DOUBLE H NURSERIES LIMITED

APPLICATION FOR PLANNING PERMISSION

SECTION 3: ENVIRONMENTAL IMPACT ASSESSMENT

APPENDIX 8.9: WATER QUALITY AND SUPPLY

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9 Water Quality and Supply

9.1 Introduction

9.1.1 The biomass CHP plant requires a water supply to replenish water loss due to the water discharged from the boiler during the blowdown procedure. There will be small volumes of effluent discharged to sewer from the facility in the form of treated process water.

9.2 Water Supply

9.2.1 The biomass CHP plant will utilise rainwater to be drawn from the existing reservoir. This water will be required for:

- Replacement of boiler feedwater, discharged as blow down water;
- Ancillary services; and,
- Domestic requirements for site operatives.

9.2.2 The supply from the rainwater supply will be sufficient to meet the requirements of the biomass CHP plant. A reverse osmosis (RO) water treatment plant will be installed to treat the mains water that is used as boiler feedwater to the high quality required by the boiler. The incoming water supply storage tanks will comply with relevant water bye-laws and prevent reverse contamination back into the public water supply.

9.3 Aqueous Discharges

9.3.1 The following aqueous discharges will be produced by the operation of the biomass CHP plant:

- Surface water drainage; and,
- Sewage discharge incorporating treated process water.
- The process water will comprise:
- Effluent from the water demineralisation (RO) plant; and,
- Boiler blow down.

<u>Surface Water Drainage</u>

9.3.2 Surface water from the biomass CHP plant will be collected by means of two independent drainage systems that will keep separate the clean surface water collected from the roof from the potentially contaminated surface water that may fall onto the hardstanding area around the facility. The latter will incorporate interceptor facilities that will collect hydrocarbons and silt that may be washed from the roadways during periods of rainfall. The clean rainwater collected from the roof will be transferred to the existing on-site lagoon that is used to supplement the water supply for the Nurseries.

9.3.3 The on-site storage facilities for waste wood chip fuel and ash will be fully enclosed in order to minimise contamination of surface water through dissolution, or from suspended solids contribution from these stores. All chemical storage tanks will be bunded appropriately in order to contain any accidental spillage, and the concrete hardstanding in these areas will be impermeable in order to prevent migration into the ground beneath the site. Accordingly, there should be no contamination of groundwater resulting from the operation of the biomass CHP plant.

Sewage Discharge and Process Water Discharge

9.3.4 Foul (sewage) drainage water will be discharged into the existing sewer network. There is sufficient capacity for the infrequent discharge of process water discharge from the boiler blowdown system.

9.4 Construction Impacts

9.4.1 There are no surface water features near to the Double H Nurseries site that may be affected during the construction phase. Potential effects from the construction site include run-off of suspended solids and chemical or oil spillages reaching the drains or contaminating groundwater. Any potentially polluting spillages that may inadvertently occur, will be cleaned up immediately. These will be managed under an environmental management plan designed to prevent such impacts occurring.

9.4.2 There is a possibility of some water being required for chemical cleaning during the construction of the Facility, such as “boil out” of the boiler associated with the biomass CHP plant. Any such process will be controlled closely by formal method statements and agreed in advance with the Environment Agency as operational conditions in an Environmental Permit that will be required to cover both the commissioning and ongoing operation of the biomass CHP plant.