



WaterForce Effluent Separation System

WaterForce

WaterForce Separation Process

Effluent

WaterForce will custom design a system to meet your needs. We will take into consideration current and future cow numbers, yard size, catchments and feed pad requirements.

1 Stone Trap

A stone trap is required to remove stones, grit and silts that settle before effluent enters the primary sump.

2 Primary Sump and Pump System

The primary sump is used to handle shock loadings of effluent from the feed pad or dairy shed yard. The sump is also used for handling any surplus effluent from the separator – ie overflow from the separator returns back to the primary sump. The primary pump is quite small as the effluent is only being pumped from the sump to the separator, meaning the electrical operating costs of the separation system are very low. Typically the pump is 4 pole (1450rpm) for this application, meaning the impeller is running at ½ the speed of a normal effluent pump, significantly increasing the life of the pump. The primary sump also requires a suitable stirrer to ensure a consistent solids content is sent through the separator.

3 WSP Press Separator System

A WSP Press Separator is of the new generation of dairy effluent solids and fluid separation. The unit has large tolerances for ease of handling dirt, grit, sand, palm kernel and other abrasive and obstructive matter. The WSP Press Separator offers low maintenance with its simple and robust design. Effluent water is screened to 0.5mm and can be irrigated out of small diameter sprinkler nozzles allowing for low application rates through new or existing systems.

4 Solids Bunker

Usually constructed from pre-cast concrete this bunker is used to hold moist solids until Solid Dispersal systems are available.

5 Holding Pond and Pumping System

Effluent (or dirty water) that passes through the WSP Press Separator drops into the holding pond. The holding pond is used to settle any fine solids that pass through the separator. It is also used as the main storage system to ensure effluent can be held in times when soils are waterlogged or irrigation is not set up. The main pump system draws dirty water from the holding pond to irrigate.

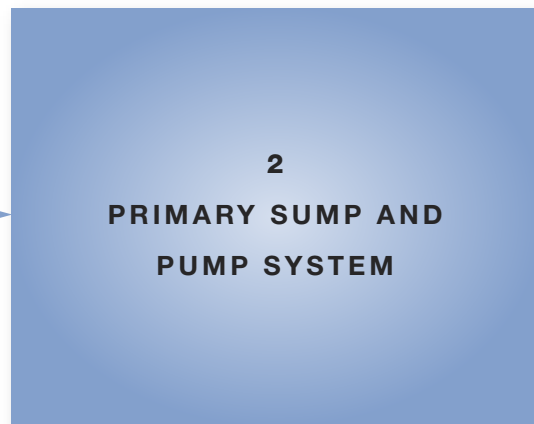
6 Solids Dispersal

The solids are relatively low in nutrients and are generally spread somewhere on the farm away from the normal effluent dispersal field.

7-9 Irrigation System

The dispersal system can either be operated through your existing system offering reduced application rates (by using smaller nozzles), or through a new system like pod irrigation, pivot, hard hose or boom system. Because the solids are removed the dirty water is also suitable for injection into existing clean water irrigation systems.

The Effluent Separation System



OVER
FR
SEPAR





3a



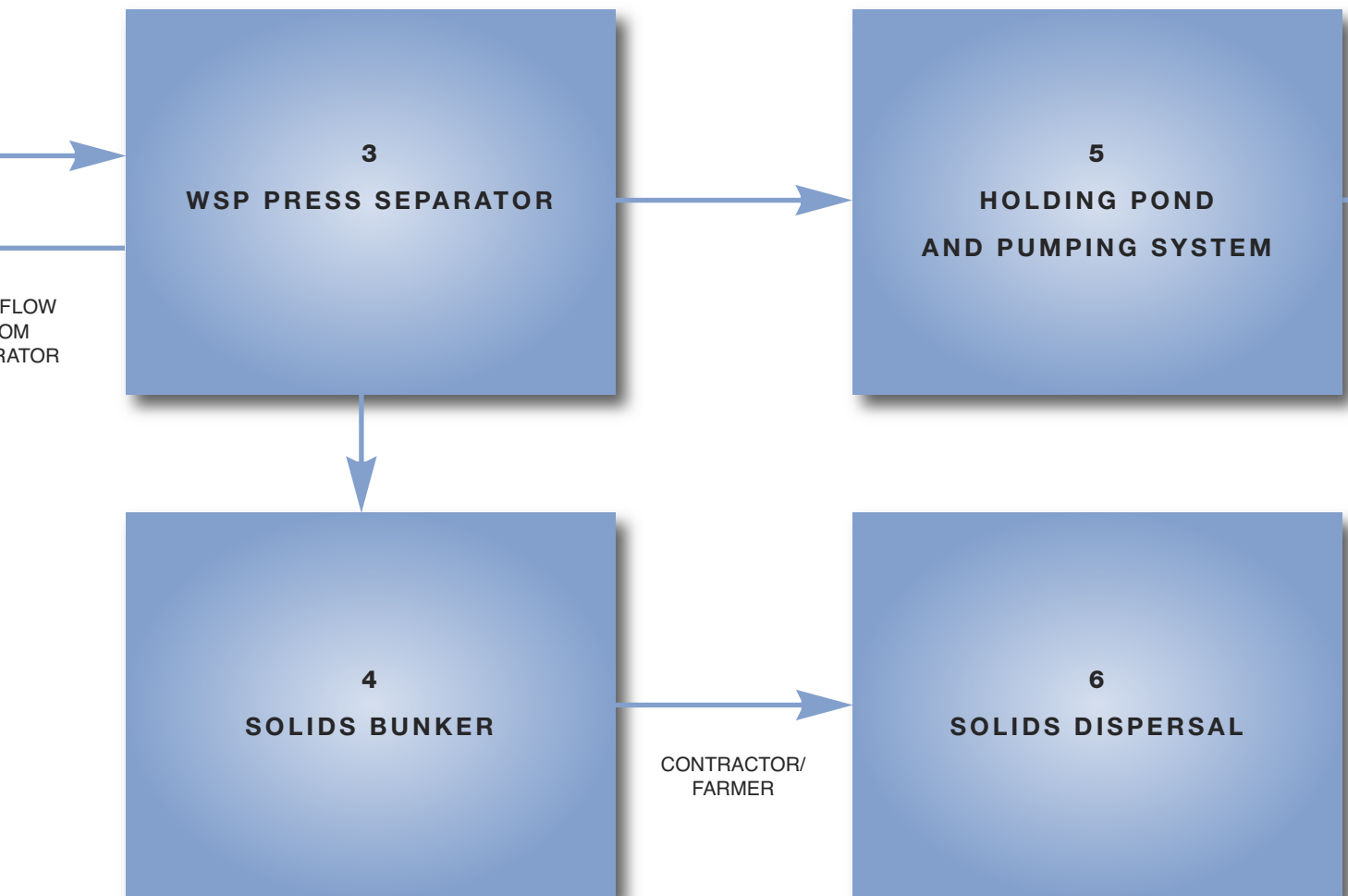
3b



4



5



FLOW
FROM
SEPARATOR

CONTRACTOR/
FARMER



5

7
CENTRE PIVOT



7

8
IRRIPOD SYSTEM



8

9
TRAVELLING IRRIGATOR



9



6a



6b

WaterForce | **Locations**

Bay of Plenty
Hawkes Bay
Manawatu
Marlborough
Canterbury

South Canterbury
North Otago
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Southland



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