

Dairy Effluent Storage Calculator

Summary Report

Regional authority: Environment Southland Regional Council
Authorised agent: Q Scandrett Dairy Green Ltd
Client: White Waters
Program version: 1.48
Report date: Tuesday, 1 May 2018

General description:

DESC run to support a consent renewal application

Seasonal supply, milking maximum cow numbers of 559.

Water use of 40 L/cow/day with a minimum volume of 10 m³ for shoulders of season.

Pump sumps entered as one storage tank

Existing Hynds megapond entered as storage tank

Slurry tanker used for application, 12,000 L capacity

Low rate system run direct from pump sump

Umbilical system used as required

Small number of cows has been entered in the animal shelter to allow for effluent generated by calves in a covered shed with wood chip bedding.

Climate

Rainfall site: Te Anau Downs
Mean annual rainfall: 1363 mm/year

Effluent Block

Area of low risk soil: 0.0 hectares
Minimum area of high risk soil: 70.0 hectares
Surplus area of high risk soil: 0.0 hectares

Wash Water

Yard wash:

- Milking season starts: 25 August
 - Milking season ends: 31 May

Month	Number of Cows	Hours in Yard	Wash Volume (cubic metres)
January	599	3.0	23.9
February	599	3.0	23.9
March	599	3.0	23.9
April	400	2.0	16.0
May	180	1.5	10.0
June	0	0.0	0.0
July	0	0.0	0.0
August	110	1.0	10.0
September	360	2.0	14.5
October	500	3.0	20.0
November	550	3.0	22.0
December	599	3.0	23.9

Animal sheiter wash:

Month	Number of Cows	Hours in Shelter	Wash Volume (cubic metres)
January	0	0.0	0.0
February	0	0.0	0.0
March	0	0.0	0.0
April	0	0.0	0.0
May	0	0.0	0.0
June	0	0.0	0.0
July	0	0.0	0.0
August	5	2.0	0.0
September	5	2.0	0.0
October	5	2.0	0.0
November	0	0.0	0.0
December	0	0.0	0.0

Irrigation

Winter-spring depth:	3 mm
Spring-autumn depth:	5 mm
Winter-spring volume:	60 cubic metres
Spring-autumn volume:	96 cubic metres
Irrigate all year?	No
Don't irrigate start:	10 June
Don't irrigate end:	31 July

Catchments

Yard Area:	730 square metres
Diverted?	Yes
- diversion start:	31 May
- diversion end:	25 August
Shed Roof Area:	225 square metres
Diverted?	Yes
Feedpad Area:	0 square metres
Covered?	No
Diverted?	No
Animal Shelter Area:	25 square metres
Covered?	Yes
Diverted?	Yes
- diversion start:	01 November
- diversion end:	15 August
Other Areas:	0 square metres

Storage

Pond/s present?	No
Tank/s present?	Yes
No. of tanks:	2 tank/s
Tank 1	
- total volume:	1498 cubic metres
- pumpable volume:	1238 cubic metres
- surface area:	651 square metres
- diameter:	28.8 metres
- total height:	2.3 metres
- pumped?	Yes
Tank 2	

- total volume: 32 cubic metres
- pumpable volume: 29 cubic metres
- surface area: 10 square metres
- diameter: 3.5 metres
- total height: 3.3 metres
- pumped? No
- Emergency storage period: 0 days

Solids Separation

Solids separator/s present? No

Outputs

Maximum required storage pond volume: 1777 cubic metres
 90 % probability storage pond volume: 1107 cubic metres
 During the period from: 01 July 1980
 To: 30 June 2013

