Nutrient Management Plan

Applicant: A Farmer
123 A Road
xxxx
Supply Number: xxxxx
Catchment: xxxxxxx

Prepared by:

Position:

Version No:

Date:

Consultant Declaration

I declare that I have the necessary expertise to prepare this Nutrient Management Plan and associated Overseer modelling and any associated files and documents.

I confirm the following:

- I have attained a Certificate of Advanced Sustainable Nutrient Management from Massey University.
- Overseer modelling has been completed in accordance with the current Overseer Data Input Standards and Horizons Regional Variations.
- Any alterations to the base file information or Overseer file have been outlined in this document and noted on the Base File Check List.

Name:

Position:

Signed:

Date:

Nutrient Management Plan (NMP) Checklist:

Please ensure you include the following in Your NMP

- Fully completed Nutrient Management Plan template (or other industry approved template)
- Coversheet (SMP)
- Base file checklist completed by Dairy NZ (if applicable)
- Overseer files (base year and target)
- Dairy Effluent Storage Calculator working file
- Copy of latest soil test for the property

Table of Contents

1. FARM CONTAMINANT LOSS 7
   - 1.1 NITROGEN LOSSES 7
   - 1.2 PHOSPHOROUS LOSSES 7
   - 1.3 SEDIMENT LOSSES 7
2. CONTAMINANT MANAGEMENT STRATEGIES 8
   - 2.1 NITROGEN 8
   - 2.2 PHOSPHORUS 10
   - 2.3 SEDIMENT 10
   - 2.4 STOCK CROSSINGS 10
   - 2.5 ACKNOWLEDGEMENT OF OTHER GOOD MANAGEMENT PRACTICES 11
3. FARM SYSTEM AND OVERSEER MODEL ASSUMPTIONS 11
4. LIST OF APPENDICES 12

APPENDIX A: FARM DETAILS (Base File data)

1. FARM DESCRIPTION 13
   - 1.1 LEGAL DESCRIPTION 13
   - 1.2 FARM AREA 13
   - 1.3 OTHER PHYSICAL CHARACTERISTICS 13
2. LAND RESOURCE INFORMATION 14
3. FARM SYSTEM DESCRIPTION 15
   - 3.1 MILKING PLATFORM 15
   - 3.2 SUPPORT BLOCK 177
4. FARM STRUCTURES 19
5. FARM ANIMAL EFFLUENT 19
   - 5.1 CONSENT CONDITIONS 19
   - 5.2 SYSTEM DESCRIPTION 19
   - 5.3 EFFLUENT APPLICATION 19
   - 5.4 STORAGE 20
   - 5.5 RAINFALL 20
   - 5.6 SOIL RISK STATUS 20
   - 5.7 STORAGE VOLUME 20
   - 5.8 PERMEABILITY 21
   - 5.9 DAIRY EFFLUENT STORAGE CALCULATION SUMMARY REPORT 21
6. WATER USE 21
   - 6.1 STOCK AND FARM DAIRY WATER REQUIREMENTS 21
   - 6.2 WATER IRRIGATION 21
7. FERTILISER APPLICATIONS 22
   - 7.1 SOIL TESTS 23
8. POULTRY/PIGGERY FARM LITTER APPLICATIONS 23
9. BIO-SOLIDS APPLICATIONS 23
10. ODOUR, DUST, FERTILISER, AND EFFLUENT DRIFT MANAGEMENT 23
11. STOCK EXCLUSION 23

11.1 EXISTING STOCK CROSSING (THROUGH WATER) 24
11.2 EXISTING BRIDGES AND CULVERTS 24
11.3 FENCING 24
APPENDIX B: OVERSEER BLOCK MAP 26
APPENDIX C: SOIL MAPS 27
APPENDIX D: LUC MAPS 28
APPENDIX E: AERIAL MAP SHOWING LEGAL DESCRIPTIONS 29
APPENDIX H: EFFLUENT BLOCK MAPS 30
APPENDIX I: AERIAL MAP SHOWING BRIDGES, CULVERTS, LOCATION/S WHERE STOCK CROSS THROUGH WATER OR WATERWAY FENCING THAT IS YET TO BE INSTALLED 31

1. Farm Contaminant Losses

1.1. Nitrogen Losses

Comment on farm trajectory and ability to meet the LUC targets.

Table 1: Comparison in kg N/ha/yr of Planned Farm Leaching Trajectory and the One Plan Cumulative Nitrogen Leaching Maximums calculated using Table 2.2 in Appendix A.

	Base	Yr 1	Yr 5	Yr 10	Yr 20
Permissible N loss limits (Table 14.2)	-				
Farm Trajectory					

Table 2: Base and target year N loss and % reduction

	Total kg N/yr	Kg N/ha/yr
Base Year (2012/13 season)		
Target Year (2015/16 season)		
N Loss % Reduction		

1.2. Phosphorous Losses

Table 3: Base and Target P loss

	Total kg P/yr	Kg P/ha/yr
Base Year		
Target Year		

This section should discuss the following:

- The status of phosphorous loss on farm;
- Identify high risk areas for phosphorous loss on the farm e.g. high Olsen P levels, high P fertiliser applications and P fertiliser applications during high drainage months; and
- Any disparities in individual blocks.

1.3. Sediment Losses

This section should include the following:

- Practices observed on the farm that may contribute to sediment losses;
- A discussion on status of sediment loss on farm;
- Identify any high risk areas e.g. cultivation, crop management, steep or erodible land

2. Nutrient Management Strategies

2.1. Nitrogen

2.1.1. Potential Reduction in Contaminant Loss

The following nitrogen management options have been identified as being feasible on the farm. These options represent the "Potential Reduction" in nitrogen leaching which is able to be modelled in Overseer.

Table 4: Nitrogen management options that could feasibly be adopted to reduce nitrogen leaching

Management Strategy Description	N Reduction	
	kgN/ha	Total N (kg)
Predicted Reduction in N Loss if ALL Strategies Adopted		

The mitigations in the above table need to show a reduction in N leaching. In the event that there is an increase in cow numbers and/or production which results in an increase in N leaching, this should be listed in this table as a negative N reduction and be discussed in detail at the beginning of the report under the 'Background' section.

2.1.2. Selected Nitrogen Management Strategies

The farmer has selected the following strategies from those contributing to the Potential Reductions to reduce N leaching over time. These are the **Targeted Reductions**.

Table 5: Nitrogen management strategies the farmer is committed to implementing to reduce nitrogen leaching

Selected Management Strategies	Comment / Proposed Timing

	kgN/ha	Total N (kg)
Predicted Reduction in N Loss from Adopting Selected Management Strategies		

2.1.3. Rejected Nitrogen Management Strategies

Following discussion with the farm owner and basic farm system modelling to ensure that the farms' profitability and production volumes are not significantly affected against the wishes of the owner, the management strategies identified in the Potential Reductions that have been rejected are outlined in the table below with farmers' justification as to why the strategies are rejected.

Table 6: Potential nitrogen management strategies that have been rejected and will not be implemented

Rejected Management Strategies	***Justification***

2.1.4. Nitrogen Reduction Reconciliation

The following table reconciles the differences in **Potential** and **Targeted** N reduction strategies.

Table 7: Differences in potential and targeted reductions

	Potential Reduction	**Targeted Reduction**
Baseline N Loss (kgN/yr)		
Predicted Loss (kgN/yr)		
Reduction in Forecast N loss (kgN/yr)		
Percentage Reduction		
Targeted Reduction as Proportion of Potential Reduction		

2.1.5. Other Nitrogen Good Management Practices

Delete section if not applicable

The previous section outlines any good management practices that have been implemented that will affect N leaching and that will be reflected in Overseer. Other practices identified that will be implemented to minimise N Leaching that are not represented in Overseer include:

Table 8: Other Good management practices implemented on farm

Management Practice	*Implementation Date*

2.2. Phosphorus

Please provide some additional discussion about phosphorus loss. High risk areas should be discussed. Any mitigations in place or proposed to reduce P losses should be included in the below table.

Table 9: Phosphorus management practices implemented on farm

Management Practice	*Implementation Date*

2.3. Sediment

Discuss any mitigations that have been implemented or are proposed to manage sediment loss. Identified high risk areas should be addressed.

Table 10: Sediment management practices implemented on farm

Management Practice	*Implementation Date*

2.4. Stock Crossings

Stock type	**Age**	**Weight per cow (kg)**	**Number**	**Crossing – what month? – No. of crossings?**	**Total Crossings / year**
e.g. Mixed age cows	-	450	300	Cross over in June and return in July	2 per year
e.g. R2 Heifers	12-22 months	230-400	80	- Cross in August on arrival to runoff - One return crossing in November - Cross to leave property in July	4 per year
Etc.					

If you have any questions about this section contact Horizons Rural Advice Team.
OR

If stock do not cross through water anywhere on the milking platform, lease land or associated run offs – Please replace with "**N/A - No stock cross through water on farm**".

2.5. Acknowledgement of Other Good Management Practices

Note any current mitigations that have been implemented since the base year which contribute to reduced loss of nitrogen, phosphorus, sediment or faecal contamination that have not been covered previously. Please ensure the information contained in this section is accurate (including the dates that the mitigations were implemented).

3. Farm system and Overseer Model Assumptions

Provide details or assumptions made or delete this and enter: No assumptions outside the Overseer Data input standards and regional variations required by Horizons Regional Council were used in preparation of the nutrient budgets.

If any assumptions were made during the interpretation of information please outline:

a) *Any assumptions or averaging of farm practices that were made when entering information;*
b) *If Overseer Data Input standards have not been followed.*

Please detail the reasons for these assumptions and the impact this has had on the modelled information.

4. List of Appendices

Appendix A:	Farm Details (Base file data)
Appendix B:	Overseer Block Map
Appendix C:	Soil Maps
Appendix D:	LUC Maps
Appendix E:	Effluent Block Extension maps
Appendix F:	Aerial map showing bridges, culverts, location/s where stock cross through water or waterway fencing that is yet to be installed.

APPENDIX A: BASE FILE FARM DATA

1. Farm description

The farm business is defined by the following legal description:

NOTE: These descriptions must match the maps in Appendix E.
NOTE: Outline any differences in property size or legal description between base and target year.

1.1. Legal Description

Table 1.1: Legal description

	Milking Platform	Support block
Physical Location		
Legal description		
Valuation numbers		
Area (rateable)		

1.2. Farm Area

Table 1.2: Total farm area involved in the farming operation to be consented

	Milking Platform	Support block
Grazeable Area		
Stock Excluded Area		
Non-Productive		
Total Area		
Ownership		

1.3. Other Physical Characteristics

Table 1.3: Other physical characteristics to

	Milking Platform	Support block
Latitude: Longitude		
Average rainfall:		
Distance from Coast:		

2. Land Resource Information

Table 2.1: Land Resource Description

Overseer blocks names	Primary LUC	Area (ha)	Main soil type (S-Map identifier)	Contour	Drainage*	Relative Pasture Yield	N-Loss to Water
Platform							
Stock Excluded							
Non Productive							
Subtotal - Platform							
Support block							
Stock Excluded							
Non Productive							
Subtotal – Support block							
TOTAL AREA							

*if mole or tile drainage is present in the block include the % in brackets in the drainage column i.e Poor (100% tiled)

Table 2.2: Permissible N-loss limits for the farm based on Table 14.2 of the One Plan and the land areas provided in Table 2.1

Land Use Capability* (LUC)	LUC Areas (ha)			Table 14.2 N Leaching Limits (kgN/ha)			
	Total	Platform	Run-off	Year 1	Year 5	Year 10	Year 20
I	0.0	0.0	0.0	30	27	26	25
II	0.0	0.0	0.0	27	25	22	21
III	0.0	0.0	0.0	24	21	19	18
IV	0.0	0.0	0.0	18	16	14	13
V	0.0	0.0	0.0	16	13	13	12
VI	0.0	0.0	0.0	15	10	10	10
VII	0.0	0.0	0.0	8	6	6	6
VIII	0.0	0.0	0.0	2	2	2	2
Farm Area (ha)	0	0	0				
FARM LEACHING TARGET (kgN/ha)				#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Nitrogen (kg)				#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

NOTE: A description of LUC can be found in: Land Use Capability Survey Handbook, 3rd Edition. (Available at http://www.landcareresearch.co.nz/__data/assets/pdf_file/0017/50048/luc_handbook.pdf)

3. Farm System Description

The farm description outlined in the following section is the basis on which this consent is being sought. The base year is the 2012/13 season and the target year is the 2015/16 season.

3.1. Milking Platform

3.1.1. Stock numbers

Table 3.1 Stock numbers on farm

	2010/11	2011/12	2012/13	Baseline	Target
Peak cows milked					
Other stock:					

Enter any clarifying comment

3.1.2. Production

Table 3.2: Production to Factory

	2010/11	2011/12	2012/13	Baseline	Target
Total kgMS					
kgMS/ha					
KgMS/cow					

Season	Good/Avg/Poor	Good/Avg/Poor	Good/Avg/Poor		

Enter any clarifying comment, and also comment if a season other than the 2012/13 has been selected to generate the baseline and the reason for this e.g. drought

3.1.3. Nitrogen used

Table 3.3: Nitrogen used (Whole farm)

	2010/11	2011/12	2012/13	Baseline	Target
kgN/ha					

As reported in Overseer whole farm Nutrient Budget

3.1.4. Feeding

Table 3.4: Imported Supplements

	Feed Volume (TDM)				
Supplement Type	2010/11	2011/12	2012/13	Baseline	Target
Eg. Maize silage (TDM)					
TOTAL					
Kg/cow					

Enter any clarifying comment such as where the supplement is fed and to what stock.

Table 3.5: Supplement harvested on farm

	Feed Volume (TDM)				
	2010/11	2011/12	2012/13	Baseline	Target
xxxx (TDM)					
Block harvested from					
Destination					

Enter any clarifying comment – Note: only include if supplement is being transferred between milking platform and the runoff (and vice versa).

3.1.5. Winter Grazing

Table 3.6: Time spent off farm

	Total Days Grazed Off				
	2010/11	2011/12	2012/13	Baseline	Target
Total cows					
Date cows leave MP					

Date cows return to MP					
Total days off					

If total cows grazed off do not all leave or return at the same time please outline. Eg all leave on 20 May, 100 return on 20 July and 100 return on 10 August. Enter any other clarifying comment.

3.1.6. Cropping

Table 3.7: Cropping undertaken on farm

	2010/11	2011/12	2012/13	Baseline	Target
Crop:					
Block(s) crop rotates through					
Area (ha)					
Yield (TDM)					
Cultivation method					
Month sown					
Month harvested					
Harvest method					
Stock class					
Hours on crop					
Month re-sown					

3.2. Support block

If no support block is associated with this application the text and tables below in this section can be deleted and replaced with “Not applicable – no support block is associated with this application”.

3.2.1. Stock Numbers

Table 3.8: Stock Numbers on support block

Stock Class	2010/11	2011/12	2012/13	Baseline	Target
e.g R1yr replacements					

Enter any clarifying comment.

3.2.2. Nitrogen used

Table 3.9: Nitrogen used on support block

	2010/11	2011/12	2012/13	Baseline	Target

kgN/ha					

Enter any clarifying comment.

3.2.3. Feeding

Table 3.10: Imported Supplement

	Feed Volume (TDM)				
Supplement Type	**2010/11**	**2011/12**	**2012/13**	**Baseline**	**Target**
Eg Maize silage (TDM)					
TOTAL					
Kg/cow					

Enter any clarifying comment.

Table 3.11: Supplement harvested on support block

	Feed Volume (TDM)				
	2010/11	**2011/12**	**2012/13**	**Baseline**	**Target**
xxxx (TDM)					
Block harvested from					
Destination					

Enter any clarifying comment – Note: only include if supplement is being transferred between milking platform and the runoff (and vice versa).

3.2.4. Cropping

Table 3.12: Cropping undertaken on support block

	2010/11	**2011/12**	**2012/13**	**Baseline**	**Target**
Crop:					
Block(s) crop rotates through					
Area (ha)					
Yield (TDM)					
Cultivation method					
Month sown					
Month harvested					
Harvest method					
Stock class					
Hours on crop					
Month re-sown					

4. Farm Structures

Table 4.1: Farm Structure Descriptions

Structure	Description
Farm Dairy	
Feedpad	
Silage bunkers	
Etc…	

5. Farm Animal Effluent

Includes effluent from dairy sheds, poultry farms and piggeries

5.1. Consent Conditions

Table 5.2: Existing Discharge Consent Conditions

Consent number	
Expiry date	
Maximum cow numbers	
Minimum area required to be irrigated per year*	
Maximum allowable effluent nitrogen (kgN/ha)	

*as determined by Overseer modelling

5.2. System Description

Describe system and enter details for effluent section below as it is today (not baseline year). If any changes have been made following the base year please comment on the changes.

5.3. Effluent Application

Describe system*, e.g.* The performance and flow of the irrigator was not measured, but it is assumed for Overseer to be applying12-24 mm and for the Dairy Effluent Storage Calculator (DESC) it is applied at 20mm.

Table 5.3: Description of current effluent application on farm

	Irrigator 1	Irrigator 2
Irrigator type		
Application depth		
Area irrigated		

5.4. Storage

A Dairy Effluent Storage Calculator (DESC) does not need to be completed for farms that have a sump only system and are not proposing to install effluent storage as part of this application. Please include the following note with sump only:

A DESC has not been completed for this property but one will be required if the applicant chooses to install storage or when particular changes are made to the effluent system which trigger the need for a new Discharge Permit or when Discharge Permit XXXX expires on XXXX.

For all other systems a DESC will need to be completed and all sections completed. The DESC working file needs to be supplied with the application.

5.5. Rainfall

Table 5.4: Description of rainfall site and impact on modelling (Overseer and DESC)

Rainfall Site	Rainfall	Variance
DESC Site		
Overseer model		
Farmer estimate (if known or delete)		

The xxxx site was chosen as being the most representative.

5.6. Soil Risk Status

Table 5.5: Description of Soil Risk and impact on modelling (Overseer and DESC)

	Area (ha)	High risk Area (ha)	Low Risk Area (ha)
Soil area within the effluent block			
Effluent area required by Overseer to apply no more than 150 kg N/ha/year			
Artificial drainage			
Areas used in the DESC			
Surplus area			

Enter any clarifying comment

5.7. Storage Volume

The DESC has been used to calculate the current storage volumes and the storage volume required to allow deferred effluent irrigation to be practiced. The current storage capacity is insufficient/sufficient.

Table 5.6: Comparison of current and required effluent storage volume

	Storage Volume
Current Volume	m3
Required Volume	m3

NOTE: *The required storage volume is based on the current effluent system set up, and is specific to this farm only. No consideration has been made in this calculation as to possible options to reduce total volume required.*

5.8. Permeability

Describe the pond(s) and likely permeability.

5.9. Dairy Effluent Storage Calculation Summary Report

Add the summary report here.

6. Water Use

6.1. Stock and Farm Dairy Water Requirements

Water is sourced from XXX. Based on XX cows at 140 litres per day. The take is a permitted activity and is not metered or the take requires consent / or is consented under Water Permit xxxxx, allowing for a maximum daily usage of xxxm3/day and expiring on XXXX.

Describe water system at shed, e.g.
The cooler water is recycled into tanks for yard wash-down but there is no use of green water recycling. Water flows onto the yard from the bottom of the backing gates to assist in yard wash down. An assumption of xx l/cow has been made for water use for the plant cleaning, milk cooling and yard.

Table 6.1: Stock drinking water and shed washdown use estimates

	Source of Data	Total Litres / Day
Stock drinking water	Industry standard / Water meter etc	
Dairyshed	Industry standard / Water meter etc	
Feedpad		
TOTAL LITRES / DAY		

6.2. Water Irrigation

If no irrigation on farm delete the below text and tables and replace with “Not applicable - No irrigation currently on farm”

If irrigation is used on farm please detail the following:

- Water is sourced from XXX. The take is consented under consent number XXX
- The maximum daily volume for extraction is …m3/day (subject to conditions).
- Resource consent xxxxx expires on
- Describe irrigation system (e.g. type of system, area irrigated, reliability)
- Comment on telemetry records for mm/ha/year applied

6.2.1. Base Year Overseer Inputs

Table 6.2: Base Year Overseer Inputs:

Depth of Application	Fixed / Variable	Application Depth if Fixed	mm
Frequency of Irrigation	Fixed Return / Variable Return	Return period if Fixed	days
Decision criteria	%PAW[1] / mm deficit	Initial Trigger	% or mm
		Target	% or mm

6.2.2. Irrigation Scheduling Method

It is a requirement to implement a scheduling method. Describe the method used/to be used on the property to schedule irrigation.

Table 6.3 Target Year Overseer Inputs
Delete section if same as base

Depth of Application	Fixed / Variable	Application Depth if Fixed	mm
Frequency of Irrigation	Fixed Return / Variable Return	Return period if Fixed	days
Decision criteria	%PAW[2] / mm deficit	Initial Trigger	% or mm
		Target	% or mm

Add any clarifying comment and describe good practices implemented if not covered above eg Electro-magnetic soil mapping, soil moisture monitoring.

7. Fertiliser Applications

Table 7.1: Fertiliser applications undertaken on farm in Base Year (including crop blocks)

Block	Month	Product	Rate (kg/ha)	N	P	K	S

Note: the N reported as above is based on the total units of nitrogen applied to the block and divided by the total block area. The application rate reported refers to the rate applied on the effective (farmed) area of the block.

Table 7.2: Fertiliser applications undertaken on farm in Target Year (including crop blocks)

Block	Month	Product	Rate (kg/ha)	N	P	K	S

7.1. Soil Tests

The soil test values used in the Overseer file are actuals based on a soil test carried out [insert date]

Table 7.4: Soil test results used in Overseer

Block	Olsen P	QT K	QT Ca	QT Mg	QT Na	QT SO4	pH

Or

The soil test values used in the Overseer file are defaults from Overseer. Explain why defaults have been used. These should only be used if no soil test data is available.

8. Poultry/Piggery farm litter Applications

If no poultry/piggery litter are applied on farm - enter N/A – No poultry/piggery litter are applied on farm.

Table 8.1: Poultry and/or Piggery applications undertaken on farm

Block	Month	Product	Rate (kg/ha)	N	P	K	S

9. Bio-solids Applications

If no Bio-solids are applied on farm - enter N/A – No Bio-solids are applied on farm.

Note: An example of Grade Aa Bio-solids – Sludge from Waste Water Treatment Plants.

Table 9.1: Bio-solids applications undertaken on farm

Block	Month	Product	Rate (kg/ha)	N	P	K	S

10. Odour, dust, fertiliser, and effluent drift management

Please detail how the effects of odour, dust, fertiliser and effluent drift are managed and have been minimised on farm.

Example: not applying effluent or fertiliser during windy conditions, maintaining buffer distances etc.

11. Stock Exclusion

REQUIREMENTS	STATUS	NOTES

REQUIREMENTS	STATUS	NOTES
Is there a reticulated water supply available for all animals on the farm to avoid reliance on natural waterways?		
Are all stock physically prevented from entering waterways that are either permanently flowing or have an active bed width greater than one metre?		
Are all stock excluded from any wetlands and lakes that are defined as either a rare or threatened habitat?		
Are all points where stock cross waterways bridged or culverted to prevent effluent entering water?		
Are there any direct discharges of animal effluent to waterways from other activities?		

11.1. Existing Stock Crossing (through water)

Are there any existing stock crossings through waterways on farm excluding bridged/ culverted crossings? If so please fill out the Table below to describe current stock crossings, mark the location of these crossings in Appendix I and refer to Section 3.4 of the report

Table 11.2: Description of current stock crossings through waterways on farm

Stock type	Age	Weight per cow (kg)	Number	Crossing – what Month? – No. of crossings?	Total Crossings / year
e.g. Mixed age cows	-	450	300	Cross over in June and return in July	2 per year
e.g. R2 Heifers	12-22 months	230-400	80	- Cross in August on arrival to runoff - One return crossing in November - Cross to leave property in July	4 per year
Etc.					

[Delete if no stock crossings exist on farm and replace with – N/A – no stock crossings on farm]

11.2. Existing bridges and culverts

Are there any existing bridged or culverted crossings? If present, mark these on map in Appendix I. Outline any measures that have been put in place to manage the run-off originating from the carriageway of the bridge or culvert e.g. bunding to prevent the direct discharge of effluent over the edge of any structures or design of races leading to and from crossing.

11.3. Fencing

Please detail in the following table the length of waterways that have been fenced/are to be fenced to exclude stock. If a portion is left to be fenced, please give a timeframe of when this fencing is to be completed and include a farm aerial map showing the fencing yet to be completed in Appendix I.

Table 11.3: Fencing audit

	Waterways
Length of Waterways	
Length Fenced	
Percentage Fenced	

12. APPENDIX B: OVERSEER BLOCK MAP

Base and Target Maps required if any changes to blocks occur.

13. APPENDIX C: SOIL MAPS

14. APPENDIX D: LUC MAPS

15. APPENDIX E: AERIAL MAP SHOWING LEGAL DESCRIPTIONS

16. APPENDIX H: EFFLUENT BLOCK MAPS

Please only fill out if extending effluent area. Put N/A if not applicable.

Please mark clearly the land that has been added for the effluent area (from the existing).
NB: If the applicant is extending the effluent area, the Discharge Permit will need to be checked to see if this covers the extended effluent area. If not addition of land parcels will need to be applied for, which is free of charge.

17. APPENDIX I: AERIAL MAP SHOWING BRIDGES, CULVERTS, LOCATION/S WHERE STOCK CROSS THROUGH WATER OR WATERWAY FENCING THAT IS YET TO BE INSTALLED.