

Triabunna Shore Base - Management of Stormwater

The proposed Spring Bay site has been divided into catchment regions, as follows:

Catchment	Sub-Catchment
Catchment 1	<ul style="list-style-type: none"> Sub-catchment i) - Comprising car park (G) and access roads, hardstand adjacent to feed shed (A) and buildings (B)
Catchment 2	<ul style="list-style-type: none"> Sub-catchment ii) - Laydown area (H) and wharf area hard stand (A) Sub-catchment iii) - Pen Assembly Area (F) Sub-catchment iv) - Existing Vegetated Area Sub-catchment v) - Area to east of site

These are described in Burbury Consulting Drawings 1337 - DA05, 1337 - DA03 and 1337 - DA10

- Stormwater from the car park, adjacent access roads and adjacent area (sub-catchment i)) will be collected by V drains, directed to a sedimentation basin to remove solids, and eventually into a bio-retention basin before discharge offsite. The combined stormwater treatment system will ensure compliance with the pollutant removal objectives outlined in the State Stormwater Strategy. A MUSIC model of the system has been prepared and it has provided the following results for a 10m² bio-retention basin for Catchment 1 (connection 1)
 - Stormwater Pollutant Removal Efficiency (Connection 1)

	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.75	1.65	5.7
Total Suspended Solids (kg/yr)	368	26.9	92.7
Total Phosphorus (kg/yr)	0.687	0.274	60.1
Total Nitrogen (kg/yr)	5.15	2.33	54.8
Gross Pollutants (kg/yr)	72	0	100

- Similarly for catchment 2 (Connection 2)
 - Stormwater Pollutant Removal Efficiency (Connection 2)

	Sources	Residual Load	% Reduction
Flow (ML/yr)	3.04	2.92	4
Total Suspended Solids (kg/yr)	733	63	91.4
Total Phosphorus (kg/yr)	1.7	0.487	71.4
Total Nitrogen (kg/yr)	12.1	5.25	56.5
Gross Pollutants (kg/yr)	113	0	100

- Roof water (within sub-catchment ii)) will be directed to a site storage tank for use within the processing plant. Overflow from this area will discharge into the proposed V drains, and into the new piped stormwater connection 1.
- Stormwater from the Pen Assembly (sub-catchment iii)) will be directed to the sediment basin to remove solids before discharge off site.
- Run off from the adjacent northern areas (sub-catchment iv)) will be captured by open V drains surrounding sub-catchments i) and iii), and discharge into the new stormwater connection 2.
- Runoff from sub-catchment v) will be directed via vee drains to stormwater connection 2.
- Vegetated swale along the southern edge of sub-catchment iii) to flow to stormwater connection 2.
- 2 new public stormwater connections are proposed at outfall (connection 1 and 2). These are marked on Burbury Consulting Drawings DA1337 - DA10.

All these drains will be designed to accommodate a critical 1 in 20 year rainfall event.

The existing vehicle access north of the proposed works has table drains to capture run off from the facilities at Spring Bay Seafood. This access will therefore be the northern boundary of sub-catchment iv).

The design for the sediment basins for catchments 1 and 2 has been undertaken using *Best Practice Erosion and Sediment Control*.

- A type C basin was adopted.
- Rainfall data from the Bureau of Meteorology site at Spring Bay was used.
- A basin hydraulic efficiency of 1.15 was used (the basin expects the design storm of 50% of a 1 in 1 year storm).
- A total equivalent catchment area of 2.2 hectares was adopted.

Analysis revealed a 119 m² and a 153 m² sediment Basins are required at the Spring Bay site for catchments 1 and 2, respectively. The locations of these basins are indicated on Burbury Consulting Drawings DA1337 - DA10.

Sub catchment iii) - the pen assembly area, may be subject to net-wash residue from repair of existing pens. While these pens are stored in this area the outlet from Catchment 2 will be closed off and any accumulated contaminates will be tankered off site for disposal.

The design of the stormwater system was undertaken by pitt&sherry under the direction of its Senior Principal Civil Engineer, Robert Casimaty FIE Aust CPEng, who is an accredited building practitioner (Civil Engineer) Registration Number C2267E.