

1. PLANT LOADING DATA – Bellingham Camping & Caravanning Club:

| SOURCE | PE | PER PERSON/ PER WASH CYCLE | | | PER SITE | | |
|------------------------------|-----|----------------------------|----------------|----------------|----------------|----------------|----------------|
| | | FLOW Lt/day | BOD gms/day | NH3 gms/day | FLOW Lt/day | BOD gms/day | NH3 gms/day |
| Caravans Static not serviced | 150 | 100.0 | 44.0 | 8.0 | 15.000 | 6.600 | 1.200 |
| Totals | | | | 15.000 | 6.600 | 1.200 | |

| | | |
|------------------------|--------|-------|
| Peak Flow to treatment | 0.52 | L/sec |
| Max. BOD Conc. | 440 | mg/L |
| Max. NH4-N Conc. | 80 | mg/L |
| Desludge Frequency | 60 | Days |
| Population Equivalent | 150 | PE |
| pH | 7 to 9 | |

1.1 Effluent Discharge Standards

Effluent Discharge Standard: 95%ile
 BOD⁵: 20 mg/L
 Suspended Solids: 30 mg/L
 Ammoniacal Nitrogen 20 mg/L
 (Subject to sufficient alkalinity being present in the raw sewage)
 ✓ No toxic substances or biological inhibitors to be present in the influent

1.2 Important Remarks

Where influent includes discharge from a commercial kitchen or catering facility, adequate provision for removal of grease and oils must be provided. No allowance has been made for the untreated grease or oils entering the WPL plant.

The plant offered has been designed to satisfy the specified effluent discharge standard, based on the above loadings and strengths. **These must not be exceeded. It is very important to check that the plant loading data matches the operating conditions of the site;** always incorporating any waste water from laundries, catering facilities and nursing homes.

To ensure that the system can treat the incoming Ammoniacal Nitrogen (NH4-N) to the guaranteed effluent quality there must be a sufficient level of alkalinity (as calcium carbonate) within the incoming water supply. The **minimum** level needs to be 7.1 times that of the NH4-N to be removed. In the event that there is insufficient alkalinity, calcium carbonate dosing must be considered, we are able to supply a dosing unit at an additional cost, if required.

If installed below ground tanks are designed assuming that the ground water table is less than 1.5m above the base of the tank. If higher water table or difficult ground conditions are encountered, please seek specialist advice or contact Hutchinson Environmental Solutions.

1.3 Scope of Supply

| Quant. | Equipment |
|--------|---|
| 1no. | Treatment Plant: (Primary Settlement Tank, Biological Treatment Zone, Humus Tank) |
| 1no. | Side Channel Blower |
| 1no. | WPL GRP Kiosk |
| 10m | Temperature Resistance Air Hose |
| 1no. | Galvanised steel air manifold |
| 1no. | Control Panel |
| 1no. | Operation and Maintenance Manual |

Note: Assuming Inlet Invert Depth = 0.5m

1.4 Equipment Dimensions

1.4.1 HiPAF Biological Treatment Tank

| Equipment | Approximate Dimensions | | | |
|----------------|------------------------|-------|-----------------|------------------|
| | Width | Depth | Straight Length | Length (Overall) |
| HP170FEP140045 | 2.88 | 3.20 | 3.10 | 4.90 |

1.4.2 Side Channel Blower

| Equipment | Motor Power (KW) | Absorbed Power (KW) | Current FLC (A) | Voltage (V) | Phase |
|-----------|------------------|---------------------|-----------------|-------------|-------|
| 2BH7420 | 1.5 | 1.19 | 4.3 | 415 | 3 |

1.4.2 GRP Enclosure

| Equipment | Dimensions (mm) | | |
|---------------|-----------------|--------|--------|
| | Width | Length | Height |
| GRP Enclosure | 1400 | 1100 | 1000 |

15 dB(A) attenuation