to the protection and enhancement of agricultural land and agricultural production.

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- *To provide for the use of land for agriculture.*

    - This proposal does not provide for any agricultural use of the site, and removes a significant area of viable, irrigated, agricultural land from production and future use

- *To encourage the retention of productive agricultural land.*

    - Agricultural land is not retained within this proposal, and is actively removed from future use and production. This is out of step with the high value nature of this land, which is recognised through surrounding land uses (including the orchard at our clients site) and within the Greater Shepparton Planning Scheme.

- *To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.*

    - Agricultural use will no longer be possible on the site due to the proliferation of solar panels and services. The removal of high value growth area agricultural land does not receive support at a policy level or within the purposes of the zone based on its physical context within the Farming Zone and the types of uses which are envisioned for the area and Municipality now and in the future.

Decision Guidelines

General issues

- *The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*

    - As per the above, this proposal does not satisfy policy directives with respect to the protection and enhancement of agricultural land.

- *The capability of the land to accommodate the proposed use or development, including the disposal of effluent.*

    - While the land may be able to accommodate the use, insufficient information has been provided in relation to offsite amenity impacts on our clients site.

- *How the use or development relates to sustainable land management.*

    - The proposal is not agricultural in nature, and therefore does no relate to sustainable land management.

- *Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.*

    - The proposal may have adverse impacts on our clients existing operations via the photovoltaic heat island effect as per submissions previously made.

Agricultural issues and the impacts from non-agricultural uses

- *Whether the use or development will support and enhance agricultural production.*

- The propose will not support or enhance agricultural production, and will remove this land from future agricultural production – precluding any further growth or consolidation of high quality irrigated farming land.

- *Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production.*

  - This site will be permanently removed from agricultural production for the life of the proposed use. This is an unacceptable outcome when considering how this land is qualified under policy, and its designated as being within a grown farming area pursuant to Clause 21.06.

- *The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.*

  - Consolidation of farming land is encouraged under policy. The removal of this land from agricultural fabric of Shepparton will limit to possibility for nearby uses to expand, and may have an effect of the growing potential of surrounding land by way of the PVHI effect.

- *The capacity of the site to sustain the agricultural use.*

  - No agricultural use is proposed.

- *The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure.*

  - The site is irrigated farming land, which should be utilised in accordance with the directions of the scheme and the zone. Removing it from future agricultural production is not appropriate when considering the importance of agri-businesses to the economic fabric of the Region and the State.

  - This use would be better placed in a dry land area, and in an area that was not critical for farming and food production. This land receives protection at a policy and zoning level for continued agricultural uses and this proposal does not meet that test.

- *Any integrated land management plan prepared for the site.*

Design and siting issues

- *The need to locate buildings in one area to avoid any adverse impacts on surrounding agricultural uses and to minimise the loss of productive agricultural land.*

  - Productive agricultural land will be lost if this proposal is supported, and opportunities for consolidation of farming land and businesses will be nullified.

  - The high number of PV panels has the potential to impact on our clients site and surrounding uses through rises in ambient air temperatures and associated impacts on food producing uses.

S2

- *The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts.*

    - The solar panels, and their high and large site coverage, will present as visually incongruous in the context of surrounding rural and agricultural uses and landscapes.

    - The applicant has provided landscape buffers around the permitter of the site, however no landscape plan has been provided. A landscape plan should be submitted to provide certainty around how visual impact will be managed.

- *The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.*

    - As per the above, the character of the area will be fundamentally altered not only through the visual presentation of the panels, but also through the transition of this site away from an agricultural use to power production.

    - The impacts on character are exacerbated when taken together with the opportunities which will be lost for growth and consolidation of farms and business around the site.

Conclusion

26. The proposed use does not adequately respond to Clause 22.06, and insufficient regard has been given to the importance of this area for farming, agricultural, and agri-business both at a regional and State level.

27. The proposal does not meet or adequately respond to the purpose or decision guidelines of the Farming Zone, which is the zone selected to protect and enhance the agricultural use and potential of this land and other similarly zoned areas within the Municipality.

28. The applicant has not sufficiently demonstrated that our clients businesses will not be impacted through rises in ambient air temperatures by way of the photovoltaic heat island effect, or that growing potential of our clients site will not be compromised.

29. The use of the land for power production is out of step with the character of the area from a visual perspective, and compromises the opportunities for surrounding farms and businesses to grow and expand by removing a large area of viable and irrigated agricultural land.

30. The use proposed is not appropriate in this location for all of the reasons outlined above.

31. On behalf of our clients, we request that Council decide to refuse this application due to its failure to adequately respond to the provisions of the Greater Shepparton Planning Scheme.

We thank you for your consultations to date, and should Council hold a deputation meeting to discuss this application we request to be given the opportunity to be heard.

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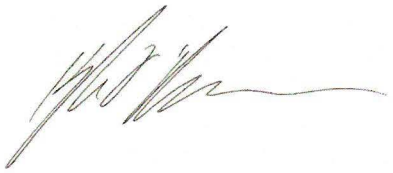
Should you have further questions please contact me on 9334 2060 or at ko@townplanners.com.au

Kind Regards,



Kyle X O'Brien | Bsc, M.Soc Sci (Env & Plan), MPIA, VPELA
Senior Planner | Clement-Stone Town Planners

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GREATER SHEPPARTON

Objection to grant a Planning Permit

This form is to assist in making an objection as outlined in the Planning and Environment Act 1987.

Planning Enquiries
Phone: (03) 5832 9730
Web: greatershepparton.com.au

Privacy notice
! Council is collecting the information on this form so that it may consider your objection in accordance with its legislative powers and functions and it will only be disclosed in accordance with these powers and functions. You may access the information by contacting Council.
'Please be aware that in accordance with Part 4, Section 57(5) of the *Planning and Environment Act 1987* the Responsible Authority must make a copy of every objection (including personal information of the objector) available for public inspection at its office during office hours free of charge until the end of the period for which an application may be made for review of a decision on an application'..

Any person who may be affected by the granting of a permit may object.

- If you object the Council must consider the objection unless you withdraw it.
- If you object you must sate the reasons why and say how you would be affected by the grant of a permit.
- The Council may reject an objection that it considers has been made primarily to secure or maintain a direct or indirect commercial advantage for the objector.
- The Council must make a copy of every objection available at its office for any person to inspect during office hours.
- If you object prior to the Council making a decision, you will be notified of the Councils decision.
- If you object and are not satisfied with the Council's decision you must appeal within 21 days of the notice of the decision to the Victorian Civil and Administrative Tribunal.
- If the Council refuses the application, the applicant can also appeal.

Please contact the Council on (03) 5832 9730 should you require any further assistance.

Objector details

Provide details of the objector

The person you want council to communicate with about your objection

Name:	TONY FARRELL
Organisation:	
Postal Address:	PO BOX 47
	TALLYGAROOPNA Postcode: 3634

Contact phone:	0412 878262	
Mobile phone:		
Email:	tonyfarrell@sunweld.com	
Fax:		

Please indicate your preferred contact method by numbering in order of preference

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number: 2017 - 301

Application Propsal: SOLAR FARM

The land

Address of the land

Street No:	Street Name:	
Suburb:	LEMNOS	Postcode:

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How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

The Solar Farms should be built on marginal land on the eastern side of the East Goulburn Main Channel.

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

The proposed solar farm is currently used as agriculture land and is within the irrigation district. Its highly productive land and in future would be in demand as horticulture land. With urban sprawl happening on the outskirts of Shepparton this area would be required for orchard plantings which is currently being done on the adjacent properties in Cosgrove – Lemnos Rd. The demand for agriculture products is on the rise with the export markets to China increasing as they require premium products that can only be grown in the Shepparton area.

A major factor in the land use from agriculture to solar farming is the ongoing employment and economical benefit to the region. Without primary production there will be a decrease in secondary production and the loss of products available to the supply chain, in both local markets and the export market. The employment rate for a solar farm per hectare would be much less than an orchard per hectare.

The best solution for the solar farm operators would be to relocate thier proposals to land on the eastern side of the East Goulburn Main Channel. This is of lower grade soil types and is not irrigation land. A power line could be built to connect to the substation in Shepparton.

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Objectors Signature

Signature: Tony Farrell

Date: 2 0 / 1 2 / 2 0 1 7

Lodgement

To ensure the Responsible Authority considers your objection, ensure the authority received it by the due date on the notice.

Lodge the completed and signed form and all documents with:

Mail:
Greater Shepparton City Council
Locked Bag 1000
SHEPPARTON, 3632

In Person:
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON

For help or more information

Telephone: Planning Department (03) 5832 9730 and Fax: (03) 5831 1987

China opens for GV stone fruit

More Australian peaches, plums and apricots will be seen in China after Australia inked a deal with the world's most populated country allowing more local stone fruit to be exported.

The deal has been hailed as a "game changer" for the Goulburn Valley.

The protocol allows peaches, plums and apricots to be fully exported to China, opening up trade corridors for Goulburn Valley growers, and the potential, some say, for business expansion.

Greater Shepparton City Council chief executive Peter Harriott said it was great news for growers.

"That is a game-changer for the Goulburn Valley," Mr Harriott said of the protocol signing.

"It gives the opportunity for our fruit growers to access other markets.

"But it does say to us, if exports are going to be a growing area, how do we actually transport the fruit?"

Committee for Greater Shepparton chief Sam Birrell described the improved market access as hugely significant, because of the "enormous market in China".

"These stone fruits are crops that grow incredibly well in the Goulburn Valley and I expect to see this lead to an increase in plantings and exports," Mr Birrell said.

"I expect people to expand already successful fruit growing businesses and to take advantage of this new market dynamic."

Toolamba orchardist Peter Hall said based on experience, the Chinese market could offer up to a 50 per cent premium on price, "which for a fruit grower is a significant boost in income".



Fruitful times ... Federal Member for Murray Damian Drum and orchardist Peter Hall at M Hall's Toolamba orchard.

21·11·2017

Mr Hall echoed the game-changing nature of the approval to directly import into China, arguing it had finally opened the region up to one of the world's largest markets for stone fruit.

"There's effectively been a lid on investment of stone fruit depending on the market availability," Mr Hall said.

"This basically rips the lid off and gives us open access to the open market."

Mr Hall was confident of the appetite in China for clean green produce, like that produced locally.

The orchardist believed locally there had previously existed "a certain cap on investment" arguing this could be about to change.

Next, Mr Hall believed the local industry would engage i market intelligence to asses and improve understanding c the Chinese market.

Federal Member for Murra Damian Drum was confider the approvals could see a many potential buyers of pr duce coming into Austr lia a there were local growe an ing to sell into China.

Stonefruit pipeline possibility after China talk

Greater Shepparton City Council is confident a stone fruit protocol inked this week will open new trade pipelines into China and may lead to the expansion of production in the region.

The signing opens the door for Australian plums, peaches and apricots to be exported into China, where barriers previously existed.

Mayor Dinny Adem said while the council was encouraged conversations had been positive, "this announcement has come ahead of our expectations and has the ability to initiate a major boom for the Goulburn Valley fruit industry and our entire regional economy".

"Within the Goulburn Valley we produce 70 per cent of the national peach crop, 49 per cent of the national plum crop and 43 per cent of the national apricot crop."

"This announcement will no doubt deliver enormous benefits to our stone fruit growers, and with the stone fruit season fast approaching it is perfect timing for the region," Cr Adem said.

Council chief executive Peter Harriott described the development as "fantastic news, and a good opportunity for our local growers".

He suggested it could lead to opportunities for the expansion of operations.

Mr Harriott said there was "definitely a market" in China and strong interest in Australian stone fruit.

He said the signing mean the region could from spruiking local stone actually selling it and on trips to China buyers hac interested in fruit from the

"But because of pr situation, we couldn't do more than promote."

"Now we can actually d than promote it," Mr H said.

He said a fruit logistica Hong Kong next year coul an important platform.

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CHINA TRADE DEAL

18.11.2017

STONE FRUIT EXPORT GREEN LIGHT

By THOMAS MOIR

A newly-inked protocol allowing more local stone fruit to be exported to China has been hailed as a "game changer" for the Goulburn Valley by regional leaders.

The protocol allows peaches, plums and apricots to be fully exported to China, opening up trade corridors for local growers and the potential, some say, for business expansion.

Greater Shepparton City Council chief executive Peter Harriott also said it had the potential to expedite efforts to secure a proposed Shepparton airport expansion and relocation to ensure the region could capitalise on the new opportunities.

"That is a game-changer for the Goulburn Valley," Mr Harriott said of the protocol signing.

"It gives the opportunity for our fruit growers to access other markets. But it does say to us, if exports are going to be a growing area, how do we actually transport the fruit?"

While any airport relocation was still a long-term aspiration, the development could expedite efforts, Mr Harriott said.

Committee for Greater Shepparton chief Sam Birrell described the improved market access as hugely significant.

"These stone fruits are crops that grow incredibly well in the Goulburn Valley and I expect to see this lead to an increase in plantings and exports.

"I expect people to expand already successful fruit-growing businesses and to take advantage of this new market dynamic," Mr Birrell said.

Mooroopna orchardist Peter Hall said based on experience, the Chinese market could offer up to a 50 per cent premium on price, "which for a fruit grower is a significant boost in income".

Mr Hall echoed the 'game-changing' nature of the approval to directly import into China, and said it had finally opened the region up to one of the world's largest markets for stone fruit.

"There's effectively been a lid on investment of stone fruit depending on the market availability," he said.

"This basically rips the lid off and gives us open access to the open market."

Mr Hall was confident of the appetite in China for clean green produce, like that produced locally.

He believed locally there had previously existed "a certain cap on investment" but said this could be about to change.

Next, Mr Hall believed the local industry would engage in market intelligence to assess and improve understanding of the Chinese market.

Federal Member for Murray Damian Drum remained confident the approvals could present as many potential buyers of produce coming into Australia as local growers wanting to sell in China.

L R Cobbledick and R J Cobbledick
PO Box 31
LEMNOS VIC 3631

15th December 2017

Planning Department
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON VIC 3630

Dear Sir/Madam,

RE: WITHDRAW OUR PLANNING OBJECTION TO NEOEN SOLAR FARM PLANNING APPLICATION NO. 2017-301 DATED 3rd DECEMBER 2017 AND RESUBMIT OUR OBJECTION DATED 15TH DECEMBER 2017.

We refer to our property at 1165 Cosgrove-Lemnos Road, Lemnos, in submitting our planning objection to Planning Permit No. 2017-301.

We wish to withdraw our planning objection dated 3rd December 2017 and resubmit our planning objection dated 15th December 2017.

Your sincerely,

L R Cobbledick and R J Cobbledick

L R Cobbledick and R J Cobbledick
PO Box 31
LEMNOS VIC 3631
Phone: 03 58 299 281

15th December 2017

Planning Department
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON VIC 3630

Dear Sir/Madam,

RE: PLANNING OBJECTION TO NEOEN PLANNING APPLICATION NO. 2017-301

We refer to our property at 1165 Cosgrove-Lemnos Road, Lemnos, in submitting our planning objection to Planning Permit No. 2017-301.

Our land, where we live and run a beef cattle enterprise, is directly opposite the proposed solar farm on the south east corner of Cosgrove-Lemnos Road and Boundary Road.

We object on the grounds that the economic, environmental, visual and cultural impacts of this utility sized industrial site will devalue our property and cause major disruption to our lifestyle.

It is important to note omissions made by Neoen in their planning application description of the proposed site and it's surrounds. They have failed to state that 9 orchard blocks are also directly opposite the site's southern boundary on Cosgrove-Lemnos Road and the south-west boundary along Crooked Lane. In fact, Neoen have not used the words "horticulture" nor "orchards", to describe the surroundings of the site except for a reference for Valley Star being a fruit processing and packing enterprise.

This is a significant omission giving distorted importance to their proposed use of the land at the expense of existing industry whose production may be at risk due to their proximity to the solar farm. It is estimated that the orchardists operating these 9 fruit blocks are producing from them approximately 5000 tonne of fruit per annum with an estimated value of $20 million export dollars.

Our governments have invested heavily on the upgrades to our irrigation network. The net export dollar return for 1 megalitre of irrigation water is greater for horticultural exports than for any other industry. The 9 orchard blocks directly neighbouring the site employ approximately 50 to 100 staff throughout the year, in permanent and casual employment, including Valley Star,

Our land is suitable for horticultural use and this proposed solar farm will impact negatively on our property value.

The full environmental impact on our micro-climate, it's temperature and wind changes, soil, water and air quality, is unknown due to lack of research.
The risk to fruit production from changes to our environment is a serious economic concern.

The impact of noise, glare, night lighting, heavy use of herbicides, dust and increased local traffic, especially during construction will be extremely disruptive. The unknowns of increased bushfire risk, adverse threats from changed insect populations and of electromagnetic interference are of great concern to us.

This solar farm has the potential to create a man-made desert effect which would cause significant environmental impact on air quality and water run-off quality. In less than a few years, 1200 acres (482ha) will be denuded of vegetation in the heart of many Lemnos and Congupna family homes and businesses. Neoen's operational maintenance activities will involve an erosion mitigation monitoring program. This will be critical to managing soil stability due to prolonged use of herbicides to control vegetation growth beneath several hundred thousand solar modules sitting on their web of 40,000 steel pile foundations.

This solar farm's soil degradation will lead to the release of carbon and other green- house gas emissions into the atmosphere resulting in it being a net producer of carbon credits for the duration of its operational life.

We also object to the proposal on the grounds that it has the potential to intensify flooding to our property and specifically to our home. This increased flooding risk could be caused by the proposed security fencing extending across the O'Keefe Creek in the form of a high metal vertical barrier designed to allow water to flow through unimpeded. Our concern is that in times of flood, this security barrier and the fence in general will become a high hazard area for the build up of debris significant enough to block the flow of flood waters thus increasing the height of flood waters surrounding our home only 250 meters away and which has never been historically flooded.

The detrimental visual impact on our landscape will be immense.
The unsightly facility, including over 380,000 solar modules standing 1.5 metres to 2.5 metres tall and 56 Inverter boxes 4 meters high, surrounded by 2.3 metre high security fencing stretching along the four sides of its approximate 10 kilometre perimeter will render our clean and green semi-rural community an industrial wasteland for at least the next 30 years to come.

The proposed buffer zones of a mere 5 metres to 10 metres in selected areas for the initial landscape planting of scrubby native tube stock trees and shrubs, whilst it may eventually screen some of the facility will not beautify this ugly industrial site. The wrong choice of screening plants could only add to the ugliness over a very long period of time as well as increase bushfire risk.

There is minimal or no proposal for a buffer of screening plants along most of Boundary Road. This will add greatly to the overall negative visual impact of the proposed facility.

The cultural impact of this proposed solar farm will effect us individually as families and collectively as a semi-rural community. Each of the neighbouring families of this proposed site, many of whom have held these horticultural and agricultural orchards and farms for generations, including our own, will lodge an objection to the planning permit.

For us, as it is for many neighbours, our culture is defined by heritage and our specific desire to continue to pass the legacy of our land and it's use to our children. This culture is further defined by our history, as evidenced by the existence of pear trees almost 100 years old still in full production just 300 metres from this proposed site. Our future culture continues our WW1. Soldier Settlement and immigrant settlement heritage and is defined in part by the new plantings of many acres of stone fruit trees which are also to be direct neighbours of the facility.

Our community is vibrant. We have built our homes and businesses in a semi-rural community which we are proud to live and work in. We are the custodians of our native vegetation and native wildlife as diverse as pelicans and fruit bats. We are the custodians of the future development of Lemnos and Greater Shepparton. The solar farm threatens our Lemnos and our neighbouring Congupna community's economic, environmental, visual and cultural future development.

Horticultural and agricultural businesses exact high physical and mental stress on it's farming families. Unknown and known risk factors which threaten farm production and profitability place pressures on the health of farmers in rural communities and impact on their ability to plan for the future.

This solar farm has the potential to impact major change on many families. The industrial, large scale facility in the centre of more than 30 family homes and businesses will impact on our decisions to continue our agricultural operations and maintain our lifestyle choices in the short to long term.

Neoen's second main omission from their description of the site and it's surrounds was to state that the main roads bordering the site were unsealed, which is incorrect. It gives the impression that the neighbourhood is very low density population. Both Tank Corner East Road and Cosgrove- Lemnos Road are sealed, the latter for many decades. Cosgrove-Lemnos Road is a main connecting road just 5 kilometres from Shepparton and experiences "rush hour", just like any other busy road in the district. Latter in their application, Neoen have correctly stated that this road is sealed and significant.

We strongly object to the use of this land for this solar farm. It will impact negatively on us and too many other families in our Lemnos and Congupna community.

Your sincerely,

L R Cobbledick and R J Cobbledick

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L R Cobbledick and R J Cobbledick
PO Box 31
LEMNOS VIC 3631

3 December 2017

Planning Department
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON VIC 3630

Dear Sir/Madam,

RE: PLANNING OBJECTION TO NEOEN PLANNING APPLICATION NO. 2017-301

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Our land is suitable for horticultural use and this proposed solar farm will impact negatively on our property value.

The full environmental impact on our micro-climate, it's temperature and wind changes, soil, water and air quality, is unknown due to lack of research.
The risk to fruit production from changes to our environment is a serious economic concern.

The impact of noise, glare, night lighting, heavy use of herbicides, dust and increased local traffic, especially during construction will be extremely disruptive. The unknowns of increased bushfire risk and of electromagnetic interference are of great concern to us.

The environmental impact of a flooding risk to our home is caused by the proposed security fencing extending across the O'Keefe Creek in the form of a high metal vertical barrier designed to allow water to flow through unimpeded. Our concern is that in times of flood, the build up of debris against this security barrier will be significant enough to block the flow of flood waters thus increasing the height of flood waters surrounding our home only 250 meters away and which has never been historically flooded.

The detrimental visual impact on our landscape will be immense.
The unsightly facility, including over 380,000 solar modules standing 1.5 metres to 2.5 metres tall and 56 Inverter boxes 4 meters high, surrounded by 2.3 metre high security fencing stretching along the four sides of its approximate 10 kilometre perimeter will render our clean and green semi-rural community an industrial wasteland for at least the next 30 years to come.

The proposed buffer zones of a mere 5 metres to 10 metres in selected areas for the initial landscape planting of scrubby native tube stock trees and shrubs, whilst it may eventually screen some of the facility will not beautify this ugly industrial site. The wrong choice of screening plants could only add to the ugliness over a very long period of time as well as increase bushfire risk.

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For us, as it is for many neighbours, our culture is defined by heritage and our specific desire to continue to pass the legacy of our land and it's use to our children. This culture is further defined by our history, as evidenced by the existence of pear trees almost 100 years old still in full production just 300 metres from this proposed site. Our future culture continues our WW1. Soldier Settlement and immigrant settlement heritage and is defined in part by the new plantings of many acres of stone fruit trees which are also to be direct neighbours of the facility.

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Your sincerely,

L R Cobbledick and R J Cobbledick

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30 November 2017

Greater Shepparton City Council
90 Welsford Street
Shepparton

Attention : Ronan Murphy, Planning Department

Objection to Planning Permit Solar Farm Lemnos Application No 2017/301

We would like to object to the proposed solar farm on the following points :

1. The flood levels on the application are not a true representation of what happens on the ground in time of flood.
2. There are tracks to be formed within the solar farm, however there is no information on how these will affect the flow of water in the event of a flood.
3. We operate a commercial Dairy Farm on the North West boundary of the proposed solar farm, there is no landscaping proposed for this boundary,we believe Glare, Radiation and resulting change in the natural climate of the area will have a detrimental effect, causing heat stress on our cows, and reduced pasture establishment and reduced pasture growth rates.
4. Weed and pest control, there does not appear to be a proper plan to deal with these
5. In the event of a fire at night or weekends there is no proper plan ,that we can locate, to deal with such an event
6. This is Prime Agricultural land, used for producing food for our nation, in good times as well as drought, more marginal land could be used for solar power, making it a win-win for everyone.
7. If the area is flooded for at least 7 days, is it safe to have live cables underwater, will current pass through water?
8. In flood will batteries leak if submerged for prolonged periods, and what environmental effects will there be?
9. In the event of fire, how will the panels behave, will there be toxic smoke effecting all neighbouring food producing farms.
10. In the event of a fire, how will the batteries behave, will they burn, will they release harmfull chemicals into the environment.
11. Loss of large number of native trees.

We have lived on our farm since 1996 , in that time we have experienced 2 floods. We built our house in 2002, knowing we were in a flood prone area we contacted both the building and planning departments at the Greater Shepparton City Council ,to make sure we were above the flood level, they both gave us different levels, which indicated to me inconsistencies in their records. We took the highest level and added 300mm to it.

In 2004 a new house was built at 130 Tank Corner East Road, to the Council's flood level.

In September 2012 , at approx 2.00am , this house had to be evacuated by the SES and the army were called to sand bag the residence.

Another flood came through about 18 months later and once again the house had to be sand bagged and the residents had to be moved out for safety.

Our point being that these events prove that the data being used is flawed and the development will impact on the residents of Tank Corner East road and the CMA state "These are the CMA best estimate of the 100 year ARI flood levels and have been established from recorded historic peak 1993 flood levels" These levels are estimates and were not recorded near the proposed site. The drainage and drain crossings in Tank Corner East Road need to be addressed as we believe they will be adversely affected by this development.

When we have done any development on our farm, we have had to get a "Farm Plan" done to show how the proposed works will effect water flow ,what trees exist already on the ground wether native or not and show any earthworks that are proposed. This development appears to be exempt from such a procedure, with well over a 1000 trees in the area without a detailed survey how can we know if native trees will be lost forever? So we recommend a detail "Farm Plan" be undertaken of the area.

Removal of large native and none native trees has not been addressed in the application, these will require removal by large earthwork machinery , and how will they be disposed off?

In January 2016 at approx 10.30pm one evening a lightning strike caused a fire on Tank Corner East Road , only that a member of the public travelling home at the time saw what happened and phoned the fire brigade , ensured no major damage was done. Given this large site there is no clear plan if a fire started after hours how would emergency vehicles get into the fire, how would they find their way around the site .

We believe this is Prime Agricultural land and believe establishing a solar farm on this site is like the " Drive Thru " option at a fast food location, it is a quick fix solution, the easy and cheap way out, rather than being creative and seeing how could land that is marginal in use , be more productively utilized for a project such as this.

We ask that the Greater Shepparton Council reject this application on the above points and ask the applicant to consider a different location , for the benefit of all our community and our nation.

B. Macgill. MMacgill

PJB and EML Macgill
70 Tank Corner East Road
Lemnos

1 - 12 - 2017
770 Boundary Rd
Pine Lodge

Re Planning objection for planning Permit no: 2017 - 301

I object to the proposed development of a large solar farm at 1190 and 1220 Cosgrove - Lemnos Rd, 260 Tank Corner East Rd, 875 Boundary Rd and 85 Crooked Lane Lemnos.

I am concerned of Prime Agricultural Land (zoned farming) being used that is surrounded by orchards, a dairy farm, cattle / sheep, hay, grain production farms. This area also often referred to the Food Bowl of Australia is only a few Kilometres away from one of Australia's largest food processing companies Campbells.

In 1993 natural causes affected the surrounding area with wide spread flooding when the Pine Lodge Creek flooded.

The rising atmospheric heat, increased lighting, the glittering sea of mirrors will attract and increase insect and native bird (wedge - tailed eagle, galah, Kookaburra) numbers. I am concerned they will be scorched, injured or killed when flying over the proposed development area.

There is also the fire risk in summer that could burn and spill possible hazardous fumes into the surrounding area and pose a risk to human health

Greater Shepparton City Council
File No
Record No
To
05 DEC 2017

Tony OCallaghan

GREATER SHEPPARTON

Objection to grant a Planning Permit

Shepparton City Council
Record No
11 DEC 2017
Referred To
Copies To

This form is to assist in making an objection as outlined in the Planning and Environment Act 1987.

Planning Enquiries
Phone: (03) 5832 9730
Web: greatershepparton.com.au

Privacy notice

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Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	*J Collins*
Organisation:	
Postal Address:	*1060 Cosgrove Lemnos Road*
	Pinelodge Postcode: *3631*

Contact phone:		
Mobile phone:	*0408351519*	
Email:	*jack@bertolis.com.au*	
Fax:		

Please indicate your preferred contact method by numbering in order of preference

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number

2017-301

Application Propsal

Solar farm

The land

Address of the land

Street No:	Street Name: *1190-1220 Cosgrove Lemnos Rd 875 Boundray Rd*	
Suburb: *Pine Lodge*		Postcode:

75

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

As our property is directly opposite the site we have a few concerns, this is prime agricultural land with both GM water assets and power line infrastructure any changes to the land use may effect these assets that we share on our land also not to mention the change to the rural landscape as this prime agricultural land

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

Land not suitable for this type of development

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

This is prime agricultural land with GM water assets also looking at the plan the amount of unused land for the proposed solar output it would be very insufficient use of the land, also there are looks of parts missing in the planning permit around key areas like the flood implications, weed and vermin control, screening of the property and security fence is not "rural Agricultural"
I feel there would be much more suitable land for this type of development that the proposed
Also the lack of community consulting around the integration of the development and how it will effect it bordering properties with the increased fire risk, super heated air effecting orchards and crop production, changes in the climatic conditions ect
These are all concerns with lots of residential houses in very close proximity
Our land value will be effected also

Objectors Signature

Signature: J collins

Date: 03 / 12 / 2014

Lodgement

To ensure the Responsible Authority considers your objection, ensure the authority received it by the due date on the notice.

Lodge the completed and signed form and all documents with:

Mail:
Greater Shepparton City Council
Locked Bag 1000
SHEPPARTON, 3632

In Person:
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON

For help or more information

Telephone: Planning Department (03) 5832 9730 and Fax: (03) 5831 1987

M14/8127

Solar Farm Objection

This has an impact on our residential property. This solar farm will decrease the value of my property. Some of the factors will be glare, flood water diversion risks, increased traffic, environmental factors eg wildlife, vegetation removal, dust.

I Caroline Poole of 890 Boundary Rd Pine Lodge object to the solar farm 1220 Cosgrove-Lemnos Rd Lemnos 3631. This will have a negative impact on our residence.

Surname: Poole

Given Names: Caroline

Address Line 1: 890 Boundary Rd

Suburb: Pine Lodge

State Code: Vic

Postcode: 3631

Email Address: carriepoole1@hotmail.com

I object to the solar farm being proposed and built. This farm will negatively impact on my property and surrounding land.

Surname: Blackledge

Given Names: Damian

Address Line 1: 890 Boundary Rd

Suburb: Pine Lodge

State Code: vic

Postcode: 3631

Email Address: damianblackledge@gmail.com

I object to the solar farm and this will impact on my residence negatively

Surname: Blackledge

Given Names: Jesse

Address Line 1: 890 Boundary Rd

Suburb: Pine Lodge

State Code: Vic

Postcode: 3631

Email Address: damianblackledge@gmail.com

I object to the solar farm being built as this will have a negative impact on my residence and land around this area.

Surname: Blackledge

Given Names: Bailey

Address Line 1: 890 Boundary Rd

Suburb: Pine Lodge

State Code: Vic

Postcode: 3631

Email Address: Damianblackledge@gmail.com

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GREATER SHEPPARTON

Objection to grant a Planning Permit

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Planning Enquiries
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Web: greatershepparton.com.au

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Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	*E. Kiriacos*
Organisation:	
Postal Address:	*1187 Cosgrove-Lemnos Road, Lemnos*
	Postcode: *3631*

Contact phone:	*03 58299226*	*1*
Mobile phone:		
Email:		
Fax:		

Please indicate your preferred contact method by numbering in order of preference

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number
2017-301

Application Propsal
Permit to use and development of land for a solar farm and removal of native vegetation.

The land

Address of the land

Street No:	Street Name: *Cosgrove-Lemnos Road*	
Suburb: *Lemnos*		Postcode: *3631*

87

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

I am concerned about the negative visual impact this development will have on the rural amenity in our area. I am concerned about the potential impact of replacing such a large area of rural land with what will essentially be an urban environment made of glass and metal and the impact this may have on local temperatures. I am also concerned about potential noise and dust during the development stage and also afterwards. I believe the amenity of my rural lifestyle and the value of my property will be negatively impacted as a result of this development.

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

The development moved to a remote area.

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

I am concerned about the negative visual impact this development will have on the rural amenity in our area. I am concerned about the potential impact of replacing such a large area of rural land with what will essentially be an urban environment made of glass and metal and the impact this may have on local temperatures. I am also concerned about potential noise and dust during the development stage and also afterwards. I believe the amenity of my rural lifestyle and the value of my property will be negatively impacted as a result of this development. I also believe this is not the best use of productive farmland. I am also concerned about the impact of electromagnet radiation generated by such a large facility and the lack of published research regarding effects of this and also impact on the temperature of the local climate. I understand that this is new technology but do not believe that I should be the guinea pig until more solid evidence regarding the long term impact of these installations has been established.

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Objectors Signature

Signature: E. K Deane

Date: 29 / 11 / 2017

Lodgement

To ensure the Responsible Authority considers your objection, ensure the authority received it by the due date on the notice.

Lodge the completed and signed form and all documents with:

Mail:
Greater Shepparton City Council
Locked Bag 1000
SHEPPARTON, 3632

In Person:
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SHEPPARTON

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M14/8127

GREATER SHEPPARTON

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Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	*Anne & Michael Ritter*
Organisation:	
Postal Address:	*130 Tank Corner East Road*
	Lemnos Postcode: *3631*

Contact phone:		
Mobile phone:	*0427582530*	*2*
Email:	*mickritter66@gmail.com*	*1*
Fax:		

Please indicate your preferred contact method by numbering in order of preference

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number
2017-301

Application Propsal
Use and development of the land for a solar farm, buildings and works in the Floodway Overlay and Land Subject to Inundation Overlay and removal of native vegetation

The land

Address of the land

Street No:	Street Name: *various - see attached objection letter*	
Suburb:		Postcode:

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

Our property will decrease in value
Environmental impacts to area surrounding proposed solar farm
Safety impacts due to land development changing flood flow and concerns with increased fire hazard due to planning permit not indicating grass controls
Health concerns over increased noise, dust, glare, heat increases during development and ongoing maintenance of solar farm.
Further explored in attached letter

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

Planning application must provide full disclosure as currently various Appendices are missing and some information conflicts within reports provided by council - see attached letter for further information

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

Lack of consultation with local residents over proposed solar farm and limited time to provide a response.
Generally speaking the very large solar farm proposed adjacent to our property will reduce our level of enjoyment of living in a rural environment and from reading the GHD report will become enclosed and feel like living in an industrial estate. In all honesty no one could say this will not devalue our property which we only purchased recently.
Further details - see attached letter

Objectors Signature

Signature: c/o A. River 1/12/2017.

Date: 01 / 12 / 2017

Lodgement

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SHEPPARTON

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M14/8127

1st December, 2017

Ritter family
130 Tank Corner East Road
Lemnos, VIC 3631

Greater Shepparton City Council
Locked Bag 1000
SHEPPARTON VIC 3632

Attention: Tim Watson – Planning Department

Dear Sir,

Re: Application Reference number 2017-301 Objection.

PLANNING PERMIT for land affected by the application is located at: 1190 and 1220 Cosgrove-Lemnos Road, 260 Tank Corner East Road, 875 Boundary Road and 85 Crooked Lane Lemnos Vic 3631. Proposed use and development of land for solar farm and removal of native vegetation.

Our assumptions, concerns and assessments in relation to the proposed solar farm installation located directly East and South of our residential property and land, their effects on our investment, environment, safety and health concerns are detailed below.

Investment valuation concerns impacting upon neighbouring property

GHD Report 3.4.7 Site security
Security fencing around 2.3 metres tall would be installed around the entire perimeter of the site. A security gate of a similar height to the fencing would be installed. The final design of the fencing would be confirmed during detailed design; however, it is expected to consist of cyclone fencing with a barb wire at the top. The proposed fencing would not obstruct floodwaters.

GHD Report 5.2 Buildings and works
The development will be setback from the property boundaries and vegetation screening would be planted to reduce the visual impact to adjacent neighbours.

Property Owner Concerns

- Plans for vegetation screening does not provide details indicating type, size, long term maintenance of vegetation screening and if not appropriate will take many years to screen glare from panels. Planning requirements would need screen landscaping of native plants to be of a minimum height of 1.5metres initially and maintained over a minimum of five years to ensure establishment.

Supporting documentation indicating glare from solar farm - Thistleton, J. (2013, September 13). Airport warns over dangers of solar farm. *The Canberra Times*, Retrieved from http://www.canberratimes.com.au/

- GHD Report indicating proposed fencing would not obstruct floodwaters is not accurate as cyclone fencing will become blocked when flooded with vegetation and rubbish and thus cause flood waters to be diverted.
- Security fencing potentially will be situated against the South and West boarders of property and highly visible to the East making our property appear to be enclosed by 2.3 metre tall cyclone fencing with a barbed wire at the top. This style of security fencing would thus

depreciate the value of our property from being an open regional view of native vegetation to being in your face security fencing on three sides, with glare from panels except for the road frontage of property.

Environmental and health concerns impacting upon neighbouring property

GHD Report - 3.1.3 Maintenance activities
Once operational, activities would include daily operations and maintenance. This would Include; **Visual inspection of the solar arrays and other infrastructure including the use of drones**
Management of vegetation on the site including both landscaping and the grass located below the arrays. This would include a monitoring program to manage any bare areas to minimise erosion.

GHD Report - 3.1.4 Source and quantity of materials
Water would be required during the operation of the proposal as it would be needed to clean the panels during maintenance works. It is estimated that about five mega litres of water would be required per year. This would potentially be sourced from a water filling station or a similar alternative location. The proposal includes providing water tanks to store water.

GHD Report – 3.5.9 Source and quantity of materials
Water would be required during the construction phase primarily for dust suppression purposes but also for other activities such as vehicle washing. It is estimated that about **200 mega litres of water** would be required during construction. This would potentially be sourced from a water filling station or a similar alternative location. All water would be trucked to the site. **The source of water would be determined during detailed design and construction planning.**

GHD Report 5.2 – Building and works
The native vegetation that will be removed is limited to **only 22 trees**, ensuring that the vast majority of the native vegetation and significant vegetation on-site is retained therefore protecting Victoria's biodiversity.

Property Owner Concerns – Short Term

- Land use impacts listed in the GHD report from the solar farm proposal suggest local impacts to include dust, noise, air quality and traffic can be mitigated, but initial planning documentation do not state how this will occur. Impacts upon local community may also include, but is not restricted to; damage to local water quality (rain tank collection pollution & channel water discoloration from air quality), and health concerns related to air quality especially affecting local residents with respiratory health concerns.
- The GHD report does not provide appendix C showing the impact of the solar farm impact on the flora, fauna and landscape features of the locality.
- The need to protect and enhance the biodiversity of the area, including the need to retain vegetation and native wildlife habitat and the need to revegetate land including riparian buffers along waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area needs to be provided to local landholders
- The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation also needs to be provided.

Property Owner Concerns – Long Term

- **GHD 3.1.3 – Visual inspection via the use of drones** – Privacy concern as two security fence lines border our property and these drones by law cannot fly within 30 metres of people and must comply with Civil Aviation Safety Regulations and Victoria's Surveillance Devices Act.
- **Management of grasses on site** – this does not indicate how the long-term maintenance of grasses on site will be controlled. This may cause a high fire damage to all residents within the area and when flood waters occur excess grasses will block fencing and divert flood waters onto surrounding properties. There needs to be a detailed plan of action to maintain weeds on site and consequences if plans are not adhered to.
- **GHD 3.1.4 cleaning of panels with water** – Ongoing concerns by property owner during ongoing maintenance of panels would require cleaning utilising five mega litres of water from an unknown source, possibly causing erosion issues, sound pollution, and depending upon whether chemicals are used other possible pollution issues.
- **GHD 5.2 Building and works** – the report states "only 22 native trees to be removed" is not indicating the full extent of tree removal as those along fence lines may not have self-seeded, but are still native Australian plants that have been planted that will be removed. What will be the impact on local fauna? See satellite image below sourced from Google



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Safety concerns impacting upon neighbouring property

GHD Report 3.1.3 Maintenance activities
Management of vegetation on the site including both landscaping and the grass located below the arrays. This would include a monitoring program to manage any bare areas to minimise erosion
GHD Report 5.2 – Building and works
Notwithstanding the site is susceptible to flooding, the development can been appropriately sited and designed to mitigate the impact of flood intensification as per the Flood Risk Report and CMA advice.

Property Owner Concerns

GHD Report 3.1.3 – After implementing solar panels the area might require management of bare areas, but long term what is the plan to maintain grass located in this area? High concerns related to fire management for such a large area under lock down where local action prevented by high fences.

GHD Report 5.2 – Land will be altered through removal of dams, and locating internal roads, which will surround the site. Property owner would like assurance that the development of solar farm will not divert flood waters onto surrounding properties.

Conclusion including possible options to alleviate impacts to neighbouring property owner at 130 Tank Corner East Road, Lemnos

Property owner's requirements to alleviate impact of neighbouring solar farm

Property owners would accept $100,000 compensation in order to double glaze and tint all existing buildings on property windows, improve insulation, improve air conditioning to handle any increases in temperature, install new block out blinds, filtering systems for improved air quality

As the GHD report provides conflicting information and missing Appendices the owners feel that the planning permit approval cannot take place without all affected residents being provided all information on impacts related to this solar farm application.

As not all information has been provided we the owners hold the right to provide further objections and counter arguments to future assessments of this planning proposal.

References

GHD (October, 2017). Neoen Australia Pty Ltd Shepparton solar farm planning permit application. Provided via email – referred to within this object as the GHD report.

Yours sincerely,

c/o A. Ritter

From the Ritter family residing on Tank Corner East Road. (c/o Anne Ritter)

GREATER SHEPPARTON

Objection to grant a Planning Permit

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Planning Enquiries
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Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	BRETT DAVIS
Organisation:	
Postal Address:	115 TANK CORNER EAST RD
	CONGUPNA Postcode: 3633

Contact phone:	04498 50542	
Mobile phone:		
Email:	brett@ gvvets.com.au	
Fax:		

Please indicate your preferred contact method by numbering in order of preference

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number: 2017-301

Application Propsal: USE & DEVELOPMENT OF LAND FOR A SOLAR FARM & REMOVAL OF NATIVE VEGETATION

The land

Address of the land

Street No:	Street Name:
Suburb:	Postcode:

1190 & 1220 COSGROVE-LEMNOS RD, 260 TANK CORNER EAST RD, 875 BOUNDARY RD & 85 CROOKED LANE LEMNOS VIC 3631

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

PLEASE SEE ATTACHED DOCUMENTS

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

PLEASE SEE ATTACHED DOCUMENTS

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

PLEASE SEE ATTACHED DOCUMENTS

100

Objectors Signature

Signature:

Date: 30 / 11 / 2017

Lodgement

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M14/8127

How will you be affected by the permit:

I am concerned about how we will be affected as a local and global community in that the land being proposed to be used is agricultural land, irrigated agricultural land and good agricultural land that should be more appropriately used to help feed the growing global population, which is expected to grow by a third in the next 30 years. We pride ourselves in the Goulburn Valley for being the "food bowl of Australia" and agriculture is the number one focus of the City of Greater Shepparton council. In my opinion this proposal defies this objective.

On a personal level this proposal will affect my family. We have a young family who plan to continue living at our current address for the long term foreseeable future. We have extended family in the Goulburn Valley, we grew up in the region ourselves and see it as the ideal place to bring up our family. We are continuing the family sheep business, Bara-Simbil Wiltshire Horn Sheep Stud, originally established in 1969 by Fiona's grandfather Leo Harwood. He was the first person in Australia to establish the Wiltshire Horn breed and three generations on we are continuing the stud. Wiltshire horns are a self-shedding breed of sheep and therefore do not require shearing. Their shedding is triggered by the changing levels of light and the interaction this has with melatonin. The effect of such a large solar farm in such close proximity is a concern for us in how it may affect the shedding of our sheep. Our stud plays a very important role in the Australian flock since we are the foundation stud and since there are only 26 registered studs currently in Australia.

We have also in the last 12 months, started our own new veterinary business in Shepparton, which gives further validation that we do not intend to move from the area and we are very committed to the community as a whole as well as the importance of agriculture in the region.

We have a concern that the value of our land will be significantly affected detrimentally over time.

We have concerns that we may be affected by potential future expansion of such a proposal. With other similar types of land being proposed to be used in this proposal all around us, who is to say that some time in the future there may be expansion to surrounding farms that could impact us even more than this current proposal?

We have concerns about the numbers of trees being removed and how this may affect the visual aesthetics of the surrounding area. Not to mention the soil topography and the local fauna. It is not clear in the proposal how many and which trees will be removed or preserved. It indicates 22 trees will be removed, but looking at the map of the proposal there clearly appear to be many more than 22 trees removed.

The risk of fire and floods may be impacted. With the local history of floods and the proposed tracks surrounding the perimeter of the proposed facility, I am concerned that this may drastically affect us in the event of future floods. I am concerned that the CMA have not shown the appropriate level of concern for such impacts.

The proposed cyclone fence (2.3m with barbed wire on top) for the perimeter is concerning. This will be a blight on the aesthetics of the region and one that will clearly devalue land in the area.

We use a drone on our farm for both management of stock and pastures as well as developing promotional material for social media for our stud. I have concerns that such a proposal on direct neighbouring land will negatively impact the use of my drone and its effectiveness.

I am concerned about the potential for alterations to the microclimate and the changes to ambient temperature. With average temperatures predicted to rise in the near future, such a large solar farm in the immediate area is only going to potentially increase this temperature further. I am concerned of the potential health affects this may have for my family, children and animals.

30/11/17

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Changes to satisfy my concerns:

For a start, I would have liked to have been notified of this proposal by the relevant parties involved. I was only notified two weeks prior to objections needing to be submitted by a neighbour who was also only given 16 days to prepare such an objection.

I would like to receive further information on what trees are to stay and what trees are to be removed, including any proposed changes to the trees on the boundary fence. Particularly along the boundary Tank Corner East Rd opposite our property and around our neighbours at 130 Tank Corner East Rd and 50 Tank Corner East Rd.

I would like to receive further information about what trees and plants are to be used in the screening process and how these will be managed. How long will they take to grow to a size where they will actually screen?

I would like to hear of alternatives for the fence. I object to this aspect of the current proposal. If a fence is in fact necessary I would like to see a more aesthetically pleasing fence used. I would like the local community (ie occupants of all of the neighbouring properties on Tank Corner East Rd, Boundary Rd, Cosgrove-Lemnos Rd and Lemnos North Rd) involved in such a decision.

I would also like to see the above mentioned community consulted in an active way to be involved with all of the relevant factors that may impact us in the future with this proposal. To be given such little time to prepare any objections and to hear that this proposal has been in preparation over the past 12 months or so is very disappointing thus far.

I would like further information and peer reviewed studies on the potential for changes to the local climate as well as the potential health effects on people and animals in the local area for such a proposal.

I would like further consultation with the CMA and further information on the heights of tracks and roads in the proposal and how these may impact the flood plain.

I would like to know if there are any considerations for upgrading Tank Corner East Rd and how this may affect us. For example, will there be further sealing of the eastern end of Tank Corner East Rd and for that matter, Boundary Rd? Will there be any works on the corner of Tank Corner East Rd and Lemnos North Rd?

I would like to know if there are any considerations being made into the potential for expanding such a facility in the future and would this potentially affect us even further. For example if neighbours either side of us on the north side of Tank Corner East Rd were to be considered for such expansion? If our property would be considered for future expansion? If the property south west of us would be considered for any future expansion?

I would also like to know if our immediate neighbours at 130 Tank Corner East Rd are going to be implicated in this proposal. Their property is going to be affected from an aesthetic point of view to the extreme and I am concerned this may lead to them being bought out and the value of their house dropping significantly which may ultimately also negatively impact our livelihoods as well as the value of our property.

30/11/17

Reasons for objection:

The land being proposed to be used for a solar farm is agricultural land. Land that should be used for agricultural purposes, to help provide resources (including but not limited to food and textiles) to help support the growing global population, a population that is expected to grow by a third over the next 30 years. The local council has identified that agriculture is its number one priority, which I strongly support. In principle, I am strongly in favour of renewable energy and the use of solar power to generate electricity, but I vehemently object to the use of prime agricultural land and irrigated agricultural land for such purposes when there is an abundance of more suitable options for such a proposal that would not have the same negative impacts on agriculture.

I expect economics are largely at play in this proposal as I understand there will be a significant financial saving by locating such a proposal in relatively close proximity to a regional centre with necessary infrastructure. I do not accept, however, that economics can be used as rebuttal to my objections. Agriculture, feeding the population and environment must be prioritised over the potential financial boom this may create for current land holders involved in the proposal, Neoen and the local council and government.

I object due to the potential for negative implications to the value of our land, particularly in relation to the visual aesthetics of the proposal. The removal of trees and the erection of a 2.3m cyclone fence with barbed wire will significantly detract from the beauty and appeal of the local region. The loss of value to neighbouring properties and the potential loss of quality neighbours may have a significant effect not only on the value of the properties but to the morale and mental health of the local neighbourhood.

The erection of the fence and removal of trees as well as the effects of the solar panels are likely to have a negative impact on local fauna including but not limited to kangaroos, goannas, possums, wedge tailed eagles, white-faced heron, rosellas and turtles, as well as other native mammals, reptiles and birds.

I object to the lack of consultation with relevant land owners and neighbours and the wider community about this proposal. The time frame we have been given, or in some cases, not given, is negligent in my opinion, not to mention insulting and arrogant.

I object to the lack of information and acknowledgement of the potential for devastating changes to the flood plain in the local area and how this may affect my property directly as well as neighbouring properties. In recent history changes have been made to the topography of local farms which have already significantly affected the flood plain. The areas concerned are much smaller than in this proposal. If such proposed changes are made including a track around the perimeter of the proposal and accumulation of debris on the proposed cyclone fence, the affects to my property and other neighbouring properties may be devastating in the event of a significant flood event, which the region is known to be of high risk.

I object to the proposal due to the potential albeit perhaps unknown affects that may become to the local community, including people, fauna, livestock, pets, crops, fruit trees and flora. The unknown effects of increased temperature, the effects of light, noise, electromagnetic radiation and the other changes to the microclimate. These all may potentially negatively impact physical health, mental health, agricultural production and economic value of assets in the region.

Brett 30/11/17

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From:	Robson Donaldson
To:	Council
Subject:	Objection letter
Date:	Thursday, 30 November 2017 1:37:20 PM
Attachments:	doc01901320171130132711.pdf

Hi Ronan

Please find letter attached for objection to Solar farm

28th November 2017

City of Greater Shepparton
Welsford Street
Shepparton 3630

Attention: Ronan Murphy Planning Division

Objection to Planning Permit Solar Farm Lemnos Application No.2017/301

We would like to object to the above Planning Permit and wish to note our objections.

As residents of Tank Corner East Road, Pine Lodge we are concerned that the parcels of land affected by this application are 1190 and 1220 Cosgrove-Lemnos Road, 260 Tank Corner East Road, 875 Boundary Road and 85 Crooked Lane Road Lemnos 3631. Amounting to approximately 1200 acres of prime agricultural land, currently under crop, or being used for cattle and sheep. Neoen themselves state "that surrounding all boundaries of the subject site are farming properties of various sizes, most with an associated dwelling". In fact this will affect over 20 surrounding families. The current zoning is FZ Farming Zone intended to encourage the retention of productive agriculture land. The purpose of the FZ is to ensure that non-agricultural uses, particularly dwellings, do not adversely affect the use of land for agriculture.

By any definition this is not a small parcel of land and every effort as per clause 11.12.1 State Planning Policy Framework (SPFF) – "Plan for a more diverse and sustainable regional economy by supporting existing economic activity and encouraging appropriate new and developing forms of industry – including Agriculture should be investigated and the resulting affects to all local residents assessed."

We had not be consulted prior to this application being published although I note that discussions with other interested parties has been ongoing since last year. The 14 days allowed for our response is insufficient and disgusting for this life changing and impacting project.
The whole concept of the "Food Bowl" has been forgotten, as this is what the local Council states and pushes for. Protection of agricultural land clause 14.01.1 strategy is to – ensue that the State's agricultural base is protected from the unplanned loss of productive agriculture land due to permanent changes of land use. The word permanent is misleading as even though this is stated as temporary use, 30 years is more permanent than temporary.

The intended solar farm consisting approximately 1200 acres supporting 400,000 solar panels, sitting on 40,000 poles to a minimum height of up to 2.5 metres, 56 photovoltaic boxes and a transformer, batteries to store electricity, onsite cabling and trenches, electrical connections between solar arrays and panel inverters, one delivery station in a container, a 66 kilovolt substation, cables and trenches, internal access tracks (approximately 16 including a surrounding boundary track), parking area, operational and maintenance office and staff amenities block, barbed wire topped cyclone boundary fence and limited landscaping, will be not only a visual detriment to the community but will also alter the current ambience and lifestyle of the residents of this rural land. As many of these families chose to live in the rural setting for this reason.

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These 40,000 poles will be driven or screwed into the soil, the resultant noise level will be unacceptable to the people closest to this, and the potential shift in the soil layers make up, making the potential threat of soil erosion a concern. Neoen themselves state they need to minimise potential environmental impacts. Are they able to minimise and what do they consider minimal? The use of "bunding" around the proposed battery storage area to reduce seepage is another factor for our objection, as any battery seepage. The spraying maintanence to keep the weeds from growing under the solar panels is another concern, as this will impact the ground, is both damaging and detrimental to the environment, including nearby water channels, which supply farms for watering and stock and gardens.

The statement that the proposal will not permanently remove agricultural land is very misleading, as a term of 30 years is more than temporary, and after that time we note in the application that if the proposed facility were to be decommissioned, some infrastructure 300mm below ground could be left behind. Are these biodegradable as this is definitely future pollution and therefore shows a complete disregard for any current or future environmental impact. It is also noted that the 200mm of sand left in the trenches will also have an impact on this land.

The original public notice was for exosun tracking racks, but that has been removed and the submission lists 3 different types of installations, being north oriented fixed tilt, east-west facing fixed-tilt panels and a single axis tracking panels.

All options will see an increase in surrounding temperature, being installed so close to many orchards is not an ideal outcome, as they need the weather really cold to start their fruit off. Adding dust and glare from the 400,000 panels to the many nearby houses will be both harmful to health and be very depressing. At the hottest of a 45 degree day the temperature could rise to 48 degrees, resulting from these solar panels. Many solar panels contain harmful chemicals e.g. Arsenic, cadmium, lead, polyvinyl fluoride which could cause untold devastation and damage to the local environment and possibly the local public, should these panels break and contaminate the soil and surrounding water ways. This risk is increased when building on a floodway. The other concern is the noise from the 400,000 tracking panels over 12 hours per day, everyday of the week.

As owning a farm adjacent this monstrosity we are concerned this project will definitely cause our property and other properties to be devalued, restricting the ability to sell and move elsewhere, who would want to live next door to this NOT US!!!!! The reason why ourselves and other families moved out of town, was for the rural aspect and the peace and quiet. Quality of life for the children also, as well as ourselves.

Stated hours of operation Monday to Friday 7am to 6pm and Saturday 8am to 1pm are at odds with the later application statement that – hours of operation for summer will go outside the stated 6pm and prior to 7am due to the availability of sunlight to a later hour. The differing statements add another objection as the houses bordering this will be disrupted by the times and noise and glare.

Workforce on site will be limited according to Neoen who state that there will be minimum maintenance required. This is in contradiction to their statement on page 20, that 10,400 man hours per annum will be required to maintain the panels. This equates to 33.22 hours per day per 6 day week, leading us to believe that 3 personnel doing 12 hour shifts will be needed daily.

It is intended to surround the entire solar farm (over 1200acres) with a visually depressing 2.3mt high cyclone fence topped with barbed wire. How long will this be maintained, as there will be a build-up of native grasses and other debris, creating a fire hazard. This is a real concern as in Summer the area will become very dry. This is to be covered by new plantation of trees being planted, but tube stock will take years to cover this, and what type of tree and size will be planted. How long will they be maintained for also.
There is currently several tree plantations on each of the existing farms which we believe will be removed causing loss of wildlife habitat and degradation to already susceptible soil composition and makeup. The removal of 22 native trees is misleading. The true number of total trees being removed has not be stated, be they native or trees planted by farmers.

This is floodplain land as per fig 3 and the use of the flood comparisons of 100 year ARI flood levels of 0.6mt is misleading and not conclusive as there have been two larger floods causing a larger flow of water through O'Keefe Creek which is a floodplain depression, which then flowed north westwards flooding many farms and the township of Congupna, before moving onto Nine Mile Creek and the Broken Creek, west of Numurkah which also flooded.

Cyclone fencing and gravel internal roads will definable change the flow of water and add to the detritus being carried across to other arable farmlands, council roads and residential houses. Clause 13.02.1 Floodplain management is to assist the protection of –

1. Life, property and community infrastructure from flood hazard
2. The natural flood carrying capacity of rivers, streams and Floodways
3. The flood storage function of floodplains and waterways

As seen on fig 3 there are going to be 16 internal roads comprising of 8.000sq metres of compacted gravel, and as such this will also contribute to an ongoing dust problem in the day to day operations. In total 1600 sq meters of compacted gravel will be used across the site.

It should be noted that there will be a very large increase in traffic, cars, utes, trucks around this site. The roads maintained by the local council are not built for this volume of traffic, as they are narrow and only a thin tar covering, so with trucks and the volume these roads will start breaking down.

Lemnos Cosgrove Road is part of the bicycle loop where over 150 cyclists ride twice daily. The increased vehicle movement this application will cause is not conductive to public safety or the safety of these cyclists.

The use of over 200 mega litres of water during construction, and the use of 5 mega litres per year is both enormous and offensive waste in an area already affected by water restrictions for agricultural irrigation.

We would like to close our objection by stating that the resourcing of Green energy sites should not be in using prime irrigation land so close to town. There are several areas of vast dry land within the Greater Shepparton area much closer to a power source, that could and would fulfil this companies requirements and therefore the Greater Shepparton community. Stating they need to be near a substation is a false statement, as the solar farm at Invergordon is not near a substation, it is piped to a substation.

We request that the Greater Shepparton Council reject this application for the above mentioned objections.



Neil and Lois Congram
400 Tank Corner East Road, Pine Lodge
Residents and rate payers for 16 years

File No
Record No
Greater Shepparton City C
28 NOV 2017
Referred To
Copies To

GREATER SHEPPARTON

Objection to grant a Planning Permit

This form is to assist in making an objection as outlined in the Planning and Environment Act 1987.

Planning Enquiries
Phone: (03) 5832 9730
Web: greatershepparton.com.au

Privacy notice

! Council is collecting the information on this form so that it may consider your objection in accordance with its legislative powers and functions and it will only be disclosed in accordance with these powers and functions. You may access the information by contacting Council.

'Please be aware that in accordance with Part 4, Section 57(5) of the *Planning and Environment Act 1987* the Responsible Authority must make a copy of every objection (including personal information of the objector) available for public inspection at its office during office hours free of charge until the end of the period for which an application may be made for review of a decision on an application'..

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- If you object and are not satisfied with the Council's decision you must appeal within 21 days of the notice of the decision to the Victorian Civil and Administrative Tribunal.
- If the Council refuses the application, the applicant can also appeal.

Please contact the Council on (03) 5832 9730 should you require any further assistance.

Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	Kate Greenall.
Organisation:	
Postal Address:	285 Tank Corner East Rd.
	CONGUPNA. Postcode: 3633

Contact phone:		Please indicate your preferred contact method by numbering in order of preference
Mobile phone:	0432672342	
Email:		
Fax:		

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number: 313555.

Application Propsal: solar farm proposal.

The land

Address of the land

Street No:	285	Street Name:	Tank Corner East Rd
Suburb:	CONGUPNA / LEMNOS	Postcode:	3633

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

My Amenities will be effected.
- Dust + Air pollution for humans + animals
- Visual impact
- air pollution.
- water pollution.
- Noise.
- Environmental Impact on Vegitation.
- Financial impact to rates for Road maintence.

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

- guarentee No air, water, Noise pollution will effect us.
- Visual impact to Farming landscape.

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

- This is our rural lifeStyle.
- During construction the roads will be damaged. The dust roads will effect air quality, + water tanks.
- Cattle + irrigation water flow from the property proposed, onto my land.

Noise, from increassed trafic flow + the power Stations will effect the rural life Style. This is open Countryside, to be reserved for Rural land. The Impact to Natural Vegetation + Conservation, along the Road side. It is an inappropriate development not keeping with local Surroundings.

Visualy there will be acres of large Panels, wire fencing, cameras etc.

This land as much as I agree with Solar farms, I dont believe the impact to the lifeStyle + Value of the Property will be minimal. after reading the proposal.

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Objectors Signature

Signature:

Date: 28 / 11 / 2017

Lodgement

To ensure the Responsible Authority considers your objection, ensure the authority received it by the due date on the notice.

Lodge the completed and signed form and all documents with:

Mail:
Greater Shepparton City Council
Locked Bag 1000
SHEPPARTON, 3632

In Person:
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON

For help or more information

Telephone: Planning Department (03) 5832 9730 and Fax: (03) 5831 1987

M14/8127

Objection to grant a planning permit.

GREATER SHEPPARTON
CITY COUNCIL
28 NOV 2017
RECEIVED

28.11.17 EPATHWAY NOT OPERATING DONKON FORM
As per Michelle

113

Record No
Shepparton City Co
Ref'd To
Copies To
28 NOV 2017

GREATER SHEPPARTON

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- If the Council refuses the application, the applicant can also appeal.

Please contact the Council on (03) 5832 9730 should you require any further assistance.

Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	Jim or Lynne EVANS
Organisation:	
Postal Address:	275 Tank Corner East Road
	CONGUPNA Postcode 3633

Contact phone:	0358299443	
Mobile phone:	0438299443	
Email:	teevans1@bigpond.com	
Fax:	—	

Please indicate your preferred contact method by numbering in order of preference

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number: 2017-301

Application Proposal: Use + development of land for solar farm and removal of native vegetation

The land

Address of the land

Street No:	numerals	Street Name:	Cosgrave Lemnos Rd, Tank Corner East Rd
Suburb:	Boundary Rd + Crooked Lane	Postcode:	3631

LEMNOS

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

see attached letter

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

Application denied

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

Attach an additional page if there is insufficient room.

see attached objection.

Objectors Signature

Signature: Lynette A Evans

Date: 28/11/2017

Lodgement

To ensure the Responsible Authority considers your objection, ensure the authority received it by the due date on the notice.

Lodge the completed and signed form and all documents with:

Mail:
Greater Shepparton City Council
Locked Bag 1000
SHEPPARTON, 3632

In Person:
Greater Shepparton City Council
90 Welsford Street
SHEPPARTON

For help or more information

Telephone: Planning Department (03) 5832 9730 and Fax: (03) 5831 1987

M14/8127

28th November 2017

Greater Shepparton City Council
Planning Department
Locked Bag 1000, Shepparton 3632.

Dear SirMadaam,

Re – Planning Application 2017 - 301

We would like to object to this planning application on the following grounds.

1. Solar farming is not an appropriate use of prime farming/irrigated land. Such a proposal flies in the face of the reasons behind the establishment of a farming zone.

2. The amenity will be destroyed - Living in the farming zone one would expect farming activity to take place around them, not industrial activity.

3. There is evidence to suggest that solar farms increase the temperature in the immediate area which could have major implications on any farming venture I wish to pursue on my land.

Thanks

Dallas and Krista Terlich
1255 Cosgrove Lemnos Rde
Lemnos 3631
Ph 0408357296

From: Ken & Coral Downing
To: Council
Subject: Objection to the proposed solar farm Application No 2017-301
Date: Friday, 24 November 2017 10:08:35 AM

Please forward confirmation email is received to: 1kcdowning@gmail.com

We wish to put forward an objection to the proposed solar farm Application No 2017-301.

Our issues of concern are:

*Loss of the use of prime agricultural land.

*Loss of native vegetation & the consequence on the wild life.

*Noise, in what is a VERY quiet environment where sound travels great distance.
The constant sounds of motors controlling the panels and associated noises impacting on the mental health of residents and workers.

*Dust issues - in the construction phase and ongoing.

*Fire concerns in its operational phase.

*Potential reductions in Coral's income due to the general perceived or real negativities of having a solar farm in close proximity. (Coral is a Greater Shepparton Family Day Care Educator & and runs an accommodation business on site).

*Potential loss of income & property value for already struggling rural landowners & primary producers.

*Loss of amenity for approximately 20 plus homes.

*Who would want a huge, UGLY, solar farm built in their neighbourhood ?

We feel this proposal has been "hushed" up and not even a Public Information Session made available. We are sure there are many other issues but due to the lack of information/consultation we are unaware of all the impacts this proposal could have on our lives and general wellbeing.

Renewable energy is the way of the future but in a more remote location on hopefully, less productive soil.

Your sincerely,
Ken & Coral Downing
1355 Lemnos-Cosgrove Rd
Lemnos 3631

Ph 0427006373

1kcdowning@gmail.com

From: Dallas Terlich
To: Council; Tim Watson
Subject: Objection to planning permit 2017 - 301
Date: Tuesday, 28 November 2017 11:17:38 AM
Attachments: Planning objection.docx

Please find attached our objection to the above planning permit.

Thanks

Dallas and Krista Terlich

Sent from my Samsung Galaxy Tab A on the Telstra Mobile Network

GREATER SHEPPARTON

Planning Enquiries
Phone: (03) 5832 9730
Web: greatershepparton.com.au

Objection to grant a Planning Permit

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- If the Council refuses the application, the applicant can also appeal.

Please contact the Council on (03) 5832 9730 should you require any further assistance.

Objector details

Provide details of the objector

CLEAR FORM

The person you want council to communicate with about your objection

Name:	BERNARD JAMES JONES
Organisation:	
Postal Address:	970 BOUNDARY ROAD
	PINE LODGE Postcode: 3631

Contact phone:		Please indicate your preferred contact method by numbering in order of preference
Mobile phone:		
Email:		
Fax:		

Planning Application details

Provide the Planning Application Number and the details of the proposed application:

Planning Application Number: 2017-301

Application Propsal: SOLAR FARM AND REMOVAL OF NATIVE VEGETATION

The land

Address of the land

Street No:	1190 / 1220	Street Name:	COSGROVE - LEMNOS ROAD
Suburb:	LEMNOS	Postcode:	3631

125

How will you be affected if a permit is granted?

Attach an additional page if there is insufficient room.

WE ARE CONCERNED THAT THE PROPOSED DEVELOPMENT IS BEING PUTED ON PRIME FARMING LAND. IT IS TOP QUALITY FARM LAND THAT COULD BE BETTER USED PRODUCING CROPS FOR THE GOULBURN VALLEY.
WE THOUGHT THE FOCUS OF COUNCIL WAS TO MAKE US THE FOOD BOWL OF VICTORIA

What changes would you like to see to the Application to satisfy your concerns

Attach an additional page if there is insufficient room.

MOVED TO A DIFFERENT LOCATION ON LESS PRODUCTIVE LAND

Reason for Objection

DO YOU OBJECT? ☑ YES (Tick Box)

Clearly state your reasons for objection

AS NOTED ABOVE - WE BELIEVE THE FARMLAND IS TOO GOOD TO BE USED FOR SUCH A PROPOSAL

Attach an additional page if there is insufficient room.

THE DEVELOPMENT WOULD BE AN EYESORE COMPARED TO THE FARMLAND CURRENTLY THERE

CONCERN WITH THE REMOVAL OF THE NATIVE VEGETATION AND THE ENVIRONMENTAL EFFECTS OF THAT

Neoen Shepparton Solar Farm
Cultural Heritage Assessment and Implications for Development

Prepared for:
Brad George
GHD
Principal Planner
Team Lead – Planning and Environment Assessment
Level 8, 180 Lonsdale Street
Melbourne, Vic. 3000

Author: Chris Lovell
Andrew Long + Associates
21st December 2017

1 Introduction

The following statement of evidence presents an assessment of the known and predicted Aboriginal and historical cultural heritage values, which may have implications for the proposed solar farm near Shepparton, Victoria. The requirements for undertaking a Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act* 2006 and *Aboriginal Heritage Regulations* 2007 are assessed in detail.

2 Findings

This report finds that a mandatory CHMP should not be required by council prior to the issuing of a planning permit for the proposed activity. This report also finds that there are no historical cultural heritage constraints regarding the proposed works.

3 The Activity Area

3.1 Location of the activity area

The proposed activity area is located in the locality of Lemnos, and is approximately 5.3 km to the north east of Shepparton, Victoria. The activity area is situated within five property parcels that are bound by Cosgrove-Lemnnos Road (south), Crooked Lane (west), Tank Corner East Road (north), Boundary Road (east) (Figure 1). Properties subject to development include:

- 1190 Cosgrove-Lemnos Road, Lemnos;
- 1220 Cosgrove-Lemnos Road, Lemnos;
- 85 Crooked Lane, Lemnos;
- 260 Tank Corner East Road, Lemnos; and
- 875 Boundary Road, Lemnos.

PO Box 2471 Fitzroy BC
Victoria 3065 Australia

T (03) 8415 0699
F (03) 8415 1299
www.alassoc.com.au

Andrew Long + Associates Pty Ltd
ACN 131 713 409
ABN 86 131 713 409

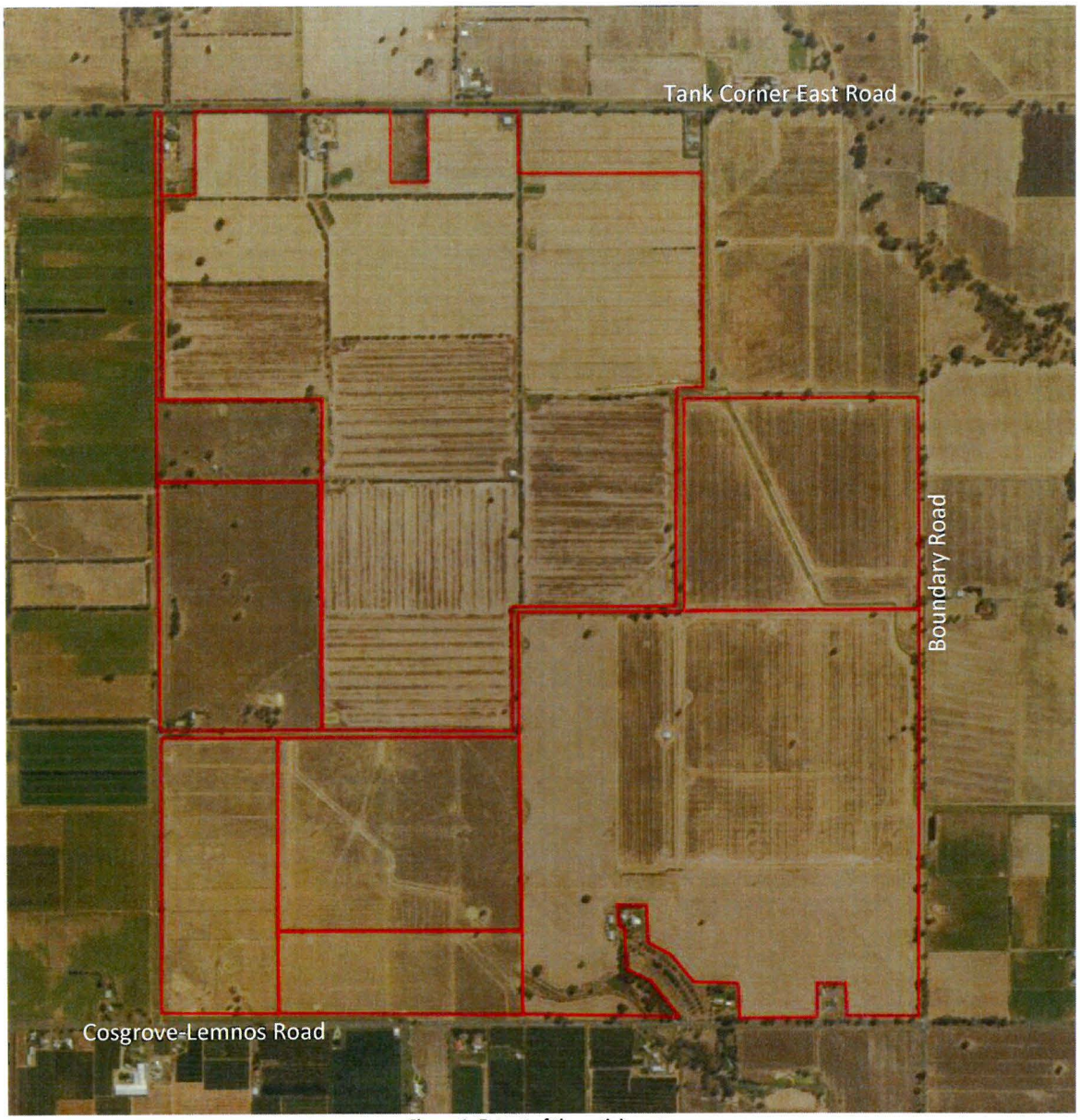

Figure 1: Extent of the activity area

3.2 Local Government Council (LGA) for the proposed activity area

The LGA for the proposed activity area is the City of Greater Shepparton.

3.3 Aboriginal stakeholders

It is important to note that 'cultural heritage significance' as defined in the *Aboriginal Heritage Act 2006* includes '(a) archaeological, anthropological, contemporary, historical, scientific, social or spiritual significance', and (b) significance in accordance with Aboriginal tradition'. All Aboriginal heritage sites are protected equally under this legislation, irrespective of significance, and consultants and development proponents are required to seek the views of Aboriginal heritage stakeholders (or Registered Aboriginal Parties [RAPs], as defined in the Act) regarding whether Aboriginal heritage sites may be disturbed in accordance with that significance.

At the time of this assessment the Yorta Yorta National Aboriginal Corporation were the Registered Aboriginal Party (RAP) within the region.

3.4 Location and nature of areas of cultural heritage sensitivity within the activity area

Division 3 of the *Regulations* defines areas of Aboriginal cultural heritage sensitivity within the state of Victoria. As is currently indicated in the Aboriginal Cultural Heritage Register and Information System (ACHRIS), the proposed activity intersects with one area of cultural heritage sensitivity (see Figure 2). With respect to the proposed works the relevant regulation in this instance is as follows:

Regulation 23 Waterways

1) *Subject to subregulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity.*
2) *If part of a waterway or part of the land within 200 metres of a waterway has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*

Regulation 4 Definitions

waterway means –

(a) *a river, creek, stream or watercourse the name of which is registered under the Geographic Place Names Act 1998; or*
(b) *a natural channel the name of which is registered under the Geographic Place Names Act 1998 in which water regularly flows, whether or not the flow is continuous; or*
(c) *a lake, lagoon, swamp or marsh, being -*
    i. *a natural collection of water (other than water collected and contained in a private dam or a natural depression on private land) into or through or out of which a current that forms the whole or part of the flow of a river, creek, stream or watercourse passes, whether or not the flow is continuous; or*
    ii. *a collection of water (other than water collected and contained in a private dam or a natural depression on private land) that the Governor in Council declares under section 4(1) of the Water Act 1989 to be a lake, lagoon, swamp or marsh; or*
(d) *land which is regularly or intermittently covered by water from a waterway as described in paragraph (a), (b) or (c) but does not include-*
    i. *any artificial channel or work which diverts water away from such a waterway; or*
    ii. *an area covered by the floodwaters of a waterway; or*
    iii. *an area, other than the waterway, designated on a planning scheme as being a floodway or liable to flooding or as being subject to inundation; or*
(e) *if any land described in paragraph (d) forms part of a slope rising from the waterway to a definite lip, the land up to that lip.*

As mapped in the Aboriginal Cultural Heritage Register and Information System, all land within 200 m of Okeefe Creek is an area of cultural heritage sensitivity. However, as Okeefe Creek is not a registered

waterway under the Geographic Place Names Act 1998, land within 200 m of Okeefe Creek is not an area of cultural heritage sensitivity.

However, as is evident in Figure 3, part of the activity area passes through a geomorphological unit, identified as GMU 4.2.1 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)', which is known to have source-bordering dunes. Regulation 37 of the *Regulations* states that:

> 1) *Subject to subregulation (2), a dune or source bordering dune is an area of cultural heritage sensitivity.*
> 2) *If part of a dune or part of a source bordering dune has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*
> 3) *In this regulation-*
> ***dune** includes an inland, riverine, lacustrine or coastal dune;*
> ***source bordering dune** means an area identified as* "Qo" on the following Geological Survey of Victoria 1:250 000 map series sheets—
>
> (a) SI55-13 entitled "Deniliquin" (second edition, 1997);
> (b) SJ54-3 entitled "Horsham" (second edition, 1997);
> (c) SI54-11 entitled "Mildura" (second edition, 1997);
> (d) SJ54-4 entitled "St Arnaud" (second edition, 1997);
> (e) SI54-16 entitled "Swan Hill" (second edition, 1997);
> (f) SJ55-2 entitled "Wangaratta" (second edition, 1997).

Therefore, due to the presence of waterways within the broader activity area along with the proximity of the activity area to an area in which source bordering dunes are considered to be culturally sensitive, there is some risk that source-bordering dunes are located within the activity area. It is not possible to ascertain from aerial imagery, or the available geological mapping, whether or not source-bordering dunes are, in fact, located within the activity area. As such, it was assumed that the activity area might contain dune landforms and therefore included an area of cultural heritage sensitivity. In order to further ascertain whether or not this was of real concern a geomorphological assessment was undertaken to determine the presence of dune materials and or dune landforms within the activity area (Rosengren 2017. See Appendix 3). This assessment concluded there is no evidence of dune material at the site and no topography that indicates a relict dune landform.

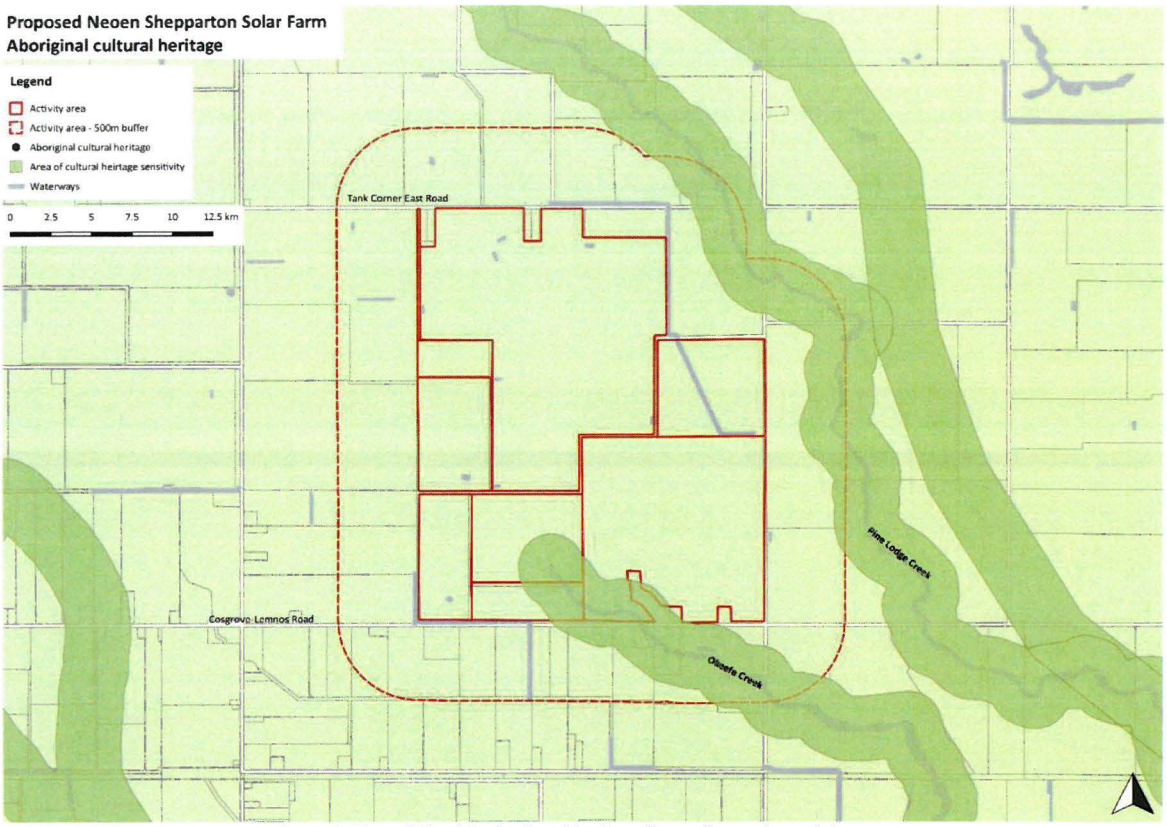

Figure 2: Map of Aboriginal cultural heritage located near the activity area

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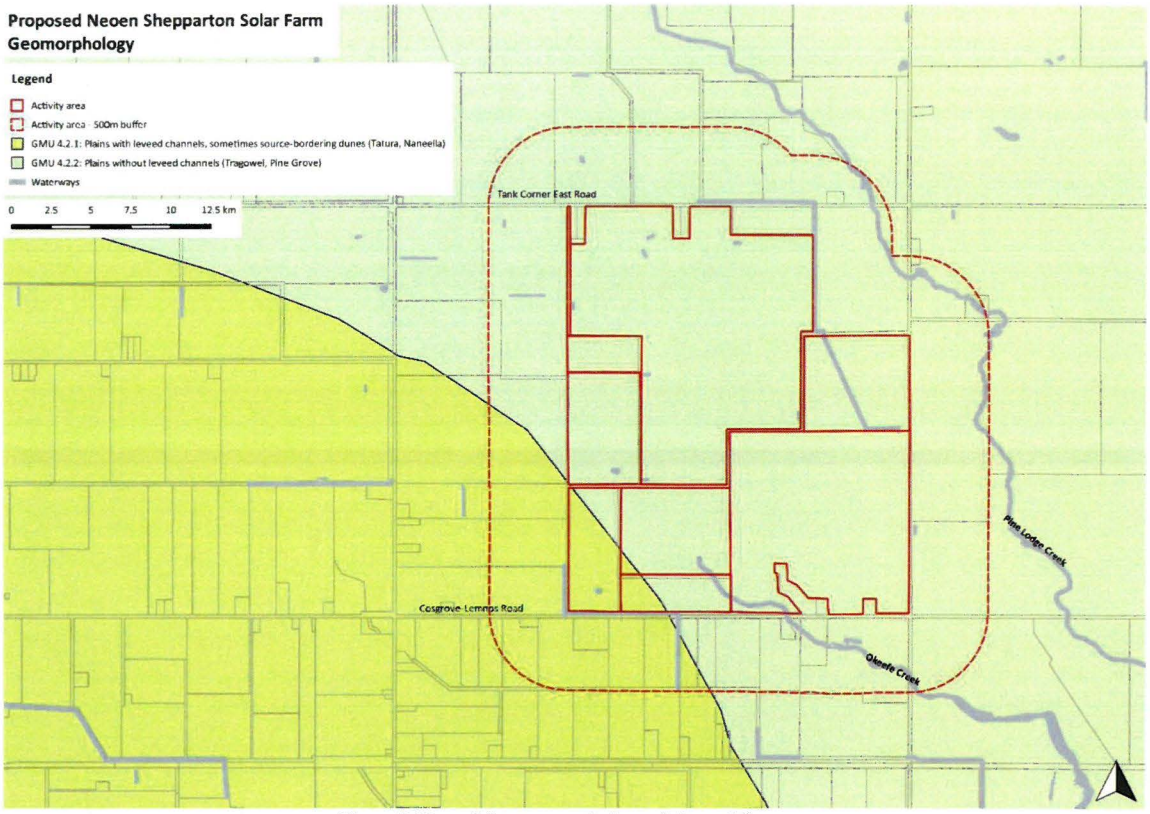

Figure 3: Map of the geomorphology of the activity area

4 Previous use of the activity area

Aboriginal peoples' occupation of the geographic region likely extends over thousands of years. This occupation would have taken the form of temporary camps used on a seasonal basis, making use of diverse resources in the area. The landscape was undoubtedly well known to generations of people and it is probable that associations extended to spiritual attachments. At the time of European colonization, the activity area was situated within the traditional lands of the *Ngurai-illam wurrung* language group (Clarke 1990: 364).

As a consequence of European colonization, and movement of European settlers into the region in the 1840s, the local Aboriginal people were dispossessed of their land. The activity area is situated within the Tallygaroopna Run (Figure 4). By 1945, as is evident in historic aerial imagery (Figure 5), the activity area had been largely deforested. The land was utilized for pasture and agricultural purposes. This use has continued to the present day, with subsequent modification of land within the activity area being relatively limited (Figure 1).

Impacts of historic pastoral and agricultural land use within the activity area include deforestation of the landscape, construction of dams and irrigation canals, ploughing of fields, construction of unsealed roads within the activity area, and also the construction of several buildings and facilities which relate directly to the agricultural and pastoral use of the land.



Figure 4: Map of pastoral runs in Victoria prepared by Owen (1869). The general location of the activity area is indicated by the red star

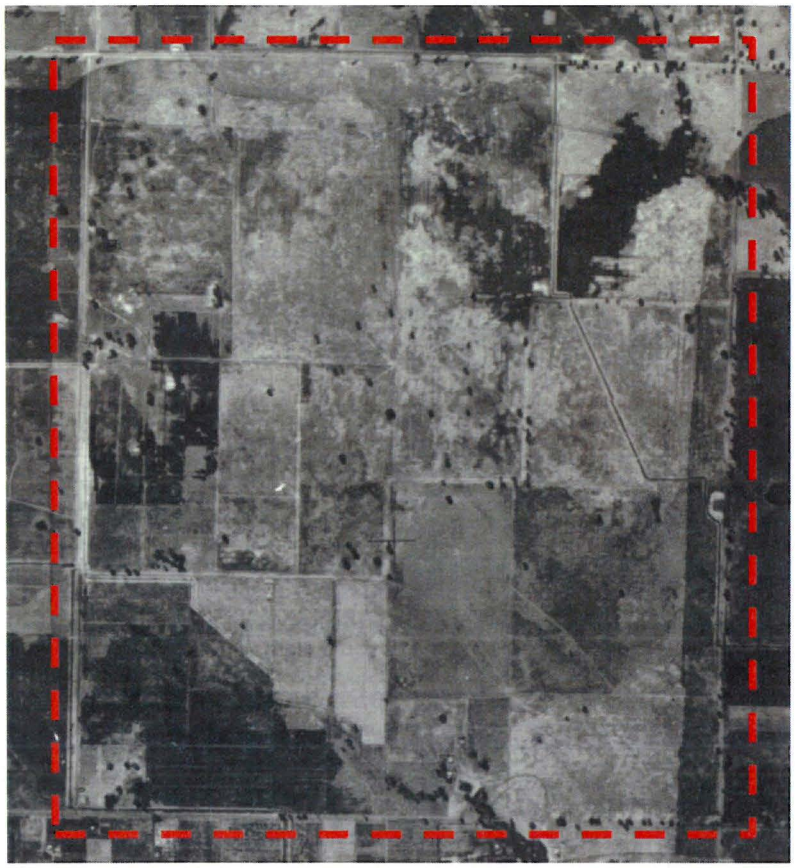

Figure 5: 1945 aerial image of the activity area, the approximate extent of which is indicated

5 Size of the proposed activity area

Regulation 68 Definitions
***large activity** means an activity –*

a) with an activity area of more than 40 hectares; or
b) that is a linear project with a length of more than five kilometres;

The activity area has an area of approximately 475.18 ha. Pursuant to **Regulation 68** of the *Aboriginal Heritage Regulations 2007* (Vic) the activity area is a large activity.

6 The Proposed Activity

6.1 Description of the proposed works

The proposed activity comprises the construction of a solar farm within the defined activity area. Due to the preliminary nature of this assessment, the specifics of the proposed works have not yet been defined. However, the works are expected to require at a minimum:

- the potential demolition of all extant buildings and infrastructure;
- the potential stripping of topsoil across the activity area;
- excavation for the purposes of installation of subsurface utilities and building foundations;
- construction of buildings and facilities associated with the proposed solar farm; and

construction of roads and other pathways with respect to the operation of the solar farm.

6.2 Is the proposed activity listed as a high impact activity under Division 5 of the Aboriginal Heritage Regulations 2007?

Division 5 of the *Regulations* lists ten activities which are 'high impact activities' for the purposes of assessing whether a CHMP is required. With regard to the proposed works, the relevant regulation is as follows:

Regulation 43 Buildings and works for specified uses

1) The construction of a building or the construction or carrying out of works on land is a high impact activity if the construction of the building or the construction or carrying out of the works-

(a) would result in significant ground disturbance; and

(b) is for or associated with the use of the land for any one or more of the following purposes-

xxiii. a utility installation, other than a telecommunications facility, if-

D) the works affect an area exceeding 25 square metres.

2) The terms used in subregulation (1)(b) have the same meaning as they have in the VPP.

3) Despite subregulation (1), the construction of a building or the construction or carrying out of works on land is not a high impact activity if it is for associated with

a purpose listed under subregulation (1)(b) for which the land was being lawfully used immediately before the commencement day.

4) *In this regulation,* ***linear project*** *has the same meaning as in regulation 68.*

Pursuant to r.43 of the *Aboriginal Heritage Regulations 2007* (Vic) the proposed works, which will comprise of the construction of a solar farm (a utility installation) of an area of more than 25 square meters, is a high impact activity.

6.2.1 Do any exemptions apply?

No exemptions apply.

7 Desktop assessment

7.1 Geographic region

For the purposes of this assessment all land within 500 m of the activity area (Figure 2). This geographic region captures the relevant geological landscape, local geomorphology, rural setting and relevant nearby registered Aboriginal cultural heritage places.

7.2 Geomorphology and environment

As defined in the Victorian Geomorphological Framework, the activity area is situated within two different geomorphological units that are identified as 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)' (GMU 4.2.1) and 'Plains without leveed channels (Tragowel, Pine Grove)' (GMU 4.2.2) (Figure 3).

The south west corner of the activity area is situated within GMU 4.2.1. GMU 4.2.1 is characterised as including plains with largely inactive leveed channels of various ages that relate to stream deposition that predates the present floodplains. Source bordering dunes have occasionally been identified along waterways within GMU 4.2.1.

The remainder of the activity area is situated in GUM 4.2.2. GMU 4.2.2 is comprised of very gentle to almost level plains that dip slightly northward towards the Murray River. The plains are comprised of alluvial sediments. The plains are distinguished from GMU 4.2.1 in that there are no leveed prior stream channels.

The underlying geology (Figure 6) of the activity area is comprised of the Shepparton Formation (Nws). The Shepparton Formation is comprised of clay, sand, silt and poorly sorted lenticular gravel. The Shepparton Formation is characterized as being a desiccated alluvium floodplain with terraces of 1-10 m above present river channels. The soils are well developed, being typically 2-3 m thick. The upper part of the Shepparton Formation which has been dated from 20,900±500 kya to 30,600±1300 kya[1], is a Holocene formation. The formation's maximum age is the Pliocene, and thus subsurface deposits are also likely to include stratigraphic units which formed during the Pleistocene.

[1] http://dbforms.ga.gov.au/pls/www/geodx.strat_units.sch_full?wher=stratno=25474 – accessed 26 September 2017

The activity is situated within the Victorian Riverina bioregion, which includes a wide variety of specific ecological vegetation classes. Of those, the activity area is situated within one ecological vegetation class, which is identified as 'Plains Woodland' (EVC 803) (Figure 7). EVC 803 is characterised as an open eucalypt woodland with a 15 m tall canopy[2]. EVC 803 occurs on several geologies and soil types, which preferentially include fertile clays and clay loam soils on relatively level land at low elevations.[3]

The climate is characterised by warm summers and cold winters with an annual average rainfall of 400-600mm[4].

By way of summary the activity area passes through an extensive floodplain comprised of sand and clay rich soils. It is possible that current and prior waterways within the vicinity of the activity have developed source-bordering dunes. The activity area captures both Holocene and Pleistocene landscapes.

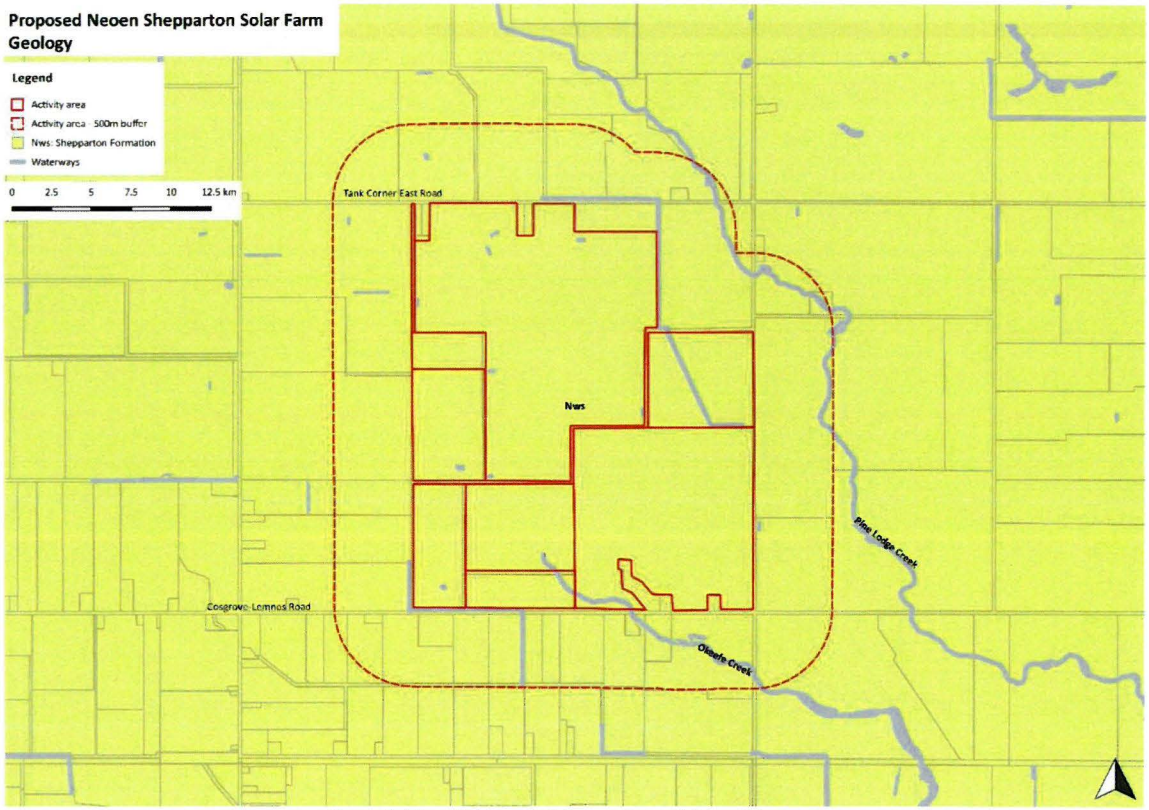

Figure 6: Map of the underlying geology of the activity area

[2] https://www.environment.vic.gov.au/__data/assets/pdf_file/0027/48753/VRiv_EVCs_combined.pdf - accessed 26 September 2017

[3] https://www.environment.vic.gov.au/__data/assets/pdf_file/0027/48753/VRiv_EVCs_combined.pdf - accessed 26 September 2017

[4] http://www.bom.gov.au/jsp/ncc/climate_averages/climate-classifications/index.jsp - accessed 26 September 2017; http://www.bom.gov.au/jsp/ncc/climate_averages/rainfall/index.jsp?period=an&area=vc#maps – accessed 26 September 2017.

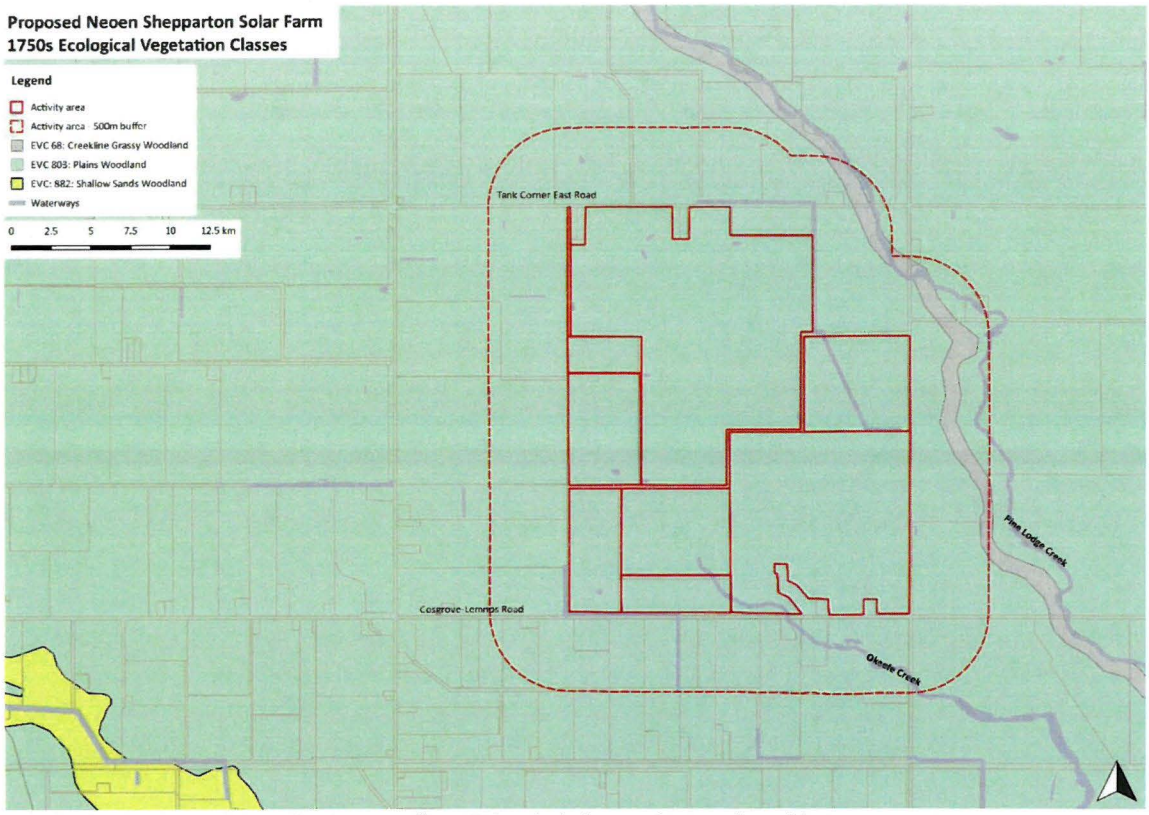

Figure 7: Map of pre 1750 ecological vegetation near the activity area

7.3 Archaeological setting

7.3.1 Existing Heritage Listings

The following register sources were checked for existing heritage listings (both statutory and non-statutory) within the activity area:

- Victorian Aboriginal Heritage Register (VAHR) – No listing;
- Commonwealth Heritage List – No listing;
- Victorian Heritage Register – No listing;
- Victorian Heritage Inventory – No listing;
- City of Greater Shepparton – Schedule to the Heritage Overlay – No listing;
- National Heritage List – No listing;
- Register of the National Estate - No listing;
- National Trust of Australia (Victoria) – No listing;

7.3.2 Historical Heritage

As established in section 7.3.1, there are no registered historical heritage places within 500m of the activity area.

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7.3.3 Results of the search of the VAHR

A search of the Aboriginal Cultural Heritage Register and Information System (ACHRIS) was undertaken on 27 September 2017 (Access No. 5144). The activity area does not directly intersect with any registered Aboriginal cultural heritage places.

7.3.3.1 Registered Aboriginal cultural heritage places within 500m of the activity area

As depicted in Figure 2, there are no registered Aboriginal cultural heritage places within 500m of the activity area.

7.3.3.2 Scope of Prior Assessments

There are only nine archaeological reports held in ACHRIS which geospatially intersect with the geographic region (Table 1). None of the listed reports are particular to the activity area.

Table 1: List of archaeological reports which geospatially intersect with the geographic region

Report No.	Report Type	Title	Author	Report Year
36	Desktop or Paper or Due Diligence or Other	ABORIGINAL OCCUPATION OF THE NORTH EAST STUDY AREA, DISTRICTS 1, 2 & 4	ZOBEL, D.	1984
63	Desktop or Paper or Due Diligence or Other	ABORIGINAL ASSOCIATION WITH THE MURRAY VALLEY STUDY AREA	ATKINSON, W. & BERRYMAN, A.	1983
294	Desktop or Paper or Due Diligence or Other	PETROLOGY & PREHISTORY: LITHIC EVIDENCE FOR EXPLOITATION OF STONE RESOURCES & EXCHANGE SYSTEMS IN AU	MCBRYDE, I.	1979
592	Desktop or Paper or Due Diligence or Other	ARCHAEOLOGY OF THE BROKEN RIVER BASIN: A BACKGROUND STUDY	BIRD, C.	1992
879	Survey	SHEPPARTON BYPASS PLANNING STUDY PHASE 2: CULTURAL HERITAGE. VOLUME 1: AN ARCHAEOLOGICAL SURVEY OF T	LONG, A.	1996
1074	Desktop or Paper or Due Diligence or Other	LAND CONSERVATION COUNCIL BOX-IRONBARK FORESTS & WOODLANDS SPECIAL INVESTIGATION CHAPTER 2: ABORIGIN	CLARK, I.	1997
1241	Desktop or Paper or Due Diligence or Other	NATURAL VALUES OF THE PUBLIC LANDS ALONG THE BROKEN, BOOSEY AND NINEMILE CREEKS OF NTH EASTERN VIC.	ROBINSON, D. & MANN, S.	1996
3967	Desktop or Paper or Due Diligence or Other	ARCHAEOLOGICAL BACKGROUND REPORT FOR THE SHEPPARTON BYPASS EES STUDY STAGE 1	DU CROS, H	1995
4648	Desktop or Paper or Due Diligence or Other	Conflict and Territoriality in Aboriginal Australia: Evidence form Biology and Ethnography	Colin Pardoe	

7.3.3.3 Aboriginal cultural heritage

There are no Aboriginal cultural heritage places within the activity area.

The activity area is located within landforms that potentially contains source-bordering dunes, and therefore may contain an area of cultural heritage sensitivity.

From a review of prior archaeological assessments within the geographic region the following key points emerge:

- there have been very few Archaeological assessments undertaken within the vicinity of the activity area;
- Aboriginal cultural heritage place types likely to occur within the activity area include stone artefact scatters in surface and subsurface contexts; and

- due to historic agricultural use of the activity area, it is unlikely that there are any scarred trees located within the activity area.

8 Is a cultural heritage management plan required?

The following sections outline the triggers and issues which will affect the proposed works in relation to the *Aboriginal Heritage Act* 2006 and *Aboriginal Heritage Regulations* 2007, specifically as these relate to the need to undertake a mandatory Cultural Heritage Management Plan.

8.1.1 When is a cultural heritage management plan required?

A CHMP is required for an activity if (Regulation 6)-

(a) all or part of the activity area for the activity is an area of cultural heritage sensitivity; and
(b) all or part of the activity is a high impact activity.

8.1.2 Is the activity area an area of cultural heritage sensitivity?

No, there are no defined areas of cultural heritage sensitivity within the activity area.

8.1.3 Is the activity a high impact activity?

As established in Section 6.2 the proposed works are a high impact activity.

8.1.4 Has the activity area been subject to significant ground disturbance'?

Pursuant to Regulation 4 – Definitions:

significant ground disturbance means disturbance of -

a) the top soil or surface rock layer of the ground; or
b) *a waterway –*

by machinery in the course of grading, excavating, digging or dredging.

There is insufficient evidence to suggest that the entirety of the activity area has undergone significant ground disturbance as defined by the *Aboriginal Heritage Regulations 2007.* Although there are isolated instances in which significant ground disturbance has occurred throughout the activity area, such as within the footprints of existing roadways and irrigation channels, the vast majority of the activity area comprises of farmland, which, beyond being cleared and ploughed, has not, in its entirety, been subject to significant ground disturbance.

8.1.5 Do any Exemptions or other Arrangements as outlined in the Aboriginal Heritage Regulations 2007 apply?

No exemptions apply.

8.1.6 Will a cultural heritage management plan be required for proposed works in the activity area?

On the basis of the above discussion the proposed activity does not require a mandatory CHMP to be prepared prior to the commencement of works. The proposed activity is a high impact activity, however, there are no areas of cultural heritage sensitivity present. Therefore, pursuant to Regulation 6 of the *Aboriginal Heritage Regulations* 2007, the proposed activity does not require a mandatory CHMP.

9 Conclusions and Recommendations

9.1 Historic cultural heritage

There are no requirements to undertake further cultural heritage assessments, permits or consents under the *Heritage* Act 1995, the *Environment Protection and Biodiversity Conservation* Act 1999 and *Planning & Environment* Act 1987.

However, if a historic archaeological site is uncovered in the course of the construction activities, under section 127 of the *Heritage Act 1995*, it is an offence to knowingly damage, disturb or excavate without obtaining the appropriate consent from the Executive Director of the Heritage Victoria. Consultation with Heritage Victoria on proposed management options and the creation of a heritage report (under Section 131 *Heritage Act 1995*) would be required.

9.2 Aboriginal cultural heritage

The proposed works are a high impact activity however, there are no areas of cultural heritage sensitivity present. As such, in accordance with Regulation 6 of the *Aboriginal Heritage Regulations 2007* (Vic) a mandatory CHMP will not be required in this instance.

It should be noted that this opinion does not imply that Aboriginal cultural places are not present within the activity area, or are not at risk of impact from the proposed activity. It is simply stated that the *Aboriginal Heritage Regulations 2007* do not require a mandatory CHMP in this instance.

This study does not constitute a CHMP as defined in Division 1 of the *Aboriginal Heritage Act 2006*.

Yours sincerely,



Chris Lovell
Project Manager
Andrew Long and Associates

References

Clark, ID. 1990. *Aboriginal Languages and Clans: an Historical Atlas of Western and Central Victoria, 1800-1900*. Monash Publications in Geography No. 37. Melbourne.

Rosengren, N. 2017. Proposed Solar Farm, Lemnos (Neoen Australia): Potential for Source-Bordering Dune in Activity Area. Unpublished report to GHD.

Legislation

Aboriginal Heritage Act 2006 (Vic)

Aboriginal Heritage Regulations 2007 (Vic)

Victorian Planning Provisions 2017 (Vic)

Geographic Place Names Act 1998 (Vic)

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APPENDIX 1

STATUTORY REGULATIONS

ABORIGINAL CULTURAL HERITAGE LEGISLATION

The Aboriginal Heritage Act 2006

It should be noted that new Victorian legislation for Aboriginal heritage protection (the *Aboriginal Heritage Act* 2006) commenced operation on May 28th 2007.

This act provides blanket protection for all Aboriginal heritage sites, places or items in Victoria.

The main aspects of the Act in relation to the development process are as follows:

- An *Aboriginal Heritage Council* (AHC) has been appointed by the Minister, Aboriginal Affairs Victoria, made up of 11 Victorian Aboriginal people.
- Aboriginal community groups with traditional interests in cultural heritage are to apply to the AHC for registration as a *Registered Aboriginal Party* (RAP). RAPs will have the role of endorsing *Cultural Heritage Management Plans* (CHMP) within a given area of interest. There may be two or more RAPs for an area, provided it does not hinder the operation of the legislation.
- Under Section 48, a developer ('sponsor') may be required to submit a CHMP before the issue of a statutory authority by local government or other agency ('decision maker'). A CHMP must be registered with the Secretary, Victorian Communities (AAV), and all relevant RAPs notified in writing. If an RAP does not respond, AAV will act in lieu. A CHMP will contain details of research, field evaluation, consultation and management provisions in regard to the Aboriginal heritage of an area at risk from a development. A *Cultural Heritage Advisor* must be appointed to assist in the preparation of a CHMP. It is the role of an RAP to approve a CHMP if it meets prescribed standards.
- A CHMP will not be considered approved unless it has been approved by all relevant RAPs.

The regulations accompanying the Act specify when a CHMP will be required by law, and prescribe minimum standards for the preparation of a CHMP (Section 53). The approved form for CHMPs specifies the format in which a CHMP should be prepared by a sponsor in order to comply with the Act and the Regulations, and is an approved form under section 190 of the Act. The regulations have not been finalised to date, but their draft content has not been issued to stakeholders.

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APPENDIX 2

SUGGESTED PROCEDURE

IN THE EVENT

AN ABORIGINAL HERITAGE SITE

IS IDENTIFIED

DURING CONSTRUCTION

A. Management of Aboriginal Cultural Heritage Found During Works

If Aboriginal places or objects found during works the following steps must be applied:

- The person who identified the find will immediately notify the person in charge of the activity.
- The person in charge of the activity must then suspend any relevant works at the location of the discovery and within 5 m of the relevant site extent and isolate the find via the installation of safety webbing, or other suitable barrier and the material to remain *in situ*.
- Works may continue outside of the 5 m barrier.
- The person in charge of works must notify the Heritage Advisor (HA) and the Secretary (AV) of the find within 24 hours of the discovery.
- The HA must notify the RAP(s) or other agreed Aboriginal stakeholder(s) within 24 hours of the discovery and invite RAP(s) or other agreed Aboriginal stakeholder(s) to inspect the find.
- Within 24 hours of notification, a HA is to attend the site and evaluate the find to determine if it is part of an already known site or should be registered as a new site and to update and/or complete site records as appropriate and advise on possible management strategies.
- Enable RAP(s) or other agreed Aboriginal stakeholder(s) to inspect site within 24 hours of notification and remove/rebury any cultural heritage material found.
- Within a period not exceeding three (3) working days the Sponsor, in consultation with the HA, RAP or other agreed Aboriginal stakeholder, shall, if necessary, apply for a Cultural Heritage Permit (CHP) in accordance with Section 36 of the *Aboriginal Heritage Act* 2006.
- If a CHP application is lodged, works may only recommence within the area of exclusion following the issue of a CHP and compliance with any conditions.
    - When the appropriate protective measures have been taken;
    - Where the relevant Aboriginal cultural heritage records have been updated and/or completed;

In the case of the discovery of human remains, separate procedures relating to the discovery of human skeletal remains must be adhered to (see below).

B. Custody and Management of Aboriginal Cultural Heritage Recovered

- Any Aboriginal cultural heritage recovered or salvaged from the activity area remains the property of the RAP(s) or other agreed Aboriginal stakeholder(s). Any such recovery or salvage will be agreed to and overseen by a RAP(s) or other agreed Aboriginal stakeholder representative(s). In any such instance it will be the responsibility of the Cultural Heritage Advisor to:
    - Catalogue the Aboriginal cultural heritage;
    - Label and package the Aboriginal cultural heritage with reference to provenance; and
    - With the RAP(s) or other agreed Aboriginal stakeholder(s), arrange storage of the Aboriginal cultural heritage in a secure location together with copies of the catalogue and assessment documentation.

C. The Management of the Discovery of Human Remains

Although this evaluation has determined that there is only a low risk of impacting an Aboriginal burial during the implementation of the activity, given the nature of the landforms and archaeological deposits within the activity area, it is nevertheless an extremely important consideration of any development.

The following steps must be taken if any suspected human remains are found in the activity area:

1. Discovery:

16.4

- If suspected human remains are discovered, all activity in the vicinity must ***cease immediately*** to ensure minimal damage is caused to the remains; and,
- The remains must be left in place, and ***protected*** from harm or damage.

2. Notification:

- Once suspected human skeletal remains have been found, the Coroners Office and the Victoria Police must be notified immediately;
- If there is reasonable grounds to believe that the remains could be Aboriginal, the DSE Emergency Co-ordination Centre must be immediately notified on 1300 888 544; and
- All details of the location and nature of the human remains must be provided to the relevant authorities.
- If it is confirmed by these authorities that the discovered remains are Aboriginal skeletal remains, the person responsible for the activity must report the existence of the human remains to the Secretary, Department of Victorian Communities in accordance with s.17 of the *Aboriginal Heritage Act* 2006.

3. Impact Mitigation or Salvage:

- The Secretary, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal human remains, will determine the appropriate course of action as required by s.18(2)(b) of the Act.
- An appropriate impact mitigation or salvage strategy as determined by the Secretary must be implemented (this will depend on the circumstances in which the remains were found, the number of burials found and the type of burials and the outcome of consultation with any Aboriginal person or body).
- While opportunities to avoid impacting on a burial that may be discovered during the activity may be limited, it is important to explore opportunities to minimise disturbance to the remains through unnecessary exposure or disinterment.

4. Curation and further analysis:

- The treatment of salvaged Aboriginal human remains must be in accordance with the direction of the Secretary.

5. Reburial:

- Any reburial site(s) must be fully documented by an experienced and qualified archaeologist, clearly marked and all details provided to AV;
- Appropriate management measures must be implemented to ensure that the remains are not disturbed in the future.

APPENDIX 3

GEOMORPHOLOGICAL ASSESSMENT

PROPOSED SOLAR FARM: LEMNOS

(NEOEN AUSTRALIA)

POTENTIAL FOR SOURCE-BORDERING DUNE IN ACTIVITY AREA (Cosgrove-Lemnos Road)

PREPARED BY:

Neville ROSENGREN (Environmental GeoSurveys P/L)
Cath Botta (PCB Consulting)

PREPARED FOR:

Brad George
GHD
Principal Planner
Team Lead – Planning and Environment Assessment
Level 8, 180 Lonsdale Street, Melbourne, Vic. 3000

December 2017

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Figure 8. Soil scrape at auger hole A, allowing total soil inspection of 1.7 metres (photo 6th Dec. 2017). 8

Figure 9. Extract from soil maps prepared by Skene and Poutsma (1962). 9

Figure 10. Source-bordering dunes along Goulburn River west of study area. (Extract from Shepparton 1:100,00 geological maps: Geological Survey of Victoria). 12

EXECUTIVE SUMMARY

A study of geomorphology and surficial sediments of an area at Lemnos 5 km northeast of Shepparton was conducted to determine the possible occurrence of source-bordering dunes. The terrain is flat with minimal local relief. Previous soil mapping and a site inspection including auger and shovel recovery of topsoil and subsoil shows the soils are clay loams passing to medium to heavy clays at depth. No sand is recorded in the soil profiles. Aerial photography and previous landform and soil mapping show this to be an area of alluvial channel and floodplain deposition from palaeo-channels of the Broken River. There is no evidence that Quaternary sedimentation across the study area included episodes of aeolian deposition of sufficient extent or duration to produce either sand or clay dunes. There is no evidence of modern or relict topography—lake depressions or alluvial point bar deposits in a large palaeo-channel—needed to initiate or develop source-bordering dunes.

It is concluded that there is no source-bordering dune topography or materials across the study area.

1 INTRODUCTION

Neoen Australia proposes to construct a solar farm at Lemnos, a locality five km northeast of Shepparton in central Victoria. The solar farm will encompass an area bounded by 1190 Cosgrove-Lemnos Road, 1220 Cosgrove-Lemnos Road, 85 Crooked Lane, 260 Tank Corner East Road and 875 Boundary Road (Figure 1).

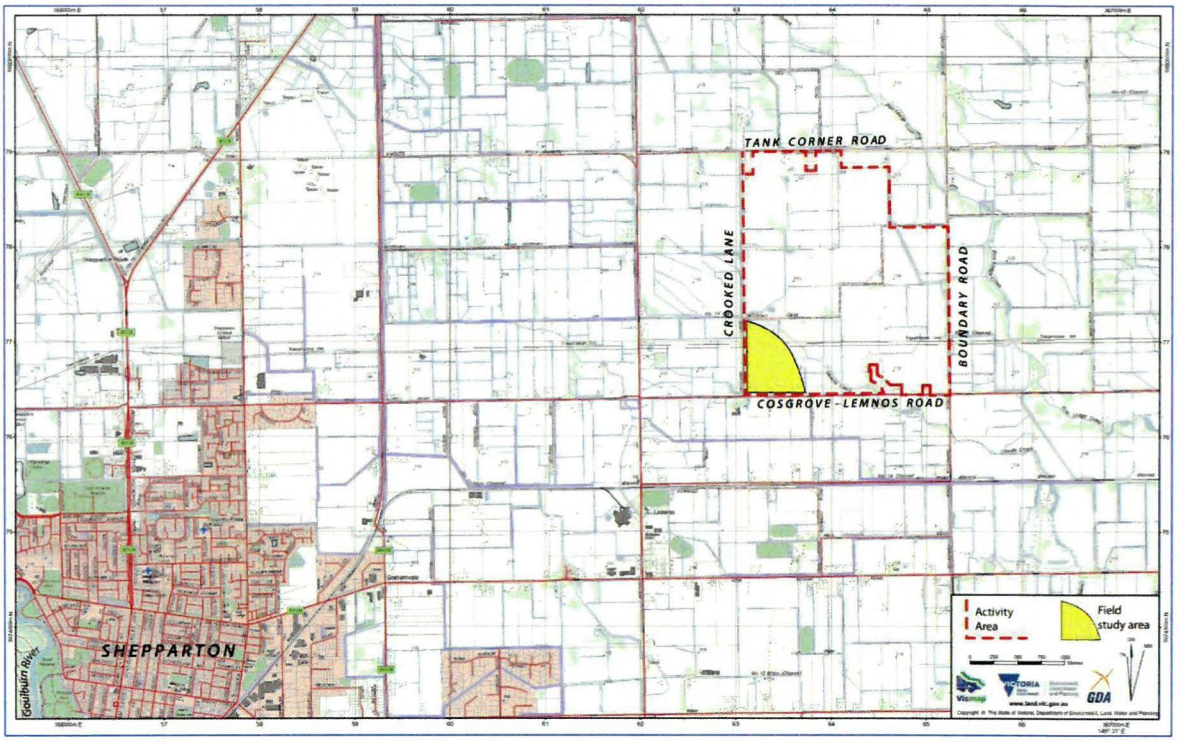

Figure 1. Location of proposed solar farm, Lemnos showing the focus of this study in the southwest corner (Base from Vicmap).

This report addresses an issue raised in the draft archaeological report: *Neoen Shepparton Solar Farm: Cultural Heritage Assessment and Implications for Development* (Andrew Long & Associates [AL&A] 27 September 2017). Page 4 of that report states:

"...part of the activity area passes through a geomorphological unit, identified as GMU 4.2.1 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)', and page 5 includes a map (reproduced here as Figure 2) showing an area of potential source-bordering dune in the southwestern section of the Activity Area. The AL&A report further recommends (9.3 Recommendations page 13):

"In order to determine whether or not the activity area contains any dunes (source-bordering or otherwise), it is recommended that advice of a qualified geomorphologist be sought."

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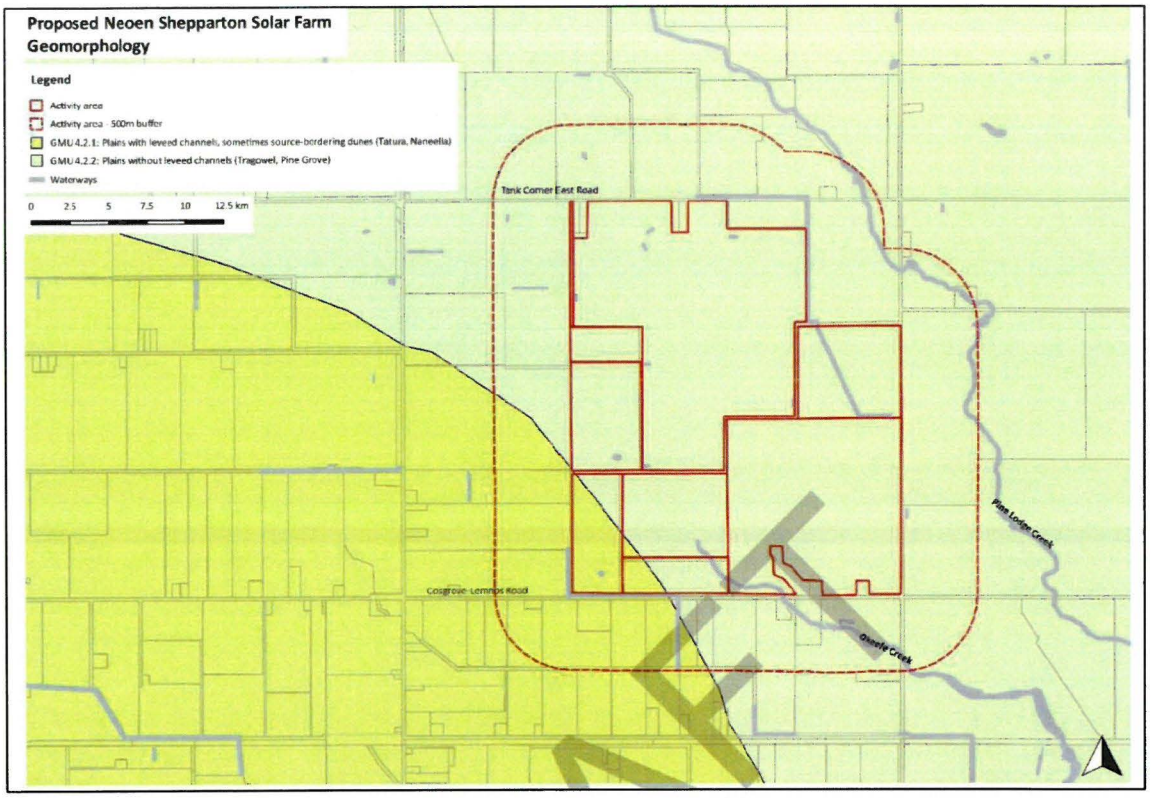

Figure 2. Area identified as a potential source-bordering dune (Figure 3 of Andrew Long & Associates (2017).

Brad George (Principal Planner of GHD Lonsdale Street Melbourne Office) requested Environmental GeoSurveys Pty Ltd to advise on the geomorphological character of the site and specifically if source-bordering dune(s) occur in the nominated section of the Activity Area (Figure 2). As required by the AL&A report, the field study was undertaken by appropriately qualified and experienced consultant personnel: (1) Neville Rosengren (M.A. (hons Melb, formerly Senior Lecturer in Earth & Environmental Science at La Trobe University); (2) Catherine Botta (M. Ag. Sc. (Sydney), formerly Lecturer in Soils at Melbourne University). The report was written by Neville Rosengren.

The identification of the source-bordering dune is based on maps derived from the Victorian Resources Online website www.vro.agriculture. vic.gov.au/dpi/vro/vrosite. nsf/pages/ landform_ geomorphological_framework_4.2.1. One of the authors of this present report (Rosengren) was a member of the Victorian Geomorphological Review Group that developed and implemented the geomorphological framework scheme for Victoria presented on that site and is mindful of limitations of that mapping scheme. While it provides an adequate representation of the geomorphological features of Victoria, there are limits on the resolution due to scale and boundary generalisation. For detailed assessment as required for this project, a field inspection including shallow sub-surface testing was required to define the presence of source-bordering dunes at this site.

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Prior to the field visit, study was made of aerial photographs, remotely sensed data, topographical and geological maps and a selective review of the extensive literature relating to the nature and chronology of sediments and landforms of the Riverine Plain. LiDAR imagery that would more clearly define the surface morphology and allow recognition of stream and dune features was not available for this study.

Key papers selected from the extensive literature about the Riverine Plains of Victoria and New South Wales were Harris (1939), Hills (1940), Butler (1956, 1958), Skene and Poutsma (1962), Bowler and Harford (1966), Lawrence (1966), Pels (1966), Bowler (1967, 1978, 1983), Butler *et al.* (1973), Tickell (1991), Page and Nanson (1996), Skene and Poutsma (1962),Joyce and Webb *et al.(* 2003), Stone (2006), Bullard and McTainsh (2003), and Farebrother *et al.* (2017).

2 SITE CHARACTERISTICS

2.1 Geomorphology

Figure 1 shows the best available topographic data (10 metre contour interval supplemented by spot heights at approximately 1,000 metre spacing). On this data, the surface is flat with elevations of 114 m and 115 m across the west and north of the activity area rising slightly to 116 metres at Boundary Road. The site has been modified by cultivation, excavation and backfilling of dams, soil removal for fill, and construction of electricity pylons. At the time of the field inspection (December 6th 2017), a wheat crop up to one metre high across the study area masked any minor variations in topography (micro relief) that may occur (Figure 3).



Figure 3. Crop cover masking microtopography (photo 6th Dec. 2017).

The area is part of the Riverine Plain, an extensive flat landscape with limited topographical variation but with marked local contrasts between landscapes developing by

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contemporary processes and that relict from former episodes of more intensive fluvial, aeolian and lacustrine activity. The channels of the modern streams, such as the Goulburn River, typically lie within a belt of incised or terraced alluvium several metres below that of the surrounding plains built of older sediments. The plains contain an extensive but often subtle record of past events including remnants of channels and levee banks of ancient (palaeo) streams, often displaying a discharge and sediment transport/deposition regime markedly different from present time. There is widespread evidence of fresh and saline lakes bodies, either no longer in existence or much reduced in extent. Associated with both the relict fluvial and lacustrine features are bodies of wind-blown sediment ranging from clays and silts (loams) to well-sorted sands. The most distinctive of these is the arcuate bodies known as lunettes (Hills 1940) clearly associated with lake beds, but other irregular sand accumulations occur associated with paleo-channels. These are known as "source-bordering dunes" and discussed in Section $ below.

The geomorphology of the site and surroundings is a direct reflection of the history of fluvial deposition over the Quaternary. The surface and sub-surface clay, silty-clay and occasional sand beds were deposited by palaeo-channels of the Broken Creek and small streams draining from the Dookie Hills. Unlike the marked depressions formed by the modern and ancient Goulburn River, the palaeo-channels east of Shepparton are shallow, discontinuous, and relatively straight with low levee banks.

2.2 Geology

The area is shown on Shepparton 1:100,000 (Geological Survey of Victoria, 1989) and adjacent Dookie 1:100,000 geological maps (Geological Survey of Victoria, 1986) (Figure 4). The low hills and colluvial slopes 14 km west of the study area is the bedrock complex of Cambrian and Ordovician rocks at Dookie north of the Broken River, with an outcrop of Pliocene basaltic rocks at Cosgrove. Between the hills and the Goulburn River the surface is comprised of alluvial sediments of the Shepparton Formation derived from modern and ancient streams of the Broken River. This Quaternary surficial unit is the widespread cover of the Riverine Plain and includes alluvial and lacustrine sediments with localised areas of source-bordering dunes. In the trench occupied by the Goulburn River is a younger suite of sediments referred to as Coonambidgal Formation. No Coonambidgal Formation sediments occur across the present study area as it is elevated above the trench containing the modern Goulburn River channel. West of the modern Goulburn River is a zone of palaeochannels extending west to the Campaspe River valley.

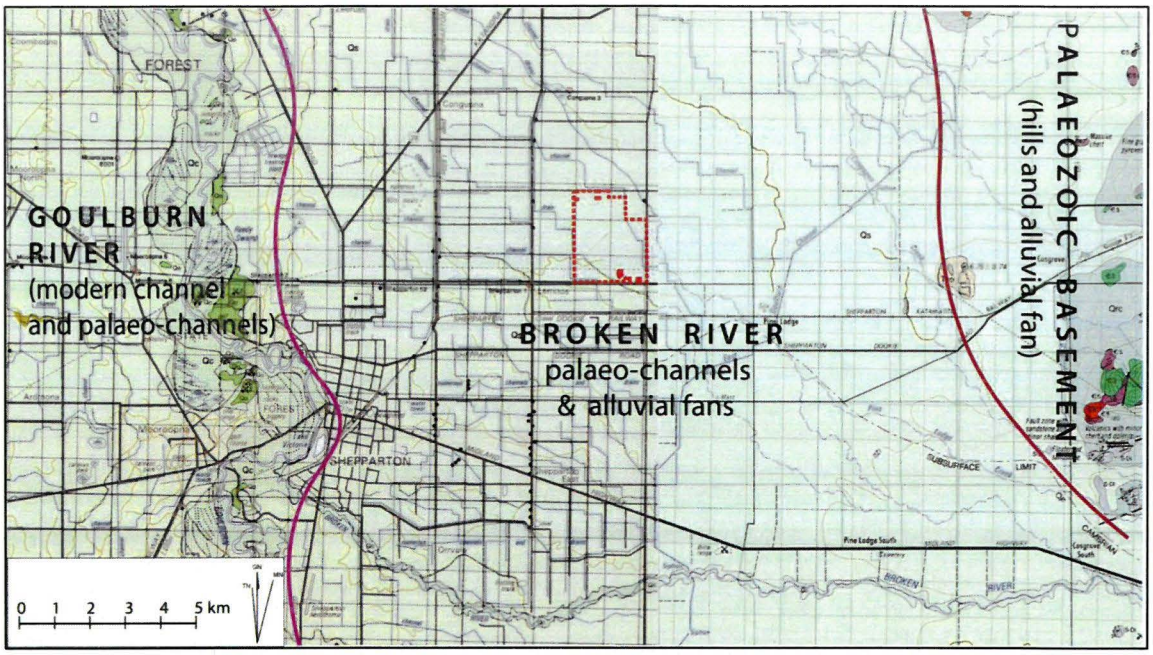

Figure 4. Geology (from Shepparton and Dookie 1:100,00 geological maps: Geological Survey of Victoria).

Borehole ID 109654

From	To	Comments
0.0	0.61	DARK BROWN TOPSOIL
0.61	2.13	YELLOWY BROWN CLAY
2.13	5.18	BROWN & GREY MOTTLED CLAY
5.18	6.1	YELLOW & GREY MOTTLED CLAY
6.1	7.62	MOTTLED YELLOW & GREY SILTY CLAY
7.62	10.67	GREY CLAYISH SAND (DRY)
10.67	16.76	GREY MOTTLED SANDY CLAY
16.76	18.9	MOTTLED GREY & BROWN GRITTY CLAY
18.9	21.95	MOTTLED GREY YELLOW & RED SILTY CLAY
21.95	22.86	YELLOW SAND (FATTY)
22.86	25.3	BROWN SAND
25.3	28.35	MOTTLED BROWN & GREY CLAY
28.35	30.18	BROWN & GREY MOTTLED SILTY CLAY
30.18	33.22	GREY GRITTY CLAY
33.22	39.32	BROWN & GREY GRITTY CLAY
39.32	42.67	BROWN SILTY CLAY
42.67	47.24	RED & GREY GRAVELLY CLAY
47.24	48.77	RED FATTY SAND
48.77	54.86	MOTTLED RED & GREY SILTY CLAY
54.86	57.3	BROWN CLAY (SILTY)
57.3	59.44	WHITE CLAY
59.44	62.48	YELLOW AND GREY CLAY
62.48	63.7	GREY CLAY
63.7	66.45	GREY & YELLOW CLAY
66.45	69.5	BROWN SANDY CLAY
69.5	71.93	YELLOW CLAYISH SAND
71.93	99.98	GREENISH GREY STONE
99.98	102.41	BROWN GRITTY CLAY (HARD)
102.41	103.63	BLUESTONE
103.63	106.07	VERY HARD BLUESTONE

Borehole ID 109657

From	To	Comments
0.0	4.86	CLAY
4.86	5.66	CLAY & SAND
5.66	6.2	SAND
6.2	7.17	CLAY
7.17	7.35	SAND
7.35	13.0	CLAY
13.0	15.4	SILTY CLAY

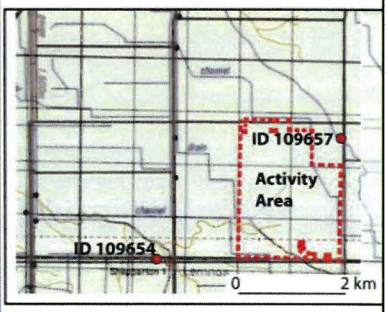

Figure 5. Bore logs adjacent to the study area..

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The thickness and variation in sediments underlying the plain east of Shepparton is displayed in two borehole records close to and regarded as representative of the sediments underling the activity area (Figure 4).

Bore ID 109654 reaches to bedrock (noted as "bluestone" in the log and of Palaeozoic age) at 103 metres showing the thickness of the Shepparton Formation here. Bore ID 109657 terminates still in Shepparton Formation at 15.4 metres. The majority of boreholes (as with ID 109657) are for groundwater and typically do not go below 20 metres as at this depth the groundwater is often saline (Tickell 1991). As was shown by the auger holes in the field survey, the surface sediments are clay-rich and do not have the thickness or texture of dune sediments.

Nearmap ™ imagery was obtained for six dates between January 2010 and October 2017. The most recent images (Feb, April and October 2017) are of limited value due to the extensive crop cover. By comparison, the January and October 2010 images show a clearer view of the ground surface and allow recognition of the palaeo-stream traces (identified as "prior streams") on the Shepparton geological map (Figure 6).

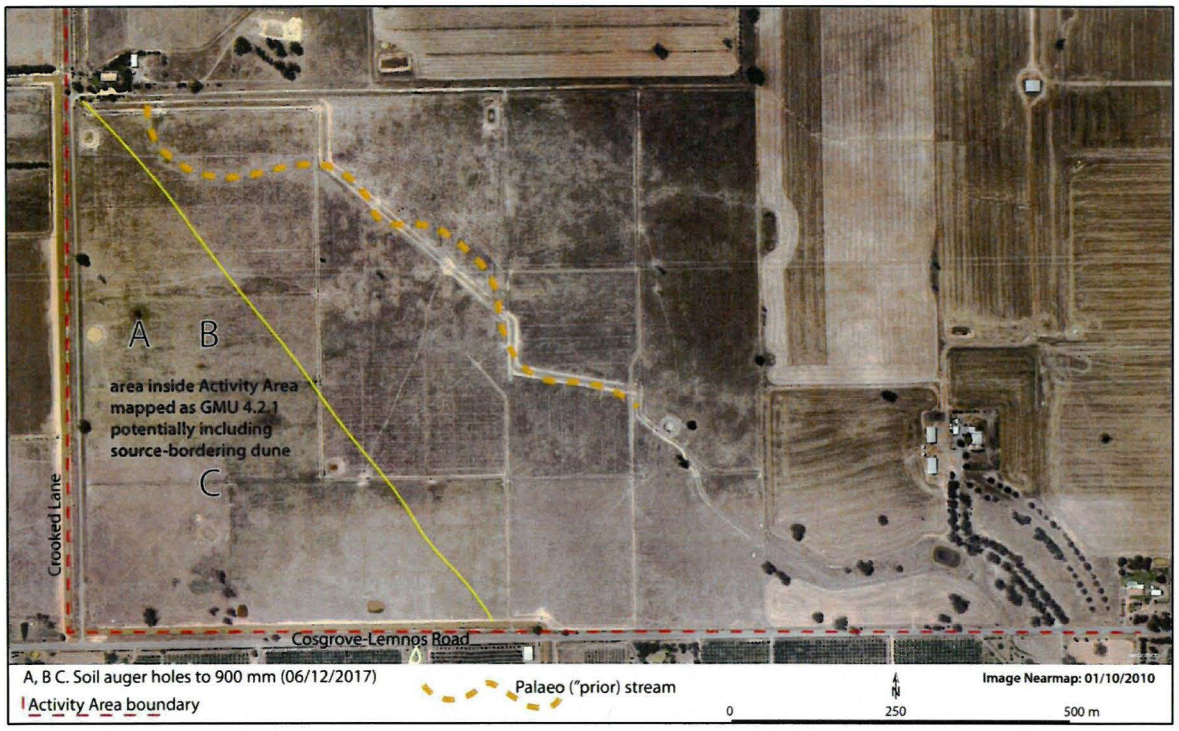

Figure 6. Prior stream trace across northern part of site. Auger holes A, B, C drilled on 6th December 2017. Note that Auger hole A is in an area where 500 mm had been stripped from the surface by 2017 [see Figure 6 and Figure 7] .(Nearmap image 1st October 2010).

2.3 Field Study

The field inspection was conducted between 0930 and 1400 on Wednesday 6th December 2017. After a general view of the site from adjacent public roads (Crooked Lane

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and Cosgrove-Lemnos Road), with permission of the property owner (Cameron Pogue) a foot traverse was made across the site and surface and shallow sub-surface sediments were sampled. Despite the crop cover there is sufficient ground surface exposed between rows, along vehicle wheel marks and in an elongate scrape up to 700 mm deep adjacent to Crooked Lane 80 metres south of the transmission line, to allow widespread assessment of the soil surface in the target area. Several shovel scrapes were made across the site and three holes hand drilled with a 100 mm Jarret head auger at localities A, B, C (Figure 6, Figure 7). As the purpose of the study is to determine the potential presence of dune material and/or dune topography, the material is described as surficial sediment texture rather than displayed as a detailed soil analysis and soil classification.

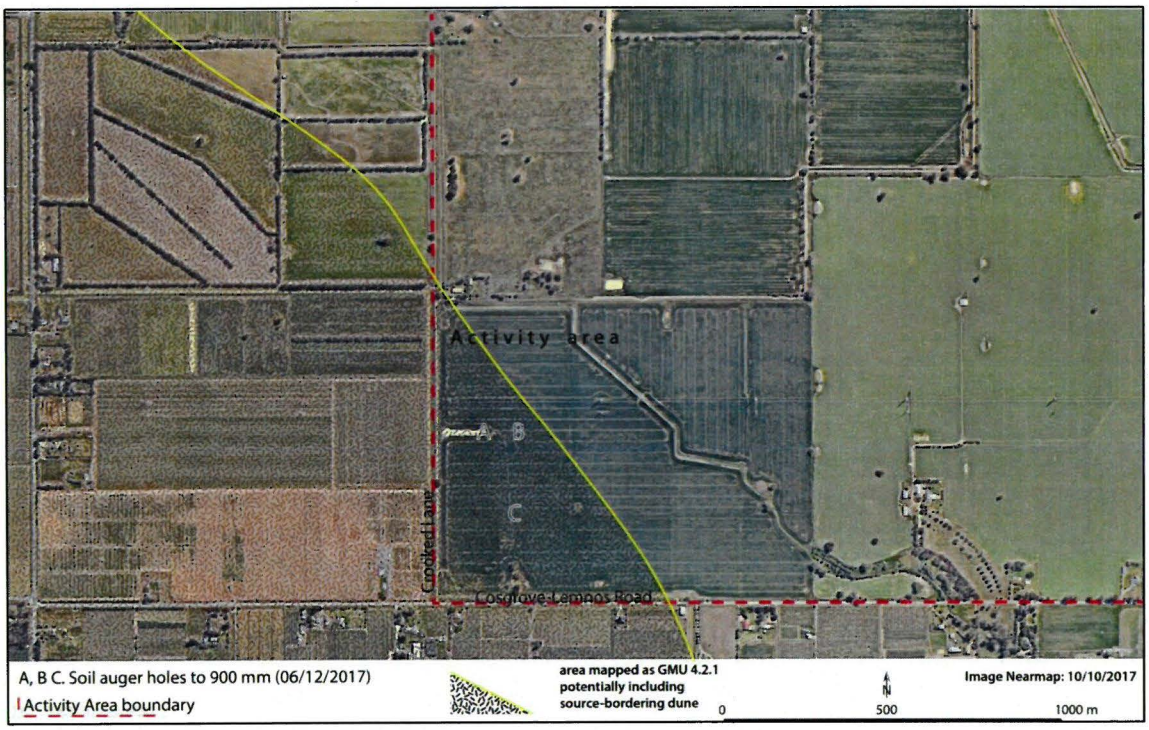

Figure 7. Field site (south and west of yellow line) and auger holes A, B, C drilled on 6th December 2017. (Nearmap image 10th October 2017).

Auger hole A was drilled into the base of an elongate scrape where 500 mm of topsoil had been removed (Figure 8) allowing a total soil sample of 1.7 m.

2.3.1 Surficial sediments

Soil texture, colour and field pH are recorded in Table 1. The soils are of uniform to gradational texture and are light to medium clay or silty clay soil in the topsoil, gradually changing into medium to heavy clay in the subsoil. No material in any profile sample textured as sand. This is consistent with the bore records shown in Figure 5. A distinctive feature is the alkaline trend in the deeper profile with pH of 8.0 to 9.0.

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Figure 8. Soil scrape at auger hole A, allowing total soil inspection of 1.7 metres (photo 6th Dec. 2017).

TABLE 1. Soil Profiles east of Crooked Lane

LOCATION A	**0 - 250 mm**	**250 - 700 mm**	**700 - 950 mm**	**700 - 950 mm**	**950 - 1700 mm**
Field texture	silty clay	medium clay	light clay	light clay	light clay
pH	pH 6.0	pH 8.0	pH 9.0	pH 9.0	pH 8.5
Munsell colour	10YR6/2	10YR4/4	10YR6/2	10YR6/2	10YR5/6
Remarks	whole colour	whole colour	sticky	slaking	slaking
LOCATION B	**0 - 200 mm**	**200 - 500 mm**	**500 - 800 mm**	**700 - 900 mm**	
Field texture	silty clay	light clay	light clay	medium clay	
pH	pH 5.5	pH 6.0	pH 8.0	pH 9.0	
Munsell colour	10YR4/4	10YR5/3	10YR6/2	10YR4/4	
Remarks	whole colour	whole colour	small mottle	weak mottling	
LOCATION C	**0 - 150 mm**	**150 - 750 mm**	**750 - 950 mm**		
Field texture	silty clay loam	silty clay	heavy clay		
pH	pH 6.0	pH 6.5	pH 8.0		
Munsell colour	7.5YR3/2	10YR5/4	10YR6/3		
Remarks	orange-brown mottle	weak mottling	whole colour		

2.4 Soil distribution from previous mapping

An extract from a detailed soil map of the Goulburn Valley (Skene and Poutsma 1962) is shown in Figure 9. The map was prepared by ground survey with data from auger holes drilled between four feet (1.2 m) and seven feet (2.1 metres) and plotted on aerial photographs and transferred to cadastral base maps. The positional and soil type accuracy of the units shown on the map is regarded as very high. Soils are grouped into soil types defined as "A group of soils with the same general profile characteristics including the texture of the surface soil" (Skene and Poutsma 1962, Appendix II page 48). The soil type name used in the survey and shown on Figure 9 is based on the texture of the "topsoil" (A1 to A2 horizon).

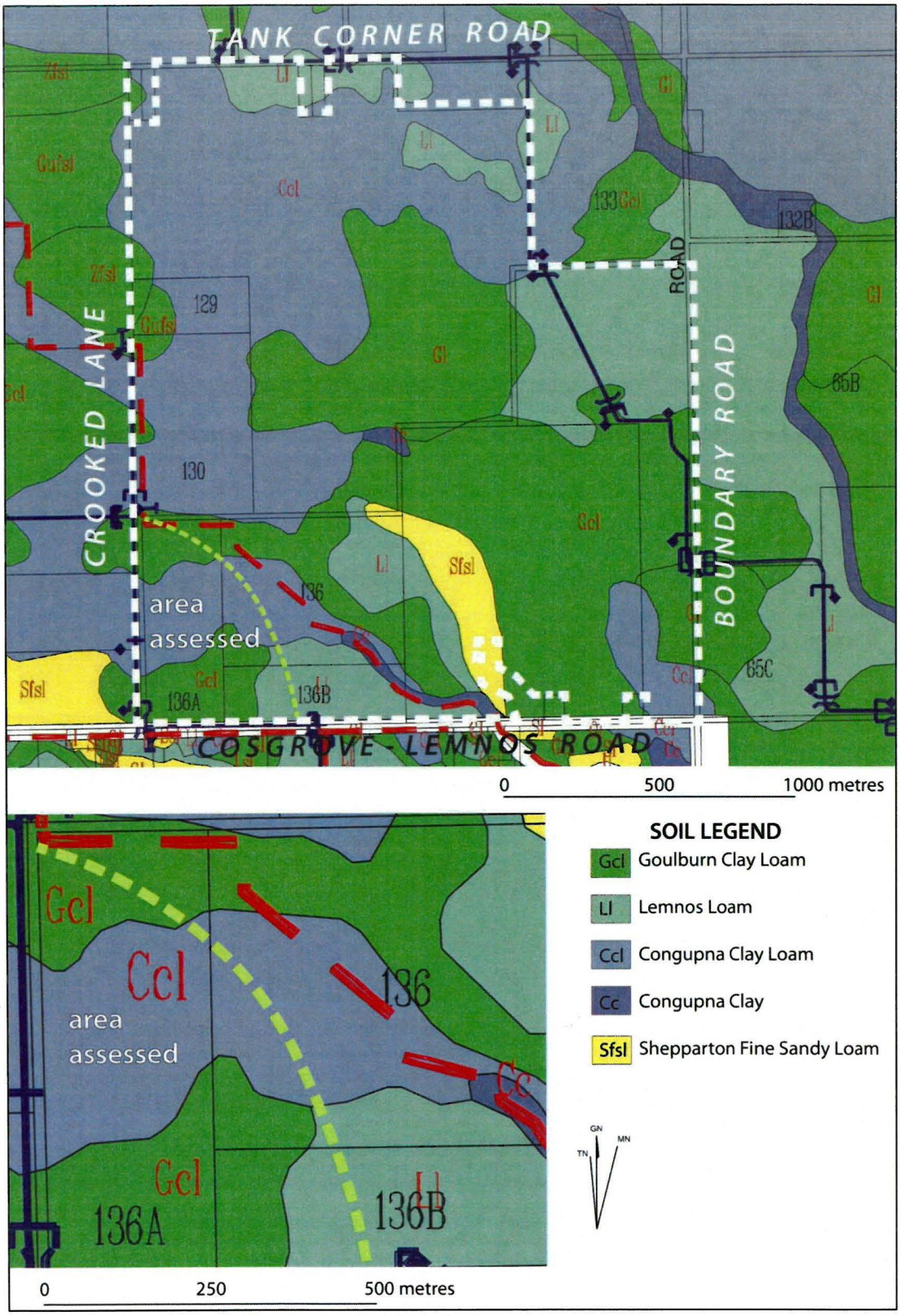

Figure 9. Extract from soil maps prepared by Skene and Poutsma (1962).

The profile descriptions for the three soil types recognised by Skene and Poutsma (1962) in the area assessed inside the broader Activity Area (Figure 9) are reproduced below. (Note that the profile depths are in imperial units of inches below surface).

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Congupna clay loam: Ccl

CONGUPNA CLAY LOAM.

Surface soil—

A 0 to 4 inches; grey to brownish grey (2·5Y to 10YR 4/1)* clay loam, occasionally clay, with rusty colours along root channels; weak to moderate angular blocky structure; hard and brittle when dry; variable amounts of buckshot; at 2 to 5 inches sharply separated from:

Subsoil—

B_1 4 to 21 inches; brownish grey to dark yellow-grey (2·5Y 4/2), heavy clay; moderate angular blocky structure; very hard when dry; weakly structured and more crumbly with depth; grades into:

B_2C 21 to 48 inches +; brownish yellow-grey (2·5Y to 10YR 4/4), sometimes diffusely mottled, medium clay; structureless; crumbly; slight calcium carbonate as soft concretions or in small pockets; usually continues beyond 84 inches.

Goulburn clay loam: Gcl

GOULBURN CLAY LOAM.

Surface soil.

A 0 to 4 inches; grey-brown (10YR 4/2) clay loam, often with fine rusty mottling in root channels; weak angular blocky structure, 2 to 4 inch peds; slight buckshot; at 2 to 6 inches sharply separated from:

Subsoil.

B_1 4 to 18 inches; dull yellowish brown (7.5YR 4/4) sometimes mottled with grey-brown, heavy clay; weak to moderate prismatic structure, peds up to 10 inches; grades into:

B_2C 18 to 33 inches; yellowish brown (10YR 5/6) heavy clay; weak subangular blocky structure; slight calcium carbonate; grades into:

33 to 48 inches +; yellow-grey or mottled light yellowish grey (2.5Y 5/2) medium or heavy clay; slight calcium carbonate.

Lemnos clay: Ll

LEMNOS LOAM.

Surface soil.

A 0 to 5 inches; brown to dull or greyish brown (5 to 7·5YR 4/4) loam, occasionally clay loam, occasionally with weak bleaching in the lower part; at 4 to 7 inches sharply separated from:

Subsoil.

B_1 5 to 18 inches; reddish brown (2·5 to 5YR 4/6) medium or heavy clay; weak to moderate angular blocky structure, peds 1 to 3 inches; consistence varying from friable to hard; grades into:

18 to 24 inches; brown or yellowish brown (7·5YR 4/6) medium clay; less well structured and more friable than above; sometimes slight calcium carbonate; grades into:

B_2C 24 to 48 inches; mottled brown, yellow and grey light, occasionally medium, clay; friable when moist; slight soft and concretionary calcium carbonate; grades into:

48 to 72 inches +; variably mottled; textures usually clay, but occasionally micaceous fine sandy clay or clay loam.

3 ASSESSMENT: IS THIS A SOURCE-BORDERING DUNE?

3.1 Dunes

Dunes are bodies of initially unconsolidated sediment formed either by subaerial (terrestrial i.e. formed in the atmosphere) or subaqueous (under water) processes. Subaerial (aeolian) dunes are sediments mobilised and deposited by wind. Across southern Australia aeolian dune sediments are predominantly of fine to locally medium sand size and are mainly of clastic mineral sediment (quartz and lithic fragments). A distinctive group of dunes - typically at the margins of formerly saline lakes - are aggregates of silt and clay originally forming sand-sized pellets that were readily mobilised by wind. After deposition, the pellets may be disaggregated and form a uniform semi-consolidated material with a loam to clay loam texture.

A wide variety of aeolian dune morphologies occur ranging from ripples a few centimetres high to massive accumulations of regional to sub-continental scale. Dunes may

be classified as **free dunes** whose form is primarily a function of wind characteristics, or **impeded dunes** whose morphology is influenced significantly by other effects such as vegetation, topographic barriers or highly localised sediment sources (Summerfield 1991). Dunes from localised sediment sources are classed as source-bordering dunes and include clay and/or sand lunettes developed from lake depressions, and sand dunes adjacent to dry alluvial channels, notably those with multiple sandy point bars. The modern and ancient channels of the Goulburn River have extensive bodies of relict (inactive) remnant (degraded and reduced in size/extent) source-bordering dunes shown on the Shepparton 1:100,000 geological map (Figure 10.

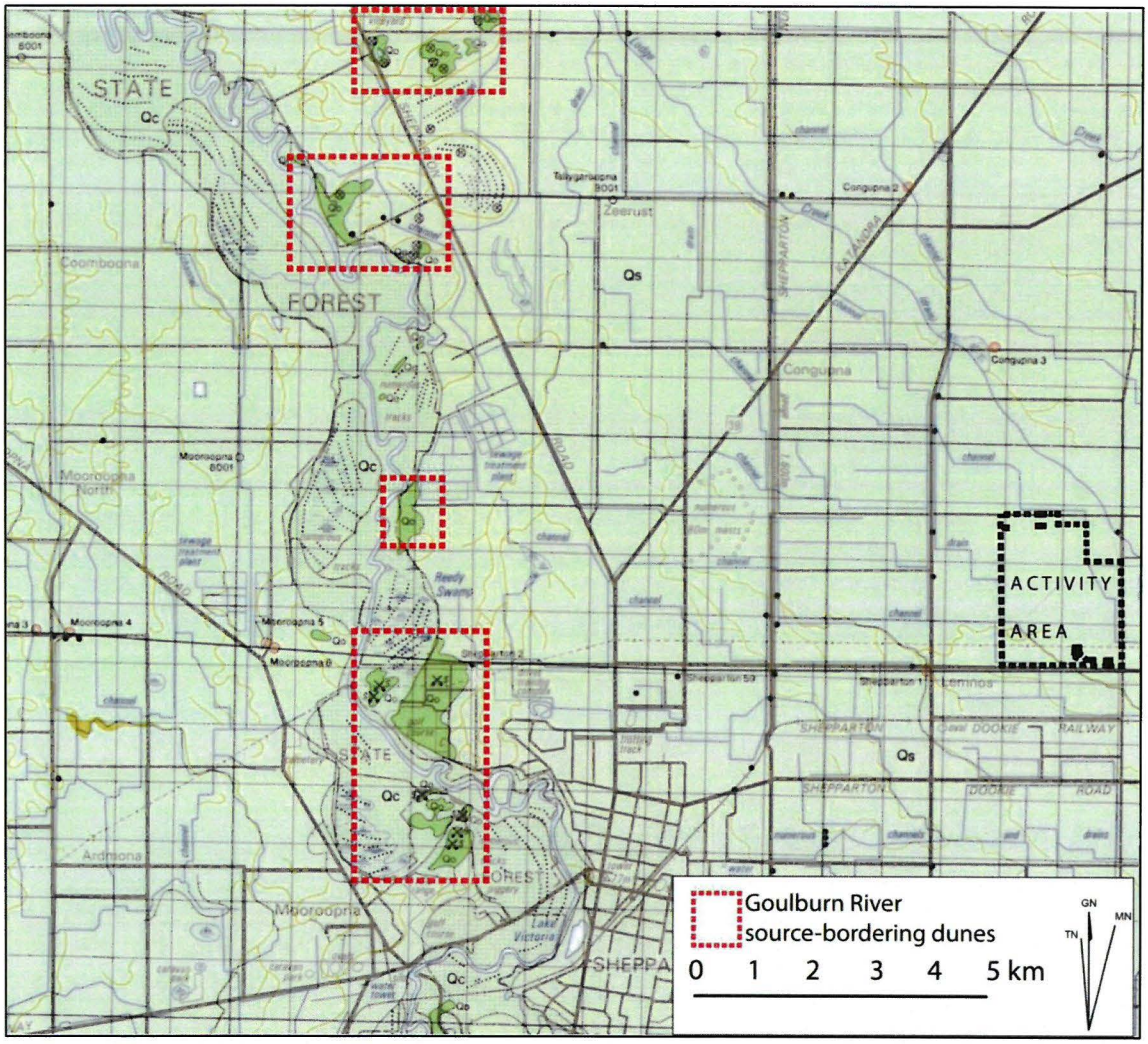

Figure 10. Source-bordering dunes along Goulburn River west of study area. (Extract from Shepparton 1:100,00 geological maps: Geological Survey of Victoria).

3.2 The study area

The extensive literature, imagery, topographical and soil maps and the field study including the subsurface testing did not show topographical or sedimentary/soil evidence of dunes, either present or as remnants of former dune accumulations in the study area. The

present surface as viewed in the field and on high resolution aerial photographs, and the context of modern and palaeo fluvial and aeolian features in this part of the Goulburn Valley is not consistent with the morphology of a dune. There is minimal (sub-metre?) relief across the study area and no defined crest or ridged or convex surface characteristic of dune form – either comprised of sand or aggregates of fines. On the contrary, the area is characterised by very shallow to elongate depressions indicative of remnant stream traces or possible wind scalds.

A distinctive and definitive feature that argues against remnants of source-bordering (or other types) of dunes is that that no material at the surface or sub-surface textured as sand. The field tests for this study are consistent with the published soil maps (Figure 9) showing the upper ~200 to 250 mm of soil are silty clay or rarely silty clay loam while depths of >250 mm textured as light clay to medium clay or heavy clay e.g. auger hole **C.**

4 CONCLUSION

The occurrence of a source-bordering dune with thickness of deposits that would retain evidence of archaeological significance at this site is highly unlikely. There is no evidence of dune material at the site and no topography that indicates a relict source-bordering dune is present. For this to be the case, there would need to be clear evidence of either a substantial palaeo channel with sandy point bars—or an ancient lake floor or depression—upwind i.e. immediately west of the site. Such evidence is lacking. The evidence is that the terrain is a floodplain surface with remnants of palaeo-channels. Small, thin areas of sand outside the present study area e.g. the narrow belt of Shepparton fine sandy loam (Figure 9), originated as low levee banks of an ancient stream i.e. a palaeo-channel and are not regarded as of aeolian origin.

It is concluded that there is no source-bordering dune topography or materials across the study area.

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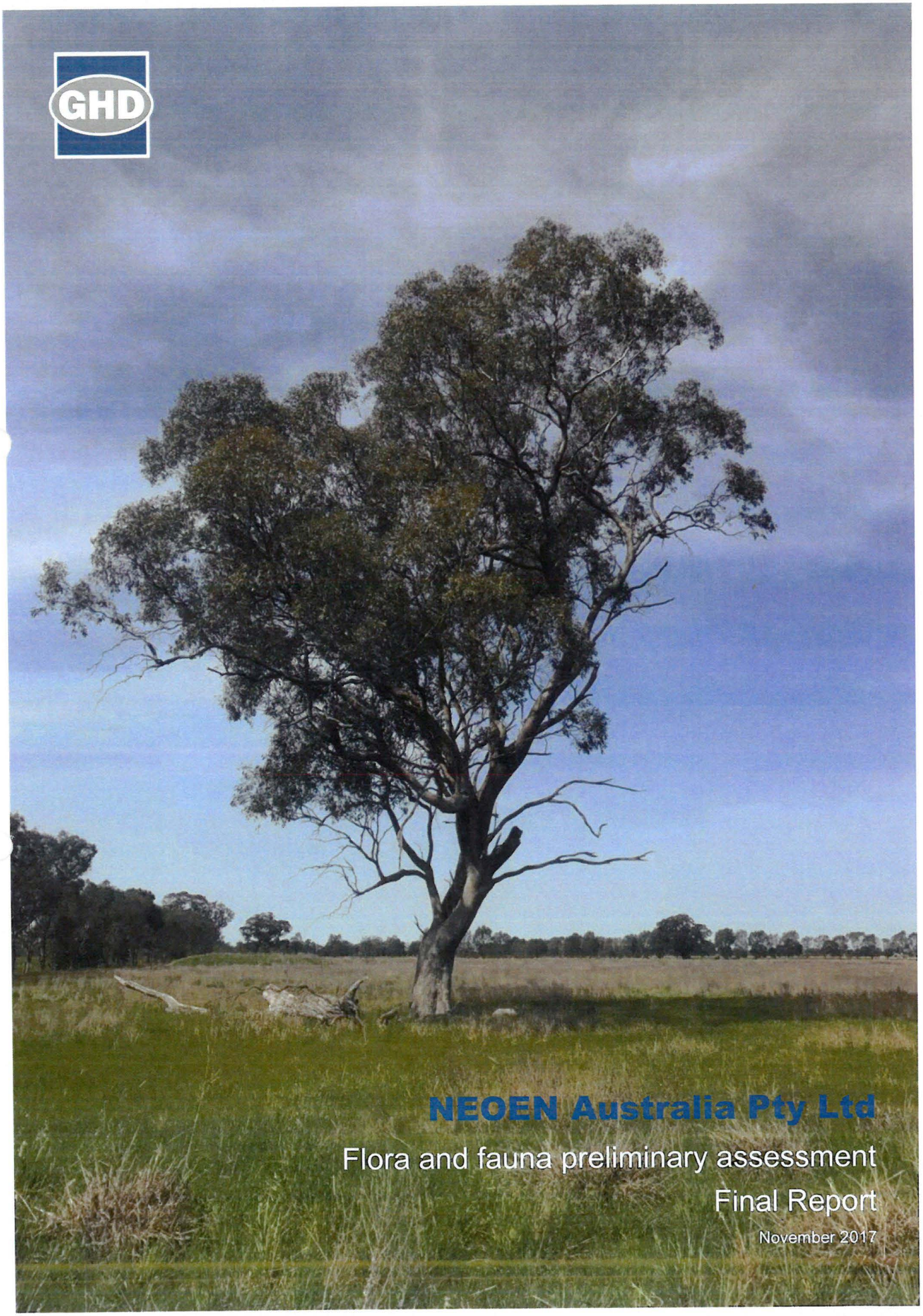

NEOEN Australia Pty Ltd

Flora and fauna preliminary assessment

Final Report

November 2017

Executive summary

This report is subject to, and must be read in conjunction with, the limitations set out in Sections 1.4 and 1.5 and the assumptions and qualifications contained throughout the report.

Introduction

NEOEN (Australia) Pty Ltd proposes to construct and operate a new photovoltaic solar farm near Shepparton in Victoria. The project site is approximately 500 hectares and consists of nine allotments. To inform environmental approval and permit requirements, GHD undertook a desktop review of flora, fauna and vegetation recorded in the general area within 10 km of the project site, including where the proposed development will be constructed. A field assessment was carried out to confirm the results of the desktop review and to record flora and native vegetation in the project site, and to broadly evaluate habitat quality and availability.

This document discusses the implications of relevant environmental legislation and policy, and provides recommendations on how impacts on ecological values might be mitigated to avoid or minimise impacts on biodiversity.

Ecological values

The property and surrounding area is almost entirely converted to agricultural crops and pasture, but supports a number of scattered native trees and five small remnant patches of native vegetation. Prior to clearing for agriculture, the EVC mapping indicates that the property would have been Plains Woodland (EVC 803). The total amount of native vegetation on the property is equivalent to 0.46 ha of remnant patches and 1.87 ha of scattered trees. NEOEN proposes to remove 22 scattered trees, equivalent to 1.547 ha.

Many of the scattered trees are hollow bearing and have potential to provide habitat for fauna including some threatened fauna species. Farm dams and irrigation channels in the project site may also provide habitat for frogs - although they may not provide permanent habitat due to ephemeral nature.

No Matters of National Environmental Significance listed under the Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* were recorded during the field survey. No species or vegetation communities listed as threatened or protected under the *Flora and Fauna Guarantee Act 1988* (FFG Act) were recorded during the field survey.

In total, 53 plant species (10 native, 43 introduced) were recorded during the field survey, including five declared noxious weeds and two Weeds of National Significance. No rare or threatened flora were recorded and none are likely to occur since the project site is dominated by agricultural and weed species and is significantly disturbed by grazing, non-native predators, soil levelling and irrigation.

Since the site is mostly cleared of vegetation for agriculture including grazing, it is unlikely to support important habitat for threatened fauna.

Considerations to inform project design – avoidance and minimisation

- Confirm with the Department of Environment, Land, Water and Planning (DELWP) whether any wetlands are mapped for the project site (wetland mapping is currently unavailable). There is the potential for areas that have been mapped as non-native vegetation to be within the DELWP wetland extent layer. Any of these areas (regardless of the percentage cover of native vegetation) would be counted as native vegetation when confirming overall impacts and offsets for the project.

- Retain remnant vegetation and scattered trees where possible.
- Manage removal of large, hollow-bearing trees/limbs and coarse woody debris to protect habitat for fauna where possible.
- Obtain an arborist's report to identify and quantify whether construction and any associated works (e.g. fencing) will encroach Tree Protection Zones of any retained trees.
- Develop and implement mitigation measures for incorporation into an Environmental Management Plan to minimize the potential for ecological impacts within and around the site before, during and after the construction process.

Permits and approvals

Removal of 22 scattered trees will require the following:

- A permit to remove native vegetation under the *Planning and Environment Act 1987* in accordance with the Permitted clearing of native vegetation – Biodiversity assessment guidelines. The project will be assessed under the Moderate risk-based pathway.
- A permit (Management Authorisation) under the *Wildlife Act 1975* may be required for salvage, handling and disturbance of native fauna that may be at risk of harm during construction.
- A referral to the Commonwealth Environment Minister for a determination under the *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999* is unlikely to be required. However, this can only be determined once a zoologist has completed a thorough investigation.

Offsets

Should a permit be granted, a general native vegetation offset equivalent to 0.059 general biodiversity equivalence units with a minimum strategic biodiversity score of 0.101 will be required. Offsets should be sourced from within the Goulburn Broken CMA or Greater Shepparton City Council.

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Appendix B – Species list of flora recorded in the project site
Appendix C – EPBC Act and FFG Act listed threatened fauna and Victorian Advisory List threatened fauna (predicted and post-1980)
Appendix D – Biodiversity and offset requirements report

Abbreviations

BAR	Biodiversity assessment report
CMA	Catchment Management Authority
DELWP	Victorian Department of Environment, Land, Water and Planning (formerly DEPI, DSE, DNRE)
DEPI	Victorian Department of Environment and Primary Industries (now DELWP)
DNRE	Victorian Department of Natural Resources and Environment (now DELWP)
DotE	Commonwealth Department of the Environment (formerly DSEWPaC)
DoEE	Commonwealth Department of the Environment and Energy (formerly DotE)
DSE	Victorian Department of Sustainability and Environment (now DELWP)
EMP	Environmental Management Plan
EPBC	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EVC	Ecological Vegetation Class
FFG	Victorian Flora and Fauna Guarantee Act 1988
GSCC	Greater Shepparton City Council.
HabHa	Habitat hectare
NEOEN	NEOEN (Australia) Pty Ltd
PMST	Protected Matters Search Tool
sp.	One species
spp.	More than one species
subsp.	Subspecies
var.	Variety
VBA	Victorian Biodiversity Atlas
WoNS	Weeds of National Significance

1. Introduction

1.1 Project site and project development

The project site is approximately 3 km north-east of Shepparton in north central Victoria (Figure 1). The site comprises nine parcels of land on private property, in the farming area of Lemnos, north-east of Shepparton (Figure 1). The project site is approximately 500 hectares and consists of the following:

- Crown allotment 136
- Crown allotment 136A
- Crown allotment 136B
- Lot 1 TP 216608R
- Lot 2 TP 216608R
- Lot 3 TP 216608R
- Lot 2 PS 522294T
- Lot 2 PS 438919
- Lot 3 PS 322687N

The project site is located in the Greater Shepparton City Council Local Government Area, Goulburn Broken Catchment Area and the Victorian Riverina Bioregion. It is bounded by Tank Corner East Road to the north, Cosgrove-Lemnos Road to the south, Crooked Lane and an unnamed road to the west and Boundary Road to the east.

The project site is flat with very minor elevation change (< 2 m). The area is mostly used for dryland and irrigated agriculture. It is mostly cleared of native vegetation but some scattered large old trees remain throughout the project site and small patches of native vegetation remain along the creekline to the south and along fencelines. Otherwise the area is converted to crops and paddocks.

In this report, there is reference to both the project site and the study area. The project site refers to the entire property, shown in Figure 1. The study area is the search area for the desktop assessment, including private properties and roadsides within 10 km of the project site. This covers a much broader area than the expected zone of impact but this additional information provides context for the significance of any ecological features recorded from the project site (for example, whether they are part of a larger area, or whether impacts could extend to ecological features outside the project site). Biodiversity values in the broader study area were only assessed at a desktop level.

1.2 Scope of works

The project site consists of nine parcels of land, covering an area of approximately 500 hectares. The scope of this assessment and report is to:

- Identify the likely botanical values (plant species and vegetation communities) within 10 km of the project site, recorded since 1980
- Evaluate the potential fauna values (species and habitat) within 10 km of the project site, since 1980

- Inspect the project site to determine the likelihood of occurrence of rare or threatened flora and fauna
- Provide preliminary information to NEOEN regarding the potential ecological constraints to the development
- Identify the risk-based pathway for native vegetation removal and offset requirements in the proposed development area, in accordance with DEPI (2013)
- Discuss potential legislative requirements of the proposed works (with respect to terrestrial flora and fauna impacts)
- Determine the need for further ecological surveys (e.g. targeted surveys for threatened species)

1.3 Purpose of this report

The purpose of this report is to document ecological and biodiversity values, particularly native vegetation and habitat for significant species that occur within the project site and could be impacted by the works associated with the proposed project. The report provides recommendations to minimise or avoid impacts on these values and is intended to inform the project planning and environmental approvals process.

1.4 Limitations and assumptions

This report has been prepared by GHD for NEOEN Australia Pty Ltd and may only be used and relied on by NEOEN Australia Pty Ltd for the purpose agreed between GHD and the NEOEN Australia Pty Ltd as set out in Section 1.3 of this report.

GHD otherwise disclaims responsibility to any person other than NEOEN Australia Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The services undertaken by GHD in connection with preparing this report:

- Were limited to those specifically detailed in the report and are subject to the scope limitations stated in this section and also set out in the report.
- The desktop assessment included vascular plant species (ferns, conifers and flowering plants) and terrestrial vertebrate fauna (mammals, birds, reptiles and frogs). Non-vascular flora (e.g. mosses, liverworts, lichens), fungi and terrestrial invertebrates have not been considered.
- Included a brief field investigation as part of the ecological assessment during early spring. Some native flora are difficult to locate or identify at this time of year, owing to a lack of reproductive material and/or the seasonal nature of some species (in particular, native orchids and forbs that may flower for limited periods later in spring or flower at other times of the year). Additional native species may be recorded at the site at other times of the year. It is possible that threatened flora is present but were not detected. This assumption is supported by consideration of records from the Victorian Biodiversity Atlas (VBA) databases, which span all seasons and many years.
- Freshwater fauna have not been considered in this assessment.
- Did not consider targeted surveys for rare or threatened species. It was beyond the scope of this assessment to apply more detailed flora or fauna survey techniques.
- Were limited by a lack of availability of mapping data with respect to FFG Act listed vegetation and wetlands, which are currently unavailable on NatureKit.
- Assume that there will be no impacts to native vegetation outside the proposed development area shown in Figure 1.

Using the VBA database, a defined geographical area can be searched to produce lists and details of flora and fauna species that have been documented within the defined search area. These database results are only as accurate as the quality and quantity of data that have been recorded and documented from the area. The use of the database for this assessment has the following limitations:

- Observations are regularly updated but there is a delay. Consequently, all known records, particularly recent records, may not be available at the time of use. The VBA was accessed in September 2017.
- This dataset is not exhaustive. Many locations locally and across Victoria have a low level of documented survey effort for one or more groups of flora and fauna. During field surveys, it is not uncommon to find species at locations for which there are few or no previous nearby database records.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described below. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by NEOEN Australia Pty Ltd and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

Maps in this report displaying site information should not be relied on for the detailed design during the construction process.

Assumptions

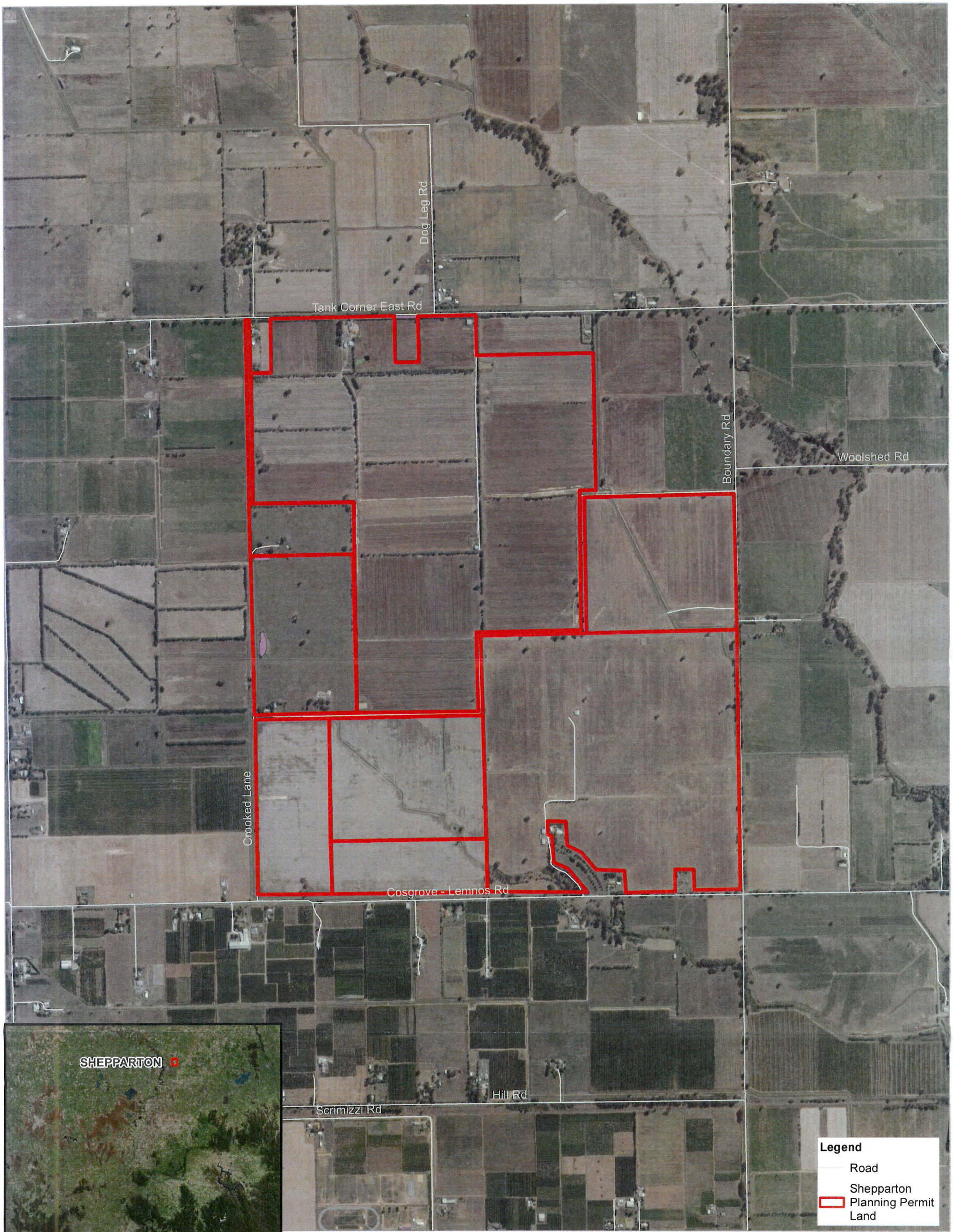
The following assumption was made while undertaking the ecological assessment:

- There will be no impacts to native vegetation outside the proposed development area shown in Figure 1.
- Permit and offset requirements are derived from proposed vegetation losses (22 scattered trees), provided by NEON to GHD on 12 October 2017.
- The assessment of the project site does not consider impacts arising from fencing, amenity plantings, fire access tracks and fire buffers if required. These may require additional assessment.

1.5 Acknowledgements

GHD acknowledges the assistance, advice and/or information provided by:

- The Victorian Department of Environment, Land, Water and Planning (DELWP) for access to the VBA database and NatureKit, and provision of offsetting requirements.
- The Commonwealth Department of Environment and Energy (DoEE) for access to its Protected Matters Search Tool (PMST).



Paper Size ISO A3

0 0.085 0.17 0.255 0.34 0.425

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

Study Area

Project No. **31-35556**
Revision No. **A**
Date **26/09/2017**

FIGURE 1

G:\31\35556\GIS\Maps\Working\31135556_01_Study_Area.mxd
Print date: 26 Sep 2017 - 12:02

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; VicMap, Vicmap Reference, 2014; DELWP,Threathened Fauna/Flora/EVC Layer,2017. Created by: fklandy

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2. Methods

2.1 Desktop assessment

A desktop review of available biodiversity databases was undertaken to identify potential terrestrial flora and fauna values associated with the project. The desktop review of the search area included the following:

- The Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999 Protected Matters Search Tool (PMST)[1]
- The Victorian Biodiversity Atlas (VBA), maintained by the Department of Environment, Land, Water and Planning (DELWP)[2]. Data from 1980 to the present were searched.
- NatureKit – maintained by DELWP[3]:
  - Ecological Vegetation Classes (EVCs)
  - Strategic Biodiversity Scores
- The Native Vegetation Information Management tool (NVIM), maintained by DELWP[4]
- Native Vegetation Location Risk 2013 v2

2.2 Field assessment

An assessment of the project site was undertaken by GHD staff Fiona Coates (Senior Botanist) and Patrick Maiden (Principal Aquatic Ecologist) on 21 September 2017.

The botanical assessment involved walking to remnant patches of vegetation and scattered trees identified from aerial imagery and on the ground, recording its extent and quality, the occurrence or potential for occurrence of communities and/or species listed as threatened under the Commonwealth *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999* or the Victorian *Flora and Fauna Guarantee* (FFG) *Act 1988*, and habitat for rare or threatened species.

A desktop fauna assessment was undertaken and compared with a site assessment to verify the accuracy of the desktop information. The project site was accessed on foot and by vehicle over the course of the day to identify and describe the main fauna habitat types and their condition, assess habitat connectivity and evaluate and the likelihood of occurrence of threatened fauna.

2.2.1 Flora

The botanical field assessment included:

- Recording observed native and dominant and/or significant introduced plant species.
- Assessing the likelihood of occurrence of rare or threatened flora (based on their known or predicted occurrence within 10 km of the project site, and available suitable habitat).
- Recording the location of any threatened flora.

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[1] http://www.environment.gov.au/epbc/protected-matters-search-tool (accessed on 14/09/17)

[2] https://www.environment.vic.gov.au/biodiversity/victorian-biodiversity-atlas (accessed on 14/09/17)

[3] http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit (accessed on 14/09/17)

[4] https://nvim.delwp.vic.gov.au/ (accessed on 14/09/17)

2.2.2 Native vegetation

Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'. For the purpose of the *Biodiversity assessment guidelines* (DEPI 2013), native vegetation is classified into two categories:

- A **remnant patch** of native vegetation is either a) an area of native vegetation[5], with or without trees, where at least 25% of the total perennial understorey plant cover is native plants, or b) an area with three or more indigenous canopy trees where the tree canopy cover is at least 20%.
- **Scattered trees** consist of indigenous canopy trees that do not form part of a remnant patch of native vegetation.

Vegetation Quality Assessment

During the site assessment, the quality and quantity of native vegetation ('**habitat hectares**') was assessed in accordance with the *Vegetation Quality Assessment Manual – guidelines for applying the habitat hectare scoring method* (DSE 2004), and EVC benchmarks for the Victorian Riverina Bioregion.

In anticipation of proposed changes to planning provisions (see Section 5), diameter at breast height (DBH) was measured for all scattered trees. Some trees in canola crops were inaccessible and DBH was estimated in these cases (22 trees).

2.2.3 Weeds

The *Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants* is a listed key threatening process under the EPBC Act. In addition, *Invasion of native vegetation by 'environmental weeds'*, is a listed potentially threatening process under the FFG Act.

A list was compiled of all recorded noxious weeds listed under the *Catchment and Land Protection Act* 1994 and Weeds of National Significance recorded for the study area and verified in the project site during the field assessment (Section 3.7).

2.3 Fauna

The assessment of potential threatened fauna and ecological communities focussed on a review of desktop information, including previous records, predicted occurrence of species/communities and an assessment of potential habitats from aerial imagery and native vegetation mapping. A field assessment was also undertaken during which the type, condition and extent of habitats in the project site was documented. This included collecting information on the the extent and types of waterways, frequency of hollow-bearing and large old trees, habitat structure, current land use and disturbance history.

Following the field assessment, the likelihood of threatened fauna occurring in the project site was evaluated, based on habitats observed, the distribution of nearby species records and the frequency and date of those records.

It is important to note that targeted surveys were not undertaken for any threatened fauna during the current survey. Targeted surveys, using species specific methods may provide greater confidence in any assessment of the likelihood of a species occurring in the project site and enable a better understanding and assessment of the value of the habitats within the project site for threatened and near-threatened fauna.

[5] Continuous and unbroken native vegetation. A break in remnant patch will occur where the definition of remnant patch has not been met for a continuous width of at least 10 m (DEPI 2013).

2.4 Nomenclature

Common and scientific names for flora and fauna follow the VBA database (2017 version), unless otherwise noted.

2.4.1 Vegetation communities

Native vegetation in Victoria is classified into units known as Ecological Vegetation Classes (EVCs), which are described according to a combination of floristic, life form and ecological characteristics, and through an inferred fidelity to particular environmental attributes. Each EVC occurs under a common regime of ecological processes within a given biogeographic range, and may contain multiple floristic communities (DNRE 2002).

Other vegetation types that may occur in Victoria include ecological communities listed as threatened under the Commonwealth EPBC Act and/or the Victorian FFG Act. These two Acts both have vegetation classification systems that are distinct from each other and also distinct from the EVC classification system. Consequently, any single patch of native vegetation occurring within a site (or anywhere in Victoria) would be classifiable as a particular EVC but may also be classified as a different vegetation community under the EPBC Act, and/or as another vegetation community under the FFG Act.

2.4.2 Fauna communities

Unlike flora and the use of EVCs, there is no official widespread classification system for fauna communities in Victoria. Both the EPBC Act and the FFG Act list a small number of fauna communities that are considered to be threatened, at a national or State scale, respectively. Fauna communities known occur or potentially occurring at the site or surrounds are only considered in this report if they are listed under either of these two Acts.

3. Results – Flora and Vegetation

3.1 Ecological Vegetation Classes

Desktop assessment

Prior to clearing, the project site is most likely to have consisted of Plains Woodland (EVC 803; *syn. Riverina Plains Grassy Woodland*), dominated by *Eucalyptus microcarpa* (Grey Box), *E. camaldulensis* (River Red Gum) and possibly *Allocasuarina luehmannii* (Buloke), with a sparse understorey of medium and low shrubs.

Twenty-five EVCs have been mapped as remnant native vegetation within the 10 km study area at a scale of 1:25 000 by DELWP (2017). All of these are considered depleted or threatened in the Riverina Bioregion. Only one, Plains Woodland (EVC 803) is mapped in the project site (Figure 2). However, aerial imagery indicated that very little, if any native vegetation remained, other than scattered trees.

Other vegetation of note included rows of trees along fence lines, which appeared to have been planted as windbreaks, firewood or shelter for stock.

Field assessment

No intact Ecological Vegetation Classes remain in the project site which is almost entirely converted to irrigated crops, mainly wheat and canola, or have been grazed by stock (Plate 1, Plate 2). Some areas of seasonally inundated gilgai formations may have occurred but these areas have been heavily levelled for agriculture. Evidence of recent fire was recorded (e.g. fire scars on trees, Plate 3).

Remaining native vegetation consists of *Eucalyptus microcarpa* (Grey Box) and occasionally E. *camaldulensis* (River Red Gum) trees scattered throughout cropped areas, around dams and along fence lines. Understorey and ground flora were almost entirely absent. Most patches of native vegetation consisted of River Red Gum regeneration and some scattered native species in and around dams, which were otherwise very weedy. Where close to wheat crops, much of the low-growing native vegetation had been sprayed and killed. These species included *Juncus subsecundus* (Finger Rush), *Eleocharis acuta* (Common Spike-sedge), *Poa labillardierei* (Common Tussock-grass), *Cyperus gunnii* (Flecked Flat-sedge), *Laphangium luteoalbum* (Jersey Cudweed) and *Lythrum hyssopifolia* (Small Loosestrife). Otherwise, the vegetation was dominated by *Cynodon dactylon* var. *dactylon* (Couch), *Paspalum distichum* (Water couch), *Paspalum dilatatum* (Paspalum), *Helminthotheca echioides* (Ox-tongue), *Bromus catharticus* (Prairie Grass), *Erodium brachycarpum* (Hairy-pit Heron's-bill), *Conyza sumatrensis* (Tall Fleabane), *Plantago lanceolata* (Ribwort) and *Vicia sativa* (Common Vetch).



Plate 1 Wheat crop with planted vegetation along fencelines



Plate 2 Canola crop, adjacent to remnant vegetation



Plate 3 Fire-scarred Grey Box

Grazed paddocks grazing consisted of a range of introduced pasture species, such as *Hordeum* spp. (Barley), *Lolium perenne*. (Rye), *Bromus catharticus* (Prairie Grass), *B. diandrus* (Great Brome), *Holcus lanatus* (Yorkshire Fog-grass) and *Dactylis glomerata* (Cocksfoot). A number of declared noxious weeds were recorded throughout these areas (Section 2.2.3). One native species, *Carex inversa* (Common Sedge) was recorded.

Areas around irrigation banks and tracks were also weedy and dominated by introduced species, mainly *Lolium perenne* (Wimmera Rye-grass) and *Romulea rosea* (Onion Grass).

Rows of trees readily identifiable from aerial imagery consisted of alternating individuals of River Red Gum and non-indigenous natives *Melaleuca styphelioides* (Prickly Paperbark) and *Melaleuca* sp. The row of trees seen along the northern boundary of the project site consisted of the environmental weed *Pinus radiata* (Radiata Pine).

3.2 Remnant patches

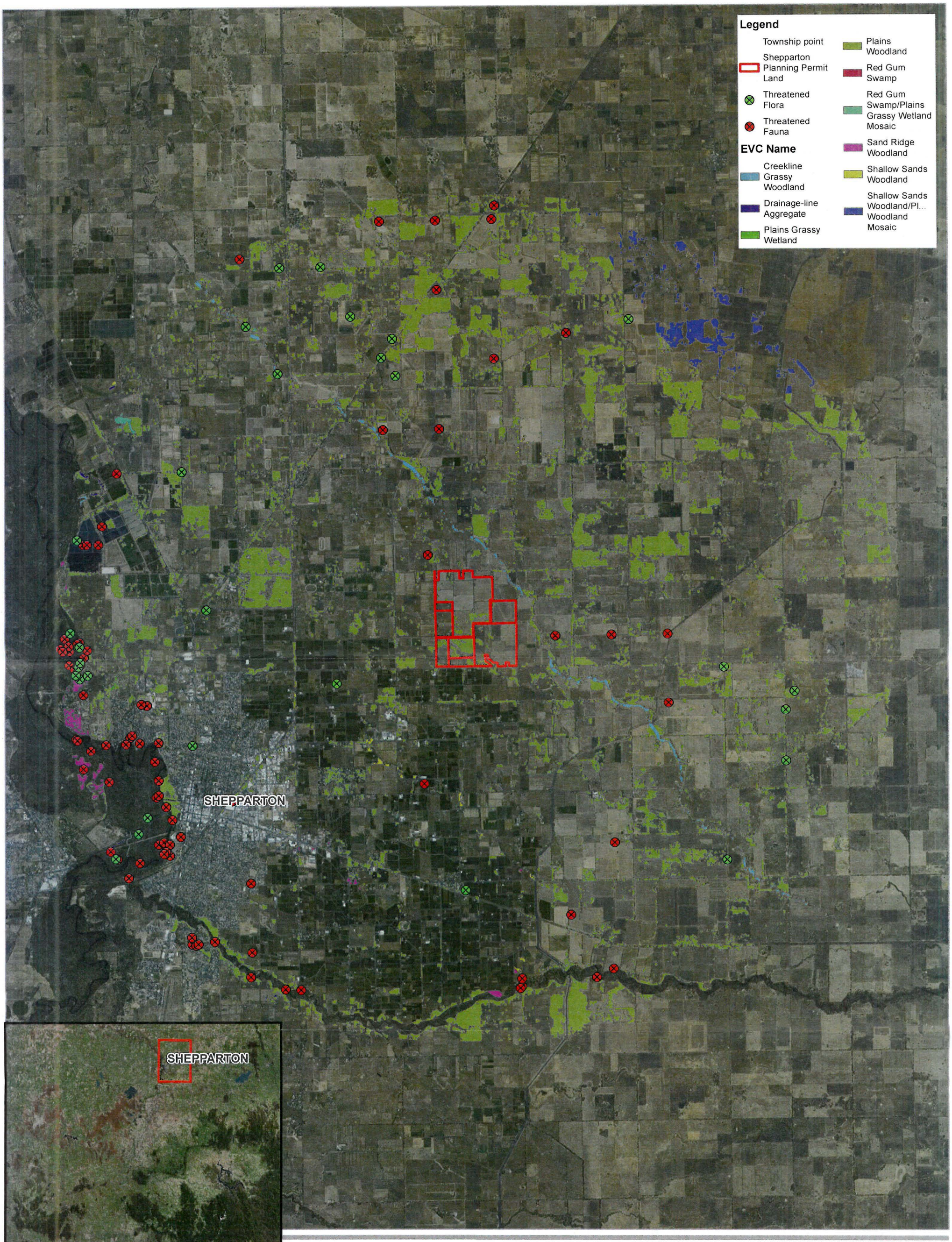
Five patches of remnant native vegetation were recorded, each consisting of small groups of scattered trees and lacking a perennial native understorey or groundlayer, equivalent to 0.46 ha (Figure 3).

3.3 Scattered trees

In total, 132 scattered trees were recorded in the proposed development area (Figure 3). These trees were mainly large old Grey Box (113 individuals), the majority of which (84%) were in excess of the benchmark for a Large Old Tree DBH (70 cm). Seven trees were River Red Gums, with six of these exceeding the benchmark DBH (70 cm).

Twelve scattered trees were dead but exceeded the dead tree benchmark (DBH 40 cm).

Live tree diameters ranged from 50 cm to 223 cm and 85% of trees (both dead and alive) were hollow-bearing.



Paper Size ISO A3

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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

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Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

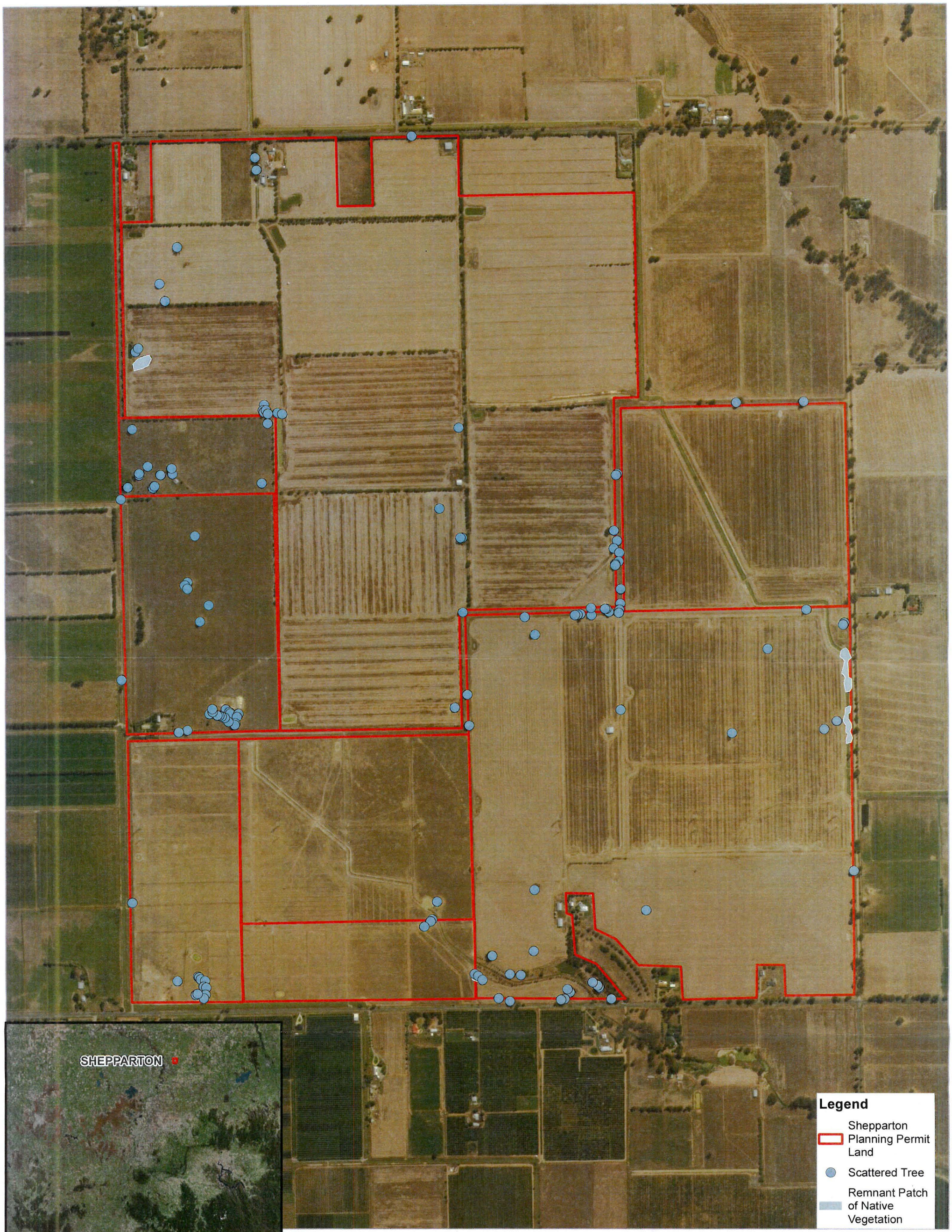
10k VBA Map

Project No. 31-35556
Revision No. B
Date 26/09/2017

FIGURE 2

G:\31\35556\GIS\Maps\Working\310922553_EVC_Map_RevB.mxd
Print date: 26 Sep 2017 - 11:27

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; VicMap, Vicmap Reference, 2014; DELWP,Threathened Fauna/Flora/EVC Layer,2017. Created by: fklandy



Paper Size ISO A3

0 0.06 0.12 0.18 0.24 0.3

Kilometers

Map Projection: Transverse Mercator
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Grid: GDA 1994 MGA Zone 55

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Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

Collector Results

Project No. **31-35556**
Revision No. **A**
Date **26/09/2017**

FIGURE 3

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Print date: 26 Sep 2017 - 12:01

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; VicMap, Vicmap Reference, 2014; DELWP,Threathened Fauna/Flora/EVC Layer,2017. Created by: fklandy

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3.4 Threatened ecological communities

Desktop assessment

Desktop searches identified five ecological communities listed as threatened under the EPBC Act (Table 1) as potentially occurring within the study area. None of these are currently mapped in the project site and the field inspection confirmed that none were likely to occur, since the area has been almost totally converted to agriculture.

Mapping of threatened vegetation communities listed under the FFG Act are currently not available on NatureKit (DELWP 2017). Some FFG Act listed communities can be analogous with EPBC Act listed threatened ecological communities; however, given the current ecological condition of the project site this was considered unlikely.

Table 1 Listed Ecological Communities mapped or predicted to occur within 10 km of the project site

Ecological Community	Status	Legislation	Likelihood
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	EPBC Act	Known to occur
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	EPBC Act	Likely to occur
Natural Grasslands of the Murray Valley Plains	Critically Endangered	EPBC Act	May occur
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	Critically Endangered	EPBC Act	Likely to occur
White Box–Yellow Box–Blakely's Red Gum Grassy Woodland and Derived Native Grasslands	Critically Endangered	EPBC Act	May occur

Field assessment

No EPBC Act or FFG Act listed ecological communities were recorded during the assessment.

3.5 Species

Desktop assessment

The VBA holds records of 308 species within 10 km of the project site, recorded between 1980 and 2011. These records include 150 native species and 158 introduced species. There are no records for native flora in the project site and very few records for weeds. This scarcity of records is likely to reflect lack of survey effort, rather than an accurate ecological picture. Nevertheless, since the area has been almost entirely converted for agriculture, few native flora other than remnant scattered trees would be expected.

Field assessment

In total, 10 indigenous native species and 43 introduced and non-indigenous native species that were most common throughout the project site were recorded (Appendix B). Survey effort was concentrated around areas with highest natural values owing to the large area of the project site and time constraints.

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3.6 Flora of conservation significance

Desktop assessment

'Listed' rare or threatened flora are species scheduled under the Commonwealth EPBC Act and/or the Victorian FFG Act. 'Protected flora' are also included under the FFG Act and require a permit 'to take' (kill, injure or disturb) but are not necessarily listed as threatened. Species may also be considered rare or threatened in Victoria if included on the Advisory List of Rare or Threatened Plants in Victoria – 2014 (DEPI 2014). Inclusion on the Advisory List does not indicate legal protection unless a species is also listed as threatened or protected under biodiversity legislation.

In total, five rare, threatened or poorly known plant species are recorded in the VBA within 10 km of the project site.

Since there are no flora recorded on the VBA within the last six years (Figure 2) in the study area, there remains a possibility that additional rare, threatened or poorly known flora may occur within the project site. As a general rule, rare, threatened or poorly known flora are most likely to occur in patches of native vegetation, especially where protected from browsing and grazing, and least likely in areas of non-native vegetation.

3.6.1 EPBC Act

Desktop assessment

No plant species listed as threatened under the EPBC Act are recorded on the VBA from within 10 km of the project site (i.e. the study area). The PMST predicts that seven EPBC listed threatened species 'may' occur or are 'likely' to occur in the search area:

- *Amphibromus fluitans* (River Swamp Wallaby-grass) (Vulnerable) (PMST)
- *Austrostipa wakoolica* (a spear grass) Endangered) (PMST)
- *Brachyscome muelleroides* (Mueller Daisy Gum) (Vulnerable) (PMST)
- *Glycine latrobeana* (Clover Glycine) (Vulnerable, PMST)
- *Myriophyllum porcatum* (Ridged Water-milfoil) (Vulnerable) (PMST)
- *Sclerolaena napiformis* (Turnip Copperburr) (Endangered) (PMST)
- *Swainsona recta* (Mountain Swainson-pea, Small Purple Pea) (Vulnerable) (PMST)

Field assessment

No flora listed under the EPBC Act were recorded during the field assessment and it is unlikely that suitable habitat exists in the project site for any of these species.

3.6.2 FFG Act

Desktop assessment

Two species of FFG listed flora are recorded on the VBA within 10 km of the project site:

- *Allocasuarina luehmannii* (Buloke)
- *Brachyscome chrysoglossa* (Yellow-tongue Daisy)

Field assessment

No flora listed as threatened or protected under the FFG Act were recorded during the field assessment and it is unlikely that suitable habitat exists in the project site for any of these species.

3.6.3 DELWP Advisory List

Desktop assessment

There are VBA records of five species recognised as poorly known, rare, vulnerable or endangered in Victoria on the Advisory list (DEPI 2014) within the study area (Table 2, Figure 2). Some of these are also listed as threatened under the FFG Act (Section 3.6.2).

Table 2 Rare or threatened flora recorded in the study area

Scientific name	Common name	Advisory List Status	No of records	Years recorded
Allocasuarina luehmannii	Buloke	endangered	11	1986-2008
Brachyscome chrysoglossa	Yellow-tongue Daisy	vulnerable	1	2002
Anthosachne kingiana subsp. *multiflora*	Short-awned Wheat-grass	poorly known	10	1980-2010
Myoporum montanum	Waterbush	rare	5	1993-1995
Dianella tarda	Late-flower Flax-lily	vulnerable	1	2001

Source: Victorian Biodiversity Atlas

Field assessment

No flora recognised as rare or threatened (DEPI 2014) were recorded during the field assessment and it is unlikely that suitable habitat exists in the project site for any of these species.

3.7 Significant weeds

Desktop assessment

There are 158 introduced species recorded in the study area. Of these, 31 are listed as a declared noxious weed and nine are also a Weed of National Significance (WoNS) (Appendix A). CaLP listed declared noxious weeds are assigned to different risk categories, which trigger varying levels of responsibility for their management (Table 3). WoNS are highly invasive species with potential to spread and have significant environmental, social and economic impact.

Records of noxious weeds or WoNS in the project site include *Echium plantagineum* (Paterson's Curse) and *Eragrostis curvula* (African Love-grass). However, a higher number of would be expected to occur, since the site has a long history of disturbance in an agricultural landscape.

Table 3 Summary descriptions of CaLP Act (Schedule 2) risk categories

Risk categories	CALP Act summary descriptions
State prohibited	Offence to buy, sell, display or transport; to be eradicated from Victoria if possible or excluded from the State. The Victorian Government is responsible for their eradication, but may direct land owners to prevent their growth and spread.
Regionally prohibited	Capable of spreading further; reasonable to expect that they can be eradicated from a region and they must be managed with that goal; Land owners, including public authorities responsible must take all reasonable steps to eradicate
Regionally controlled	Usually widespread in a region; ongoing control measures are required; land owners must take all reasonable steps to prevent growth and spread on their land.
Restricted	Plants that pose an unacceptable risk of spreading and may spread beyond Victoria; trade in these weeds and their propagules, (including as contaminants in other materials) is prohibited.

Field assessment

A number of declared noxious weeds were recorded in the study area, mainly around houses and in grazed paddocks.

Five species listed as noxious weeds under the *Catchment and Land Protection Act 1994* were recorded within the project site during the field assessment (Table 4). Two species were only identifiable to genus but may also be CaLP listed Willow (*Salix sp.*) and Prickly Pear (*Opuntia sp.*). These two species are also WoNS (Table 4).

Table 4 Frequently occurring or abundant noxious weeds or WoNS

Species	Common name	CaLP Act	WoNS
Cirsium vulgare	Spear Thistle	Restricted	
Echium plantagineum	Paterson's Curse	Regionally Controlled	
Marrubium vulgare	Horehound	Regionally controlled	
Opuntia sp.	Prickly Pear	Possibly Restricted	✓
Salix sp.	Willows	Possibly Restricted	✓
Solanum elaeagnifolium	Silver-leaf nightshade	Regionally Controlled	
Xanthium spinosum	Bathurst Burr	Regionally Controlled	

4. Results - Fauna

4.1 Fauna habitat

Desktop assessment

A total of 97 terrestrial fauna species (89 native and eight non-native) are known or predicted to occur within 10 km of the project site (VBA records post-1980 and PMST). These include four native mammal species, 86 bird species (78 native and eight invasive), three native frog species and four native reptile species.

Field assessment

The habitat assessment confirmed that the habitat types identified during the desktop review, broadly aligned with the vegetation described in Section 3 and mapped in (Figure 3) including:

- Five small remnant clusters (ranging from approximately 0.05 ha to 0.24 ha) of Grey Box woodland and scattered Grey Box trees (equivalent to 1.87 ha)
- Rows of planted River Red Gum along fence lines in the northern area of the project site
- Seventeen farm dams and irrigation drains (artificial water sources), with minor amounts of fringing and emergent vegetation
- Irrigated crops consisting of predominantly wheat and canola
- Grazed paddocks

The project site is within a landscape that has been mostly cleared of its native vegetation, leaving only small isolated clusters and patches of native vegetation, isolated trees and roadside vegetation for fauna habitat (Figure 1). Consequently, any remaining native vegetation, particularly large old trees and hollow-bearing trees, is important habitat for native fauna.

In total, 112 hollow-bearing live and dead trees, predominantly Grey Box, were recorded from the project site. These trees were mainly isolated paddock trees. Two clusters occurred along the eastern boundary of the project site, and near dams to the west and south.

Remnant vegetation and planted belts of trees along fencelines provide some degree of landscape connectivity for mobile native fauna, such as nomadic birds, migratory species and widely roaming species such as Eastern Grey Kangaroos. However, due to the high level of vegetation clearance and fragmentation of Grey Box habitat, it is unlikely that remaining vegetation would provide only low to moderate habitat value for threatened fauna. The habitat feature most likely to provide important habitat value would be large, hollow-bearing scattered trees, which are potential sources for nesting/breeding, refuge and food.

There are twelve farm dams of various sizes and proportions within the project site. About half of these contained water and none had any significant fringing or emergent vegetation. Some dams have potential to support species of frogs and waterbirds. However since they are ephemeral, it is unlikely that they would support permanent populations. Irrigation channels may provide deep, narrow waterways and sources of water for wildlife. However, channels lack any native riparian vegetation or any significant amount of fringing, emergent or semi-aquatic vegetation. Channels may support aquatic fauna including fish and invertebrates and may provide habitat to a number of common and migratory bird species but are unlikely to support any important habitat for threatened species. The channels provide connectivity (a water corridor) with other waterbodies in the surrounding area including farm dams and creeklines.

Other disturbances to the project site likely to influence the types of fauna that occur there are ongoing cropping and stock grazing.



Plate 4 Small clusters of open Grey Box remnant woodland and isolated paddock trees of remnant Grey Box



Plate 5 Cleared Paddock



Plate 6 Planted roadside vegetation



Plate 7 Farm Dam



Plate 8 Irrigation Channel

4.2 Threatened fauna

Desktop assessment

Twenty fauna known or predicted to occur are of conservation significance, listed under the Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* (EPBC Act) (12 species), the *Flora and Fauna Guarantee Act 1988* (FFG Act) (14) and considered threatened in the DELWP Advisory list of Threatened Vertebrate Fauna in Victoria 2013 (DSE, 2013) (20).

Likelihood of occurrence

Four threatened fauna (three birds and one mammal) listed under the Commonwealth EPBC Act are predicted to potentially occur in the project site. The EPBC listed Regent Honeyeater (*Anthochaera phrygia*), Superb Parrot (*Polytelis swainsonii*) and Swift Parrot (*Lathamus discolor*) may utilise flowering eucalyptus species as food sources, since all three species' diets include pollen and nectar (Higgins 1999; Higgins et. al. 2001). This could include isolated trees, trees in patches or trees along roadsides. The project site is unlikely to provide important habitat for these species owing to the condition and restricted availability of type of habitat.

The EPBC listed Grey-headed Flying-fox (*Pteropus poliocephalus*) may also forage within the site, and has been recorded as recently as 2010 within 10 km of the site. Additionally, two flying-fox camps occur in relatively close proximity to the site: one near Numurkah, approximately 30 km to the north, and another near Tatura, approximately 17 km south-west. They may utilise flowering isolated paddock trees, trees in patches and planted roadside trees, as a large portion of their diet is also made up of pollen and nectar (Van Dyke et. al. 2013). However, habitat within the project site is expected to form part of these species' broader territories, rather than these species residing here for roosting or breeding activities.

The Bush Stone-curlew (*Burhinus grallarius*), listed under the FFG Act, has the potential to occur in areas of the project site as its habitat includes patches of open Grey Box woodland with an understory containing leaf litter, coarse woody debris and sparse grass (Pizzey & Knight 2012). There are also 16 VBA records of Bush Stone-curlew within 10 km of the project site, the most recent record in 1996. The species may occasionally occur in the project site, particularly in tree clusters and areas with woody ground debris. However, since habitat quality is poor to moderate and restricted in extent, Bush Stone-curlew is unlikely to make substantial use of the project site.

Individual species of the Victorian Temperate Woodland Bird Community (VTWBC) [e.g. Swift Parrot (*Lathamus discolor*) and Bush Stone-Curlew (*Burhinus grallarius*)] may occur within the project site; however, species are not expected to make substantial use of the project site.

Owing to the restricted extent of Grey Box on the project site as a result of vegetation clearance and fragmentation, it is unlikely that these species would make substantial use of the site or rely on the habitat on a permanent basis. It is also unlikely that these species would use the site for breeding activities.

Some migratory species, such as Eastern Great Egret (*Ardea modesta*) and Cattle Egret (*Ardea ibis*), may occasionally utilise habitats. However, none are considered likely to make significant use of the project site.

There are no additional fauna species that may be impacted not already discussed in Sections 4.2.1.1 and 4.2.1.2.

4.3 Wetlands of international significance (Ramsar Wetlands) and national importance

Seven Ramsar listed Wetlands of International Importance were identified within proximity to the project site by the database searches (DoEE 2017a). However, all seven are upstream of the project site, and no rivers or waterways occur in the project site that are connected to a Ramsar site. Therefore impacts are expected to be negligible.

5. Victoria's Biodiversity Assessment Guidelines (for permitted clearing)

The *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (the Guidelines) were incorporated into the Victorian Planning Provisions and all planning schemes in Victoria in December 2013 (DEPI 2013).

The purpose of the Guidelines is to guide how impacts on biodiversity should be considered when assessing an application for a permit to remove, destroy or lop native vegetation. The Guidelines set out the rules and tools for how the responsible authority (Greater Shepparton City Council) and referral authority (DELWP) should consider biodiversity when assessing an application.

The objective for the permitted clearing of native vegetation is that it results in 'no net loss'. This means permitted clearing should have a neutral impact on Victoria's biodiversity. This is in part achieved by avoiding and/or minimising impact on native vegetation. The Guidelines set rules that:

- Require minimising impacts on biodiversity from native vegetation removal for proposals that are assessed under the 'moderate' or 'high' risk pathway.
- Do not permit removal of native vegetation that would have a significant impact on biodiversity.

When native vegetation removal is permitted, an offset must be secured that achieves a no net loss outcome for biodiversity. To achieve this, the offset needs to make a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation that was removed. Therefore, the type and amount of offset required depends on the native vegetation being removed and the contribution it makes to Victoria's biodiversity. An Offset strategy must be identified and organised before the vegetation removal is permitted.

The Guidelines have recently been reviewed resulting in proposed changes to planning provisions, Clause 52.16 & 52.17 (the native vegetation regulations). Gazettal of the updated clauses is expected sometime later this year. In essence, the proposed amendments provide two sizes of scattered trees - large and small, measured by referencing diameter at breast height (DBH) with EVC benchmarks. Proposed amendments also require that the total number of large trees being removed/protected are counted - this includes any large scattered trees and any large trees within patches of native vegetation.

5.1 Risk-based pathway

All applications for a permit to remove native vegetation in Victoria are assigned a level of risk: low, moderate or high (Table 5). The risk-based pathway assigned determines the process for how an application is assessed (DEPI 2013).

The risk-based pathway is determined by combining the **extent** risk (size of clearing) and the **location** risk of the project area, in accordance with the Guidelines (DEPI 2013) and mapping provided on the DELWP website[6].

[6] https://nvim.delwp.vic.gov.au/

Location risk assesses the likelihood that removing a small amount of vegetation at a location could have a significant impact. Three location risk-based pathways are recognised (DEPI 2013):

- Location A: where the removal of greater than or equal to 1 hectare of native vegetation at a particular location could have a significant impact on a rare or threatened species habitat.
- Location B: where the removal of greater than or equal to 0.5 hectares but less than 1 hectare of native vegetation at a particular location could have a significant impact on a rare or threatened species habitat.
- Location C: where the removal of less than 0.5 hectares of native vegetation at a particular location could have a significant impact on a rare or threatened species habitat.

Where a site contains areas of different location risk, the higher category is applied to the entire site.

Table 5 Assessment of risk-based pathway

Extent: Patches of native vegetation			
	Location A	**Location B**	**Location C**
< 0.5 Ha	Low	Low	High
≥ 0.5 Ha and <1 Ha	Low	Moderate	High
≥ 1 Ha	Moderate	High	High
Extent: Scattered trees			
	Location A	**Location B**	**Location C**
< 15 scattered trees	**Low**	Moderate	High
≥ 15 scattered trees	Moderate	High	High

Note: the risk-based pathways that this Project would follow are highlighted in **bold**.

5.2 Considerations to inform project design – avoidance and minimisation

5.2.1 Strategy

The desktop review and field assessment will inform planning and design by taking into account the ecological values of the site. Further consideration of the project design and implementation, taking into account the number of scattered trees required for removal, could inform alternative options to minimise tree removal.

5.2.2 Potential Impact

Implementation of the project will require the removal of native vegetation. The principle of minimisation of impacts have been adopted as part of the project planning and concept design process. There may be opportunities to further optimise or reduce impacts as the design of the project proceeds.

5.2.3 Strategic biodiversity score

The strategic biodiversity score of native vegetation at a site is a measure of the site's importance for Victoria's biodiversity, relative to other locations across the landscape. The score is derived using a spatial prioritisation tool that ranks locations in Victoria for their conservation priority on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation. All native vegetation in Victoria has a biodiversity score. The Strategic Biodiversity score is rated on a scale from 0 to 1, with a 0 rating indicating a site has low importance for Victoria's biodiversity and a score of 1 indicating a site has high importance for Victoria's biodiversity.

5.2.4 Contribution to Victoria's biodiversity

All proposals to remove native vegetation require offsets. Permit applications assessed under the low risk-based pathway require general offsets only. However, permit applications assessed under moderate and high risk-based pathways are likely to require both general and specific offsets.

5.2.5 Application of the Biodiversity Assessment Guidelines for this project

The study site is classified as Location Risk A. However, potential losses of native vegetation exceed 15 scattered trees and the permit application will be assessed under the Moderate risk-based pathway.

The BIOR returned a strategic biodiversity score of 0.137 for the vegetation proposed for removal (Appendix D), indicating that the site is of low importance for Victoria's biodiversity.

6. Policy and legislative implications

The following section provides information with regard to specific biodiversity legislation and policy that is relevant to the Project. A summary of the relevant legislation, relationship to the project site and actions required are described in Table 6.

6.1 Commonwealth (Australia) *Environment Protection and Biodiversity Conservation Act 1999*

Certain actions – in particular, actions that are likely to have a significant impact on any Matters of National Environmental Significance – require referral and formal approval where 'significant' impacts on MNES are expected or possible. A review of the Significant Impact Guidelines (DotE 2013) was undertaken to consider the need for referral to the DotE for those MNES discussed in this report.

6.1.1 Threatened species and ecological communities

Ecological Communities

No EPBC Act-listed threatened ecological community is known or is likely to have potential to occur in the project site.

Flora

No EPBC Act-listed flora are known or have potential to occur in the project site, since no suitable habitat exists.

Fauna

It is unlikely that any species listed under the EPBC Act discussed in this report has a strong association with the project site due to the type, extent and condition of the habitat present.

6.1.2 Migratory species

Some migratory species, such as Eastern Great Egret (*Ardea modesta*) and Cattle Egret (*Ardea ibis*), may occasionally utilise habitats. However, none are considered likely to make significant use of the project site. The project site is unlikely to provide important habitat for any migratory species listed under the EPBC Act.

6.1.3 Ramsar wetlands

The study area does not intercept any Ramsar-listed wetlands and the proposed activity is unlikely to adversely impact on any waterways that feed into a Ramsar-listed wetland.

6.2 State (Victoria)

6.2.1 *Flora and Fauna Guarantee Act 1988*

The FFG Act does not apply since the project site is private property. No FFG Act listed flora were recorded during the field assessment and none are expected to occur in the project site. The site may be within the range of some FFG Act listed threatened fauna.

6.2.2 *Planning and Environment Act 1987*

Patches of remnant native vegetation and scattered trees to occur in the project site. Unless exemptions apply, a permit will be required under the *Planning and Environment Act 1987* (P&E Act) for the removal of patches native vegetation and remnant scattered trees proposed for removal.

6.2.3 Permitted clearing of native vegetation: Biodiversity assessment guidelines

DELWP mapping for the study area identifies the study site as Location Risk A. However >15 scattered trees are proposed to be removed and the project will follow the Moderate risk-based pathway (Appendix D).

Biodiversity impact of removal of native vegetation

Proposed tree removal is 22 scattered trees, equivalent to 1.547 ha and 0.309 HabHa (Appendix D).

Offset requirements if a permit is granted

If a permit is granted to remove 22 trees (marked in Appendix D), NEOEN will be required to obtain a General offset amount of 0.059 general biodiversity equivalence units. No specific offsets are required.

Offsets must be sourced from within the Goulburn Broken Catchment CMA or Greater Shepparton City Council LGA. The minimum strategic biodiversity score required is 0.101.

6.2.4 *Wildlife Act 1975*

The type of work that may be required on site (e.g. tree removal) will determine the need for a permit (Management Authorisation) under the *Wildlife Act 1975.* If fauna habitat is proposed to be removed or disturbed, a permit (Management Authorisation) under the *Wildlife Act 1975* would be required. This permit must be in the name of the person/s who carry out the fauna salvage work, and that person/s must be suitably qualified (e.g., trained ecologist or Environment Officer).

6.2.5 *Catchment and Land Protection Act 1994*

Since noxious weeds occur in the project site, mitigation measures are likely to be incorporated into an EMP to prevent the spread or further introduction of weed species.

6.3 Local Government

6.3.1 *Greater Shepparton Planning Scheme*

Although no vegetation protection overlays are relevant to the project, a permit is still required from Greater Shepparton City Council to remove, destroy or lop any vegetation, including dead vegetation.

Table 6 Legislative requirements

Key Legislation	Summary	Relevance to Project	Action Required?
Commonwealth Legislation			
Environment Protection and Biodiversity Conservation (EPBC) Act 1999	Certain actions – in particular, actions that are likely to have a significant impact on any Matters of National Environmental Significance – require **referral and formal approval where 'significant'** impacts on MNES are expected or possible.	Although four EPBC Act-listed fauna species could potentially occur in within the study area (Superb Parrot, Regent Honeyeater, Swift Parrot and Grey-headed Flying-fox), it is unlikely that any of these has a strong association with the project site due to the type, extent and condition of the habitat present. Listed Migratory Species – The project site is unlikely to provide important habitat for any migratory species listed under the EPBC Act	*A referral under the EPBC Act is unlikely to be required, however this cannot be determined without further investigation by a zoologist.*
State Legislation			
Flora and Fauna Guarantee Act 1988	The Flora and Fauna Guarantee Act 1988 (FFG Act) seeks to put in place preventative management mechanisms to ensure no biota or ecological communities become extinct within Victoria, and to ensure that the processes that threaten biodiversity are identified and addressed. The FFG Act applies to public land and is relevant to all public authorities where the land is "vested" in them.	The FFG Act does not apply since the project site is private property	*A permit 'to take' (kill, injure or destroy threatened or protected flora and fauna is not required*
Planning and Environment (PE) Act 1987	Under Clause 66.02-2 of the planning scheme, DELWP is the recommending referral authority for applications where it is proposed: • To remove, destroy or lop native vegetation if the area to be cleared is 0.5 hectare or more. This is the area of a remnant patch or the combined area of scattered trees and remnant patches but does not apply if the proposal is only for scattered tree removal (DELWP 2015). • To remove, destroy or lop native vegetation for the medium and high risk-based pathway (DEPI 2013, DELWP 2015).	A permit under the P&E Act will be required for the project if native vegetation is removed.	*Prepare a planning permit application for removal of native vegetation.*

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Key Legislation	Summary	Relevance to Project	Action Required?
Permitted clearing of native vegetation: Biodiversity Assessment Guidelines (DEPI, 2013).	The objective for permitted clearing of native vegetation in Victoria is: • No net loss in the contribution made by native vegetation to Victoria's biodiversity The key strategies for ensuring the objective for permitted clearing of native vegetation is achieved at the permit level are: • Avoiding the removal of native vegetation that makes a significant contribution to Victoria's biodiversity • Minimising impact on Victoria's biodiversity from the removal of native vegetation • Where native vegetation is permitted to be removed, ensuring it is offset in a manner that makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation to be removed	Native vegetation will be removed in the course of the project.	*Impacts to native vegetation have been quantified and the required offsets determined from DELWP.*
Wildlife Act 1975	A Management Authorisation (MA) under the Act may be required if native fauna need to be captured and/or relocated during proposed works, e.g. pre-clearance surveys of hollows	A Management Authorisation (permit) under the Wildlife Act may be required during the construction phase of a project if/when fauna are required to be handled, disturbed or relocated as part of the construction process (e.g., moved out of construction area). This would be dependent on the construction methods and impact on large old trees and hollow-bearing trees. If large, old, hollow-bearing trees will be impacted or disturbed, a Management Authorisation will be required for this project during the construction period.	*Possible – for the removal of native vegetation including hollow-bearing trees*

Key Legislation	Summary	Relevance to Project	Action Required?
Catchment and Land Protection (CaLP) Act 1994	Under the CaLP Act declared noxious weeds be controlled or eradicated by the land manager, and the act prohibits the transportation of noxious weeds and the movement of vehicles containing noxious weeds on to a road, including: • Vehicles and trailers used for carrying, moving or transporting machinery or equipment for road and utility building or maintenance; or • Machinery, implements or other equipment without first taking precautions to ensure vehicle and equipment is free from noxious weed seeds and any other part of a noxious weed that is capable of growing (weed propagules).	Declared noxious weeds are recorded in the study area. The project has the potential to spread and/or introduce weeds during proposed works.	*Weed management and hygiene protocols must be incorporated in a project-specific EMP.*

7. Conclusions and recommendations

7.1 Permits and approvals

The following permits/approvals will, or may be, required for this project:

- A permit under the *Planning and Environment Act 1987* in accordance with the *Permitted clearing of native vegetation – Biodiversity assessment guidelines if native vegetation is proposed to be impacted.*
- A permit (Management Authorisation) under the *Wildlife Act 1975* will be required for salvage, handling and disturbance of native fauna that may be at risk of harm during construction should hollow-bearing or large old trees be impacted or removed during works.
- A referral to the Commonwealth Environment Minister for a determination under the *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999* is unlikely to be required. However, this can only be determined once a zoologist has completed a thorough investigation.

7.2 Offsets

- The project follows the Moderate risk-based pathway and general offsets are required.
- No specific offsets are required.

7.3 Avoidance and minimisation

The following should be considered during preparation of a permit application.

- Retain remnant vegetation and scattered trees where possible.
- Manage removal of large, hollow-bearing trees/limbs and coarse woody debris to protect habitat for fauna where possible.
- Obtain an arborist's report to identify and quantify whether construction and any associated works (e.g. fencing) will encroach Tree Protection Zones of any retained trees.
- Include the above points to develop and implement mitigation measures for incorporation into an Environmental Management Plan to minimize the potential for ecological impacts within and around the site before, during and after the construction process. These may also include:
  - Minimise and adhere to the approved footprint, and supervise construction activities to ensure that activities do not encroach on retained native vegetation.
  - Standard vehicle hygiene measures to prevent the spread and introduction of weed species, particularly the weeds of national significance and noxious weeds listed under the CaLP Act.
  - Flagging of Tree Protection Zones and areas of remnant native vegetation, and management of run-off, spills and sediment management to avoid impacts on waterways on site.
  - Delineation of areas of remnant native vegetation to be retained from those areas to be removed as no-go zones, to avoid encroachment into areas of retained vegetation.

7.4 Obtain necessary environmental approvals

Once the final footprint for the project has been determined, the information in this report should be incorporated in the permit application:

- A description of the native vegetation to be removed including:
  - Whether the native vegetation is a remnant patch, or scattered trees
  - The area of any remnant patches of native vegetation
  - The number of scattered trees
- The risk-based pathway of the application to remove native vegetation
- The strategic biodiversity score of the native vegetation to be removed
- The offset requirements should a permit be granted to remove native vegetation
- A habitat hectare assessment report.
- A statement on steps to avoid and minimise impacts to biodiversity with respect to the contribution that the native vegetation to be removed and the native vegetation to be retailed makes to biodiversity.
- An assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.
- An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.

8. References

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Appendices

Appendix A – Noxious Weeds and Weeds of National Significance recorded in the study area (post-1980)

Key to table

WoNS Weed of national Significance
P Regionally prohibited under the CaLp Act
R Restricted under the CaLp Act
C Regionally controlled under the CaLP Act

Scientific name	Common name	CaLP Act status	WoNS
Allium vineale	Crow Garlic	P	
Asparagus asparagoides	Bridal Creeper	R	W
Cirsium vulgare	Spear Thistle	R	
Crataegus monogyna	Hawthorn	C	
Cynara cardunculus subsp. flavescens	Artichoke Thistle	P	
Echium plantagineum	Paterson's Curse	C	
Eragrostis curvula	African Love-grass	C	
Foeniculum vulgare	Fennel	R	
Hypericum perforatum subsp. *veronense*	St John's Wort	C	
Juncus acutus subsp. *acutus*	Spiny Rush	C	
Lepidium draba	Hoary Cress	C	
Lycium ferocissimum	African Box-thorn	C	W
Marrubium vulgare	Horehound	C	
Nassella neesiana	Chilean Needle-grass	R	W
Opuntia robusta	Wheel Cactus	R	W
Opuntia spp.	Prickly pear	R	W
Opuntia stricta	Common Prickly-pear	R	W
Oxalis pes-caprae	Soursob	R	
Physalis hederifolia	Sticky Ground-cherry	C	
Reseda luteola	Weld	R	
Rosa rubiginosa	Sweet Briar	C	
Rubus anglocandicans	Common Blackberry	C	
Rubus fruticosus spp. agg.	Blackberry	C	W
Sagittaria platyphylla	Sagittaria	C	W
Salix fragilis	Crack Willow	R	
Salpichroa origanifolia	Pampas Lily-of-the-Valley	R	
Silybum marianum	Variegated Thistle	C	
Solanum elaeagnifolium	Silver-leaf Nightshade	C	
Ulex europaeus	Gorse	C	W

Appendix B – Species list of flora recorded in the project site

Key to table

WoNS Weed of national Significance
P Regionally prohibited under the CaLp Act
R Restricted under the CaLp Act
C Regionally controlled under the CaLP Act

Scientific Name	Common Name	Taxon Origin	Status
Acacia pycnantha	Golden Wattle		
Carex inversa	Knob Sedge		
Cyperus gunnii subsp. *gunnii*	Flecked Flat-sedge		
Eleocharis acuta	Common Spike-sedge		
Eucalyptus camaldulensis	River Red-gum		
Eucalyptus microcarpa	Grey Box		
Juncus subsecundus	Finger Rush		
Laphangium luteoalbum	Jersey Cudweed		
Lythrum hyssopifolia	Small Loosestrife		
Poa labillardierei	Common Tussock-grass		
Acacia baileyana	Cootamundra Wattle	Planted non-indigenous	
Allocasuarina littoralis	Black Sheoak	Planted non-indigenous	
Eucalyptus tricarpa subsp. *tricarpa*	Red Ironbark	Planted non-indigenous	
Eucalyptus citriodora	Lemon-scented gum	Planted non-indigenous	
Eucalyptus cladocalyx	Sugar Gum	Planted non-indigenous	
Eucalyptus viminalis	Manna Gum	Planted non-indigenous	
Melaleuca styphelioides	Prickly Paperbark	Planted non-indigenous	
Melaleuca sp.	Paperbark	Planted non-indigenous	
Agapanthus praecox	Agapanthus	Introduced	
Agrostis capillaris	Brown-top Bent	Introduced	
Arctotheca calendula	Cape weed	Introduced	
Avena spp.	Oat	Introduced	
Bromus catharticus	Prairie Grass	Introduced	
Bromus diandrus	Great Brome	Introduced	
Bromus hordeaceus	Soft Brome	Introduced	
Cirsium vulgare	Spear Thistle	Introduced	R
Citrullus lanatus	Camel Melon	Introduced	
Cynodon dactylon var. *dactylon*	Couch	Introduced	
Dactylis glomerata	Cocksfoot	Introduced	
Echium plantagineum	Paterson's Curse	Introduced	C

Scientific Name	Common Name	Taxon Origin	Status
Erigeron bonariense	Flaxleaf Fleabane	Introduced	
Helminthotheca echioides	Ox-tongue	Introduced	
Holcus lanatus	Yorkshire Fog	Introduced	
Hordeum leporinum	Barley-grass	Introduced	
Hypochaeris radicata	Flatweed	Introduced	
Lepidium africanum	Common Peppercress	Introduced	
Lolium perenne	Perennial Rye-grass	Introduced	
Malva parviflora	Small-flower Mallow	Introduced	
Marrubium vulgare	Horehound	Introduced	C
Opuntia sp.	Prickly pear	Introduced	R, W
Paspalum dilatatum	Paspalum	Introduced	
Paspalum distichum	Water Couch	Introduced	
Pinus radiata	Radiata Pine	Introduced	
Plantago lanceolata	Ribwort	Introduced	
Romulea rosea	Onion Grass	Introduced	
Salix sp.	Willow	Introduced	R?
Schinus molle	Pepper Tree	Introduced	
Solanum elaeagnifolium	Silver-leaf Nightshade	Introduced	C, W
Sonchus asper s.l.	Rough Sow-thistle	Introduced	
Trifolium spp.	Clover	Introduced	
Triticum aestivum	Wheat	Introduced	
Vicia sativa subsp. *sativa*	Common Vetch	Introduced	
Xanthium spinosum	Bathurst Burr	Introduced	C

Appendix C – EPBC Act and FFG Act listed threatened fauna and Victorian Advisory List threatened fauna (predicted and post-1980)

Key to Table

EPBC	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
FFG	Victorian *Flora and Fauna Guarantee Act 1988*
DELWP	DELWP Advisory List of Threatened Vertebrate Fauna (DSE 2013) and Invertebrate Fauna (DSE 2009) in Victoria
VBA	Victorian Biodiversity Atlas, 2017 version
PMST	Protected Matters Search Tool, for the EPBC Act
PMSTMiMa	Listed as Migratory or Marine under the EPBC Act

Source: Indicates whether record is predicted (PMST) or actual (VBA). Actual records are indicated by the date of the most recent record within 5 km

Status of species

CR/cr	Critically Endangered
EN/en	Endangered
VU/vu	Vulnerable
nt	Near Threatened
dd	Data deficient
L	Listed as threatened under the FFG Act

Likelihood is based on the following rationale

One category of likelihood is assigned to each threatened species according to the following criteria:

- **KNOWN –** species was recorded within the study area during the current investigation, or has a recent confirmed record from on the study area;
- **POSSIBLE –** suitable habitat occurs within the study area and species' known range encompasses the study area. Generally there are historical records within 10 km of the study area, and generally within the last 20 years though there may be exceptions to this with explanation.
- **UNLIKELY –** species' known range encompasses the study area, but suitable habitat does not occur within study area, or occurs within study area but with generally low quality and quantity. Unless otherwise specified, the species has been recorded historically within 10 km of the study area, but generally not within the last 20 years.

Scientific Name	Common Name	EPBC	FFG Act	VIC Advisory	Most Recently Recorded	Source	Likelihood
Mammals							
Pteropus poliocephalus	Grey-headed Flying-fox	VU	L	vu	2010	VBA, PMST	Possible
Petaurus norfolcensis	Squirrel Glider		L	en	2004	VBA	Unlikely
Birds							
Botaurus poiciloptilus	Australasian Bittern	EN	L	en		PMST	Unlikely
Rostratula australis (=benghalensis)	Australian Painted Snipe	EN	L	cr		PMST, PMSTMiMa	Unlikely
Burhinus grallarius	Bush Stone-curlew		L	en	1996	VBA	Possible
Tringa nebularia	Common Greenshank			vu		PMSTMiMa	Unlikely
Actitis hypoleucos	Common Sandpiper			vu		PMSTMiMa	Unlikely
Calidris ferruginea	Curlew Sandpiper	CR		en		PMSTMiMa	Unlikely
Numenius madagascariensis	Eastern Curlew	CR		vu		PMSTMiMa	Unlikely
Ardea modesta (=alba)	Eastern Great Egret		L	vu	2003	VBA, PMSTMiMa	Unlikely
Aythya australis	Hardhead			vu	2003	VBA	Unlikely
Pedionomus torquatus	Plains-wanderer	CR	L	cr		PMST	Unlikely
Anthochaera (Xanthomyza) phrygia	Regent Honeyeater	CR	L	cr		PMST	Possible
Polytelis swainsonii	Superb Parrot	VU	L	en		PMST	Possible
Lathamus discolor	Swift Parrot	CR	L	en		PMST, PMSTMiMa	Possible
Haliaeetus leucogaster	White-bellied Sea-eagle		L	vu		PMSTMiMa	Unlikely
Hirundapus caudacutus	White-throated Needletail			vu		PMSTMiMa	Unlikely

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Scientific Name	Common Name	EPBC	FFG Act	VIC Advisory	Most Recently Recorded	Source	Likelihood
Reptiles							
Aprasia parapulchella	Pink-tailed Worm-Lizard	VU	L	en		PMST	Unlikely
Delma impar	Striped Legless Lizard	VU	L	en		PMST	Unlikely
Frogs							
Litoria raniformis	Growling Grass Frog	VU	L	EN		PMST	Unlikely

Appendix D – Biodiversity and offset requirements report

Biodiversity impact and offset requirements report

This report **does not represent an assessment by DELWP** of the proposed native vegetation removal. It provides additional biodiversity information to support moderate and high risk-based pathway applications for permits to remove native vegetation under clause 52.16 or 52.17 of planning schemes in Victoria.

Date of issue: **30/10/2017**
Time of issue: **1:25 pm**

DELWP ref: GHD_0065

Project ID	Shepparton

Summary of marked native vegetation

Risk-based pathway	**Moderate**
Total extent	1.547 ha
Remnant patches	0.000 ha
Scattered trees	22 trees
Location risk	A

Strategic biodiversity score of all marked native vegetation	0.127

Offset requirements if a permit is granted

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

Offset type	**General offset**
General offset amount (general biodiversity equivalence units)	0.059 general units
General offset attributes	
Vicinity	Goulburn Broken Catchment Management Authority (CMA) **or** Greater Shepparton City Council
Minimum strategic biodiversity score	0.101[1]

See Appendices 1 and 2 for details in how offset requirements were determined.

NB: values presented in tables throughout this document may not add to totals due to rounding

[1] Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

Next steps

Any proposal to remove native vegetation must meet the application requirements of the moderate risk-based pathway and it will be assessed under the moderate risk-based pathway.

If you wish to remove the marked native vegetation you are required to apply for a permit from your local council. Council will then refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

The biodiversity assessment report from NVIM and this biodiversity impact and offset report should be submitted with your application for a permit to remove native vegetation you plan to remove, lop or destroy.

The Biodiversity assessment report generated by the tool within NVIM provides the following information:

- The location of the site where native vegetation is to be removed.
- The area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines*
- The risk-based pathway of the application for a permit to remove native vegetation

This report provides the following information to meet application requirements for a permit to remove native vegetation:

- Confirmation of the risk-based pathway of the application for a permit to remove native vegetation
- The strategic biodiversity score of the native vegetation to be removed
- Information to inform the assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.
- The offset requirements should a permit be granted to remove native vegetation.

Additional application requirements must be provided with an application for a permit to remove native vegetation in the moderate or high risk-based pathways. These include:

- A habitat hectare assessment report of the native vegetation that is to be removed
- A statement outlining what steps have been taken to ensure that impacts on biodiversity from the removal of native vegetation have been minimised
- An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.

Refer to the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* and for a full list and details of application requirements.

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Obtaining this publication does not guarantee that an application will meet the requirements of clauses 52.16 or 52.17 of the Victoria Planning Provisions or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of clauses 52.16 or 52.17 of the Victoria Planning Provisions.

Appendix 1 – Biodiversity impact of removal of native vegetation

Habitat hectares

Habitat hectares are calculated for each habitat zone within your proposal using the extent and condition scores in the GIS data you provided.

Habitat zone	Site assessed condition score	Extent (ha)	Habitat hectares
1-1-S	0.200	0.070	0.014
2-2-S	0.200	0.070	0.014
3-3-S	0.200	0.070	0.014
4-4-S	0.200	0.070	0.014
5-5-S	0.200	0.070	0.014
6-6-S	0.200	0.070	0.014
7-7-S	0.200	0.070	0.014
8-8-S	0.200	0.070	0.014
9-9-S	0.200	0.070	0.014
10-10-S	0.200	0.070	0.014
11-11-S	0.200	0.070	0.014
12-12-S	0.200	0.070	0.014
13-13-S	0.200	0.070	0.014
14-14-S	0.200	0.070	0.014
15-15-S	0.200	0.070	0.014
16-16-S	0.200	0.070	0.014
17-17-S	0.200	0.070	0.014
18-18-S	0.200	0.070	0.014
19-19-S	0.200	0.070	0.014
20-20-S	0.200	0.070	0.014
21-21-S	0.200	0.070	0.014
22-22-S	0.200	0.070	0.014
TOTAL			**0.309**

Impacts on rare or threatened species habitat above specific offset threshold

The specific-general offset test was applied to your proposal. The test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the specific offset threshold. The threshold is set at 0.005 per cent of the total habitat for a species. When the proportional impact is above the specific offset threshold a specific offset for that species' habitat is required.

The specific-general offset test found your proposal does not have a proportional impact on any rare or threatened species' habitats above the specific offset threshold. No specific offsets are required. A general offset is required as set out below.

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Clearing site biodiversity equivalence score(s)

The general biodiversity equivalence score for the habitat zone(s) is calculated by multiplying the habitat hectares by the strategic biodiversity score.

Habitat zone	Habitat hectares	Proportion of habitat zone with general offset	Strategic biodiversity score	General biodiversity equivalence score (GBES)
1-1-S	0.014	100.000 %	0.115	0.002
2-2-S	0.014	100.000 %	0.115	0.002
3-3-S	0.014	100.000 %	0.115	0.002
4-4-S	0.014	100.000 %	0.126	0.002
5-5-S	0.014	100.000 %	0.125	0.002
6-6-S	0.014	100.000 %	0.125	0.002
7-7-S	0.014	100.000 %	0.125	0.002
8-8-S	0.014	100.000 %	0.125	0.002
9-9-S	0.014	100.000 %	0.125	0.002
10-10-S	0.014	100.000 %	0.130	0.002
11-11-S	0.014	100.000 %	0.125	0.002
12-12-S	0.014	100.000 %	0.159	0.002
13-13-S	0.014	100.000 %	0.159	0.002
14-14-S	0.014	100.000 %	0.148	0.002
15-15-S	0.014	100.000 %	0.100	0.001
16-16-S	0.014	100.000 %	0.126	0.002
17-17-S	0.014	100.000 %	0.149	0.002
18-18-S	0.014	100.000 %	0.124	0.002
19-19-S	0.014	100.000 %	0.100	0.001
20-20-S	0.014	100.000 %	0.118	0.002
21-21-S	0.014	100.000 %	0.100	0.001
22-22-S	0.014	100.000 %	0.149	0.002

Mapped rare or threatened species' habitats on site

This table sets out the list of rare or threatened species' habitats mapped at the site beyond those species for which the impact is above the specific offset threshold. These species habitats do not require a specific offset according to the specific-general offset test.

Species number	Species common name	Species scientific name
10019	Red-chested Button-quail	Turnix pyrrhothorax
10170	Australian Painted Snipe	Rostratula benghalensis australis
10174	Bush Stone-curlew	Burhinus grallarius
10177	Brolga	Grus rubicunda
10186	Intermediate Egret	Ardea intermedia
10195	Australian Little Bittern	Ixobrychus minutus dubius
10197	Australasian Bittern	Botaurus poiciloptilus
10212	Australasian Shoveler	Anas rhynchotis
10215	Hardhead	Aythya australis
10238	Black Falcon	Falco subniger
10443	Grey-crowned Babbler	Pomatostomus temporalis temporalis
10598	Painted Honeyeater	Grantiella picta
11137	Squirrel Glider	Petaurus norfolcensis
12177	Bearded Dragon	Pogona barbata
13207	Growling Grass Frog	Litoria raniformis
500970	Small-flower Wallaby-grass	Rytidosperma monticola
502240	Waterbush	Myoporum montanum
502773	Small Scurf-pea	Cullen parvum
504944	Southern Swainson-pea	Swainsona behriana

Appendix 2 – Offset requirements detail

If a permit is granted to remove the marked native vegetation the permit condition will include the requirement to obtain a native vegetation offset.

To calculate the required offset amount required the biodiversity equivalence scores are aggregated to the proposal level and multiplied by the relevant risk multiplier.

Offsets also have required attributes:

- General offsets must be located in the same Catchment Management Authority (CMA) boundary or Local Municipal District (local council) as the clearing and must have a minimum strategic biodiversity score of 80 per cent of the clearing.[2]

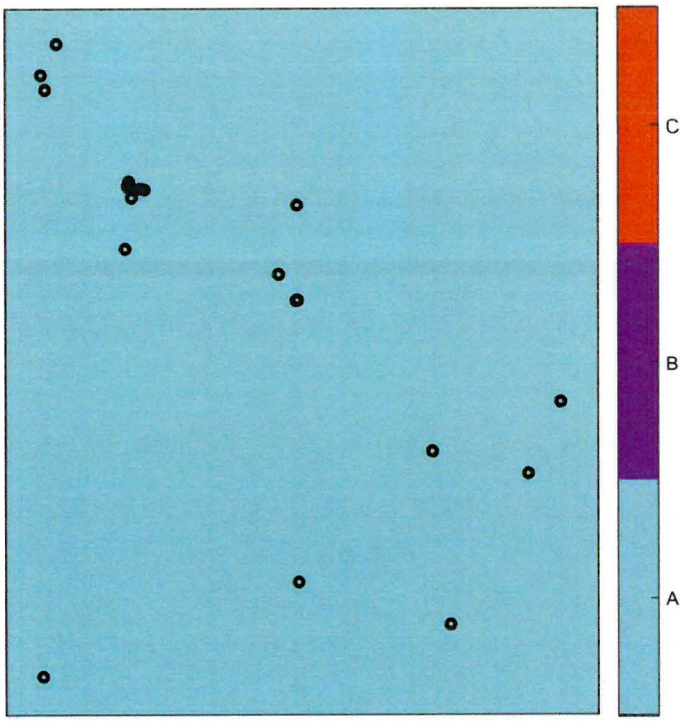
The offset requirements for your proposal are as follows:

Offset type	Clearing site biodiversity equivalence score	Risk multiplier	Offset requirements	
			Offset amount (biodiversity equivalence units)	Offset attributes
General	0.039 GBES	1.5	0.059 general units	Offset must be within Goulburn Broken CMA or Greater Shepparton City Council Offset must have a minimum strategic biodiversity score of 0.101

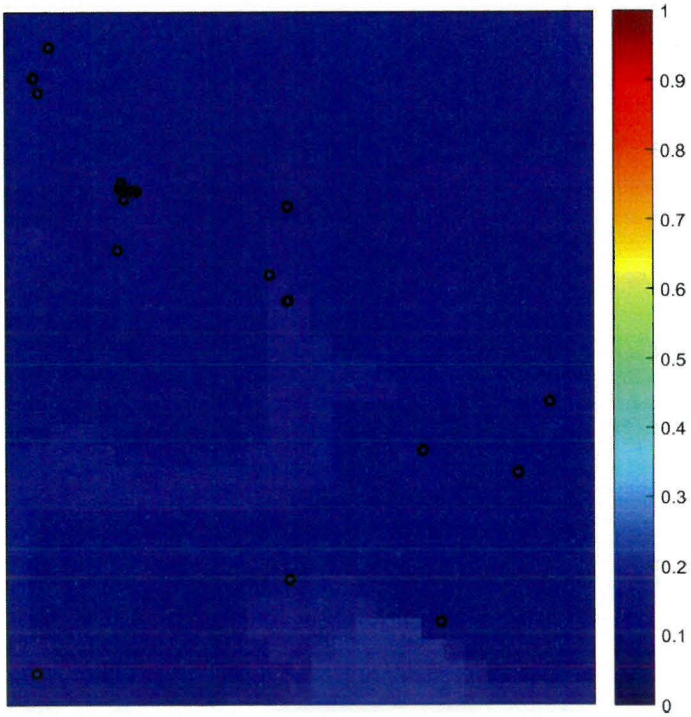
[2] Strategic biodiversity score is a weighted average across habitat zones where a general offset is required

Appendix 3 – Images of marked native vegetation

1. Native vegetation location risk map



2. Strategic biodiversity score map



3. Aerial photograph showing marked native vegetation



Glossary

Condition score

This is the site-assessed condition score for the native vegetation. Each habitat zone in the clearing proposal is assigned a condition score according to the habitat hectare assessment method. This information has been provided by or on behalf of the applicant in the GIS file.

Dispersed habitat

A dispersed species habitat is a habitat for a rare or threatened species whose habitat is spread over a relatively broad geographic area greater than 2,000 hectares.

General biodiversity equivalence score

The general biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed makes to Victoria's biodiversity. The general biodiversity equivalence score is calculated as follows:

$$\textit{General biodiversity equivalence score} = \textit{habitat hectares} \times \textit{strategic biodiversity score}$$

General offset amount

This is calculated by multiplying the general biodiversity equivalence score of the native vegetation to be removed by the risk factor for general offsets. This number is expressed in general biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation.

$$\textit{Risk adjusted general biodiversity equivalence score} = \textit{general biodiversity equivalence score clearing} \times 1.5$$

General offset attributes

General offset must be located in the same Catchment Management Authority boundary or Municipal District (local council) as the clearing site. They must also have a strategic biodiversity score that is at least 80 per cent of the score of the clearing site.

Habitat hectares

Habitat hectares is a site-based measure that combines extent and condition of native vegetation. The habitat hectares of native vegetation is equal to the current condition of the vegetation (condition score) multiplied by the extent of native vegetation. Habitat hectares can be calculated for a remnant patch or for scattered trees or a combination of these two vegetation types. This value is calculated for each habitat zone using the following formula:

$$\textit{Habitat hectares} = \textit{total extent (hectares)} \times \textit{condition score}$$

Habitat importance score

The habitat importance score is a measure of the importance of the habitat located on a site for a particular rare or threatened species. The habitat importance score for a species is a weighted average value calculated from the habitat importance map for that species. The habitat importance score is calculated for each habitat zone where the habitat importace map indicates that species habitat occurs.

Habitat zone

Habitat zone is a discrete contiguous area of native vegetation that:

- is of a single Ecological Vegetation Class
- has the same measured condition.

Highly localised habitat

A highly localised habitat is habitat for a rare or threatened species that is spread across a very restricted area (less than 2,000 hectares). This can also be applied to a similarly limited sub-habitat that is disproportionately important for a wide-ranging rare or threatened species. Highly localised habitats have the highest habitat importance score (1) for all locations where they are present.

Minimum strategic biodiversity score

The minimum strategic biodiversity score is an attribute for a general offset.

The strategic biodiversity score of the offset site must be at least 80 per cent of the strategic biodiversity score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic value that is comparable to, or better than, the native vegetation to be removed. Where a specific and general offset is required, the minimum strategic biodiversity score relates only to the habitat zones that require the general offset.

Offset risk factor

There is a risk that the gain from undertaking the offset will not adequately compensate for the loss from the removal of native vegetation. If this were to occur, despite obtaining an offset, the overall impact from removing native vegetation would result in a loss in the contribution that native vegetation makes to Victoria's biodiversity.

To address the risk of offsets failing, an offset risk factor is applied to the calculated loss to biodiversity value from removing native vegetation.

$$\textit{Risk factor for general offsets} = 1.5$$

$$\textit{Risk factor for specific offset} = 2$$

Offset type

The specific-general offset test determines the offset type required.

When the specific-general offset test determines that the native vegetation removal will have an impact on one or more rare or threatened species habitat above the set threshold of 0.005 per cent, a specific offset is required. This test is done at the permit application level.

A general offset is required when a proposal to remove native vegetation is not deemed, by application of the specific-general offset test, to have an impact on any habitat for any rare or threatened species above the set threshold of 0.005 per cent. All habitat zones that do not require a specific offset will require a general offset.

Proportional impact on species

This is the outcome of the specific-general offset test. The specific-general offset test is calculated across the entire proposal for each species on the native vegetation permitted clearing species list. If the proportional impact on a species is above the set threshold of 0.005 per cent then a specific offset is required for that species.

Specific offset amount

The specific offset amount is calculated by multiplying the specific biodiversity equivalence score of the native vegetation to be removed by the risk factor for specific offsets. This number is expressed in specific biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation.

$$\textit{Risk adjusted specific biodiversity equivalence score} = \textit{specific biodiversity equivalence score clearing} \times 2$$

Specific offset attributes

Specific offsets must be located in the modelled habitat for the species that has triggered the specific offset requirement.

Specific biodiversity equivalence score

The specific biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed makes to the habitat of the relevant rare or threatened species. It is calculated for each habitat zone where one or more species habitats require a specific offset as a result of the specific-general offset test as follows:

$$\textit{Specific biodiversity equivalence score} = \textit{habitat hectares} \times \textit{habitat importance score}$$

Strategic biodiversity score

This is the weighted average strategic biodiversity score of the marked native vegetation. The strategic biodiversity score has been calculated from the *Strategic biodiversity map* for each habitat zone.

The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The *Strategic biodiversity map* is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

Total extent (hectares) for calculating habitat hectares

This is the total area of the marked native vegetation in hectares.

The total extent of native vegetation is an input to calculating the habitat hectares of a site and in calculating the general biodiversity equivalence score. Where the marked native vegetation includes scattered trees, each tree is converted to hectares using a standard area calculation of 0.071 hectares per tree. This information has been provided by or on behalf of the applicant in the GIS file.

Vicinity

The vicinity is an attribute for a general offset.

The offset site must be located within the same Catchment Management Authority boundary or Local Municipal District as the native vegetation to be removed.

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GHD

Level 8
180 Lonsdale Street
Melbourne Victoria 3000
T: 61 3 8687 8000 F: 61 3 8687 8111 E: melmail@ghd.com

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3135556-1211/https://projects.ghd.com/oc/Victoria/sheppartonsolarfarmp/Delivery/Documents/3135556_RPT_NEOEN Shepparton ecology.docx

Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
Draft A						10/10/17
0	Fiona Coates Jessica Holding	Zoe Jellie Craig Grabham		Brad George		21/11/17

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22 December 2017

Our ref: 31/35556
Your ref: 2017-301

Andrew Dainton
Statutory Planning
Greater Shepparton City Council
90 Welsford Street
Locked Bag 1000
Shepparton VIC 3630

Via email

Dear Andrew,

Planning Permit Application No. 2017-301
Response to Request for Further Information
Neoen Shepparton Solar Farm

1 Introduction

GHD Pty Ltd (GHD) continues to act on behalf of *Neoen Australia Pty Ltd* (Neoen), the permit applicant in the above mentioned matter.

We refer to Council's correspondence dated 19 October 2017 requesting additional information in relation to the current application and accordingly, are pleased to provide the following information as outlined below.

2 Aboriginal Cultural Heritage

We confirm that the subject site does intersect with an area of cultural heritage sensitivity (ie. Okeefe Creek) as per the Department of Premier and Cabinet mapping tool at https://applications.vic.gov.au/apps/achris/public/public-registry/home.

However, as Okeefe Creek is not a registered waterway under the *Geographic Place Names Act 1998*, land within 200 m of Okeefe Creek is not an area of cultural heritage sensitivity. We refer to the attached **Cultural Heritage Assessment and Implications for Development** report as prepared by *Andrew Long + Associates* for further detail.

Where findings of this report note that there is potential for source bordering dunes to exist towards the south-west corner of the subject site, *Environmental GeoSurveys* was engaged to further investigate.

Findings of this report conclude that '*there is no source-bordering dune topography or materials across the study area*' and we refer to the attached **Potential for Source Bordering Dune in Activity Area** report for further detail (Appendix 3 of the Andrew Long + Associates report).

GHD Pty Ltd ABN 39 008 488 373
Level 8, 180 Lonsdale Street Melbourne VIC 3000 Australia
T 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

With the above in mind, there is no requirement to provide a mandatory Cultural Heritage Management Plan (CHMP) for this application.

Map extracts as requested at items 2 and 3 are also attached.

3 Easements

We confirm that the proposed use and development has been designed so that it will not impact the purpose and / or function of any easements affecting the subject site (as discussed with relevant authorities where relevant).

Please refer to the attached plan (Figure 11 – Easements) which has been prepared to illustrate the location of all easements as they affect the subject site.

4 Ecology

A **Flora and Fauna Assessment** has been prepared for the site, including a *Biodiversity Impact and Offset Requirements* report (BIOR). We refer to this assessment and as attached for further detail and discussion.

Please note that we do not have photographs and corresponding description of all trees proposed for removal at this time. GHD's ecologists will liaise further with Council officers on this requirement and relevant legislative requirements.

5 Conclusion

We trust the above information and as attached reasonably meets with your requirements and would be happy to discuss any aspect further.

Your confirmation in due course that this request has been satisfied would be greatly appreciated.

Sincerely

GHD Pty Ltd



Brad George

Principal Planner

(03) 8687 8614

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ANDREW LONG + ASSOCIATES

Neoen Shepparton Solar Farm
Cultural Heritage Assessment and Implications for Development

Prepared for:
Brad George
GHD
Principal Planner
Team Lead – Planning and Environment Assessment
Level 8, 180 Lonsdale Street
Melbourne, Vic. 3000

Author: Chris Lovell
Andrew Long + Associates
21st December 2017

1 Introduction

The following statement of evidence presents an assessment of the known and predicted Aboriginal and historical cultural heritage values, which may have implications for the proposed solar farm near Shepparton, Victoria. The requirements for undertaking a Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act* 2006 and *Aboriginal Heritage Regulations* 2007 are assessed in detail.

2 Findings

This report finds that a mandatory CHMP should be required prior to council issuing statutory authorisation for the proposed activity. This report also finds that there are no historical cultural heritage constraints regarding the proposed works.

3 The Activity Area

3.1 Location of the activity area

The proposed activity area is located in the locality of Lemnos, and is approximately 5.3 km to the north east of Shepparton, Victoria. The activity area is situated within five property parcels that are bound by Cosgrove-Lemnnos Road (south), Crooked Lane (west), Tank Corner East Road (north), Boundary Road (east) (Figure 1). Properties subject to development include:

- 1190 Cosgrove-Lemnos Road, Lemnos;
- 1220 Cosgrove-Lemnos Road, Lemnos;
- 85 Crooked Lane, Lemnos;
- 260 Tank Corner East Road, Lemnos; and
- 875 Boundary Road, Lemnos.

PO Box 2471 Fitzroy BC
Victoria 3065 Australia

T (03) 8415 0699
F (03) 8415 1299
www.alassoc.com.au

Andrew Long + Associates Pty Ltd
ACN 131 713 409
ABN 86 131 713 409

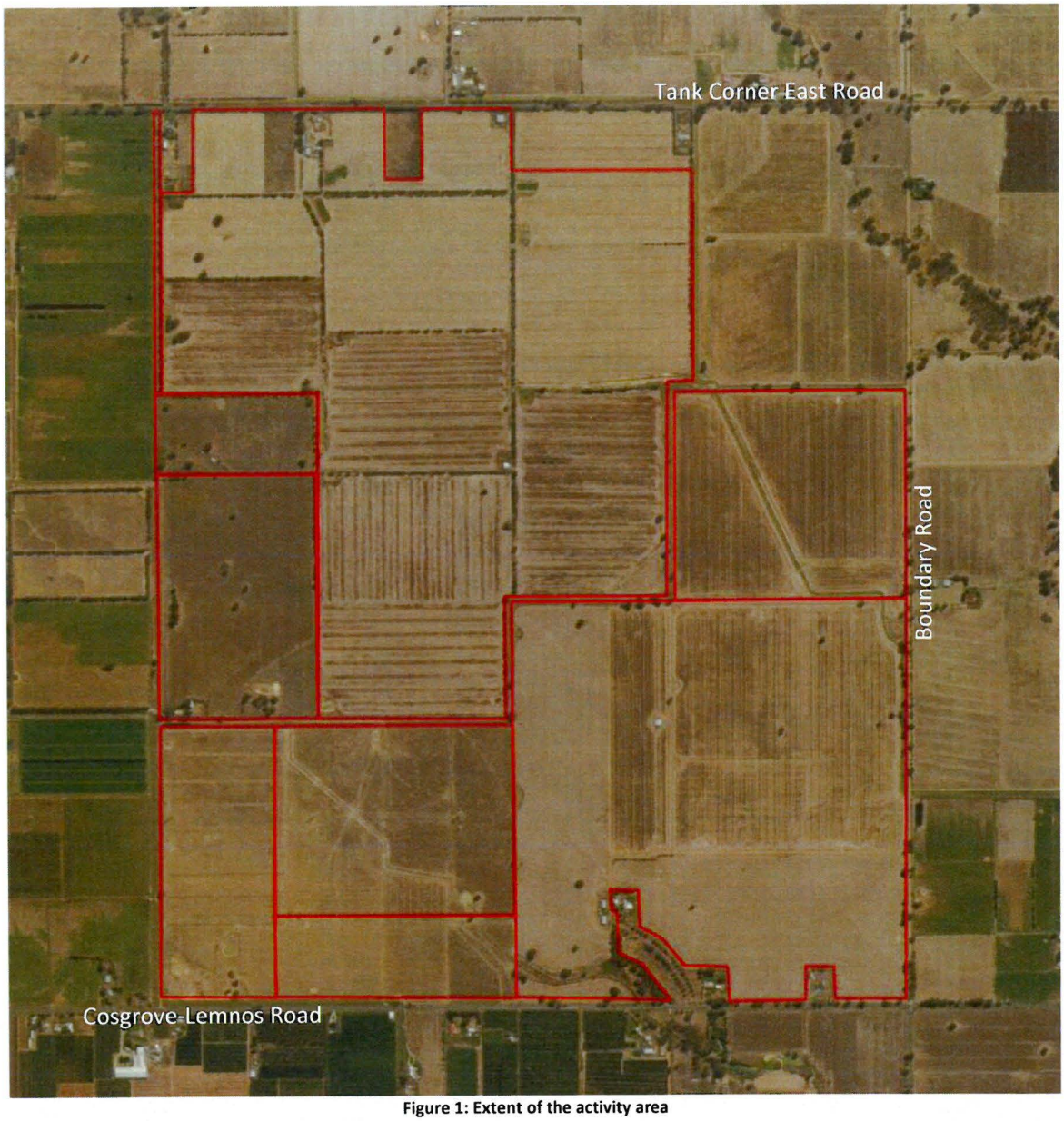

Figure 1: Extent of the activity area

3.2 Local Government Council (LGA) for the proposed activity area

The LGA for the proposed activity area is the City of Greater Shepparton.

3.3 Aboriginal stakeholders

It is important to note that 'cultural heritage significance' as defined in the *Aboriginal Heritage Act 2006* includes '(a) archaeological, anthropological, contemporary, historical, scientific, social or spiritual significance', and (b) significance in accordance with Aboriginal tradition'. All Aboriginal heritage sites are protected equally under this legislation, irrespective of significance, and consultants and development proponents are required to seek the views of Aboriginal heritage stakeholders (or Registered Aboriginal Parties [RAPs], as defined in the Act) regarding whether Aboriginal heritage sites may be disturbed in accordance with that significance.

At the time of this assessment the Yorta Yorta National Aboriginal Corporation were the Registered Aboriginal Party (RAP) within the region.

3.4 Location and nature of areas of cultural heritage sensitivity within the activity area

Division 3 of the *Regulations* defines areas of Aboriginal cultural heritage sensitivity within the state of Victoria. As is currently indicated in the Aboriginal Cultural Heritage Register and Information System (ACHRIS), the proposed activity intersects with one area of cultural heritage sensitivity (see Figure 2). With respect to the proposed works the relevant regulation in this instance is as follows:

Regulation 23 Waterways

1) *Subject to subregulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity.*
2) *If part of a waterway or part of the land within 200 metres of a waterway has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*

Regulation 4 Definitions

waterway means –

(a) *a river, creek, stream or watercourse the name of which is registered under the Geographic Place Names Act 1998; or*
(b) *a natural channel the name of which is registered under the Geographic Place Names Act 1998 in which water regularly flows, whether or not the flow is continuous; or*
(c) *a lake, lagoon, swamp or marsh, being -*
    i. *a natural collection of water (other than water collected and contained in a private dam or a natural depression on private land) into or through or out of which a current that forms the whole or part of the flow of a river, creek, stream or watercourse passes, whether or not the flow is continuous; or*
    ii. *a collection of water (other than water collected and contained in a private dam or a natural depression on private land) that the Governor in Council declares under section 4(1) of the Water Act 1989 to be a lake, lagoon, swamp or marsh; or*
(d) *land which is regularly or intermittently covered by water from a waterway as described in paragraph (a), (b) or (c) but does not include-*
    i. *any artificial channel or work which diverts water away from such a waterway; or*
    ii. *an area covered by the floodwaters of a waterway; or*
    iii. *an area, other than the waterway, designated on a planning scheme as being a floodway or liable to flooding or as being subject to inundation; or*
(e) *if any land described in paragraph (d) forms part of a slope rising from the waterway to a definite lip, the land up to that lip.*

As mapped in the Aboriginal Cultural Heritage Register and Information System, all land within 200 m of Okeefe Creek is an area of cultural heritage sensitivity. However, as Okeefe Creek is not a registered

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waterway under the Geographic Place Names Act 1998, land within 200 m of Okeefe Creek is not an area of cultural heritage sensitivity.

However, as is evident in Figure 3, part of the activity area passes through a geomorphological unit, identified as GMU 4.2.1 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)', which is known to have source-bordering dunes. Regulation 37 of the *Regulations* states that:

> 1) *Subject to subregulation (2), a dune or source bordering dune is an area of cultural heritage sensitivity.*
> 2) *If part of a dune or part of a source bordering dune has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*
> 3) *In this regulation-*
> ***dune** includes an inland, riverine, lacustrine or coastal dune;*
> ***source bordering dune** means an area identified as* "Qo" on the following Geological Survey of Victoria 1:250 000 map series sheets—
>
> (a) SI55-13 entitled "Deniliquin" (second edition, 1997);
> (b) SJ54-3 entitled "Horsham" (second edition, 1997);
> (c) SI54-11 entitled "Mildura" (second edition, 1997);
> (d) SJ54-4 entitled "St Arnaud" (second edition, 1997);
> (e) SI54-16 entitled "Swan Hill" (second edition, 1997);
> (f) SJ55-2 entitled "Wangaratta" (second edition, 1997).

Therefore, due to the presence of waterways within the broader activity area along with the proximity of the activity area to an area in which source bordering dunes are considered to be culturally sensitive, there is some risk that source-bordering dunes are located within the activity area. It is not possible to ascertain from aerial imagery, or the available geological mapping, whether or not source-bordering dunes are, in fact, located within the activity area. As such, it was assumed that the activity area might contain dune landforms and therefore included an area of cultural heritage sensitivity. In order to further ascertain whether or not this was of real concern a geomorphological assessment was undertaken to determine the presence of dune materials and or dune landforms within the activity area (Rosengren 2017. See Appendix 3). This assessment concluded there is no evidence of dune material at the site and no topography that indicates a relict dune landform.

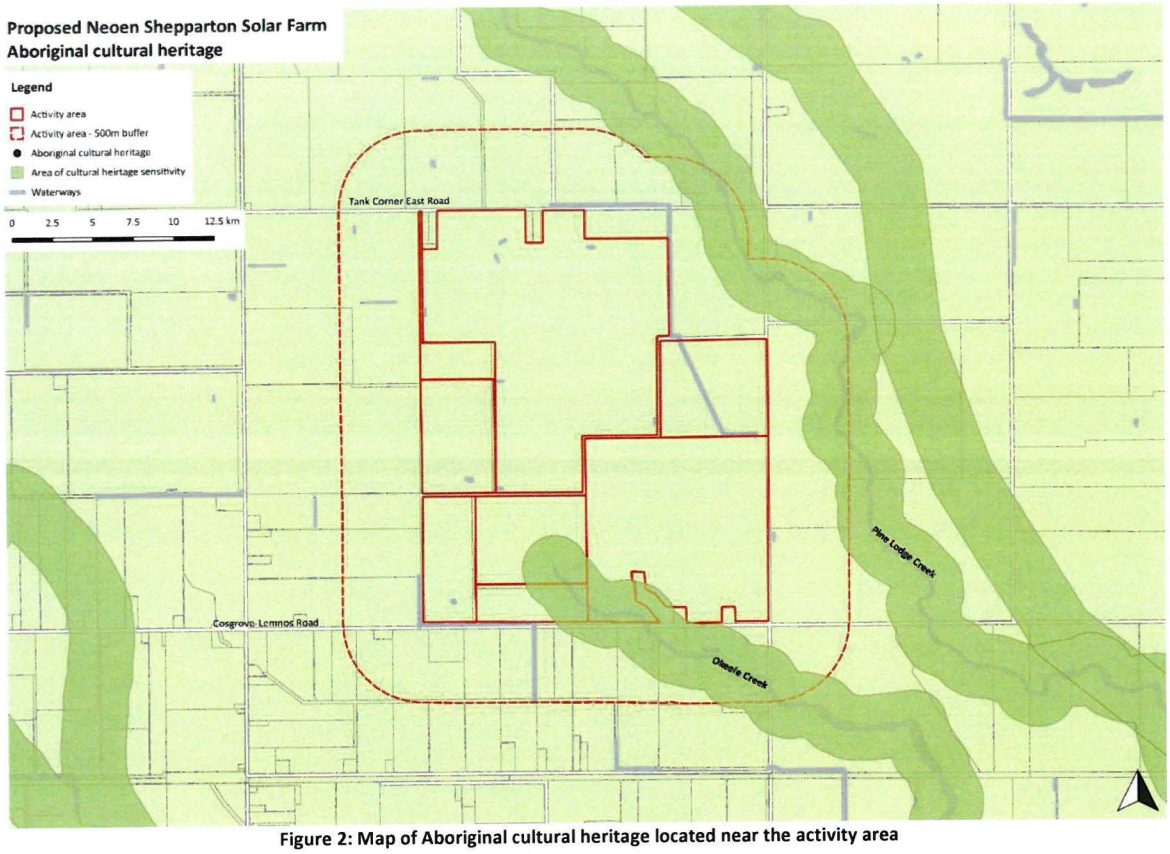

Figure 2: Map of Aboriginal cultural heritage located near the activity area

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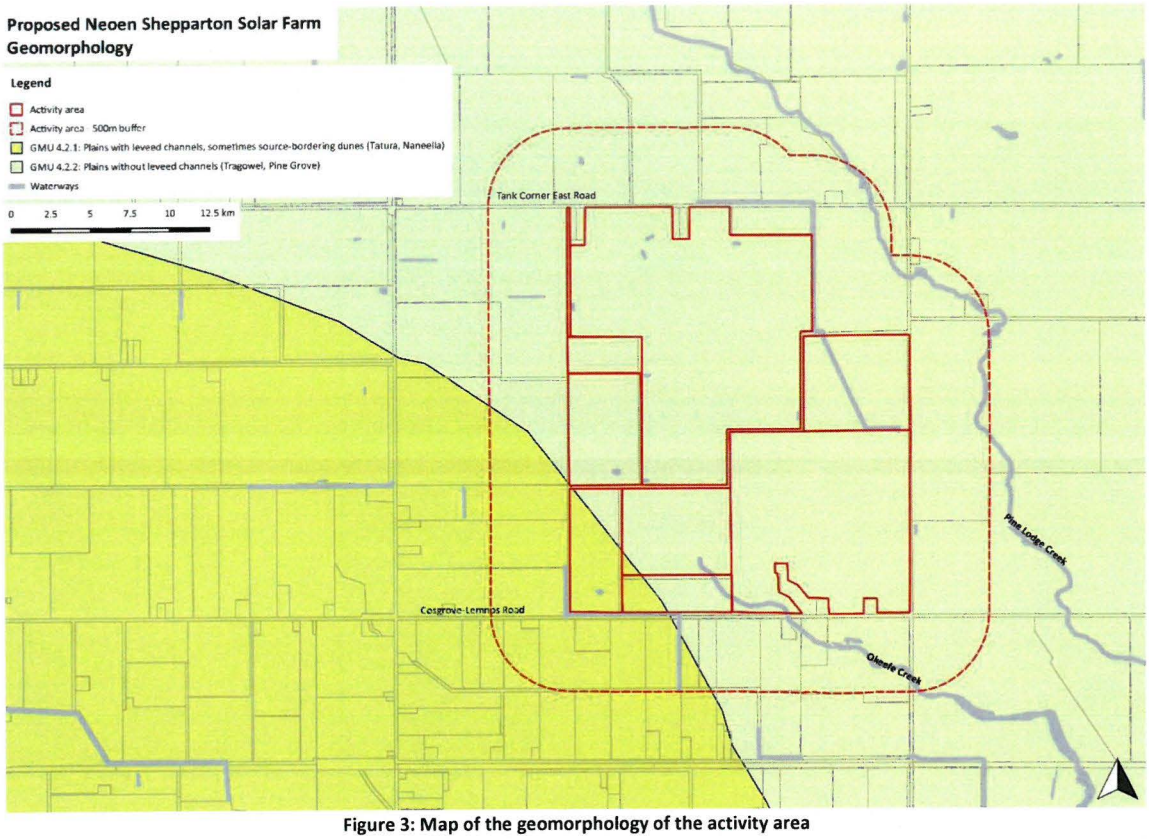

Figure 3: Map of the geomorphology of the activity area

4 Previous use of the activity area

Aboriginal peoples' occupation of the geographic region likely extends over thousands of years. This occupation would have taken the form of temporary camps used on a seasonal basis, making use of diverse resources in the area. The landscape was undoubtedly well known to generations of people and it is probable that associations extended to spiritual attachments. At the time of European colonization, the activity area was situated within the traditional lands of the *Ngurai-illam wurrung* language group (Clarke 1990: 364).

As a consequence of European colonization, and movement of European settlers into the region in the 1840s, the local Aboriginal people were dispossessed of their land. The activity area is situated within the Tallygaroopna Run (Figure 4). By 1945, as is evident in historic aerial imagery (Figure 5), the activity area had been largely deforested. The land was utilized for pasture and agricultural purposes. This use has continued to the present day, with subsequent modification of land within the activity area being relatively limited (Figure 1).

Impacts of historic pastoral and agricultural land use within the activity area include deforestation of the landscape, construction of dams and irrigation canals, ploughing of fields, construction of unsealed roads within the activity area, and also the construction of several buildings and facilities which relate directly to the agricultural and pastoral use of the land.

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3.46



Figure 4: Map of pastoral runs in Victoria prepared by Owen (1869). The general location of the activity area is indicated by the red star

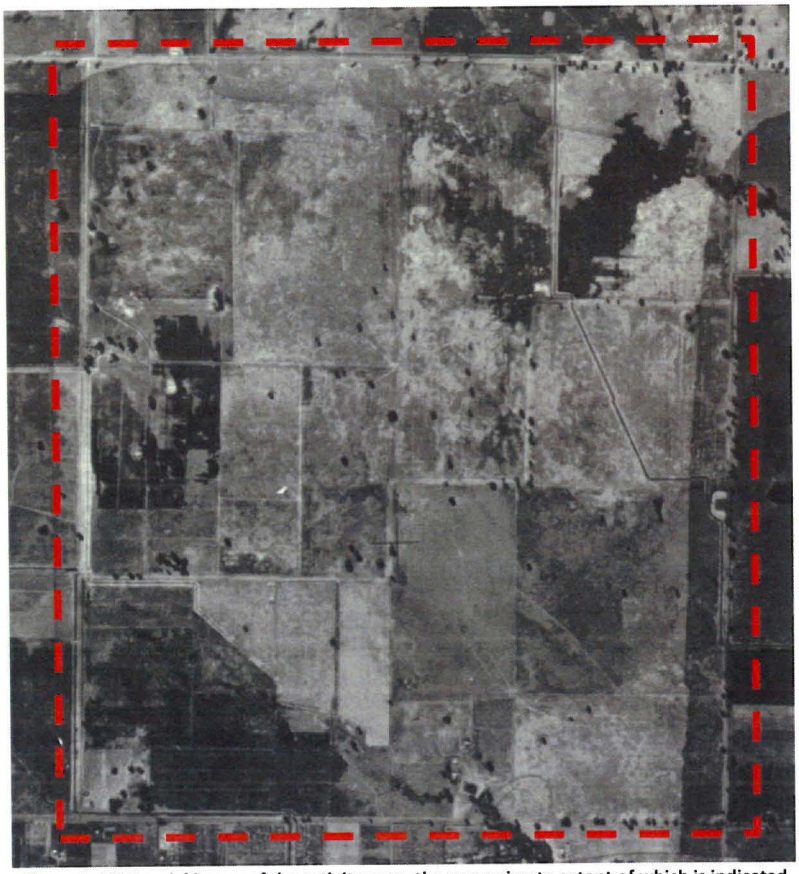

Figure 5: 1945 aerial image of the activity area, the approximate extent of which is indicated

34.7.

5 Size of the proposed activity area

Regulation 68 Definitions
***large activity** means an activity –*

a) with an activity area of more than 40 hectares; or
b) that is a linear project with a length of more than five kilometres;

The activity area has an area of approximately 475.18 ha. Pursuant to **Regulation 68** of the *Aboriginal Heritage Regulations 2007* (Vic) the activity area is a large activity.

6 The Proposed Activity

6.1 Description of the proposed works

The proposed activity comprises the construction of a solar farm within the defined activity area. Due to the preliminary nature of this assessment, the specifics of the proposed works have not yet been defined. However, the works are expected to require at a minimum:

- the potential demolition of all extant buildings and infrastructure;
- the potential stripping of topsoil across the activity area;
- excavation for the purposes of installation of subsurface utilities and building foundations;
- construction of buildings and facilities associated with the proposed solar farm; and

construction of roads and other pathways with respect to the operation of the solar farm.

6.2 Is the proposed activity listed as a high impact activity under Division 5 of the Aboriginal Heritage Regulations 2007?

Division 5 of the *Regulations* lists ten activities which are 'high impact activities' for the purposes of assessing whether a CHMP is required. With regard to the proposed works, the relevant regulation is as follows:

Regulation 43 Buildings and works for specified uses

1) The construction of a building or the construction or carrying out of works on land is a high impact activity if the construction of the building or the construction or carrying out of the works-

(a) would result in significant ground disturbance; and

(b) is for or associated with the use of the land for any one or more of the following purposes-

xxiii. a utility installation, other than a telecommunications facility, if-

D) the works affect an area exceeding 25 square metres.

2) The terms used in subregulation (1)(b) have the same meaning as they have in the VPP.

3) Despite subregulation (1), the construction of a building or the construction or carrying out of works on land is not a high impact activity if it is for associated with

a purpose listed under subregulation (1)(b) for which the land was being lawfully used immediately before the commencement day.

4) *In this regulation,* ***linear project*** *has the same meaning as in regulation 68.*

Pursuant to r.43 of the *Aboriginal Heritage Regulations 2007* (Vic) the proposed works, which will comprise of the construction of a solar farm (a utility installation) of an area of more than 25 square meters, is a high impact activity.

6.2.1 Do any exemptions apply?

No exemptions apply.

7 Desktop assessment

7.1 Geographic region

For the purposes of this assessment all land within 500 m of the activity area (Figure 2). This geographic region captures the relevant geological landscape, local geomorphology, rural setting and relevant nearby registered Aboriginal cultural heritage places.

7.2 Geomorphology and environment

As defined in the Victorian Geomorphological Framework, the activity area is situated within two different geomorphological units that are identified as 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)' (GMU 4.2.1) and 'Plains without leveed channels (Tragowel, Pine Grove)' (GMU 4.2.2) (Figure 3).

The south west corner of the activity area is situated within GMU 4.2.1. GMU 4.2.1 is characterised as including plains with largely inactive leveed channels of various ages that relate to stream deposition that predates the present floodplains. Source bordering dunes have occasionally been identified along waterways within GMU 4.2.1.

The remainder of the activity area is situated in GUM 4.2.2. GMU 4.2.2 is comprised of very gentle to almost level plains that dip slightly northward towards the Murray River. The plains are comprised of alluvial sediments. The plains are distinguished from GMU 4.2.1 in that there are no leveed prior stream channels.

The underlying geology (Figure 6) of the activity area is comprised of the Shepparton Formation (Nws). The Shepparton Formation is comprised of clay, sand, silt and poorly sorted lenticular gravel. The Shepparton Formation is characterized as being a desiccated alluvium floodplain with terraces of 1-10 m above present river channels. The soils are well developed, being typically 2-3 m thick. The upper part of the Shepparton Formation which has been dated from 20,900±500 kya to 30,600±1300 kya[1], is a Holocene formation. The formation's maximum age is the Pliocene, and thus subsurface deposits are also likely to include stratigraphic units which formed during the Pleistocene.

[1] http://dbforms.ga.gov.au/pls/www/geodx.strat_units.sch_full?wher=stratno=25474 – accessed 26 September 2017

The activity is situated within the Victorian Riverina bioregion, which includes a wide variety of specific ecological vegetation classes. Of those, the activity area is situated within one ecological vegetation class, which is identified as 'Plains Woodland' (EVC 803) (Figure 7). EVC 803 is characterised as an open eucalypt woodland with a 15 m tall canopy[2]. EVC 803 occurs on several geologies and soil types, which preferentially include fertile clays and clay loam soils on relatively level land at low elevations.[3]

The climate is characterised by warm summers and cold winters with an annual average rainfall of 400-600mm[4].

By way of summary the activity area passes through an extensive floodplain comprised of sand and clay rich soils. It is possible that current and prior waterways within the vicinity of the activity have developed source-bordering dunes. The activity area captures both Holocene and Pleistocene landscapes.

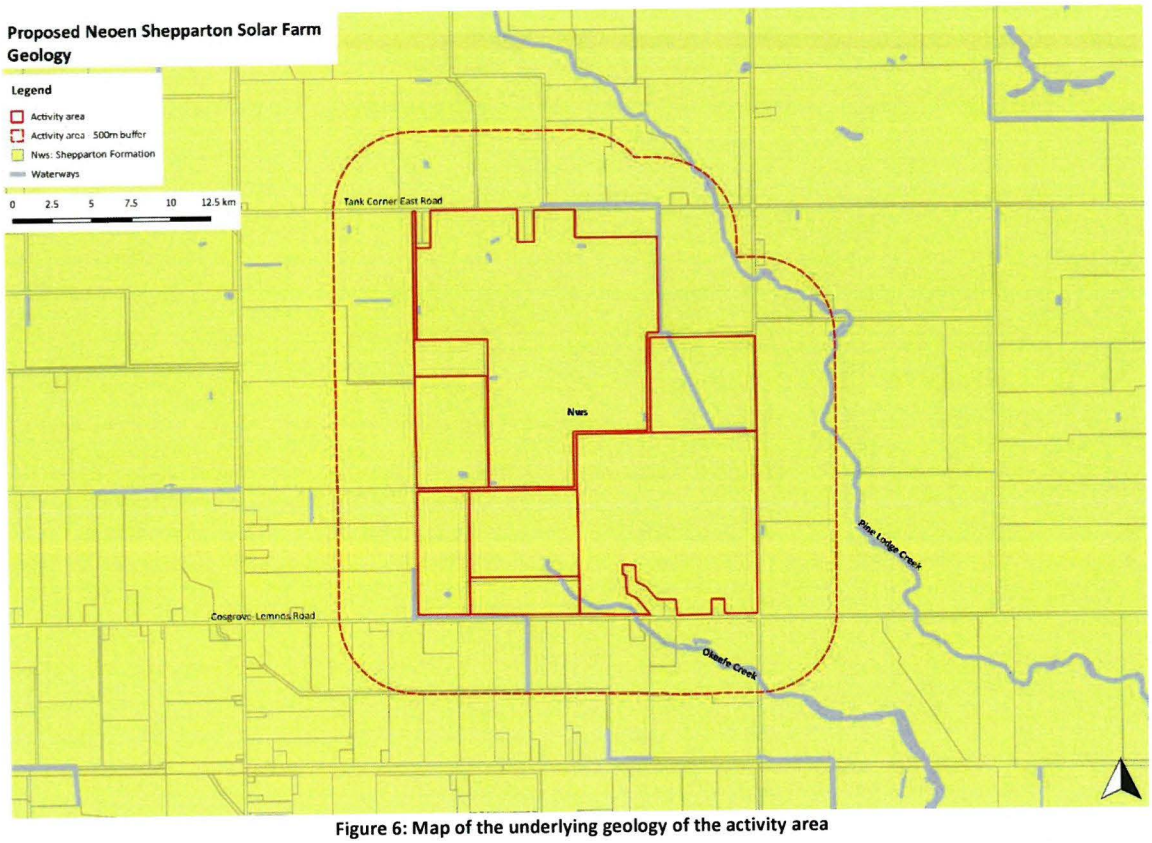

Figure 6: Map of the underlying geology of the activity area

[2] https://www.environment.vic.gov.au/__data/assets/pdf_file/0027/48753/VRiv_EVCs_combined.pdf - accessed 26 September 2017

[3] https://www.environment.vic.gov.au/__data/assets/pdf_file/0027/48753/VRiv_EVCs_combined.pdf - accessed 26 September 2017

[4] http://www.bom.gov.au/jsp/ncc/climate_averages/climate-classifications/index.jsp - accessed 26 September 2017; http://www.bom.gov.au/jsp/ncc/climate_averages/rainfall/index.jsp?period=an&area=vc#maps – accessed 26 September 2017.

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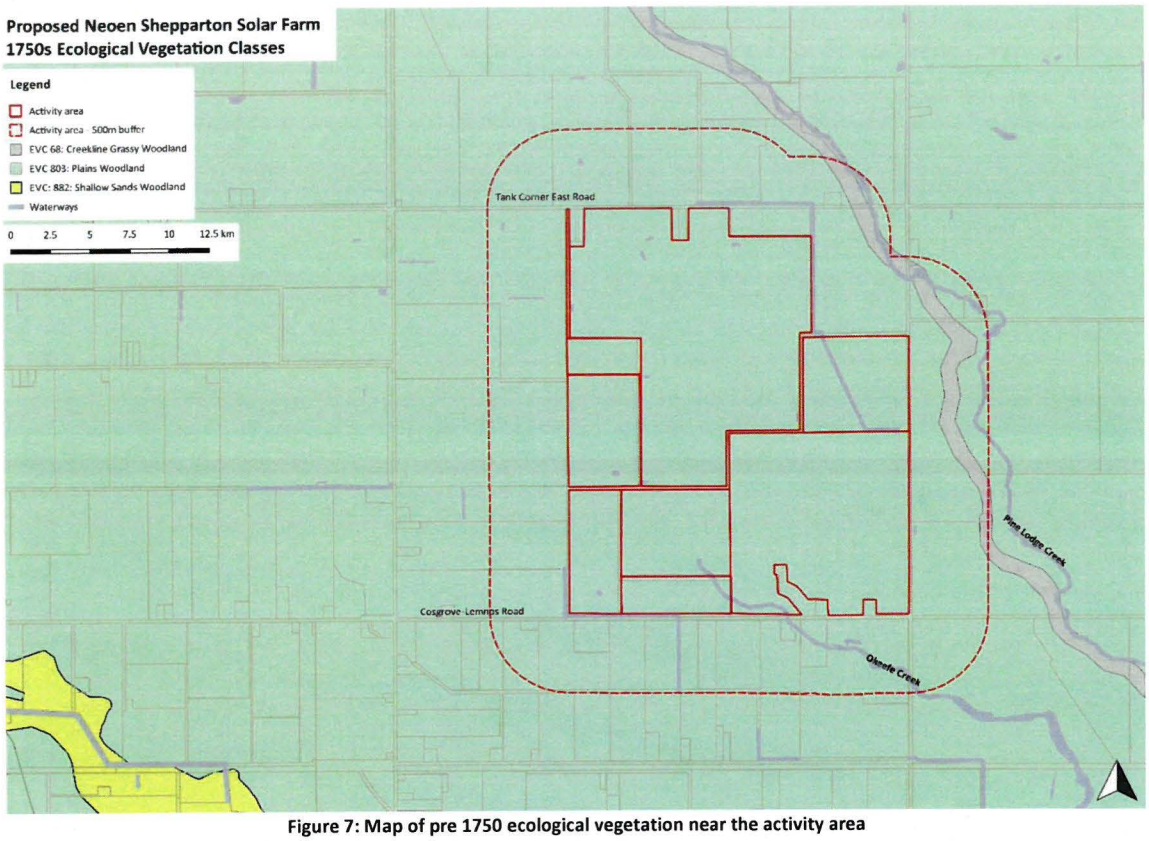

Figure 7: Map of pre 1750 ecological vegetation near the activity area

7.3 Archaeological setting

7.3.1 Existing Heritage Listings

The following register sources were checked for existing heritage listings (both statutory and non-statutory) within the activity area:

- Victorian Aboriginal Heritage Register (VAHR) – No listing;
- Commonwealth Heritage List – No listing;
- Victorian Heritage Register – No listing;
- Victorian Heritage Inventory – No listing;
- City of Greater Shepparton – Schedule to the Heritage Overlay – No listing;
- National Heritage List – No listing;
- Register of the National Estate - No listing;
- National Trust of Australia (Victoria) – No listing;

7.3.2 Historical Heritage

As established in section 7.3.1, there are no registered historical heritage places within 500m of the activity area.

7.3.3 Results of the search of the VAHR

A search of the Aboriginal Cultural Heritage Register and Information System (ACHRIS) was undertaken on 27 September 2017 (Access No. 5144). The activity area does not directly intersect with any registered Aboriginal cultural heritage places.

7.3.3.1 Registered Aboriginal cultural heritage places within 500m of the activity area

As depicted in Figure 2, there are no registered Aboriginal cultural heritage places within 500m of the activity area.

7.3.3.2 Scope of Prior Assessments

There are only nine archaeological reports held in ACHRIS which geospatially intersect with the geographic region (Table 1). None of the listed reports are particular to the activity area.

Table 1: List of archaeological reports which geospatially intersect with the geographic region

Report No.	Report Type	Title	Author	Report Year
36	Desktop or Paper or Due Diligence or Other	ABORIGINAL OCCUPATION OF THE NORTH EAST STUDY AREA, DISTRICTS 1, 2 & 4	ZOBEL, D.	1984
63	Desktop or Paper or Due Diligence or Other	ABORIGINAL ASSOCIATION WITH THE MURRAY VALLEY STUDY AREA	ATKINSON, W. & BERRYMAN, A.	1983
294	Desktop or Paper or Due Diligence or Other	PETROLOGY & PREHISTORY: LITHIC EVIDENCE FOR EXPLOITATION OF STONE RESOURCES & EXCHANGE SYSTEMS IN AU	MCBRYDE, I.	1979
592	Desktop or Paper or Due Diligence or Other	ARCHAEOLOGY OF THE BROKEN RIVER BASIN: A BACKGROUND STUDY	BIRD, C.	1992
879	Survey	SHEPPARTON BYPASS PLANNING STUDY PHASE 2: CULTURAL HERITAGE. VOLUME 1: AN ARCHAEOLOGICAL SURVEY OF T	LONG, A.	1996
1074	Desktop or Paper or Due Diligence or Other	LAND CONSERVATION COUNCIL BOX-IRONBARK FORESTS & WOODLANDS SPECIAL INVESTIGATION CHAPTER 2: ABORIGIN	CLARK, I.	1997
1241	Desktop or Paper or Due Diligence or Other	NATURAL VALUES OF THE PUBLIC LANDS ALONG THE BROKEN, BOOSEY AND NINEMILE CREEKS OF NTH EASTERN VIC.	ROBINSON, D. & MANN, S.	1996
3967	Desktop or Paper or Due Diligence or Other	ARCHAEOLOGICAL BACKGROUND REPORT FOR THE SHEPPARTON BYPASS EES STUDY STAGE 1	DU CROS, H	1995
4648	Desktop or Paper or Due Diligence or Other	Conflict and Territoriality in Aboriginal Australia: Evidence form Biology and Ethnography	Colin Pardoe	

7.3.3.3 Aboriginal cultural heritage

There are no Aboriginal cultural heritage places within the activity area.

The activity area is located within landforms that potentially contains source-bordering dunes, and therefore may contain an area of cultural heritage sensitivity.

From a review of prior archaeological assessments within the geographic region the following key points emerge:

- there have been very few Archaeological assessments undertaken within the vicinity of the activity area;
- Aboriginal cultural heritage place types likely to occur within the activity area include stone artefact scatters in surface and subsurface contexts; and

- due to historic agricultural use of the activity area, it is unlikely that there are any scarred trees located within the activity area.

8 Is a cultural heritage management plan required?

The following sections outline the triggers and issues which will affect the proposed works in relation to the *Aboriginal Heritage Act* 2006 and *Aboriginal Heritage Regulations* 2007, specifically as these relate to the need to undertake a mandatory Cultural Heritage Management Plan.

8.1.1 When is a cultural heritage management plan required?

A CHMP is required for an activity if (Regulation 6)-

(a) all or part of the activity area for the activity is an area of cultural heritage sensitivity; and
(b) all or part of the activity is a high impact activity.

8.1.2 Is the activity area an area of cultural heritage sensitivity?

No, there are no defined areas of cultural heritage sensitivity within the activity area.

8.1.3 Is the activity a high impact activity?

As established in Section 6.2 the proposed works are a high impact activity.

8.1.4 Has the activity area been subject to significant ground disturbance'?

Pursuant to Regulation 4 – Definitions:

significant ground disturbance means disturbance of -

a) the top soil or surface rock layer of the ground; or
b) *a waterway –*

by machinery in the course of grading, excavating, digging or dredging.

There is insufficient evidence to suggest that the entirety of the activity area has undergone significant ground disturbance as defined by the *Aboriginal Heritage Regulations 2007.* Although there are isolated instances in which significant ground disturbance has occurred throughout the activity area, such as within the footprints of existing roadways and irrigation channels, the vast majority of the activity area comprises of farmland, which, beyond being cleared and ploughed, has not, in its entirety, been subject to significant ground disturbance.

8.1.5 Do any Exemptions or other Arrangements as outlined in the Aboriginal Heritage Regulations 2007 apply?

No exemptions apply.

8.1.6 Will a cultural heritage management plan be required for proposed works in the activity area?

On the basis of the above discussion the proposed activity does not require a mandatory CHMP to be prepared prior to the commencement of works. The proposed activity is a high impact activity, however, there are no areas of cultural heritage sensitivity present. Therefore, pursuant to Regulation 6 of the *Aboriginal Heritage Regulations* 2007, the proposed activity does not require a mandatory CHMP.

9 Conclusions and Recommendations

9.1 Historic cultural heritage

There are no requirements to undertake further cultural heritage assessments, permits or consents under the *Heritage* Act 1995, the *Environment Protection and Biodiversity Conservation* Act 1999 and *Planning & Environment* Act 1987.

However, if a historic archaeological site is uncovered in the course of the construction activities, under section 127 of the *Heritage Act 1995*, it is an offence to knowingly damage, disturb or excavate without obtaining the appropriate consent from the Executive Director of the Heritage Victoria. Consultation with Heritage Victoria on proposed management options and the creation of a heritage report (under Section 131 *Heritage Act 1995*) would be required.

9.2 Aboriginal cultural heritage

The proposed works are a high impact activity however, there are no areas of cultural heritage sensitivity present. As such, in accordance with Regulation 6 of the *Aboriginal Heritage Regulations 2007* (Vic) a mandatory CHMP will not be required in this instance.

It should be noted that this opinion does not imply that Aboriginal cultural places are not present within the activity area, or are not at risk of impact from the proposed activity. It is simply stated that the *Aboriginal Heritage Regulations 2007* require a mandatory CHMP in this instance.

This study does not constitute a CHMP as defined in Division 1 of the *Aboriginal Heritage Act 2006*.

Yours sincerely,

Chris Lovell
Project Manager
Andrew Long and Associates

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References

Clark, ID. 1990. *Aboriginal Languages and Clans: an Historical Atlas of Western and Central Victoria, 1800-1900*. Monash Publications in Geography No. 37. Melbourne.

Rosengren, N. 2017. Proposed Solar Farm, Lemnos (Neoen Australia): Potential for Source-Bordering Dune in Activity Area. Unpublished report to GHD.

Legislation

Aboriginal Heritage Act 2006 (Vic)

Aboriginal Heritage Regulations 2007 (Vic)

Victorian Planning Provisions 2017 (Vic)

Geographic Place Names Act 1998 (Vic)

ANDREW LONG + ASSOCIATES

APPENDIX 1

STATUTORY REGULATIONS

ABORIGINAL CULTURAL HERITAGE LEGISLATION

The Aboriginal Heritage Act 2006

It should be noted that new Victorian legislation for Aboriginal heritage protection (the *Aboriginal Heritage Act* 2006) commenced operation on May 28th 2007.

This act provides blanket protection for all Aboriginal heritage sites, places or items in Victoria.

The main aspects of the Act in relation to the development process are as follows:

- An *Aboriginal Heritage Council* (AHC) has been appointed by the Minister, Aboriginal Affairs Victoria, made up of 11 Victorian Aboriginal people.
- Aboriginal community groups with traditional interests in cultural heritage are to apply to the AHC for registration as a *Registered Aboriginal Party* (RAP). RAPs will have the role of endorsing *Cultural Heritage Management Plans* (CHMP) within a given area of interest. There may be two or more RAPs for an area, provided it does not hinder the operation of the legislation.
- Under Section 48, a developer ('sponsor') may be required to submit a CHMP before the issue of a statutory authority by local government or other agency ('decision maker'). A CHMP must be registered with the Secretary, Victorian Communities (AAV), and all relevant RAPs notified in writing. If an RAP does not respond, AAV will act in lieu. A CHMP will contain details of research, field evaluation, consultation and management provisions in regard to the Aboriginal heritage of an area at risk from a development. A *Cultural Heritage Advisor* must be appointed to assist in the preparation of a CHMP. It is the role of an RAP to approve a CHMP if it meets prescribed standards.
- A CHMP will not be considered approved unless it has been approved by all relevant RAPs.

The regulations accompanying the Act specify when a CHMP will be required by law, and prescribe minimum standards for the preparation of a CHMP (Section 53). The approved form for CHMPs specifies the format in which a CHMP should be prepared by a sponsor in order to comply with the Act and the Regulations, and is an approved form under section 190 of the Act. The regulations have not been finalised to date, but their draft content has not been issued to stakeholders.

ANDREW LONG + ASSOCIATES

APPENDIX 2

SUGGESTED PROCEDURE

IN THE EVENT

AN ABORIGINAL HERITAGE SITE

IS IDENTIFIED

DURING CONSTRUCTION

A. Management of Aboriginal Cultural Heritage Found During Works

If Aboriginal places or objects found during works the following steps must be applied:

- The person who identified the find will immediately notify the person in charge of the activity.
- The person in charge of the activity must then suspend any relevant works at the location of the discovery and within 5 m of the relevant site extent and isolate the find via the installation of safety webbing, or other suitable barrier and the material to remain *in situ*.
- Works may continue outside of the 5 m barrier.
- The person in charge of works must notify the Heritage Advisor (HA) and the Secretary (AV) of the find within 24 hours of the discovery.
- The HA must notify the RAP(s) or other agreed Aboriginal stakeholder(s) within 24 hours of the discovery and invite RAP(s) or other agreed Aboriginal stakeholder(s) to inspect the find.
- Within 24 hours of notification, a HA is to attend the site and evaluate the find to determine if it is part of an already known site or should be registered as a new site and to update and/or complete site records as appropriate and advise on possible management strategies.
- Enable RAP(s) or other agreed Aboriginal stakeholder(s) to inspect site within 24 hours of notification and remove/rebury any cultural heritage material found.
- Within a period not exceeding three (3) working days the Sponsor, in consultation with the HA, RAP or other agreed Aboriginal stakeholder, shall, if necessary, apply for a Cultural Heritage Permit (CHP) in accordance with Section 36 of the *Aboriginal Heritage Act* 2006.
- If a CHP application is lodged, works may only recommence within the area of exclusion following the issue of a CHP and compliance with any conditions.
    - When the appropriate protective measures have been taken;
    - Where the relevant Aboriginal cultural heritage records have been updated and/or completed;

In the case of the discovery of human remains, separate procedures relating to the discovery of human skeletal remains must be adhered to (see below).

B. Custody and Management of Aboriginal Cultural Heritage Recovered

- Any Aboriginal cultural heritage recovered or salvaged from the activity area remains the property of the RAP(s) or other agreed Aboriginal stakeholder(s). Any such recovery or salvage will be agreed to and overseen by a RAP(s) or other agreed Aboriginal stakeholder representative(s). In any such instance it will be the responsibility of the Cultural Heritage Advisor to:
    - Catalogue the Aboriginal cultural heritage;
    - Label and package the Aboriginal cultural heritage with reference to provenance; and
    - With the RAP(s) or other agreed Aboriginal stakeholder(s), arrange storage of the Aboriginal cultural heritage in a secure location together with copies of the catalogue and assessment documentation.

C. The Management of the Discovery of Human Remains

Although this evaluation has determined that there is only a low risk of impacting an Aboriginal burial during the implementation of the activity, given the nature of the landforms and archaeological deposits within the activity area, it is nevertheless an extremely important consideration of any development.

The following steps must be taken if any suspected human remains are found in the activity area:

1. Discovery:

- If suspected human remains are discovered, all activity in the vicinity must ***cease immediately*** to ensure minimal damage is caused to the remains; and,
- The remains must be left in place, and ***protected*** from harm or damage.

2. Notification:

- Once suspected human skeletal remains have been found, the Coroners Office and the Victoria Police must be notified immediately;
- If there is reasonable grounds to believe that the remains could be Aboriginal, the DSE Emergency Co-ordination Centre must be immediately notified on 1300 888 544; and
- All details of the location and nature of the human remains must be provided to the relevant authorities.
- If it is confirmed by these authorities that the discovered remains are Aboriginal skeletal remains, the person responsible for the activity must report the existence of the human remains to the Secretary, Department of Victorian Communities in accordance with s.17 of the *Aboriginal Heritage Act* 2006.

3. Impact Mitigation or Salvage:

- The Secretary, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal human remains, will determine the appropriate course of action as required by s.18(2)(b) of the Act.
- An appropriate impact mitigation or salvage strategy as determined by the Secretary must be implemented (this will depend on the circumstances in which the remains were found, the number of burials found and the type of burials and the outcome of consultation with any Aboriginal person or body).
- While opportunities to avoid impacting on a burial that may be discovered during the activity may be limited, it is important to explore opportunities to minimise disturbance to the remains through unnecessary exposure or disinterment.

4. Curation and further analysis:

- The treatment of salvaged Aboriginal human remains must be in accordance with the direction of the Secretary.

5. Reburial:

- Any reburial site(s) must be fully documented by an experienced and qualified archaeologist, clearly marked and all details provided to AV;
- Appropriate management measures must be implemented to ensure that the remains are not disturbed in the future.

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APPENDIX 3

GEOMORPHOLOGICAL ASSESSMENT

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PROPOSED SOLAR FARM: LEMNOS

(NEOEN AUSTRALIA)

POTENTIAL FOR SOURCE-BORDERING DUNE IN ACTIVITY AREA

(Cosgrove-Lemnos Road)

PREPARED BY:

Neville ROSENGREN (Environmental GeoSurveys P/L)
Cath Botta (PCB Consulting)

PREPARED FOR:

Brad George
GHD
Principal Planner
Team Lead – Planning and Environment Assessment
Level 8, 180 Lonsdale Street, Melbourne, Vic. 3000

December 2017

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EXECUTIVE SUMMARY

A study of geomorphology and surficial sediments of an area at Lemnos 5 km northeast of Shepparton was conducted to determine the possible occurrence of source-bordering dunes. The terrain is flat with minimal local relief. Previous soil mapping and a site inspection including auger and shovel recovery of topsoil and subsoil shows the soils are clay loams passing to medium to heavy clays at depth. No sand is recorded in the soil profiles. Aerial photography and previous landform and soil mapping show this to be an area of alluvial channel and floodplain deposition from palaeo-channels of the Broken River. There is no evidence that Quaternary sedimentation across the study area included episodes of aeolian deposition of sufficient extent or duration to produce either sand or clay dunes. There is no evidence of modern or relict topography—lake depressions or alluvial point bar deposits in a large palaeo-channel—needed to initiate or develop source-bordering dunes.

It is concluded that there is no source-bordering dune topography or materials across the study area.

1 INTRODUCTION

Neoen Australia proposes to construct a solar farm at Lemnos, a locality five km northeast of Shepparton in central Victoria. The solar farm will encompass an area bounded by 1190 Cosgrove-Lemnos Road, 1220 Cosgrove-Lemnos Road, 85 Crooked Lane, 260 Tank Corner East Road and 875 Boundary Road (Figure 1).

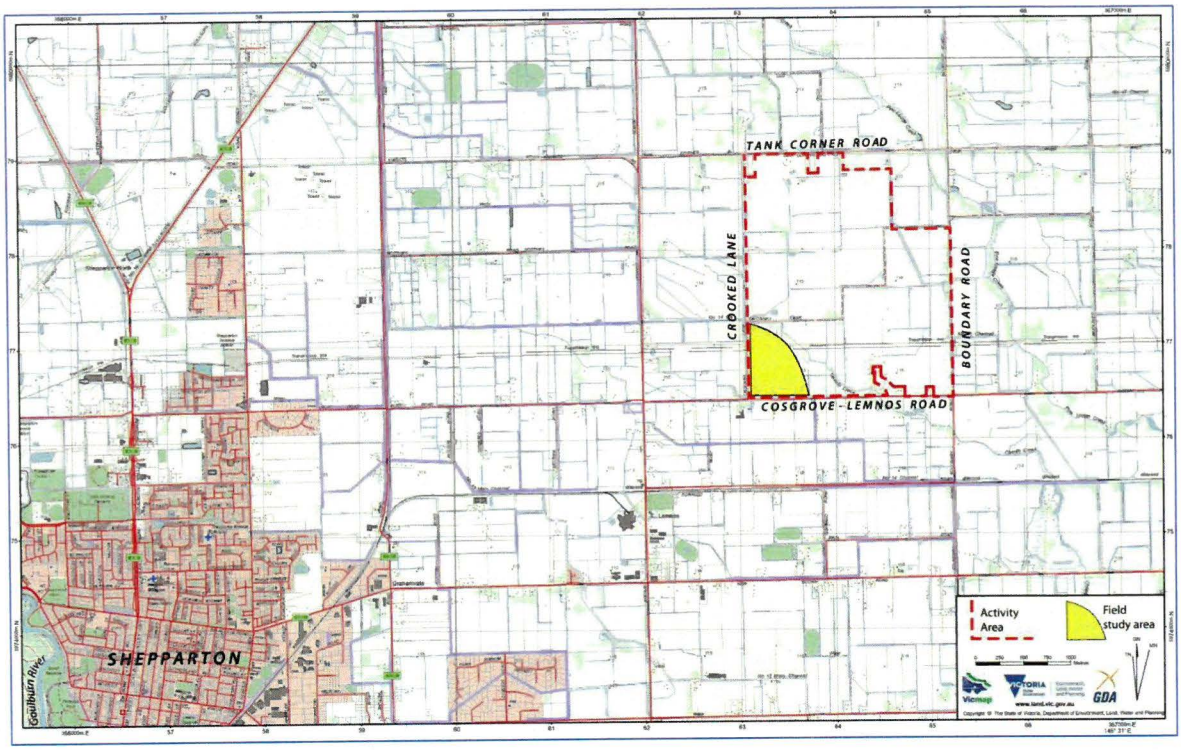

Figure 1. Location of proposed solar farm, Lemnos showing the focus of this study in the southwest corner (Base from Vicmap).

This report addresses an issue raised in the draft archaeological report: *Neoen Shepparton Solar Farm: Cultural Heritage Assessment and Implications for Development* (Andrew Long & Associates [AL&A] 27 September 2017). Page 4 of that report states:

"...part of the activity area passes through a geomorphological unit, identified as GMU 4.2.1 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)', and page 5 includes a map (reproduced here as Figure 2) showing an area of potential source-bordering dune in the southwestern section of the Activity Area. The AL&A report further recommends (9.3 Recommendations page 13):

"In order to determine whether or not the activity area contains any dunes (source-bordering or otherwise), it is recommended that advice of a qualified geomorphologist be sought."

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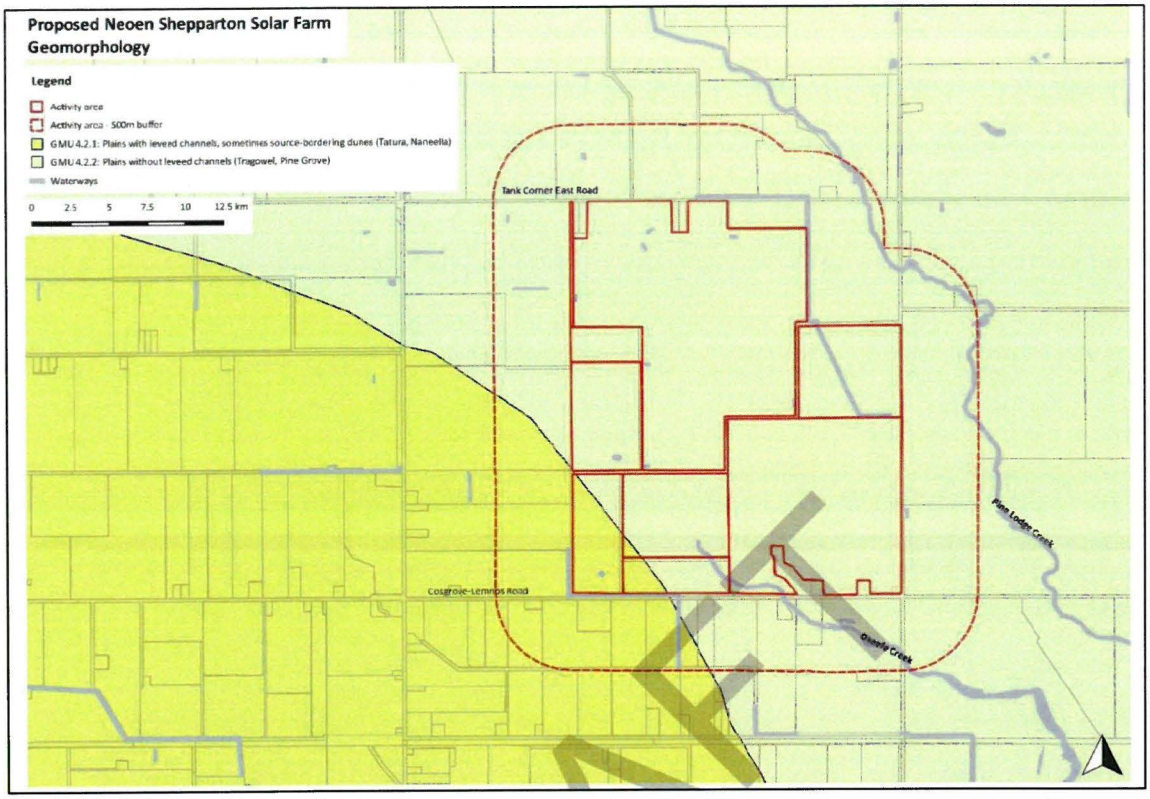

Figure 2. Area identified as a potential source-bordering dune (Figure 3 of Andrew Long & Associates (2017).

Brad George (Principal Planner of GHD Lonsdale Street Melbourne Office) requested Environmental GeoSurveys Pty Ltd to advise on the geomorphological character of the site and specifically if source-bordering dune(s) occur in the nominated section of the Activity Area (Figure 2). As required by the AL&A report, the field study was undertaken by appropriately qualified and experienced consultant personnel: (1) Neville Rosengren (M.A. (hons Melb, formerly Senior Lecturer in Earth & Environmental Science at La Trobe University); (2) Catherine Botta (M. Ag. Sc. (Sydney), formerly Lecturer in Soils at Melbourne University). The report was written by Neville Rosengren.

The identification of the source-bordering dune is based on maps derived from the Victorian Resources Online website www.vro.agriculture. vic.gov.au/dpi/vro/vrosite. nsf/pages/ landform_ geomorphological_framework_4.2.1. One of the authors of this present report (Rosengren) was a member of the Victorian Geomorphological Review Group that developed and implemented the geomorphological framework scheme for Victoria presented on that site and is mindful of limitations of that mapping scheme. While it provides an adequate representation of the geomorphological features of Victoria, there are limits on the resolution due to scale and boundary generalisation. For detailed assessment as required for this project, a field inspection including shallow sub-surface testing was required to define the presence of source-bordering dunes at this site.

Prior to the field visit, study was made of aerial photographs, remotely sensed data, topographical and geological maps and a selective review of the extensive literature relating to the nature and chronology of sediments and landforms of the Riverine Plain. LiDAR imagery that would more clearly define the surface morphology and allow recognition of stream and dune features was not available for this study.

Key papers selected from the extensive literature about the Riverine Plains of Victoria and New South Wales were Harris (1939), Hills (1940), Butler (1956, 1958), Skene and Poutsma (1962), Bowler and Harford (1966), Lawrence (1966), Pels (1966), Bowler (1967, 1978, 1983), Butler *et al.* (1973), Tickell (1991), Page and Nanson (1996), Skene and Poutsma (1962),Joyce and Webb *et al.(* 2003), Stone (2006), Bullard and McTainsh (2003), and Farebrother *et al.* (2017).

2 SITE CHARACTERISTICS

2.1 Geomorphology

Figure 1 shows the best available topographic data (10 metre contour interval supplemented by spot heights at approximately 1,000 metre spacing). On this data, the surface is flat with elevations of 114 m and 115 m across the west and north of the activity area rising slightly to 116 metres at Boundary Road. The site has been modified by cultivation, excavation and backfilling of dams, soil removal for fill, and construction of electricity pylons. At the time of the field inspection (December 6th 2017), a wheat crop up to one metre high across the study area masked any minor variations in topography (micro relief) that may occur (Figure 3).



Figure 3. Crop cover masking microtopography (photo 6th Dec. 2017).

The area is part of the Riverine Plain, an extensive flat landscape with limited topographical variation but with marked local contrasts between landscapes developing by

contemporary processes and that relict from former episodes of more intensive fluvial, aeolian and lacustrine activity. The channels of the modern streams, such as the Goulburn River, typically lie within a belt of incised or terraced alluvium several metres below that of the surrounding plains built of older sediments. The plains contain an extensive but often subtle record of past events including remnants of channels and levee banks of ancient (palaeo) streams, often displaying a discharge and sediment transport/deposition regime markedly different from present time. There is widespread evidence of fresh and saline lakes bodies, either no longer in existence or much reduced in extent. Associated with both the relict fluvial and lacustrine features are bodies of wind-blown sediment ranging from clays and silts (loams) to well-sorted sands. The most distinctive of these is the arcuate bodies known as lunettes (Hills 1940) clearly associated with lake beds, but other irregular sand accumulations occur associated with paleo-channels. These are known as "source-bordering dunes" and discussed in Section $ below.

The geomorphology of the site and surroundings is a direct reflection of the history of fluvial deposition over the Quaternary. The surface and sub-surface clay, silty-clay and occasional sand beds were deposited by palaeo-channels of the Broken Creek and small streams draining from the Dookie Hills. Unlike the marked depressions formed by the modern and ancient Goulburn River, the palaeo-channels east of Shepparton are shallow, discontinuous, and relatively straight with low levee banks.

2.2 Geology

The area is shown on Shepparton 1:100,000 (Geological Survey of Victoria, 1989) and adjacent Dookie 1:100,000 geological maps (Geological Survey of Victoria, 1986) (Figure 4). The low hills and colluvial slopes 14 km west of the study area is the bedrock complex of Cambrian and Ordovician rocks at Dookie north of the Broken River, with an outcrop of Pliocene basaltic rocks at Cosgrove. Between the hills and the Goulburn River the surface is comprised of alluvial sediments of the Shepparton Formation derived from modern and ancient streams of the Broken River. This Quaternary surficial unit is the widespread cover of the Riverine Plain and includes alluvial and lacustrine sediments with localised areas of source-bordering dunes. In the trench occupied by the Goulburn River is a younger suite of sediments referred to as Coonambidgal Formation. No Coonambidgal Formation sediments occur across the present study area as it is elevated above the trench containing the modern Goulburn River channel. West of the modern Goulburn River is a zone of palaeochannels extending west to the Campaspe River valley.

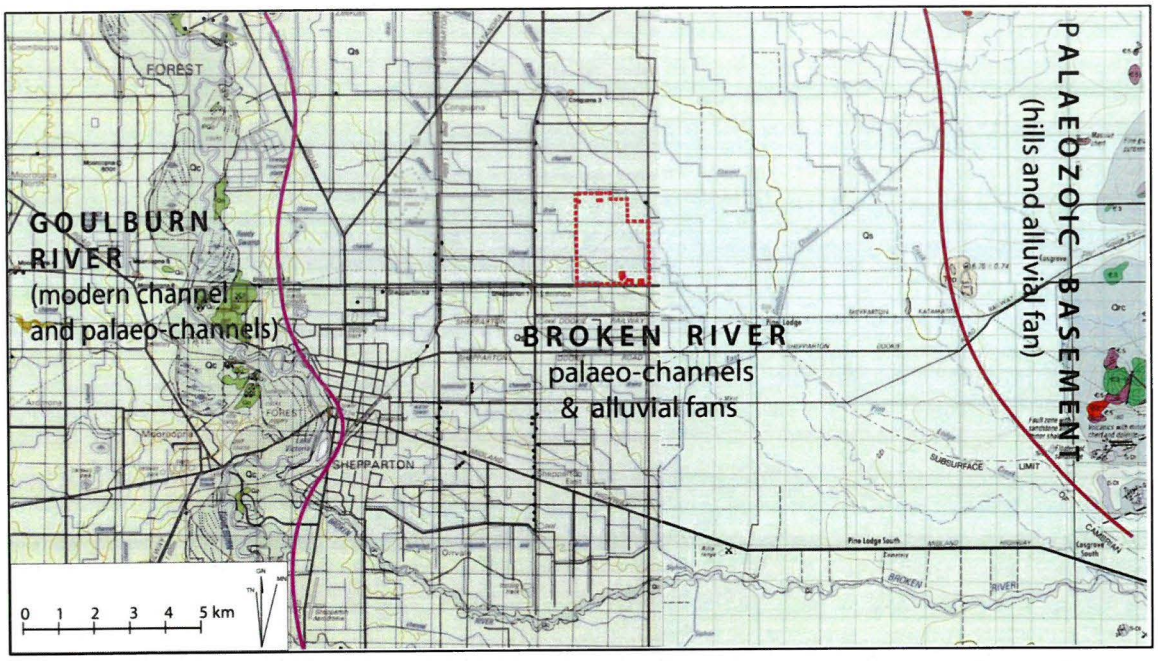

Figure 4. Geology (from Shepparton and Dookie 1:100,00 geological maps: Geological Survey of Victoria).

Borehole ID 109654

From	To	Comments
0.0	0.61	DARK BROWN TOPSOIL
0.61	2.13	YELLOWY BROWN CLAY
2.13	5.18	BROWN & GREY MOTTLED CLAY
5.18	6.1	YELLOW & GREY MOTTLED CLAY
6.1	7.62	MOTTLED YELLOW & GREY SILTY CLAY
7.62	10.67	GREY CLAYISH SAND (DRY)
10.67	16.76	GREY MOTTLED SANDY CLAY
16.76	18.9	MOTTLED GREY & BROWN GRITTY CLAY
18.9	21.95	MOTTLED GREY YELLOW & RED SILTY CLAY
21.95	22.86	YELLOW SAND (FATTY)
22.86	25.3	BROWN SAND
25.3	28.35	MOTTLED BROWN & GREY CLAY
28.35	30.18	BROWN & GREY MOTTLED SILTY CLAY
30.18	33.22	GREY GRITTY CLAY
33.22	39.32	BROWN & GREY GRITTY CLAY
39.32	42.67	BROWN SILTY CLAY
42.67	47.24	RED & GREY GRAVELLY CLAY
47.24	48.77	RED FATTY SAND
48.77	54.86	MOTTLED RED & GREY SILTY CLAY
54.86	57.3	BROWN CLAY (SILTY)
57.3	59.44	WHITE CLAY
59.44	62.48	YELLOW AND GREY CLAY
62.48	63.7	GREY CLAY
63.7	66.45	GREY & YELLOW CLAY
66.45	69.5	BROWN SANDY CLAY
69.5	71.93	YELLOW CLAYISH SAND
71.93	99.98	GREENISH GREY STONE
99.98	102.41	BROWN GRITTY CLAY (HARD)
102.41	103.63	BLUESTONE
103.63	106.07	VERY HARD BLUESTONE

Borehole ID 109657

From	To	Comments
0.0	4.86	CLAY
4.86	5.66	CLAY & SAND
5.66	6.2	SAND
6.2	7.17	CLAY
7.17	7.35	SAND
7.35	13.0	CLAY
13.0	15.4	SILTY CLAY

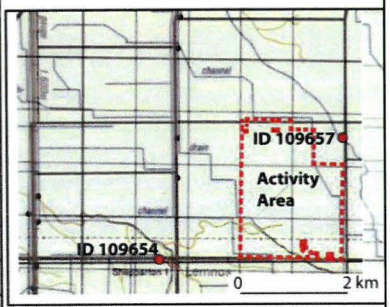

Figure 5. Bore logs adjacent to the study area..

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The thickness and variation in sediments underlying the plain east of Shepparton is displayed in two borehole records close to and regarded as representative of the sediments underling the activity area (Figure 4).

Bore ID 109654 reaches to bedrock (noted as "bluestone" in the log and of Palaeozoic age) at 103 metres showing the thickness of the Shepparton Formation here. Bore ID 109657 terminates still in Shepparton Formation at 15.4 metres. The majority of boreholes (as with ID 109657) are for groundwater and typically do not go below 20 metres as at this depth the groundwater is often saline (Tickell 1991). As was shown by the auger holes in the field survey, the surface sediments are clay-rich and do not have the thickness or texture of dune sediments.

Nearmap ™ imagery was obtained for six dates between January 2010 and October 2017. The most recent images (Feb, April and October 2017) are of limited value due to the extensive crop cover. By comparison, the January and October 2010 images show a clearer view of the ground surface and allow recognition of the palaeo-stream traces (identified as "prior streams") on the Shepparton geological map (Figure 6).

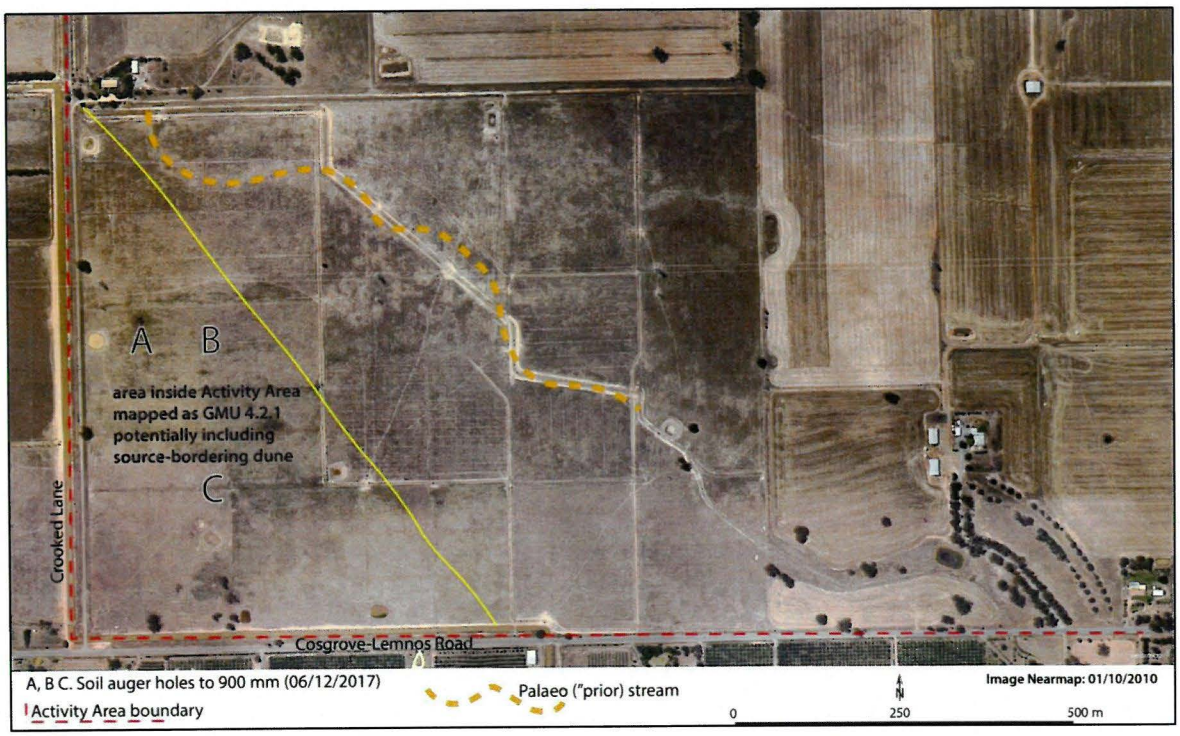

Figure 6. Prior stream trace across northern part of site. Auger holes A, B, C drilled on 6th December 2017. Note that Auger hole A is in an area where 500 mm had been stripped from the surface by 2017 [see Figure 6 and Figure 7] .(Nearmap image 1st October 2010).

2.3 Field Study

The field inspection was conducted between 0930 and 1400 on Wednesday 6th December 2017. After a general view of the site from adjacent public roads (Crooked Lane

and Cosgrove-Lemnos Road), with permission of the property owner (Cameron Pogue) a foot traverse was made across the site and surface and shallow sub-surface sediments were sampled. Despite the crop cover there is sufficient ground surface exposed between rows, along vehicle wheel marks and in an elongate scrape up to 700 mm deep adjacent to Crooked Lane 80 metres south of the transmission line, to allow widespread assessment of the soil surface in the target area. Several shovel scrapes were made across the site and three holes hand drilled with a 100 mm Jarret head auger at localities A, B, C (Figure 6, Figure 7). As the purpose of the study is to determine the potential presence of dune material and/or dune topography, the material is described as surficial sediment texture rather than displayed as a detailed soil analysis and soil classification.

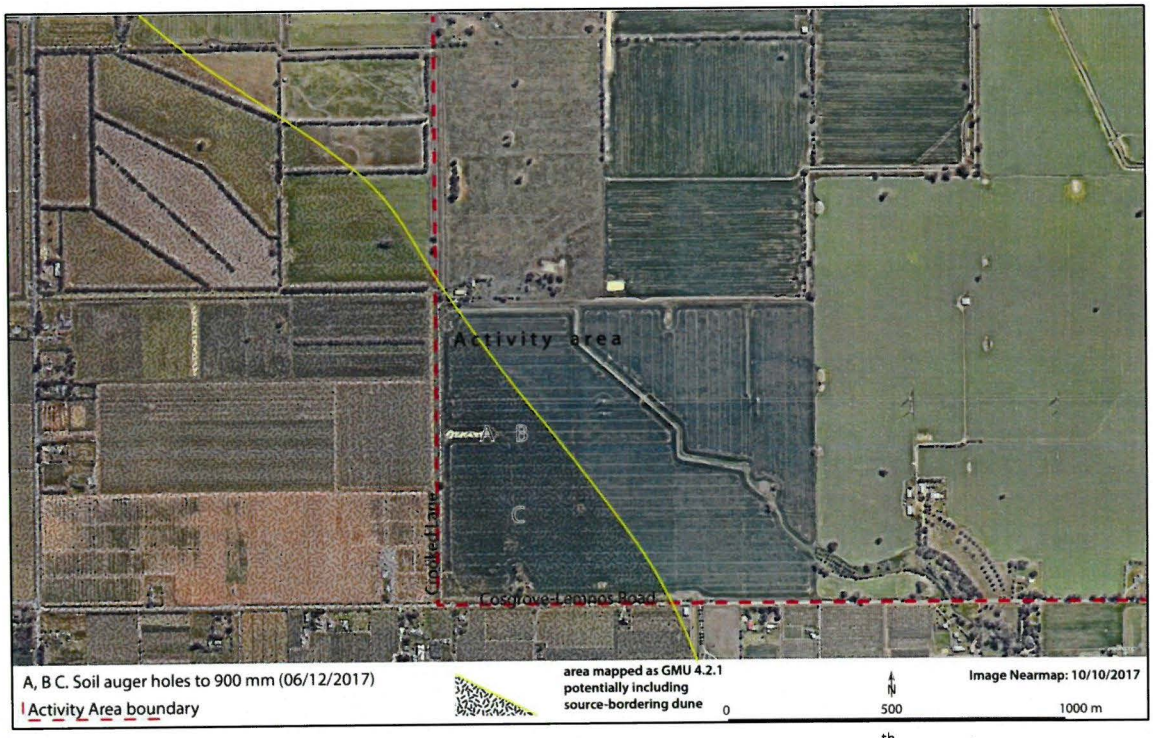

Figure 7. Field site (south and west of yellow line) and auger holes A, B, C drilled on 6th December 2017. (Nearmap image 10th October 2017).

Auger hole A was drilled into the base of an elongate scrape where 500 mm of topsoil had been removed (Figure 8) allowing a total soil sample of 1.7 m.

2.3.1 Surficial sediments

Soil texture, colour and field pH are recorded in Table 1. The soils are of uniform to gradational texture and are light to medium clay or silty clay soil in the topsoil, gradually changing into medium to heavy clay in the subsoil. No material in any profile sample textured as sand. This is consistent with the bore records shown in Figure 5. A distinctive feature is the alkaline trend in the deeper profile with pH of 8.0 to 9.0.



Figure 8. Soil scrape at auger hole A, allowing total soil inspection of 1.7 metres (photo 6th Dec. 2017).

TABLE 1. Soil Profiles east of Crooked Lane

LOCATION A Field texture pH Munsell colour Remarks	**0 - 250 mm** silty clay pH 6.0 10YR6/2 whole colour	**250 - 700 mm** medium clay pH 8.0 10YR4/4 whole colour	**700 - 950 mm** light clay pH 9.0 10YR6/2 sticky	**700 - 950 mm** light clay pH 9.0 10YR6/2 slaking	**950 - 1700 mm** light clay pH 8.5 10YR5/6 slaking
LOCATION B Field texture pH Munsell colour Remarks	**0 - 200 mm** silty clay pH 5.5 10YR4/4 whole colour	**200 - 500 mm** light clay pH 6.0 10YR5/3 whole colour	**500 - 800 mm** light clay pH 8.0 10YR6/2 small mottle	**700 - 900 mm** medium clay pH 9.0 10YR4/4 weak mottling	
LOCATION C Field texture pH Munsell colour Remarks	**0 - 150 mm** silty clay loam pH 6.0 7.5YR3/2 orange-brown mottle	**150 - 750 mm** silty clay pH 6.5 10YR5/4 weak mottling	**750 - 950 mm** heavy clay pH 8.0 10YR6/3 whole colour		

2.4 Soil distribution from previous mapping

An extract from a detailed soil map of the Goulburn Valley (Skene and Poutsma 1962) is shown in Figure 9. The map was prepared by ground survey with data from auger holes drilled between four feet (1.2 m) and seven feet (2.1 metres) and plotted on aerial photographs and transferred to cadastral base maps. The positional and soil type accuracy of the units shown on the map is regarded as very high. Soils are grouped into soil types defined as "A group of soils with the same general profile characteristics including the texture of the surface soil" (Skene and Poutsma 1962, Appendix II page 48). The soil type name used in the survey and shown on Figure 9 is based on the texture of the "topsoil" (A1 to A2 horizon).

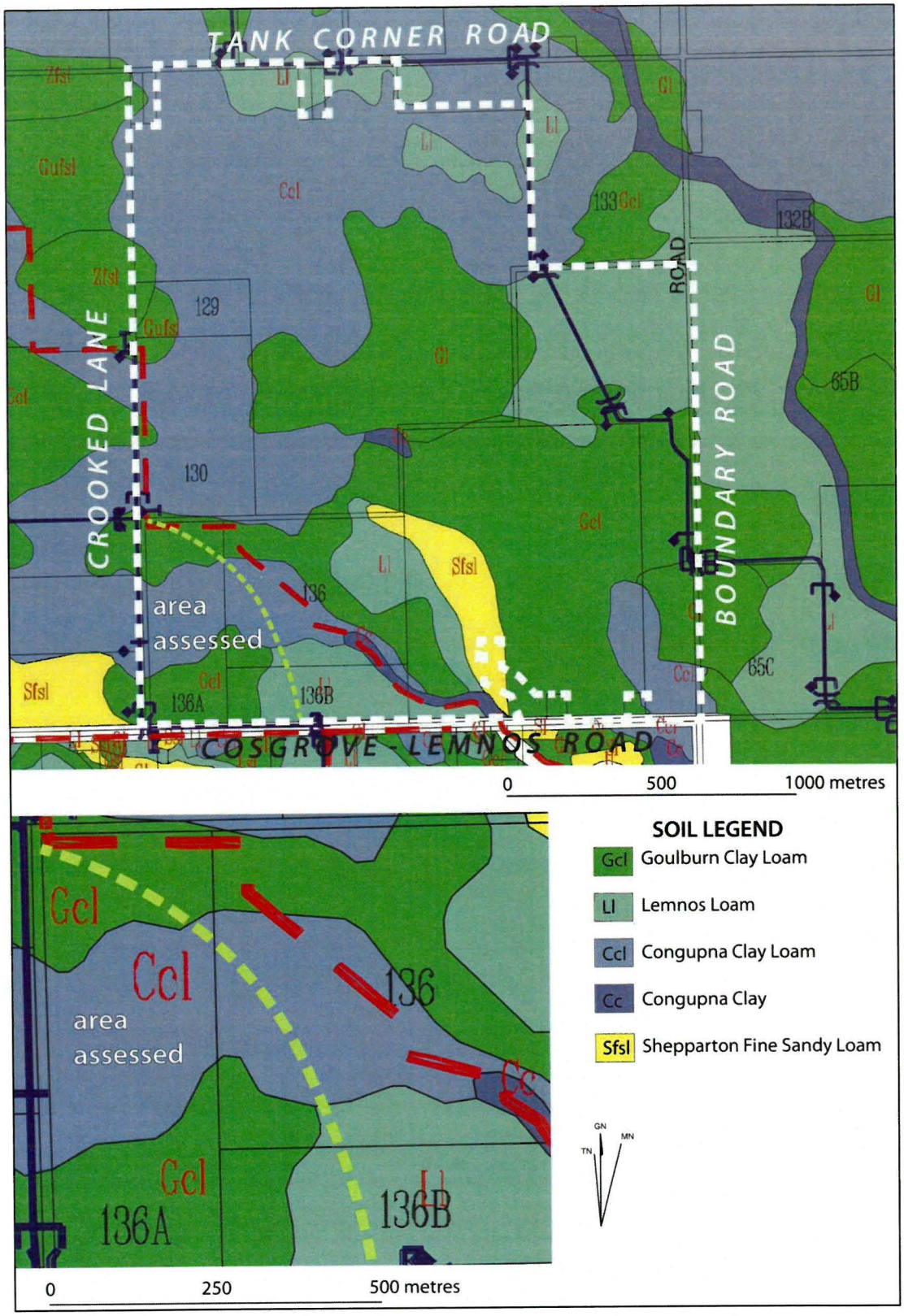

Figure 9. Extract from soil maps prepared by Skene and Poutsma (1962).

The profile descriptions for the three soil types recognised by Skene and Poutsma (1962) in the area assessed inside the broader Activity Area (Figure 9) are reproduced below. (Note that the profile depths are in imperial units of inches below surface).

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Congupna clay loam: Ccl

CONGUPNA CLAY LOAM.

Surface soil—

A 0 to 4 inches; grey to brownish grey (2·5Y to 10YR 4/1)* clay loam, occasionally clay, with rusty colours along root channels; weak to moderate angular blocky structure; hard and brittle when dry; variable amounts of buckshot; at 2 to 5 inches sharply separated from:

Subsoil—

B_1 4 to 21 inches; brownish grey to dark yellow-grey (2·5Y 4/2), heavy clay; moderate angular blocky structure; very hard when dry; weakly structured and more crumbly with depth; grades into:

B_2C 21 to 48 inches +; brownish yellow-grey (2·5Y to 10YR 4/4), sometimes diffusely mottled, medium clay; structureless; crumbly; slight calcium carbonate as soft concretions or in small pockets; usually continues beyond 84 inches.

Goulburn clay loam: Gcl

GOULBURN CLAY LOAM.

Surface soil.

A 0 to 4 inches; grey-brown (10YR 4/2) clay loam, often with fine rusty mottling in root channels; weak angular blocky structure, 2 to 4 inch peds; slight buckshot; at 2 to 6 inches sharply separated from:

Subsoil.

B_1 4 to 18 inches; dull yellowish brown (7.5YR 4/4) sometimes mottled with grey-brown, heavy clay; weak to moderate prismatic structure, peds up to 10 inches; grades into:

B_2C 18 to 33 inches; yellowish brown (10YR 5/6) heavy clay; weak subangular blocky structure; slight calcium carbonate; grades into:

33 to 48 inches +; yellow-grey or mottled light yellowish grey (2.5Y 5/2) medium or heavy clay; slight calcium carbonate.

Lemnos clay: Ll

LEMNOS LOAM.

Surface soil.

A 0 to 5 inches; brown to dull or greyish brown (5 to 7·5YR 4/4) loam, occasionally clay loam, occasionally with weak bleaching in the lower part; at 4 to 7 inches sharply separated from:

Subsoil.

B_1 5 to 18 inches; reddish brown (2·5 to 5YR 4/6) medium or heavy clay; weak to moderate angular blocky structure, peds 1 to 3 inches; consistence varying from friable to hard; grades into:

18 to 24 inches; brown or yellowish brown (7·5YR 4/6) medium clay; less well structured and more friable than above; sometimes slight calcium carbonate; grades into:

B_2C 24 to 48 inches; mottled brown, yellow and grey light, occasionally medium, clay; friable when moist; slight soft and concretionary calcium carbonate; grades into:

48 to 72 inches +; variably mottled; textures usually clay, but occasionally micaceous fine sandy clay or clay loam.

3 ASSESSMENT: IS THIS A SOURCE-BORDERING DUNE?

3.1 Dunes

Dunes are bodies of initially unconsolidated sediment formed either by subaerial (terrestrial i.e. formed in the atmosphere) or subaqueous (under water) processes. Subaerial (aeolian) dunes are sediments mobilised and deposited by wind. Across southern Australia aeolian dune sediments are predominantly of fine to locally medium sand size and are mainly of clastic mineral sediment (quartz and lithic fragments). A distinctive group of dunes - typically at the margins of formerly saline lakes - are aggregates of silt and clay originally forming sand-sized pellets that were readily mobilised by wind. After deposition, the pellets may be disaggregated and form a uniform semi-consolidated material with a loam to clay loam texture.

A wide variety of aeolian dune morphologies occur ranging from ripples a few centimetres high to massive accumulations of regional to sub-continental scale. Dunes may

be classified as **free dunes** whose form is primarily a function of wind characteristics, or **impeded dunes** whose morphology is influenced significantly by other effects such as vegetation, topographic barriers or highly localised sediment sources (Summerfield 1991). Dunes from localised sediment sources are classed as source-bordering dunes and include clay and/or sand lunettes developed from lake depressions, and sand dunes adjacent to dry alluvial channels, notably those with multiple sandy point bars. The modern and ancient channels of the Goulburn River have extensive bodies of relict (inactive) remnant (degraded and reduced in size/extent) source-bordering dunes shown on the Shepparton 1:100,000 geological map (Figure 10.

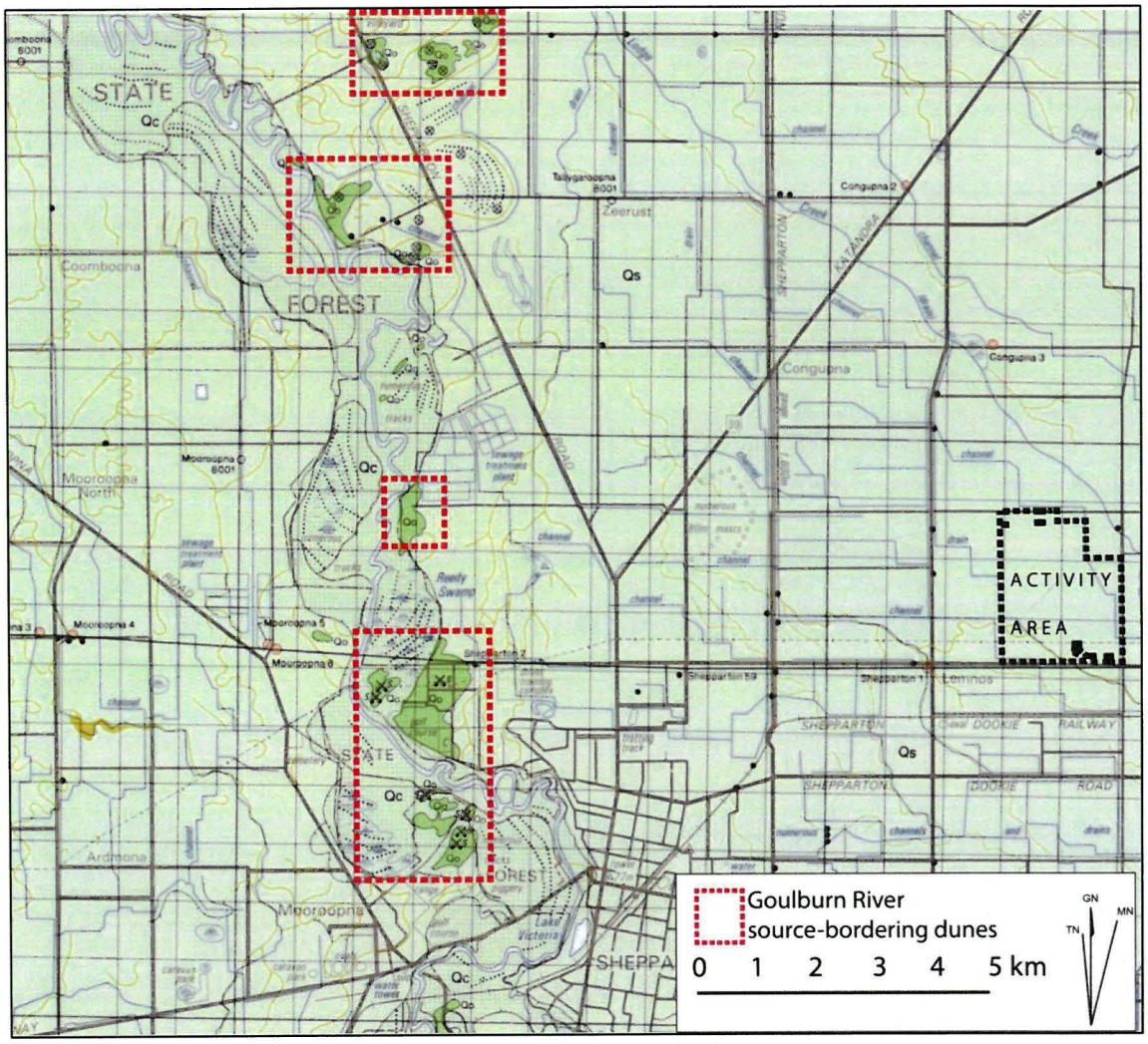

Figure 10. Source-bordering dunes along Goulburn River west of study area. (Extract from Shepparton 1:100,00 geological maps: Geological Survey of Victoria).

3.2 The study area

The extensive literature, imagery, topographical and soil maps and the field study including the subsurface testing did not show topographical or sedimentary/soil evidence of dunes, either present or as remnants of former dune accumulations in the study area. The

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present surface as viewed in the field and on high resolution aerial photographs, and the context of modern and palaeo fluvial and aeolian features in this part of the Goulburn Valley is not consistent with the morphology of a dune. There is minimal (sub-metre?) relief across the study area and no defined crest or ridged or convex surface characteristic of dune form – either comprised of sand or aggregates of fines. On the contrary, the area is characterised by very shallow to elongate depressions indicative of remnant stream traces or possible wind scalds.

A distinctive and definitive feature that argues against remnants of source-bordering (or other types) of dunes is that that no material at the surface or sub-surface textured as sand. The field tests for this study are consistent with the published soil maps (Figure 9) showing the upper ~200 to 250 mm of soil are silty clay or rarely silty clay loam while depths of >250 mm textured as light clay to medium clay or heavy clay e.g. auger hole **C.**

4 CONCLUSION

The occurrence of a source-bordering dune with thickness of deposits that would retain evidence of archaeological significance at this site is highly unlikely. There is no evidence of dune material at the site and no topography that indicates a relict source-bordering dune is present. For this to be the case, there would need to be clear evidence of either a substantial palaeo channel with sandy point bars—or an ancient lake floor or depression—upwind i.e. immediately west of the site. Such evidence is lacking. The evidence is that the terrain is a floodplain surface with remnants of palaeo-channels. Small, thin areas of sand outside the present study area e.g. the narrow belt of Shepparton fine sandy loam (Figure 9), originated as low levee banks of an ancient stream i.e. a palaeo-channel and are not regarded as of aeolian origin.

It is concluded that there is no source-bordering dune topography or materials across the study area.

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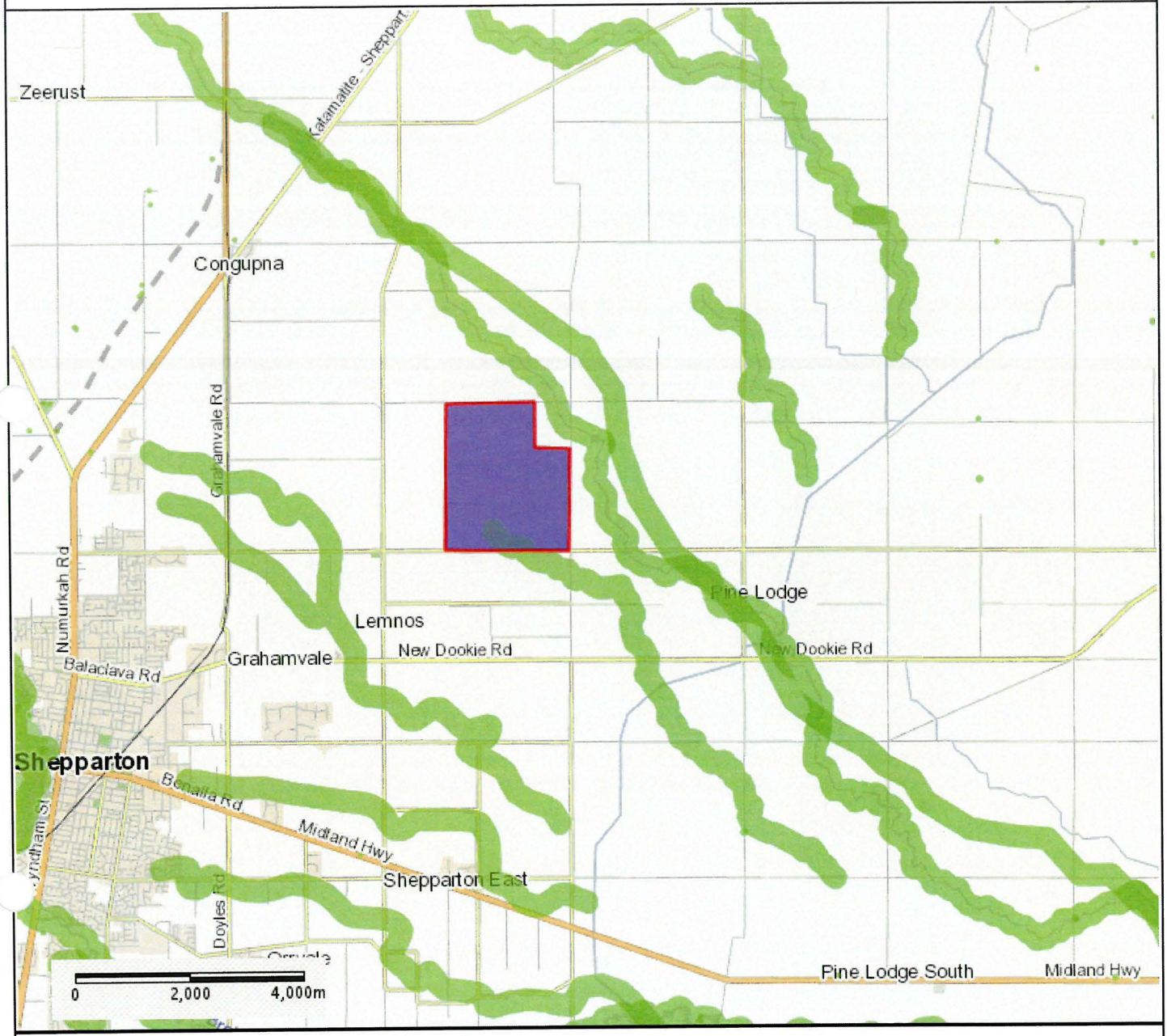
Aboriginal Victoria

Activity area



Areas of Cultural Heritage Sensitivity

VICTORIA State Government

Produced by
Aboriginal Victoria
for
GHD

GDA

N

Date: 26 October 2017

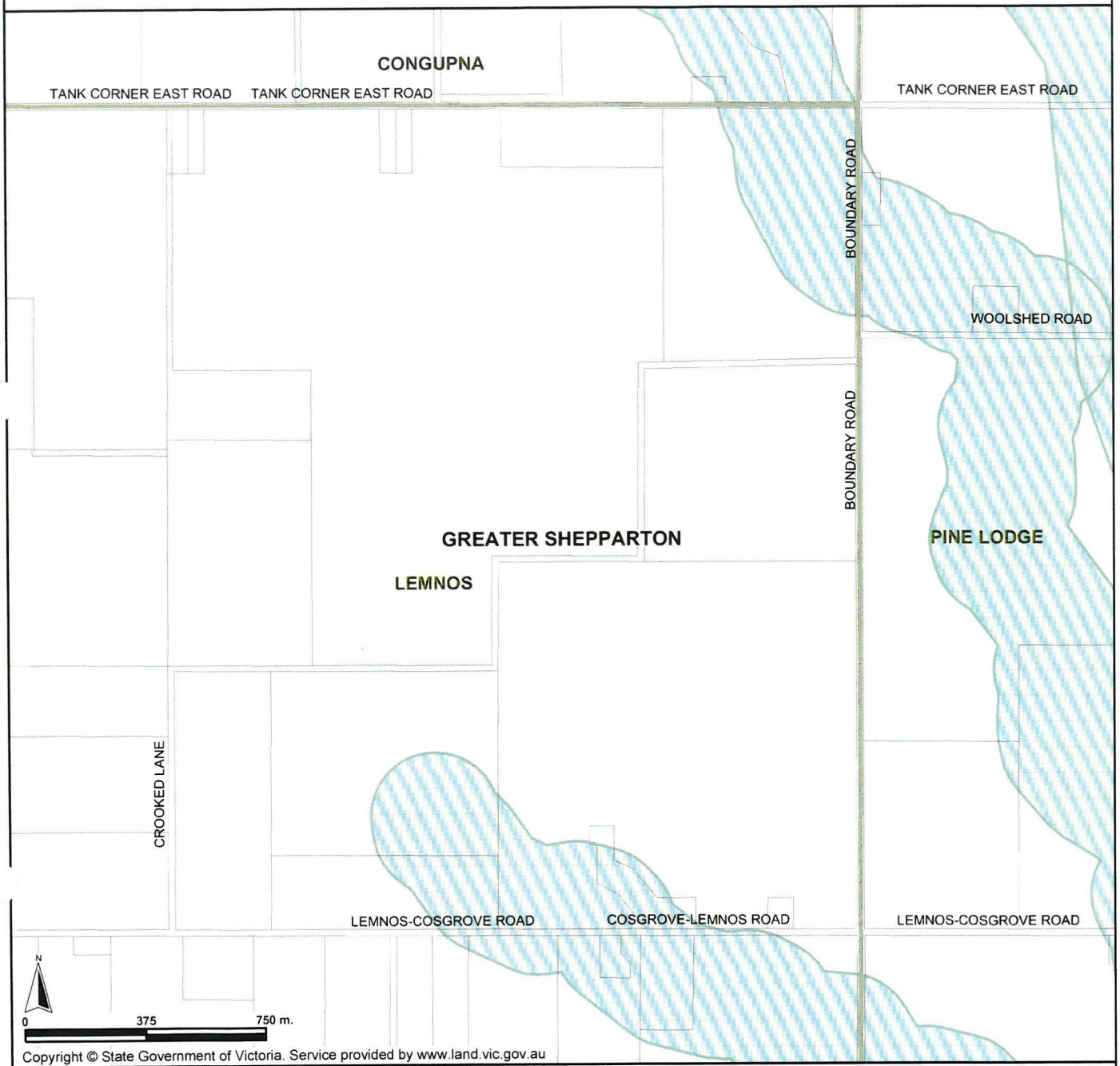
1:100,000

This document contains culturally sensitive information concerning the heritage of Victoria's Aboriginal communities, and cannot be included in any reports resulting from research associated with this document. This information is accurate at the date of production. However, the State of Victoria and its employees do not guarantee that the information in this document is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on this information.

Planning Map

Areas of cultural heritage sensitivity

Department of Environment, Land Water and Planning



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Legend

WARRNAMBOOL Major Town
Major Road, Road
BOURKE STREET Road name
Railway, Tramway
Property/Parcel, Selected
25 2 1C Address, Lot, Crown allotment
River, Stream, Coastline
Waterbody
Locality
SEDDON Locality Name
Local Government Area
BRIMBANK Local Government Name
Urban Growth Boundary (UGB)
Area outside the UGB
Investigation Area
Land added to UGB since 2005
Boundary of Searched Suburb

ZONES

- ACZ - Activity Centre
- B1Z - Commercial 1
- B2Z - Commercial 1
- B3Z - Commercial 2
- B4Z - Commercial 2
- B5Z - Commercial 1
- C1Z - Commercial 1
- C2Z - Commercial 2
- CA - Commonwealth Land
- CCZ - Capital City
- CDZ - Comprehensive Development
- DZ - Dockland
- ERZ - Environmental Rural
- FZ - Farming
- GRZ - General Residential
- GWAZ - Green Wedge A
- GWZ - Green Wedge
- IN1Z - Industrial 1
- IN2Z - Industrial 2
- IN3Z - Industrial 3
- LDRZ - Low Density Residential
- MUZ - Mixed Use
- NRZ - Neighbourhood Residential
- PCRZ - Public Conservation & Resource
- PDZ - Priority Development
- PPRZ - Public Park & Recreation
- PUZ1 - Public Use - Service & Utility
- PUZ2 - Public Use - Education
- PUZ3 - Public Use - Health Community
- PUZ4 - Public Use - Transport
- PUZ5 - Public Use - Cemetery/Crematorium
- PUZ6 - Public Use - Local Government
- PUZ7 - Public Use - Other Public Use
- PZ - Port
- R1Z - General Residential
- R2Z - General Residential
- R3Z - General Residential
- RAZ - Rural Activity
- RCZ - Rural Conservation
- RDZ1 - Road - Category 1
- RDZ2 - Road - Category 2
- RGZ - Residential Growth
- RLZ - Rural Living
- RUZ - Rural
- SUZ - Special Use
- TZ - Township
- UFZ - Urban Floodway
- UGZ - Urban Growth

OVERLAYS

- AEO - Airport Environs
- BMO - Bushfire Management
- CLPO - City Link Project
- DCPO - Development Contributions Plan
- DDO - Design & Development
- DDOPT - Design & Development Part
- DPO - Development Plan
- EAO - Environmental Audit
- EMO - Erosion Management
- ESO - Environmental Significance
- FO - Floodway
- HO - Heritage
- ICPO - Infrastructure Contributions Plan
- IPO - Incorporated Plan
- LSIO - Land Subject to Inundation
- MAEO1 - Melbourne Airport Environs 1
- MAEO2 - Melbourne Airport Environs 2
- NCO - Neighbourhood Character
- PO - Parking
- PAO - Public Acquisition
- RO - Restructure
- RCO - Road Closure
- SBO - Special Building
- SLO - Significant Landscape
- SMO - Salinity Management
- SRO - State Resource
- VPO - Vegetation Protection

Disclaimer: This map is a snapshot generated from Victorian Government data. This material may be of assistance to you but the State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of data.

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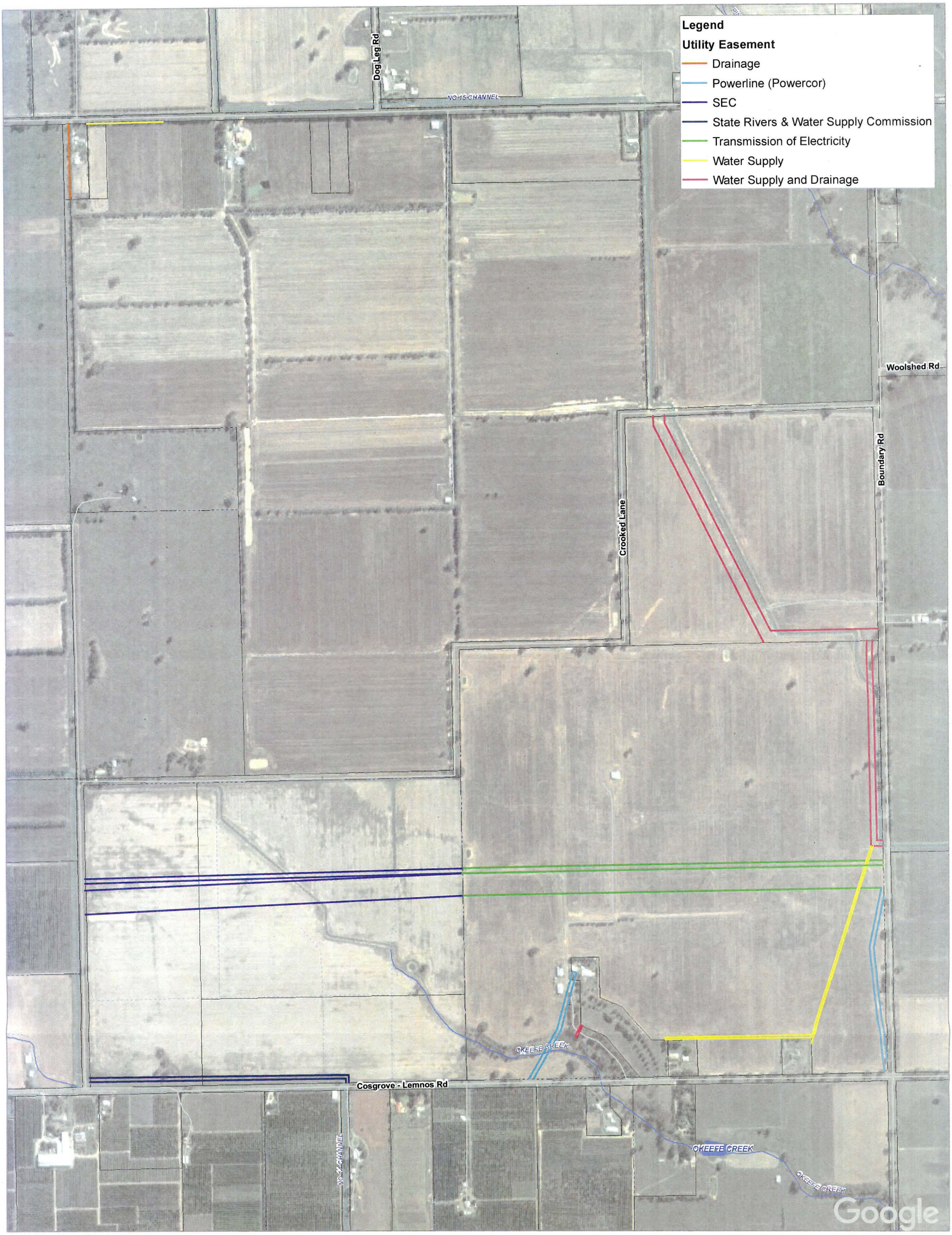
VICTORIA State Government | Environment, Land, Water and Planning



Paper Size ISO A3

100 0 100 200 300

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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Data Disclaimer

** Insert text as required by data custodian **
** Remove only if not required by data custodian **

Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

Easements

Project No. **31-35556**
Revision No. **C**
Date **26/09/2017**

FIGURE 11

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Print date: 18 Dec 2017 - 16:58

Data source: ; VicMap, Vicmap Reference, 2014; DELWP,Threathened Fauna/Flora/EVC Layer,2017. Created by: Fklandy

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13 October 2017

Colin Kalms
Manager, Planning
Greater Shepparton City Council
Locked Bag 1000
Shepparton VIC 3632

Our ref: 31/35556

Dear Colin,

Planning Permit Application
Use and development of a renewable energy facility (solar farm) and native vegetation removal
Cosgrove-Lemnos Road, Lemnos

GHD Pty Ltd (GHD) has been engaged by NEOEN Australia Pty Ltd (Neoen), to obtain a planning permit for the development of a 100 MW solar farm off Cosgrove-Lemnos Road, Lemnos.

We refer to our previous discussions in the lead up to the preparation of this permit application and confirm that a planning permit is required for use, development and the removal of native vegetation under the Greater Shepparton Planning Scheme (planning scheme).

Accordingly, this planning permit application comprises the following:

- Completed application form (see attached list for land and owner details)
- Planning assessment report
- Certificate of title
- Application plans
- Flora and fauna assessment and BIOR report (to be submitted under separate cover)
- Flood risk assessment
- Goulburn Broken CMA advice
- Aboriginal cultural heritage assessment

We have received Council's invoice confirming that the application fee will be $28,951.95 (Classes 1, 15 and 21).

This application has been prepared in accordance with the requirements of the *Planning and Environment Act 1987* (P&E Act) and the *Planning and Environment Regulations 2005* (P&E Regulations) and includes details of the proposed works, and provides an assessment against the relevant planning scheme provisions.

We look forward to working with Council to achieve a successful outcome for Neoen, Council and the local community.

GHD Pty Ltd ABN 39 008 488 373
Level 8, 180 Lonsdale Street Melbourne VIC 3000 Australia
T 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Should you have any queries regarding the application, please do not hesitate to contact the undersigned or Brad George on (03) 8687 8614 or via email at brad.george@ghd.com.

Sincerely GHD Pty Ltd

Pete Carson
Principal - Planning & Approvals
(03) 8687 8644

4.18

List of land and owner details

No.	Street Address	Formal land description	Owner
1	1190 Cosgrove-Lemnos Road, Lemnos, 3631	Lot No. 2 Plan of Subdivision No. 522294T	Kevin Noel Laws and Barbara Helen Laws
2	1220 Cosgrove-Lemnos Road, Lemnos, 3631	Crown Allotment No. 136 Parish of Shepparton	C G Pogue Pty Ltd
3	1220 Cosgrove-Lemnos Road, Lemnos, 3631	Crown Allotment No. 136A Parish of Shepparton	C G Pogue Pty Ltd
4	1220 Cosgrove-Lemnos Road, Lemnos, 3631	Crown Allotment No. 136B Parish of Shepparton	C G Pogue Pty Ltd
5	260 Tank Corner East Road, Lemnos, 3631	Lot No. 3 Plan of Subdivision No. 322687N	Rocco Fasano
6	875 Boundary Road, Lemnos, 3631	Lot No. 2 Plan of Subdivision No. 438919W	Brett Kevin Laws and Nicole Kim Laws
7	85 Crooked Lane, Lemnos, 3631	Lot No. 1 Title Plan No. 216608R	William John Reeves and Joy Lorraine Reeves
8	85 Crooked Lane, Lemnos, 3631	Lot No. 2 Title Plan No. 216608R	William John Reeves and Joy Lorraine Reeves
9	85 Crooked Lane, Lemnos, 3631	Lot No. 3 Title Plan No. 216608R	William John Reeves and Joy Lorraine Reeves

GREATER SHEPPARTON

Office Use Only		
VicSmart:	☐ Yes	☐ No
Specify class of VicSmart application:		
Application No.:	Date Lodged: / /	

Application for
Planning Permit

Planning Enquiries
Phone: 03 5832 9700
Web: www.greatershepparton.com.au

If you need help to complete this form, read How to complete the Application for Planning Permit form.

⚠ Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the *Planning and Environment Act 1987*. If you have any concerns, please contact Council's planning department.

⚠ **Questions marked with an asterisk (*) are mandatory and must be completed.**

⚠ **If the space provided on the form is insufficient, attach a separate sheet.**

Clear Form

Application Type

Is this a VicSmart application?*

◉ No ○ Yes

If yes, please specify which VicSmart class or classes: _____

⚠ If the application falls into one of the classes listed under Clause 92 or the schedule to Clause 94, it is a VicSmart application

Pre-application meeting

Has there been a pre-application meeting with a Council planning officer?

○ No ◉ Yes

If 'yes', with whom?: Colin Kalms (Planning Manager) & Andrew Dainton

Date: Various day / month / year

The Land

Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

Unit No.:	St. No.:	St. Name:

Suburb/Locality: * Refer to attached list. | Postcode:

Formal Land Description * Complete either A or B.

⚠ This information can be found on the certificate of title.

A Lot No.: ○ Lodged Plan ○ Title Plan ○ Plan of Subdivision No.:

OR

B Crown Allotment No.: | Section No.:

Parish/Township Name:

Remove Address

If this application relates to more than one address, please click this button and enter relevant details. Add Address

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The Proposal

⚠ You must give full details of your proposal and attach the information required to assess the application. Insufficient or unclear information will delay your application.

For what use, development or other matter do you require a permit? *

If you need help about the proposal, read: *How to Complete the Application for Planning Permit Form*

Use of land for a renewable energy facility (solar farm), buildings and works and native vegetation removal.

Provide additional information on the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

Estimated cost of development for which the permit is required *

Cost $175 million ⚠ You may be required to verify this estimate.

Insert '0' if no development is proposed (eg. change of use, subdivision, removal of covenant, liquor licence)

Existing Conditions

Describe how the land is used and developed now *

eg. vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

Agricultural land used for irrigated crops (wheat and canola) and stock grazing.

Provide a plan of the existing conditions. Photos are also helpful.

Title Information

Encumbrances on title *

If you need help about the title, read: How to complete the Application for Planning Permit form

Does the proposal breach, in any way, an encumbrance on title such as a restrictrive covenant, section 173 agreement or other obligation such as an easement or building envelope?

- ○ Yes. (If 'yes' contact Council for advice on how to proceed before continuing with this application.)
- ◉ No
- ○ Not applicable (no such encumbrance applies).

Provide a full, current copy of the title for each individual parcel of land forming the subject site. (The title includes: the covering 'register search statement', the title diagram and the associated title documents, known as 'instruments', eg. restrictive covenants.)

4.22

Applicant and Owner Details

Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Name:

Title: Mr | First Name: Tim | Surname: Kirk

Organisation (if applicable): Neoen Australia Pty Ltd

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: Level 14, 227 | St. Name: Elizabeth Street

Suburb/Locality: Sydney | State: NSW | Postcode: 2000

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Contact person's details * | Same as applicant (if so, go to 'contact information') ☐

Name:

Title: Mr | First Name: Brad | Surname: George

Organisation (if applicable): GHD Pty Ltd

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: Level 8, 180 | St. Name: Lonsdale Street

Suburb/Locality: Melbourne | State: VIC | Postcode: 3000

Please provide at least one contact phone number *

Contact information

Business Phone: 03 8687 8614 | Email: Brad.George@ghd.com

Mobile Phone: | Fax:

Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organisation.

Name: | Same as applicant ☐

Title: | First Name: | Surname:

Organisation (if applicable): *Refer to attached Sheet

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: | St. Name:

Suburb/Locality: | State: | Postcode:

Owner's Signature (Optional): | Date: day / month / year

Information Requirements

Contact council's planning department to discuss the specific requirements for this application and obtain a planning permit checkilist.

Is the required information provided?

◉ Yes ○ No

Declaration

This form must be signed by the applicant *

⚠ Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

Signature: | Date: 12 Oct 2017 day / month / year

Checklist

Have you:

- [x] Filled in the form completely?
- [ ] Paid or included the application fee?

⚠ Most applications require a fee to be paid. Contact Council to determine the appropriate fee.

- [x] Provided all necessary supporting information and documents?
  - [x] A full, current copy of title information for each individual parcel of land forming the subject site
  - [x] A plan of existing conditions.
  - [x] Plans showing the layout and details of the proposal
  - [x] Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
  - [x] If required, a description of the likely effect of the proposal (eg traffic, noise, environmental impacts).

- [x] Completed the relevant Council planning permit checklist?
- [x] Signed the declaration (section 7)?

Need help with the Application?

If you need help to complete this form, read How to complete the Application for Planning Permit form
General information about the planning process is available at www.dpcd.vic.gov.au/planning

Assistance can also be obtained from council's planning department.

Lodgement

Lodge the completed and signed form, the fee payment and all documents with:

Greater Shepparton City Council
Locked Bag 1000 Shepparton VIC 3632
90 Welsford Street Shepparton VIC 3632

Contact information:
Telephone: 03 5832 9700
Email: council@shepparton.vic.gov.au

Deliver application in person, by fax, or by post:

Print Form

Make sure you deliver any required supporting information and necessary payment when you deliver this form to the above mentioned address. This is usually your local council but can sometimes be the Minister for Planning or another body.

Save Form:

Save Form To Your Computer

You can save this application form to your computer to complete or review later or email it to others to complete relevant sections.



Neoen Australia Pty Ltd

Shepparton Solar Farm
Planning Permit Application

October 2017

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This report: has been prepared by GHD for Neoen Australia Pty Ltd and *may only be used and relied on by Neoen Australia Pty Ltd for the purpose agreed between GHD and Neoen Australia Pty Ltd as set out in section 1 of this report.*

GHD otherwise disclaims responsibility to any person other than Neoen Australia Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

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Appendices

Appendix A – Certificates of Title
Appendix B – Application Plans
Appendix C – Flora and Fauna Assessment
Appendix D – Flood Risk Report
Appendix E – Goulburn Broken CMA Floodplain Management Advice
Appendix F – Cultural Heritage Assessment and Implications for Development

1. Introduction

This planning permit application has been prepared by GHD Pty Ltd (GHD) on behalf of Neoen Australia Pty Ltd (Neoen) for the construction of a 100 megawatt (100 MW) solar farm in Lemnos, approximately five kilometres north east of Shepparton.

The application provides an overview of the proposal and assessment against the relevant provisions of the Greater Shepparton Planning Scheme (the planning scheme). A summary of application details is provided in Table 1 and the attachments included in this application are as follows:

- Certificates of Title (Appendix A)
- Application Plans (Appendix B)
- Flora and Fauna Assessment (Appendix C)
- Flood Risk Report (Appendix D)
- Goulburn Broken Catchment Management Authority (CMA) Floodplain Management Advice (Appendix E)
- Cultural Heritage Assessment and Implications for Development (Appendix F).

Table 1 Planning permit application details

Application Details	
Property Details	1190 Cosgrove-Lemnos Road, Lemnos 1220 Cosgrove-Lemnos Road, Lemnos 85 Crooked Lane, Lemnos 260 Tank Corner East Road, Lemnos 875 Boundary Road, Lemnos.
Title Details	Refer to Section 2.1.1
Zones	Clause 35.07 – Farming Zone (FZ)
Overlays	Clause 44.03 – Floodway Overlay (FO) Clause 44.04 – Land Subject to Inundation (LSIO)
Particular Provisions	Clause 52.17 – Native Vegetation Clause 52.42 – Renewable Energy Facility (other than wind energy facility and geothermal energy extraction)
Planning Permit Trigger	Clause 35.07-1 (FZ) – Use, Buildings and Works Clause 35.07-4 (FZ) – Buildings and Works Clause 44.03-1 (FO) – Buildings and Works Clause 44.04-1 (LSIO) – Buildings and Works Clause 52.17 – Native Vegetation Removal
Applicant	Neoen Australia Pty Ltd

Application Details	
Contact Person	Brad George – Principal Planner GHD Pty Ltd Level 8, 180 Lonsdale Street, Melbourne VIC 3000 T: (03) 8687 8614 E: brad.george@ghd.com

2. Site and surrounds

2.1 Site description

The proposal site would be located across nine parcels of land (including three Crown allotments) in the area of Lemnos, approximately five kilometres north-east of Shepparton. The nine parcels of land total approximately 482 hectares.

The site is located in a rural agricultural area, where the land is used for irrigated crops (wheat and canola) and stock grazing, reflecting the characteristics of the surrounding area.

The site is bound by several local unsealed roads including, Tank Corner East Road to the north, Boundary Road to the east and Cosgrove-Lemnos Road to the south (refer to Figure 1). To the west, the site is partially bound by Crooked Lane, an unused/ unnamed road and private property. Crooked Lane also cuts through the centre of the site (following title boundaries) in a north easterly direction from Cosgrove-Lemnos Road to Boundary Road. Several additional unsealed / unnamed road licences are present throughout the site.

The site is relatively flat and naturally falls in a north westerly direction. The highest part of the site is the south west corner where ground elevations are up to 117 m AHD. The lowest part of the site is the north west corner where ground levels are in the vicinity of 114 m AHD.

O'Keefe Creek, a principal waterway traverses through the south eastern corner of the site through properties 1190 and 1220 Cosgrove-Lemnos Roads. The creek, which is a floodplain depression, flows north westwards, where it reverts into a drainage channel and discharges into Pine Lodge Creek. Pine Lodge Creek ultimately discharges into Nine Mile Creek and then Broken Creek, west of Numurkah.

A constructed rural channel (Number 14 Channel) is present on-site and follows the southern boundary of the property known as 1220 Cosgrove-Lemnos Road. A second constructed rural channel (Number 15 Channel) is also present on-site, intersecting 875 Boundary Road from the north, traversing south east through the north eastern corner of 1190 Cosgrove-Lemnos Road. Approximately seventeen farm dams are also present throughout the site.

The site is mostly cleared of native vegetation; however, some scattered native trees and several patches of native vegetation are present throughout the site, typically located around dams and along fence lines. Little to no understory flora remains as this has been removed by historical land use practices.

Some introduced species and non-indigenous native species are present, primarily identifiable by the distinct rows of planted trees throughout the site.

A 220 kV transmission line traverses east-west through the southern portion of the site as shown in Figure 2.

Figure 1 shows the location of the study area and title boundaries.

2.1.1 Land tenure

Several easements are shown on the title plan diagrams on the titles in Appendix A. The easements related to water supply and drainage, power supply and the transmission of electricity.

Table 2 shows the lot, plan and ownership details of the land affected by the proposed works. For the majority of the land parcels, Neoen has entered into an option to purchase agreement with the private landholders.

Table 2 Ownership details of the land

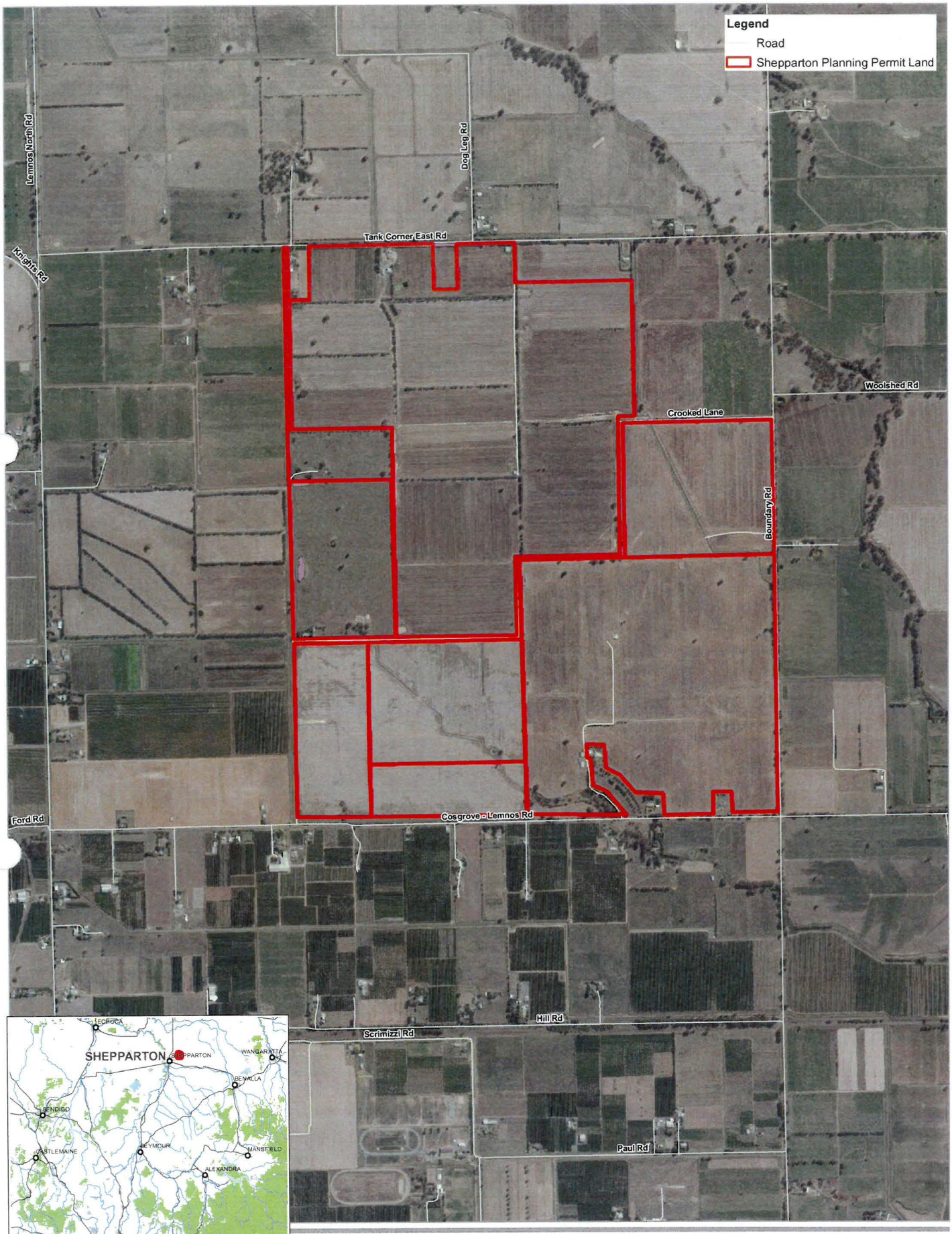
Street Address	Lot / Plan	Ownership / Management Status
1190 Cosgrove-Lemnos Road, Lemnos	Lot 2 PS 522294	Private ownership
1220 Cosgrove-Lemnos Road, Lemnos	CA 136, Parish of Shepparton	Private ownership
1220 Cosgrove-Lemnos Road, Lemnos	CA 136A, Parish of Shepparton	Private ownership
1220 Cosgrove-Lemnos Road, Lemnos	CA 136B, Parish of Shepparton	Private ownership
260 Tank Corner East Road, Lemnos	Lot 3 PS 322687	Private ownership
875 Boundary Road, Lemnos	Lot 2 PS 438919	Private ownership
85 Crooked Lane, Lemnos	Lot 1 TP 216608	Private ownership
85 Crooked Lane, Lemnos	Lot 2 TP 216608	Private ownership
85 Crooked Lane, Lemnos	Lot 3 TP 216608	Private ownership
Unused/ unnamed road (various)		Council

2.2 Surrounding area

The site is located in a rural agricultural area, where the character of the surrounding land is typically fragmented farming properties of various lot sizes. Agricultural pursuits include irrigated crops or grazing and the majority contain an associated dwelling.

The surrounding land includes the following:

- Surrounding all boundaries of the subject site are farming properties of various sizes, most with an associated dwelling. Generally, the more fragmented areas are towards the south and west of the subject site, with larger farms to the north and east.
- The Valley Star, a fruit and vegetable processing and packing farm is located directly south of the subject land at 1337 Lemnos-Cosgrove Road.
- Several small-scale farms are located south of the subject site along Lemnos-Cosgrove Road. Each contain a dwelling that generally presents to the road fronting the subject land.
- South east of the subject site is a holiday accommodation business at 1355 Lemnos-Cosgrove Road. The Mansion self-catering accommodation is a one bedroom cottage adjoining a farm and provides accommodation for one family only.
- Adjoining the site to the north west at 130 Tank Corner East Road is a small lot containing a dwelling and an outbuilding. Due to its small size, it is the likely result of a lot excision. Three similar sized lots (< 1 ha.) are also present along the northern boundary, however these are vacant.
- The area contains minimal native vegetation, although some vegetation is present along creek lines and within road reserves.


Legend
Road
Shepparton Planning Permit Land
Lemnos North Rd
Dog Leg Rd
Tank Corner East Rd
Knights Rd
Woolshed Rd
Crooked Lane
Boundary Rd
Ford Rd
Cosgrove - Lemnos Rd
Hill Rd
Scrimizzi Rd
Paul Rd
SHEPPARTON
TECHUCA
WANGARATTA
BENALLA
BENDIGO
EASTLEMAINE
SEYMOUR
MANSFIELD
ALEXANDRA
MELBOURNE
GEELONG
WARRAGUL
Paper Size ISO A3
Kilometers
Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere
N
GHD
Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm
Study Area
Project No. 31-35556
Revision No. B
Date 26/09/2017
FIGURE 1
G:\31\35311\GIS\Maps\Working\3135556_01_Study_Area_RevB.mxd
Print date: 05 Oct 2017 - 14:35
Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; VicMap, Vicmap Reference, 2014; DELWP Threatened Fauna/Flora/EVC Layer 2017 Created by: ksmith

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3. Proposal scope

3.1 Background

Neoen proposes to construct and operate a new 100 MW photovoltaic solar farm near Shepparton in Victoria (the proposal) with a yield of about 250 MWh/annum. The works are proposed to be located across nine parcels of land (including three Crown allotments) in the farming area of Lemnos, north-east of Shepparton.

Neoen undertook an initial feasibility assessment to assess the suitability of the area to accommodate a solar farm. The proposal site is considered to be suitable due to its rural location, large area of relatively flat land, the availability of an abundant solar resource, proximity to existing electricity supply infrastructure, and ease of access to the site.

The proposed solar farm would generate clean and renewable energy by harnessing the sun's radiation to create electricity which will be fed into the grid network. This large scale project will assist in achieving the Victorian Government's renewable energy targets, which is reflected in the State Planning Policy Framework in support of sustainable and renewable energy developments.

The solar farm and ancillary elements will be located across the majority of the proposal site. Figure 2 provides an indicative outline of the extent of the proposed layout.

This planning assessment is limited to the proposed solar farm. A separate planning assessment will be prepare as part of the application for the infrastructure to connect the solar farm to the existing substation located on the eastern site of Shepparton.

3.2 Overview of the proposal

The proposal includes constructing and operating a 100 MW photovoltaic solar farm. The proposal will consist of the following components:

- Solar arrays consisting of about 400,000 solar panels supported by about 40,000 piles, driven or screwed into the ground in order to support the solar array's mounting system. The panels to be installed would be either:
  - Single-axis tracking panels (which would have about 4,500 tracker units)
  - North-oriented fixed-tilt panels
  - East-west facing fixed-tilt panels
  - Combination of the above alternatives
- About 56 photovoltaic boxes or skids containing inverters and a transformer evenly distributed across the site
- Batteries to store electricity
- Onsite cabling and electrical connections between solar arrays and panel inverters
- One delivery station in a container or on a skid platform
- 66 kilovolt (kV) substation
- Cables and trenches
- Internal access tracks to provide access throughout the site during operation including parking areas
- Operational and maintenance office including staff amenities block
- Security fencing

- Landscaping around the perimeter of the site where required
- New access point from Cosgrove-Lemnos Road.

Construction of the proposal would take between seven to ten months to complete.

The proposed solar arrays and associated components are expected to operate for approximately 30 years. At the end of its operational life, the proposal would be either reconditioned or decommissioned. Reconditioning would involve replacing components that were originally installed with new components that reflect technology that is available at that time. Decommissioning would remove all above ground infrastructure and rehabilitating the site to allow it to be used for purposes such as agriculture.

The proposal is estimated to have a capital investment value of approximately $175 million.

3.3 Stakeholder consultation

Community

Neoen intends to engage with the community via a number of avenues during public notification of the planning permit application, and Council's assessment of the application. This will involve the following initiatives:

- **Community information session:** an information session will be held in Shepparton. to provide the community an opportunity to meet Neoen's project team to discuss the proposal.
- **Contacting neighbours:** this will be completed with a letter box drop and door knocking initiative.
- **Project website**: Neoen will create a project website. The website will provide background information on the proposal. The website will incorporate an online community feedback form to enable members of the community to provide feedback.

Council

The Neoen and GHD project team has consulted with Council to introduce the proposed solar farm and to discuss matters, including flooding and ecological considerations.

These discussions have assisted in informing the development application and have resulted in refinements to the general arrangement.

Goulburn Broken Catchment Management Authority

Goulburn Broken Catchment Management Authority (CMA) provided floodplain management advice in a letter dated 18 November 2016 relating to the proposal.

The pre-application advice received by the CMA indicated the following:

- The 100-year ARI (1% AEP) flood levels have not been declared for the area under the *Water Act, 1989*, or designated under the *Drainage of Land Act, 1975*
- The CMA's best estimate of the 100-year ARI flood levels varies and have been established from recorded historic peak 1993 flood levels and are representative of the 100-year ARI type flood
- The depths of flooding in the areas covered by the land subject to inundation overlay (LSIO) would vary from no flooding to some 500 millimetres at the flood overlay (FO) intersection and in some cases exceeding 500 millimetres on FO land.

The Goulburn Broken CMA advised that they would not object to the proposal, subject to the following conditions:

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- Operation and maintenance buildings are to be located on high available land
- Inverter buildings can be located in LSIO provided its flood levels are set at least 300 millimetres above the applicable 100-year ARI flood level. Such buildings must not be located in FO areas
- No building, structure or works are to be carried out within 30 metres of a waterway being O'Keefe Creek that traverses the south-west corner of 1190 Cosgrove-Lemnos Road property.

GHD also consulted with the CMA in September and October 2017 and this involved confirming that the advice provided by the CMA in November 2016 was still applicable.

Please refer to the CMA's letter of advice in Appendix E and the Flood Risk Report in Appendix D.

3.4 Key features of the proposal

3.4.1 Solar arrays

The proposal would install solar arrays consisting of approximately 400,000 solar panels, which would occupy the majority of the proposal site (refer to Appendix B). The indicative general arrangement in Appendix B has taken into consideration the need to minimise potential environmental impacts. Matters considered during development of the design include:

- To minimise impact to native vegetation, the layout of the solar arrays has been designed to reduce the number of trees removed across the site. The design has a particular focus on retaining existing vegetation close to site boundaries and drainage lines.
- A corridor around the perimeter of the site is provided as a buffer to ensure arrays are not built immediately adjacent to the site boundary. Part of this area would be used for landscaping to minimise offsite visual impacts. Neoen proposes landscaping in the areas identified in Figure 2.
- The solar arrays are setback from the watercourses and drains.
- The access track network on site, proposed substation, operational and maintenance office building would be located in existing cleared areas.

The layout of the solar arrays and ancillary infrastructure would be confirmed during detailed design; however, it is expected to closely resemble the general arrangement provided in Figure 2 and Appendix B. Figure 3 shows an example of a Neoen solar farm in Western Australia.

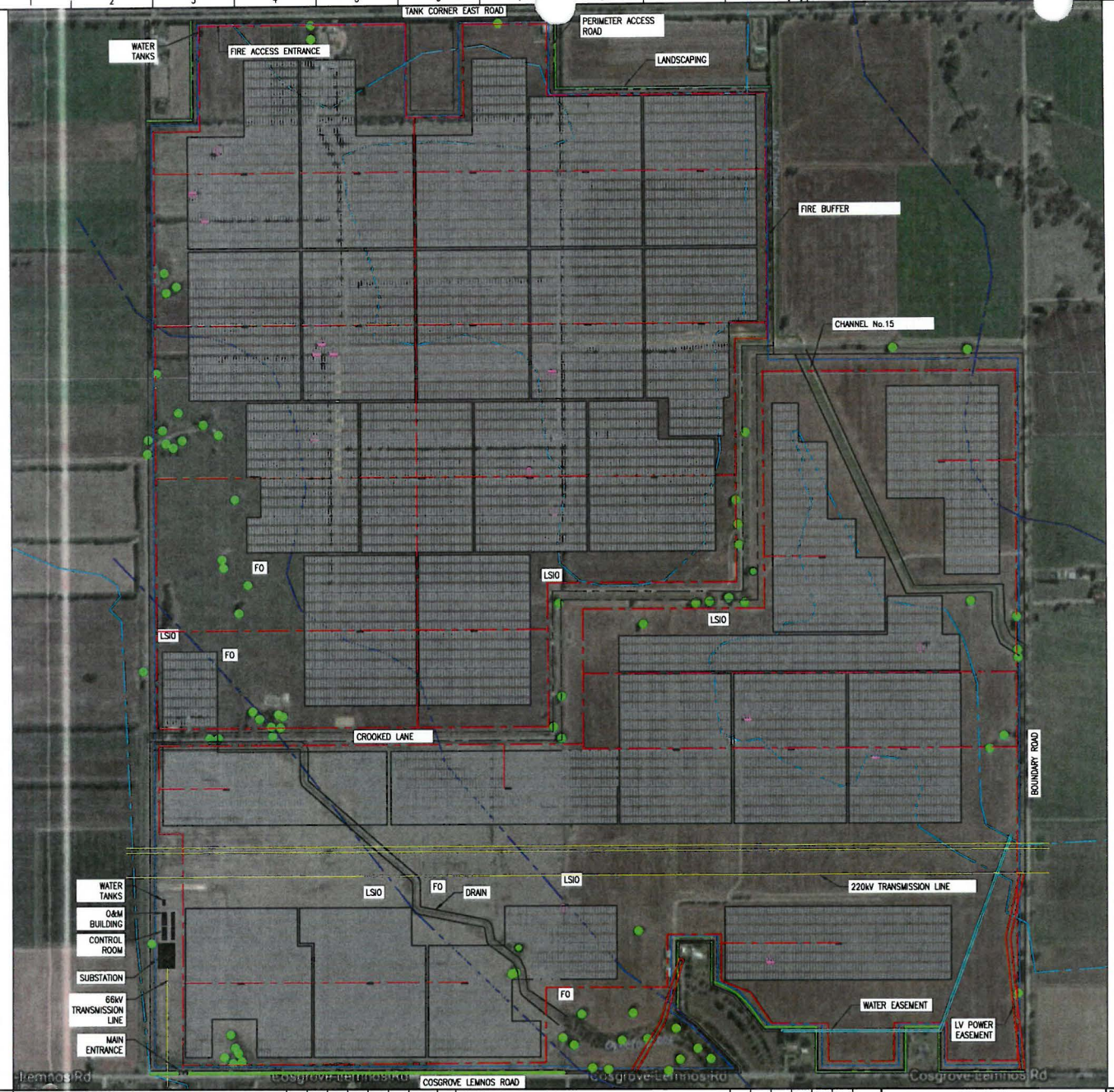
The solar panels would consist of monocrystalline, polycrystalline, or thin-film technology panels with a final decision of the type of panels to be made during detailed design. The proposal may use a combination of the types of panels. The panels would be installed with one or a combination of the following systems:

- Single-axis tracking panels (which would have approximately 4,500 tracker units)
- North-oriented fixed-tilt panels
- East-west facing fixed-tilt panels.

The selected panels and mounting system would be installed on about 40,000 poles which would be driven or screwed into the ground (example shown in Figure 4). Racks would then be installed on the poles to allow solar panels to be installed (example of mounting system with and without panels in Figure 5 and Figure 6).

The final panel structures would be between 1.5 metres and 2.5 metres high.

The photovoltaic panels installed on the mounting system would be interconnected to form a number of strings whose overall voltage would be adequate for the operating input voltage range of the inverters. These module interconnections would be as short as possible to reduce the length of the cabling loops thereby minimise the potential for adverse impacts on the facility due to events such as lightning strikes.



LEGEND

- LANDSCAPING
- TREES
- TREES TO BE REMOVED
- INVERTER
- FIRE BUFFER
- LV POWER EASEMENT
- TRANSMISSION LINE
- WATER EASEMENT
- INTERNAL ACCESS ROAD

NUMBER OF INVERTER STATIONS	28 x 4MVA = 112MVA
NUMBER OF INVERTER	56
NUMBER OF STRINGS PER INVERTER	234
TOTAL NUMBER OF STRINGS	13,104
NUMBER OF SPRINGS PER TRACKER	3
NUMBER OF TRACKERS PER INVERTER	78
TOTAL NUMBER OF TRACKERS	4,368
TOTAL NUMBER OF MODULES PER STRING	29
TOTAL NUMBER OF MODULES PER INVERTER	6,786
TOTAL NUMBER OF MODULES	380,016
RATING OF EACH MODULE	335W
DC OUTPUT PER INVERTER	2,273.3kW
AC REAL POWER PER INVERTER	1,800kW
DC/AC RATIO	1.263
TOTAL REAL POWER OUTPUT	100.8MW
PITCH	7m

Figure 2 Concept Layout

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DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE
DO NOT SCALE
PROJECTIONS ARE THIRD ANGLE UNLESS STATED OTHERWISE

REV	DESCRIPTION	BY	CHKD	BY	CHKD	APP'D	CLIENT APP'D	DATE
		DESIGN		DRAWN				

wsp
Suite 2, Level 1
31 Dundas Street
Christchurch 8011
New Zealand
PO BOX 21278
Edgeware
Christchurch 8143
New Zealand
Telephone +64 3 365 4081
Facsimile +64 3 366 6442
Email: newzealand@pbworld.com

DESIGNED	T YANG	10/10/17
DRAWN	J RETALLICK	10/10/17
DWG CHECK		
DSN CHECK		
APPROVED		
FILENAME	SOLAR LAYOUT.DWG	

CLIENT: NEOEN AUSTRIALIA PTY LTD
SCALES: 1:500
PROJECT: NEOEN SHEPPARTON SOLAR FARM
DRAWING NO.:
REV: A
DRAWING TITLE: SHEPPARTON SOLAR FARM LAYOUT

A1
1:1 1:2 1:5



Figure 3 Example of Neoen solar farm in Western Australia (Degrussa Solar Farm)



Figure 4 Example of mounting poles driven on previous project in Western Australia



Figure 5 Example of single-axis mounting system before panel installation



Figure 6 Example of single-axis mounting system after panel installation

3.4.2 Battery storage

During the detailed design phase, consideration will be given to installing batteries on-site to enable energy to be temporarily stored before it is delivered to the electricity network. The batteries may be installed within a building that would be appropriately bunded to minimise the risk of leaks from the batteries impacting on the environment.

The building housing the batteries would be located adjacent to the control room, substation and associated buildings. The exact size of the structure would be determined during future detailed design activities; however, it is envisaged that the buildings would be similar in form to the other buildings that would form part of the proposal. All energy storage options (e.g. electrochemical, chemical and mechanical storage) would be considered when the feasibility of installing battery storage is being evaluated.

Neoen would consult with Council prior to submitting revised drawings for the battery storage building.

3.4.3 Photovoltaic boxes or skids

About 56 photovoltaic boxes or skids would be installed across the site. The inverter converts the variable direct current (DC) output of the photovoltaic solar panel into an alternating current (AC) that can be fed into the electrical grid.

Each of the boxes or skids would contain a centralised inverter and a transformer (either 11 kV, 22 kV or 33 kV). The proposal may either use centralised inverters or string (decentralised) inverters and the preferred option would be selected during detailed design. Centralised inverters have a higher capacity than de-centralised inverters which enables them to be connected to a larger number of solar arrays. String inverters have a lower capacity and connect to a single solar array string. These inverters would be installed directly onto the mounting structures. If string inverters are implemented, the centralised inverter in or on each of the boxes or skids would not be required.

The indicative dimensions of the boxes and skids are up to 12.5 metres long by 2.5 metres wide and about 3.5 metres high. The exact dimensions would depend on the type of boxes or skids selected and this would be determined during detailed design. Examples of the photovoltaic box and skids are shown in Figure 7 and Figure 8 respectively.



Figure 7 Example of a containerised photovoltaic box



Figure 8 Example of a photovoltaic skid platform

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3.4.4 Underground cabling

Underground cabling on site would be designed to comply with Australian and international standards. This would take into account the temperature of the ambient environment in which the cables and ancillaries would operate, and the allowable currents compatible with an acceptable warming-up as stated in the standards and the manufacturers' recommendations.

Trenches would accommodate and protect the cables and would contain:

- Power ducts to export the production from the solar arrays to the array boxes
- Power ducts to export the production from the array boxes to the photovoltaic boxes or skids
- One copper wire for equipotentiality
- The medium voltage cable for the two antennae from the photovoltaic boxes or skids to the delivery station
- A fibre optic connection
- A low current duct for communication.

Sand would be used to backfill the trench around the cables, and soil excavated from the trench would be placed over the sand. The trench would be backfilled to match adjacent ground levels. An indicative trench design example is shown in Figure 9.

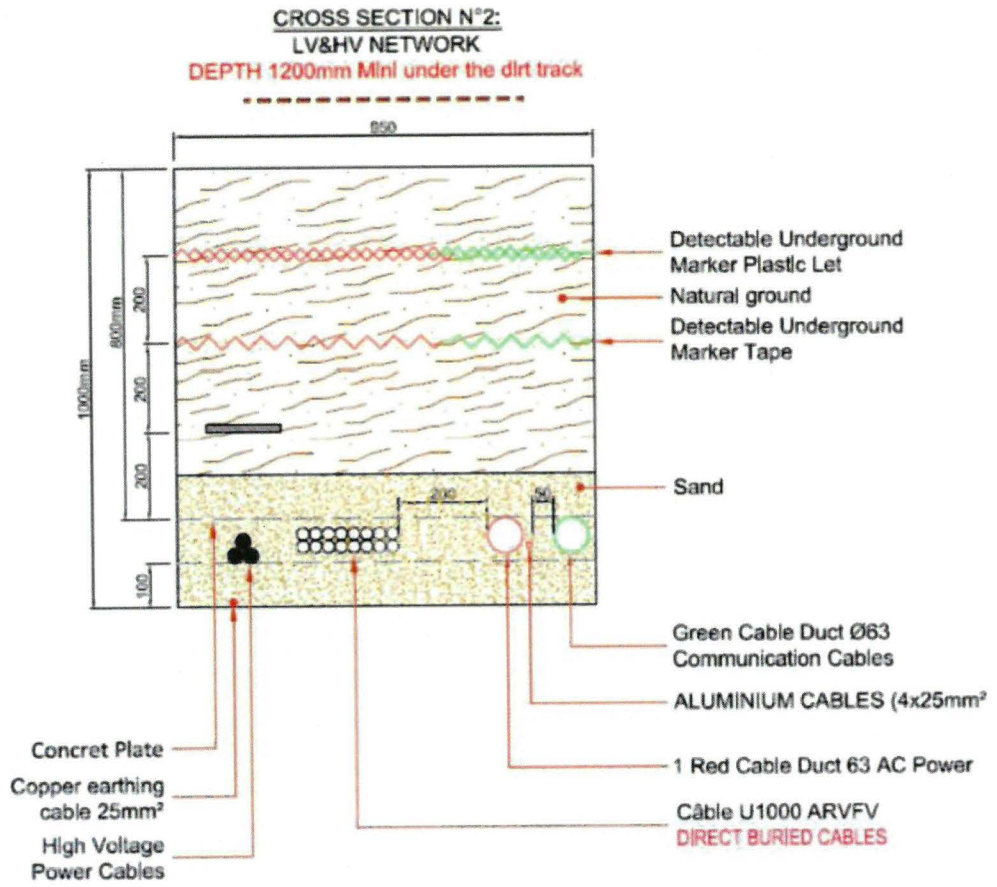

Figure 9 Indicative trench design

3.4.5 Ancillary infrastructure

A range of ancillary facilities are required to operate the proposal. The final position of ancillary infrastructure located on-site would be determined during the detailed design stage. An overview of this infrastructure is provided below.

A separate planning permit application will be submitted for the high voltage works and transmission line from solar farm site to Shepparton Terminal Station.

Delivery station

The delivery station would have a similar appearance to the photovoltaic box or skid described in section 3.4.2. The delivery station would be about 12.5 metres long by 3.5 metres wide and about 3.4 metres high.

This station would be located within the substation area as depicted in Figure 2.

Substation

A 66 kV substation will be constructed as shown indicatively on Figure 2.

The substation would convert generated power from the solar farm to 66 kV prior to the power being transferred to the network via a 66 kV distribution line to the Shepparton Terminal Station.

The substation would contain the following infrastructure:

- Switchgear with three antenna
- Step-up transformer (33kV to 66kV)
- Anti-lightening poles.

The substation would be constructed on a concrete pad with anticipated dimensions of 80 metres long by 80 metres wide. The substation would be divided into two separately-fenced sections.

Figure 10 provides an example of a 132 kV substation at the Nyngan Solar Farm. The proposal would require a 66 kV substation which would be smaller than the substation for the Nyngan Solar Farm.



Figure 10 Example of substation to be located on site

Source. Photo courtesy of AGL – Nyngan Solar Farm

Operation and maintenance office

The proposal would include a site office which would be used by maintenance personnel during operation. The office location would be confirmed during detailed design.

The office would have dimensions of about nine metres long by five metres wide and four metres high. The building would include office space and staff amenities. Water for the office would most likely be delivered to site and stored in a small water tank on site. Toilet facilities are anticipated to be connected to a septic tank to be installed on site in line with the Council requirements. The provision of water and wastewater infrastructure on site would be confirmed further during detailed design.

The operation and maintenance building would be constructed to comply with all relevant Australian Standards.

3.4.6 Site access and access tracks

Site access

The facility will have one main access point via Cosgrove-Lemnos Road as shown in Figure 2. The proposed access is not established and would require creating a new crossover from Cosgrove-Lemnos Road, including a crossing over the Number 15 Channel. This crossing would be designed to comply with Council and Goulburn Murray Water requirements.

A second access point will be available for the Country Fire Authority (CFA) and this will be located in the north along Tank Corner East Road.

Internal tracks

An internal access track would extend from the proposed site access to the ancillary infrastructure. Internal tracks will also be required across the site for access to the solar arrays. The layout of these tracks would be dependent on the final site layout and will be confirmed during the detailed design stage, however an indicative layout is depicted in Figure 2.

A car park will also be constructed near the office building. Both the office and car park location will be determined in the detailed design stage.

All tracks and car park would consist of a compacted gravel layer. The gravel would be clean material that is certified as being free of contamination. If required, geotextile would be laid between the soil and the gravel.

Upgrades to the surrounding road network

An initial assessment conducted by Neoen has indicated that minor road upgrades are required as part of this proposal, which in include upgrading the road shoulder at the location of the proposed access point from Cosgrove-Lemnos Road. Any works to the road network would comply with Council's requirements.

3.4.7 Site security

Security fencing around 2.3 metres tall would be installed around the entire perimeter of the site. A security gate of a similar height to the fencing would be installed. The final design of the fencing would be confirmed during detailed design; however, it is expected to consist of cyclone fencing with a barb wire at the top. The proposed fencing would not obstruct floodwaters.

3.4.8 Landscape plan

A landscape plan would be developed that would aim to minimise the visual impacts of the proposal (in particular the arrays and the ancillary infrastructure) on adjacent landowners.

Planting within the site would consist of locally occurring species, with a focus on using native species removed by construction. Species would also be selected in consultation with the CFA to ensure that they are relatively fire-retardant or resistant and do not elevate bushfire risks.

Neoen has proposed landscaped zones across the site as depicted in Figure 2. Vegetation within this zone will consist of shrubs and trees sporadically positioned to ensure appropriate screening of the facility from key vantage points. The exact position of any screening vegetation would be confirmed during detailed design and following consultation with the relevant landowners.

Screening vegetation would be maintained for the life of the solar farm. This would include replacing any vegetation which does not survive.

3.4.9 Water tanks

The proposal includes providing water tanks that would store water for firefighting purposes and would be situated within close proximity to the site entrances. The indicative locations are around the operational and maintenance office buildings and in the north-western corner of the site adjacent the site access point as depicted on Figure 2.

3.5 Construction activities

3.5.1 Indicative timeline

Construction of the proposal is expected to take about seven to ten months. Construction is likely to commence in early 2019.

3.5.2 Indicative work methodology

The main construction activities would include:

- Site establishment and preparation including:
  - Removing the shed and stockyards
  - Removing existing internal fence lines (if required)
  - Establishing compound area and laydown areas
  - Demarcating existing services and easements
  - Installing environmental controls
- Installing the steel post foundation system for the solar panels
- Installing underground cabling (trenching), photovoltaic boxes or skids and delivery station, and connecting communications equipment
- Constructing the HV infrastructure including delivery station and substation
- Landscaping works as required
- Removing temporary construction facilities and rehabilitation of disturbed areas.

3.5.3 Construction hours

Construction hours are yet to be confirmed, however we understand these will form a condition of any planning permit to be issued. The construction hours will also be referenced in any construction management plan required.

3.5.4 Plant and equipment

Equipment used during construction would include earth-moving equipment for civil works, diesel generators, trucks and cranes with similar noise outputs to farm machinery such as

tractors. Pile driving of the solar panel foundations would be undertaken using a machine which screws or hammers poles into the ground, similar to that used for driving farm fence poles into the ground.

Equipment listed above is indicative and would be confirmed during detailed design and construction planning.

3.5.5 Earthworks

The proposal would involve minimal earthworks because the poles supporting the solar array's mounting system would be driven or screwed into the ground. The proposal would not result in any substantial earthworks to level the ground as the array can be positioned on land with a 5 to 10 per cent slope. The majority of ground disturbance would be in relation to levelling ground for structures such as the office and the substation. Some localised disturbance would be required for the internal access tracks and to excavate trenches for the cables. The trenches would be backfilled to match the adjacent land surface.

Minor earthworks would be required to fill farm dams and contour the area so it matches the surrounding land surface. Minor earthworks would also be required to localised form pads for inverters and buildings that are to be elevated 300mm above the 100-year ARI flood level.

3.5.6 Construction compounds and laydown areas

A temporary construction compound would be established on site and would include site office and amenities. The location of the compound would be determined during the detailed design phase and would be positioned in an area which is not required for the final site layout. The staff amenities building is expected to include the following facilities:

- Sanitary modules with septic tank
- Changing rooms
- Dining room
- Administrative office
- Undercover storage area.

This building is likely to be a prefabricated structure which can be brought to site on the back of a truck and removed from site when required.

Parking areas would be provided adjacent to the amenities building.

Designated laydown areas would be established on site for the delivery and storage of materials. The location would be determined during detailed design and construction planning and would potentially change throughout the construction period as installation of the arrays progresses. All laydown areas would be within the proposal site.

3.5.7 Construction workforce

It is anticipated that 240 construction personnel (including labourers, construction supervisors and technicians) would be required during the peak construction periods.

3.5.8 Construction traffic and access

Construction traffic numbers

Preliminary construction planning indicates that a peak of about 160 heavy vehicle movements (i.e. to and from site is two movements) would be required to site per week throughout the

construction period. This estimate is based on materials being delivered vehicle up to semi-trailer in size and could be lower is vehicles such as B-doubles are able to be used.

A maximum of 220 light vehicle movements per day would be required during peak periods of construction.

Vehicle movements would be undertaken during standard construction hours (or just before to allow workers to get to site). Oversized vehicles may be required to access the site after hours in line with any Council, VicRoads or Police requirements.

Oversized vehicles would potentially be required to deliver large plant and components such as the transformer for the substation. Oversized vehicles such as a 50 tonne crane may also need to access the site to place the photovoltaic boxes or skids on site.

Construction parking

All vehicles would park within the site in designated areas which would be determined during detailed design. These areas would be outlined in the construction management plan.

Construction access

Access to the site would be via Lemnos Cosgrove Road which is sealed.

3.5.9 Source and quantity of materials

In total, about 8,000 m^3 of gravel would be required for work and service tracks within the site, while photovoltaic boxes or skids peripheral backfill and compaction would require around 1600 m^3 of gravel.

About 880 m^3 of sand would be required to bury cables into about 56 kilometres of trenches. About 720 m^3 of sand would likely be required for the installation of the photovoltaic boxes or skids, subject to the results of further geotechnical studies that would confirm whether suitable material is available on site.

Water would be required during the construction phase primarily for dust suppression purposes but also for other activities such as vehicle washing. It is estimated that about 200 mega litres of water would be required during construction. This would potentially be sourced from a water filling station or a similar alternative location. All water would be trucked to the site. The source of water would be determined during detailed design and construction planning.

3.5.10 Commissioning of the proposal

Commissioning of the proposal is expected to take about one month and would commence following the completion of the construction period.

The commissioning phase would involve testing all aspects of the proposal and would include the final connection of the proposal to the electricity network via the existing distribution line.

3.1 Operation of the proposal

3.1.1 Hours of operation

Daily operations and maintenance by site staff would be undertaken during standard working hours:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm.

Outside of emergencies, night works or work on Sundays or public holidays are unlikely to be required.

The solar farm would generate electricity during daylight hours which means that during summer months when days are longer, it would operate after 6 pm and prior to 7 am. In the case that the panels installed are single-axis trackers, the tracker units would potentially operate outside standard working hours during summer months.

3.1.2 Workforce

The site would be remotely operated with onsite personnel limited to a small number required during maintenance activities. The number of people accessing the site during emergencies would increase, however these situations are likely to be rare and short-term in nature.

3.1.3 Maintenance activities

Once operational, activities would include daily operations and maintenance. This would include:

- Visual inspection of the solar arrays and other infrastructure including the use of drones
- General maintenance of infrastructure including any cleaning activities required
- Management of vegetation on the site including both landscaping and the grass located below the arrays. This would include a monitoring program to manage any bare areas to minimise erosion
- Response to security breaches
- Response to emergency events
- Replacement of equipment and infrastructure, as required.

Overall it is expected that about 10,400 person-hours of work per year would be undertaken for preventive maintenance.

During normal operation, it is unlikely that vehicles would be present at the site on a permanent basis, with only occasional visits by light vehicles likely to be required. Operational activities such as maintenance would be undertaken primarily during standard work hours.

Emergency works would potentially be required outside the standard hours; however, these would be infrequent.

During major outages or emergencies, 20 to 30 vehicles may be present at any one time, including some larger vehicles such as trucks.

3.1.4 Source and quantity of materials

Water would be required during the operation of the proposal as it would be needed to clean the panels during maintenance works. It is estimated that about five mega litres of water would be required per year. This would potentially be sourced from a water filling station or a similar alternative location. The proposal includes providing water tanks to store water. The tanks would be located within close proximity to the site entrances and would be capable for firefighting use.

3.2 Decommissioning Process

3.2.1 Decommissioning or reconditioning of the proposal

At the end of its operational life (about 30 years), the proposal site would be either reconditioned or decommissioned. Decommissioning would involve removing all above ground infrastructure and would take about six months to complete. Key elements of decommissioning would include:

- The solar farm's generator would be disconnected from Powercor's metering point
- The solar arrays would be removed, including the foundation poles, with the materials to be reused or recycled where possible
- All site amenities and equipment would be removed and materials recycled or reused, wherever possible
- Poles and cabling would be removed and recycled (some infrastructure 300 mm below ground may be left in place)
- Fencing would be removed
- Rehabilitation of the site.

Traffic required for decommissioning would be similar in type but of shorter duration than that required for the construction phase.

There is the potential for batteries to be installed on site which would increase the capacity of the site. This would occur prior to the end of the infrastructure operational life.

Towards the end of the operational life of the proposal, there is potential for the infrastructure to be upgraded to extend the life of the plant. The works required would be determined at that time and do not form part of the proposal assessed in this planning permit application. The potential need for further assessment and approvals would be reviewed if the proposal is to be reconditioned.

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4. Planning scheme provisions

4.1 Introduction

The proposal is subject to the provisions of the Greater Shepparton Planning Scheme (the planning scheme). It is considered that the proposal is generally consistent with relevant State and local planning policy objectives as outlined below.

4.2 Land use definition

Pursuant to Clause 74 of the planning scheme, the proposed use is defined as a '*renewable energy facility*'.

The planning scheme definition of a '*renewable energy facility*' is:

- *'Land used to generate energy using resources that can be rapidly replaced by an ongoing natural process. Renewable energy resources include the sun, wind, the ocean, water flows, organic matter and the earth's heat*
- *It includes any building or other structure or thing used in or in connection with the generation of energy by a renewable resource*
- *It does not include a renewable energy facility principally used to supply energy for an existing use of the land'.*

4.3 State Planning Policy Framework (SPPF)

The SPPF seeks to ensure that the objectives of planning in Victoria (as set out in Section 4 of the *Planning and Environment Act 1987*) are fostered through appropriate land use and development planning policies. Relevant State Planning Policies are listed and summarised below.

Clause 11.12 – Hume

The municipal area of Greater Shepparton is located within the Hume region and planning must consider as relevant, the '*Hume Regional Growth Plan*' (Victorian Government, 2014).

Clause 11.12-1 – A diversified economy

The objective of Clause 11.12-1 is '*to develop a more diverse regional economy while managing and enhancing key regional economic assets'.*

Relevant strategies of this clause are to:

- *'Plan for a more diverse and sustainable regional economy by supporting existing economic activity and encouraging appropriate new and developing forms of industry, agriculture, tourism and alternative energy production*
- *Create renewable energy hubs that support co-location of industries to maximise resource use efficiency and minimise waste generation'.*

The '*Hume Regional Growth Plan*' supports the trending change in agricultural methods and strategies. This includes diversifying regional economies to develop alternative energy productions. Clause 11.12-1 and the '*Hume Regional Growth Plan*' are relevant to the proposal, as it will diversify the local economy by establishing a renewable energy facility. Additionally, the proposal will create local jobs, and increase the local economy in the accommodation and service sectors during the construction phase.

Clause 12.01-1 – Protection of biodiversity

The objective of Clause 12.01-1 is *'to assist the protection and conservation of Victoria's biodiversity, including important habitat for Victoria's flora and fauna and other strategically valuable biodiversity sites'*.

Relevant strategies of this clause are to:

- *'Use statewide biodiversity information to identify high value biodiversity and consider the impact of land use and development on these values*
- *Ensure that decision making takes into account the impacts of land use and development on Victoria's high value biodiversity.*

Planning must consider as relevant, Permitted clearing of native vegetation – Biodiversity assessment guidelines (Department of Environment and Primary Industries, September 2013)'.

Clause 12.01-1 relates to this proposal as the site contains scattered native vegetation that also provides a habitat for local fauna. Some native vegetation removal will be required to facilitate the proposal. An assessment of flora and fauna impacts is provided in section 5.5 and a Flora and Fauna report which includes the Biodiversity Assessment Report accompanies this application in Appendix C.

Clause 12.01-2 – Native vegetation management

The objective of Clause 12.01-2 is *'to ensure that permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity'*.

Relevant strategies of this clause is to:

- *'Apply the risk-based approach to managing native vegetation as set out in Permitted clearing of native vegetation – Biodiversity assessment guidelines. These are:*
  - *Avoid the removal of native vegetation that makes a significant contribution to Victoria's biodiversity*
  - *Where native vegetation is permitted to be removed, ensure that an offset is provided in a manner that makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation to be removed*
  - *Minimise impacts on Victoria's biodiversity'.*

Clause 12.01-2 is relevant to this proposal, as some native vegetation would need to be removed. An assessment of native vegetation impacts is provided in Section 5.5 and a flora and fauna report accompanies this application in Appendix C.

Clause 13.02-1 – Floodplain management

The objectives of Clause 13.02-1 is *'to assist the protection of*

- *Life, property and community infrastructure from flood hazard*
- *The natural flood carrying capacity of rivers, streams and floodways*
- *The flood storage function of floodplains and waterways'.*

Relevant strategies of this clause are to:

- *'Identify land affected by flooding, including floodway areas, as verified by the relevant floodplain management authority, in planning scheme maps. Land affected by flooding is land inundate by the 1 in 100 year flood event or as determined by the floodplain management authority*

- *Avoid intensifying the impacts of flooding through inappropriately located uses and developments'.*

Clause 13.02-1 is relevant as the site is subject to the Floodway Overlay (FO) and Land Subject to Inundation Overlay (LSIO). The proposal will be appropriately located on-site and will not result in any intensification of flooding. This reflects the pre-application advice obtained from the Goulburn Broken CMA. Please refer to Appendix D for the flood and drainage advice prepared by GHD and Appendix E for the Goulburn Broken CMA pre-application advice.

Clause 13.04-1 – Noise abatement

The objective of Clause 13.04-1 is *'to assist the control of noise effects on sensitive land uses'*.

The strategy to achieve the objective is to:

- *'Ensure that development is not prejudiced and community amenity is not reduced by noise emissions, using a range of building design, urban design and land use separation techniques as appropriate to the land use functions and character of the area'.*

Clause 13.04-1 is relevant to the construction stage of the proposal and would be addressed in the Construction Management Plan. Once operational, the proposal will generate low levels of noise and is unlikely to affect the amenity of the area.

Clause 13.04-2 – Air quality

The objective of Clause 13.04-2 is *'to assist the protection and improvement of air quality'*.

The relevant strategy of this clause is to:

- *'Ensure, wherever possible, that there is suitable separation between land uses that reduce amenity and sensitive land uses'.*

Clause 13.04-2 is relevant to the construction stage of the proposal and would be addressed in the construction management plan. The proposal would have minimal impact on air quality in the area, and would be limited to the seven to ten month construction period.

Clause 14.01-1 – Protection of agricultural land

The objective of Clause 14.01-1 is *'to protect productive farmland which is of strategic significance in the local or regional context'*.

The relevant strategies of this clause are to:

- *'Ensure that the State's agricultural base is protected from the unplanned loss of productive agricultural land due to permanent changes of land use*
- *Take into consideration regional, state and local, issues and characteristics in the assessment of agricultural quality and productivity*
- *Permanent removal of productive agricultural land from the State's agricultural base must not be undertaken without consideration of its economic importance for the agricultural production and processing sectors.*

Clause 14.01-1 is relevant to the proposal, as it would be located on rural land, which is capable of sustaining a solar farm. The proposal would create local jobs, and increase the local economy in the accommodation and service sectors during the construction phase and would not permanently remove the land from productive agricultural use.

The proposal would result in the temporary loss of a small proportion of agricultural land that is available in the Hume region.

Clause 14.02-2 – Water quality

The objective of Clause 14.02-2 is *'to protect water quality'*.

The relevant strategies of this clause are to:

- *'Protect reservoirs, water mains and local storage facilities from potential contamination*
- *Ensure that land use activities potentially discharging contaminated runoff or wastes to waterways are sited and managed to minimise such discharges and to protect the quality of surface water and groundwater resources, rivers, streams, wetlands, estuaries and marine environments*
- *Discourage incompatible land use activities in areas subject to flooding, severe soil degradation, groundwater salinity or geotechnical hazards where the land cannot be sustainably managed to ensure minimum impact on downstream water quality or flow volumes'*.

Clause 14.02-2 is relevant, as the site is subject to flooding and contains two channels and a creek. The proposal will be appropriately located on-site and will not intensify flooding or discharge contaminated runoff. This reflects the pre-application advice obtained from the Goulburn Broken CMA regarding the preferred siting of the buildings on-site. Please refer to Appendix D for the flood and drainage advice prepared by GHD and Appendix E for the Goulburn Broken CMA pre-application advice.

Clause 15.03-2 – Aboriginal cultural heritage

The objective of Clause 15.03-2 is *'to ensure the protection and conservation of places of Aboriginal cultural heritage significance'*.

The relevant strategies of this clause are to:

- *'Identify, assess and document places of Aboriginal cultural heritage significance, in consultation with relevant Registered Aboriginal Parties, as a basis for their inclusion in the planning scheme*
- *Provide for the protection and conservation of pre- and post-contact Aboriginal cultural heritage places*
- *Ensure that permit approvals align with recommendations of a Cultural Heritage Management Plan approved under the Aboriginal Heritage Act 2006'*.

Clause 15.03-2 is relevant, as the site is located within a mapped area of Aboriginal cultural heritage sensitivity. Please refer to the Aboriginal cultural heritage response in Section 4.9 and the Cultural Heritage Assessment (CHA) in Appendix F.

Clause 19.01-1 – Provision of renewable energy

The objective of Clause 19.01-1 is *'to promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met'*.

Relevant strategies of this clause is to:

- *'Facilitate renewable energy development in appropriate locations*
- *Develop appropriate infrastructure to meet community demand for energy services and setting aside suitable land for future energy infrastructure*
- *In considering proposals for renewable energy, consideration should be given to the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment'*.

Clause 19.01-01 is relevant, as the proposal would construct a renewable energy facility (solar farm). Potential impacts on the local community and environment, and the appropriateness of the siting and design are addressed in the planning assessment in Section 5.

4.4 Local Planning Policy Framework (LPPF)

The LPPF consists of Council's Municipal Strategic Statement (MSS) and Local Planning Policies (LPPs). LPPs are tools used to implement the objectives and strategies of the MSS.

4.4.1 Municipal Strategic Statement (MSS)

The MSS is a concise statement of the key strategic planning, land use and development objectives for the municipality and the strategies and actions for achieving the objectives. Relevant provisions of Councils MSS are outlined below.

Clause 21.05 – Environment

Clause 21.05-1 – Natural environment and biodiversity

'Key biodiversity issues in Greater Shepparton are associated with native vegetation and with the myriad of river, floodplain and wetland systems'.

The Goulburn Broken Catchment Management Strategy seeks to maintain and enhance biodiversity of native flora and fauna communities and protect the region's natural resource base through the management of key threats.

The relevant objectives of clause 21.05-1 are:

- *'To maintain and enhance biodiversity of native flora and fauna communities*
- *To protect and manage the natural resources of water, air and land*
- *To identify natural landscape features which are to be protected and managed'.*

The site contains native and non-native vegetation, and provides habitat for some local fauna. Some native vegetation removal will be required to facilitate the proposal. A Flora and Fauna assessment (refer to Appendix C) has been prepared to accompany the planning permit application.

Clause 21.05-2 – Floodplain and drainage management

The objective of clause 21.05-2 is *'to recognise the constraints of the floodplain on the use and development of land'.*

The relevant strategies of clause 21.05-2 are:

- *Ensure that all new development maintains the free passage and temporary storage of floodwater, minimises flood damage is compatible with flood hazard and local drainage conditions, and minimises soil erosion, sedimentation and silting*
- *Prevent tree removal to minimise loss of riparian vegetation as a result of development on the floodplain.*

A local floodplain development plan is incorporated into to the Planning Scheme.

Clause 21.05-2 is relevant as the site is subject to flooding and contains two rural channels and a creek. The proposal will be appropriately located on-site and will not intensify flooding or discharge contaminated runoff. This reflects the pre-application advice obtained from the Goulburn Broken CMA regarding the preferred siting of the buildings on-site. Please refer to Appendix D for the flood and drainage advice prepared by GHD and Appendix E for the Goulburn Broken CMA pre-application advice.

Clause 21.05-4 – Cultural heritage

'The Council aims to ensure that places of pre settlement and post settlement cultural heritage significance within the municipality are preserved for future generations.

Places of cultural heritage significance are highly valued by the community. The continued conservation, protection and maintenance of these places of cultural heritage significance are important to the Council'.

The relevant objectives of Clause 21.05-4 are:

- *'To ensure that places of cultural heritage significance are conserved or restored*
- *To discourage the demolition of places of cultural heritage significance that are designated as Individually Significant or Contributory in heritage precincts*
- *To ensure that development does not adversely affect places of cultural heritage significance.*
- *To ensure that archaeological remains are not inadvertently damaged or destroyed'.*

Clause 21.05-4 is relevant as the proposal site is located within a mapped area of Aboriginal cultural heritage sensitivity. Please refer to the Aboriginal cultural heritage response in Section 4.9 and the Cultural Heritage Assessment (CHA) in Appendix F.

Clause 21.06-1 – Agriculture

The region's workforce is heavily dependent on the agricultural sector with many people directly involved in agricultural production on farms.

A challenge for the Greater Shepparton region is that increasingly, *'prospective agricultural investment is jeopardized, deterred, or completely lost by land uses and developments that have the potential to compromise the scale and location of agricultural investment. In particular, agricultural investment is far less likely where land is already fragmented in ownership with housing dispersed throughout'.*

The *Rural Regional Land Use Strategy* (RRLUS) 2008, aims to minimise future impacts to agricultural investments. From this study, three new categories of farming areas have been adopted by Council known as: growth, consolidation and niche. Specific recommendations apply to each area to ensure the desired future land use and development is achieved.

The relevant objectives of Clause 21.06-1 are *'to ensure that agriculture is and remains the major economic driver in the region'* and *'to facilitate growth of new agricultural investment'.*

The relevant strategies to achieve the objectives of Clause 21.06-1 are:

- *'Encourage growth and expansion of existing farm businesses and new investment in 'growth' and 'consolidation' areas*
- *Discourage land uses and development in the Farming Zone, Schedule 1 that would compromise the future agricultural use of the land, including farm related tourism*
- *Encourage value adding and new enterprises for agricultural production*
- *Discourage non-agricultural uses on rural land other than rural based industry*
- *Discourage non-agricultural development in rural areas except where development is dependent on a rural location, and cannot be accommodated within existing industrial or business zoned land*
- *Buildings for non-agricultural purposes in rural areas should be set back a minimum of 100 metres from any road, be constructed in muted coloured 'colorbond' materials or similar and screened from any road by dense tree and shrub planting'.*

The subject land is located within the 'growth area' as defined by the RRLUS. Clause 21.06-1 is relevant to the proposal as it would be located on rural land which is capable of sustaining a solar farm.

Whilst the proposal would result in the temporary loss of a small proportion of agricultural land, the proposed use is appropriate as it is dependent on a rural location. Furthermore, the proposal would facilitate investment in a new industry, create local jobs, and increase the local economy in the accommodation and service sectors during the construction phase.

4.4.2 Local Planning Policies

There are no local planning policies in the Greater Shepparton planning scheme.

4.5 Relevant Strategies and Plans

The following local strategies and plan are considered relevant to this proposal.

4.5.1 Incorporated documents (Clause 81.01)

The following incorporated documents are relevant to the proposal:

- *Greater Shepparton Floodplain Development Plan –Precinct of Broken Creek* (October 2006)
- *Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire* (August 2010)

A response to the requirements of the Broken Creek Floodplain Development Plan can be found in Section 5.6.

Minor earthworks are proposed to fill the dams on-site. A planning permit is not triggered under zone and overlays as per the exemptions in the Earthworks Controls incorporated document.

4.5.2 Reference documents (Clause 21.09)

Reference documents provide background information to assist in understanding the context within which a particular policy or provision has been framed.

Regional Rural Land Use Strategy (RRLUS) 2008

The RRLUS provided background information to Amendment C121, which was adopted by Council in 2010 to implement the proposed changes and recommendation of the report into the planning scheme. The purpose of the RRLUS was to provide a consistent regional response to the management of rural land, and in particular to support agricultural growth and change.

This report recommends the '*broad application of the Farming Zone to support the continued scope for agricultural activity, investment and development, particularly in irrigations areas*', as, *'it is increasingly evident that prospective agricultural investment is jeopardized, deterred, or completely lost by land uses and developments that have the potential to compromise the scale and location of such investment'.*

Greater Shepparton Regional Rural Land Use Strategy Issues Paper 2009

The Greater Shepparton RRLUS Issues paper was prepared in response to the RRLUS 2008 based on concerns that the original strategy did not *'respond to some of the specific issues facing the Shepparton local government area'*, where the new controls were seen to inhibit agricultural operations.

The RRLUS identifies the fundamental importance of agriculture in the region and provides a structure to support the expansion of industries and farms in addition to offering opportunities for

small and boutique operations. The RRLUS Issues paper reiterates that *'the adoption of the RRLUS will further reinforce the management of rural land for a range of agricultural enterprises'* rather than inhibit agricultural growth.

Response: Overall, the RRLUS and the RRLUS Issues paper are relevant to the proposal as the strategy identifies the subject site as being located within the *'growth area'*. The strategic direction for growth areas is *'areas for growth and expansion of existing farm businesses and for new investment'*. The proposal would facilitate investment in a new industry and temporarily remove a relatively small proportion of agricultural land from the Shepparton agricultural area.

4.5.3 Additional relevant strategies

Council Plan 2017-2021: Greater Shepparton City Council

An environmental objective of the Council plan is *'alternative energy sources with both environmental and economic gains are promoted and encouraged'* where *'large site solar powered generation'* is identified as a key capital project.

Response: The 2017-2021 Council plan is relevant to the proposal as it will increase solar energy production in the region. The proposal would deliver a large solar farm which is in-line with the Council Plan's environment theme and promotion of alternative energy objective.

Greater Shepparton Economic Development, Tourism & Events Strategy 2016-2020

This strategy is aimed at *'identifying opportunities that will lead to building and diversifying the local economy, assist in building on Council's events portfolio and boosting tourism and overnight stays within the region'*.

Response: This strategy is relevant as it identifies a *'solar energy farm'* as a potential project of priority in the emerging industries category. An action of this plan is to implement findings from the *Resource Recovery Precinct and Site Selection Study (2016),* which includes to locate industries including 'solar farms' in the municipality.

Greater Shepparton Environmental Sustainability Strategy 2014-2030

The aim of this strategy is *'to improve Council's environmental sustainability performance by imbedding environmental sustainability considerations into Council's decision-making processes and operational activities'*. Climate change and energy efficiency is one of the key themes identified in this strategy, where *'attracting innovative renewable and alternative energy industries/businesses to our municipality'* is an objective of this theme.

Response: The proposal is consistent with this strategy, as it would create a renewable energy facility (solar farm) in the municipality.

4.6 Zone controls

The following zone applies to the proposal area (please refer to Figure 11).

Clause 35.07 – Farming Zone (FZ)

The purposes of the FZ are:

- *'To provide for the use of land for agriculture*
- *To encourage the retention of productive agricultural land*
- *To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture*
- *To encourage the retention of employment and population to support rural communities*

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- *To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.'*

Use

A 'renewable energy facility' is a Section 2 (permit required) use under the FZ. Furthermore, the permit application must meet the requirements of Clause 52.42 (please refer to Table 3 in Section 4.8).

Buildings and works

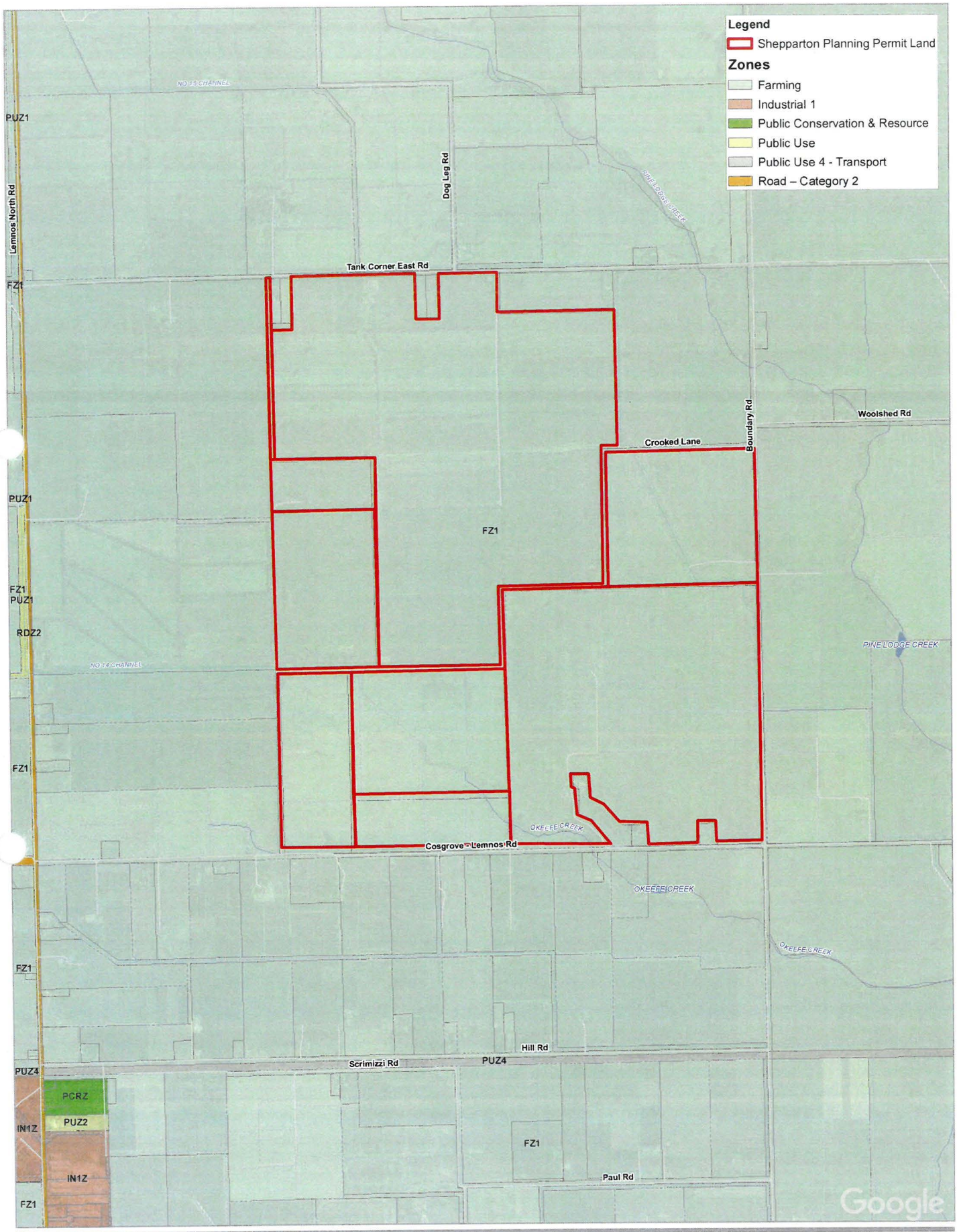
Under Clause 35.07-4 buildings and works, a permit is required for buildings or works associated with a renewable energy facility as it is a Section 2 (permit required) use. The buildings and works proposed are listed in Section 3.2.

Minor earthworks are required to fill the dams on-site. A planning permit for earthworks under Clause 35.07-4 is not required as the proposed earthworks would not:

- *'Change the discharge point of water across a property boundary; or*
- *Change the rate of flow of water across a property boundary; or*
- *Increase the discharge of saline groundwater; or*
- *Adversely impede the free passage and temporary storage of floodwater (and so long as the written approval of the relevant floodplain management authority has been obtained)'.*

Under Clause 35.07-4 a planning permit would be required to construct a building that does not meet the minimum setback distances from a road, boundary or dwelling not in the same ownership.

The proposed non-habitable buildings can be positioned to meet or exceed the minimum setback distances. The closest dwelling not in the same ownership is over 200 metres away.



Paper Size ISO A3

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

Data Disclaimer

** Insert text as required by data custodian **
** Remove only if not required by data custodian **

Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

Planning Zones

Project No. 31-35556
Revision No. B
Date 26/09/2017

FIGURE 11

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Print date: 09 Oct 2017 - 14:49

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, VicMap, Vicmap Reference, 2014, DELWP Threatened Fauna/Flora/EVC Layer 2017 Created by: tsmith

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4.7 Overlay controls

The following zones apply to the proposal area (refer to Figure 12).

Clause 44.03 –Floodway Overlay (FO)

The purposes of the FO are:

- *To identify waterways, major floodpaths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding'*
- *To ensure that any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting*
- *To reflect any declarations under Division 4 of Part 10 of the Water Act, 1989 if a declaration has been made*
- *To protect water quality and waterways as natural resources in accordance with the provisions of relevant State Environment Protection Policies, and particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria)*
- *To ensure that development maintains or improves river and wetland health, waterway protection and flood plain health'.*

Buildings and works

Clause 44.03-1 states that permit is required for buildings and works unless the schedule specifically states that no permit is required.

The FO schedule does not specify any buildings and works relating to a renewable energy facility as exempt, therefore a permit is required under Clause 44.03-1 for buildings and works.

Earthworks

Minor earthworks are required to fill the dams on-site. Under the FO schedule, earthworks are exempt, if they are in accordance with the Earthworks Controls incorporated document at Clause 81.

As per the Earthworks Controls incorporated document, it is considered that a permit would not be required as the earthworks would not:

- *'Change the discharge point of water across a property boundary; or*
- *Change the rate of flow of water across a property boundary; or*
- *Increase the discharge of saline groundwater; or*
- *Adversely impede the free passage and temporary storage of floodwater (and so long as the written approval of the relevant floodplain management authority has been obtained)'.*

Floodplain development plan

Under Clause 44.03-3, an application must be consistent with the relevant local floodplain development plan. The Greater Shepparton Floodplain Development Plan, Precinct of Broken Creek (October 2006), is incorporated into this planning scheme, therefore the proposed buildings and works must be consistent with the requirements set out in the plan. A response to the development plan requirements is in Section 5.6.

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Additionally, a Flood Risk Report, prepared by GHD in consultation with Goulburn Broken CMA, forms part of this application. Please refer to Appendix D for the report, which assesses the flood risk in relation to the proposal.

Clause 44.04 – Land Subject to Inundation Overlay (LSIO)

The purposes of the LSIO are:

- *'To identify land in a flood storage or flood fringe area affected by the 1 in 100 year flood or any other area determined by the floodplain management authority*
- *To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity*
- *To reflect any declaration under Division 4 of Part 10 of the Water Act, 1989 where a declaration has been made*
- *To protect water quality in accordance with the provisions of relevant State Environment Protection Policies, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria)*
- *To ensure that development maintains or improves river and wetland health, waterway protection and flood plain health'.*

Buildings and works

Clause 44.04-1 states that a permit is required for buildings and works unless the schedule specifically states that no permit is required.

The LSIO schedule does not specify buildings and works relating to a renewable energy facility as exempt, therefore a permit is required under Clause 44.04-1 for buildings and works.

Earthworks

Minor earthworks are required to fill the dams on-site. Under the LSIO schedule, earthworks are exempt, if they are in accordance with the Earthworks Controls incorporated document at Clause 81.

As per the Earthworks Controls incorporated document, it is considered that a permit would not be required as the earthworks would not:

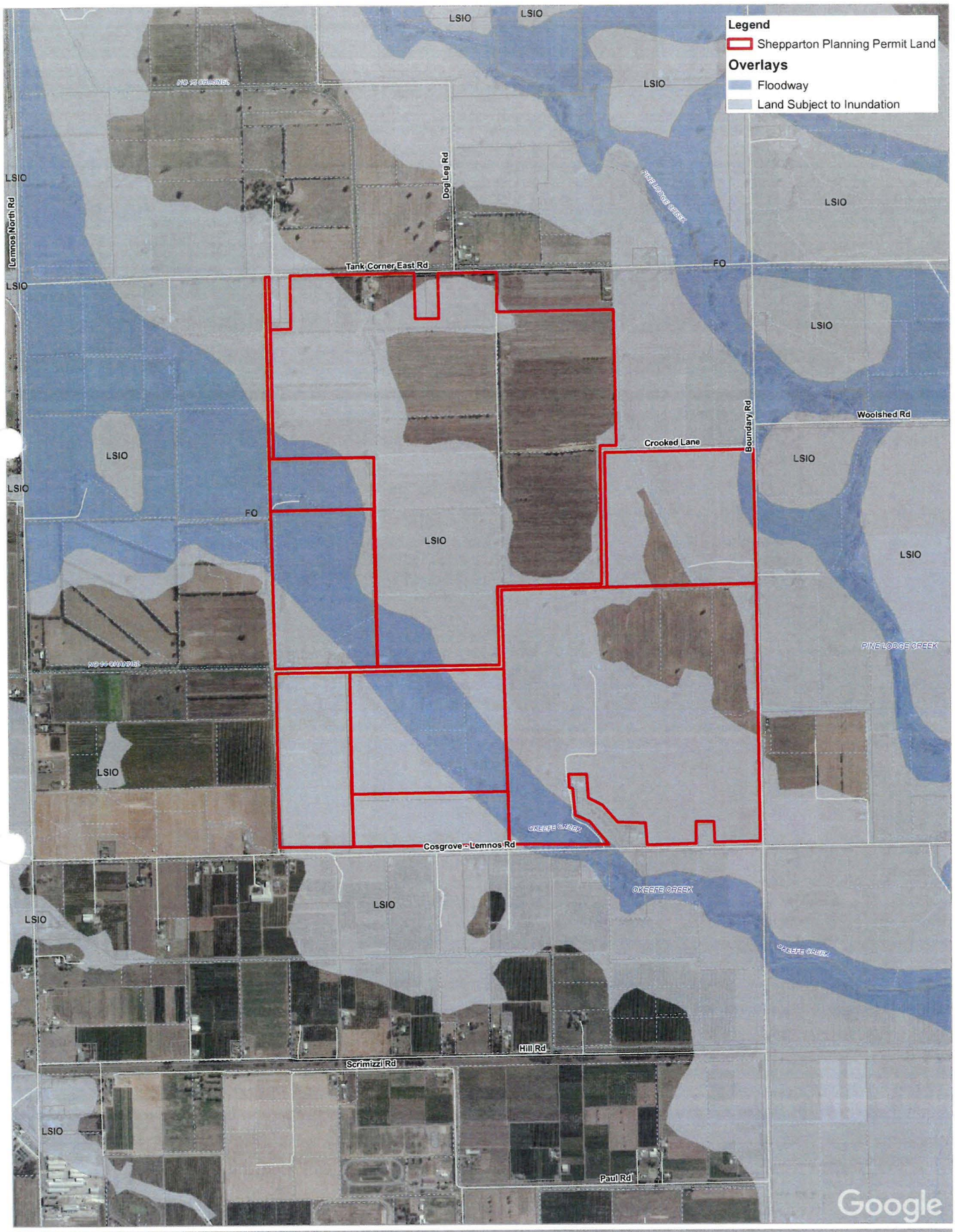
- *'Change the discharge point of water across a property boundary; or*
- *Change the rate of flow of water across a property boundary; or*
- *Increase the discharge of saline groundwater; or*
- *Adversely impede the free passage and temporary storage of floodwater (and so long as the written approval of the relevant floodplain management authority has been obtained)'.*

Floodplain development plan

Under Clause 44.04-3, an application must be consistent with the relevant local floodplain development plan. The Greater Shepparton Floodplain Development Plan, Precinct of Broken Creek (October 2006), is incorporated into this planning scheme, therefore the proposed buildings and works must be consistent with the requirements set out in the plan. A response to the development plan requirements is in Section 5.6.

Additionally, a Flood Risk Report, prepared by GHD in consultation with Goulburn Broken CMA, forms part of this application. Please refer to Appendix D for the report, which assesses the flood risk in relation to the proposal.

SPO 1



Paper Size ISO A3

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

Data Disclaimer

** Insert text as required by data custodian **
** Remove only if not required by data custodian **

Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

Planning Overlays

Project No. 31-35556
Revision No. B
Date 26/09/2017

FIGURE 12

G:\31\35556\GIS\Maps\Working\35556_012_Overlays.mxd
Print date: 10 Oct 2017 - 15:21

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; VicMap, Vicmap Reference, 2014; DELWP Threatened Fauna/Flora/EVC Layer 2017. Created by: rsmith

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4.8 Particular provisions

The following particular provisions are relevant to an assessment of the proposal.

Clause 52.17 – Native vegetation

The purposes of Clause 52.17 are:

- *'To ensure permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity. This is achieved through the following approach:*
  - *Avoid the removal of native vegetation that makes a significant contribution to Victoria's biodiversity*
  - *Minimise impacts on Victoria's biodiversity from the removal of native vegetation*
  - *Where native vegetation is permitted to be removed, ensure that an offset is provided in a manner that makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation to be removed*
- *To manage native vegetation to minimise land and water degradation*
- *To manage native vegetation near buildings to reduce the threat to life and property from bushfire'.*

Clause 72 of the planning scheme defines native vegetation as *'plants that are indigenous to Victoria, including trees, shrubs, herbs, and grasses'.*

Under Clause 52.17-2, a permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

Native vegetation would require removing in order to facilitate the proposal. The native vegetation removal would be classed as a 'moderate' risk-based pathway. A response to the application requirements is in Section 5.5. The Biodiversity Impact and Offset Requirements (BIOR) report and Flora and Fauna assessment is in Appendix C.

Clause 52.42 – Renewable energy facility (other than wind energy facility and geothermal energy extraction)

The purpose of Clause 52.42 is *'to facilitate the establishment and expansion of renewable energy facilities, in appropriate locations, with minimal impact on the amenity of the area'.*

This clause applies to land used and developed or proposed to be used and developed for a renewable energy facility. The site will be used and developed for a renewable energy facility, therefore this clause is applicable to the proposal. In addition, under the FZ it is a condition of use that a renewable energy facility meets the requirements of Clause 52.42.

An application must be accompanied by the requirements of Clause 52.42-2. An assessment of the information is provided as per Table 3 below.

Table 3 Clause 52.42-2 requirements

Renewable Energy Facility Requirements and Considerations		
Application requirement		**Location**
A site and context	• A site plan, photographs or other techniques to accurately describe the site and the surrounding area.	Section 3 and Appendix B

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Renewable Energy Facility Requirements and Considerations		
analysis, including:	• A location plan showing the full site area, local electricity grid, access roads to the site and direction and distance to nearby accommodation, hospital or education centre.	Appendix B
A design response, including:	• Detailed plans of the proposed development including, the layout and height of the facility and associated building and works, materials, reflectivity, colour, lighting, landscaping, the electricity distribution starting point (where the electricity will enter the distribution system), access roads and parking areas.	Appendix B
	• Accurate visual simulations illustrating the development in the context of the surrounding area and from key public view points.	Section 3
	• The extent of vegetation removal and a rehabilitation plan for the site	Appendix C
A written report, including:	• An explanation of how the proposed design derives from and responds to the site analysis	Section 3.4.1
	• A description of the proposal, including the types of process to be utilised, materials to be stored and the treatment of waste.	Section 3.4
	• Whether a Works Approval or Licence is required from the Environment Protection Authority.	Not aware of approval trigger
An assessment of:	• The potential amenity impacts such as noise, glint, light spill, emissions to air, land or water, vibration, smell and electromagnetic interference.	Section 5.3
	• The effect of traffic to be generated on roads	Section 5.4
	• The impact upon Aboriginal or non-Aboriginal cultural heritage.	Appendix F
	• the impact of the proposal on any species listed under the Flora and Fauna Guarantee Act 1988 or Environment Protection and Biodiversity Conservation Act 1999	Appendix C
	A statement of why the site is suitable for a renewable energy facility including, a calculation of the greenhouse benefits	Refer to Section 3 as relevant
	An environmental management plan including, a construction management plan, any rehabilitation and monitoring.	Permit condition

4.9 Aboriginal cultural heritage

Andrew Long + Associates (ALA) were engaged to undertake a desktop Cultural Heritage Assessment (CHA) to identify any potential areas of Aboriginal cultural heritage significance on the site (refer to the assessment in Appendix F).

The desktop CHA concluded that the proposed activity intersects with one area of cultural heritage sensitivity, relating to O'Keefe Creek. However, as O'Keeke Creek is not a registered

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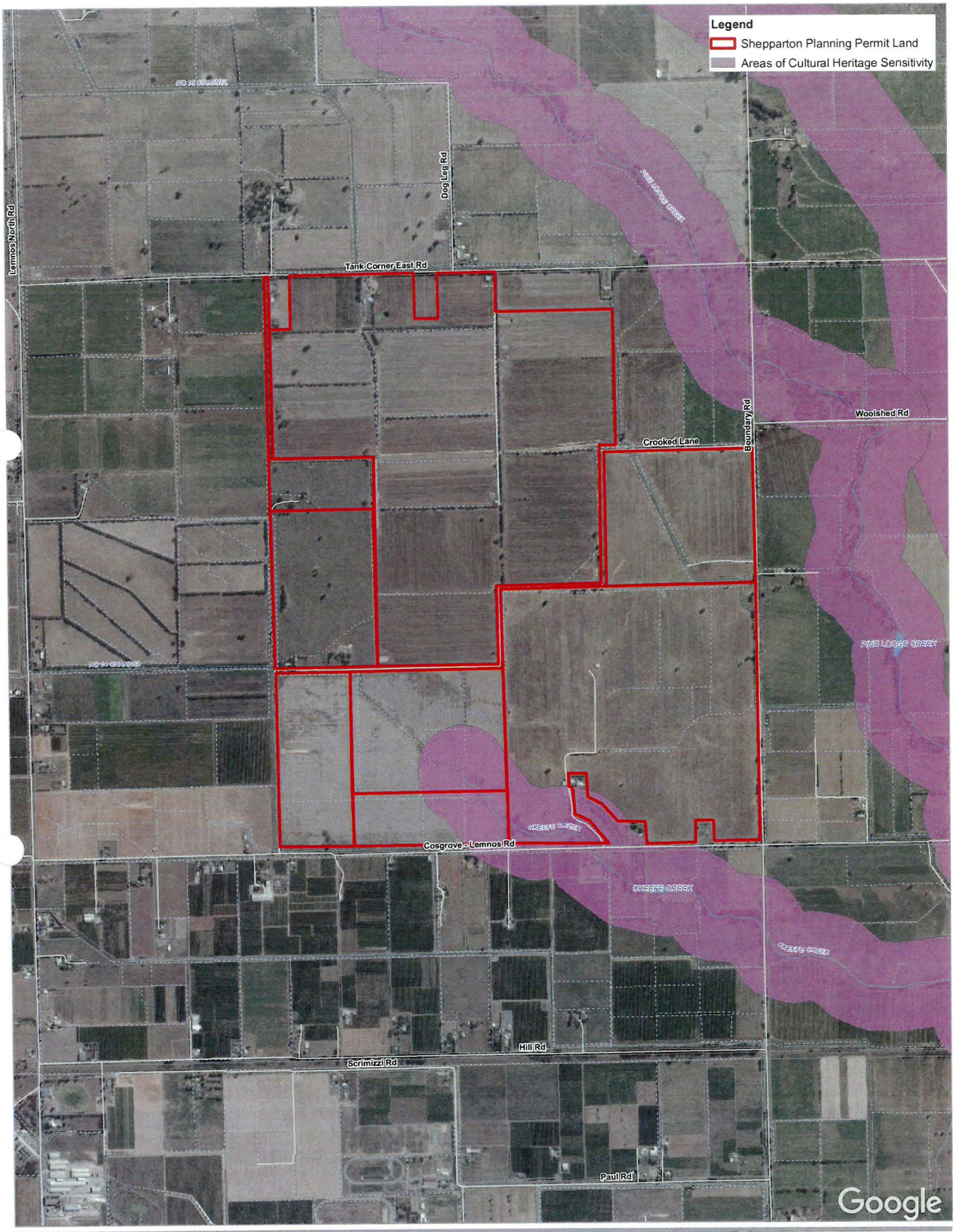
waterway under the *Geographic Place Names Act 1998*, land within 200 m of O'Keefe Creek is not an area of cultural heritage sensitivity.

A map of Aboriginal cultural heritage sensitivity is provided in Figure 13.

Part of the activity area, passes through a geomorphological unit identified as GMU 4.2.1 '*Plains with leveed channels, sometimes source-bordering dues (Tatura, Naneella)*'.

A study to identify whether source-bordering dunes are located within the activity area, is currently being undertaken by a qualified geomorphologist. This study will determine whether a mandatory Cultural Heritage Management Plan (CHMP) is required.

509



Paper Size ISO A3

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

GHD

Neoen Australia Pty Ltd
Neoen Shepparton Solar Farm

Areas of Aboriginal Cultural Heritage Sensitivity

Project No. **31-35556**
Revision No. B
Date **26/09/2017**

FIGURE 13

Data Disclaimer

** Insert text as required by data custodian **
** Remove only if not required by data custodian **

G:\31\35556\GIS\Maps\Working\3135556_013_CulturalSensitivity.mxd
Print date: 09 Oct 2017 - 15:11

Data source: Image © 2016 Google, DigitalGlobe, AAV, Vicmap Reference, 2014, DELWP 2017. Created by: lsmith

511

5. Planning assessment

A planning permit is required for a renewable energy facility for the use of land and buildings and works under the Farming Zone (FZ), buildings and works under both the Floodway Overlay (FO) and the Land Subject to Inundation Overlay (LSIO), and native vegetation removal under Clause 52.17.

This section has assessed the consistency of the proposal against the relevant planning policy framework.

5.1 Use of land

The use of the land for a renewable energy facility is considered appropriate for the following reasons:

- The use of the land for a solar farm will not permanently remove the land from agricultural use as the proposal will either be reconditioned or decommissioned at the end of the its operational life, whereby the land could be returned to agricultural land use.
- The proposal will assist in reducing Australia's greenhouse gas emissions, ensuring that future demand for power is also met. This reduction in emissions would contribute to achieving the Victorian Government's renewable energy targets.
- The proposal is supported by state policies, where the *Hume Regional Growth Plan* includes diversifying regional economies to develop alternative energy productions including the transition towards renewable energy generation, sited in appropriate locations.
- The proposed use on agricultural land is appropriate, as it is dependent on a rural location. The subject site is suitable for sustaining a solar farm and would only temporary remove a relatively small proportion of agricultural land in the wider Shepparton region.
- The site is capable of sustaining a solar farm, as it is located on a large, relatively flat site in a rural area, with ample access to solar resources. The site can be easily accessed and can utilise existing infrastructure (distribution lines), minimising the extent of new infrastructure required.
- The proposal is consistent with local policies and strategies, as the proposal would facilitate investment in a new industry, create local jobs, and increase the local economy in the accommodation and service sectors during the construction phase.
- The proposed solar farm will impact the local economy in a positive manner, with flow-on benefits particularly during the construction period the in the local accommodation and service sectors.
- The proposal is considered to have minimal impact on the environment as it can be designed and sited to reduce the risk of flooding, and to minimise the removal of vegetation.
- The proposal will not increase the risk of flood on the land. It would be designed to minimise flood risk by locating flood sensitive development on land outside the FO. The CMA has no objections to the proposed use of the land for a renewable energy facility subject to design conditions.
- The use will not adversely affect the amenity of the local and surrounding area. The development will be setback from the property boundaries and vegetation screening can be planted to reduce the visual impact to adjacent neighbours.

- The use of the land will not impact the adjacent landowners ongoing ability to use their land for agricultural purposes.
- Amenity impacts potentially occurring during the construction period, such as impacts of dust, noise, air quality, and traffic, can be mitigated through measures that would be detailed in a construction management plan.

5.2 Buildings and works

Buildings and works relating to the construction and operation of a renewable energy facility are considered appropriate on the site for the following reasons:

- Notwithstanding the site is susceptible to flooding, the development can been appropriately sited and designed to mitigate the impact of flood intensification as per the Flood Risk Report and CMA advice.
- No buildings or works would be located within 30 metres of the O'Keefe Creek waterway (located in the south-west corner of the 1190 Cosgrove-Lemnos Road property) as this area is likely to flood more than 500 millimetres deep in a 100 year ARI type flood.
- Non-flood sensitive development, including solar panels, are located within flooded affected areas, in both the FO and LSIO. This approach is consistent with the CMA flood and drainage advice, where the non-flood sensitive development would not obstruct the flow of flood waters as flood water can flow between the supporting posts.
- Flood sensitive development, which are the operation and maintenance buildings, will be located within the LSIO. It is not practical to position these buildings outside of this area and accordingly, they have been positioned closest to Cosgrove-Lemnos Road for ease of access and in a location that minimises the extent of constructing new power line infrastructure to connect to the Shepparton Terminal Substation.
- The flood sensitive development such as substation, battery storage building, control room, inverters, and operation and maintenance building, would be designed to be elevated 300 millimetres above the 100 year ARI flood level. They would have a relatively small footprint, and would be located towards the edge of the LSIO, where there would be minimal impact on flood patterns.
- The proposed security fencing and gate will not obstruct the flow of flood waters as flood water can flow through the fencing.
- The concept design plan has been refined to minimise the native vegetation required to be removed whilst providing for sufficient land for development of a 100 MW solar farm. Areas of significant native vegetation will be retained, including the vegetation surrounding O'Keefe Creek and drains.
- The native vegetation that will be removed is limited to only 22 trees, ensuring that the vast majority of the native vegetation and significant vegetation on-site is retained therefore protecting Victoria's biodiversity.
- Neoen will access the site via a new crossover to Cosgrove-Lemnos Road, as it is an existing sealed main thoroughfare road as opposed to the adjacent local roads. The shoulder of Cosgrove-Lemnos Road adjacent to the site access would be upgraded in accordance with Council requirements and Goulburn Murray Water requirements.
- An entrance would be created on Tank Corner East Road to enable the CFA to access the site in emergencies. Additionally, water tanks would be situated within close proximity to the site entrances capable for firefighting use.

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- The development will be setback from the property boundaries and vegetation screening would be planted to reduce the visual impact to adjacent neighbours.

5.3 Amenity impacts

Amenity impacts relating to the proposal are predominantly relevant in the construction stage. To mitigate potential impacts experienced during the construction stage, Neoen would prepare a construction management plan as a requirement of any planning permit issued.

5.3.1 Noise

Construction

The proposal has the potential to generate noise throughout the construction period. Any noise impacts are considered minor in nature and temporary, as any impacts will be limited to the seven to ten month construction period.

Additional traffic generated on Cosgrove-Lemnos Road is likely to increase road traffic noise. However, noise relating to construction vehicles accessing and leaving the site is considered limited as the entry to the site would be located along Cosgrove-Lemnos Road and setback from adjacent landowners. Similarly, noise impacts from the construction compound would be minor as the compound would be located off the site access setback from adjacent landowners (compound location to be determined in the detailed design stage).

Noise levels also have the potential to increase when construction works are located alongside adjacent landowners, however they would be temporary and decrease as the construction progresses to other areas of the site. The construction period would not involve any activities that are considered likely to generate substantial vibration impacts.

Operational

Once operational, the proposal will generate low levels of noise and is unlikely to affect the amenity of the area. Any infrastructure with the potential to generate noise would be setback from any sensitive areas in the surrounding area.

5.3.2 Air quality

Construction

The proposal has the potential to impact on air quality during construction by generating dust from minor earthworks, vegetation clearance, construction vehicles driving over exposed soils and wind blowing over stockpiles and exposed surfaces. Dust has the potential to impact on the amenity of those occupying nearby properties.

Impacts due to the generation of dust (predominantly) would be short term (i.e. about seven to ten months for construction). All vehicles will be required to enter the site via Cosgrove-Lemnos Road, which is sealed to mitigate the dust generated by traffic.

Operational

The proposal is unlikely to result in any substantial air quality impacts during operation, however maintenance activities on the site have the potential to result in the generation of dust due to movements over unsealed roads throughout the side. These activities would occur infrequently, and any air quality impacts would be minor and short term as once operational, the project would predominantly be operated remotely.

5.4 Traffic considerations

Traffic considerations relating to the proposal are relevant in the construction stage only. Neoen would prepare a construction management plan (if required) that addresses traffic consideration throughout the construction period. Once operational, the proposal will predominantly be operated remotely, therefore traffic associated with the proposal will be minimal.

Traffic generation and impacts on operation of network

Construction of the proposal would generate on average around 160 heavy vehicles movements per week and about 220 light vehicle movements per day during the peak construction period. Movements would occur during the daytime period. The increase in vehicle movements is unlikely to impact upon the operation Cosgrove-Lemnos Road as it has sufficient capacity to accommodate the increase in traffic.

Road safety

Vehicles accessing the site will be via a new access, proposed to be located off Cosgrove-Lemnos Road. Sight distances along this section of Cosgrove-Lemnos Road are considered sufficient that a vehicle would have time to slow down if a slow moving truck turned onto the Road. Traffic and road safety would be addressed within a construction management plan as a requirement of any planning permit issued.

Road condition

The increase in vehicle movements on the road network has the potential to impact on the road condition. Cosgrove-Lemnos Road is sealed and considered suitable to accommodate the traffic resulting from the proposal as the road is presently utilised by trucks transporting fresh produced from neighbouring farms.

Pre- and post-construction condition surveys would be undertaken to determine whether construction of the proposal has caused the sections of these roads in the vicinity of the site to deteriorate. Any damage attributed to the proposal would be rectified.

Access impacts

The proposal is unlikely to impact on adjacent properties as access to the site is setback from adjacent landowners and a new crossover can suitably be suitably from Cosgrove-Lemnos Road as per Council's requirements.

Operation

During operation, the proposal is considered unlikely to impact on the operation of the surrounding road network as vehicle numbers would be low and limited to those associated with maintenance activities which would occur infrequently.

5.5 Native vegetation removal

A Flora and Fauna assessment was undertaken by GHD ecologists to identify the biodiversity located on the site. A Biodiversity Impact and Offset Requirements (BIOR) report is currently being prepared by DELWP to determine the offset requirements.

The assessment identified 132 scattered trees (including 12 dead trees) were recorded in the proposed development area. The solar arrays identified in the concept design (Figure 2) have been positioned to limit the amount of vegetation removal required and to ensure the proposal would not adversely impact the local habitats on-site.

As a result, only 22 trees require removal to facilitate the proposed works. The vegetation is located in Location risk A and it is anticipated that only general offsets would be required. The

native vegetation removal would follow the moderate risk-based pathway, which is subject to the general and moderate application requirements of Clause 52.17-3.

A response to the relevant application requirements of Clause 52.17-3 is in Table 4 below.

Table 4 Clause 52.17-3 application requirements

Requirement	Response
General application requirements	
The location of the native vegetation to be removed.	Refer to Figure 2.
A description of the native vegetation to be removed, including the area of the patch of native vegetation and/or the number of any scattered trees to be removed.	Refer to the Flora and Fauna assessment in Appendix C.
Maps or plans containing information set out in the Permitted clearing of native vegetation – Biodiversity assessment guidelines.	Refer to the Flora and Fauna assessment in Appendix C.
Recent dated photographs of the native vegetation to be removed.	Refer to the Flora and Fauna assessment in Appendix C.
Topographic information, highlighting ridges, crests and hilltops, streams and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion.	Refer to the flood risk report in Appendix D
A copy of any property vegetation plan that applies to the site.	N/A. No vegetation plan applies to the site.
Where the removal, destruction or lopping of vegetation is to create defendable space, a statement explaining why removal, destruction or lopping of native vegetation is required having regard to other available bushfire risk mitigation measures. This does not apply to the creation of defendable space in conjunction with an application under the Bushfire Management Overlay.	N/A. The vegetation removal is not associated with the requirement to create defendable space.
Details of any other native vegetation that was permitted to be removed on the same property with the same ownership in the five year period before the application for a permit to remove native vegetation is lodged.	N/A
The strategic biodiversity score of the native vegetation to be removed	To be confirmed from BIOR report.
The offset requirement if the native vegetation is permitted to be removed.	To be confirmed from BIOR report.
Moderate risk-based pathway application requirements	
A habitat hectare assessment of the native vegetation to be removed.	Refer to the Flora and Fauna assessment in Appendix C.

Requirement	Response
A statement outlining what steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.	The Flora and Fauna assessment has informed the planning and design of the proposal to reduce impacts to ecological values on-site. Refer to the assessment in Appendix C, section 5.2 and 7.3.
An assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.	No rare or threatened species are known or have potential to occur on-site. Refer to the Flora and Fauna assessment in Appendix C.
An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.	To be confirmed from BIOR report, however it is anticipated that general offsets would be required.

5.6 Local floodplain development plan

The Greater Shepparton Floodplain Development Plan –Precinct of Broken Creek (October 2006) applies to the Broken Creek and effluent tributaries floodplains within either the Floodway Overlay or Land Subject to Inundation Overlay.

A response to the requirements of the Broken Creek floodplain development plan is in Table 5 below.

Table 5 Response to the Greater Shepparton Floodplain Development Plan, Precinct of Broken Creek

Relevant Requirement		Response
5.0 Development requirement		
Where relevant, the supporting documents and plans (drawn to scale) must show the following:	• The boundaries and dimensions of the property • A regional locality plan showing the property whereabouts within the region, including roads, streams and other prominent landmarks • The layout plan of the existing and proposed building, works or subdivision boundaries • Floor level of any existing and proposed buildings to Australian Height Datum • Natural ground levels of the proposed dwelling site to Australian Height Datum, taken by a licensed surveyor • Natural ground levels along access routes to flood free	Refer to Figure 2.

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Relevant Requirement		Response
	land (as indicated by the planning scheme flood overlays and zone) to Australian Height Datum, taken by a licensed surveyor	
8.0 Particular Development Requirements for FO or LSIO within rural areas		
8.2 Buildings (other than dwelling, industrial, shop and retail buildings)	• The construction of any new non habitable building must be sited on the highest available ground unless the applicant can demonstrate to the satisfaction of the responsible authority and floodplain management authority that an alternative site is more suitable	Refer to Figure 2. Flood sensitive buildings including the operation and maintenance buildings, substation, control room, battery storage building and inverters will be located within the LSIO. These buildings are proposed to be located on the western side of the site as it would reduce the length of the connection to the Shepparton Terminal Substation that is located west of the site. Reducing the length of this connection minimise cost as well as environmental disturbance from construction of new infrastructure. The structures within this area would be elevated 300 mm above the 100 year ARI flood level and are likely to have minimal impact on flood patterns. Refer to Appendix D.
	• Any non habitable building must be aligned so that their longitudinal axis is parallel to the predicted direction of flood flow	Refer to Figure 2.
8.3 Works	• Any earthworks do not obstruct natural flow paths or drainage lines on land located within the overlay	Earthworks relating to filling the dams would not obstruct the natural flow paths or drainage lines on the land.
	• Any earthen land fill at the site of a new building or a building extension should be no more than 2 metres from the building footprint	No earthen land fill over two metres from the building footprint is proposed.
	• Any works that are designed to protect the immediate surrounds of existing habitable dwellings, where the floor level is below the 100-year ARI flood level, and do not enclose an area of more than 1,000 m2 including the footprint area of works	N/A

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5.7 Cultural heritage

A Cultural Heritage Assessment and Implications for Development report was undertaken by Andrew Long and Associates (ALA), to identify any known or potential areas of Aboriginal cultural heritage significance, which may have implications for the proposal.

The findings of the desktop assessment undertaken show that:

- There are no requirements to undertake further cultural heritage assessments, permits or consents under the *Heritage Act 1995*
- The proposed works are a high impact activity and potentially located within an area of Aboriginal cultural heritage sensitivity
- Source-bordering dunes are potentially located within the activity area, and a study is currently being undertaken by a qualified geomorphologist to determine whether a mandatory CHMP is required
- As O'Keefe Creek is not a designated waterway, all land within 200 m of the Creek is not an area of cultural heritage sensitivity
- No registered Aboriginal cultural heritage places within 500m of the activity area.
- No Aboriginal cultural heritage was identified during recent assessments on adjacent properties

The ALA report concluded that if a qualified geomorphologist assessment determines that there are no source-bordering dunes located within the activity area, the proposed works would not be subject to a mandatory Cultural Heritage Management Plan (CHMP). Please refer to full letter of advice in Appendix F.

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6. Conclusion

This application is for planning approval for a 100 MW photovoltaic solar farm in Lemnos, Victoria.

Based on the information provided in this report and attached documents we consider the proposal to be generally consistent with the relevant planning provisions of the Greater Shepparton Planning Scheme.

The proposal has been sited, designed and would be constructed in a manner which minimises impacts to the environment and floodways. The proposal would not permanently alter the surface topography or intensify floodwaters and reflects the CMA advice and the Flood Risk Report. The removal of native vegetation is minimal and the design of the solar arrays avoids vegetation where possible, and is consistent with the findings in the Flora and Fauna assessment.

The solar farm will not adversely affect adjacent landowners as the proposed works are appropriately setback from the site boundary and adjoining neighbours, any potential amenity impacts during the construction period can be mitigated through a construction management plan if required and vegetation planting.

The proposal will not permanently remove the land from agricultural use as the land can revert to existing conditions at the end of its operational life. Furthermore, the proposal will not impact the adjacent landowners ongoing ability to use their land for agricultural purposes.

Accordingly, we respectfully request that Council support the planning permit for the use and development of land for a renewable energy facility, and removal of native vegetation associated with the solar farm on the subject land at 1190 and 1220 Cosgrove-Lemnos Road, 85 Crooked Lane, 260 Tank Corner East Road and 875 Boundary Road, Lemnos.

Appendices

Appendix A – Certificates of Title

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 05782 FOLIO 208 Security no : 124068524086C
Produced 10/10/2017 12:43 pm

LAND DESCRIPTION

Crown Allotments 136,136A and 136B Parish of Shepparton.
PARENT TITLES :
Volume 02667 Folio 258 to Volume 02667 Folio 259
Volume 03304 Folio 756
Created by instrument 1499842 18/04/1932

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
C G POGUE PTY LTD of 246 MCNAMARA ROAD TOOLAMBA VIC 3614
AK792296U 18/12/2013

ENCUMBRANCES, CAVEATS AND NOTICES

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP274157V FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

DOCUMENT END

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TITLE PLAN		EDITION 1	TP 274157V

Location of Land

Parish: SHEPPARTON
Township:
Section:
Crown Allotment: 136, 136A, 136B
Crown Portion:

Last Plan Reference:
Derived From: VOL 5782 FOL 208
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

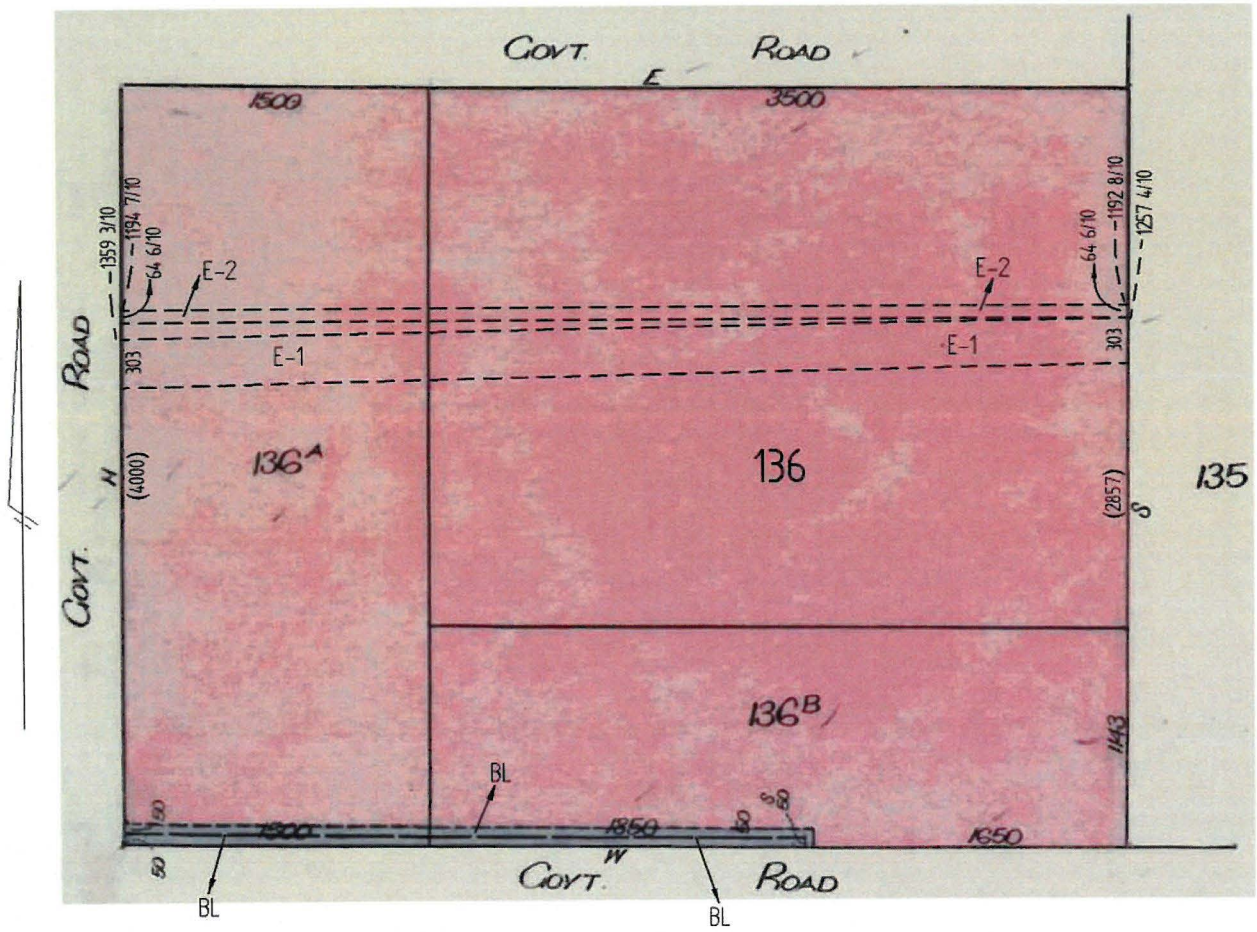
ENCUMBRANCES REFERRED TO.

As to the land colored blue ---

THE EASEMENT to State Rivers and Water Supply Commission created by Instrument No.1487771 in the Register Book---

E-1 = EASEMENT TO SEC CREATED BY C/E A653822
E-2 = EASEMENT TO SEC CREATED BY C/E K285089

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 17/01/2000
VERIFIED: AC



TOTAL AREA = 200A 0R 0P

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

537

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 10562 FOLIO 055 Security no : 124068504137K
Produced 09/10/2017 12:43 pm

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 438919W.
PARENT TITLES :
Volume 09756 Folio 507 to Volume 09756 Folio 508
Created by instrument PS438919W 10/01/2001

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors
BRETT KEVIN LAWS
NICOLE KIM LAWS both of 365 HOSIE ROAD SHEPPARTON EAST VIC 3631
AE526277Q 04/08/2006

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AE526278N 04/08/2006
WESTPAC BANKING CORPORATION

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE PS438919W FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 875 BOUNDARY ROAD LEMNOS VIC 3631

ADMINISTRATIVE NOTICES

NIL

eCT Control 16320Q WESTPAC BANKING CORPORATION
Effective from 23/10/2016

DOCUMENT END

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PLAN OF SUBDIVISION

STAGE No.	LTO USE ONLY	PLAN NUMBER
-	EDITION 1	PS 438919W

LOCATION OF LAND

PARISH: SHEPPARTON

TOWNSHIP: -

SECTION: -

CROWN ALLOTMENT: 134 & 135 (PARTS)

CROWN PORTION: -

LTO BASE RECORD: DCMB
TITLE REFERENCES: C/T VOL 9756 FOL 507 &
C/T VOL 9756 FOL 508

LAST PLAN REFERENCE/S: LOTS 1 & 2, LP 206774H

POSTAL ADDRESS: BOUNDARY ROAD
(At time of subdivision) LEMNOS 3631

AMG Co-ordinates E 364 600
(of approx centre of land in plan) N 5 977 200 ZONE: 55

COUNCIL CERTIFICATION AND ENDORSEMENT

COUNCIL NAME: CITY OF GREATER SHEPPARTON REF: S2000-96

1. This plan is certified under Section 6 of the Subdivision Act 1988.

~~2. This plan is certified under Section 11(7) of the Subdivision Act 1988.~~
~~Date of original certification under Section 6. / /~~

~~3. This is a statement of compliance issued under Section 21 of the Subdivision Act 1988.~~

OPEN SPACE

(i) A requirement for public open space under Section 18 of the Subdivision Act 1988 ~~has~~/has not been made.

~~(ii) The requirement has been satisfied.~~

~~(iii) The requirement is to be satisfied in Stage~~ .....

Council Delegate
~~Council Seal~~
Date 06 / 09 / 2000

~~Re-certified under Section 11(7) of the Subdivision Act 1988.~~
~~Council Delegate~~
~~Council Seal~~
~~Date / /~~

VESTING OF ROADS AND/OR RESERVES

INDENTIFIER	COUNCIL/BODY/PERSON
NIL	NIL

NOTATIONS

STAGING This is not a staged subdivision.
Planning permit No.

DEPTH LIMITATION
DOES NOT APPLY

OTHER PURPOSE OF PLAN REMOVAL OF EASEMENT
EASEMENT E-4 ON LP206774H HAS BEEN REMOVED BY AGREEMENT

SURVEY. THIS PLAN IS NOT BASED ON SURVEY.
THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS No.(s)
IN PROCLAIMED SURVEY AREA No.

EASEMENT INFORMATION

LEGEND A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	WATER SUPPY AND DRAINAGE	15 09	INST 1300962	RURAL WATER COMMISSION
E-2 & E-6	POWERLINE	13	C/E J738491	STATE ELECTRICITY COMMISSION
E-3 & E-7	POWERLINE	60.95	C/E A657851	STATE ELECTRICITY COMMISSION
E-4	WATER SUPPLY	5	THIS PLAN	C/T V. 9756 F. 510
E-5, E-6 & E-7	WATER SUPPLY	5	THIS PLAN	C/T V. 9756 F. 509 & V 9756 F 510
E-8 & E-9	POWERLINE	11	THIS PLAN - SEC 44 ELECTRICITY INDUSTRY ACT 1993	POWERCOR

LTO USE ONLY

STATEMENT OF COMPLIANCE/ EXEMPTION STATEMENT

RECEIVED ☑

DATE: 15 / 12 / 2000

LTO USE ONLY

PLAN REGISTERED

TIME 10·40am

DATE 10/ 01 / 01

Assistant Registrar of Titles

SHEET 1 OF 2 SHEETS

LAND MANAGEMENT SURVEYS (SHEPPARTON) P/L PO Box 416
29 Wyndham St. Shepparton Vic 3630
Ph: (03) 5821 9600 Fax: (03) 5831 2035

LICENSED SURVEYOR (PRINT) MICHAEL ALAN TOLL

SIGNATURE ..... DATE 28 / 08/00

REF 3355 VERSION 03

DATE 06 / 09 / 2000

COUNCIL DELEGATE SIGNATURE

ORIGINAL SHEET SIZE A3

L.M.S.S. PS01

541

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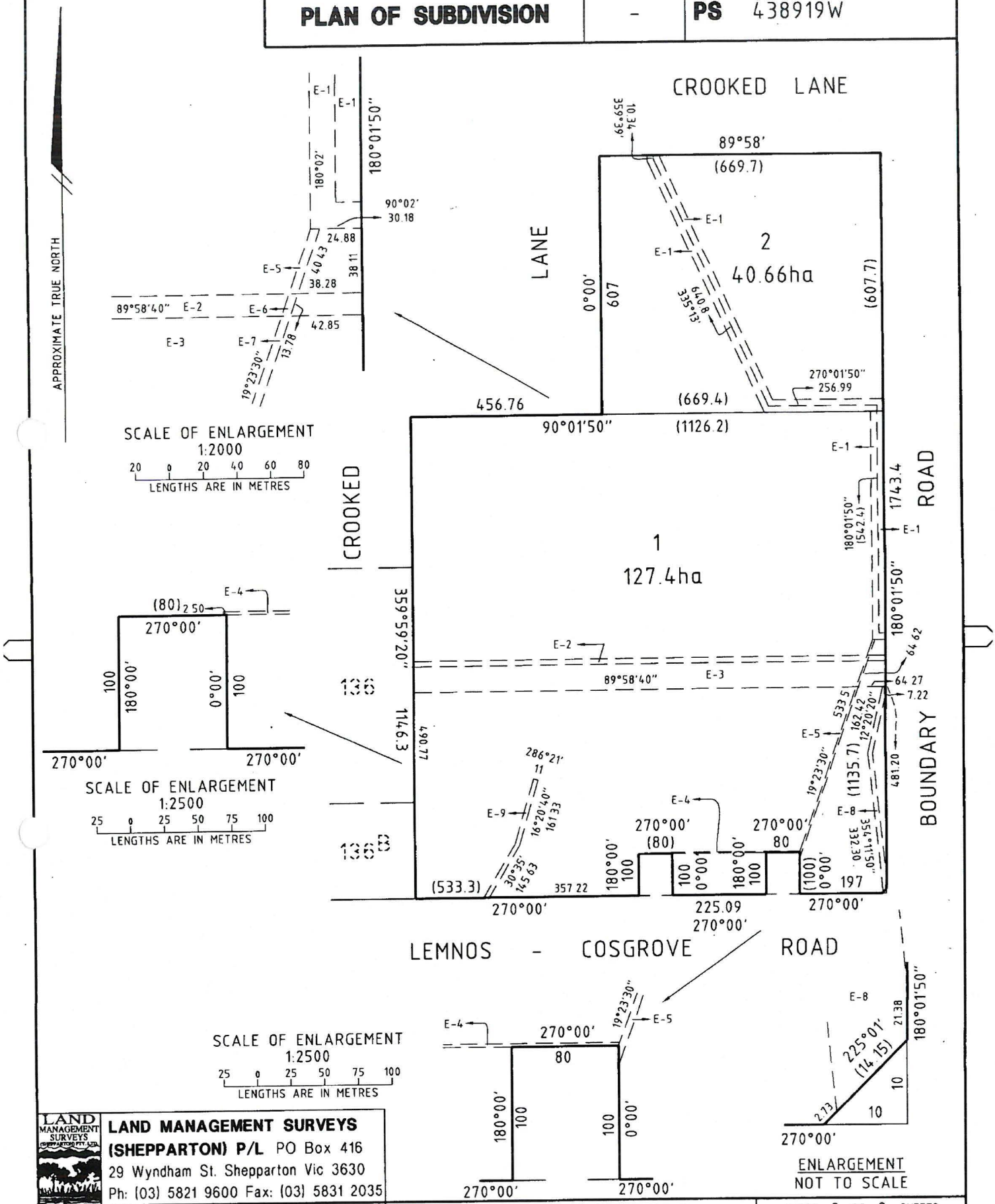
PLAN OF SUBDIVISION

STAGE No. -

PLAN NUMBER **PS** 438919W



LAND MANAGEMENT SURVEYS (SHEPPARTON) P/L PO Box 416
29 Wyndham St. Shepparton Vic 3630
Ph: (03) 5821 9600 Fax: (03) 5831 2035

80 0 80 160 240 320 400
LENGTHS ARE IN METRES

ORIGINAL SCALE 1:8000 SHEET SIZE A3

LICENSED SURVEYOR (PRINT) MICHAEL ALAN TOLL

SIGNATURE ..... DATE 28/08/00

REF 3355 VERSION 03

SHEET 2 OF 2 SHEETS

DATE 06/09/2000

COUNCIL DELEGATE SIGNATURE

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm

L.M.S.S. PS03

543

54.4

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 10827 FOLIO 005 Security no : 124068504125X
Produced 09/10/2017 12:43 pm

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 522294T.
PARENT TITLE Volume 10817 Folio 520
Created by instrument PS522294T 08/09/2004

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors
KEVIN NOEL LAWS
BARBARA HELEN LAWS both of 339 HOSIE ROAD SHEPPARTON EAST VIC 3631
PS522294T 08/09/2004

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

AGREEMENT Section 173 Planning and Environment Act 1987
AD030138D 05/08/2004

DIAGRAM LOCATION

SEE PS522294T FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 1190 COSGROVE-LEMNOS ROAD LEMNOS VIC 3631

DOCUMENT END

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PLAN OF SUBDIVISION

STAGE No.	LR USE ONLY	PLAN NUMBER
-	EDITION 1	PS 522294T

LOCATION OF LAND

PARISH: SHEPPARTON

TOWNSHIP:

SECTION: -

CROWN ALLOTMENT: 134 & 135 (PARTS)

CROWN PORTION: -

TITLE REFERENCES: C/T V. 10817 F. 520

LAST PLAN REFERENCE/S: LOT 1 ON PS 438919W

POSTAL ADDRESS: (At time of subdivision) 1180 COSGROVE LEMNOS ROAD LEMNOS 3631

AMG Co-ordinates (of approx centre of land in plan) E 364 360 N 5 976 520 ZONE. 55

COUNCIL CERTIFICATION AND ENDORSEMENT

COUNCIL NAME: CITY OF GREATER SHEPPARTON REF: S-2003-119

1. This plan is certified under Section 6 of the Subdivision Act 1988.
2. ~~This plan is certified under Section 11(7) of the Subdivision Act 1988. Date of original certification under Section 6. / /~~
3. ~~This is a statement of compliance issued under Section 21 of the Subdivision Act 1988.~~

OPEN SPACE

(i) A requirement for public open space under Section 18 of the Subdivision Act 1988 ~~has~~/has not been made.

(ii) ~~The requirement has been satisfied.~~

(iii) ~~The requirement is to be satisfied in Stage~~ ....

Council Delegate
~~Council Seal~~
Date 5 / 5 / 04

~~Re-certified under Section 11(7) of the Subdivision Act 1988.~~
~~Council Delegate~~
~~Council Seal~~
~~Date / /~~

VESTING OF ROADS AND/OR RESERVES

INDENTIFIER	COUNCIL/BODY/PERSON
NIL	NIL

NOTATIONS

STAGING This is not a staged subdivision.
Planning permit No 2003-224

DEPTH LIMITATION
DOES NOT APPLY
LOT 2 IS NOT THE RESULT OF THIS SURVEY

SURVEY THIS PLAN IS BASED ON SURVEY. (PARTIAL SURVERY)
THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS No.(s) 249
IN PROCLAIMED SURVEY AREA No

EASEMENT INFORMATION

LEGEND A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	WATER SUPPLY AND DRAINAGE	15 09	IN ST 1300962	SR & WSC
E-2 & E-6	TRANSMISSION OF ELECTRICITY	13	C/E J738491	STATE ELECTRICITY COMMISSION
E-3 & E-7	TRANSMISSION OF ELECTRICTY	60 95	C/E A657851	STATE ELECTRICITY COMMISSION
E-4	WATER SUPPLY	5	PS438919W	C/T V 9756 F 510
E-5 , E-6 & E-7	WATER SUPPLY	5	PS438919W	C/T V 9756 F 509 & C/T V 9756 F 510
E-8 & E-9	POWER LINE	11	PS438919W-SEC 44 ELECTRICITY INDUSTRY ACT 1993	POWERCOR AUSTRALIA LIMITED
E-10	WATER SUPPLY AND DRAINAGE	5	THIS PLAN	LOT 1 OF THIS PLAN
E-11	WATER SUPPLY	5	THIS PLAN	LOT 1 OF THIS PLAN

LR USE ONLY
STATEMENT OF COMPLIANCE/ EXEMPTION STATEMENT
RECEIVED ☑
DATE: 26/ 8 / 04

LR USE ONLY
PLAN REGISTERED
TIME 11.08AM
DATE 8 / 9 / 04
Assistant Registrar of Titles

SHEET 1 OF 3 SHEETS

LAND MANAGEMENT SURVEYS (SHEPPARTON) P/L
158 Welsford St (PO Box 416)
Shepparton Vic 3630
Tel (03) 5821 9600 Fax (03) 5831 2035

LICENSED SURVEYOR (PRINT) MICHAEL ALAN TOLL
SIGNATURE ..... DATE 1 / 12 / 03
REF 3910 VERSION 01

DATE 5 / 5 / 04
COUNCIL DELEGATE SIGNATURE
ORIGINAL SHEET SIZE A3

L.M.S.S. PS01

547

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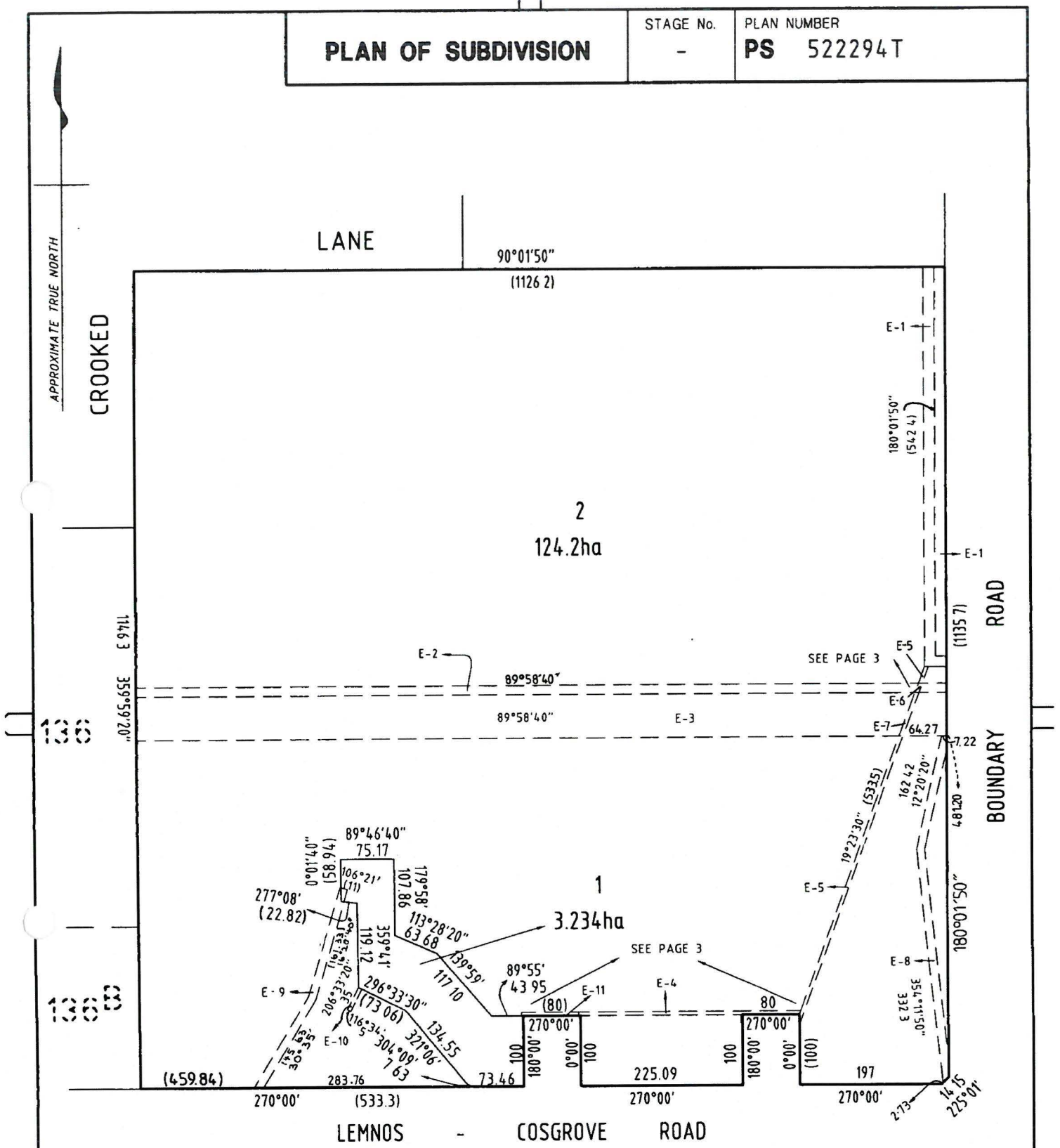
PLAN OF SUBDIVISION

STAGE No.	PLAN NUMBER
-	PS 522294T



LAND MANAGEMENT SURVEYS
(SHEPPARTON) P/L
158 Welsford St (PO Box 416)
Shepparton Vic 3630
Tel (03) 5821 9600 Fax (03) 5831 2035

LENGTHS ARE IN METRES (50 0 50 100 150 200 250)

ORIGINAL | SCALE 1.5000 | SHEET SIZE A3

LICENSED SURVEYOR (PRINT) MICHAEL ALAN TOLL

SIGNATURE ..... DATE 1 / 12 / 03

REF 3910 VERSION 01

SHEET 2 OF 3 SHEETS

DATE 5 / 5 / 04

COUNCIL DELEGATE SIGNATURE

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm

L.M.S.S. PS03

549

550

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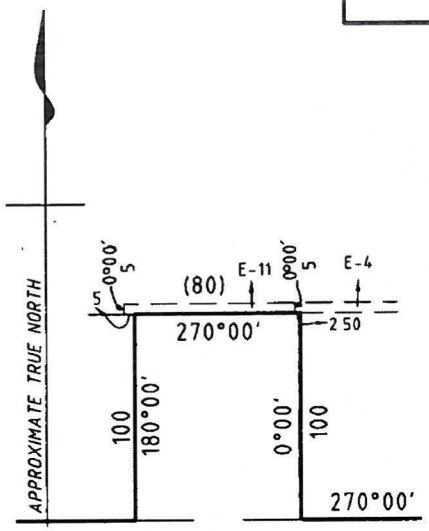
PLAN OF SUBDIVISION

STAGE No -

PLAN NUMBER **PS 522294T**



SCALE OF ENLARGEMENT
1:2500
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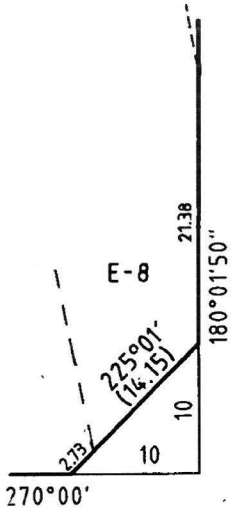
LENGTHS ARE IN METRES



SCALE OF ENLARGEMENT
1:400
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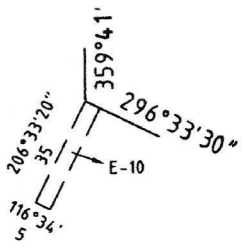
LENGTHS ARE IN METRES



SCALE OF ENLARGEMENT
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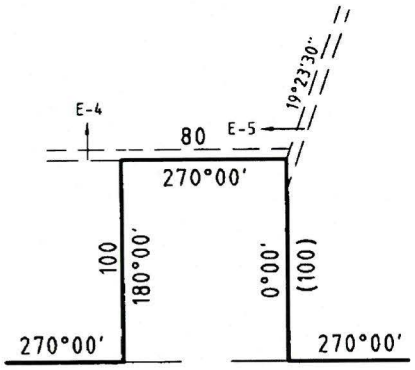
LENGTHS ARE IN METRES



SCALE OF ENLARGEMENT
1:2500
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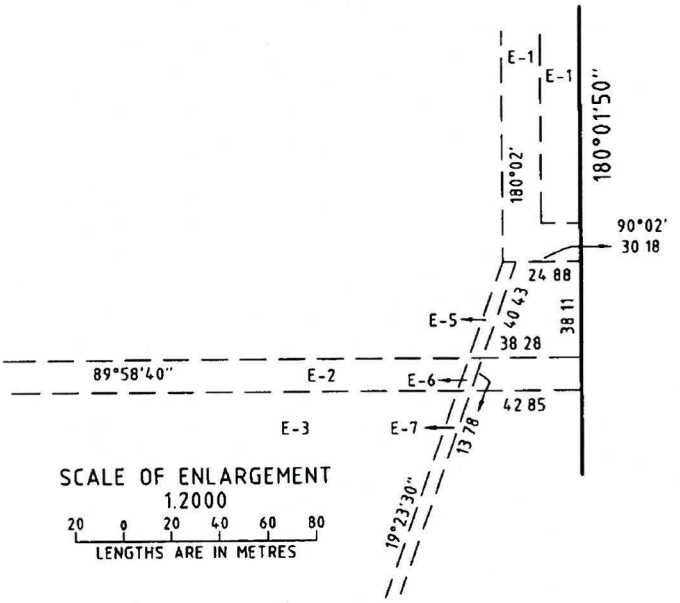
LENGTHS ARE IN METRES



SCALE OF ENLARGEMENT
1:2000
20 0 20 40 60 80
LENGTHS ARE IN METRES

LAND MANAGEMENT SURVEYS (SHEPPARTON) P/L
158 Welsford St (PO Box 416)
Shepparton Vic 3630
Tel (03) 5821 9600 Fax (03) 5831 2035

80 0 80 160 240 320 400
LENGTHS ARE IN METRES

ORIGINAL SCALE 1.8000 SHEET SIZE A3

LICENSED SURVEYOR (PRINT) MICHAEL ALAN TOLL

SIGNATURE ..... DATE / /

REF 3910 VERSION 01

SHEET 3 OF 3 SHEETS

DATE / /

COUNCIL DELEGATE SIGNATURE

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm

L.M.S.S. PS03

551

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APPLICATION BY A RESPONSIBLE AUTHORITY FOR THE MAKING OF A RECORDING OF AN AGREEMENT

Section 181(1)

AD030138D
05/08/2004 $59 173

Planning and Environment Act 1987

OFFICE OF TITLES W.P.S. VICTORIA

Lodged at the Land Titles office by:

Name: Riordan & Partners

Phone: (03) 5823 7600

Address: 124-126 Fryers Street, Shepparton

Ref: RC:JM:44484

Customer Code: 1474U

The Authority having made an Agreement requires a recording to be made in the Register for the land.

Land: Lots 1 and 2 on unregistered Plan of Subdivision PS 522294T being the land presently described in parent Certificate of Title Volume ~~10562~~ 10817 Folio ~~054~~ 520 Now = C/TS 10827-004/5

Authority: Greater Shepparton City Council of Welsford Street, Shepparton, 3630. 07/09/04

Section and Act under which agreement made: Section 173 *Planning and Environment Act 1987.*

A copy of the Agreement is attached to this Application.

Signature for the Authority: .....

Name of Officer: ROBERT LAING

Position of Officer: CHIEF EXECUTIVE OFFICER

Date: 2/6/04

Delivered by LANDATA®. Land Victoria timestamp 09/10/2017 12:46 Page 2 of 5

Agreement

DATED 2nd June 2004

GREATER SHEPPARTON CITY COUNCIL

- and -

KEVIN NOEL LAWS AND BARBARA HELEN LAWS

SECTION 173 AGREEMENT



MESSRS RIORDAN & PARTNERS
BARRISTERS & SOLICITORS
124-126 FRYERS STREET
SHEPPARTON VICTORIA 3630

DX: 63012, SHEPPARTON
Telephone: (03) 5823 7600

Our Ref: RC:JM:44484



555

Delivered by LANDATA®. Land Victoria timestamp 09/10/2017 12:46 Page 3 of 5

Agreement

THIS AGREEMENT is made the 2nd day of June 2004

BETWEEN:

THE GREATER SHEPPARTON CITY COUNCIL of Welsford Street, Shepparton in the State of Victoria **("the Council")**

- and -

DAD030138D-3-7

KEVIN NOEL LAWS and BARBARA HELEN LAWS both of 1180 Cosgrove-Lemnos Road, Lemnos in the State of Victoria **("the Owners")**

BACKGROUND:

A. The Council is the responsible authority pursuant to the Planning & Environment Act 1987 (**"the Act"**) administering the Greater Shepparton Planning Scheme (**"the Scheme"**).

B. The Owners are the registered proprietors of land described in Certificate of Title Volume 10562 Folio 054 known as 1180 Cosgrove-Lemnos Road, Lemnos in the State of Victoria (**"the Land"**).

C. The Owners have applied to the Council for a planning permit to use and develop the land for a two lot subdivision (house lot excision) in accordance with a proposed plan of subdivision (**"the Plan"**) submitted with the application.

D. The Council has granted the application on certain terms and conditions contained in Planning Permit Number 2003-224 (**"the Permit"**) including the requirement for the Owners to enter into an agreement with the Council pursuant to section 173 of the Act in respect of specified conditions in the Permit and for that agreement to be registered on the title to the Land.

IT IS AGREED:

Commencement of agreement

1. This agreement shall come into effect immediately it is executed by the parties.

AD030138D
05/08/2004 $59 173

Delivered by LANDATA®. Land Victoria timestamp 09/10/2017 12:46 Page 4 of 5

Agreement

DAD030138D-4-5

Terms of the Agreement

2. The Owners agree and acknowledge that:

   (a) following the subdivision allowed by the Permit, neither lot may be further subdivided, and

   (b) the owner of Lot 1 on the Plan may be subjected to nuisance from agricultural activities on adjoining land including animal husbandry, spray drift, the use of agricultural machinery, pumps and trucks and their associated hours of operation.

Covenants and registration

3. The Owners acknowledge that this agreement is entered into pursuant to Section 173 of the Act and that the obligations and responsibilities which they have assumed under this agreement on behalf of the occupier of the Land for the time being will take effect as separate and severable covenants which will be annexed to and run with the Land pursuant to Section 182 of the Act or otherwise at law or in equity to bind the Owners and each successor, assignee or transferee of the Owners and the registered proprietor or proprietors for the time being of all and every part of the Land.

4. The Owners acknowledge that following execution of this agreement the Council will forthwith make application pursuant to Section 181 of the Act to register this agreement under the *Transfer of Land Act* 1958, against the title or titles to the Land, with the intention that the covenants contained in this agreement will run with the Land and that the Council will have the power to enforce those covenants against any person subsequently deriving title to the Land from the Owners.

5. The Owners acknowledge and covenant that:

   (a) they are the registered proprietors and beneficial owners of the Land;

   (b) there are no mortgages, liens, charges or other encumbrances or leases or any rights inherent in any person other than the Owners affecting the Land other than those disclosed by the usual searches or notified to the Council, and

   (c) they will not sell, transfer, dispose, assign, mortgage or part with possession of the Land or any part thereof, without first disclosing to any intended purchaser, transferee, assignee or mortgagee the existence and nature of this agreement.

Legal Costs and Expenses

6. The Owners agree to forthwith pay on demand all legal costs and disbursements reasonably incurred by the Council in relation to the preparation, execution and registration of this agreement and any subsequent amendment, variation or cancellation of this agreement.

AD030138D
05/08/2004 $59 173

DATED the ~~15~~ 7th day of ~~May~~ June 2004.

559

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Agreement

The Common Seal of the **Greater Shepparton City Council** was affixed in the presence of the Chief Executive Officer being a delegated officer pursuant to Local Law of the Council.)

.....

Signed sealed and delivered by **KEVIN NOEL LAWS** in the presence of:

.....

Kevin N Laws

Signed sealed and delivered by **BARBARA HELEN LAWS** in the presence of:

.....

Barbara H Laws

DAD030138D-5-3

AD030138D
05/08/2004 $59 173

561

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 10164 FOLIO 629 Security no : 124068504130S
Produced 09/10/2017 12:43 pm

LAND DESCRIPTION

Lot 3 on Plan of Subdivision 322687N.
PARENT TITLES :
Volume 06087 Folio 231 Volume 09225 Folio 485 Volume 10089 Folio 142
Volume 10089 Folio 146
Created by instrument PS322687N 14/04/1994

REGISTERED PROPRIETOR

E te Fee Simple
Sole Proprietor
ROCCO FASANO of TANK CORNER ROAD CONGUPNA 3633
T495296X 06/01/1995

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE PS322687N FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 260 TANK CORNER EAST ROAD LEMNOS VIC 3631

DOCUMENT END

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PLAN OF SUBDIVISION

STAGE No. | LTO USE ONLY **EDITION 1** | PLAN NUMBER **PS 322687N**

LOCATION OF LAND

PARISH: SHEPPARTON

TOWNSHIP: —

SECTION: —

CROWN ALLOTMENT: 128, 129 (PART), 130 (PART), 137 & 137A

CROWN PORTION: —

LTO BASE RECORD: LITHO 3 (3486)
TITLE REFERENCES: VOL 10089 FOL 142, VOL 10089 FOL 146 & VOL 9225 FOL 485
V. 6087 F. 231

LAST PLAN REFERENCE/S: LP 216496D

POSTAL ADDRESS: (At time of subdivision) TANK CORNER EAST ROAD CONGUPNA 3633

MGA Co-ordinates (of approx centre of land in plan) E 363 400 N 5 978 300 ZONE: 55

COUNCIL CERTIFICATION AND ENDORSEMENT

COUNCIL NAME: SHIRE OF SHEPPARTON REF: P153/92

1. ~~This plan is certified under Section 6 of the Subdivision Act 1988.~~
2. This plan is certified under Section 11(7) of the Subdivision Act 1988.
   Date of original certification under Section 6. 5 / 8 / 93
3. ~~This is a statement of compliance issued under Section 21 of the Subdivision Act 1988.~~

OPEN SPACE

(i) A requirement for public open space under Section 18 of the Subdivision Act 1988 ~~has~~/has not been made.

(ii) ~~The requirement has been satisfied.~~

(iii) ~~The requirement is to be satisfied in Stage ....~~

~~Council Delegate~~
~~Council Seal~~
~~Date / /~~

Re-certified under Section 11(7) of the Subdivision Act 1988.
Council Delegate
~~Council Seal~~
Date 5 / 9 / 93

VESTING OF ROADS AND/OR RESERVES

IDENTIFIER	COUNCIL/BODY/PERSON
NIL	NIL

NOTATIONS

STAGING This ~~is~~/is not a staged subdivision.
Planning permit No. P153/92

DEPTH LIMITATION DOES NOT APPLY

SURVEY. THIS PLAN IS/~~IS NOT~~ BASED ON SURVEY

THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS No.(s)
IN PROCLAIMED SURVEY AREA No.

EASEMENT INFORMATION

LEGEND A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	DRAINAGE	5	THIS PLAN	LOT 3 PS322687N
E-2	WATER SUPPLY	2	THIS PLAN	LOTS ON THIS PLAN

LTO USE ONLY
STATEMENT OF COMPLIANCE/ EXEMPTION STATEMENT
RECEIVED ☑
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PLAN OF SUBDIVISION

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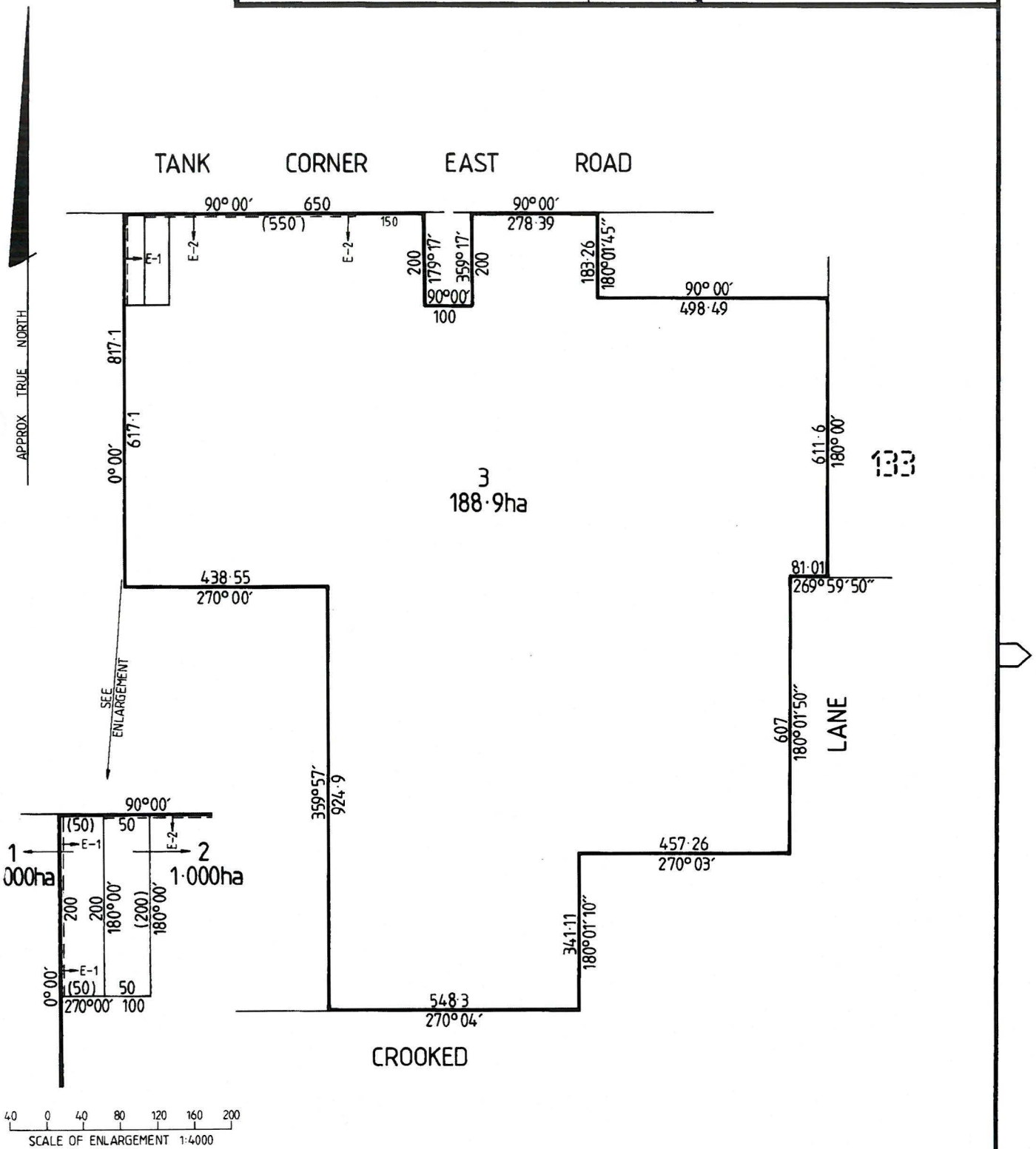

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 06668 FOLIO 591 Security no : 124068504140G
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LAND DESCRIPTION

Lots 1,2 and 3 on Title Plan 216608R (formerly known as part of Crown Allotment 128, part of Crown Allotment 129, part of Crown Allotment 130 Parish of Shepparton).
PARENT TITLES :
Volume 02014 Folio 669 Volume 02099 Folio 696 Volume 02639 Folio 765
Created by instrument 1902814 14/12/1943

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors
WILLIAM JOHN REEVES
JOY LORRAINE REEVES both of 60 ORR STREET SHEPPARTON
H363453 05/01/1979

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE N180092W 08/12/1987
BENDIGO AND ADELAIDE BANK LTD
TRANSFER OF MORTGAGE AL236585J 18/07/2014

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP216608R FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

ADMINISTRATIVE NOTICES

NIL

eCT Control 03500L BENDIGO AND ADELAIDE BANK LTD - SAFE CUSTODY
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TITLE PLAN		EDITION 1	TP 216608R

Location of Land

Parish: SHEPPARTON
Township:
Section:
Crown Allotment: 128 (PT), 129 (PT), 130 (PT)
Crown Portion:

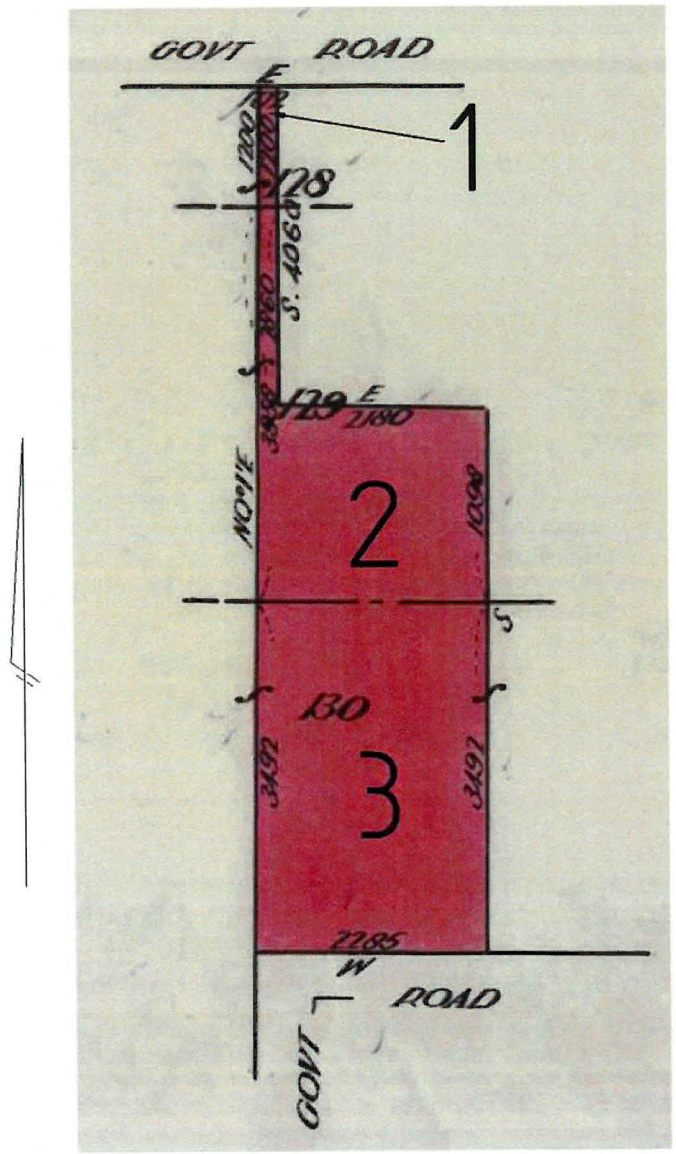
Last Plan Reference:
Derived From: VOL 6668 FOL 591
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 16-11-1999
VERIFIED: AD



TOTAL AREA = 109A 0R 1P

TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
PARCEL 1 = CA 128 (PT)
PARCEL 2 = CA 129 (PT)
PARCEL 3 = CA 130 (PT)

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

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Appendix B – Application Plans



LEGEND

- LANDSCAPING
- TREES
- TREES TO BE REMOVED
- INVERTER
- FIRE BUFFER
- LV POWER EASEMENT
- TRANSMISSION LINE
- WATER EASEMENT
- INTERNAL ACCESS ROAD

NUMBER OF INVERTER STATIONS	28 x 4MVA = 112MVA
NUMBER OF INVERTER	56
NUMBER OF STRINGS PER INVERTER	234
TOTAL NUMBER OF STRINGS	13,104
NUMBER OF SPRINGS PER TRACKER	3
NUMBER OF TRACKERS PER INVERTER	78
TOTAL NUMBER OF TRACKERS	4,368
TOTAL NUMBER OF MODULES PER STRING	29
TOTAL NUMBER OF MODULES PER INVERTER	6,786
TOTAL NUMBER OF MODULES	380,016
RATING OF EACH MODULE	335W
DC OUTPUT PER INVERTER	2,273.3kW
AC REAL POWER PER INVERTER	1,800kW
DC/AC RATIO	1.263
TOTAL REAL POWER OUTPUT	100.8MW
PITCH	7m

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DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE
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A1

REV	DESCRIPTION	BY DESIGN	CHKD DESIGN	BY DRAWN	CHKD DRAWN	APP'D	CLIENT APP'D	DATE

wsp
Suite 2, Level 1, 31 Dundas Street, Christchurch 8011, New Zealand
PO BOX 21278, Edgeware, Christchurch 8143, New Zealand
Telephone +64 3 365 4081
Facsimile +64 3 366 6442
Email newzealand@pbworld.com

DESIGNED	T. YANG	10/10/17
DRAWN	J. RETALLICK	10/10/17
DWG CHECK		
DSN CHECK		
APPROVED		
FILENAME	SOLAR LAYOUT.DWG	

CLIENT: NEOEN AUSTRIALIA PTY LTD
SCALES: 1:500
PROJECT: NEOEN SHEPPARTON SOLAR FARM
DRAWING NO.:
REV: A
DRAWING TITLE: SHEPPARTON SOLAR FARM LAYOUT



LEGEND

- LANDSCAPING
- TREES
- TREES TO BE REMOVED
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wsp
Suite 2, Level 1, 31 Dundas Street, Christchurch 8011, New Zealand
PO BOX 21278, Edgeware, Christchurch 8143, New Zealand
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Email: newzealand@wsp-pb.com

DESIGNED	T YANG	10/10/17
DRAWN	J RETALLICK	10/10/17
DWG CHECK		
DSN CHECK		
APPROVED		
FILENAME	SOLAR LAYOUT.DWG	

CLIENT: NEOEN AUSTRIALIA PTY LTD
SCALES: 1:500
PROJECT: NEOEN SHEPPARTON SOLAR FARM
DRAWING NO.:
REV: A
DRAWING TITLE: SHEPPARTON SOLAR FARM LAYOUT

A1

1:1 1:2 1:5

Appendix C – Flora and Fauna Assessment

Appendix D – Flood Risk Report

NEOEN Australia Pty Ltd

Shepparton Solar Farm P&E approvals

Site Flood Assessment Report

13 October 2017

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The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

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1. Introduction

This report documents an assessment of existing flooding conditions and risks at a proposed solar farm development site at Lemnos, north east of Shepparton. This assessment is to inform and enable preliminary site planning. Subject to subsequent design outcomes further assessment may be required to support planning and or design development.

The assessment site is shown on Figure 1.

O'Keefe Creek is the principal waterway aligned through the site. Flood overlays occupy much of the assessment site. Flood based planning controls will therefore apply within the flood overlay areas.

The assessment has included consultation with the Goulburn Broken Catchment Management Authority (CMA), a site visit and a review of the available flood data for the site and surrounding area.

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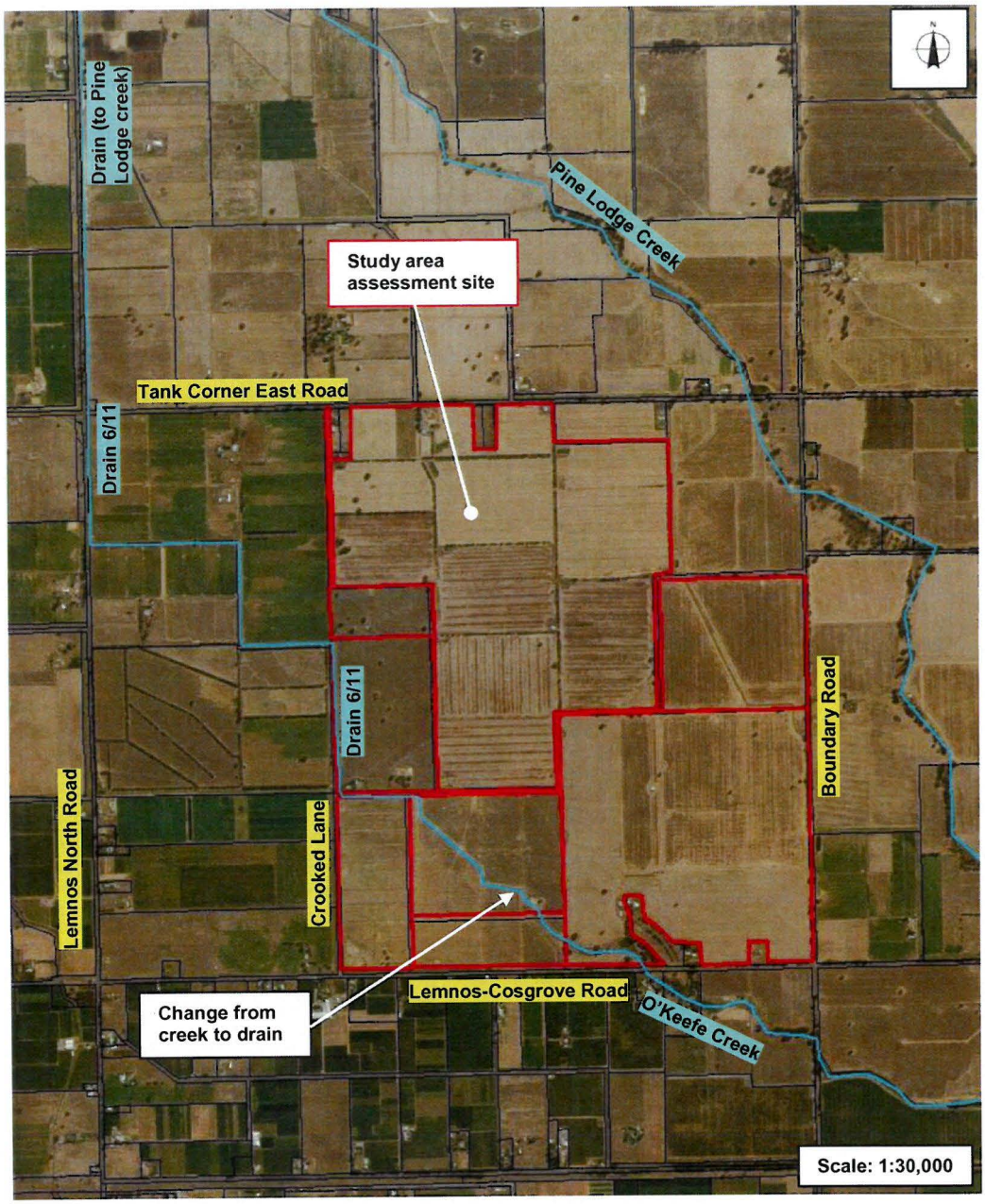

Figure 1 Assessment Site Locality Plan

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2. Flooding Conditions Description

2.1 Site Description

The site is relatively flat consistent with the typical terrain conditions surrounding Shepparton.

The site naturally falls in a north westerly direction. The average natural site gradient is approximately 1 in 1,100. The highest part of the site is the south west corner where ground elevations are up to 117 m AHD. The lowest part of the site is the north west corner where ground levels are in the vicinity of 114 m AHD.

O'Keefe Creek flows north westwards through the site as shown on Figure 1. O'Keefe Creek is a floodplain depression. In large Broken River flood events, breakaway flows from the Broken River discharge into O'Keefe Creek, Pine Lodge Creek, Daintons Creek and Congupna Creek. All of these creeks discharge north westwards, ultimately reaching the Nine Mile Creek and then the Broken Creek west of Numurkah.

At the upstream Lemnos Cosgrove Road end of the site, O'Keefe Creek is a small incised channel (refer to Photograph 1 in Figure 2). The culvert structure at the Lemnos Cosgrove Road consists of three 1.2 m x 045 m high box culvert cells. The terrain either side of the creek channel is flat. The overbank areas on either side of the creek channel downstream of the Lemnos-Cosgrove Road have been revegetated.

Within the assessment site, the O'Keefe Creek waterway reverts to a constructed drainage channel. This drainage channel is aligned through the site as shown on Figure 1 and continues northwards down the east side of the Lemnos North Road to Pine Lodge Creek (refer to Photograph 2 in Figure 2). A GIS drain layer supplied by G-MW indicates that the change from waterway to G-MW drain occurs 700 metres downstream of the Lemnos –Cosgrove Road at the location shown on Figure 1.

To the east and north of the assessment site is the Pine Lodge Creek waterway. Pine Lodge Creek crosses Boundary Road and Tank Corner East Road north east of the assessment site (refer to Figure 1). Flooding from Pine Lodge Creek does not affect the assessment site.

2.2 Flood Data

Flood mapping for the assessment site and surrounds is shown on the Goulburn Broken CMA's Drawing Number 540335 - Sheet 32. Figure 3 is an extract from this 2008 CMA plan. The plan shows the delineated extent of the defined Rural Floodway Overlay (RFO), the delineated extent of the Land Subject to Inundation Overlay (LSIO) and the 100 year ARI flood height contours. This plan is the basis for the flood overlay extents within the Greater Shepparton City Council planning scheme.

A RFO is positioned over the O'Keefe Creek flow path through the site. The RFO represents an area where the depth of 100 year ARI flooding is expected to exceed 0.5 metre.

A large area either side of the RFO is covered by an LSIO. The LSIO represents an area where the depth of 100 year ARI flooding is expected to vary from 0.0 to 0.5 metre.

The O'Keefe Creek 100 year ARI flood level is approximately 116.2 m AHD at the Cosgrove-Lemnos Road entry point to the site. The 100 year ARI flood level where the RFO exits the assessment site north of Crooked Lane is approximately 114.4 m AHD.

Detailed flood modelling has not been undertaken for the subject site and surrounds. The Goulburn Broken CMA flood map data is based on historical flood level data, principally from the October 1993 flood.

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Figure 2 Site Photographs

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The CMA provided a copy of imperial ground survey data for the assessment site and surrounds. This data represents ground surface elevation conditions prior to irrigation and related land forming activities.

A photomosaic of the October 1993 flood is shown on Figure 5. The flood extent in the mosaic is not reflective of the extent of flooding at the peak.

2.3 Description of Flooding Conditions

O'Keefe Creek is the only significant waterway located within the assessment site. O'Keefe Creek reverts to a G-MW drain (Drain 6/11) within the assessment at the location shown on Figure 1.

In large Broken River flood events such as occurred in 1993, O'Keefe Creek flows are expected to inundate a broad area consistent with the flood overlay extents shown on Figures 3 and 4.

A review of the 100 year ARI flood contours for the site (refer to Figure 3) and the imperial ground survey data for the site indicates that flood depths either side of the O'Keefe Creek main channel course within the RFO area are unlikely to rise by much more than 0.5 metre above ground levels.

There are numerous farm irrigation supply channels and farm drainage channels present on the site. These channels and associated banks may to some degree impede the discharge of floodwater across the assessment property. It is unlikely that these influences will be leading to substantially higher flood levels. A detailed assessment would be required to confirm this which in turn would require a detailed survey of current ground levels across the site, particularly any raised banks. In any instance, the removal of any substantially raised farm infrastructure banks impeding the discharge of flood flows could be undertaken as part of a solar development at the site.

Flood velocities are expected to be relatively low given the flat terrain conditions. Flood debris loads carried by floodwater is therefore expected to be relatively light weight.

The frequency of flooding is unknown without undertaking further investigations given the absence of a flood study for this area.

The duration of flooding for large floods is likely to typically amount to inundation for a few days to as long as one week. Flooding of the assessment site during the October 1993 flood, the largest Broken River flood on record, continued for approaching one week.

A significant amount of flood warning time is expected given the travel time for floodwater from the upper Broken River catchment areas (i.e. greater than 24 hours).

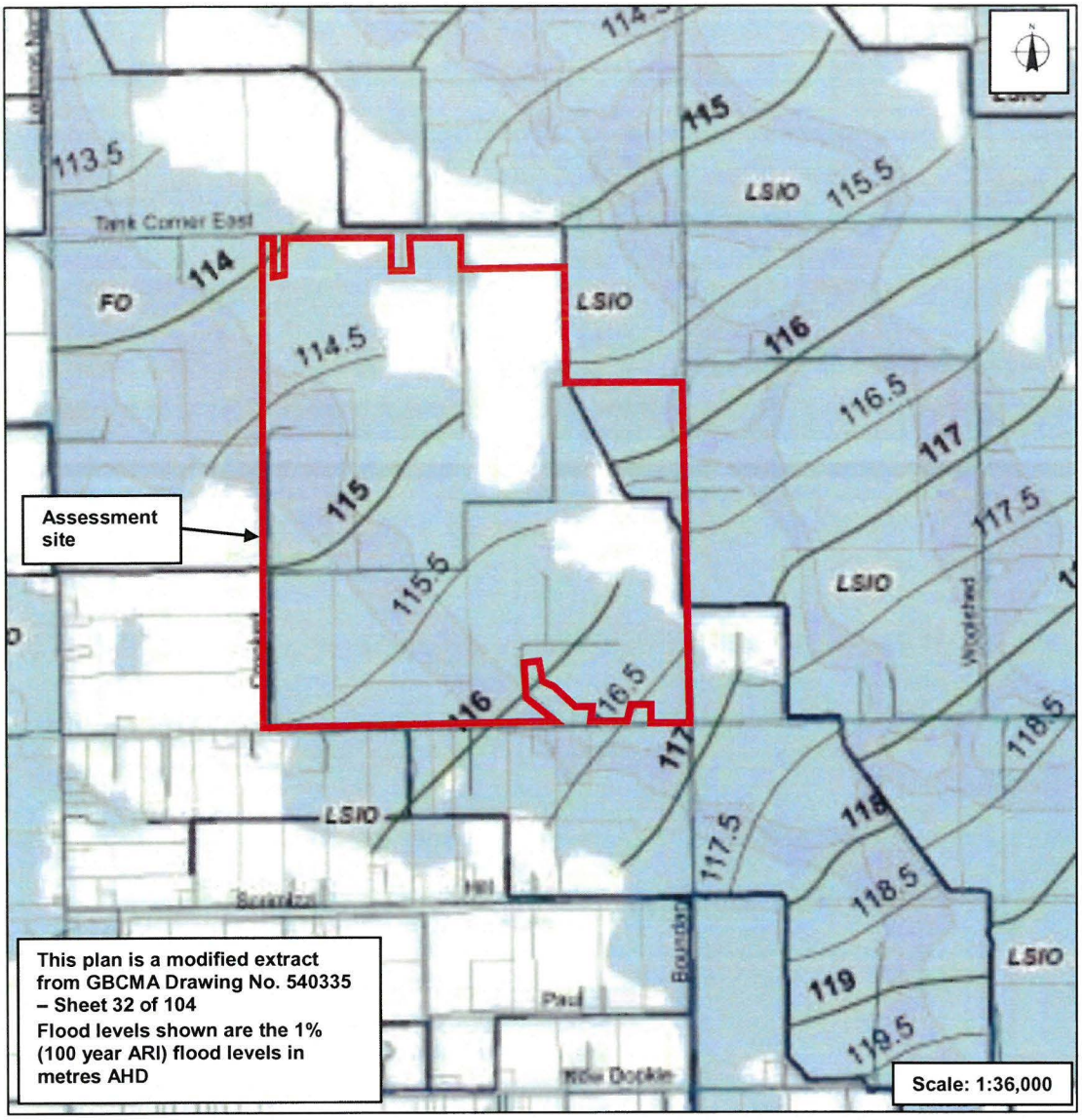

Figure 3 Goulburn Broken CMA Flood Mapping (2008)

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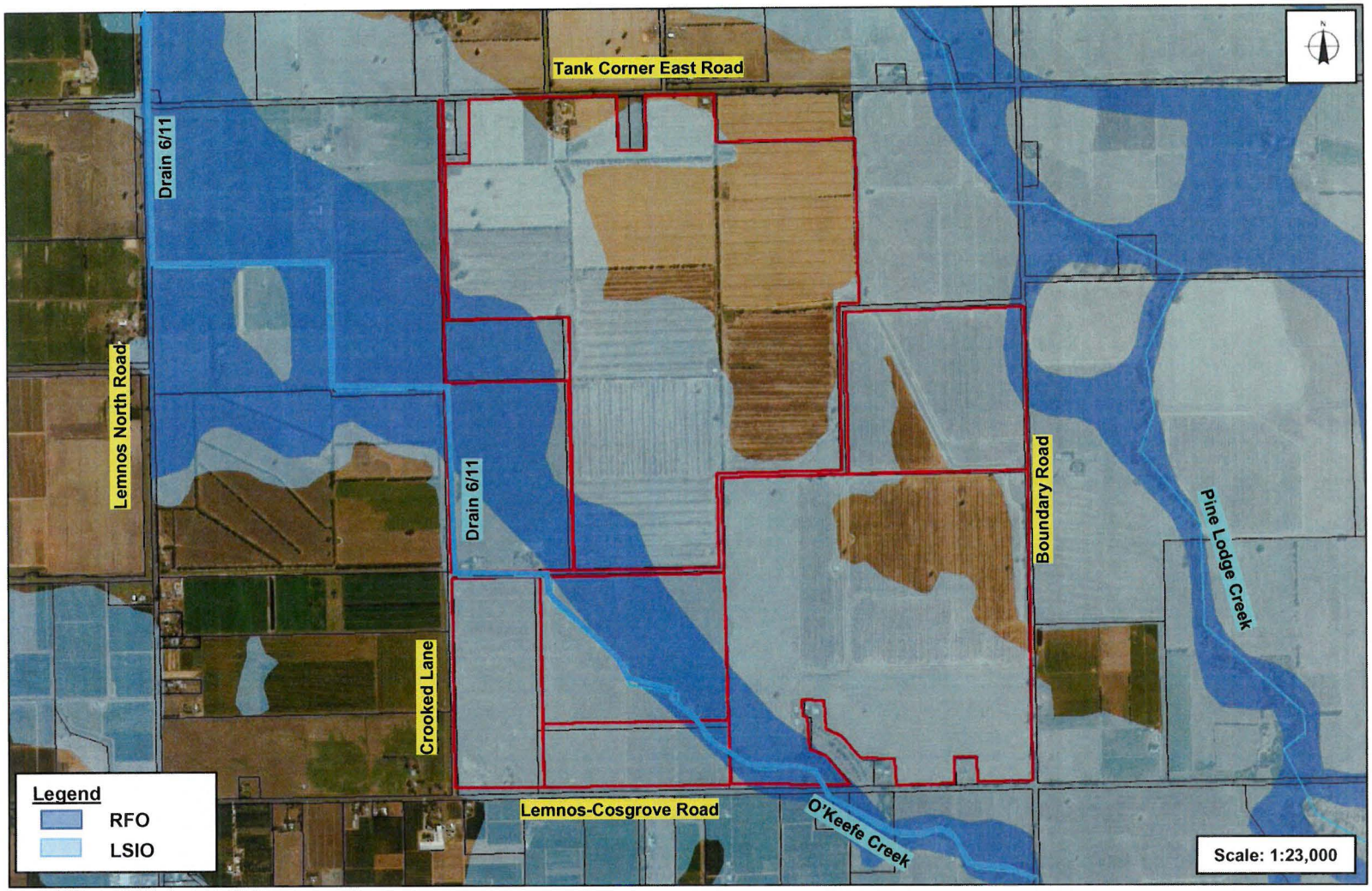

Figure 4 Flood Overlays

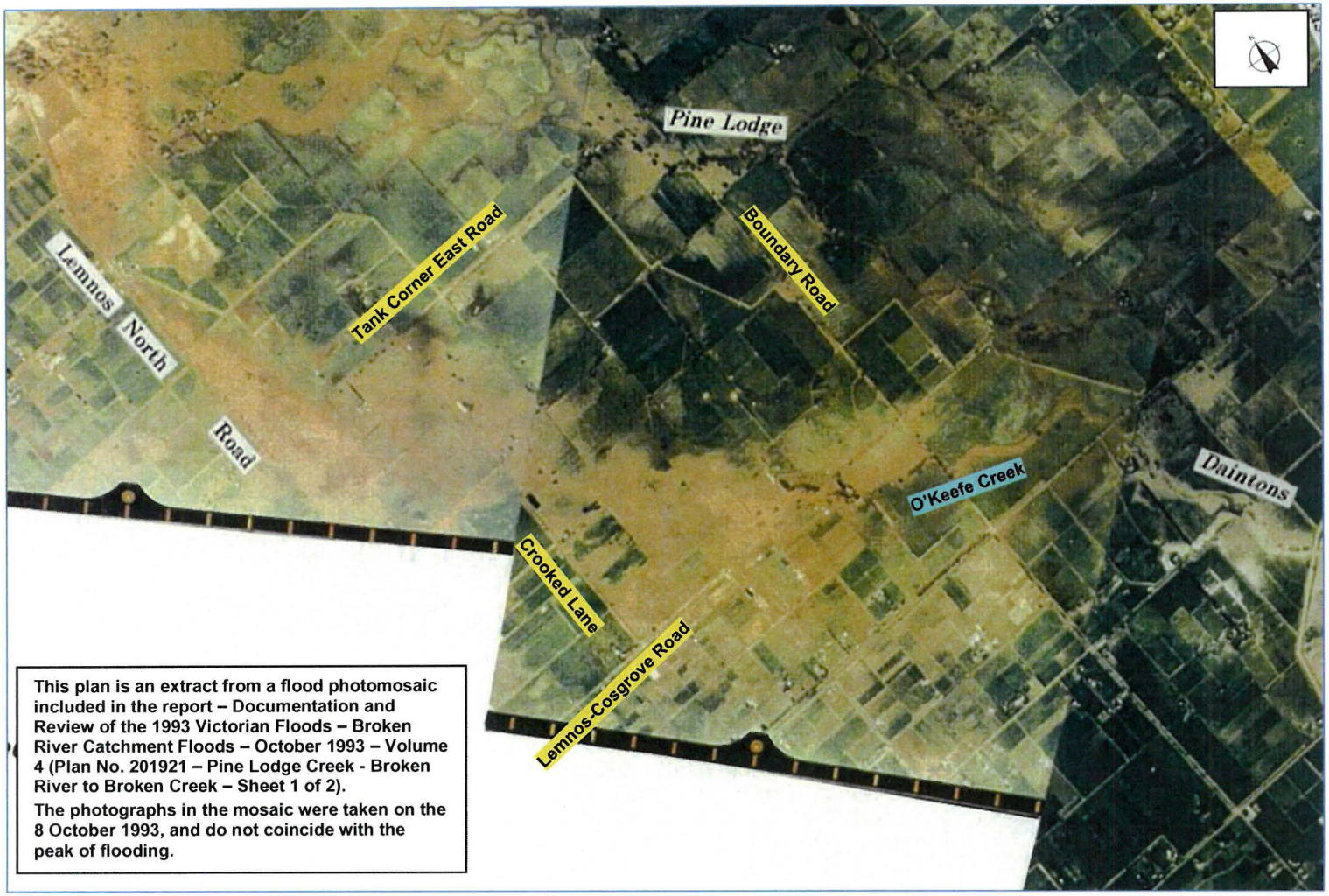

Figure 5 October 1993 Aerial Flood Photomosaic

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3. Development Impacts and Risks

3.1 CMA Advice

The Goulburn Broken CMA provided floodplain management advice to Neoen Australia in a letter dated 18 November 2016. The CMA advised that it would not object to the Solar Farm development subject to the following conditions:

- Operation and maintenance buildings are to be located on highest available land.
- Inverter buildings can be located in LSIO provided its floor levels are set at least 300 mm above the applicable 100-year ARI flood level (as per Figure 3). Such buildings must not be located in FO areas.
- No building, structures or works are to be carried out within 30 metres of a waterway being O'Keefe Creek that traverses the south western corner of the Cosgrove-Lemnos Road property.

The Goulburn Broken CMA has recently advised that the 30 metres development exclusion zone either side of O'Keefe Creek is likely to also apply to G-MW Drain 6/11 based on the Guidelines for the Protection of Water Quality (North East Planning Referrals Committee, 2001). These Guidelines recommend a minimum setback distances for 'buildings' of 30 metres for both G-MW Drains / Community Surface Drains and Irrigation Supply Channels.

3.2 Flood Based Development Constraints

The above listed CMA flood based development constraints can be expected to be imposed as approval conditions.

It is further expected based on verbal advice provided by the CMA that the placement of solar panels within RFO areas is likely to be permitted providing that the panels are positioned on poles which are space several metres apart, and the panels are elevated above the 100 year ARI flood level.

There would not appear to be any prominent high ground on the site based on the imperial survey data supplied by the CMA. More or less all of the site falls gently in a north westerly direction. The highest parts of the site should be those outside the flood overlay extents (refer to Figure 4). The CMA's preference is likely to be for any operation and maintenance buildings to be positioned outside the flood overlay areas. The CMA may however consider accepting buildings positioned within LSIO areas if there is a particular benefit to the development derived from this, providing that building floor levels are elevated 300 mm above the 100-year ARI flood level.

The 30 metres works exclusion zone from the O'Keefe Creek waterway will be measured from the top of bank on either side of the waterway. This will effectively create a works exclusion zone corridor centred along the O'Keefe Creek waterway of approximately 70 metres.

Advice from the CMA indicates that the 30 metres waterway works exclusion zone may also apply to G-MW Drain 6/11, although G-MW are understood to have permitted solar panel installation based on an exclusion setback distance of 5 metres at other sites within the Shepparton Irrigation District. The 30 metres setback from G-MW drains may therefore only apply to 'buildings' with solar panels treated differently.

3.3 Risk of Flood Damage to Development

Given the expected slow moving nature of floodwaters through the site, there is a low risk of floodwater induced damage to the solar panels, assuming that they are mounted on suitable pole supporting structures and the panels are elevated clear of the applicable 100 year ARI flood level. Where it is necessary to position inverters within LSIO areas, the inverters will be positioned on pads elevated 0.3 m above the 100 year ARI flood levels and as such should be subject to very low flood risk.

3.4 Other Risks

Given the nature of the development and expected flooding conditions, there appears little or no risk posed to life, health and safety associated with the development. There are no apparent evacuation implications or other risks to those responsible for flood response operations.

By excluding any large flow obstructions such as buildings from the RFO areas (areas subject to more frequent and more severe flooding), there is minimal risk of flooding conditions being adversely affected by the development.

Once development concepts are further refined the effect of development proposed within the floodplain will need to be assessed to confirm that there is no significant offsite impact.

4. Development Proposal Layout

4.1 Development Layout

The preliminary development layout is shown on Figure 6.

The layout has the site buildings (Operation and Maintenance, Control Room and Substation) positioned 300 metres north of the Lemnos-Cosgrove Road, adjoining the east side of Crooked Lane.

4.2 Discussion

The buildings are located in an LSIO area. The outer edge of the LSIO is located on the western side of Crooked Lane. This coincides with the location of G-MW Channel No. 14 which will be preventing floodwaters extending any further westwards.

Ground and flood level details at the site of the proposed buildings are as follows:

- Ground surface level – imperial ground survey data supplied by the CMA indicates a ground surface level of approximately 114.7 m AHD in the vicinity of the buildings.
- 100 year ARI flood level – based on the CMA 100 year ARI flood height contours as per Figure 3, the 100 year ARI flood level in the vicinity of the buildings is 115.3 m AHD.
- The depth of 100 year ARI flooding at the site of the buildings is therefore 0.6 metre.

Neoen Australia has advised GHD that the buildings have been positioned in the north western portion of the site for the following reasons:

- This part of the site is the most accessible by road.
- It minimise the length of electricity cables required to connect the site substation to the Shepparton Terminal Station.
- It positons the buildings wholly outside the RFO area.

The buildings will be positioned on pads with floor levels elevated 300 mm above the 100 year ARI flood level. The flood damage risk to the buildings will therefore be minimal.

The floodplain in this area is very broad. The buildings are located on the outer edge of the LSIO area. Floodwater conveyance through the building site area is expected to be low given the adjoining presence of Channel No. 14. Any effects on flooding conditions caused by the building pads are therefore expected to be minor and confined to within the development site.

Development within the RFO area is limited to solar panel fields. Inverters are located wholly outside the RFO area.

As indicated in the preceding Section 3, minimum building setbacks will apply to O'Keefe Creek (30 metres), G-M Drain 6/11 and G-MW supply channels. This may necessitate some minor changes to the extent of the solar panel fields shown on Figure 6.



Figure 6 Development Layout Plan

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5. Summary and Conclusions

The majority of the assessment site is subject to flooding from O'Keefe Creek (refer to the flood overlay areas shown on Figure 4). O'Keefe Creek is a relatively small incised waterway. In large Broken River floods such as the 1993 flood, floodwater from the Broken Creek floodplain spills northwards into O'Keefe Creek. This results in widespread flooding as reflected by the flood overlays over the assessment site.

Flooding conditions are expected to be generally relatively shallow and slow moving across the assessment site. Flooding durations will typically be expected to last for a few days to as long as one week. The available flood warning time for a large flood is expected to exceed 24 hours.

The provided 100 year-ARI flood levels for the site are shown on Figure 3 of this report.

Based on the expected flooding conditions within the flood overlay areas, the Goulburn Broken CMA's letter advice of 16 November 2016 to Neoen Australia and further recent discussions with the CMA, the following conclusions are made:

- All development will need to be excluded from a 30 metres minimum setback distance extending either side of the O'Keefe Creek waterway, including solar panels.
- A minimum setback distance for 'buildings' is likely to also apply to G-MW Drain 6/11 and G-MW supply channels 14 and 15.
- Buildings (operation, maintenance and inverters) are unlikely to be permitted within the RFO areas of the site. The extent of the RFO is shown on Figure 4.
- Inverter buildings are likely to be permitted within LSIO areas providing that the floor level of the inverter is positioned 300 mm above the applicable 100 year ARI flood level.
- Solar panels are likely to be permitted within the flood overlay areas (outside of the 30 metres exclusion zone along the O'Keefe Creek waterway and setbacks from drains and channels specified by G-MW).

The development layout plan is shown on Figure 6. Notable aspects of the layout are:

- Site buildings (Operation and Maintenance, Control Room and Substation) are located within an LSIO area 300 metres north of the south western corner of the site. The reasons for this are outlined in Section 4.2. The floor level of the buildings will be elevated 300 mm above the 100 year ARI flood level.
- Development within the RFO area is limited to solar panel fields. Inverters required to operate the solar panels are positioned outside the RFO area.
- The extent of the solar panel fields will be refined to comply with the waterway building setbacks specified by the CMA and G-MW.

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GHD

105 Hume Street
T: 61 2 6043 8700 F: 61 2 6043 8711 E: abxmail@ghd.com

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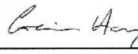
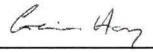
Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	T Clark	G Hay		G Hay		2/10/2017
O	T Clark	G Hay		G Hay		13/10/2017

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www.ghd.com



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Appendix E – Goulburn Broken CMA Floodplain Management Advice

GBCMA Ref: F-2016-0719
Document No: 2

Date: 18 November 2016

GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

www.gbcma.vic.gov.au

Mr Tim Kirk
Neoen Australia
Level 14, 227 Elizabeth Street
Sydney, New South Wales 1101

tim.kirk@neoen.com

Dear Mr Kirk

Floodplain Management Advice for
Proposed Solar Farm
Lot 2, PS522294, & Lot 4 LP 216496, Parish of Shepparton
1190 Cosgrove-Lemnos Road & 260 Tank Corner East Road, Lemnos

Thank you for your application, received 4 November 2016, regarding the above matter.

The Goulburn Broken CMA's assessment of the above information has determined that both sites for your proposed developments are partly covered by the Floodway Overlay (FO) and Land Subject to Inundation Overlay (LSIO) in the Greater Shepparton Planning Scheme.

The 100-year ARI (1% AEP) flood levels have not been declared for this area under the *Water Act, 1989*, or designated under the *Drainage of Land Act, 1975*.

However, the Authority's best estimate of the 100-year ARI flood levels for both locations described above varies which have been established from recorded historic peak 1993 flood levels and are representative of the 100-year ARI type food.

These 100-year ARI floods level contours together with FO and LSIO are shown in **Figure 1** and **Figure 2**.

The flood mapping indicates that some 80% of the property on Cosgrove-Lemnos Road is likely to flood in a repeat of a 100-year ARI type flood. Approximately 30 hectares of land in the north-east corner is essentially flood free.

The south-west corner of the land, through which the O'Keefe Creek flows, is covered by the FO and is likely to flood more than 500 millimetres deep in a 100-year ARI type flood. The depths of flooding in the area covered by the LSIO would vary from no flooding to some 500 millimetre at the FO intersection.

Head Office:
Shepparton
168 Welsford Street,
PO Box 1752,
Shepparton Vic. 3632
Telephone: (03) 5822 7700
Facsimile: (03) 5831 6254

Benalla
89 Sydney Road,
PO Box 124,
Benalla, Vic. 3672
Telephone: (03) 5761 1611
Facsimile: (03) 5761 1547

Yea
5/10 High Street,
Yea, Vic. 3717
Telephone: (03) 5767 4400
Facsimile: (03) 5797 3199

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The property at Tank Corner East Road is covered by some 60% by the flood mapping with the balance of the land flood free for a 100-year ARI type flood. The is a small area in the south-west corner that is cover by the FO – see **Figure 2**, which would flood in the order of 500 millimetres in depth. The depth of flooding in the area covered by the LSIO would vary from no flooding to some 500 millimetre at the FO intersection.

To determined depths of flooding for a particular area, you will need to use the 100-year flood level from **Figure 1** or **Figure 2** minus the ground level information that was provided to you at our meeting last week.

From our meeting, the Goulburn Broken CMA understands that the development includes:

- Solar panels that are set well above ground level on supported pole structures. Such pole structures would be spaced several metres a part;
- One inverter building (similar size to a shopping container) to service each area 15 hectares in size; and
- Operation and maintenance buildings.

In the light of the above information, the Goulburn Broken CMA would **not object** to the proposed Solar Farm, **subject to the following conditions**:

1. Operation and maintenance buildings are to be located on high available land as shown in the **Figure 1** and **Figure 2**;
2. Inverter buildings can be located in LSIO provided its floor levels are set at least 300 millimetres above the applicable 100-year ARI flood level as shown in **Figure 1** and **Figure 2**. Such buildings must not be located in FO areas;
3. No building, structures or works are to be carried out within 30 metres of a waterway being O'Keefe Creek that traverses the south-west corner of 1190 Cosgrove-Lemnos Road property.

Please Note:

- This document contains floodplain management advice only. It does not constitute approval from any other statutory body. It is your responsibility to obtain any other required approvals.
- The 100-year ARI flood is not the maximum possible flood. There is always a possibility that a flood larger in height and extent, than the 100-year ARI flood, may occur in the future.

Should you have any queries, please do not hesitate to contact me on **(03) 5822 7700**. To assist the CMA in handling any enquiries please quote **F-2016-0719** in your correspondence.

Yours sincerely

Guy Tierney
Statutory Planning and Floodplain Manager

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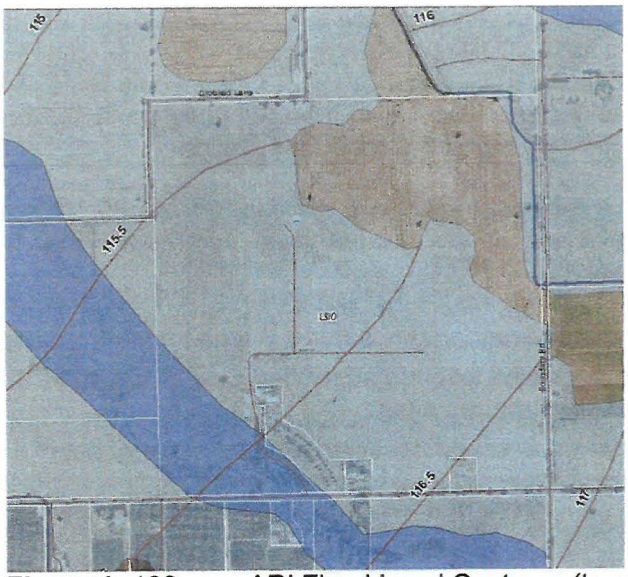

Figure 1: 100-year ARI Flood Level Contours (to metres AHD) and FO and LSIO at 1190 Cosgrove-Lemnos Road, Lemnos



Figure 2: 100-year ARI Flood Level Contours (to metres AHD) and FO and LSIO at 260 Tank Corner Road, Lemnos

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Information contained in this correspondence is subject to the definitions and disclaimers below.

Definitions and Disclaimers

1. The area referred to in this letter as the 'proposed development location' is the land parcel(s) that, according to the Authority's assessment, represent(s) the location identified by the applicant. The identification of the 'proposed development location' on the Authority's GIS has been done in good faith and in accordance with the information given to the Authority by the applicant(s) and/or local government authority.
2. While every endeavour has been made by the Authority to identify the proposed development location on its GIS using VicMap Parcel and Address data, the Authority accepts no responsibility for or makes no warranty with regard to the accuracy or naming of this proposed development location according to its official land title description.
3. **AEP** as Annual Exceedance Probability – is the likelihood of occurrence of a flood of given size or larger occurring in any one year. AEP is expressed as a percentage (%) risk and may be expressed as the reciprocal of ARI (Average Recurrence Interval).
4. **ARI** as Average Recurrence Interval - is the likelihood of occurrence, expressed in terms of the long-term average number of years, between flood events as large as or larger than the design flood event. For example, floods with a discharge as large as or larger than the 100-year ARI flood will occur on average once every 100 years.
5. **AHD** as Australian Height Datum - is the adopted national height datum that generally relates to height above mean sea level. Elevation is in metres.
6. No warranty is made as to the accuracy or liability of any studies, estimates, calculations, opinions, conclusions, recommendations (which may change without notice) or other information contained in this letter and, to the maximum extent permitted by law, the Authority disclaims all liability and responsibility for any direct or indirect loss or damage which may be suffered by any recipient or other person through relying on anything contained in or omitted from this letter.
7. This letter has been prepared for a proposed **Solar Farm** and is for the use only of the party to whom it is addressed and no responsibility is accepted to any third party for the whole or any part of its contents. Neither the whole nor any part of this letter or any reference thereto may be included in any document, circular or statement without the Authority's written approval of the form and context in which it will appear.
8. The flood information provided represents the best estimates based on currently available information. This information is subject to change as new information becomes available and as further studies are carried out.
9. ***The responsible authority may use this information within 90 days of this letter.***

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Appendix F – Cultural Heritage Assessment and Implications for Development

ANDREW LONG + ASSOCIATES

Neoen Shepparton Solar Farm
Cultural Heritage Assessment and Implications for Development

Prepared for:
Brad George
GHD
Principal Planner
Team Lead – Planning and Environment Assessment
Level 8, 180 Lonsdale Street
Melbourne, Vic. 3000

Author: Chris Lovell
Andrew Long + Associates
27 September 2017

1 Introduction

The following statement of evidence presents an assessment of the known and predicted Aboriginal and historical cultural heritage values, which may have implications for the proposed solar farm near Shepparton, Victoria. The requirements for undertaking a Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act* 2006 and *Aboriginal Heritage Regulations* 2007 are assessed in detail.

2 Findings

This report finds that a mandatory CHMP should be required prior to council issuing statutory authorisation for the proposed activity. This report also finds that there are no historical cultural heritage constraints regarding the proposed works.

3 The Activity Area

3.1 Location of the activity area

The proposed activity area is located in the locality of Lemnos, and is approximately 5.3 km to the north east of Shepparton, Victoria. The activity area is situated within five property parcels that are bound by Cosgrove-Lemnnos Road (south), Crooked Lane (west), Tank Corner East Road (north), Boundary Road (east) (Figure 1). Properties subject to development include:

- 1190 Cosgrove-Lemnos Road, Lemnos;
- 1220 Cosgrove-Lemnos Road, Lemnos;
- 85 Crooked Lane, Lemnos;
- 260 Tank Corner East Road, Lemnos; and
- 875 Boundary Road, Lemnos.

PO Box 2471 Fitzroy BC
Victoria 3065 Australia

T (03) 8415 0699
F (03) 8415 1299
www.alassoc.com.au

Andrew Long + Associates Pty Ltd
ACN 131 713 409
ABN 86 131 713 409

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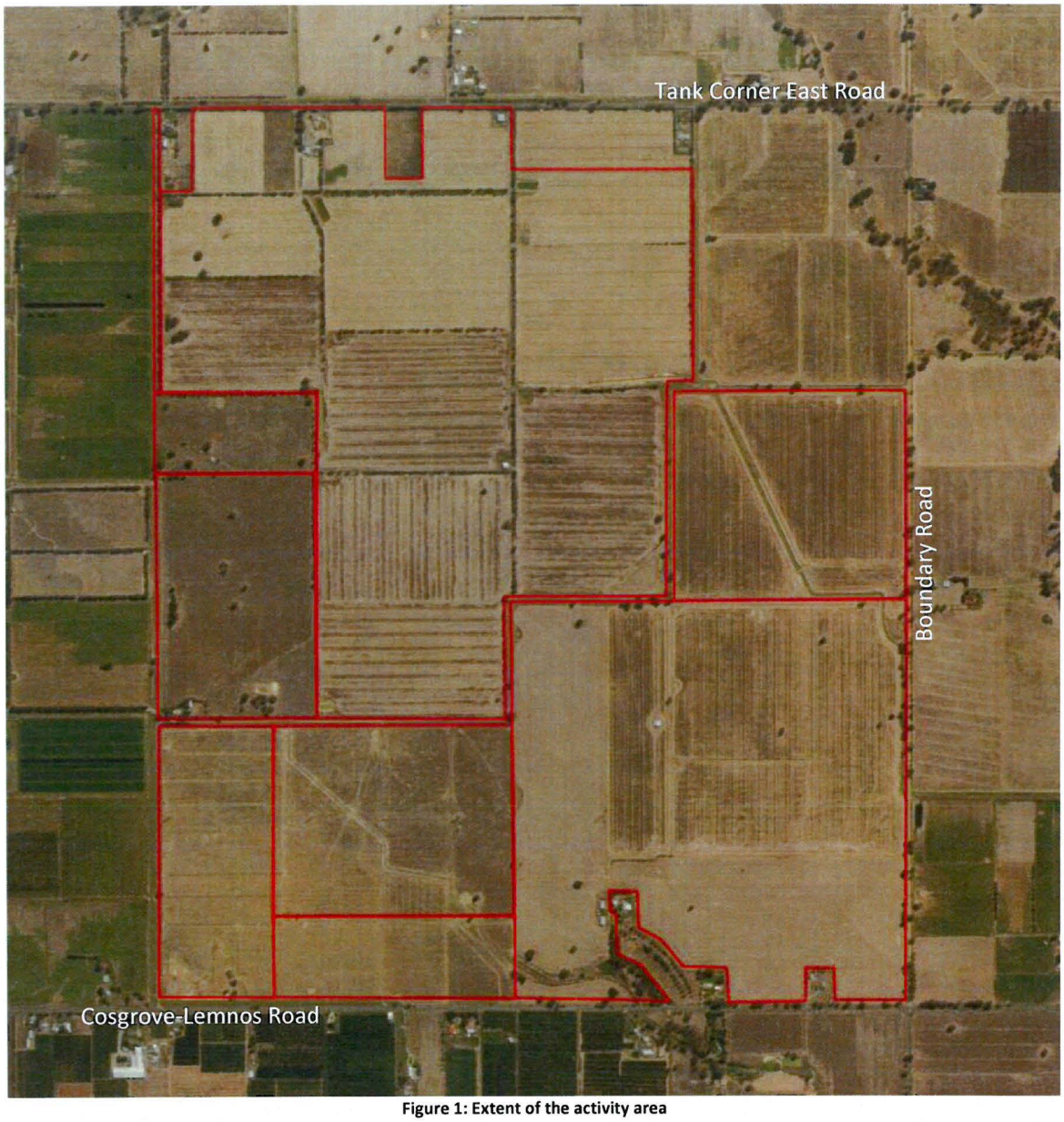

Figure 1: Extent of the activity area

3.2 Local Government Council (LGA) for the proposed activity area

The LGA for the proposed activity area is the City of Greater Shepparton.

3.3 Aboriginal stakeholders

It is important to note that 'cultural heritage significance' as defined in the *Aboriginal Heritage Act 2006* includes '(a) archaeological, anthropological, contemporary, historical, scientific, social or spiritual significance', and (b) significance in accordance with Aboriginal tradition'. All Aboriginal heritage sites are protected equally under this legislation, irrespective of significance, and consultants and development proponents are required to seek the views of Aboriginal heritage stakeholders (or Registered Aboriginal Parties [RAPs], as defined in the Act) regarding whether Aboriginal heritage sites may be disturbed in accordance with that significance.

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At the time of this assessment the Yorta Yorta National Aboriginal Corporation were the Registered Aboriginal Party (RAP) within the region.

3.4 Location and nature of areas of cultural heritage sensitivity within the activity area

Division 3 of the *Regulations* defines areas of Aboriginal cultural heritage sensitivity within the state of Victoria. As is currently indicated in the Aboriginal Cultural Heritage Register and Information System (ACHRIS), the proposed activity intersects with one area of cultural heritage sensitivity (see Figure 2). With respect to the proposed works the relevant regulation in this instance is as follows:

Regulation 23 Waterways

1) *Subject to subregulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity.*
2) *If part of a waterway or part of the land within 200 metres of a waterway has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*

Regulation 4 Definitions

waterway means –

(a) *a river, creek, stream or watercourse the name of which is registered under the Geographic Place Names Act 1998; or*
(b) *a natural channel the name of which is registered under the Geographic Place Names Act 1998 in which water regularly flows, whether or not the flow is continuous; or*
(c) *a lake, lagoon, swamp or marsh, being -*
    i. *a natural collection of water (other than water collected and contained in a private dam or a natural depression on private land) into or through or out of which a current that forms the whole or part of the flow of a river, creek, stream or watercourse passes, whether or not the flow is continuous; or*
    ii. *a collection of water (other than water collected and contained in a private dam or a natural depression on private land) that the Governor in Council declares under section 4(1) of the Water Act 1989 to be a lake, lagoon, swamp or marsh; or*
(d) *land which is regularly or intermittently covered by water from a waterway as described in paragraph (a), (b) or (c) but does not include-*
    i. *any artificial channel or work which diverts water away from such a waterway; or*
    ii. *an area covered by the floodwaters of a waterway; or*
    iii. *an area, other than the waterway, designated on a planning scheme as being a floodway or liable to flooding or as being subject to inundation; or*
(e) *if any land described in paragraph (d) forms part of a slope rising from the waterway to a definite lip, the land up to that lip.*

As mapped in the Aboriginal Cultural Heritage Register and Information System, all land within 200 m of Okeefe Creek is an area of cultural heritage sensitivity. However, as Okeefe Creek is not a registered

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waterway under the Geographic Place Names Act 1998, land within 200 m of Okeefe Creek is not an area of cultural heritage sensitivity.

However, as is evident in Figure 3, part of the activity area passes through a geomorphological unit, identified as GMU 4.2.1 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)', which is known to have source-bordering dunes. Regulation 37 of the *Regulations* states that:

> 1) *Subject to subregulation (2), a dune or source bordering dune is an area of cultural heritage sensitivity.*
> 2) *If part of a dune or part of a source bordering dune has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*
> 3) *In this regulation-*
> ***Dune** includes an inland, riverine, lacustrine or coastal dune;*

Therefore, due to the presence of waterways within the broader activity area, there is some risk that source-bordering dunes are located within the activity area. It is not possible to ascertain from aerial imagery, or the available geological mapping, whether or not source-bordering dunes are, in fact, located within the activity area. As such, it should be assumed that the activity area does contain dune landforms and therefore includes an area of cultural heritage sensitivity.

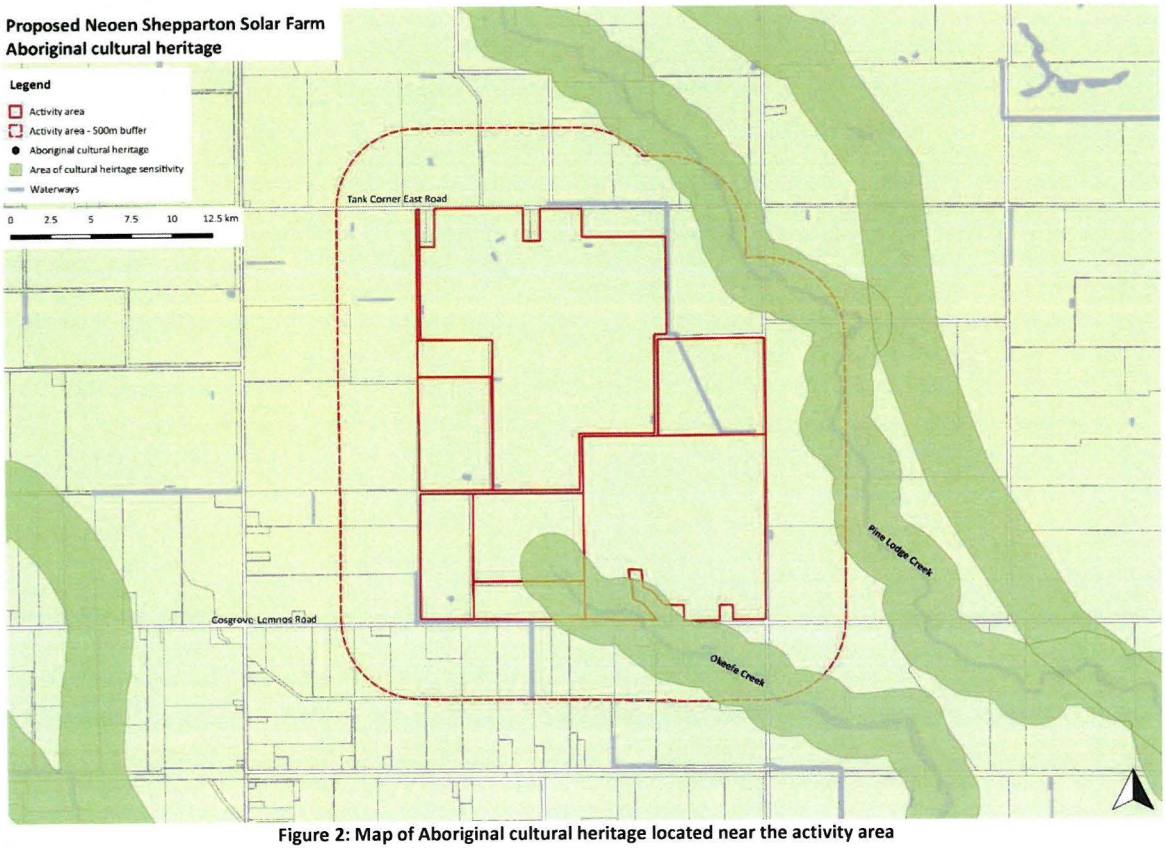

Figure 2: Map of Aboriginal cultural heritage located near the activity area

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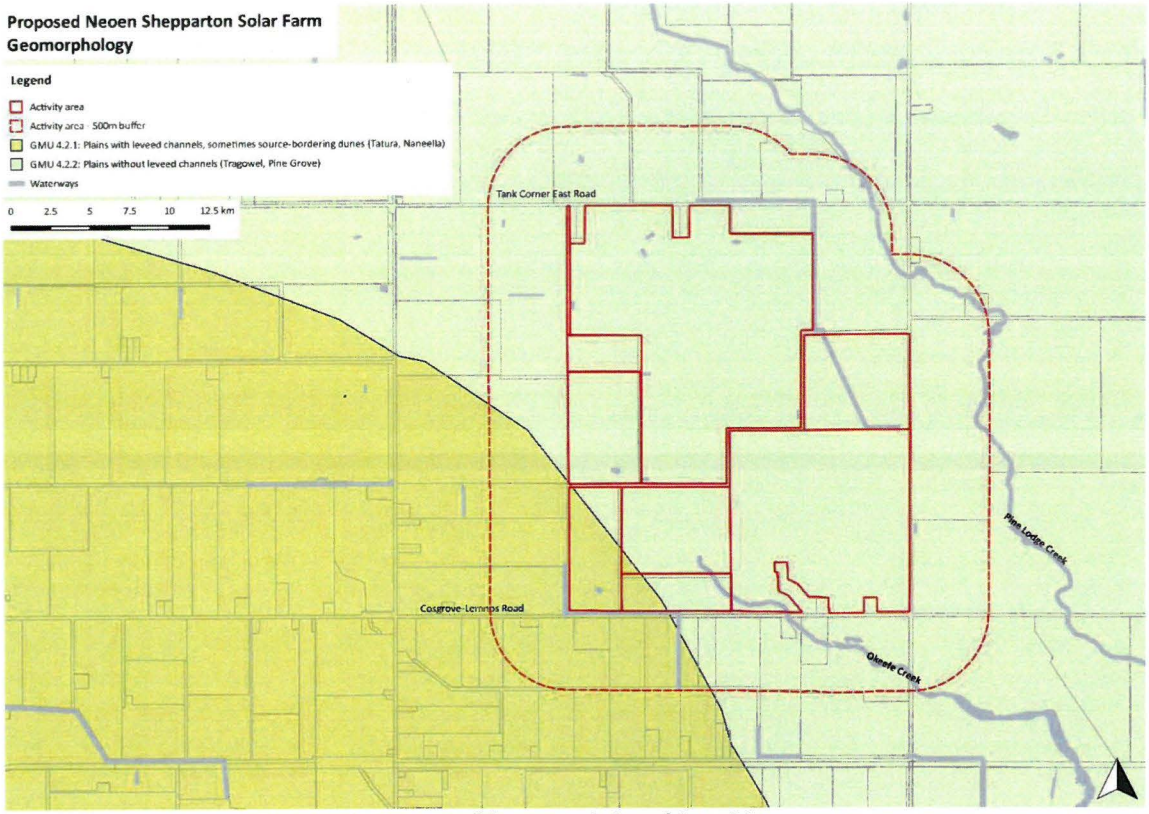

Figure 3: Map of the geomorphology of the activity area

4 Previous use of the activity area

Aboriginal peoples' occupation of the geographic region likely extends over thousands of years. This occupation would have taken the form of temporary camps used on a seasonal basis, making use of diverse resources in the area. The landscape was undoubtedly well known to generations of people and it is probable that associations extended to spiritual attachments. At the time of European colonization, the activity area was situated within the traditional lands of the *Ngurai-illam wurrung* language group (Clarke 1990: 364).

As a consequence of European colonization, and movement of European settlers into the region in the 1840s, the local Aboriginal people were dispossessed of their land. The activity area is situated within the Tallygaroopna Run (Figure 4). By 1945, as is evident in historic aerial imagery (Figure 5), the activity area had been largely deforested. The land was utilized for pasture and agricultural purposes. This use has continued to the present day, with subsequent modification of land within the activity area being relatively limited (Figure 1).

Impacts of historic pastoral and agricultural land use within the activity area include deforestation of the landscape, construction of dams and irrigation canals, ploughing of fields, construction of unsealed roads within the activity area, and also the construction of several buildings and facilities which relate directly to the agricultural and pastoral use of the land.

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Figure 4: Map of pastoral runs in Victoria prepared by Owen (1869). The general location of the activity area is indicated by the red star

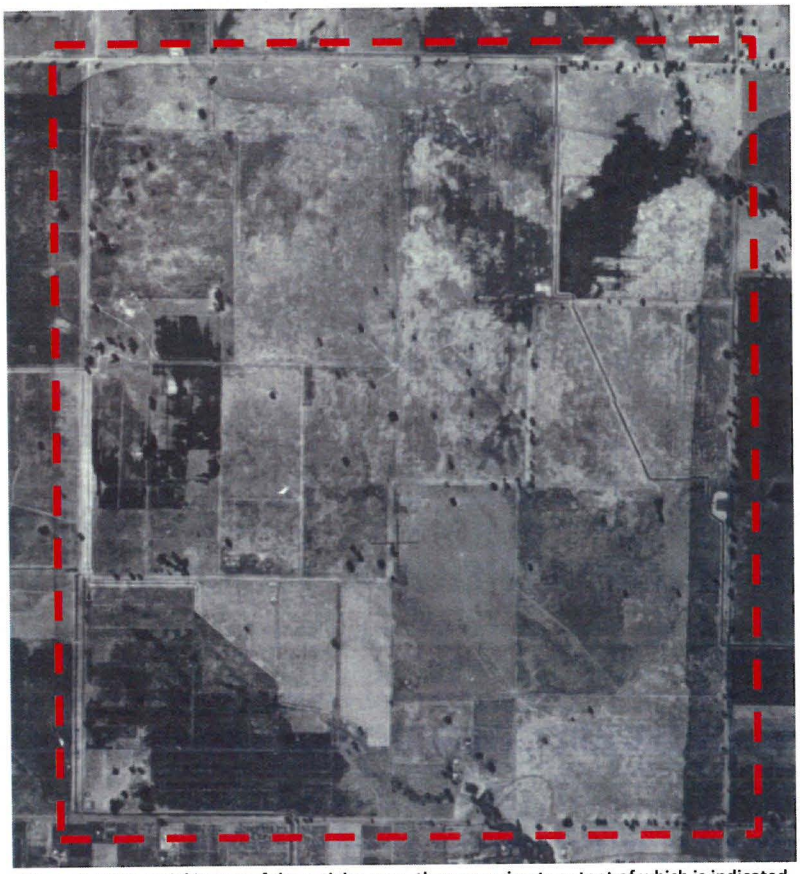

Figure 5: 1945 aerial image of the activity area, the approximate extent of which is indicated

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5 Size of the proposed activity area

Regulation 68 Definitions
***large activity** means an activity –*

a) with an activity area of more than 40 hectares; or
b) that is a linear project with a length of more than five kilometres;

The activity area has an area of approximately 475.18 ha. Pursuant to **Regulation 68** of the *Aboriginal Heritage Regulations 2007* (Vic) the activity area is a large activity.

6 The Proposed Activity

6.1 Description of the proposed works

The proposed activity comprises the construction of a solar farm within the defined activity area. Due to the preliminary nature of this assessment, the specifics of the proposed works have not yet been defined. However, the works are expected to require at a minimum:

- the potential demolition of all extant buildings and infrastructure;
- the potential stripping of topsoil across the activity area;
- excavation for the purposes of installation of subsurface utilities and building foundations;
- construction of buildings and facilities associated with the proposed solar farm; and

construction of roads and other pathways with respect to the operation of the solar farm.

6.2 Is the proposed activity listed as a high impact activity under Division 5 of the Aboriginal Heritage Regulations 2007?

Division 5 of the *Regulations* lists ten activities which are 'high impact activities' for the purposes of assessing whether a CHMP is required. With regard to the proposed works, the relevant regulation is as follows:

Regulation 43 Buildings and works for specified uses

1) The construction of a building or the construction or carrying out of works on land is a high impact activity if the construction of the building or the construction or carrying out of the works-

(a) would result in significant ground disturbance; and

(b) is for or associated with the use of the land for any one or more of the following purposes-

xxiii. a utility installation, other than a telecommunications facility, if-

D) the works affect an area exceeding 25 square metres.

2) The terms used in subregulation (1)(b) have the same meaning as they have in the VPP.

3) Despite subregulation (1), the construction of a building or the construction or carrying out of works on land is not a high impact activity if it is for associated with

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a purpose listed under subregulation (1)(b) for which the land was being lawfully used immediately before the commencement day.

4) *In this regulation,* ***linear project*** *has the same meaning as in regulation 68.*

Pursuant to r.43 of the *Aboriginal Heritage Regulations 2007* (Vic) the proposed works, which will comprise of the construction of a solar farm (a utility installation) of an area of more than 25 square meters, is a high impact activity.

6.2.1 Do any exemptions apply?

No exemptions apply.

7 Desktop assessment

7.1 Geographic region

For the purposes of this assessment all land within 500 m of the activity area (Figure 2). This geographic region captures the relevant geological landscape, local geomorphology, rural setting and relevant nearby registered Aboriginal cultural heritage places.

7.2 Geomorphology and environment

As defined in the Victorian Geomorphological Framework, the activity area is situated within two different geomorphological units that are identified as 'Plains with leveed channels, sometimes source-bordering dunes (Tatura, Naneella)' (GMU 4.2.1) and 'Plains without leveed channels (Tragowel, Pine Grove)' (GMU 4.2.2) (Figure 3).

The south west corner of the activity area is situated within GMU 4.2.1. GMU 4.2.1 is characterised as including plains with largely inactive leveed channels of various ages that relate to stream deposition that predates the present floodplains. Source bordering dunes have occasionally been identified along waterways within GMU 4.2.1.

The remainder of the activity area is situated in GUM 4.2.2. GMU 4.2.2 is comprised of very gentle to almost level plains that dip slightly northward towards the Murray River. The plains are comprised of alluvial sediments. The plains are distinguished from GMU 4.2.1 in that there are no leveed prior stream channels.

The underlying geology (Figure 6) of the activity area is comprised of the Shepparton Formation (Nws). The Shepparton Formation is comprised of clay, sand, silt and poorly sorted lenticular gravel. The Shepparton Formation is characterized as being a desiccated alluvium floodplain with terraces of 1-10 m above present river channels. The soils are well developed, being typically 2-3 m thick. The upper part of the Shepparton Formation which has been dated from 20,900±500 kya to 30,600±1300 kya[1], is a Holocene formation. The formation's maximum age is the Pliocene, and thus subsurface deposits are also likely to include stratigraphic units which formed during the Pleistocene.

[1] http://dbforms.ga.gov.au/pls/www/geodx.strat_units.sch_full?wher=stratno=25474 – accessed 26 September 2017

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The activity is situated within the Victorian Riverina bioregion, which includes a wide variety of specific ecological vegetation classes. Of those, the activity area is situated within one ecological vegetation class, which is identified as 'Plains Woodland' (EVC 803) (Figure 7). EVC 803 is characterised as an open eucalypt woodland with a 15 m tall canopy[2]. EVC 803 occurs on several geologies and soil types, which preferentially include fertile clays and clay loam soils on relatively level land at low elevations.[3]

The climate is characterised by warm summers and cold winters with an annual average rainfall of 400-600mm[4].

By way of summary the activity area passes through an extensive floodplain comprised of sand and clay rich soils. It is possible that current and prior waterways within the vicinity of the activity have developed source-bordering dunes. The activity area captures both Holocene and Pleistocene landscapes.

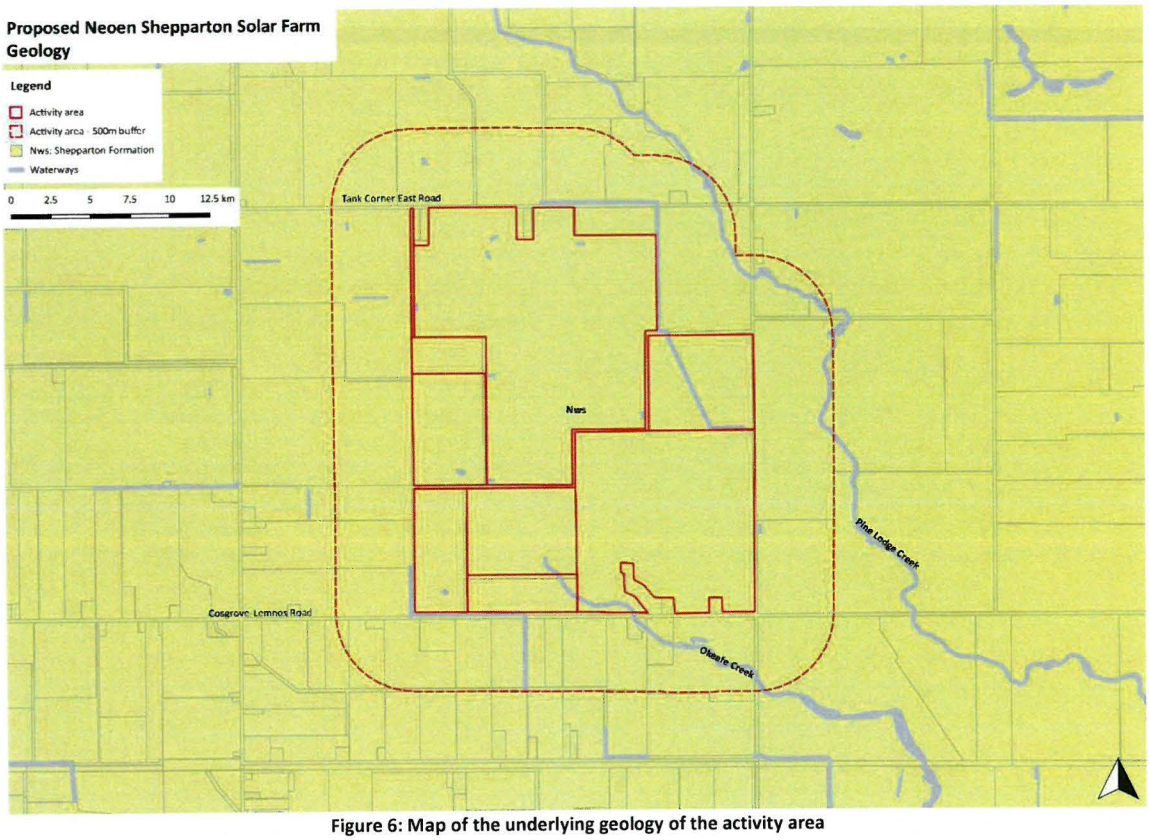

Figure 6: Map of the underlying geology of the activity area

[2] https://www.environment.vic.gov.au/__data/assets/pdf_file/0027/48753/VRiv_EVCs_combined.pdf - accessed 26 September 2017

[3] https://www.environment.vic.gov.au/__data/assets/pdf_file/0027/48753/VRiv_EVCs_combined.pdf - accessed 26 September 2017

[4] http://www.bom.gov.au/jsp/ncc/climate_averages/climate-classifications/index.jsp - accessed 26 September 2017; http://www.bom.gov.au/jsp/ncc/climate_averages/rainfall/index.jsp?period=an&area=vc#maps – accessed 26 September 2017.

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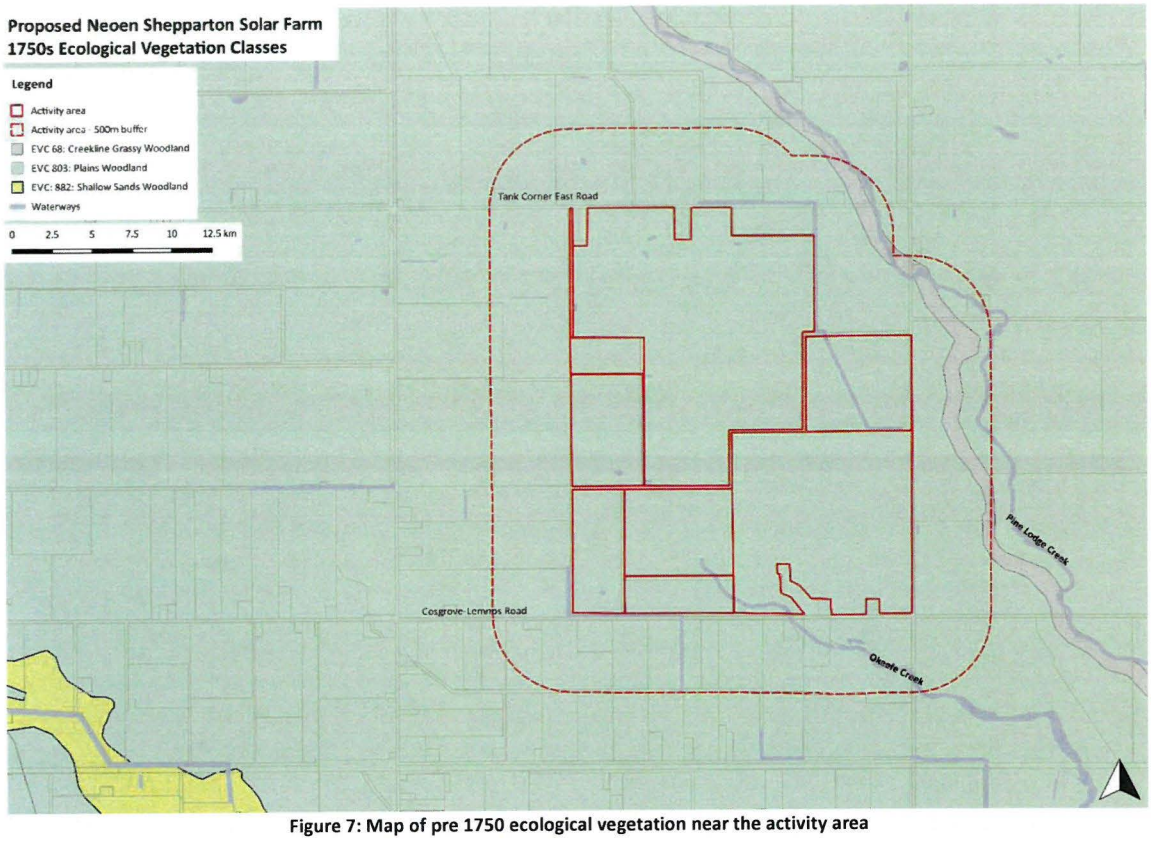

Figure 7: Map of pre 1750 ecological vegetation near the activity area

7.3 Archaeological setting

7.3.1 Existing Heritage Listings

The following register sources were checked for existing heritage listings (both statutory and non-statutory) within the activity area:

- Victorian Aboriginal Heritage Register (VAHR) – No listing;
- Commonwealth Heritage List – No listing;
- Victorian Heritage Register – No listing;
- Victorian Heritage Inventory – No listing;
- City of Greater Shepparton – Schedule to the Heritage Overlay – No listing;
- National Heritage List – No listing;
- Register of the National Estate - No listing;
- National Trust of Australia (Victoria) – No listing;

7.3.2 Historical Heritage

As established in section 7.3.1, there are no registered historical heritage places within 500m of the activity area.

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7.3.3 Results of the search of the VAHR

A search of the Aboriginal Cultural Heritage Register and Information System (ACHRIS) was undertaken on 27 September 2017 (Access No. 5129). The activity area does not directly intersect with any registered Aboriginal cultural heritage places.

7.3.3.1 Registered Aboriginal cultural heritage places within 500m of the activity area

As depicted in Figure 2, there are no registered Aboriginal cultural heritage places within 500m of the activity area.

7.3.3.2 Scope of Prior Assessments

There are only nine archaeological reports held in ACHRIS which geospatially intersect with the geographic region (Table 1). None of the listed reports are particular to the activity area.

Table 1: List of archaeological reports which geospatially intersect with the geographic region

Report No.	Report Type	Title	Author	Report Year
36	Desktop or Paper or Due Diligence or Other	ABORIGINAL OCCUPATION OF THE NORTH EAST STUDY AREA, DISTRICTS 1, 2 & 4	ZOBEL, D.	1984
63	Desktop or Paper or Due Diligence or Other	ABORIGINAL ASSOCIATION WITH THE MURRAY VALLEY STUDY AREA	ATKINSON, W. & BERRYMAN, A.	1983
294	Desktop or Paper or Due Diligence or Other	PETROLOGY & PREHISTORY: LITHIC EVIDENCE FOR EXPLOITATION OF STONE RESOURCES & EXCHANGE SYSTEMS IN AU	MCBRYDE, I.	1979
592	Desktop or Paper or Due Diligence or Other	ARCHAEOLOGY OF THE BROKEN RIVER BASIN: A BACKGROUND STUDY	BIRD, C.	1992
879	Survey	SHEPPARTON BYPASS PLANNING STUDY PHASE 2: CULTURAL HERITAGE. VOLUME 1: AN ARCHAEOLOGICAL SURVEY OF T	LONG, A.	1996
1074	Desktop or Paper or Due Diligence or Other	LAND CONSERVATION COUNCIL BOX-IRONBARK FORESTS & WOODLANDS SPECIAL INVESTIGATION CHAPTER 2: ABORIGIN	CLARK, I.	1997
1241	Desktop or Paper or Due Diligence or Other	NATURAL VALUES OF THE PUBLIC LANDS ALONG THE BROKEN, BOOSEY AND NINEMILE CREEKS OF NTH EASTERN VIC.	ROBINSON, D. & MANN, S.	1996
3967	Desktop or Paper or Due Diligence or Other	ARCHAEOLOGICAL BACKGROUND REPORT FOR THE SHEPPARTON BYPASS EES STUDY STAGE 1	DU CROS, H	1995
4648	Desktop or Paper or Due Diligence or Other	Conflict and Territoriality in Aboriginal Australia: Evidence form Biology and Ethnography	Colin Pardoe	

7.3.3.3 Aboriginal cultural heritage

There are no Aboriginal cultural heritage places within the activity area.

The activity area is located within landforms that potentially contains source-bordering dunes, and therefore may contain an area of cultural heritage sensitivity.

From a review of prior archaeological assessments within the geographic region the following key points emerge:

- there have been very few Archaeological assessments undertaken within the vicinity of the activity area;
- Aboriginal cultural heritage place types likely to occur within the activity area include stone artefact scatters in surface and subsurface contexts; and

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- due to historic agricultural use of the activity area, it is unlikely that there are any scarred trees located within the activity area.

8 Is a cultural heritage management plan required?

The following sections outline the triggers and issues which will affect the proposed works in relation to the *Aboriginal Heritage Act* 2006 and *Aboriginal Heritage Regulations* 2007, specifically as these relate to the need to undertake a mandatory Cultural Heritage Management Plan.

8.1.1 When is a cultural heritage management plan required?

A CHMP is required for an activity if (Regulation 6)-

(a) all or part of the activity area for the activity is an area of cultural heritage sensitivity; and
(b) all or part of the activity is a high impact activity.

8.1.2 Is the activity area an area of cultural heritage sensitivity?

As established in 3.4, the activity area may include an area of cultural heritage sensitivity.

8.1.3 Is the activity a high impact activity?

As established in Section 6.2 the proposed works are a high impact activity.

8.1.4 Has the activity area been subject to significant ground disturbance'?

Pursuant to Regulation 4 – Definitions:

significant ground disturbance means disturbance of -

a) the top soil or surface rock layer of the ground; or
b) *a waterway –*

by machinery in the course of grading, excavating, digging or dredging.

There is insufficient evidence to suggest that the entirety of the activity area has undergone significant ground disturbance as defined by the *Aboriginal Heritage Regulations 2007.* Although there are isolated instances in which significant ground disturbance has occurred throughout the activity area, such as within the footprints of existing roadways and irrigation channels, the vast majority of the activity area comprises of farmland, which, beyond being cleared and ploughed, has not, in its entirety, been subject to significant ground disturbance.

8.1.5 Do any Exemptions or other Arrangements as outlined in the Aboriginal Heritage Regulations 2007 apply?

No exemptions apply.

8.1.6 Will a cultural heritage management plan be required for proposed works in the activity area?

On the basis of the above discussion the proposed activity does require a mandatory CHMP to be prepared prior to the commencement of works. The activity area is both a high impact activity and potentially located within an area of Aboriginal cultural heritage sensitivity. Therefore, pursuant to Regulation 6 of the *Aboriginal Heritage Regulations* 2007, the proposed activity does require a mandatory CHMP.

However, should it be demonstrated that there are no dunes within the activity area, and therefore not contain an area of cultural heritage sensitivity, a mandatory CHMP cannot be required by council prior to issuing a planning permit for the proposed works.

9 Conclusions and Recommendations

9.1 Historic cultural heritage

There are no requirements to undertake further cultural heritage assessments, permits or consents under the *Heritage* Act 1995, the *Environment Protection and Biodiversity Conservation* Act 1999 and *Planning & Environment* Act 1987.

However, if a historic archaeological site is uncovered in the course of the construction activities, under section 127 of the *Heritage Act 1995*, it is an offence to knowingly damage, disturb or excavate without obtaining the appropriate consent from the Executive Director of the Heritage Victoria. Consultation with Heritage Victoria on proposed management options and the creation of a heritage report (under Section 131 *Heritage Act 1995*) would be required.

9.2 Aboriginal cultural heritage

The proposed works are a high impact activity and are potentially located within an area of Aboriginal cultural heritage sensitivity. As such, in accordance with Regulation 6 of the *Aboriginal Heritage Regulations 2007* (Vic) a mandatory CHMP will be required in this instance.

However, should it be demonstrated that there are no dunes within the activity area, and therefore not contain an area of cultural heritage sensitivity, a mandatory CHMP will cannot be required by council prior to issuing a planning permit for the proposed works.

It should be noted that this opinion does not imply that Aboriginal cultural places are not present within the activity area, or are not at risk of impact from the proposed activity. It is simply stated that the *Aboriginal Heritage Regulations 2007* require a mandatory CHMP in this instance.

This study does not constitute a CHMP as defined in Division 1 of the *Aboriginal Heritage Act 2006*.

9.3 Recommendations

In order to determine whether or not the activity area contains any dunes (source-bordering or otherwise), it is recommended that advice of a qualified geomorphologist be sought. If it can be shown that the activity area does not contain any dunes, it can then be conclusively argued that the activity area does not contain an area of cultural heritage sensitivity. It would then follow, as per r.6 of the *Regulations*, that a mandatory CHMP would not be required in this instance. However, should it be

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demonstrated that the activity area does contain a dune, and therefore an area of cultural heritage sensitivity, a CHMP will be required.

Yours sincerely,

Chris Lovell
Project Manager
Andrew Long and Associates

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References

Clark, ID. 1990. *Aboriginal Languages and Clans: an Historical Atlas of Western and Central Victoria, 1800-1900*. Monash Publications in Geography No. 37. Melbourne.

Legislation

Aboriginal Heritage Act 2006 (Vic)

Aboriginal Heritage Regulations 2007 (Vic)

Victorian Planning Provisions 2017 (Vic)

Geographic Place Names Act 1998 (Vic)

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APPENDIX 1

STATUTORY REGULATIONS

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ABORIGINAL CULTURAL HERITAGE LEGISLATION

The Aboriginal Heritage Act 2006

It should be noted that new Victorian legislation for Aboriginal heritage protection (the *Aboriginal Heritage Act* 2006) commenced operation on May 28th 2007.

This act provides blanket protection for all Aboriginal heritage sites, places or items in Victoria.

The main aspects of the Act in relation to the development process are as follows:

- An *Aboriginal Heritage Council* (AHC) has been appointed by the Minister, Aboriginal Affairs Victoria, made up of 11 Victorian Aboriginal people.
- Aboriginal community groups with traditional interests in cultural heritage are to apply to the AHC for registration as a *Registered Aboriginal Party* (RAP). RAPs will have the role of endorsing *Cultural Heritage Management Plans* (CHMP) within a given area of interest. There may be two or more RAPs for an area, provided it does not hinder the operation of the legislation.
- Under Section 48, a developer ('sponsor') may be required to submit a CHMP before the issue of a statutory authority by local government or other agency ('decision maker'). A CHMP must be registered with the Secretary, Victorian Communities (AAV), and all relevant RAPs notified in writing. If an RAP does not respond, AAV will act in lieu. A CHMP will contain details of research, field evaluation, consultation and management provisions in regard to the Aboriginal heritage of an area at risk from a development. A *Cultural Heritage Advisor* must be appointed to assist in the preparation of a CHMP. It is the role of an RAP to approve a CHMP if it meets prescribed standards.
- A CHMP will not be considered approved unless it has been approved by all relevant RAPs.

The regulations accompanying the Act specify when a CHMP will be required by law, and prescribe minimum standards for the preparation of a CHMP (Section 53). The approved form for CHMPs specifies the format in which a CHMP should be prepared by a sponsor in order to comply with the Act and the Regulations, and is an approved form under section 190 of the Act. The regulations have not been finalised to date, but their draft content has not been issued to stakeholders.

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APPENDIX 2

SUGGESTED PROCEDURE

IN THE EVENT

AN ABORIGINAL HERITAGE SITE

IS IDENTIFIED

DURING CONSTRUCTION

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A. Management of Aboriginal Cultural Heritage Found During Works

If Aboriginal places or objects found during works the following steps must be applied:

- The person who identified the find will immediately notify the person in charge of the activity.
- The person in charge of the activity must then suspend any relevant works at the location of the discovery and within 5 m of the relevant site extent and isolate the find via the installation of safety webbing, or other suitable barrier and the material to remain *in situ*.
- Works may continue outside of the 5 m barrier.
- The person in charge of works must notify the Heritage Advisor (HA) and the Secretary (AV) of the find within 24 hours of the discovery.
- The HA must notify the RAP(s) or other agreed Aboriginal stakeholder(s) within 24 hours of the discovery and invite RAP(s) or other agreed Aboriginal stakeholder(s) to inspect the find.
- Within 24 hours of notification, a HA is to attend the site and evaluate the find to determine if it is part of an already known site or should be registered as a new site and to update and/or complete site records as appropriate and advise on possible management strategies.
- Enable RAP(s) or other agreed Aboriginal stakeholder(s) to inspect site within 24 hours of notification and remove/rebury any cultural heritage material found.
- Within a period not exceeding three (3) working days the Sponsor, in consultation with the HA, RAP or other agreed Aboriginal stakeholder, shall, if necessary, apply for a Cultural Heritage Permit (CHP) in accordance with Section 36 of the *Aboriginal Heritage Act* 2006.
- If a CHP application is lodged, works may only recommence within the area of exclusion following the issue of a CHP and compliance with any conditions.
    - When the appropriate protective measures have been taken;
    - Where the relevant Aboriginal cultural heritage records have been updated and/or completed;

In the case of the discovery of human remains, separate procedures relating to the discovery of human skeletal remains must be adhered to (see below).

B. Custody and Management of Aboriginal Cultural Heritage Recovered

- Any Aboriginal cultural heritage recovered or salvaged from the activity area remains the property of the RAP(s) or other agreed Aboriginal stakeholder(s). Any such recovery or salvage will be agreed to and overseen by a RAP(s) or other agreed Aboriginal stakeholder representative(s). In any such instance it will be the responsibility of the Cultural Heritage Advisor to:
    - Catalogue the Aboriginal cultural heritage;
    - Label and package the Aboriginal cultural heritage with reference to provenance; and
    - With the RAP(s) or other agreed Aboriginal stakeholder(s), arrange storage of the Aboriginal cultural heritage in a secure location together with copies of the catalogue and assessment documentation.

C. The Management of the Discovery of Human Remains

Although this evaluation has determined that there is only a low risk of impacting an Aboriginal burial during the implementation of the activity, given the nature of the landforms and archaeological deposits within the activity area, it is nevertheless an extremely important consideration of any development.

The following steps must be taken if any suspected human remains are found in the activity area:

1. Discovery:

- If suspected human remains are discovered, all activity in the vicinity must ***cease immediately*** to ensure minimal damage is caused to the remains; and,
- The remains must be left in place, and ***protected*** from harm or damage.

2. Notification:

- Once suspected human skeletal remains have been found, the Coroners Office and the Victoria Police must be notified immediately;
- If there is reasonable grounds to believe that the remains could be Aboriginal, the DSE Emergency Co-ordination Centre must be immediately notified on 1300 888 544; and
- All details of the location and nature of the human remains must be provided to the relevant authorities.
- If it is confirmed by these authorities that the discovered remains are Aboriginal skeletal remains, the person responsible for the activity must report the existence of the human remains to the Secretary, Department of Victorian Communities in accordance with s.17 of the *Aboriginal Heritage Act* 2006.

3. Impact Mitigation or Salvage:

- The Secretary, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal human remains, will determine the appropriate course of action as required by s.18(2)(b) of the Act.
- An appropriate impact mitigation or salvage strategy as determined by the Secretary must be implemented (this will depend on the circumstances in which the remains were found, the number of burials found and the type of burials and the outcome of consultation with any Aboriginal person or body).
- While opportunities to avoid impacting on a burial that may be discovered during the activity may be limited, it is important to explore opportunities to minimise disturbance to the remains through unnecessary exposure or disinterment.

4. Curation and further analysis:

- The treatment of salvaged Aboriginal human remains must be in accordance with the direction of the Secretary.

5. Reburial:

- Any reburial site(s) must be fully documented by an experienced and qualified archaeologist, clearly marked and all details provided to AV;
- Appropriate management measures must be implemented to ensure that the remains are not disturbed in the future.

GHD

Level 8, 180 Lonsdale Street
Melbourne, VIC 3000
T: 03 8687 8000 F: 03 8687 8111 E: melmail@ghd.com

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	Laura Wyatt	Pete Carson	*P Carson	Pete Carson	*P Carson	13/10/17

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10.01 INTEGRATED DECISION MAKING

28/03/2018
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Society has various needs and expectations such as land for settlement, protection of the environment, economic well-being, various social needs, proper management of resources and infrastructure. Planning aims to meet these by addressing aspects of economic, environmental and social well-being affected by land use and development.

Planning authorities and responsible authorities should endeavour to integrate the range of policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations. However in bushfire affected areas, planning authorities and responsible authorities must prioritise the protection of human life over all other policy considerations.

Consistent with the objectives of local government under the *Local Government Act 1989*, municipal planning authorities are required to identify the potential for regional impacts in their decision-making and co-ordinate strategic planning with their neighbours and other public bodies to achieve sustainable development and effective and efficient use of resources.

11.07 REGIONAL VICTORIA

31/03/2017
VC134

11.07-1 Regional planning

31/03/2017
VC134

Objective

To develop regions and settlements which have a strong identity, are prosperous and are environmentally sustainable.

Strategies

Identify and assess the spatial and land use planning implications of a region's strategic directions in Regional Strategic Plans.

Ensure regions and their settlements are planned in accordance with any relevant regional growth plan.

Apply the following principles to settlement planning in Victoria's regions, including the peri-urban areas:

A network of integrated and prosperous regional settlements

Support a network of integrated and prosperous regional settlements by:

- Strengthening networks of settlements by maintaining and improving transport links, digital connectivity, spatial patterns of service delivery, and promoting commercial relationships and community activities.
- Directing growth to locations where utility, transport, commercial and social infrastructure and services are available or can be provided in the most efficient and sustainable manner.
- Ensuring there is a sufficient supply of appropriately located residential, commercial, and industrial land across a region to meet the needs identified at regional level.
- Developing strategies for regional cities that reflect growth opportunities and priorities, including the identification of urban renewal and infill opportunities to optimise infrastructure investment and surplus government land.

Environmental health and productivity

Maintain and provide for the enhancement of environmental health and productivity of rural and peri-urban landscapes by:

- Managing the impacts of settlement growth and development to deliver positive land-use and natural resource management outcomes.
- Avoiding development impacts on land that contains high biodiversity values, landscape amenity, water conservation values, food production and energy production capacity, extractable resources and minerals, cultural heritage and recreation values, assets and recognised uses.

Regional Victoria's competitive advantages

Maintain and enhance regional Victoria's competitive advantages by:

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- Ensuring that the capacity of major infrastructure (including highways, railways, airports, ports, communications networks and energy generation and distribution systems) is not affected adversely by urban development in adjacent areas.
- Focusing major government and private sector investments in regional cities and centres on major transport corridors, particularly railway lines, in order to maximise the access and mobility of communities.
- Providing adequate and competitive land supply, including urban regeneration, redevelopment and greenfield sites, to meet future housing and urban needs and to ensure effective utilisation of land.
- Strengthening settlements by ensuring that retail, office-based employment, community facilities and services are concentrated in central locations.

Climate change, natural hazards and community safety

Respond to the impacts of climate change and natural hazards and promote community safety by:

- Siting and designing new dwellings, subdivisions and other development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards, such as bushfire and flood.
- Developing adaptation response strategies for existing settlements in hazardous and high risk areas to accommodate change over time.
- Encouraging reduced energy and water consumption through environmentally sustainable subdivision and building design.
- Encouraging a form and density of settlements that support sustainable transport to reduce greenhouse gas emissions.

Distinct and diverse regional settlements

Support the growth and development of distinctive and diverse regional settlements by:

- Encouraging high-quality urban and architectural design which respects the heritage, character and identity of each settlement.
- Ensuring development respects and enhances the scenic amenity, landscape features and view corridors of each settlement.
- Limiting urban sprawl and directing growth into existing settlements, promoting and capitalising on opportunities for urban renewal and infill redevelopment.
- Ensuring that the potential of land that may be required for future urban expansion is not compromised.
- Creating opportunities to enhance open space networks within and between settlements.

Liveable settlements and healthy communities

Promote liveable regional settlements and healthy communities by:

- Responding to changing community needs and facilitating timely provision of, and access to, social infrastructure and services.
- Encouraging the development of compact urban areas which are based around existing or planned activity centres to maximise accessibility to facilities and services.

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- Improving the availability of a diverse range of affordable accommodation, including social housing, in regional cities and locations with good access to transport, commercial facilities and community services.
- Supporting innovative ways to maintain equitable service delivery to settlements that have limited or no capacity for further growth, or that experience population decline.

Policy guidelines

Planning must consider as relevant:

- *Central Highlands Regional Growth Plan* (Victorian Government, 2014).
- *G21 Regional Growth Plan* (Geelong Region Alliance, 2013).
- *Gippsland Regional Growth Plan* (Victorian Government, 2014).
- *Great South Coast Regional Growth Plan* (Victorian Government, 2014).
- *Hume Regional Growth Plan* (Victorian Government, 2014).
- *Loddon Mallee North Regional Growth Plan* (Victorian Government, 2014).
- *Loddon Mallee South Regional Growth Plan* (Victorian Government, 2014).
- *Wimmera Southern Mallee Regional Growth Plan* (Victorian Government, 2014).

11.07-2 Peri-urban areas

31/03/2017
VC134

Objective

To manage growth in peri-urban areas to protect and enhance their identified valued attributes.

Strategies

Identify and protect areas that are strategically important for the environment, biodiversity, landscape, open space, water, agriculture, energy, recreation, tourism, environment, cultural heritage, infrastructure, extractive and other natural resources.

Provide for development in established settlements that have capacity for growth having regard to complex ecosystems, landscapes, agricultural and recreational activities in the area. These settlements include Warragul-Drouin, Bacchus Marsh, Torquay-Jan Juc, Gisborne and Kyneton and other towns identified by Regional Growth Plans as having potential for growth including Wonthaggi, Kilmore, Broadford, Seymour and Ballan.

Strengthen and enhance the character, identity attractiveness and amenity of peri-urban towns.

Prevent dispersed settlement and provide for non-urban breaks between urban areas.

Site and design new development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards such as bushfire and flooding.

Establish growth boundaries for peri-urban towns to avoid urban sprawl and protect agricultural land and environmental assets.

Ensure development is linked to the timely and viable provision of physical and social infrastructure and employment.

Improve connections to regional and metropolitan transport services.

Policy guidelines

Planning must consider as relevant:

- *Central Highlands Regional Growth Plan* (Victorian Government, 2014).
- *G21 Regional Growth Plan* (Geelong Region Alliance, 2013).
- *Gippsland Regional Growth Plan* (Victorian Government, 2014).
- *Great South Coast Regional Growth Plan* (Victorian Government, 2014).
- *Hume Regional Growth Plan* (Victorian Government, 2014).
- *Loddon Mallee North Regional Growth Plan* (Victorian Government, 2014).
- *Loddon Mallee South Regional Growth Plan* (Victorian Government, 2014).
- *Wimmera Southern Mallee Regional Growth Plan* (Victorian Government, 2014).
- *Plan Melbourne 2017-2050: Metropolitan Planning Strategy* (Department of Environment, Land, Water and Planning, 2017).

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11.12 HUME

31/03/2017
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For the purpose of this Clause, the 'Hume region' comprises the municipal areas of Alpine, Benalla, Greater Shepparton, Indigo, Mansfield, Mitchell, Moira, Murrindindi, Strathbogie, Towong, Wangaratta and Wodonga, covered in the *Hume Regional Growth Plan* (Victorian Government, 2014).

Policy guidelines

In considering the policy objectives and strategies for the Hume region, planning must consider as relevant, the *Hume Regional Growth Plan* (Victorian Government, 2014).

11.12-1 A diversified economy

31/03/2017
VC134

Objective

To develop a more diverse regional economy while managing and enhancing key regional economic assets.

Strategies

Plan for a more diverse and sustainable regional economy by supporting existing economic activity and encouraging appropriate new and developing forms of industry, agriculture, tourism and alternative energy production.

Support tourism activities, including nature-based tourism, that take advantage of environmental and cultural heritage assets and the rural environment without compromising their future.

Support opportunities for nature-based tourism throughout the region, including those arising from the restoration of the Winton Wetlands and other wetlands of national and regional value such as the Barmah Forest and the lower Ovens River.

Support large commercial tourism uses in urban locations or rural areas of lower agricultural value and away from areas identified as strategic agricultural land.

Facilitate rural tourism activities that support agricultural enterprises such as cellar door and farm gate sales and accommodation in appropriate locations.

Avoid encroachment from rural residential settlement and other land uses that are non-complementary to agriculture in areas identified as strategic agricultural land and direct proposals for settlement to existing centres and townships.

Support agricultural production through the protection and enhancement of infrastructure and strategic resources such as water and agricultural land, including areas of strategic agricultural land.

Support clustering of intensive rural industries and agricultural production to take advantage of locational opportunities, including access to key infrastructure such as transport, power, water, information and communications technology, and separation from sensitive land uses.

Create renewable energy hubs that support co-location of industries to maximise resource use efficiency and minimise waste generation.

Plan for rural areas by considering the location of earth resources, the potential for their future extraction and how to minimise impacts on sensitive uses and the environment.

Support the availability of construction materials locally and consider measures to facilitate and manage their extraction.

Maintain and develop buffers around mining and quarrying activities to manage potential land use conflicts.

11.12-2 Environmental assets

31/03/2017
VC134

Objective

To protect environmental and heritage assets, and maximise the regional benefit from them, while managing exposure to natural hazards and planning for the potential impacts of climate change.

Strategies

Conserve water and manage waterways and storages as key environmental, social and economic assets to the region.

Protect the Murray River corridor as a key environmental (scenic, biodiversity, riverine), cultural and economic asset.

11.12-3 Planning for growth

31/03/2017
VC134

Objective

To focus growth and development to maximise the strengths of existing settlements.

Strategies

Facilitate growth and development specifically in the regional cities of Shepparton, Wangaratta and Wodonga, and in Benalla.

Facilitate and strengthen the economic role of Seymour, while supporting population growth.

Support growth and development in other existing urban settlements and foster the sustainability of small rural settlements.

Maintain and enhance the distinctive and valued characteristics of settlements in the region, including townships associated with early settlement and the gold rush.

Support improved access to a range of employment and education opportunities, particularly in key urban locations such as Shepparton, Wangaratta, Wodonga, Benalla and Seymour.

11.12-4 Infrastructure

31/03/2017
VC134

Objective

To improve people and freight movements and plan strategically for future infrastructure needs.

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Strategies

Plan for freight connectivity to the network that is flexible and adaptable to changes in the mix of commodities and freight logistic operations.

Support improved east-west transport links including those into Gippsland.

Support the region's network of tracks and trails and activities that complement and extend their use.

Support the development of freight and logistics precincts in strategic locations along key regional freight corridors.

Provide for appropriate settlement buffers around sewerage treatment areas, solid waste management and resource recovery facilities and industrial areas to minimise potential impacts on the environment such as noise and odour.

Avoid locating water treatment plants close to development nodes.

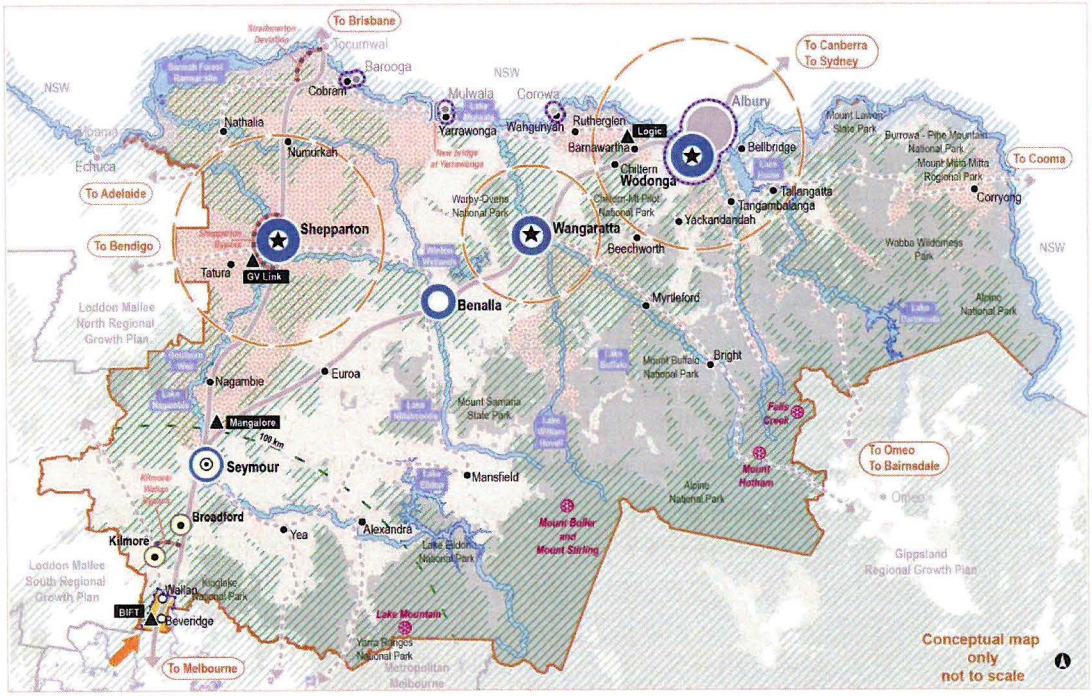
Support provision of adequate facilities to manage the region's solid waste, including resource recovery facilities.

Support opportunities to generate renewable energy from waste.

Facilitate coordinated development of growth areas to ensure required land, infrastructure and services, including education and health services, are provided in a timely manner.

11.12-5 Hume Regional Growth Plan

31/03/2017
VC134



SETTLEMENT NETWORK

- Major growth location
- Medium to high growth location
- Significant change location
- Designated identified growth centre in Plan Melbourne (1)
- Locations identified as 'Regional Cities' in a statewide context

OTHER KEY URBAN SETTLEMENTS

'Plan Melbourne (Chapter 6 – State of Cities) identifies Broadford, Kilmore and Seymour as peri-urban towns with potential to attract housing and population growth out of Melbourne

- Cross-border settlements
- Support growth in these urban locations, and lifestyle opportunities
- Towns and areas in the Hume Region within Melbourne's Urban Growth Boundary
- Settlements external to the region

URBAN GROWTH AND HINTERLAND INFLUENCE

- Hinterland influence
- Areas within 100 km of central Melbourne

CONNECTIVITY

- National transport corridor (road and rail)
- Other major transport link
- Improved future transport link
- Freight and logistics precinct
- Melbourne metropolitan growth into the Hume Region

ECONOMIC DEVELOPMENT

- Strategic agricultural land

ENVIRONMENT

- Alpine resort
- Areas containing high value terrestrial habitat
- Public land
- Key water and tourism assets
- Murray River corridor

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12.01 BIODIVERSITY

28/03/2018
VC145

12.01-1 Protection of biodiversity

16/01/2018
VC142

Objective

To assist the protection and conservation of Victoria's biodiversity.

Strategies

Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites.

Use strategic planning as the primary planning tool for the protection and conservation of Victoria's biodiversity, particularly those areas identified as important.

Ensure that decision making takes into account the impacts of land use and development on Victoria's biodiversity.

Planning should:

- Avoid and minimise impacts of land use and development on important areas of biodiversity, including consideration of:
  - Cumultative impacts.
  - Fragmentation of habitat.
  - The spread of pest plants, animals and pathogens into natural ecosystems.
- Consider impacts of any change in land-use or development that may affect the biodiversity value of national parks and conservation reserves or nationally and internationally significant sites including wetlands and wetland wildlife habitat designated under the Convention on Wetlands of International Importance (the Ramsar Convention), and sites utilised by species listed under the Japan-Australia Migratory Birds Agreement (JAMBA), the China-Australia Migratory Birds Agreement (CAMBA), or the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).
- Assist in the identification, protection and management of important areas of biodiversity.
- Assist in the re-establishment of links between important areas of biodiversity.

Policy guidelines

Planning must consider as relevant:

- *Protecting Victoria's Environment – Biodiversity 2037* (Department of Environment, Land, Water and Planning, 2017).
- *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017).
- Any applicable biodiversity strategies, including the relevant Regional Catchment Strategy (prepared under Part 4 of the *Catchment and Land Protection Act 1994*).
- Statewide biodiversity information maintained by the Department of Environment, Land, Water and Planning.

12.01-2 Native vegetation management

12/12/2017
VC138

Objective

To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.

Strategies

When making decisions about proposals that involve, or will lead to, the removal, desctruction or lopping of native vegetation, apply the three step approach in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land Water and Planning, 2017):

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

Policy guidelines

Planning must consider as relevant:

- *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017).
- *Assesor's handbook – applications to remove, destroy or lop native vegetation* (Department of Environment, Land, Water and Planning).
- Statewide biodiversity information maintained by the Department of Environment, Land, Water and Planning.

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13.02 FLOODPLAINS

28/03/2018
VC145

13.02-1 Floodplain management

16/01/2018
VC142

Objective

To assist the protection of:

- Life, property and community infrastructure from flood hazard.
- The natural flood carrying capacity of rivers, streams and floodways.
- The flood storage function of floodplains and waterways.
- Floodplain areas of environmental significance or of importance to river health.

Strategies

Identify land affected by flooding, including floodway areas, as verified by the relevant floodplain management authority, in planning scheme maps. Land affected by flooding is land inundate by the 1 in 100 year flood event or as determined by the floodplain management authority.

Avoid intensifying the impacts of flooding through inappropriately located uses and developments.

Locate emergency and community facilities (including hospitals, ambulance stations, police stations, fire stations, residential aged care facilities, communication facilities, transport facilities, community shelters and schools) outside the 1 in 100 year floodplain and, where possible, at levels above the height of the probable maximum flood.

Locate developments and uses which involve the storage or disposal of environmentally hazardous industrial and agricultural chemicals or wastes and other dangerous goods (including intensive animal industries and sewage treatment plants) must not be located on floodplains unless site design and management is such that potential contact between such substances and floodwaters is prevented, without affecting the flood carrying and flood storage functions of the floodplain.

Policy guidelines

Planning must consider as relevant:

- *State Environment Protection Policy (Waters of Victoria).*
- Regional catchment strategies and special area plans approved by the Minister for Environment and Climate Change.
- Any floodplain management manual of policy and practice, or catchment management, river health, wetland or floodplain management strategy adopted by the relevant responsible floodplain management authority.
- Any best practice environmental management guidelines for stormwater adopted by the Environment Protection Authority.
- *Victoria Floodplain Management Strategy* (Department of Environment, Land, Water and Planning 2016).

14.01 AGRICULTURE

28/03/2018
VC145

14.01-1 Protection of agricultural land

31/03/2017
VC134

Objective

To protect productive farmland which is of strategic significance in the local or regional context.

Strategies

Ensure that the State's agricultural base is protected from the unplanned loss of productive agricultural land due to permanent changes of land use.

Prevent inappropriately dispersed urban activities in rural areas.

Limit new housing development in rural areas, including:

- Directing housing growth into existing settlements.
- Discouraging development of isolated small lots in the rural zones from use for single dwellings, rural living or other incompatible uses.
- Encouraging consolidation of existing isolated small lots in rural zones.

Consult with the Department of Economic Development, Jobs, Transport and Resources and utilise available information to identify areas of productive agricultural land.

Take into consideration regional, state and local, issues and characteristics in the assessment of agricultural quality and productivity.

Permanent removal of productive agricultural land from the State's agricultural base must not be undertaken without consideration of its economic importance for the agricultural production and processing sectors.

In considering a proposal to subdivide or develop agricultural land, the following factors must be considered:

- The desirability and impacts of removing the land from primary production, given its agricultural productivity.
- The impacts of the proposed subdivision or development on the continuation of primary production on adjacent land, with particular regard to land values and to the viability of infrastructure for such production.
- The compatibility between the proposed or likely development and the existing uses of the surrounding land.
- Assessment of the land capability.

Subdivision of productive agricultural land should not detract from the long-term productive capacity of the land.

Where inappropriate subdivisions exist on productive agricultural land, priority should be given by planning authorities to their re-structure.

In assessing rural development proposals, planning and responsible authorities must balance the potential off-site effects of rural land use proposals (such as degradation of soil or water quality and land salinisation) which might affect productive agricultural land against the benefits of the proposals.

Planning for rural land use should consider:

- land capability; and
- the potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas.

14.01-2 Sustainable agricultural land use

29/10/2015
VC101

Objective

To encourage sustainable agricultural land use.

Strategies

Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources.

Encourage sustainable agricultural and associated rural land use and support and assist the development of innovative approaches to sustainable practices.

Support effective agricultural production and processing infrastructure, rural industry and farm-related retailing and assist genuine farming enterprises to adjust flexibly to market changes.

Facilitate the establishment and expansion of cattle feedlots, piggeries, poultry farms and other intensive animal industries in a manner consistent with orderly and proper planning and protection of the environment.

Policy guidelines

Planning must consider as relevant:

- *Victorian Code for Cattle Feedlots* (Department of Agriculture, Energy and Minerals, 1995), in considering proposals for use and development of beef cattle feedlots.
- *Victorian Code for Broiler Farms* (Department of Primary Industries, 2009), in considering proposals for use and development of broiler farms.
- *Code of Practice: Piggeries* (Health Commission of Victoria and Department of Food and Agriculture, 1992), in considering proposals for use and development of piggeries.
- *Apiary Code of Practice* (May 2011) and any relevant scientific reports, in considering proposals for apiculture.
- *Planning Guidelines for Land Based Aquaculture in Victoria* (Department of Primary Industries, No. 21, September 2005), in considering proposals for land based aquaculture facilities.

14.01-3 Forestry and timber production

29/10/2015
VC101

Objective

To facilitate the establishment, management and harvesting of plantations, and harvesting of timber from native forests.

Strategies

Promote the establishment of softwood and hardwood plantations on predominantly cleared land as well as other areas subject to or contributing to land and water degradation.

Identify areas which may be suitably used and developed for plantation timber production.

Ensure protection of water quality and soil.

Ensure timber production in native forests is conducted in a sustainable manner.

Timber production (except agroforestry, windbreaks and commercial plantations of 5 hectares or less) is to be conducted in accordance with the *Code of Practice for Timber Production* (Department of Environment and Primary Industries, 2014).

Ensuring Victoria's greenhouse sinks are protected and enhanced by controlling land clearing, containing the growth of urban areas and supporting revegetation programs.

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14.02 WATER

28/03/2018
VC145

14.02-1 Catchment planning and management

16/01/2018
VC142

Objective

To assist the protection and, where possible, restoration of catchments, waterways, water bodies, groundwater, and the marine environment.

Strategies

Protect water catchments and water supply facilities to ensure the continued availability of clean, high-quality drinking water.

Consider the impacts of catchment management on downstream water quality and freshwater, coastal and marine environments.

Retain natural drainage corridors with vegetated buffer zones at least 30m wide along each side of a waterway to maintain the natural drainage function, stream habitat and wildlife corridors and landscape values, to minimise erosion of stream banks and verges and to reduce polluted surface runoff from adjacent land uses.

Undertake measures to minimise the quantity and retard the flow of stormwater runoff from developed areas.

Encourage measures to filter sediment and wastes from stormwater prior to its discharge into waterways, including the preservation of floodplain or other land for wetlands and retention basins.

Ensure that works at or near waterways provide for the protection and enhancement of the environmental qualities of waterways and their instream uses.

Ensure land use and development proposals minimise nutrient contributions to waterways and water bodies and the potential for the development of algal blooms.

Require the use of appropriate measures to restrict sediment discharges from construction sites.

Ensure planning is coordinated with the activities of catchment management authorities.

Policy guidelines

Planning must consider as relevant:

- *State Environment Protection Policy (Waters of Victoria).*
- Any relevant regional river health program, river and wetland restoration plans or waterway and wetland management works programs approved by a catchment management authority.
- *Murray River Regional Environmental Plan No 2 (REP2) of New South Wales,* for adjoining land.
- Any regional catchment strategies approved under the *Catchment and Land Protection Act 1994* and any associated implementation plan or strategy including any regional river health and wetland strategies.
- Any special areas or management plans under the *Heritage Rivers Act (1992).*
- Any Action Statements and management plans prepared under the *Flora and Fauna Guarantee Act 1988.*
- Any special area plans approved under the *Catchment and Land Protection Act 1994.*
- *Guidelines for planning permit applications in open, potable water supply catchment areas* (Department of Sustainability and Environment, 2012)

14.02-2 Water quality

29/10/2015
VC101

Objective

To protect water quality.

Strategies

Protect reservoirs, water mains and local storage facilities from potential contamination.

Ensure that land use activities potentially discharging contaminated runoff or wastes to waterways are sited and managed to minimise such discharges and to protect the quality of surface water and groundwater resources, rivers, streams, wetlands, estuaries and marine environments.

Discourage incompatible land use activities in areas subject to flooding, severe soil degradation, groundwater salinity or geotechnical hazards where the land cannot be sustainably managed to ensure minimum impact on downstream water quality or flow volumes.

Prevent the establishment of incompatible land uses in aquifer recharge or saline discharge areas and in potable water catchments.

Encourage the siting, design, operation and rehabilitation of landfills to reduce impact on groundwater and surface water.

Policy guidelines

Planning must consider as relevant:

- Mapped information available from the Department of Environment, Land, Water and Planning to identify the beneficial uses of groundwater resources and have regard to potential impacts on these resources of proposed land use or development.
- *Victorian Nutrient Management Strategy* (Government of Victoria, 1995).
- *Construction Techniques for Sediment Pollution Control* (Environmental Protection Authority, 1991).
- *Environmental Guidelines for Major Construction Sites* (Environmental Protection Authority, 1996 - Publication 480).
- *Doing it Right on Subdivisions: Temporary Environment Protection Measures for Subdivision Construction Sites* (Environmental Protection Authority, 2004 - Publication 960).
- *Guidelines for planning permit applications in open, potable water supply catchments* (Department of Sustainability and Environment, 2012)

14.02-3 Water conservation

20/09/2010
VC71

Objective

To ensure that water resources are managed in a sustainable way.

Strategies

Encourage the use of alternative water sources such as rainwater tanks, stormwater and recycled water by governments, developers and households.

Ensure the development of new urban areas and green spaces takes advantage of any opportunities for effluent recycling.

Protect areas with potential to recycle water for forestry, agriculture or other uses that can use treated effluent of an appropriate quality.

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19.01 RENEWABLE ENERGY

28/03/2018
VC145

19.01-1 Provision of renewable energy

21/11/2017
VC141

Objective

To promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.

Strategies

Facilitate renewable energy development in appropriate locations.

Protect energy infrastructure against competing and incompatible uses.

Develop appropriate infrastructure to meet community demand for energy services and setting aside suitable land for future energy infrastructure.

In considering proposals for renewable energy, consideration should be given to the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.

In planning for wind energy facilities, recognise that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year.

Policy guidelines

Planning must consider as relevant:

- *Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria* (Department of Environment, Land, Water and Planning, November 2017).

21.05 ENVIRONMENT

15/03/2018
C199

21.05-1 Natural Environment and Biodiversity

15/03/2018
C199

Key biodiversity issues in Greater Shepparton are associated with native vegetation and with the myriad of river, floodplain and wetland systems.

The natural landscape of the municipality and wider region has been modified significantly as a result of pastoral activities and more recently through extensive irrigation activities. As a result, areas of remnant native vegetation are now primarily limited to waterways, road reserves and corridors. These corridors (as well as native vegetation stands on private property) provide important habitat links for flora and fauna and for the fostering of biodiversity.

The development of vast areas for irrigated agricultural activities has resulted in high water tables and salinity which have affected the productivity of the land, local bio-systems and in some instances the ultimate viability of some agricultural enterprises.

The *Goulburn Broken Catchment Management Strategy* provides the blueprint for integrated natural resource management across the municipality (and the wider region) and in part forms the regional component of the state's Biodiversity Strategy. In essence, the strategy seeks to maintain and enhance biodiversity of native flora and fauna communities and protect the region's natural resource base through the management of key threats.

The Regional Rural Land Use Strategy (RRLUS - 2008) notes that:

- Native vegetation is required to be preserved to maintain biodiversity and manage water tables.
- Floodplains and flood events are required to flush waterways and enhance water quality.
- Fauna is required to maintain biodiversity and manage pest plants and animals.

The RRLUS also notes that presently, the application of environmental controls in the region varies with a limited use of available overlays, specifically to manage significant vegetation, landscape and habitat. The application of appropriate zones, overlays and consideration of Biodiversity Action Planning processes being completed by Catchment Management Authorities are acknowledged as critical to decision making.

The RRLUS identifies land of high conservation value south and west of Murchison and around the Dookie Hills. Further strategic work will be undertaken to determine the appropriate zone or overlay to achieve the conservations outcomes envisioned in the strategy.

Objectives - Natural Environment & Biodiversity

- To maintain and enhance biodiversity of native flora and fauna communities.
- To protect and manage the natural resources of water, air and land.
- To identify natural landscape features which are to be protected and managed.
- To ensure planning for residential and rural residential growth provides for biodiversity protection and enhancement measures.

Strategies - Natural Environment & Biodiversity

- Protect remnant areas of native vegetation, streamlines, wetlands and other environmentally sensitive features.
- Ensure appropriate identification of native vegetation on land to be developed or subdivided.
- Ensure that residential and rural residential developments, and Precinct Structure Plans, address the following biodiversity protection and enhancement measures:

- Site and design development, including service infrastructure, roads and subdivision boundaries, in a manner that minimises the need to remove remnant native vegetation;
- Site and design stormwater disposal and flood mitigation infrastructure to provide for waterway habitat enhancement; and
- Enhance biodiversity values by requiring native vegetation in landscape treatments, in particular within floodways and reserves that link to rivers.

21.05-2 Floodplain and Drainage Management

19/09/2013
C121

The catchments of the various rivers and streams within the municipality include areas of flood prone land, where flooding has historically caused substantial damage to the natural and built environment. Floods are naturally occurring events and the inherent functions of the floodplains to convey and store floodwater should be recognised and preserved to minimise the deterioration of environmental values, the long term flood risk to floodplain production, assets and communities.

Flooding imposes substantial costs on individuals and the community. While significant costs are incurred by direct damage to public and private property, indirect costs to the community such as loss of productivity, displacement of residents, closure of roads, trauma and ill health are also significant. Notwithstanding these significant impacts, natural flooding of floodplains and their associated wetlands provide essential breeding habitats for bird and aquatic species, and promotes the health of rivers and floodplains.

Sound floodplain management is the means by which the economic, social and environmental risks associated with floodplain use and development can be minimised. This level of management is provided by six "local floodplain development plans (LFDP)" incorporated into the scheme at Clause 81.

Objectives - Floodplain and Drainage Management

- To recognise the constraints of the floodplain on the use and development of land.

Strategies - Floodplain Management

- Discourage development and subdivision on land subject to flooding.
- Ensure that all new development maintains the free passage and temporary storage of floodwater, minimises flood damage is compatible with flood hazard and local drainage conditions, and minimises soil erosion, sedimentation and silting.
- Prevent tree removal to minimise loss of riparian vegetation as a result of development on the floodplain.

21.05-3 Best Practice Land Management

19/09/2013
C121

Decades of open pasture farming and irrigated agriculture has also changed the natural hydrological balance. Drainage management attempts to reduce the direct costs in terms of loss of stock and damage to property, and the indirect costs of reduced productivity, road rebuilding, and inconvenience. The key issue relating to drainage management is the provision of efficient drainage of land without causing other environmental impacts.

Land use and development should be based on land capability and suitability and be mindful of potential impact of external factors such as reconfiguration of irrigation delivery and drainage infrastructure arising from irrigation water reforms. As such, Council encourages the preparation of whole farm plans to assist farming enterprises to reduce downstream impacts of nutrients on water quality, protection of natural ecosystems, reduce water logging and salinity and sustain viable farming enterprises.

It is noted that Council joined the *Cities for Climate Protection Program* in 2000 and has committed to evaluate and set targets for greenhouse gas emissions for council and

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community activities, promote energy efficient subdivision and house design, promote municipal domestic wastewater management and provide corresponding incentives and programs. Council is evaluating and planning for appropriate water saving measures relating to its own water use.

Objectives - Best Practice Land Management

- To provide a supply of high quality water for urban and agricultural use.
- To minimise the degree of salinity through an integrated regional surface water management program.
- To reduce greenhouse gas emissions.
- To direct development according to identified land capability and suitability.
- To recognise the threat posed to surface water and groundwater quality by non-reticulated domestic wastewater systems.

Strategies - Best Practice Land Management

- Promote energy efficient and sustainable built form and development.
- Ensure all new developments have adequate reticulated services or effluent disposal systems to protect watercourses and water quality.
- Support innovative methods of effluent disposal such as composting.
- Encourage the development of surface water management systems with run-off into natural systems or into reuse storage for irrigation
- Encourage ecologically sustainable development principles and technologies.
- Assist carbon emission reduction.
- Promote the use of appropriate water saving measures.

21.05-4 Cultural Heritage

03/10/2013
C110

Clause 15.03 of the State Planning Policy Framework (SPPF) identifies the need for cultural heritage policy to guide decisions on development and demolition of all places affected by heritage controls.

The Council aims to ensure that places of pre settlement and post settlement cultural heritage significance within the municipality are preserved for future generations. These places of natural and cultural heritage significance include buildings, collections, streetscapes, remnants of settlements, places of Aboriginal cultural heritage significance, significant landscapes and natural features.

Places of cultural heritage significance are highly valued by the community. The continued conservation, protection and maintenance of these places of cultural heritage significance are important to the Council.

The Council acknowledges the traditional custodians of the land which now comprises Greater Shepparton, whose descendants have a long ancestral history in the area. A number of places of cultural heritage significance have been recognised. However more detailed investigation is needed to ascertain the importance of these places.

Greater Shepparton has a rich and varied built cultural heritage reflecting its origins as a pastoral area during the mid-19th century. The Goulburn Valley is one of the more successful settlement areas following the Land Selection Acts. This is reflected in the development of Shepparton, Tatura and Mooroopna during the late 19th century and into the 20th century. This growth was consolidated by Closer Settlement policies, linked with the establishment of irrigation in the region. There is a strong 20th century inheritance of built cultural heritage fabric, a consequence of the success of horticultural enterprises and post war migration, as well as the development of Shepparton as an important regional centre.

21.06 ECONOMIC DEVELOPMENT

03/03/2016
C162

The City of Greater Shepparton services a significantly wider region than that located within the municipal boundaries and has experienced strong growth over the past fifteen years. The local economy is diverse, and includes a range of activities including agriculture, food processing, manufacturing, retail, education, health/community services, transport and warehousing.

21.06-1 Agriculture

19/09/2013
C121

Irrigated primary production and the processing of that product underpin the municipality and the Region's economy. The level of production is nationally important and the region is responsible for significant parts of the nation's milk production, deciduous canned fruit production, stone fruit crop and tomato processing production.

The region's workforce is heavily dependent on the agricultural sector with many people directly involved in agricultural production on farms, and an estimated similar number involved directly and indirectly in the processing and transport of that product. In both irrigation and dryland production the drivers of future successful agribusinesses, regardless of the scale of enterprise, are likely to be:

- Continuing current trends for significantly increased scale of production which is achieved by expanding the land area of production and/or by increasing the intensity of the production system.
- A shift to individual management of their own business risks such as consolidation into contiguous properties to manage all their own water supply.
- Agribusinesses that seek to minimize the number of neighbours.
- Agribusinesses that expand into land that is priced competitively because it is used for agriculture rather than having inflated land values because it has been subdivided for hobby farms.

It is increasingly evident that prospective agricultural investment is jeopardized, deterred, or completely lost by land uses and developments that have the potential to compromise the scale and location of such investment. In particular, agricultural investment is far less likely where land is already fragmented in ownership with housing dispersed throughout.

A Regional Rural Land Use Strategy 2008 (RRLUS) has been adopted by Moira Shire Council, the City of Greater Shepparton and the Shire of Campaspe. This strategy identifies new categories of farming areas in the municipalities and recommends different subdivision and minimum lot size provisions for dwellings for each category. The categories are as follows.

Growth areas being areas for growth and expansion of existing farm businesses and for new investment. Growth areas include those areas that have been retained in larger properties and provide the opportunity for large scale, stand alone new agricultural development as well as for consolidation of existing farm properties wishing to grow. The RRLUS seeks to discourage the establishment of new dwellings and where possible encourage farm tenements and property boundaries to consolidate and enlarge in line with the trends in agriculture associated with productivity and viability. The minimum subdivision size in these areas has been set at 40ha and a dwelling needs a planning permit on all land less than 60ha in area.

Consolidation areas being areas that support existing farm businesses to operate and expand. Consolidation areas typically include land with good soils and include many of the former closer settlement areas, but their lot sizes are no longer reflective of current farm sizes. Consolidation areas are considered to provide opportunities for development of growing agricultural enterprises that can, over time, expand and consolidate through a process of property restructure. In this regard 'consolidation' includes the consolidation of

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land or the consolidation of farming enterprises through acquisition of non-contiguous land to increase farm size. The development of additional dwellings threatens expanding agricultural enterprises and accordingly, new dwellings within these areas are discouraged. The use of re-subdivision and excisions within consolidation areas will be considered in recognition that the excision of a dwelling from a farm can provide businesses an opportunity to consolidate property holdings based on the value of land for agriculture. The minimum subdivision size in these areas has been set at 40ha and a dwelling needs a planning permit on all land less than 60ha in area.

Niche areas being those areas with productive potential based on existing lot configuration and opportunities for smaller scale and specialized agriculture. Niche areas include those rural areas with productive potential due to soil type, property size or water access. The opportunity for properties within these areas to expand in response to general market trends is limited however due to land value and existing development as most lots are smaller with dwellings. Niche areas are productive farming areas and not rural living areas. Niche areas may involve activities such as spraying and frost fans etc. New dwellings within the niche area can be considered where associated with farm business activity. Given the existing size and lot configuration, it is envisaged that subdivision would rarely be required. The minimum subdivision size in these areas has been set at 40ha and a dwelling needs a planning permit on all land less than 40ha in area.

The RRLUS also discusses the conflict which arises when the expectations of the farmer and the rural lifestyle resident differ. It is acknowledged that direction is required to ensure that unplanned rural living is not displacing agriculture or preventing flexibility for farm businesses. In particular, existing minimum lot requirements that allow 'as of right' dwellings within the Farming Zone have been reviewed.

Important principles that have been applied in the rural areas are:

- The minimum subdivision size is to be less or equal to the minimum dwelling size in order to avoid expectations and perceptions that there will be an automatic entitlement to erect a dwelling on all newly created lots in the Farming Zone.
- Small lot subdivisions should not create any additional entitlements for a dwelling nor should they create an opportunity for a dwelling without a planning permit.

Objectives - Agriculture

To ensure that agriculture is and remains the major economic driver in the region.

To facilitate growth of existing farm businesses.

To facilitate growth of new agricultural investment.

To provide for small scale, specialized agriculture.

Strategies - Agriculture

- Identify 'growth', 'consolidation' and 'niche' areas in the Farming Zone.
- Encourage growth and expansion of existing farm businesses and new investment in 'growth' and 'consolidation' areas.
- Encourage opportunities for smaller scale, specialized agriculture in 'niche' areas.
- Discourage land uses and development in the Farming Zone, Schedule 1 that would compromise the future agricultural use of the land, including farm related tourism.
- Encourage tourism in the Farming Zone, Schedule 2 that is carefully managed to prevent conflict and impact on agricultural operations.
- Encourage value adding and new enterprises for agricultural production.
- Encourage the preparation of Whole Farm Plans for on farm earthworks.

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- Discourage non-agricultural uses on rural land other than rural based industry.
- Discourage non-agricultural development in rural areas except where development is dependent on a rural location, and cannot be accommodated within existing industrial or business zoned land.
- Discourage non-agricultural development along major roads in rural areas especially at the fringe of existing urban areas when it may contribute to ribbon development.
- Buildings for non-agricultural purposes in rural areas should be set back a minimum of 100 metres from any road, be constructed in muted coloured 'colorbond' materials or similar and screened from any road by dense tree and shrub planting.
- Signs for industrial and commercial development in rural areas will be strictly limited in size and number.

21.06-2 Subdivision in Rural Areas

19/09/2013
C121

Farm holdings in rural areas are becoming larger. Rural dwelling lot excisions continue to pose a threat to the long term viability of the agricultural sector by reducing the size of farms and by causing friction between the expectations of farmers and residents.

The planning scheme provides for a range of subdivision sizes based on the outcomes of the RRLUS. Subdivision of rural land at a density greater than these minimums, especially for personal and financial reasons; or to create lots for "rural lifestyle" purposes, could jeopardise the economic future of the region.

The only circumstance in which Council will contemplate a small lot subdivision is if it leads to the consolidation of rural landholdings so as to promote the viability of agriculture. This is an increasingly important issue in the municipality since the deregulation of the dairy industry. Council wishes to facilitate farm consolidation so as to assist with (among other things) the rationalisation of a sustainable dairy industry. It is acknowledged that in some circumstances, small lot subdivision can assist the process of consolidation as it enables the farming land to be priced at its agricultural value rather than have it distorted by its housing value. While small lot subdivisions are discouraged in the municipality, they will be considered on a case by case basis if the outcome is farm consolidation.

The RRLUS identified new categories of Farming Zone and has included objectives and policies for each with respect to rural subdivision.

Objectives - Subdivision in Rural Areas

To limit the further fragmentation of rural land by subdivision.

To ensure that lots resulting from subdivision are of a sufficient size to be of benefit to agricultural production.

To encourage the consolidation of rural lots.

To provide for the incremental growth of farming enterprises.

To discourage "small lot" subdivision unless the balance lot is at least the minimum lot size and is of a size sufficient to support a viable agricultural enterprise.

To ensure that small lot subdivisions do not prejudice surrounding agricultural activities.

To ensure that small lots have access to adequate infrastructure including access to all weather roads.

To prevent small lot subdivision to meet personal and financial circumstances or to create lots for 'rural lifestyle' purposes.

To prevent the creation of irregular shaped lots.

35.07 FARMING ZONE

16/01/2018
VC142

Shown on the planning scheme map as **FZ** with a number (if shown).

Purpose

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To provide for the use of land for agriculture.

To encourage the retention of productive agricultural land.

To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.

To encourage the retention of employment and population to support rural communities.

To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.

35.07-1 Table of uses

16/01/2018
VC142

Section 1 – Permit not required

Use	Condition
Agriculture (other than Animal keeping, Apiculture, Intensive animal husbandry, Racing dog training, Rice growing and Timber production)	
Animal keeping (other than Animal boarding)	Must be no more than 5 animals.
Bed and breakfast	No more than 10 persons may be accommodated away from their normal place of residence. At least 1 car parking space must be provided for each 2 persons able to be accommodated away from their normal place of residence.
Cattle feedlot	Must meet the requirements of Clause 52.26. The total number of cattle to be housed in the cattle feedlot must be 1000 or less. The site must be located outside a special water supply catchment under the Catchment and Land Protection Act 1994. The site must be located outside a catchment area listed in Appendix 2 of the Victorian Code for Cattle Feedlots – August 1995.
Dependent person's unit	Must be the only dependent person's unit on the lot. Must meet the requirements of Clause 35.07-2.
Dwelling (other than Bed and breakfast)	Must be the only dwelling on the lot. The lot must be at least the area specified in a schedule to this zone. If no area is specified, the lot must be at least 40 hectares. Must meet the requirements of Clause 35.07-2.
Home based business **Informal outdoor recreation**	
Primary produce sales	Must not be within 100 metres of a dwelling in

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Use	Condition
	separate ownership. The area used for the display and sale of primary produce must not exceed 50 square metres.
Racing dog training	Must be no more than 5 animals.
Railway	
Rural industry (other than Abattoir and Sawmill)	Must not have a gross floor area more than 200 square metres. Must not be within 100 metres of a dwelling in separate ownership. Must not be a purpose shown with a Note 1 or Note 2 in the table to Clause 52.10. The land must be at least the following distances from land (not a road) which is in a residential zone or Rural Living Zone: ▪ The threshold distance, for a purpose listed in the table to Clause 52.10. ▪ 30 metres, for a purpose not listed in the table to Clause 52.10.
Rural store	Must be used in conjunction with Agriculture. Must be in a building, not a dwelling and have a gross floor area of less than 100 square metres. Must be the only Rural store on the lot.
Timber production	Must meet the requirements of Clause 52.18. The plantation area must not exceed any area specified in a schedule to this zone. Any area specified must be at least 40 hectares. The total plantation area (existing and proposed) on contiguous land which was in the same ownership on or after 28 October 1993 must not exceed any scheduled area. The plantation must not be within 100 metres of: ▪ Any dwelling in separate ownership. ▪ Any land zoned for residential, commercial or industrial use. ▪ Any site specified on a permit which is in force which permits a dwelling to be constructed. The plantation must not be within 20 metres of a powerline whether on private or public land, except with the consent of the relevant electricity supply or distribution authority.
Tramway	
Any use listed in Clause 62.01	Must meet requirements of Clause 62.01.

Section 2 – Permit required

Use	Condition
Abattoir	
Animal boarding	
Broiler farm	Must meet the requirements of Clause 52.31.

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Use	Condition
Camping and caravan park	
Car park	Must be used in conjunction with another use in Section 1 or 2.
Cattle feedlot – if the Section 1 condition is not met	Must meet the requirements of Clause 52.26. The site must be located outside a catchment area listed in Appendix 2 of the Victorian Code for Cattle Feedlots – August 1995.
Cemetery **Crematorium**	
Dependent person's unit – if the Section 1 condition is not met **Dwelling (other than Bed and breakfast) – if the Section 1 condition is not met**	Must meet the requirements of Clause 35.07-2.
Emergency services facility	
Freeway service centre	Must meet the requirements of Clause 52.30.
Group accommodation **Host farm** **Industry (other than Rural industry)** **Intensive animal husbandry (other than Broiler farm and Cattle feedlot)** **Landscape gardening supplies** **Leisure and recreation (other than Informal outdoor recreation)** **Manufacturing sales** **Market** **Place of assembly (other than Amusement parlour, Night club, Carnival and Circus)** **Primary school**	
Racing dog keeping – if the Section 1 condition to Animal keeping is not met **Racing dog training – if the Section 1 condition is not met**	Must meet the requirements of Clause 52.40.
Renewable energy facility (other than Wind energy facility)	Must meet the requirements of Clause 52.42.
Residential hotel **Restaurant** **Rice growing** **Sawmill** **Secondary school**	
Timber production – if the Section 1 condition is not met	Must meet the requirements of Clause 52.18.
Trade supplies **Utility installation (other than Minor utility installation and Telecommunications facility)** **Warehouse (other than Rural store)**	
Wind energy facility	Must meet the requirements of Clause 52.32.

Use	Condition
Winery	
Any other use not in Section 1 or 3	

Section 3 – Prohibited

Use
Accommodation (other than Bed and breakfast, Camping and caravan park, Dependent person's unit, Dwelling, Group accommodation, Host farm and Residential hotel)
Amusement parlour
Brothel
Child care centre
Cinema based entertainment facility
Education centre (other than Primary school and Secondary school)
Nightclub
Office
Retail premises (other than Market, Landscape gardening supplies, Manufacturing sales, Primary produce sales, Restaurant and Trade supplies)

35.07-2 Use of land for a dwelling

19/01/2006
VC37

A lot used for a dwelling must meet the following requirements:

- Access to the dwelling must be provided via an all-weather road with dimensions adequate to accommodate emergency vehicles.
- The dwelling must be connected to a reticulated sewerage system or if not available, the waste water must be treated and retained on-site in accordance with the State Environment Protection Policy (Waters of Victoria) under the Environment Protection Act 1970.
- The dwelling must be connected to a reticulated potable water supply or have an alternative potable water supply with adequate storage for domestic use as well as for fire fighting purposes.
- The dwelling must be connected to a reticulated electricity supply or have an alternative energy source.

These requirements also apply to a dependent person's unit.

35.07-3 Subdivision

05/09/2013
VC103

A permit is required to subdivide land.

Each lot must be at least the area specified for the land in a schedule to this zone. If no area is specified, each lot must be at least 40 hectares.

A permit may be granted to create smaller lots if any of the following apply:

- The subdivision is to create a lot for an existing dwelling. The subdivision must be a two lot subdivision.
- The subdivision is the re-subdivision of existing lots and the number of lots is not increased.
- The subdivision is by a public authority or utility service provider to create a lot for a utility installation.

35.07-4 Buildings and works

05/09/2013
VC103

A permit is required to construct or carry out any of the following:

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- A building or works associated with a use in Section 2 of Clause 35.07-1. This does not apply to:
  - An alteration or extension to an existing dwelling provided the floor area of the alteration or extension is not more than the area specified in a schedule to this zone or, if no area is specified, 100 square metres. Any area specified must be more than 100 square metres.
  - An out-building associated with an existing dwelling provided the floor area of the out-building is not more than the area specified in a schedule to this zone or, if no area is specified, 100 square metres. Any area specified must be more than 100 square metres.
  - An alteration or extension to an existing building used for agriculture provided the floor area of the alteration or extension is not more than the area specified in a schedule to this zone or, if no area is specified, 200 square metres. Any area specified must be more than 200 square metres. The building must not be used to keep, board, breed or train animals.
  - A rainwater tank.
- Earthworks specified in a schedule to this zone, if on land specified in a schedule.
- A building which is within any of the following setbacks:
  - The setback from a Road Zone Category 1 or land in a Public Acquisition Overlay to be acquired for a road, Category 1 specified in a schedule to this zone or, if no setback is specified, 50 metres.
  - The setback from any other road or boundary specified in a schedule to this zone.
  - The setback from a dwelling not in the same ownership specified in a schedule to this zone.
  - 100 metres from a waterway, wetlands or designated flood plain.

35.07-5 Application requirements for dwellings

19/01/2006
VC37

An application to use a lot for a dwelling must be accompanied by a written statement which explains how the proposed dwelling responds to the decision guidelines for dwellings in the zone.

35.07-6 Decision guidelines

05/09/2013
VC103

Before deciding on an application to use or subdivide land, construct a building or construct or carry out works, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

General issues

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- Any Regional Catchment Strategy and associated plan applying to the land.
- The capability of the land to accommodate the proposed use or development, including the disposal of effluent.
- How the use or development relates to sustainable land management.
- Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.
- How the use and development makes use of existing infrastructure and services.

Agricultural issues and the impacts from non-agricultural uses

- Whether the use or development will support and enhance agricultural production.
- Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production.
- The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.
- The capacity of the site to sustain the agricultural use.
- The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure.
- Any integrated land management plan prepared for the site.

Dwelling issues

- Whether the dwelling will result in the loss or fragmentation of productive agricultural land.
- Whether the dwelling will be adversely affected by agricultural activities on adjacent and nearby land due to dust, noise, odour, use of chemicals and farm machinery, traffic and hours of operation.
- Whether the dwelling will adversely affect the operation and expansion of adjoining and nearby agricultural uses.
- The potential for the proposal to lead to a concentration or proliferation of dwellings in the area and the impact of this on the use of the land for agriculture.

Environmental issues

- The impact of the proposal on the natural physical features and resources of the area, in particular on soil and water quality.
- The impact of the use or development on the flora and fauna on the site and its surrounds.
- The need to protect and enhance the biodiversity of the area, including the retention of vegetation and faunal habitat and the need to revegetate land including riparian buffers along waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area.
- The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation.

Design and siting issues

- The need to locate buildings in one area to avoid any adverse impacts on surrounding agricultural uses and to minimise the loss of productive agricultural land.
- The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts.
- The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.
- The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.
- Whether the use and development will require traffic management measures.

708

35.07-7 Advertising signs

19/01/2006
VC37

Advertising sign requirements are at Clause 52.05. This zone is in Category 4.

Notes:

Refer to the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement, for strategies and policies which may affect the use and development of land.

Check whether an overlay also applies to the land.

Other requirements may also apply. These can be found at Particular Provisions.

19/09/2013
C121

SCHEDULE 1 TO THE FARMING ZONE

Shown on the planning scheme map as **FZ1.**

	Land	Area/Dimensions/Distance
Minimum subdivision area (hectares).	Land as delineated FZ1 on the planning scheme maps	40 hectares
Minimum area for which no permit is required to use land for a dwelling (hectares).	Land as delineated FZ1 on the planning scheme maps	60 hectares
Maximum area for which no permit is required to use land for timber production (hectares).	None specified	
Maximum floor area for which no permit is required to alter or extend an existing dwelling (square metres).	All land	100 square metres
Maximum floor area for which no permit is required to construct an out-building associated with a dwelling (square metres)	None specified	
Maximum floor area for which no permit is required to alter or extend an existing building used for agriculture (square metres).	All land	100 square metres
Minimum setback from a road (metres).	A Road Zone Category 1 or land in a Public Acquisition Overlay to be acquired for a road, Category 1	100 metres
	A Road Zone Category 2 or land in a Public Acquisition Overlay to be acquired for a road, Category 2	40 metres
	Any other road	20 metres
Minimum setback from a boundary (metres).	Any other boundary	5 metres
Minimum setback from a dwelling not in the same ownership (metres).	All land	100 metres

Permit requirement for earthworks	Land
Earthworks which change the rate of flow or the discharge point of water across a property boundary.	All land except for that which an approval or an exemption has been made or granted under the 'Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire – August 2010' incorporated at Clause 81. All the land with the exception of Lot 3 PS331755 identified as a component of the Goulburn Valley Freight Logistics Centre at Mooroopna and which is

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Permit requirement for earthworks	Land
	subject to the prior preparation of a Flood Management Plan approved by the relevant Floodplain Management Authority and the Responsible Authority. That required for the construction of the Goulburn Valley Highway – Shepparton Bypass and associated works, subject to prior preparation of a Flood Management Plan which is approved by the relevant Floodplain Management Authority and the Responsible Authority.
Earthworks which increase the discharge of saline groundwater.	All land except for that which an approval or an exemption has been made or granted under the 'Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire – August 2010' incorporated at Clause 81 All the land with the exception of Lot 3 PS331755 identified as a component of the Goulburn Valley Freight Logistics Centre at Mooroopna and which is subject to the prior preparation of a Flood Management Plan approved by the relevant Floodplain Management Authority and the Responsible Authority That required for the construction of the Goulburn Valley Highway – Shepparton Bypass and associated works, subject to the approval of the Responsible Authority.

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44.03 FLOODWAY OVERLAY

16/01/2018
VC142

Shown on the planning scheme map as **FO** or **RFO** with a number (if shown).

Purpose

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To identify waterways, major floodpaths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding.

To ensure that any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting.

To reflect any declarations under Division 4 of Part 10 of the Water Act, 1989 if a declaration has been made.

To protect water quality and waterways as natural resources in accordance with the provisions of relevant State Environment Protection Policies, and particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).

To ensure that development maintains or improves river and wetland health, waterway protection and flood plain health.

44.03-1 Buildings and works

16/01/2018
VC142

A permit is required to construct a building or to construct or carry out works, including:

- A fence.
- Roadworks, if the water flow path is redirected or obstructed.
- Bicycle pathways and trails.
- Public toilets.
- A domestic swimming pool or spa and associated mechanical and safety equipment if associated with one dwelling on a lot.
- Rainwater tank with a capacity of not more than 10,000 litres.
- A pergola or verandah, including an open-sided pergola or verandah to a dwelling with a finished floor level not more than 800mm above ground level and a maximum building height of 3 metres above ground level.
- A deck, inlcuding a deck to a dwelling with a finished floor level not more than 800mm above ground level.
- A non-domestic disabled access ramp.
- A dependant person's unit.

This does not apply:

- If a schedule to this overlay specifically states that a permit is not required.
- To flood mitigation works carried out by the responsible authority or floodplain management authority.
- To the following works in accordance with plans prepared to the satisfaction of the responsible authority:
  - The laying of underground sewerage, water and gas mains, oil pipelines, underground telephone lines and underground power lines provided they do not alter the topography of the land.
  - The erection of telephone or power lines provided they do not involve the construction of towers or poles.
- To post and wire and post and rail fencing.

44.03-2 Subdivision

19/01/2006
VC37

A permit is required to subdivide land. A permit may only be granted to subdivide land if the following apply:

- The subdivision does not create any new lots, which are entirely within this overlay. This does not apply if the subdivision creates a lot, which by agreement between the owner and the relevant floodplain management authority, is to be transferred to an authority for a public purpose.
- The subdivision is the resubdivision of existing lots and the number of lots is not increased, unless a local floodplain development plan incorporated into this scheme specifically provides otherwise.

44.03-3 Application requirements

21/09/2009
VC60

Local floodplain development plan

If a local floodplain development plan has been developed for the area and has been incorporated into this scheme, an application must be consistent with the plan.

Flood risk report

If a local floodplain development plan for the area has not been incorporated into this scheme, an application must be accompanied by a flood risk report to the satisfaction of the responsible authority, which must consider the following, where applicable:

- The State Planning Policy Framework and the Local Planning Policy Framework.
- The existing use and development of the land.
- Whether the proposed use or development could be located on flood-free land or land with a lesser flood hazard outside this overlay.
- The susceptibility of the development to flooding and flood damage.
- The potential flood risk to life, health and safety associated with the development. Flood risk factors to consider include:
  - The frequency, duration, extent, depth and velocity of flooding of the site and accessway.
  - The flood warning time available.
  - The danger to the occupants of the development, other floodplain residents and emergency personnel if the site or accessway is flooded.
- The effect of the development on redirecting or obstructing floodwater, stormwater or drainage water and the effect of the development on reducing flood storage and increasing flood levels and flow velocities.
- The effects of the development on river health values including wetlands, natural habitat, stream stability, erosion, environmental flows, water quality and sites of scientific significance.

44.03-4 Exemption from notice and review

19/01/2006
VC37

An application under this overlay is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

44.03-5 Referral of applications

19/01/2006
VC37

An application must be referred to the relevant floodplain management authority under Section 55 of the Act unless in the opinion of the responsible authority the proposal

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satisfies requirements or conditions previously agreed in writing between the responsible authority and the floodplain management authority.

44.03-6 Decision guidelines

21/09/2009
VC60

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The local floodplain development plan or flood risk report.
- Any comments of the relevant floodplain management authority.
- The Victorian River Health Strategy (2002) and any relevant regional river health strategy and associated wetland plan.

Notes:

Refer to the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement, for strategies and policies which may affect the use and development of land.

Check the requirements of the zone which applies to the land.

Other requirements may also apply. These can be found at Particular Provisions.

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25/08/2011
C138

SCHEDULE TO THE FLOODWAY OVERLAY

Shown on the planning scheme map as **FO**

1.0 Permit requirement

25/08/2011
C138

A permit is not required to construct or carry out the following buildings or works:

- a single or multiple industrial, retail or office building extension where the combined ground floor area of the extension since 29th July 1999 is not greater than 100 m2;
- a single or multiple dwelling extension where the combined ground floor area of the extension since 29th July 1999 is not greater than 20 m²;
- an upper storey extension to an existing building within the existing building footprint;
- a pergola, veranda, decking, garage, carport or domestic shed adjacent to an existing dwelling;
- an in-ground swimming pool with open style security fencing adjacent to an existing dwelling;
- a pump shed;
- a wooden or metal paling fence or cyclone mesh fence in a residential, business or industrial zone (not including a brick, masonry, or concrete wall);
- an agricultural shed (other than one used for industrial, retail or office purposes) for the storage of farm machinery, farm vehicles and workshop associated with a rural use in a farming zone with a floor area not more than 100 m2;
- a sportsground, racecourse or recreation area (with no permanent grandstand or raised viewing area), pathways and trails constructed at general natural surface elevation, playground, open picnic shelter, picnic table, drinking tap, rubbish bin, barbecue, works associated with an apiary or underground infrastructure;
- an outdoor advertising sign/structure;
- a mast, antenna, lighting or telecommunications tower;
- an accessway constructed at general natural surface elevations;
- roadworks carried out by a public authority;
- earthworks/dam in accordance with the Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire – August 2010 at Clause 81 and approved by the responsible authority and the floodplain management authority; and
- earthworks/flood mitigation works in association with the Goulburn Valley Freight Logistics Centre provided such works are in accordance with a Flood Management Plan approved by the responsible authority and the floodplain management authority.

2.0 Decision Guidelines – Greater Shepparton Local Floodplain Development Plans

25/08/2011
C138

In addition to the Decision Guidelines in Clause 44.03-5, before deciding on an application, the responsible authority must consider the following relevant local floodplain development plans, which has been incorporated at Clause 81 of this scheme, as indicated on the attached map:

- Precinct of Lower Goulburn (2006);
- Precinct of Goulburn River (2006);
- Precinct of Broken River (2006);
- Precinct of Broken Creek (2006);

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- Precinct of Honeysuckle Creek and Seven Creeks (2006); and
- Precinct of Mosquito Creek (2006).

The Responsible Authority must also consider the 'Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire – August 2010' incorporated at Clause 81.

3.0 Referral of applications

16/02/2006
C63

An application is not required to be referred to the relevant floodplain management authority pursuant to Section 55 of the *Planning and Environment Act 1987* if the application is in accordance with a local floodplain development plan which has been incorporated at Clause 81 of this scheme.

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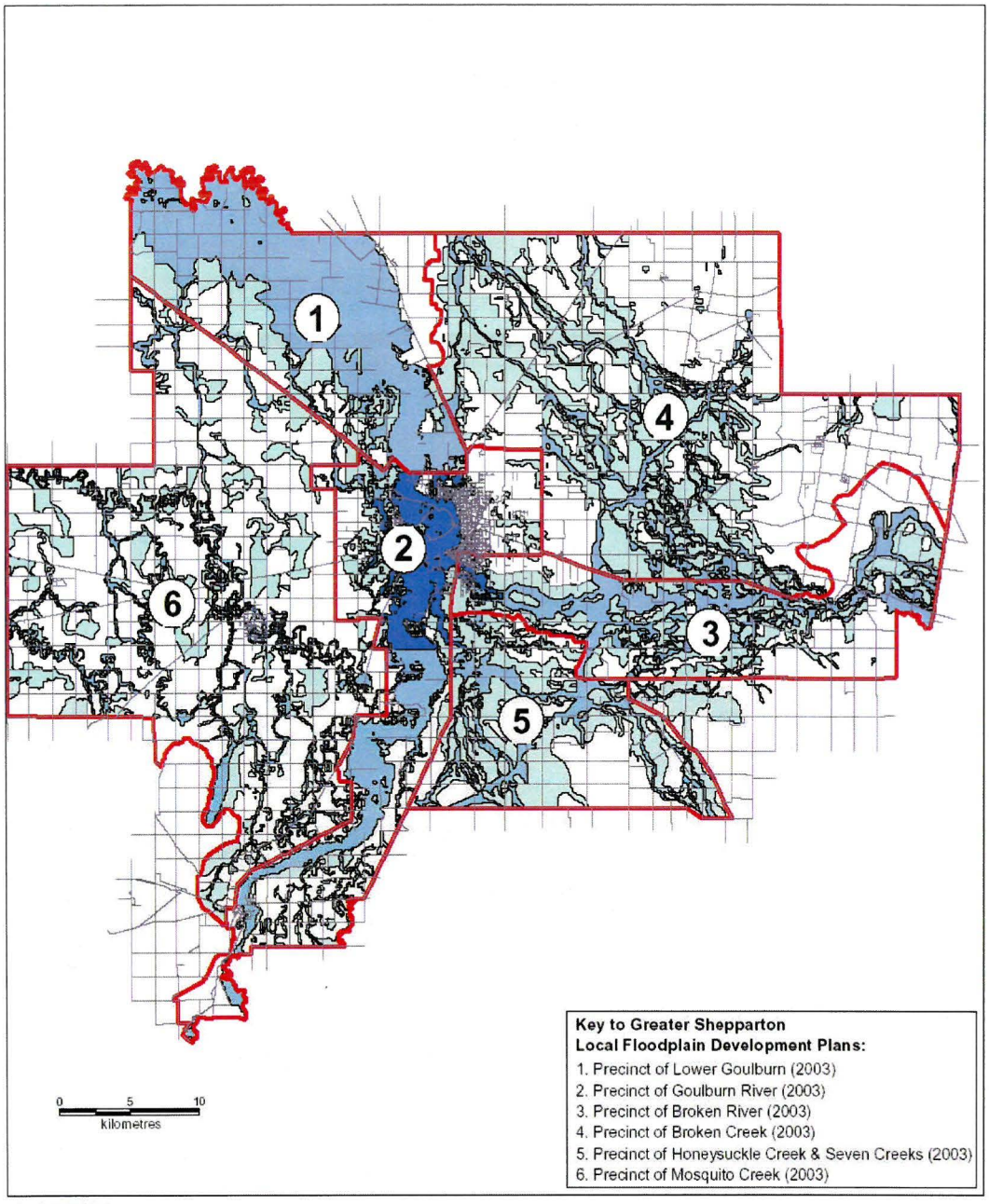
Greater Shepparton Local Floodplain Development Plans



Key to Greater Shepparton Local Floodplain Development Plans:

1. Precinct of Lower Goulburn (2003)
2. Precinct of Goulburn River (2003)
3. Precinct of Broken River (2003)
4. Precinct of Broken Creek (2003)
5. Precinct of Honeysuckle Creek & Seven Creeks (2003)
6. Precinct of Mosquito Creek (2003)

LEGEND

- Roads
- Precinct Boundary
- LSIO region
- FO region
- UFZ region

PREPARED BY: PLANNING DATA AND MAPPING TEAM
DEPARTMENT OF SUSTAINABILITY AND ENVIRONMENT

The above Greater Shepparton Local Floodplain Development Plans are incorporated documents at Clause 81 of the Greater Shepparton Planning Scheme which contain flood information and specific development requirements.

These maps showing FO, LSIO & UFZ areas are indicative only and not to be used as a substitute over the planning scheme maps.

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FLOODWAY OVERLAY - SCHEDULE

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44.04 LAND SUBJECT TO INUNDATION OVERLAY

16/01/2018
VC142

Shown on the planning scheme map as **LSIO** with a number (if shown).

Purpose

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To identify land in a flood storage or flood fringe area affected by the 1 in 100 year flood or any other area determined by the floodplain management authority.

To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.

To reflect any declaration under Division 4 of Part 10 of the Water Act, 1989 where a declaration has been made.

To protect water quality in accordance with the provisions of relevant State Environment Protection Policies, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).

To ensure that development maintains or improves river and wetland health, waterway protection and flood plain health.

44.04-1 Buildings and works

16/01/2018
VC142

A permit is required to construct a building or to construct or carry out works, including:

- A fence.
- Roadworks, if the water flow path is redirected or obstructed.
- Bicycle pathways and trails.
- Public toilets.
- A domestic swimming pool or spa and associated mechanical and safety equipment if associated with one dwelling on a lot.
- Rainwater tank with a capacity of not more than 10,000 litres.
- A pergola or verandah, including an open-sided pergola or verandah to a dwelling with a finished floor level not more than 800mm above ground level and a maximum building height of 3 metres above ground level.
- A deck, including a deck to a dwelling with a finished floor level not more than 800mm above ground level.
- A non-domestic disabled access ramp.
- A dependent person's unit.

This does not apply:

- If a schedule to this overlay specifically states that a permit is not required.
- To flood mitigation works carried out by the responsible authority or floodplain management authority.
- To the following works in accordance with plans prepared to the satisfaction of the responsible authority:
  - The laying of underground sewerage, water and gas mains, oil pipelines, underground telephone lines and underground power lines provided they do not alter the topography of the land.
  - The erection of telephone or power lines provided they do not involve the construction of towers or poles.
- To post and wire and post and rail fencing.

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44.04-2 Subdivision

19/01/2006
VC37

A permit is required to subdivide land.

44.04-3 Application requirements

19/01/2006
VC37

Local floodplain development plan

If a local floodplain development plan has been developed for the area and has been incorporated into this scheme, an application must be consistent with the plan.

44.04-4 Exemption from notice and review

19/01/2006
VC37

An application under this overlay is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

44.04-5 Referral of applications

19/01/2006
VC37

An application must be referred to the relevant floodplain management authority under Section 55 of the Act unless in the opinion of the responsible authority, the proposal satisfies requirements or conditions previously agreed in writing between the responsible authority and the floodplain management authority.

44.04-6 Decision guidelines

21/09/2009
VC60

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- Any local floodplain development plan.
- Any comments from the relevant floodplain management authority.
- The existing use and development of the land.
- Whether the proposed use or development could be located on flood-free land or land with a lesser flood hazard outside this overlay.
- The susceptibility of the development to flooding and flood damage.
- The potential flood risk to life, health and safety associated with the development. Flood risk factors to consider include:
  - The frequency, duration, extent, depth and velocity of flooding of the site and accessway.
  - The flood warning time available.
  - The danger to the occupants of the development, other floodplain residents and emergency personnel if the site or accessway is flooded.
- The effect of the development on redirecting or obstructing floodwater, stormwater or drainage water and the effect of the development on reducing flood storage and increasing flood levels and flow velocities.
- The effect of the development on river health values including wetlands, natural habitat, stream stability, erosion, environmental flows, water quality and sites of scientific significance.

Notes: *Refer to the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement, for strategies and policies which may affect the use and development of land.*

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Check the requirements of the zone which applies to the land.
Other requirements may also apply. These can be found at Particular Provisions.

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11/02/2016
C179

SCHEDULE TO THE LAND SUBJECT TO INUNDATION OVERLAY

Shown on the planning scheme map as **LSIO**.

1.0 Permit requirement

11/02/2016
C179

A permit is not required to construct or carry out the following buildings or works:

- a single dwelling on an allotment within General Residential Zones, Neighbourhood Residential Zones, Residential Growth Zones where the floor level is at least 300 mm above the 100-year ARI flood level, or a higher level set by the responsible authority;
- a replacement dwelling where the floor level is at least 300 mm above the 100-year ARI flood level, or a higher level set by the responsible authority;
- a single or multiple dwelling extension where:
  - the combined ground floor area of the extension since 29th July 1999 is not greater than 20 m²; or
  - the owner can demonstrate to the satisfaction of the responsible authority that the floor height of the proposed dwelling extension/s is at least 300 millimetres above the 100-year ARI flood at the date of enquiry.
- an upper storey extension to an existing building within the existing building footprint;
- a pergola, verandah, decking, garage, carport, domestic shed, spa or swimming pool adjacent to an existing dwelling; including the extension to any of the aforementioned;
- an agricultural shed (other than one used for industrial, retail or office purposes) for the storage of farm machinery, farm vehicles and workshop associated with a rural use in a farming zone with a floor area not more than 130 m2;
- a new industrial, retail, or office building within any industrial or business zone of Mooroopna, Shepparton and Tatura where the floor level is at least 300 millimetres above the 100-year ARI flood level, or a higher level set by the responsible authority;
- an extension to an existing industrial, retail or office building provided that the total ground floor area of the building is less than 130 m²;
- a fence in a residential, business or industrial zone;
- open type fencing (not including solid fences such as wooden or metal paling fences, cyclone mesh fences or brick, stone or concrete wall);
- an outdoor advertising sign/structure;
- a pump shed;
- a hay shed with open sides;
- a sportsground, racecourse or recreation area (with no permanent grandstand or raised viewing area), pathways and trails constructed at general natural surface elevation, playground, open picnic shelter, picnic table, drinking tap, rubbish bin, barbecue, works associated with an apiary or underground infrastructure;
- a mast, antenna, lighting or telecommunications tower;
- an accessway constructed at general natural surface elevations;
- roadworks carried out by a public authority;

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- earthworks/dam in accordance with the *Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire – August 2010* at Clause 81 and approved by the responsible authority and the floodplain management authority; and
- earthworks/flood mitigation works in association with the Goulburn Valley Freight Logistics Centre provided such works are in accordance with a Flood Management Plan approved by the responsible authority and the floodplain management authority.

2.0 Decision Guidelines – Greater Shepparton Local Floodplain Development Plans

25/08/2011
C138

In addition to the Decision Guidelines in Clause 44.03-5, before deciding on an application, the responsible authority must consider the following relevant local floodplain development plans, which has been incorporated at Clause 81 of this scheme, as indicated on the attached map:

- Precinct of Lower Goulburn (2006);
- Precinct of Goulburn River (2006);
- Precinct of Broken River (2006);
- Precinct of Broken Creek (2006);
- Precinct of Honeysuckle Creek and Seven Creeks (2006); and
- Precinct of Mosquito Creek (2006).

The Responsible Authority must also consider the '*Earthworks Controls in the Shire of Campaspe, City of Greater Shepparton and Moira Shire – August 2010*' incorporated at Clause 81.

3.0 Referral of applications

16/02/2006
C63

An application is not required to be referred to the relevant floodplain management authority pursuant to Section 55 of the *Planning and Environment Act 1987* if the application is in accordance with a local floodplain development plan which has been incorporated at Clause 81 of this scheme.

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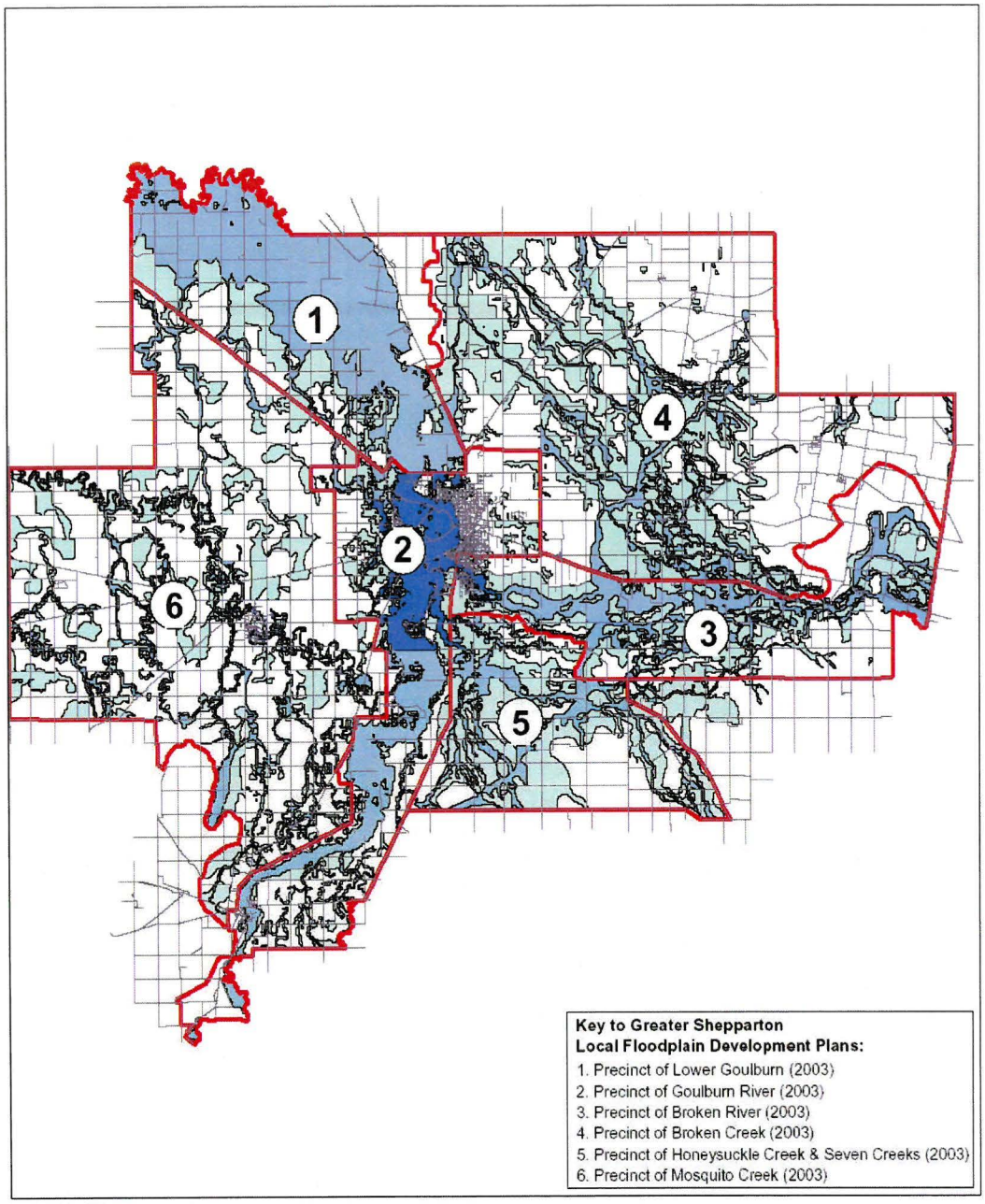
Greater Shepparton Local Floodplain Development Plans



Key to Greater Shepparton Local Floodplain Development Plans:

1. Precinct of Lower Goulburn (2003)
2. Precinct of Goulburn River (2003)
3. Precinct of Broken River (2003)
4. Precinct of Broken Creek (2003)
5. Precinct of Honeysuckle Creek & Seven Creeks (2003)
6. Precinct of Mosquito Creek (2003)

LEGEND

- Roads
- Precinct Boundary
- LSIO region
- FO region
- UFZ region

PREPARED BY: PLANNING DATA AND MAPPING TEAM
DEPARTMENT OF SUSTAINABILITY AND ENVIRONMENT

The above Greater Shepparton Local Floodplain Development Plans are incorporated documents at Clause 81 of the Greater Shepparton Planning Scheme which contain flood information and specific development requirements.

These maps showing FO, LSIO & UFZ areas are indicative only and not to be used as a substitute over the planning scheme maps.

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LAND SUBJECT TO INUNDATION OVERLAY - SCHEDULE

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52.17 NATIVE VEGETATION

02/04/2015
VC124

Purpose

To ensure permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity. This is achieved through the following approach:

- Avoid the removal of native vegetation that makes a significant contribution to Victoria's biodiversity.
- Minimise impacts on Victoria's biodiversity from the removal of native vegetation.
- Where native vegetation is permitted to be removed, ensure that an offset is provided in a manner that makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation to be removed.

To manage native vegetation to minimise land and water degradation.

To manage native vegetation near buildings to reduce the threat to life and property from bushfire.

52.17-1 Native vegetation precinct plans

15/09/2008
VC49

This clause does not apply if a Native vegetation precinct plan corresponding to the land is incorporated into this scheme.

52.17-2 Permit requirement

20/12/2013
VC105

A permit is required to remove, destroy or lop native vegetation, including dead native vegetation. This does not apply:

- If the table to Clause 52.17-7 specifically states that a permit is not required.
- To the removal, destruction or lopping of native vegetation specified in the schedule to this clause.
- To an area specified in the schedule to this clause.

Class of application

An application to remove, destroy or lop native vegetation must be classified as one of the following risk-based pathways: low, moderate or high, as defined in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013). The application requirements and decision guidelines included in this clause must be applied in accordance with the classified pathway.

52.17-3 Application requirements

20/12/2013
VC105

All applications to remove, destroy or lop native vegetation must comply with the General application requirements.

An application in the moderate or high risk-based pathway must also comply with the moderate and high risk-based pathway application requirements.

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General application requirements

All applications to remove, destroy or lop native vegetation must be accompanied by the following information, as appropriate:

- The location of the native vegetation to be removed.
- A description of the native vegetation to be removed, including the area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines,* (Department of Environment and Primary Industries, September 2013)
- Recent dated photographs of the native vegetation to be removed.
- Topographic information, highlighting ridges, crests and hilltops, streams and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion.
- A copy of any property vegetation plan that applies to the site.
- Where the removal, destruction or lopping of vegetation is to create defendable space, a statement explaining why removal, destruction or lopping of native vegetation is required having regard to other available bushfire risk mitigation measures. This does not apply to the creation of defendable space in conjunction with an application under the Bushfire Management Overlay.
- Details of any other native vegetation that was permitted to be removed on the same property with the same ownership in the five year period before the application for a permit to remove native vegetation is lodged.
- The strategic biodiversity score of the native vegetation to be removed.
- The offset requirement if the native vegetation is permitted to be removed.

Moderate and high risk-based pathway application requirements

An application included in the moderate and high risk-based pathway must also be accompanied by the following information, as appropriate:

- A habitat hectare assessment of the native vegetation to be removed.
- A statement outlining what steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.
- An assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.
- An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.

52.17-4 Property vegetation plans

16/03/2006
VC38

Any permit granted to remove, destroy or lop native vegetation in accordance with a property vegetation plan:

- May include conditions which reflect relevant restrictions or obligations contained in that plan.
- Must include the following condition:

  "This permit will expire if one of the following circumstances applies:

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- the development or any stage of it does not start within ten years of the date of this permit.
- the development or any stage of it is not completed within ten years of the date of this permit."

52.17-5 Decision guidelines

20/12/2013
VC105

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

Biodiversity considerations

For all applications

- The contribution that native vegetation to be removed makes to Victoria's biodiversity. This is determined by:
  - The extent and condition of the native vegetation.
  - The biodiversity value of the native vegetation, including whether the native vegetation is important habitat for rare or threatened species.
- Whether the removal of native vegetation is defined as being in the low, moderate or high risk-based pathway, as defined in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013) and apply the decision guidelines accordingly.

For an application considered under the moderate risk-based pathway

- Whether reasonable steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.
- That an offset that meets the offset requirements for the native vegetation that is to be removed as defined in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013) has been identified.

For an application considered under the high risk-based pathway

- Whether reasonable steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.
- Whether the native vegetation to be removed makes a significant contribution to Victoria's biodiversity.
- That an offset that meets the offset requirements for the native vegetation that is to be removed as defined in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013) has been identified.

Other matters

The responsible authority must also consider the following issues, as appropriate:

- The need to remove, destroy or lop native vegetation to create defendable space to reduce the risk of bushfire to life and property, having regard to the other available bushfire risk mitigation measures.

- The role of native vegetation in:
  - Protecting water quality and waterway and riparian ecosystems, particularly within 30 metres of a wetland or waterway and in special water supply catchment areas listed in the *Catchment and Land Protection Act 1994*.
  - Preventing land degradation, including soil erosion, salination, acidity, instability, and water logging, particularly:
    - Where ground slopes are more than 20 per cent.
    - On land which is subject to soil erosion or slippage.
    - In harsh environments, such as coastal or alpine area.
  - Preventing adverse effects on groundwater quality on land:
    - Where groundwater recharge to saline waterbodies occurs.
    - That is in proximity to a discharge area.
    - Which is a known recharge area.
- In the case of timber production, the benefits of including a condition requiring operations to be carried out in accordance with any relevant code of practice under Part 5 of the *Conservation, Forests and Land Act 1987*.
- Managing native vegetation to preserve identified landscape values.
- The conservation of native vegetation protected under the *Aboriginal Heritage Act 2006*.

52.17-6 Offset requirements

20/12/2013
VC105

The biodiversity impacts of the removal of native vegetation are required to be offset, in accordance with the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013). The conditions on the permit for the removal of native vegetation must specify this offset requirement. The offset requirements must take account of:

- The location of the native vegetation to be removed.
- The condition and extent of native vegetation to be removed.
- The strategic biodiversity score of the native vegetation to be removed.
- Whether the native vegetation to be removed is important habitat for rare or threatened species, and the proportional impact of the removal on those species' habitat.

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52.17-7 Table of exemptions

02/04/2015
VC124

No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Crown Land	▪ To manage Crown land. The works must be: • by or on behalf, or with the written permission of the Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*); and • on Crown land managed by or on behalf of the Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*). ▪ The vegetation is to be removed, destroyed or lopped on Crown land and by a person acting under and in accordance with an authorisation order made under sections 82 or 84 of the *Traditional Owner Settlement Act 2010*.
Dead vegetation	▪ The native vegetation is dead. This exemption does not apply to standing dead trees with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level.
Emergency works	▪ The native vegetation presents an immediate risk of personal injury or damage to property and only that part of vegetation which presents the immediate risk is removed, destroyed or lopped. ▪ By or on behalf of a public authority or municipal council to create an emergency access or to enable emergency works.
Existing and approved buildings	▪ To enable the: • Construction of a building approved by a planning permit granted under this planning scheme or by building permit granted under *Building Act 1993*, before 15 September 2008. • Use and maintenance of a building constructed or approved by a planning permit granted under this planning scheme or by building permit granted under *Building Act 1993*, before 15 September 2008. This exemption does not apply to: • Enable the operation or maintenance of a fence. • Native vegetation located more than 10 metres from a building.
Existing buildings and works in the Farming Zone and Rural Activity Zone	▪ To enable the use or maintenance of a building or works used for Agricultural production, including a dam, utility service, bore, horticultural trellising and accessway, in the Farming Zone or the Rural Activity Zone. This exemption does not apply to: • The use or maintenance of a Dwelling. • The operation or maintenance of a fence. • Native vegetation located more than 10 metres from a building or works.

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No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Fences	▪ To enable the: · Construction of a fence on a boundary between properties in different ownership; or · Operation or maintenance of an existing fence. The combined maximum width of clearing permitted either side of the fence under this exemption is 4 metres.
Fire protection	▪ For fire fighting measures, periodic fuel reduction burning, or the making of a fuel break or fire fighting access track up to 6 metres wide. ▪ For the making of a fuelbreak by or on behalf of a public authority in accordance with a strategic fuelbreak plan approved by the Secretary to Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*). The maximum width of a fuelbreak must not exceed 40 metres. ▪ The native vegetation is a tree overhanging the roof of a building used for Accommodation. This exemption only allows the removal, destruction or lopping of that part of the tree which is overhanging the building and which is necessary for fire protection. ▪ In accordance with a fire prevention notice under: · Section 65 of the *Forests Act 1958*. · Section 41 of the *Country Fire Authority Act 1958*. · Section 8 of the *Local Government Act 1989*. ▪ To keep the whole or any part of any native vegetation clear of an electric line in accordance with a code of practice prepared under Part 8 of the *Electricity Safety Act 1998*. ▪ In accordance with any code of practice prepared in accordance with Part 8 of the *Electricity Safety Act 1998* in order to minimise the risk of bushfire ignition in the proximity of electricity lines. ▪ To reduce fuel loads on roadsides to minimise the risk to life and property from bushfire of an existing public road managed by the relevant responsible road authority (as defined by the *Road Management Act 2004*) in accordance with the written agreement of the Secretary to the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*). *Note: Further permit exemptions for bushfire protection can be found at Clause 52.48.*
Geothermal energy exploration and extraction	▪ To enable the carrying out of geothermal energy exploration or extraction in accordance with the *Geothermal Energy Resources Act 2005*.
Grasses	▪ For mowing or slashing of grass for maintenance only. Under this exemption the grass must be: · Located within a lawn, garden or other planted area; or · Maintained at a height of at least 100 millimetres above ground level.

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No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Grazing	▪ For grazing by domestic stock. This exemption allows grazing on unused roads specified under Section 400 of the *Land Act 1958*.
Greenhouse gas sequestration	▪ To enable the carrying out of greenhouse gas sequestration in accordance with the *Greenhouse Gas Geological Sequestration Act 2008*.
Greenhouse gas sequestration exploration	▪ To enable the carrying out of greenhouse gas sequestration exploration in accordance with the *Greenhouse Gas Geological Sequestration Act 2008*.
Harvesting for timber production – naturally established native vegetation	▪ To enable the carrying out of timber harvesting operations and associated activities which are: ▪ Undertaken on public land under a licence issued by the Secretary to the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*) under section 52 of the Forests Act 1958; or ▪ Authorised in accordance with Part 5 of the *Sustainable Forests (Timber) Act 2004*.
Land management notices	▪ To comply with land management notice issued under the *Catchment and Land Protection Act 1994*.
Land use conditions	▪ To comply with a land use condition served under the *Catchment and Land Protection Act 1994*.
Lopping and pruning for maintenance	▪ Pruning or lopping for maintenance only and no more than 1/3 of the foliage is removed from any individual plant. This exemption does not apply to: ▪ Pruning or lopping of the trunk of a tree or shrub. ▪ Native vegetation within a road or railway reservation.
Mineral exploration	▪ To enable the carrying out of Mineral exploration.
Mineral extraction	▪ To enable the carrying out of Mineral extraction in accordance with a work plan approved under the *Mineral Resources (Sustainable Development) Act 1990* and authorised by a work authority granted under that Act.

No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
New buildings and works in the Farming Zone and Rural Activity Zone	▪ To enable the construction of a building or works used for Agricultural production, including a dam, utility service, bore and accessway, in the Farming Zone or the Rural Activity Zone. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: · 1 hectare of native vegetation which does not include a tree. · 15 native trees if each tree has a trunk diameter of less than 40 centimetres at a height of 1.3 metres above ground level. · 5 native trees if each tree has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. This exemption does not apply: · To the construction or operation of a pivot irrigation system or horticultural trellising.
New dwellings in the Farming Zone and Rural Activity Zone	▪ To enable the construction of a Dwelling, in the Farming Zone or the Rural Activity Zone. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period is must not exceed any of the following: · 300 square metres of native vegetation which does not include a tree. · 5 native trees if each tree has a trunk diameter of less than 40 centimetres at a height of 1.3 metres above ground level. · 1 native tree if the tree has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. This exemption does not apply: · To the construction of a tennis court, horse ménage or swimming pool.
Personal use	▪ Native vegetation removal by cutting only to obtain reasonable amounts of wood for personal use by the owner or occupier of the land. Personal use includes wood used for firewood, the construction of fences and buildings on the same land, and hobbies such as craft. This exemption does not apply to: · Standing living and dead trees with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. · Living native vegetation on contiguous land in the same ownership with an area less than 10 hectares.

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No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Pest animal burrows	▪ To enable the removal of pest animal burrows in the Farming Zone or the Rural Activity Zone. Unless in accordance with the written agreement of an officer of the Department responsible for administering the *Flora and Fauna Guarantee Act 1998*, the maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: • 1 hectare of native vegetation which does not include a tree. • 15 native trees if each tree has a trunk diameter of less than 20 centimetres at a height of 1.3 metres above ground level.
Planted vegetation	▪ The native vegetation has been planted or grown as a result of direct seeding for Crop raising, Extensive animal husbandry, aesthetic or amenity purposes, including: agroforestry (the simultaneous and substantial production of forest and other agricultural products from the same land unit), shelter belts, woodlots, street trees, gardens or the like. This exemption does not apply if public funding was provided to assist in planting or managing the native vegetation and the terms of the funding did not anticipate removal or harvesting of the vegetation.
Railways	▪ To maintain the safe and efficient function of an existing railway or railway access road, in accordance with the written agreement of the Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*).
Regrowth	▪ For regrowth which has naturally established or regenerated on land lawfully cleared of naturally established native vegetation and is: • Less than 10 years old; or • Bracken (*Pteridium esculentum*); or • Less than ten years old at the time of a Property Vegetation Plan being signed by the Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*), and is shown on that Plan as being 'certified regrowth', and is on land that is to be used or maintained for cultivation or pasture during the term of that Plan; or • Within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record, and has established after the plantation. This exemption does not apply to land on which native vegetation has been cleared or otherwise destroyed or damaged as a result of flood, fire or other natural disaster.
Road safety	▪ To maintain the safe and efficient function of an existing road managed by a public authority or municipal council in accordance with the written agreement of the Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*).

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No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Stone exploration	▪ To enable the carrying out of the Stone exploration. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: ▪ 1 hectare of native vegetation which does not include a tree. ▪ 15 native trees if each tree has a trunk diameter of less than 40 centimetres at a height of 1.3 metres above ground level. ▪ 5 native trees if each tree has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. This exemption does not apply to costeaning and bulk sampling activities.
Stone extraction	▪ To enable the carrying out of Stone extraction in accordance with a work plan approved under the *Mineral Resources (Sustainable Development) Act 1990* and authorised by a work authority granted under that Act.
Site area	▪ The native vegetation is on land which, together with all contiguous land in one ownership, has an area of less than 0.4 hectare. ▪ This exemption does not apply to native vegetation within a road reservation.
Stock movements on roads	▪ As a result of moving stock along a road. ▪ This exemption does not apply to grazing as a result of holding stock in a temporary fence (including an electric fence) on a roadside for the purpose of feeding.
Surveying	▪ To establish sight-lines for the measurement of land by surveyors in the exercise of their profession, and if using hand-held tools.
Utility installations	▪ To maintain a Minor utility installation. ▪ To maintain a Utility installation in accordance with a code(s) of practice approved by Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*), incorporated into this scheme and listed in the Schedule to this Clause. ▪ To enable the construction of a Utility installation in accordance with a code(s) of practice approved by Secretary of the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forest and Lands Act 1987*), incorporated into this scheme and listed in the Schedule to this Clause.

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No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Vehicle access from public roads	▪ To enable the construction or maintenance of a vehicle access across a road reserve from a property boundary to a public road, subject to authorisation from the relevant public land manager. This exemption only applies to properties which share a common boundary with the road reserve. The maximum total width of native vegetation permitted to be removed, destroyed or lopped under this exemption is 6 metres. This exemption does not apply where there is a practical opportunity to site the accessway to avoid the removal, destruction or lopping of native vegetation.
Weeds	▪ To enable the removal or destruction of a weed listed in the schedule to this clause. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: • 1 hectare of native vegetation which does not include a tree. • 15 native trees if each tree has a trunk diameter of less than 20 centimetres at a height of 1.3 metres above ground level.

52.42 RENEWABLE ENERGY FACILITY (OTHER THAN WIND ENERGY FACILITY AND GEOTHERMAL ENERGY EXTRACTION)

21/09/2009
VC60

Purpose

To facilitate the establishment and expansion of renewable energy facilities, in appropriate locations, with minimal impact on the amenity of the area.

52.42-1 Scope

21/09/2009
VC60

This clause applies to land used and developed or proposed to be used and developed for a renewable energy facility.

52.42-2 Application requirements

21/09/2009
VC60

An application must be accompanied by the following information, as appropriate:

- A site and context analysis, including:
  - A site plan, photographs or other techniques to accurately describe the site and the surrounding area.
  - A location plan showing the full site area, local electricity grid, access roads to the site and direction and distance to nearby accommodation, hospital or education centre.
- A design response, including:
  - Detailed plans of the proposed development including, the layout and height of the facility and associated building and works, materials, reflectivity, colour, lighting, landscaping, the electricity distribution starting point (where the electricity will enter the distribution system), access roads and parking areas.
  - Accurate visual simulations illustrating the development in the context of the surrounding area and from key public view points.
  - The extent of vegetation removal and a rehabilitation plan for the site.
  - Written report and assessment, including:
    - An explanation of how the proposed design derives from and responds to the site analysis.
    - A description of the proposal, including the types of process to be utilised, materials to be stored and the treatment of waste.
    - Whether a Works Approval or Licence is required from the Environment Protection Authority.
    - the potential amenity impacts such as noise, glint, light spill, emissions to air, land or water, vibration, smell and electromagnetic interference.
    - the effect of traffic to be generated on roads.
    - the impact upon Aboriginal or non-Aboriginal cultural heritage.
    - the impact of the proposal on any species listed under the *Flora and Fauna Guarantee Act 1988* or *Environment Protection and Biodiversity Conservation Act 1999*.

- A statement of why the site is suitable for a renewable energy facility including, a calculation of the greenhouse benefits.
- An environmental management plan including, a construction management plan, any rehabilitation and monitoring.

52.42-3 Decision guidelines

21/09/2009
VC60

Before deciding on an application, in addition to the decision guidelines of Clause 65, the responsible authority must consider, as appropriate:

- The effect of the proposal on the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference
- The impact of the proposal on significant views, including visual corridors and sightlines.
- The impact of the proposal on the natural environment and natural systems.
- Whether the proposal will require traffic management measures.

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65.01 APPROVAL OF AN APPLICATION OR PLAN

28/03/2018
VC145

Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate:

- The matters set out in Section 60 of the Act.
- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The purpose of the zone, overlay or other provision.
- Any matter required to be considered in the zone, overlay or other provision.
- The orderly planning of the area.
- The effect on the amenity of the area.
- The proximity of the land to any public land.
- Factors likely to cause or contribute to land degradation, salinity or reduce water quality.
- Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site.
- The extent and character of native vegetation and the likelihood of its destruction.
- Whether native vegetation is to be or can be protected, planted or allowed to regenerate.
- The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard.
- The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.

This clause does not apply to a VicSmart application.