



Arboricultural Method Statement

Site: Merry England, Dapper's Lane, Angmering

Client: GD Group

Date: 09.10.19

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1.0 Introduction

- 1.1 As the majority of tree roots are found in the upper metre of soil, development works, including for example even shallow excavation, soil compaction and soil contamination, can be harmful to trees in close proximity. Trees differ in their tolerance of root loss or disturbance, according to their age, species and/or condition.
- 1.2 With reference to BS 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations', an assessment of the site's tree stock was undertaken by PJC Consulting. Those trees suitable for retention within the proposed development are identified on the Tree Protection Plan (TPP) at Appendix 1. A calculation has been made of the volume of soil required to ensure the survival of these and this is represented by the Root Protection Area (RPA)
- 1.3 With consideration of the RPA and existing site features, including natural and manmade topography and structures that can restrict tree root growth in any direction causing deeper rooting or a concentration of growth in other directions, adopting construction and tree protection techniques that minimise root disturbance, it is possible to achieve the successful integration of structures into a landscape avoiding lasting damage to retained trees and preserving general amenity to the local landscape for future generations.

2.0 Purpose

- 2.1 The purpose of this report is to aid the preservation of trees shown to be retained at Merry England during demolition and the construction of a new residential development by setting out the tree protection methods, construction techniques and working practices that are to be adopted in their vicinity. The success of the document is dependent upon development adhering to the principles set out within, which are to be approved and enforced by the local planning authority.

3.0 Methodology

- 3.1 With reference to relevant published guidance, the methodology of this statement follows a logical sequence essential to the efficacy of the protection measures.
- 3.2 It is essential to the successful implementation of the principles set out in this document that effective supervision and enforcement are actuated from the outset.

4.0 Summary of Impact and Mitigation

Tree Number	Impact	Mitigation
G1, G4, part G10, T9, T11, T13	Fell to accommodate development	Replacement planting
G2, G3, T5, T6, G7, T8, G10, G12	General disturbance from construction activity	Tree protection barriers
G14	Access for construction	Crown lift/tip-end reduce to create a clearance of 1.5m, ground protection and protection barriers

Sequenced Methods of Construction and Tree Protection

5.0 Phase 1 Pre Construction Meeting

- 5.1 An onsite meeting will be held with all relevant parties including the developer and appointed arboricultural supervisor. The purpose of this meeting is to record site features including tree condition, agree any tree works, location of permanent and temporary access, location of site storage and tree protection barriers as indicated on the TPP.

6.0 Phase 2 Tree Works

Tree Number	Works	Reason
G1, G4, part G10, T9, T11	Fell and replace	Approved development layout
T13	Lateral reduction to create clearance of 1.5m	Access for construction
G14	Crown lift/tip-end reduce to create a clearance of 1.5m,	Access for construction

- 6.1 All tree work is to conform to BS 3998:2010 'Tree Work' and to current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover and following formal approval from the LPA.

7.0 Phase 3 Tree Protection Barriers

- 7.1 In order to exclude trees and their RPAs from significant demolition and construction activity, protection barriers will be erected.
- 7.2 The barriers will consist of a vertical and horizontal scaffold framework, well braced to resist impacts (see diagram on TPP). The vertical tubes should be spaced at a maximum interval of 3m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots.
- 7.3 Once the barriers have been properly erected in position, they are to be considered as sacrosanct and are not to be removed or altered in any way without prior approval from the LPA.
- 7.4 Clear notices are to be fixed to the outside of the fencing with words such as 'PROTECTED AREA – NO ACCESS AND NO STORAGE OR WORKING WITHIN THIS AREA'.
- 7.5 All operatives and other relevant personnel are to be informed of the role of the exclusion barriers and their importance. A copy of the TPP will be displayed on site at all times during construction.
- 7.6 The barriers will be erected prior to any works on site in the vicinity of retained trees, including demolition or the delivery of machinery, materials, plant or equipment to the site or any adjacent land. The barriers will remain in situ until final completion or a time agreed between the LPA and Contractor.

8.0 Phase 4 Site Storage

- 8.1 A designated construction compound and storage area will be created where indicated on the plan. Within this area a watertight catchment area will be created to ensure that any

toxic materials required to be stored temporarily cannot leach into the ground. This area will be clearly signed to ensure its appropriate use.

9.0 Phase 5 Construction of Hard Standing

- 9.1 There are no paths or roads located within the RPA of retained trees, therefore no specialised construction is required.
- 9.2 Any changes in the layout, which must be approved by the LPA, that require paths, roads or bin/cycle store bases are to be located in the RPA will be installed in accordance with below methodology.
- 9.3 Before installing, consideration must be given to finished surface levels and how they relate to surrounding levels. It may be necessary to incorporate a gentle slope into the surface to match levels. This must not however result in water pooling.
- 9.4 The construction area is to be levelled by filling hollows and removing protrusions and hard landscaping. No soil excavation, other than the removal of a 'turf or vegetation layer' is to be carried out during this process and filling material should be of a porous nature to allow water and oxygen to reach the soil below. In the unlikely event that roots are required to be pruned, sharp cutting tools are to be used to ensure that minimum damage is caused. No roots, greater than a diameter of 25mm, are to be pruned without prior agreement with the appointed arboricultural supervisor or LPA representative.
- 9.5 A geo-textile membrane (Terram or similar) is then to be laid over the whole surface, including any retained hard surfaces. This is to be fixed firmly into position with ground pegs.
- 9.6 Where edging blocks or stone are to be used to retain the drive surface within the CEZ, the mix into which they are set will be laid directly onto the geo-textile membrane over the supporting base. No deeper excavations are to be made to accommodate the footing of the edging detail.
- 9.7 A 200mm depth geoweb material is then placed over the membrane and also fixed into position. An aggregate sub-base material is then introduced in to the geoweb. The depth of the sub-base aggregate should be the same depth as the geoweb. The aggregate should be a granular no fines material (typically 40-20mm). Not only will this material dissipate load and reduce soil compaction, it will permit easy passage of air (oxygen) to the rooting area of the tree below the surface.

9.8 The sub-base material is to be compressed into position ready for the final surface treatment. This surface can also be used as a temporary works access route prior to the laying of the final surface.

9.9 Final surface will be of a porous type. Final surface treatment can be installed as part of the landscaping works.

10.0 Phase 5 Demolition of Existing Structures

10.1 There is sufficient distance between the tree protection barriers and the existing buildings to allow standard demolition techniques.

11.0 Phase 6 Ground works, Foundations, Drainage and Services

11.1 Spoil, including soil and rubble will be removed from site and not stored against any protection barriers or over any ground protection. Only predetermined access routes with appropriate ground protection will be used to during this process.

11.2 Construction of foundations is confined to areas beyond the RPA therefore no specialised foundation design is required.

11.3 All drainage and underground service routes will be located beyond the RPA of all retained trees.

12.0 Phase 7 Erection of Scaffolding

12.1 No additional tree works are required to allow erection of scaffolding to enable reasonable construction of the buildings.

13.0 Phase 8 Dismantling Protection Barriers and Landscaping Works

13.1 A minimum of seven days notice will be given to the appointed arboricultural supervisor prior to the dismantling of the protection barriers.

13.2 All landscaping once the barriers have been removed will avoid soil re-grading and disturbance within the RPA and no soil levels will be altered after the protection barriers have been removed. Any hard landscaping within tree protection distances will conform to the principles set out in Phase 5.

- 13.3 As part of the landscaping the trees replacing the removed G1 will be planted as indicated on the attached plan.

14.0 General Principals for Tree Protection

- 14.1 A copy of this AMS and the attached TPP is to be retained on site at all times and all personnel associated with the construction process will be made familiar with the principals within.
- 14.2 If 360-degree excavators are to be used during construction, at no time is the excavating arm to encroach over the position of the protection barriers.
- 14.3 No fires are to be lit on site at any stage during the construction process.
- 14.4 Designated storage areas, as indicated on the attached plan will be created away from retained trees. All materials for construction purposes are to be stored in this compound. Care must be taken to avoid the leakage or leaching of noxious materials into the soil.
- 14.5 No materials will be stored or left stacked in positions around the site other than within the storage compound area.
- 14.6 No vehicles are permitted within the RPA of retained trees unless agreed with the LPA and only where suitable ground protection (see appendix 2) has been installed.

15.0 Communication Details and Supervision

- 15.1 In order to ensure that the principals of tree protection set out in the statement are adhered to, it is important to set out communication details for key individuals and tasks that require supervision. These details should be retained by all relevant parties and available on site at all times. Relevant parties will be advised of any changes in personnel or contractor during the development process. Listed below are the key activities for arboricultural supervision.

Ground works and services within RPA

Erection of scaffolding within RPA

Dismantling of Tree Protection Barriers

Landscaping within RPA

Practical completion

16.0 Compliance

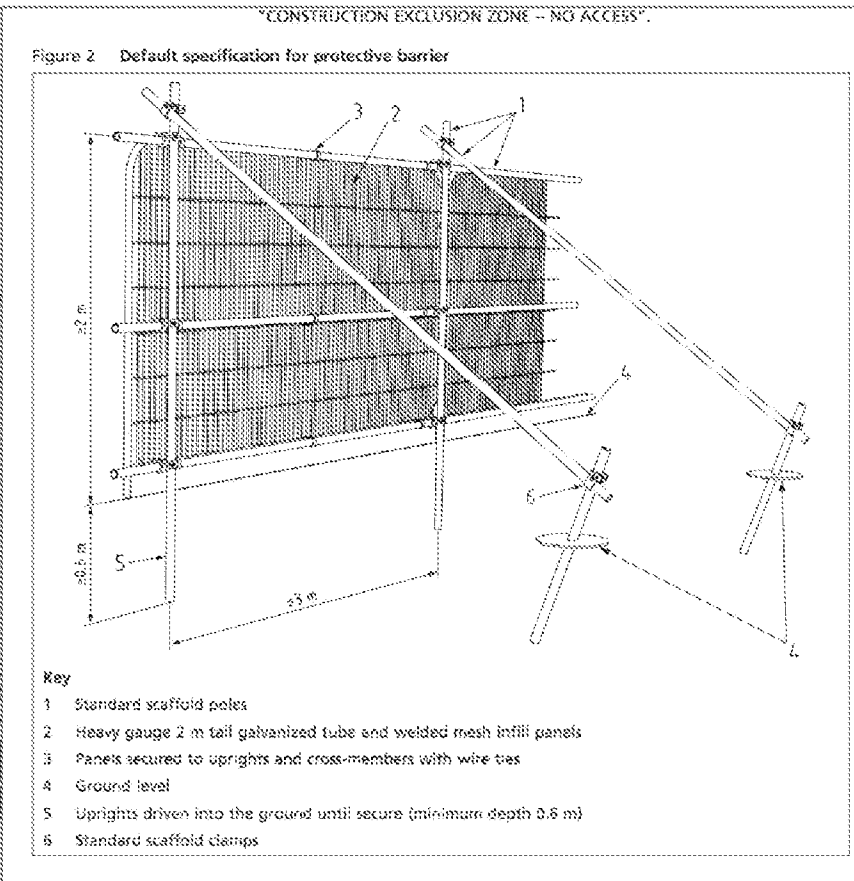
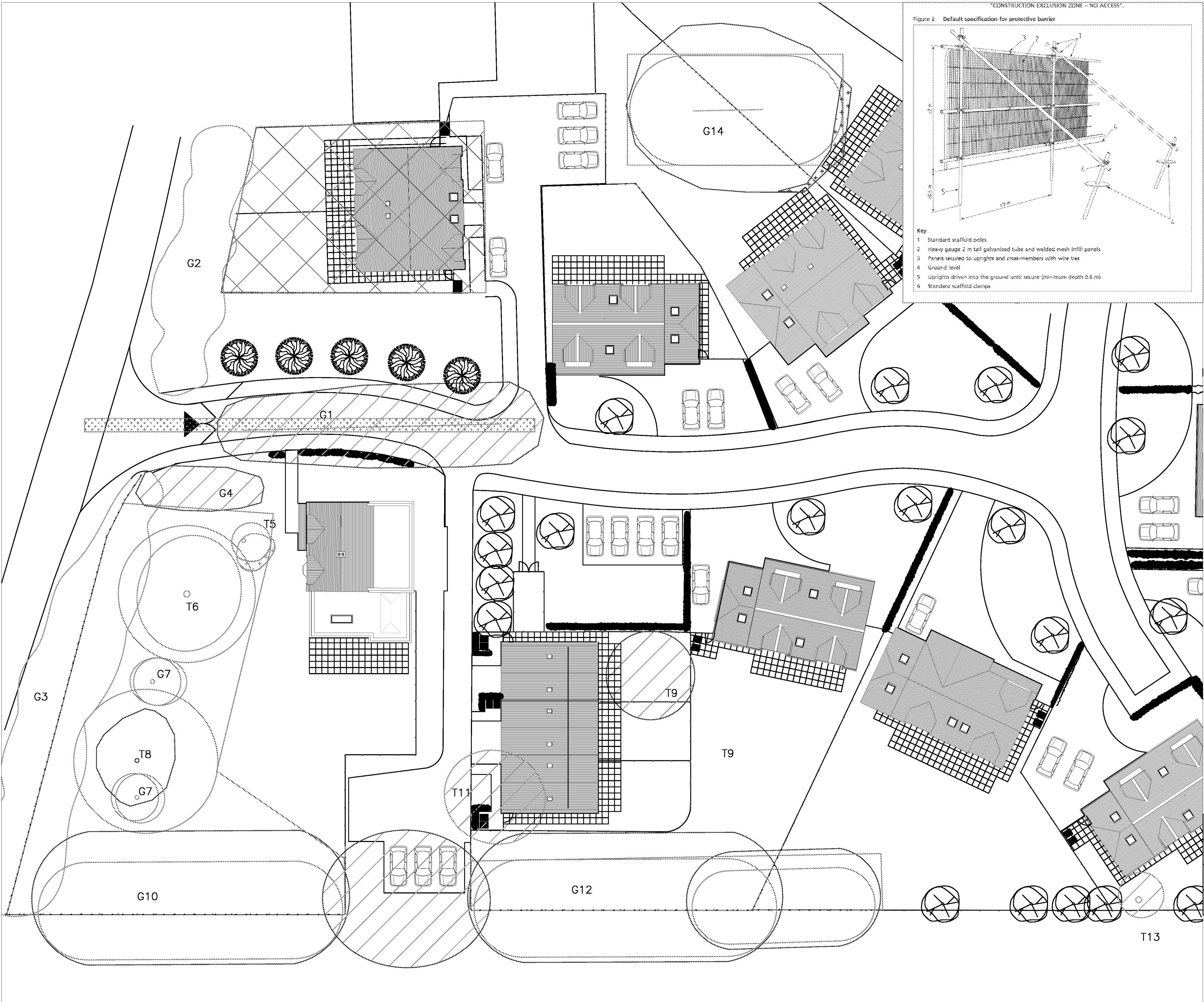
- 16.1 Before construction begins written confirmation that the developer/contractor or its agents agree to comply in full with the principles set out within this Method Statement will be lodged with the LPA.

A handwritten signature in black ink, appearing to read 'Joanna Davies', with a stylized flourish at the end.

Joanna Davies

Principal

Appendix 1 Tree Protection Plan



Arboricultural Notes

With reference to BS 5837 2012 this plan identifies the significant vegetation on and adjacent to the proposed development area, the value of that vegetation in amenity terms, trees required to be removed to accommodate the development and trees that could be materially affected by development activity.

The plan also indicates the appropriate extent of tree protection and where special consideration of trees is required.

- Existing tree or group colour referenced in accordance with BS 5837 2012
- Green - Category A trees of high quality and value
- Blue - Category B trees of moderate quality and value
- Grey - Category C trees of low quality and value
- Red - Category U trees that are dead or showing irreversible signs of decline
- Extent of Root Protection Area
- Tree to be removed
- Tree to be pruned in accordance with AMS
- Proposed location of tree protection barriers
- Section of RPA where special consideration is required
- Route for new services
- Location of Site Compound
- 5 no. Heavy Standard Field Maple (*Acer Campestre*) to be planted as part of landscaping works

Rev	-	
Drawing Title		
Tree Protection Plan		
Client	Date	
GD Group	09.10.19	
Project	Drawing Ref	
Merry England	TPP	
Scale	Drawn	Job Number
1:250@A2	JLD	1909

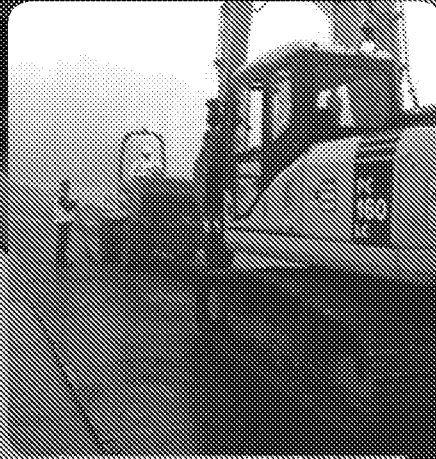
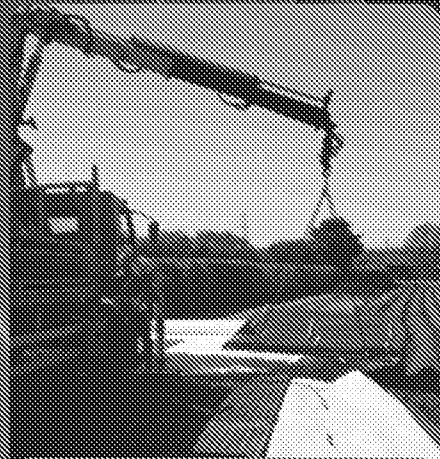


Appendix 2 Ground Protection

TuffTrak®

Heavy Duty Road Mat

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TuffTrak®

Heavy Duty Road Mats

Unbreakable to over 150* tonnes, TuffTrak® is the ultimate heavy duty roadmat for temporary road ways and work areas for very heavy plant, machinery and multiple vehicles.

Amazingly Tough & Flexible

Tough high density polyethylene (HDPE) TuffTrak® are virtually indestructible.

Unlike other road mats TuffTrak® can be deployed in areas of high theft risk and are lighter to transport. The mat is chemically inert which makes it ideal for eco sensitive and heritage sites.

Anti Slip Surface

The engineered, unique chevron traction surface™ delivers ultimate grip and dispels mud whilst vehicles traverse over them. The chevron rub design reduces sideways movement and slippage and delivers optimal forward traction for heavy plant, machinery and vehicles.

*tested at National Physical Laboratory and Brookes University, Oxford

Advantages

- » Manufacturing process delivers maximum strength
- » Unique chevron traction surface™
- » Low theft risk
- » Lower transport costs than other mats
- » Tough durable working areas and roads for very heavy plant and machinery
- » Avoid severe rutting and eco damage to ground & heritage sites
- » Avoid health & safety issues
- » Highly efficient weight dispersal on soft or boggy ground
- » Reversible pedestrian surface for outdoor events
- » Connection options for different terrain & equipment
- » Non-conductive - ideal for transmission projects
- » Designed and manufactured in the UK and Europe

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Ground Solutions
The fast and safe way forward

TuffTrak®

Heavy Duty Road Mat

The fast and safe way forward

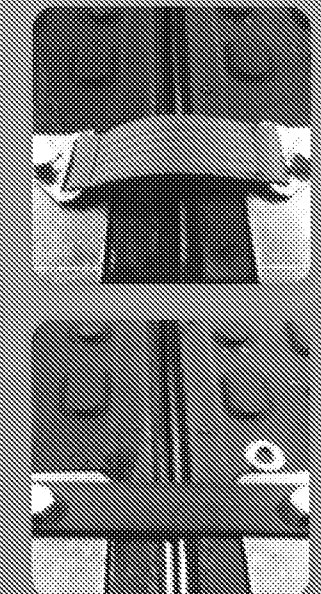
TuffTrak®

TuffTrak® from Zigma® Ground Solutions provides heavy duty temporary access solutions for both commercial sites and outdoor events.

TuffTrak® have a reversible pedestrian friendly surface ideal for outdoor events, providing joint access for vehicles and pedestrians.

TuffTrak® are fast to install, with a simple 'drop in' bolt system. TuffTrak® also offers a range of connectors, including high tensile hi-viz 'flex' straps, for increased safety and depolyment over undulating ground. The unique 'mud dispersing' chevron fraction surface™ is regarded as the most effective in the market and is ideal when the weather or ground conditions rapidly deteriorate.

- » Fast to install heavy duty road mat
- » Temporary roadways, heavy duty working areas
- » Avoid health and safety issues
- » Avoid property, heritage and environmental damage
- » Prevent bogged down vehicles
- » Ideal for construction, civil engineering, utilities, transmission and infrastructure maintenance, bio / agri sites and military sites
- » Designed and manufactured in the UK and Europe



	Thickness	Dimension (w x l)	Weight per mat
TuffTrak® standard & premium	40mm	3m x 2.5m	280kg
Material	Premium recycled or Virgin High Density (HD) or Ultra High Molecular Weight (UHMW) Polyethylene - 100% recyclable		
Colours available	Black for recycled HD or UHMW Polyethylene. Choice of colours for Virgin HD or UHMW Polyethylene		
Connectivity	'Drop in' bolt systems. Metal connectors for heavy and tracked equipment. High tensile, hi-viz 'flex' straps for undulating ground conditions.		
Optional extras	Non slip reflective markings for night safety		
Environmental features	Weather proof, water and chemical resistant, usable in sub-zero temperatures. HD and UHMW Polyethylene are resistant to acids, alkalis & solvents		
Customisation	Corporate logo and contact details can be added, subject to minimum order		

Load performance depends on ground conditions as well as the weight and type of vehicles and machinery used. Zigma® Ground Solutions Ltd, its agents or employees are not liable for any damage to existing ground or property through use of TuffTrak®

TuffTrak® are available for worldwide sale and hire through our official distributors and agents - please contact us for further details

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