

Land to rear 13/15 Park Parade – requires mitigation

Stage 1		
Total Nitrogen (TN) from development wastewater		Notes
Number of units proposed	2.00	
Additional population	4.80	2.4 Average household size 2.4
Wastewater volume generated by development	309.60	64.5 Regs limit 110l/p/d, but water usage calc provided
TN discharged after WWTW	8359.20	27 Average Ammonical Nitrogen in effluent after water is put through mains treatment plant (in mg/l)
Convert to Kg	0.01	1000000 Divide by 1000000 to convert to Kg
Wastewater total Nitrogen load	3.05	365 Total Kg N load per year
Stage 2		
Nitrogen load in current land use		
Total area of land	0.06	In Ha, the land which will be lost to development
Nitrate loss for land type	14.30	Guidance tables provide rates for different land uses
Total Nitrogen Load of current land use	0.92	Area x nitrate loss rate for land type
Stage 3		
Calculate total Nitrogen load from future land use		
Area to be created	0.01	
Nitrate loss for land type	10.40	Guidance tables provide rates for different land uses
Total Nitrogen Load of future use	0.14	There will be schemes with multiple land uses, these should be calculated and the nitrogen loads added together
Stage 4		
Wastewater total Nitrogen load	3.05	From calculation in stage 1
Total Nitrogen Load of land use change	0.78	Subtract N loads of future use from current use (stage 2 - stage 3)
Total Nitrogen Budget without buffer	2.27	Subtract N load of land use change from N load from wastewater
20 % buffer	0.45	Divide N budget by 5
Total Nitrogen Budget with 20% buffer	2.72	Add buffer to N budget
If the Total Nitrogen Budget is +, mitigation is required to achieve neutrality		
If the Total Nitrogen Budget is 0 the development is N Neutral		
If the Total Nitrogen Budget is -, no mitigation is required		
Water Usage Calculator		
(Per person)	Weekly	l/day
Bath (30l)	x1	4.28
Shower (5min - 15l)	x4	8.57
Toilet Flush (3.5l)		15.47
Hand washing (2.5l taps)		1.58
Washing Machine	x1	15
Dishwasher		9.6
Drinking/Cooking		10
	Consumption	64.5
Physical constraints to water use:		Conclusions:
Eco shower heads & tap aerators		Note, the site is 2.75km from Langstone Harbour SPA
Dual flush WC (3.5 & 5l)		As such a mitigation package of £500
Dish Washer & Washing Mch A+++ rated		per 2bed flat is presumed
No outside tap fitted		
Water butt to irrigate horticultural area		With no Havant s106 for Nutrient Credits yet stated, It is assumed a Grampian Condition will be imposed
Nitrate Assumptions:		
Proposed urban development 10.4kg/Ha/Yr		Budds Farm TN is unpublished and assumed at 27