# Nitrogen Budget Calculation

| | |
|---|---|
| **Planning Application Reference No.** | APP/21/00543 |
| **Site Name:** | FERNWOOD HOUSE |
| **Additional Information:** | |
| **Date:** | **18 May 2021** |

**Stage 1** **Calculate total Nitrogen in kg per year derived from the development that would exit the Wastewater Treatment Works (WwTW) into Solent catchments after treatment**

**Step 1** **Calculate additional population**

| | |
|---|---|
| Enter the number of units proposed | **2** |
| Net population increase per housing unit | **2.40** |
| ***Total net population increase generated by the development*** | **4.80** |

**Step 2** **Calculate wastewater volume generated by the development**

| | |
|---|---|
| Water use in litres per person per day | **110** |
| ***Total wastewater volume generated by the development (litres per day)*** | **528** |

**Step 3** **Confirm receiving WwTW and permit limit**

| | |
|---|---|
| Select the wastewater treatment works the development will connect to | **Budds Farm** |
| ***Wastewater treatment works' permit limit (mg per litre)*** | **9.7** |
| ***Wastewater treatment works' discharge level (mg per litre)*** | **8.7** |

**Step 4** **Calculate total nitrogen in kg per year discharged by the WwTW**

| | |
|---|---|
| ***Deduct acceptable Nitrogen loading in wastewater (mg per litre)*** | **6.7** |
| ***Total Nitrogen discharged by WwTW (mg per day)*** | **3,553.4** |
| ***Total Nitrogen discharged by WwTW (kg per day)*** | **0.0036** |
| ***Total Nitrogen discharged by WwTW (kg per year)*** | **1.3** |

**Stage 2** **Calculate existing (pre-development) nitrogen from current land use of the development site**

**Step 1** **Total area of development site**

| | |
|---|---|
| Enter the total area of the development site (hectares) | **0.10** |

**Step 2** **Identify current land uses of the development site**

| | |
|---|---|
| Enter area currently used for urban development (hectares) | **0.10** |
| Enter area currently used for open space / greenfield (hectares) | **0.00** |
| Enter area currently used for woodland (hectares) | **0.00** |
| Enter area currently used for community food growing / catchment average (hectares) | **0.00** |
| Enter area currently used for cereals (hectares) | **0.00** |
| Enter area currently used for dairy (hectares) | **0.00** |
| Enter area currently used for general cropping (hectares) | **0.00** |
| Enter area currently used for horticulture (hectares) | **0.00** |
| Enter area currently used for pig farming (hectares) | **0.00** |
| Enter area currently used for lowland grazing (hectares) | **0.00** |
| Enter area currently used for mixed farming (hectares) | **0.00** |
| Enter area currently used for poultry farming (hectares) | **0.00** |
| ***Check to help ensure that sum total of land uses in Step 2 equals site area in Step 1*** | **0.1** |

**Step 3** **Calculate nitrogen load from current land usage**

| | |
|---|---|
| ***Total Nitrogen load from current land usage (kg per year)*** | **1.4** |

# Nitrogen Budget Calculation

**Stage 3** **Calculate nitrogen load for the non-built land uses proposed for the development site**

**Step 1** **Identify proposed land uses of the development site**

| | |
|---|---|
| Enter the total urban area to be created (hectares) | 0.10 |
| Enter the total designated open space / SANG area to be created (hectares) | 0.00 |
| Enter the total nature reserve area to be created (hectares) | 0.00 |
| Enter the total woodland area to be created (hectares) | 0.00 |
| Enter the total community orchard area to be created (hectares) | 0.00 |
| Enter the total community food growing / allotment area to be created (hectares) | 0.00 |
| ***Check to help ensure that sum total of proposed land uses equals site area in Stage 2*** | 0.10 |

**Step 2** **Calculate total Nitrogen load from proposed land uses**

| | |
|---|---|
| ***Total Nitrogen load from future land uses (kg per year)*** | 1.43 |

**Stage 4** **Calculate the net change in Nitrogen load from the proposed development**

**Step 1** **Identify Nitrogen load from wastewater (Stage 1)**

| | |
|---|---|
| ***Nitrogen leaving wastewater treatment works (kg per year)*** | 1.30 |

**Step 2** **Calculate net change in Nitrogen load from land use changes**

| | |
|---|---|
| ***Total Nitrogen load from future land use (kg per year)*** | 0.00 |

**Step 3** **Calculate total Nitrogen budget for the development site**

| | |
|---|---|
| ***Nitrogen budget for the site (kg per year)*** | 1.30 |

**Step 4** **Calculate precautionary buffer if Nitrogen budget exceeds zero**

| | |
|---|---|
| ***Precautionary Nitrogen buffer (kg per year)*** | 0.26 |

| | |
|---|---|
| **Total Nitrogen budget for the proposed development (kg per year)** | **1.6** |

**Development will generate additional Nitrogen - Mitigation is required**
**Please liaise with your Local Planning Authority for advice on next steps**