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Page:	1
Date:	03/11/25
Job No:	V25-216
Checked by:	MPH
Design by:	GM

Reference Drawings:

Part of Structure:

LAND CAPABILITY ASSESSMENT REPORT: Lot 1, Sharkeys Road, Port Fairy, VIC

DATE ASSESSED: 24th October 2025

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LAND CAPABILITY ASSESSMENT REPORT

1.0 Introduction

Holmes McLeod Consulting Engineers Pty Ltd has been engaged to undertake a Land Capability Assessment (LCA) for a 4.56 ha site at Lot 1 (PS849704), Sharkeys Road, Port Fairy, VIC The field investigation and report have been undertaken and prepared by suitably experienced staff. Holmes McLeod Consulting Engineers Pty Ltd has appropriate professional indemnity insurance for this type of work. Our professional indemnity insurance certificate is available on request.

This report is intended to inform Moyne Shire Council about the land capability of the site to support an on-site wastewater treatment and disposal system. This document provides information about the site and soil conditions. It also provides a detailed LCA for the site, and includes a design check for a suitable onsite wastewater management system, including recommendations for monitoring and management requirements.

The site is in the Farming Zone. Refer to the attached copy of the Planning Property Report in Appendix B. There are several overlays on the site, notably some flood water area in the South West end and some land subject to inundation in the South West end near the old quarry pit.

The site has sufficient available area for onsite effluent disposal. The land surface slopes slightly towards the South-East. The average slope is approximately 1-2%. There is an old quarry pit on the site in the South West area.

The proposed development is for a new 3 bedroom residence and farm shed and miscellaneous farm structures to be constructed on this site. The design daily wastewater flow rate is 600L/Day. The site has no reticulated sewerage system available.

We assess several options for both the treatment system and land application area (LAA). We recommend that effluent on this site should be treated to secondary level by an EPA approved treatment system, and land application can be achieved using absorption trenches.

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2.0 Site Description

Site Address:	Lot 1 (PS849704), Sharkeys Road, Port Fairy, VIC.
Client:	
Postal Address:	42 McSweens Road, Rosebrook, VIC 3284.
Contact:	Mobile: 0400 334 542.
Council Area:	Moyne Shire
Zoning:	Farming Zone
Allotment Size:	4.56 ha.
Domestic Water Supply:	Rainwater supply.
Anticipated Wastewater Load:	Assume 4 persons maximum occupancy. Design wastewater flow is 150L/person/day, therefore total design flow, Q = 600L/day.
Availability of Sewer:	The area is unsewered and unlikely to be sewered in the short to medium term future.

3.0 Site Key Features

undertook site investigations on the 24th of October 2025. A range of site features were assessed in terms of the degree of limitation they present for various onsite wastewater management systems.

The proposed development is for a residence and farm shed at the highest elevated area in the middle of the north-western boundary, with an effluent land application area to the North East of the structures. The soils encountered were sandy loams, some sandstone, and sands. There is no evidence of a shallow watertable, or water bores. The old quarry on site should be treated like a dam for the purposes of effluent buffer offsets. The most significant constraint to effluent disposal is considering land application of effluent in Category 1 sands.

3.2 Features

Climate:	The site experiences an average annual rainfall of 671.6mm (Port Fairy AWS – BOM Station 90175). Average annual pan evaporation is taken as 1295mm.
Exposure:	The site has high sun and wind exposure.
Vegetation:	The site contains grasses.
Landform:	The site is well contoured and unlikely to allow ponding of water.
Slope:	The site fall is approximately 1-2% across the proposed land application area.
Fill:	No evidence of fill observed on site.

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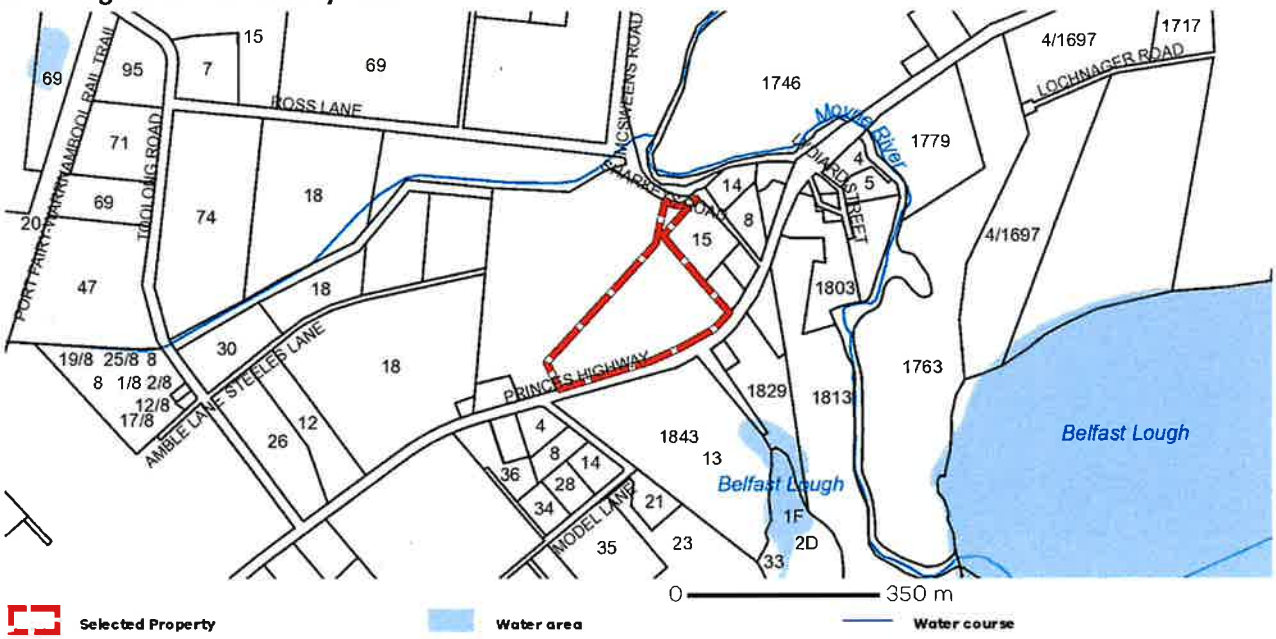
Rocks and Rock Outcrops:	No rock outcrops were observed on the site.
Erosion Potential:	The site is covered by grasses and the erosion potential is minimal.
Surface Water:	The site is unlikely to allow ponding of water.
Flood Potential:	The site is not in a recognised flood zone.
Stormwater run-on and upslope seepage:	Minimal stormwater run-on expected from upslope.
Groundwater:	Groundwater table was not encountered during excavations.
Site Drainage and Subsurface Drainage:	Surface drainage is good, Subsurface drainage is good
Recommended Buffer Distances:	Secondary treated effluent disposal area should be located a minimum of 1.5m from uphill buildings or boundaries, and 3m from downhill buildings or boundaries and 30m from waterways.
Available Land Application Area:	The site has sufficient land area available for the installation of a new land application system.

3.3 Figure 1: Site Locality Plan



3.4 Figure 2: Site Aerial Photo

4.0 Soil Assessment and Constraints

The site's soils have been assessed for their suitability for onsite wastewater management by a soil survey as outlined below.

4.1 Soil Survey and Analysis

A soil investigation was carried out on the site to determine suitability for application of treated effluent. A shallow subsoil investigation was conducted in the vicinity of the proposed effluent disposal envelope using a hand auger. Soils encountered in and near the land application area were Category 2 sandy loams overlying some sandstone gravel and Category 1 sands running deeper.

4.3 Soil Features:

Soil Depth	Sandy Loam observed to approximately 750mm deep near the proposed land application area with Sands running deeper to at least 1300mm deep.	
Depth to watertable	Watertable not encountered. Depth to the watertable assumed to be >5m.	
Coarse Fragments (%)	<10% coarse fragments occur in the soil profile.	
Soil Permeability and Design Loading Rates	Soil permeability was not directly measured but can be inferred with reference to Table 9 of the EPA Code of Practice 891.4 and also Appendix L and M of AS/NZ 1547:2012, which describe conservative Design Loading Rates (DLRs) and Design Irrigation Rates (DIRs) for various effluent application systems according to soil type. Critical soil properties are texture and structure, but depth, colour and degree of mottling are also used to infer drainage conditions. Note that the indicative loading rates below assume secondary treatment systems.	
	Top Soils	**Sub Soils**
Description	Dark Grey Sandy Loam	Brown Silty Sand
Soil Category (AS/NZ 1547:2012)	2b	1
Design Irrigation Rate (DIR mm/day)	5	5
Design Loading Rate (DLR mm/day) for Trenches/Beds	50	50
pH	Not measured	Not measured
Electrical Conductivity	Not measured	Not measured

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5.0 Land Capability Risk Assessment Matrix

Land Features	Land Capability Class Rating					Site Rating
	Very Good (1)	Good (2)	Fair (3)	Poor (4)	Very Poor (5)	
General Characteristics						
Site drainage	No visible signs of dampness	Moist soil, but no standing water in soil pit		Visible signs of dampness, such as moisture-tolerant plants	Water ponding on surface	1
Runoff	None	Low	Moderate	High - need for diversionary structures	Very High - diversion not practical	1
Flood levels	Never		> 1 in 100	< 1 in 100 and > 1 in 20	< 1 in 20	4
Proximity to watercourses	> 60				< 60	1
Slope %	0 - 2	2 -8	8 - 12	12 - 20	> 20	1
Landslip	No actual or potential failure		Low potential failure	High potential failure	Present or past failure	1
Groundwater (seasonal watertable depth (m))	> 5	5 - 2.5	2.5 - 2	2.0 - 1.5	< 1.5	1
Rock outcrop (% of land surface containing rocks > 200mm)	0	< 10%	10 - 20%	20 - 50%	> 50%	1
Erosion potential	No erosion potential	Minor	Moderate	High	Severe erosion potential	1
Exposure	High sun and wind		Moderate	Low sun and wind exposure		1
Landform	Hill crests, convex side slopes and plains		Concave slopes and footslopes		Floodplains and incised channels	1
Vegetation Type	Turf or pasture				Dense forest with little understorey	1
Average Rainfall (mm/yr)	< 450	450 - 650	650 - 750	750 - 1000	> 1000	3

5.1 Land Capability Risk Assessment Matrix (continued)

Land Features	Land Capability Class Rating					Site Rating
	Very Good (1)	Good (2)	Fair (3)	Poor (4)	Very Poor (5)	
General Characteristics						
Pan Evaporation	< 1500	1250 - 1500	1000 -1250		< 1000	**2**
Fill	No fill		Fill present			**1**
Soil Profile Characteristics						
Soil permeability category	2 and 3	4		5	1 and 6	**5**
Profile depth	> 2m	1.5 - 2m	1.5 - 1m	1 - 0.5m	< 0.5m	**4**
Presence of mottling	None				Extensive	**1**
Course fragments (%)	< 10	10 - 20	20 - 40		> 40	**1**
pH	6 - 8		4.5 - 6		< 4.5, > 8	-
Emerson Aggregate	4, 6, 8	5	7	2, 3	1	-
Electrical Conductivity (Ece)(dS/m)	< 0.3	0.3 - 0.8	0.8 - 2	2 - 4	> 4	-
Sodicity ESP%	< 3%		6 - 8	8 - 14	> 14	-
Overall Site Rating						**5**

5.2 Site Constraints and Mitigation Measures

As per the above risk assessment table, there are several constraints on this site that should be discussed.

Flood levels: While part of the site is subject to inundation and flood waters, the proposed developments are well away from and above those areas.

Soil permeability: Due to the presence of Category 1 sub-soils the land application area should be designed appropriately. Secondary treatment of effluent reduces risks associated with effluent passing through sands too quickly and entering the water table, and it can be very effectively disposed of near the surface in the Category 2 topsoils. Adopting secondary treatment with sub-soil loading in absorption trenches in the top soils will therefore likely be a very optimal solution.

Profile Depth: While approximately 500mm of sands were observed below the sandy loams, the sandy subsoil is assumed to run several metres deeper.

6.0 The Management Program

This LCA has been prepared to accompany a development application to Moyne Shire for a new wastewater management system. This report will focus on a suitable treatment and land application system to suit the current site conditions in an effort to show what is achievable with minimal cost. The following sections provide an overview of a suitable system, with sizing and design considerations and justification for its selection. Detailed design for the system is beyond the scope of this report, but an overview is attached in Appendix A.

6.1 Treatment System

To treat domestic wastewater and allow dispersal of the treated effluent, we recommend using a secondary treatment system that meets the Environment Protection Authority requirements for sub-surface irrigation. To achieve secondary treated effluent, a variety of systems are available for selection. These include treatment plants, composting worm farms, reed beds, and sand filters. For secondary treatment, the target effluent quality is:

BODs: < 20mg/L.

TSS: < 30mg/L.

Secondary treated effluent should only be dispersed to land via sub-surface applications. A wide range of available secondary treatment systems with valid certificates for use in Victoria can be viewed at: https://www.epa.vic.gov.au/for-community/environmental-information/water/about-wastewater/onsite-wastewater-systems

6.2 Land Application

A range of possible land applications have been considered, such as dripper irrigated lawns, absorption trenches, evapotranspiration absorption beds, and mounds. The preferred system is sub-surface loading via absorption trenches featuring a self-supporting plastic arch. These trenches will disperse wastewater along their length, soaking into the surrounding soils and into the root zones of plants.

6.3 Sizing the Land Application System

To determine the necessary amount of irrigated lawn area required a water balance calculation was completed. The calculation can be simply expressed by the equation:

Precipitation + Effluent Applied = Evapotranspiration + Percolation.

The results can be viewed in Appendix A, which show that the required trench area is 13m^2. This means the land application system can be configured as 2 x 13m long x 0.5m wide absorption trenches. Refer to the site plan in Appendix A.

6.4 Siting and Configuration of the Land Application Area

The site has sufficient land area available for the proposed irrigation field. The preferred location for the proposed absorption trenches is to the North East of the proposed residence and garage.

The land application area must not be subjected to stock or vehicular traffic, as these could damage the irrigation system and reduce its efficiency. Ride on mowers are acceptable to use on the land application area. Small trees should be planted at least 3m away from the trenches.

A nearby reserve area should be set aside for the potential future construction of additional absorption trenches if the proposed system ever fails.

6.5 Irrigation System Description

This report does not include a detailed design of the proposed effluent disposal system but more information is provided in Appendix A. A general description is provided here:

Secondary treated wastewater flows from the treatment system and is evenly distributed into trenches that are comprised of a plastic arch (Reln drain, or equivalent) with gravel and/or topsoil backfilled over the top. As the flows from the treatment system increase, the arch can fill up with water and release it along its length into the surrounding soil through the bottom and sides of the trench. The base of the trench is level so that water can flow evenly along its entire length.

As effluent is dispersed through the soil some of the water is absorbed by plants and evaporated into the air through transpiration, while most of the water will soak down into the sub-soils. Undesirable particles from the effluent remain trapped in the soil of the land application area and are further digested by bacteria over time.

6.6 Buffer Distances

Buffer distances from Land Application Areas are required to help prevent human contact, maintain public amenity and protect sensitive environments. Council generally adopts the following nominal buffers, as described in the EPA Code of Practice:

- 20m from groundwater bores,
- 30m from non-potable watercourses,
- 100m from potable watercourses,
- 3m from downhill boundaries or buildings,
- 1.5m from uphill boundaries, buildings, and swimming pools.

For this site, all buffers are achievable.

7.0 Monitoring, Operation and Maintenance

Maintenance is to be carried out in accordance with the certificate of approval and Council's permit conditions. The system proposed will only function adequately if appropriately maintained. Residents will be required to carry out maintenance as discussed below. Some general guidelines for maintenance are outlined below.

To ensure the treatment system functions adequately residents must:

- Have a suitably qualified maintenance contractor service the treatment plant at regular intervals, as specified by the manufacturer and as required by Council;
  (Certain treatment systems may require different maintenance periods, which should be considered when making product selection.)
- Use household cleaning products sparingly and only use products marked "Suitable for Septic Tanks";
- Keep as much fat, grease, and oil out of the system as possible;
- Conserve water. Increasing the hydraulic flow in the system may overload the land application area. AAA rated plumbing is recommended on all future water fixtures to reduce water use.

To maintain the land application area, residents must:

- Regularly harvest/mow vegetation within the land application area and remove this to maximise the uptake of water and nutrients;
- Monitor and maintain the sub-surface irrigation system following the manufacturers recommendations, including flushing the irrigation lines;
- Regularly clean in-line filters;
- Not erect any structures over the land application area;
- Minimise vehicle and stock access to the land application area to prevent compaction;
- Ensure that water cannot pond in the land application area by filling any depressions with good quality topsoil.

8.0 Stormwater Management

As mentioned previously, stormwater run on is not expected to be a major concern in this case. However, to mitigate the risk of stormwater run on affecting the land application area it is recommended to use surface diversion drains on the high sides of the land application area. This would provide protection from stormwater flows. Alternatively, fill the land application area with sandy loam topsoil to raise the height of the proposed irrigation field to ensure stormwater flows around it.

Stormwater discharge from the structures on site must not run into or across the land application area.

9.0 Conclusions

Following our investigations, we recommend that wastewater on this site be treated in an EPA approved secondary treatment system, and disposed to a land application area consisting of 13m^2 total base area of absorption trenches, to suit the proposed residence at Lot 1 (PS849704), Sharkeys Road, Port Fairy, VIC.

Specifically, we recommend the following:

- Secondary treatment of wastewater in an EPA approved secondary treatment system capable of treating at least 600L/day design flow;
- Land application of wastewater in 2 x 13m long x 0.5m wide x 0.4m deep absorption trenches with Reln (or eq.) arches;
- Improving the land application area with grasses planted over, restricted access to stock and vehicle traffic, and surface cut off drains for stormwater diversion on the upslope sides of the irrigation area;
- Installation of WELS-rated water saving fixtures in the residence;
- Use of products acceptable for septic tanks to improve effluent quality and maintain soil properties;
- Operation and management of the treatment and disposal system in accordance with manufacturer's recommendations, recommendations made in this report, and recommendations from Council.

APPENDIX A

PROPOSED CROSS OVER

SHARKEY'S ROAD

INDICATIVE PROPOSED LANDSCAPING

PROPOSED 3 BEDROOM RESIDENCE

PROPOSED SHED / GARAGE

NEW GRAVEL CROSS-OVER AS PER COUNCIL REQUIREMENTS

ENTRY

73,560

110,440

190,260

91,090

'THE LONG YARD'

3 BEDROOM RESIDENCE

FARM SHED

55,490

PADDOCK 1
(HEE-HAW HEIGHTS)

SHELTER

GATE

GATE GATE

SHELTER SHELTER

PROPOSED CRUSHED ROCK DRIVEWAY

OLD QUARRY

PROPERTY DETAILS
Lot 1 PS849704
SHARKEYS ROAD PORT FAIRY 3284
4.5575Ha

112,220

PADDOCK 2
(DONK-A-LOT DOWNS)

PADDOCK 3
(EASTHAY MEADOWS)

130.910

PROPOSED POST AND WIRE FENCING

PROPOSED POST AND WIRE FENCING

99,780

PRINCESS HIGH WAY

66,990

71,900

FOR CONSTRUCTION

REV.	DESCRIPTION	BY	DATE

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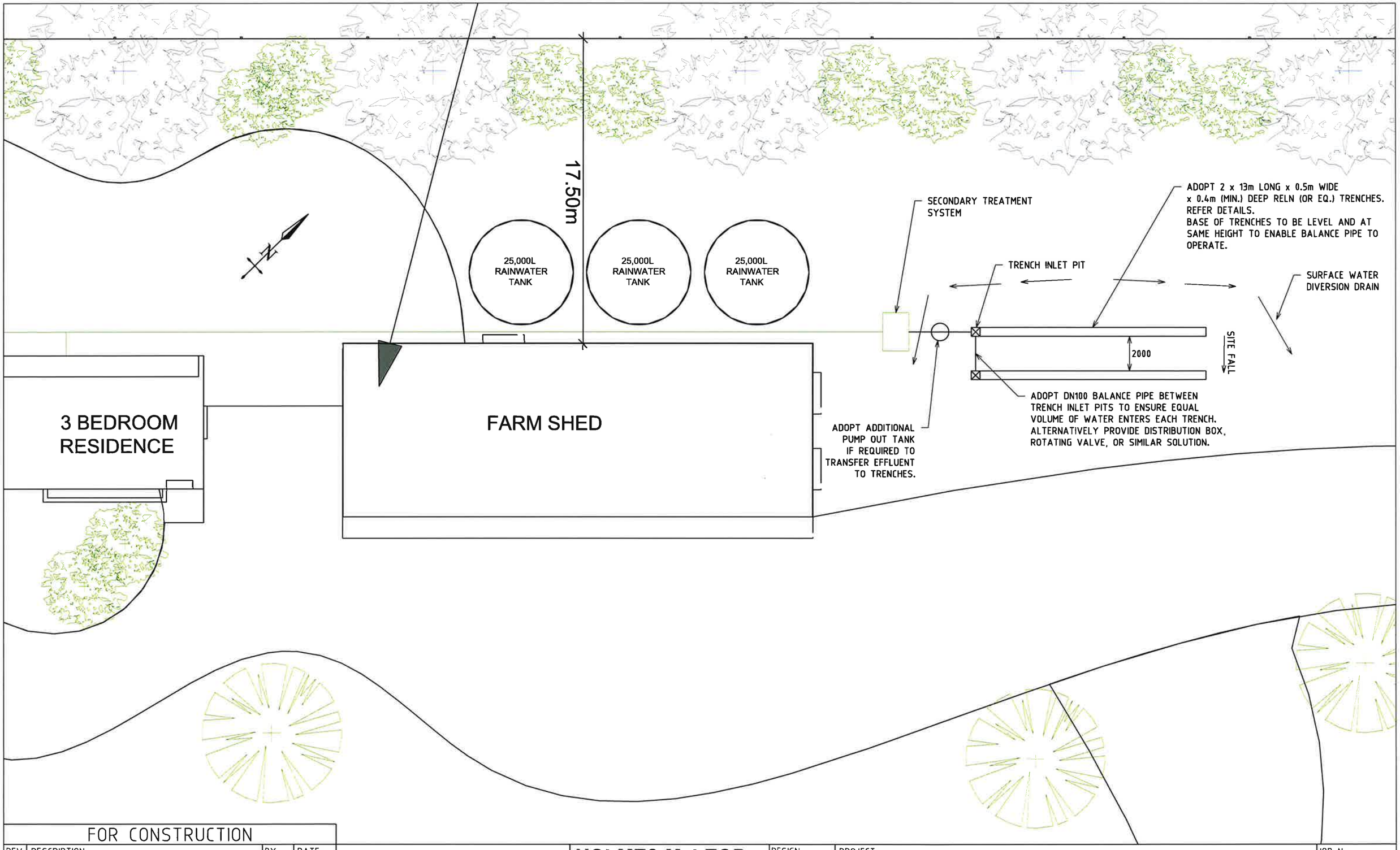
DESIGN	GM
DRAWN	GM
CHECK	MPL
SCALE	1:1000
DATE	3/11/25

PROJECT
PROPOSED RESIDENCE
AT LOT 1 PS849704 SHARKEYS ROAD, PORT FAIRY

TITLE
PARTIAL SITE PLAN

JOB No.	V25-216
DRAWING No.	A-1
SHT. SIZE	A3



FOR CONSTRUCTION

REV.	DESCRIPTION	BY	DATE

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DESIGN	GM
DRAWN	GM
CHECK	MFY
SCALE	1:200
DATE	3/11/25

PROJECT
PROPOSED RESIDENCE
AT LOT 1 PS849704 SHARKEYS ROAD, PORT FAIRY

TITLE
EFFLUENT DISPOSAL PLAN

JOB No.	V25-216
DRAWING No.	A-2
SHT. SIZE	A3

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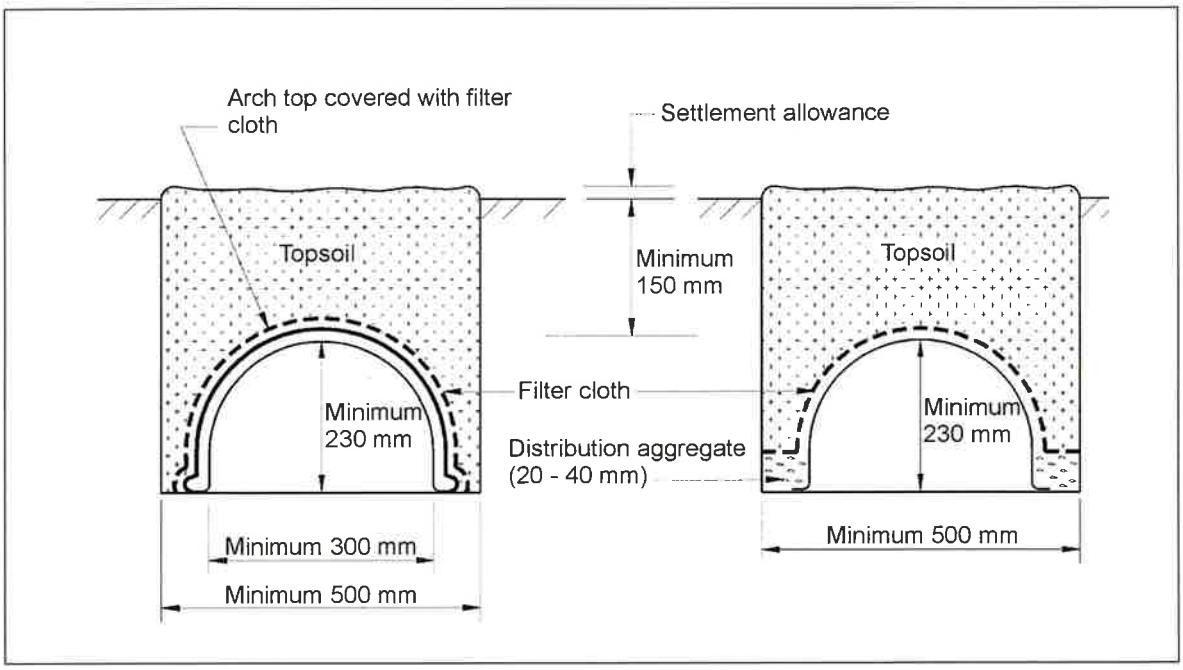

FIGURE L2 SELF-SUPPORTING ARCH TRENCH

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LIST OF VEGETATION SUITABLE FOR WET SOILS

From Appendix C AS1547 - 1994

(a) Climbers

Lonicera japonica
Hibbertia scandens
Hardenbergia
Pandorea jasminoides

(b) Grasses

Buffalo
Kikuyu (if sunny position)

(c) Ground Cover

Acanthus mollis
Coprosma x kirki
Liriope Muscari (well drained)
Ophiopogon (well drained)

(d) Perennials

Agapanthus preaecox
Astor novi-belgii
Canna x generalis
Gazania x hybrida
Salvia x superba
Stokesia laevis

(e) Shrubs

Abelia x grandiflora
Hebe speciosa
Cassia bicapsularis
Certostigma
Chaenomeles lagenaria
Correa alba
Cotoneaster glaucophyllus (cold climate only)
Cotoneaster lacteua (cold climate only)
Cotoneaster pannosus (cold climate only)
Cuphea ignea
Pyracantha fortuneana
Thunbergia alata
Euphorbia pulcherrima (if drained)
Callistemon Citrinus (if drained)
Jasminum mesnyi (if drained)
Jasminum officinale "Grandiflorum"
Jasminum polyanthum
Lantana camara (cultivars only)
Lantana montevidensis
Leptospermum flavescens
Nerium oleander (well drained)
Plumbago auriculata
Westringia fruticosa

(f) Trees

Angophora costata
Callistemon salignus
Callistemon viminalis
Casuarina glauca
Casuarina stricta
Eucalyptus botryoides
Eucalyptus robusta
Hakea salicifolia
Hakea salicifolia
Leptospermum laevigatum
Leptospermum petersonii
Melaleuca linariifolia - Clay soil
Melaleuca quinquenervia - Sandy soil
Melaleuca styphelioides - Clay soil
Nyssa sylvatica (well drained)
Photinea x fraseri "Robusta" (well drained)
Tristaniopsis laurina

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BUILDING OWNERS GUIDE TO SEPTIC MAINTENANCE

T5.2 Operation and maintenance requirements

This clause provides general advice about operation and maintenance that is specifically relevant to the property owner/occupier of an on-site system. Detailed advice should be provided in the operation and maintenance guidelines for the specific system as designed and installed.

T5.2.1 *Advice to a property owner/occupier on use of the system*

For the on-site system to work well, there are some good habits to encourage and some bad habits to avoid:

(a) To reduce sludge building up in the tank:
- (i) Scrape all dishes to remove fats, grease, and so on before washing
- (ii) Keep all possible solids out of the system
- (iii) Don't use a food waste disposal unit unless the system has been specifically designed to carry the extra load (see 5.4.2.2.3), and
- (iv) Don't put sanitary napkins and other hygiene products into the system;

(b) To keep the bacteria working in the tank and in the land application area:
- (i) Use biodegradable soaps
- (ii) Use a low-phosphorus detergent
- (iii) Use a low-sodium detergent in dispersive soil areas
- (iv) Use detergents in the recommended quantities
- (v) Don't use powerful bleaches, whiteners, nappy soakers, spot removers and disinfectants, and
- (vi) Don't put chemicals or paint down the drain;

(c) Conservation of water will reduce the volume of effluent requiring disposal to the land application area, make it last longer and improve its performance. Conservation measures include:
- (i) Installing water conservation fittings
- (ii) Taking showers instead of baths
- (iii) Washing clothes only when there is a full load, and
- (iv) Using the dishwasher only when there is a full load;

(d) Avoid overloading the system by spacing out water use as evenly as possible. For example:
- (i) Do not do all the washing on one day, and
- (ii) Do not run the washing machine and dishwasher at the same time.

T5.2.2 *Advice on maintenance*

Maintenance instructions should cover the following matters:

(a) The primary wastewater treatment unit (septic tank) should:
- (i) Be inspected at least annually and pumped out regularly once the scum and sludge occupy two thirds of the tank volume, (or two thirds of the first stage of a two-stage system)
- (ii) Be protected from vehicle access
- (iii) Have any grease trap inspected at least quarterly and cleaned out regularly
- (iv) Have the vent and the access cover of the septic tank exposed, and
- (v) Have any outlet filter inspected and serviced in accordance with the manufacturer's recommendations;

(b) The land application area should be protected by the following measures:
- (i) Access to spray or irrigation areas should be restricted and the area never available as play areas for children
- (ii) Any evapotranspiration areas should be designed to deter pedestrian traffic

(iii) No vehicles or stock should be allowed to access any land application area
(iv) Deep rooting trees or shrubs should not be grown over absorption trenches or pipes
(v) Surface water diversion drains should be maintained upslope of and around the land application area and kept clean to reduce seepage of rainwater into trenches or beds, and
(vi) The baffles or valves in the distribution system should be periodically (monthly or seasonally) changed to direct effluent into alternative trenches or beds, as required by the design;

(c) Evapotranspiration and irrigation areas including areas within trenches and beds should:

(i) Have their grass mown and plants maintained to ensure that these areas take up nutrients with maximum efficiency
(ii) Be checked for wet spots, uneven grass colour, any symptoms of emitter blockage (either evident from under-irrigated dry areas or over-irrigated wet areas)
(iii) Have blocked or damaged irrigation lines replaced;

(d) Spray irrigation areas should have appropriate warning signs always visible to persons undertaking any activity near a spray irrigation area; and

(e) Equipment should be checked, and:
(i) The manufacturer's instructions followed for maintaining and cleaning pumps, siphons and septic tank outlet filters and the root intrusion chemical dosing system (if provided)
(ii) Disc filters or filter screens on irrigation-dosing equipment cleaned periodically by rinsing back into the primary wastewater treatment unit
(iii) Irrigation lines flushed periodically to scour out any accumulated sediment.

T5.2.3 *Advice on operating problems*
Problems can occur with systems which have not been maintained and where absorption areas have become blocked or clogged. The warning signs include:

(a) The absorption field becoming wet or soggy with wastewater ponding on the surface of the ground;
(b) A smell of effluent near the septic tank or absorption area;
(c) Drains and toilets running slowly; and
(d) The grease trap being full or blocked.

T5.2.4 *Consequences of failure*
A failed septic tank and land applications system is a serious health and environmental hazard and can lead to any one or more of the following:

(a) Spread of infectious diseases:
(b) Breeding of mosquitoes and attraction of flies and rodents;
(c) Nuisance and unpleasantness:
(d) Pollution and infection of waterways, beaches, streams and shellfish beds;
(e) Contamination of bores, wells and groundwater; and
(f) Alteration of the local ecology.

In the event of any of the above adverse effects, immediate action should be taken to remedy the situation.

T5.2.5 *Advice on property owner/occupier responsibilities*
Property owners and occupiers are legally responsible to keep their on-site system in good working order. If any of the warning signs in T5.2.3 are evident, the property owner or occupier should contact a servicing agent right away, and inform the regulatory authority that repair or maintenance work is underway.

HMC CONSULTING ENGINEERS

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Checked by:	MPH
Design by:	GM

Reference Drawings:

Part of Structure:

EFFLUENT CALCULATIONS:

3 BEDROOMS MAXIMUM, ALLOW FOR 4 PERSONS MAXIMUM OCCUPANCY.
RAINWATER SUPPLY, STANDARD WATER SAVING FIXTURES ARE TO BE USED.
EPA VIC CODE OF PRACTICE, TABLE 4-1: Q = 150L/PERSON/DAY
Q = 150 x 4 = 600L/DAY MAXIMUM FLOW.

SOIL BORE LOG:

N.S.	
0	DARK GREY SANDY LOAM, FINE GRAIN, MODERATELY DENSE, MOIST, MASSIVE, CATEGORY 2 SOIL.
750	SANDSTONE GRAVEL LAYER
800	BROWN SILTY SAND, MEDIUM TO COARSE GRAIN, MODERATELY DENSE, MOIST, MASSIVE, CATEGORY 1 SOIL.
1300	
EOH	

CATEGORY 1 SOIL RISK TO GROUNDWATER. THEREFORE ADOPT SECONDARY EFFLUENT TREATMENT.

ADOPT DIR = 5mm/DAY FOR SUB-SURFACE IRRIGATION WITH DRIPPERS,
OR ADOPT DLR = 50mm/DAY FOR EFFLUENT LOADING USING ABSORPTION TRENCHES.

ABSORPTION TRENCHES WILL LIKELY BE MORE EFFICIENT. THEREFORE ADOPT 500mm WIDE RELN (OR EQUIVALENT) ARCH TRENCHES.

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PORT FAIRY AREA EVAPOTRANSPIRATION CALCULATIONS

NUMBER OF EXISTING TREES =	0	YEAR =	20
NUMBER OF NEW TREES =	0	YEAR =	2
DLR =	50	VOLUME=	600

TABLE 1 - SIZE OF AREA FOR EACH MONTH (DISREGARDING EFFLUENT STORAGE)

(1) MONTH X	(2) PAN EVAPO E [mm]	(3) EVAPO-TRANS ET 0.75*(2) [mm]	(4) RAINFALL R [mm]	(5) RETAINED RAINFALL Rr 0.75*(4) [mm]	(6) L.T.A.R. PER MONTH [mm]	(7) TREE WATER USE PER MONTH [L]	(8) DISPOSAL RATE PER MONTH (3)-(5)+6 [mm]	(9) EFFLUENT APPLIED TO TRENCH MONTH [L]	(10) SIZE OF AREA (9)/(8) [m^2]
Jan	210	157.5	32.1	24.075	1550	0	1683.425	18600	11
Feb	190	142.5	27.6	20.7	1450	0	1571.8	17400	11
Mar	155	116.25	35.9	26.925	1550	0	1639.325	18600	11
Apr	87	65.25	48.4	36.3	1500	0	1528.95	18000	12
May	53	39.75	66.8	50.1	1550	0	1539.65	18600	12
Jun	36	27	77.9	58.425	1500	0	1468.575	18000	12
Jul	43	32.25	89.4	67.05	1550	0	1515.2	18600	12
Aug	59	44.25	84	63	1550	0	1531.25	18600	12
Sep	78	58.5	67.8	50.85	1500	0	1507.65	18000	12
Oct	109	81.75	56.3	42.225	1550	0	1589.525	18600	12
Nov	129	96.75	45.4	34.05	1500	0	1562.7	18000	12
Dec	174	130.5	40.9	30.675	1550	0	1649.825	18600	11

TABLE 2 - DEPTH OF STORED EFFLUENT

(11) MONTH	(12) FIRST TRIAL AREA [m^2]	(13) APPLICATION RATE (9)/(12) [mm]	(14) DISPOSAL RATE PER MONTH (8) [mm]	(15) (13)-(14) [mm]	(16) INCREASE OF STORED EFFLUENT (15)/0.3 [mm]	(17) DEPTH OF EFFLUENT PER MONTH (X-1) [mm]	(18) COMPUTED DEPTH OF EFFLUENT (16)+(15) [mm]
Dec	13						0
Jan		1431	1683	-253	-842	0	0
Feb		1338	1572	-233	-778	0	0
Mar		1431	1639	-209	-695	0	0
Apr		1385	1529	-144	-481	0	0
May		1431	1540	-109	-363	0	0
Jun		1385	1469	-84	-280	0	0
Jul		1431	1515	-84	-281	0	0
Aug		1431	1531	-100	-335	0	0
Sep		1385	1508	-123	-410	0	0
Oct		1431	1590	-159	-529	0	0
Nov		1385	1563	-178	-594	0	0
Dec		1431	1650	-219	-730	0	0

Width of Trench =	0.5	Depth of Trench =		0.4			
Abs Trench Length =	26.0	No. of Trenches =		2			
Therefore adopt	2	13	m long x	0.5	m wide x	0.4	m deep

Absorption Trench.

APPENDIX B

PLANNING PROPERTY REPORT

Department of Transport and Planning

From www.planning.vic.gov.au at 01 November 2025 10:18 PM

PROPERTY DETAILS

Address:	**SHARKEYS ROAD PORT FAIRY 3284**
Lot and Plan Number:	**Lot 1 PS849704**
Standard Parcel Identifier (SPI):	**1\PS849704**
Local Government Area (Council):	**MOYNE** www.moyne.vic.gov.au
Council Property Number:	**507378**
Planning Scheme:	**Moyne** Planning Scheme - Moyne
Directory Reference:	**Vicroads 89 F7**

UTILITIES

Rural Water Corporation:	**Southern Rural Water**
Urban Water Corporation:	**Wannon Water**
Melbourne Water:	**Outside drainage boundary**
Power Distributor:	**POWERCOR**

STATE ELECTORATES

Legislative Council:	**WESTERN VICTORIA**
Legislative Assembly:	**SOUTH-WEST COAST**

OTHER

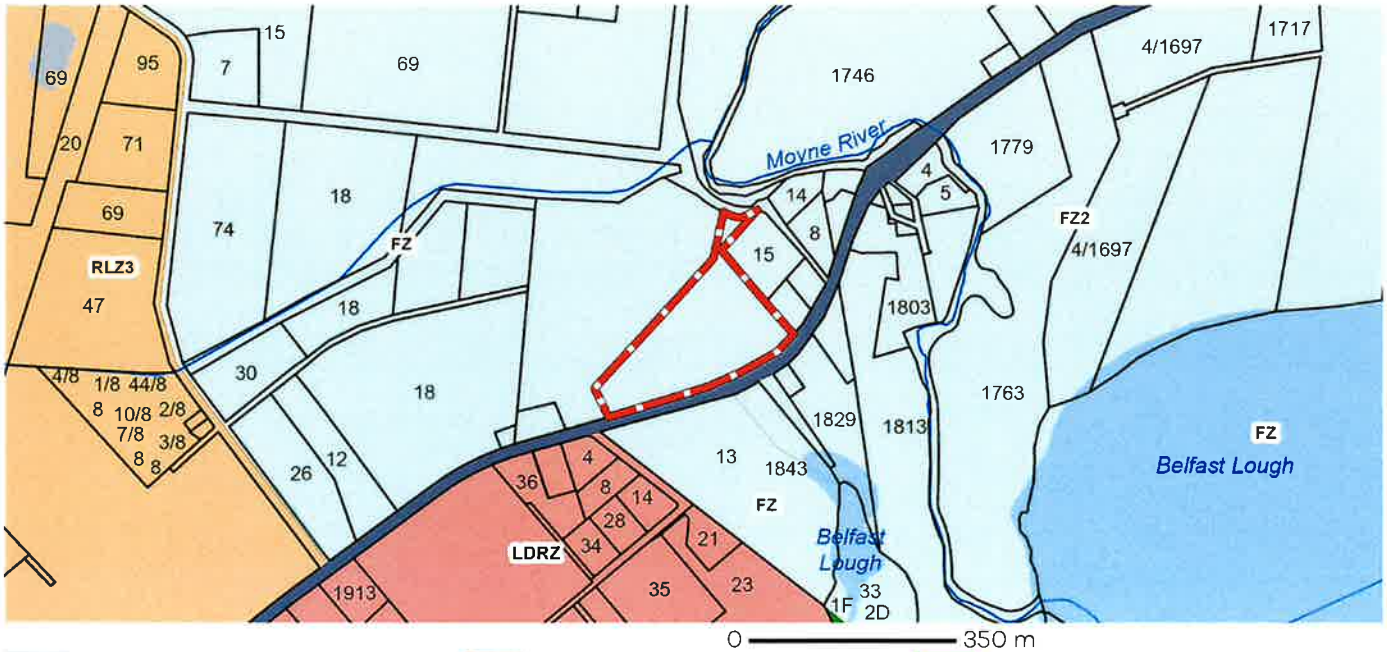
Registered Aboriginal Party:	**Eastern Maar Aboriginal Corporation**
Fire Authority:	**Country Fire Authority**

View location in VicPlan

Planning Zones

FARMING ZONE (FZ)

SCHEDULE TO THE FARMING ZONE (FZ)



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

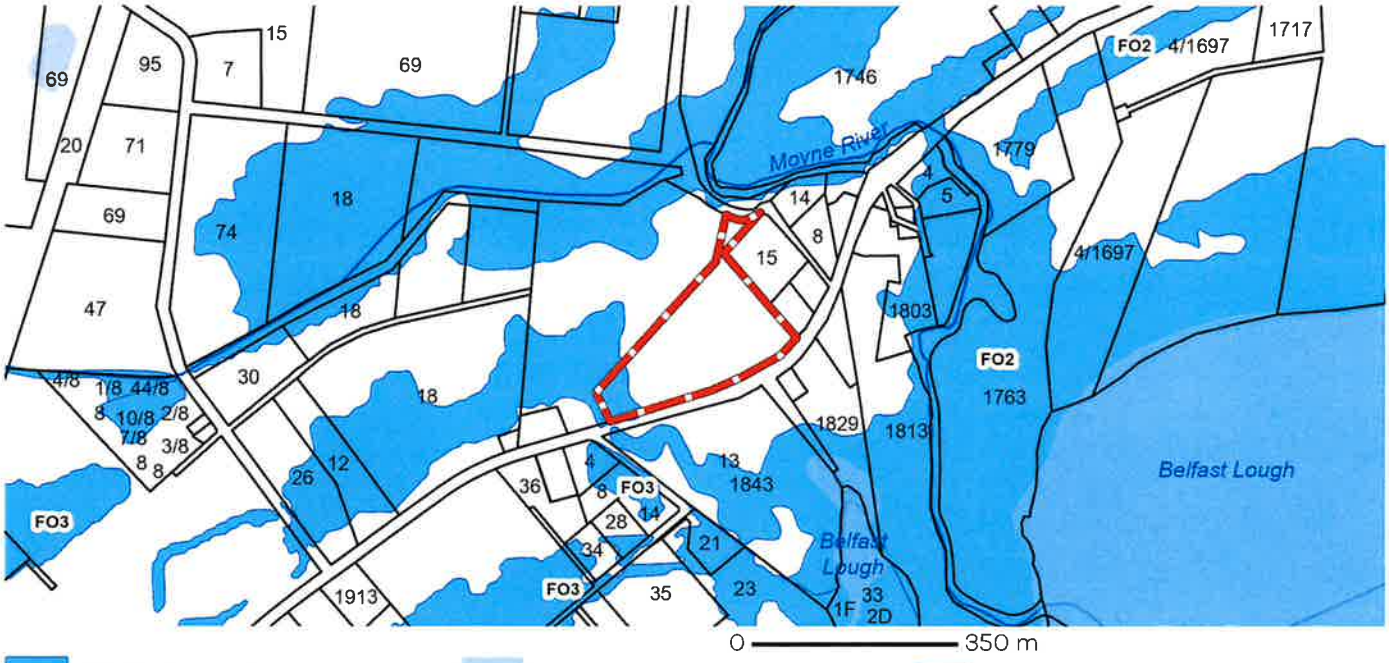
PLANNING PROPERTY REPORT

Department of Transport and Planning

Planning Overlays

FLOODWAY OVERLAY (FO)

FLOODWAY OVERLAY - SCHEDULE 2 (FO2)

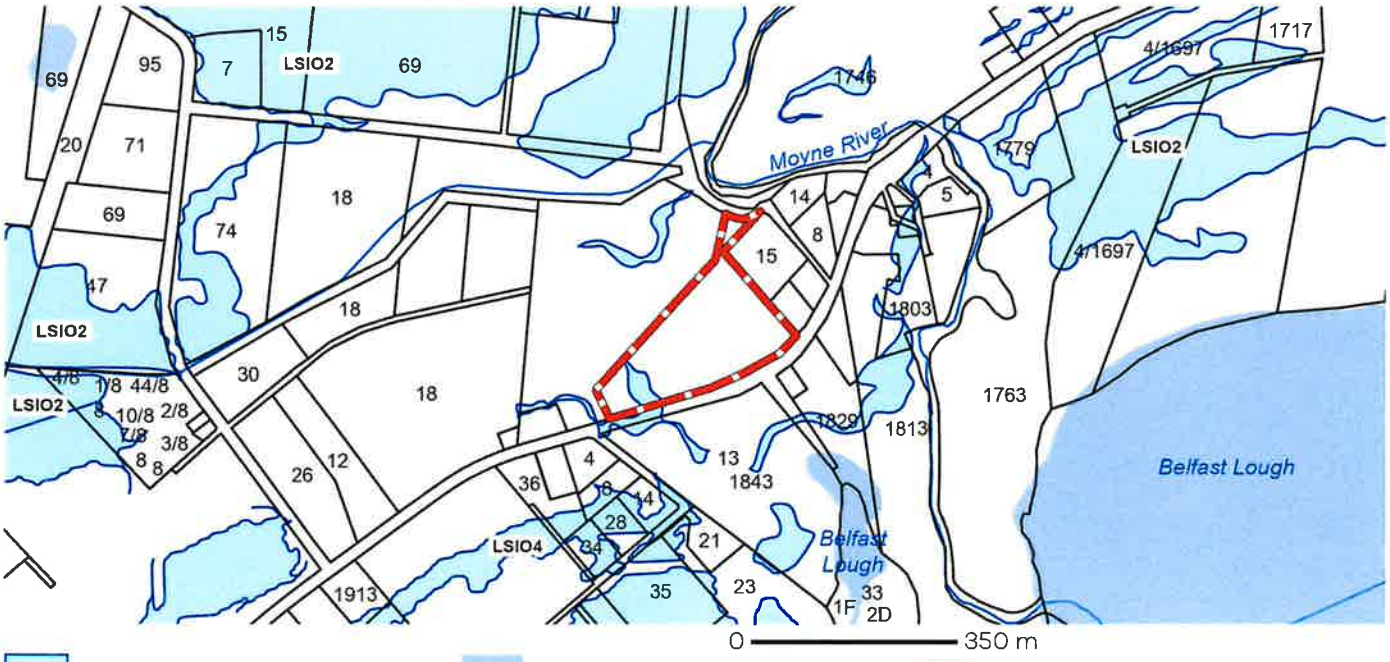


FO - Floodway Overlay **Water area** **Water course**

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

LAND SUBJECT TO INUNDATION OVERLAY (LSIO)

LAND SUBJECT TO INUNDATION OVERLAY - SCHEDULE 2 (LSIO2)



LSIO - Land Subject to Inundation Overlay **Water area** **Water course**

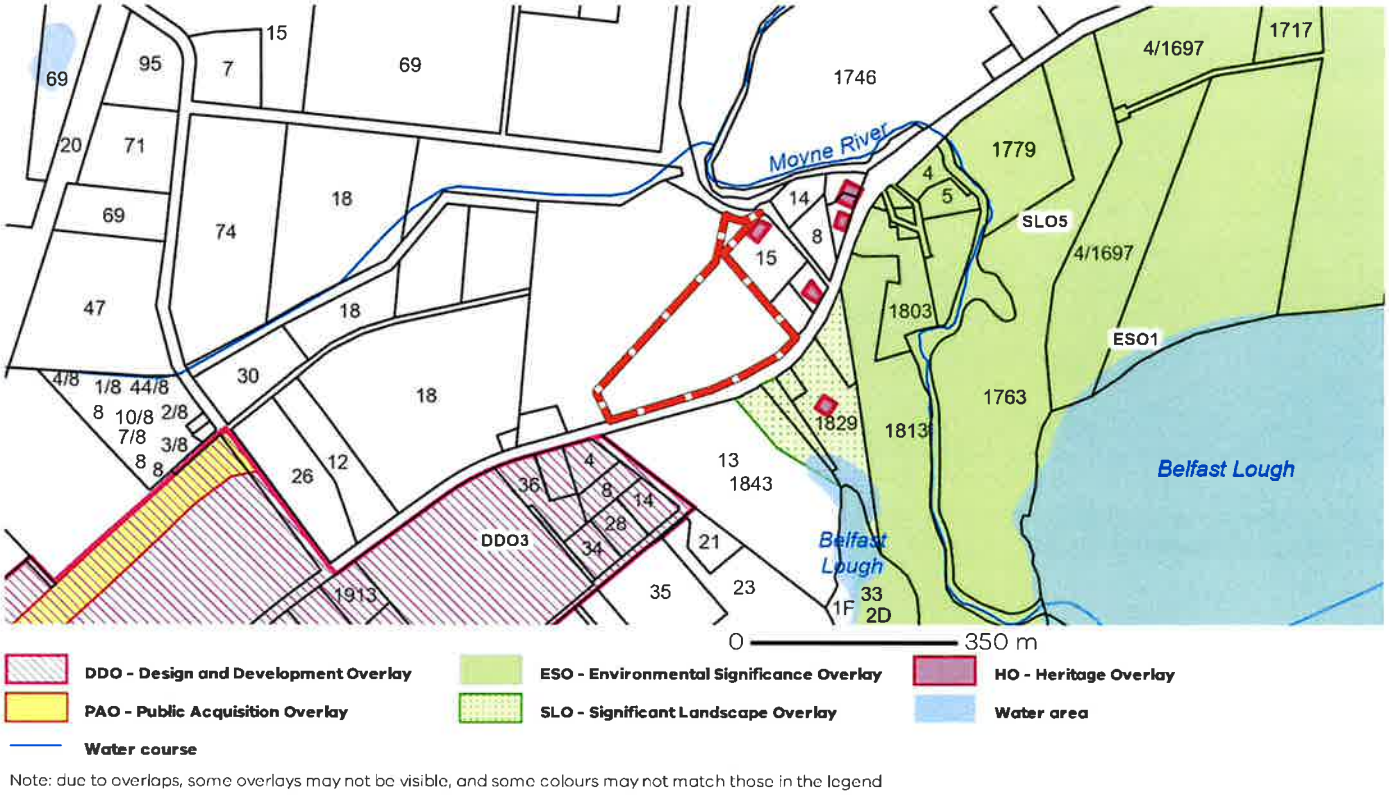
Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

Planning Overlays

OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DESIGN AND DEVELOPMENT OVERLAY (DDO)
ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)
HERITAGE OVERLAY (HO)
PUBLIC ACQUISITION OVERLAY (PAO)
SIGNIFICANT LANDSCAPE OVERLAY (SLO)



Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

PLANNING PROPERTY REPORT

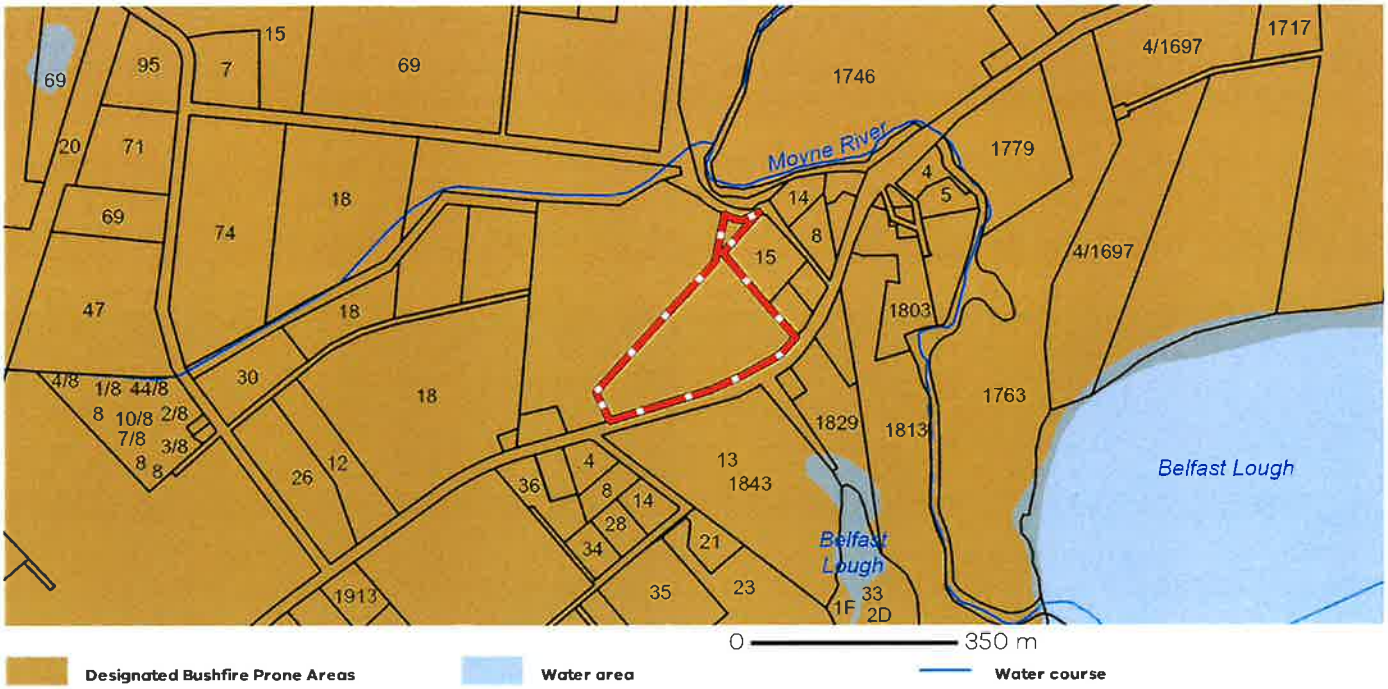
Department of Transport and Planning

Designated Bushfire Prone Areas

This property is in a designated bushfire prone area. Special bushfire construction requirements apply to the part of the property mapped as a designated bushfire prone area (BPA). Planning provisions may apply.

Where part of the property is mapped as BPA, if no part of the building envelope or footprint falls within the BPA area, the BPA construction requirements do not apply.

Note: the relevant building surveyor determines the need for compliance with the bushfire construction requirements.



Designated BPA are determined by the Minister for Planning following a detailed review process. The Building Regulations 2018, through adoption of the Building Code of Australia, apply bushfire protection standards for building works in designated BPA.

Designated BPA maps can be viewed on VicPlan at https://mapshare.vic.gov.au/vicplan/ or at the relevant local council.

Create a BPA definition plan in VicPlan to measure the BPA.

Information for lot owners building in the BPA is available at https://www.planning.vic.gov.au.

Further information about the building control system and building in bushfire prone areas can be found on the Victorian Building Authority website https://www.vba.vic.gov.au. Copies of the Building Act and Building Regulations are available from http://www.legislation.vic.gov.au. For Planning Scheme Provisions in bushfire areas visit https://www.planning.vic.gov.au.

Native Vegetation

Native plants that are indigenous to Victoria and important for biodiversity might be present on this property. This could include trees, shrubs, herbs, grasses or aquatic plants. There are a range of regulations that may apply including need to obtain a planning permit under Clause 52.17 of the local planning scheme. For more information see Native Vegetation (Clause 52.17) with local variations in Native Vegetation (Clause 52.17) Schedule

To help identify native vegetation on this property and the application of Clause 52.17 please visit the Native Vegetation Regulations Map (NVR Map) https://mapshare.vic.gov.au/nvr/ and Native vegetation (environment.vic.gov.au) or please contact your relevant council.

You can find out more about the natural values on your property through NatureKit NatureKit (environment.vic.gov.au)

PROPERTY REPORT

Energy, Environment and Climate Action

Created at 01 November 2025 10:16 PM

PROPERTY DETAILS

Address:	**SHARKEYS ROAD PORT FAIRY 3284**
Lot and Plan Number:	**Lot 1 PS849704**
Standard Parcel Identifier (SPI):	**1\PS849704**
Local Government Area (Council):	**MOYNE** www.moyne.vic.gov.au
Council Property Number:	**507378**
Directory Reference:	**Vicroads 89 F7**

SITE DIMENSIONS

All dimensions and areas are approximate. They may not agree with those shown on a title or plan.

Area: 45587 sq. m (4.56 ha)
Perimeter: 1124 m
For this property:
— Site boundaries
— Road frontages

Dimensions for individual parcels require a separate search, but dimensions for individual units are generally not available.

17 overlapping dimension labels are not being displayed

Calculating the area from the dimensions shown may give a different value to the area shown above

For more accurate dimensions get copy of plan at Title and Property Certificates

UTILITIES

Rural Water Corporation:	**Southern Rural Water**
Urban Water Corporation:	**Wannon Water**
Melbourne Water:	**Outside drainage boundary**
Power Distributor:	**POWERCOR**

STATE ELECTORATES

Legislative Council:	**WESTERN VICTORIA**
Legislative Assembly:	**SOUTH-WEST COAST**

PLANNING INFORMATION

Property Planning details have been removed from the Property Reports to avoid duplication with the Planning Property Reports from the Department of Transport and Planning which are the authoritative source for all Property Planning information.

The Planning Property Report for this property can found here - Planning Property Report

Planning Property Reports can be found via these two links
Vicplan https://mapshare.vic.gov.au/vicplan/
Property and parcel search https://www.land.vic.gov.au/property-and-parcel-search

PROPERTY REPORT

Energy, Environment and Climate Action

Area Map