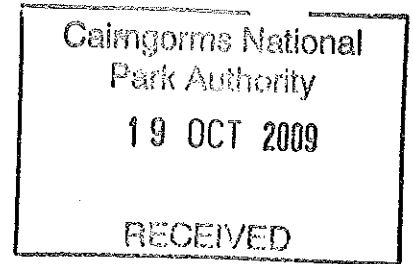


# **CURRENT BACKGROUND INFORMATION**

## **Plot by Duack Lodge Nethybridge**



### **Design Intent and Method Statement for the ground works and erection of new dwelling**

The plot adjacent to Duack Lodge has been designated as a site with a protection order on a significant number of mature trees. Due to the sensitivity of this area, particular attention must be paid to the ground preparation and the erection of the proposed dwelling and ultimately the completed building which will have to have a sympathetic appearance and blend into the surrounding area without disturbing the surrounding trees.

#### **Design Intent**

##### **House Design**

The proposed house design has evolved through consultation between various parties including the Cairngorms National Park, whilst the design is not been guided by any one party, the emphasis has been on a conventional building that is in keeping with the surrounding buildings and is using natural materials as well as ecologically friendly forms of heating.

##### **Building Footprint**

The footprint of the building has been designed around the existing trees that have a protection order placed on them, the entrance to the property and the driveway takes this into consideration as well.

##### **Ground works**

The foundation design has been based on a reinforced concrete slab with edge thickening. This is due to several factors: -

The slab will give a uniform distribution of load without the need for conventional strip footings, which would have an impact on the surrounding tree roots.

To the north of the site there is an abandoned railway line and cutting. It is our belief that the arisings from the cutting were left on part of the proposed footprint

The cutting was made over 100 years ago and any settlement in the ground should be minimal, however the slab design will negate the need for extensive excavations.

##### **Services to the property**

The services to the property i.e. water sewage and will be underground in a joint concrete culvert from the track running parallel to the dwelling  
Electricity and telephones will be run over ground.

## **2) Investigation works**

The building footprint, service runs and entranceway will be set out on site using pegs and lines.

A hand dig investigation process will be carried out on the perimeter of the building to establish the orientation of the tree roots.

The hand dig excavation will be left open for a reasonable period for inspection by the relevant authorities

If the tree roots have an impact on the building, then a process of consultation will take place to reorient the building position or change the size of the building.

The same process will take place for the service runs and entranceway.

## **3) Site Access**

Prior to the works starting or the delivery of materials or plant a temporary access route will be formed

Due to the site entrance being adjacent to mature protected trees it will be necessary to form a protection barrier for the tree roots.

A layer of tree bark 100mm will be laid and compacted on the entrance way and laydown areas, a mat will then be laid on top of the bark using railway sleepers or similar to form a uniformed distributed load platform for delivery vehicles

At the entranceway directly off the access track a goalpost arrangement will be erected which will limit the size of vehicle that will be permitted onto the site thus protecting the umbrella of tree branches.

Signage will be erected at the entranceway clearly stating that this site is subject to a tree preservation order and the trees in question will be clearly marked using high visibility makers. Prior to any site personal starting on the site they will be made aware TPO and the identification system that is in place.

## **4) Excavations**

The excavations will be carried out using a track excavator.

JCB type back hoe excavators tend to produce extreme point loads with their stabilisers, 360 track excavators spread their load uniformly and as they will be working outside the perimeter of the proposed dwelling it will reduce the potential damage to tree roots.

A competent person and a banksman will supervise all excavations, should significant tree roots be exposed, work will be suspended until the appropriate authority is given to resume.

Arisings will be removed from site to ensure that there is not an overburden on the surrounding tree roots.

## **5) Material handling**

All materials will be delivered via the access track to the site

As the new building will be predominately timber frame the heavy loads will be confined to: -

Concrete deliveries

The slab for the site will require over 30m<sup>3</sup> of concrete.

A mobile concrete pump will be parked on the track and concrete trucks will back up the track to deliver their load into the pump, the pump will place the concrete on to the slab via a hydraulic boom.

#### Blockwork deliveries

Concrete blocks for the outer skin of the building will be delivered in pallet form and offloaded by the delivery truck's mechanical system. A telescopic handler will handle all pallets of blocks and place them on one of the designated laydown areas, second handling will be carried out manually.

#### Timber frame and roof trusses

The timber frame will be assembled of site from stock lengths of timber. Offloading will be carried out by a telescopic handler to a designated laydown and second handling will be carried out manually. When the timber frame is in a state to accept the roof trusses a mobile telescopic crane will be used to lift the trusses direct from the delivery vehicle to the roof.

#### Waste Removal

A skip will be placed adjacent to the access track, all waste will be placed in the skip manually, and the skip will be collected and removed without the need of any vehicle entering the site

## **The completed project**

As stated above it is imperative that the completed building will not have a future detrimental impact on the environment and the surrounding trees.

#### The entrance way / driveway

On completion of the works a low-density polyethylene 'Grid Force' mat will be laid to form the new driveway to the property. This mat is an interlocking mat and when filled with topsoil, will allow grass to grow naturally giving the appearance of fully grassed lawn. The advantages of this system is that the grid will disperse the point loads of vehicles and give a fully breathable mat allowing tree roots to continue to grow.

#### The services to the property

As stated above the services to and from the building will be routed in a reinforced concrete culvert with removable lids for inspection and maintenance. The advantage to this system is that under normal circumstances foul drainage has to be at a certain depth surrounded by angular material to avoid breakage. The culvert will run parallel to the new driveway at the minimum depth allowable thus avoiding the need to disturb tree roots.

#### Heating and Ventilation

The final heating and ventilation on the proposed project has not been finalised at this stage, however we are committed to ensure that the building is as efficient as possible and will exceed the demands of the current building regulations.