



7 December 2009

Strata Homes Ltd
Quay Point
Lakeside
Doncaster DN5 2PL
FOR THE ATTENTION OF MR K MAWSON

Dear Sir
RE BURNTWOOD ROAD, GRIMETHORPE

Further to our telephone conversation we would clarify the drainage strategy for the above development as follows.

As documented the site was previously developed, however over a period of time the dwellings have been demolished leaving only the road network in tact. Initial consultation with Yorkshire Water revealed foul and surface water sewers passing through the site permission being granted to connect foul drainage to the foul sewer however infiltration techniques should firstly be considered for surface water.

Consideration of the preliminary ground report and knowledge of the area revealed that the sub stratum was heavy clay unsuitable for 'stand a lone' infiltration techniques. We have commissioned a CCTV report of the sewers passing through the site which shows that the existing live road gullies are connected to the surface water sewer along with a number of dry connections coming from the direction of the demolished houses. This was pointed out to Yorkshire Water with a suggestion of a like for like discharge.

Yorkshire Water suggested that as the properties had been demolished some years ago and as a result could not be included within any suggested existing runoff calculation, therefore we prepared Microdrainage calculations to establish the existing flow from the carriageway, the discharge rates being as follows.

	Existing carriageway flow
1year	24 lts/sec
30year	64 lts/sec

The proposed development will have a far greater impermeable area then that of the existing carriageway therefore it is proposed to incorporated large diameter piped attenuation. Levels of the site and the existing surface water sewer are such that the main piped storage volume which will be located in the highway and constructed to section 104 adoptable standards is too high to incorporate run off from properties fronting Burntwood Road. Therefore it is proposed to construct two networks of private Tubisider galvanised steel pipe attenuation that will connect directly to the public sewer system. On analysing the proposed surface water network the outcome of the design is as follows.

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	Existing Carr'way flow	Proposed development flow	%reduction
1year	24 lts/sec	20.5 lts/sec	85% of original flow
30year	64 lts/sec	24.0 lts/sec	37% of original flow

Design of the surface water drainage will incorporate an increase of 20% for climate change the calculations increasing the M5-60 value (from the Walingford Maps) from 18.5mm to 22.2mm.

As part of the design the existing foul and surface water sewers will be diverted such that they will be located in the new development road network.

WE trust this brief resume of the drainage strategy is sufficient for your current needs and look forward to receiving your further instructions.

Yours faithfully
R.A.B. ENGINEERING DESIGN

R.BLAND