



Supporting Document - Guidance Principles for Verge Protection in the New Forest

Purpose

This document outlines the principles governing the provision and placement of verge protection measures historically used by Forestry England in the New Forest. It aims to address concerns regarding displacement parking due to car park charging, while preserving the visual integrity of the forest landscape.

Background

Since 1970, formal car parks and campsites have been created to manage visitor access, while the rest of the New Forest has been protected from vehicles. This is done using barriers like ditches, banks, and wooden posts (“dragon’s teeth”) along roads and access tracks.

Roadside verges in the Forest are part of a protected habitat (SSSI). They’re not just edges – they’re vital for grazing animals and plant life. Parking on them damages the environment and shrinks the Forest, leading to expensive repairs.

To restore damaged verges, a long-running programme has refreshed/installed dragon’s teeth and ditch and bank, successfully restoring over 26 miles of verge with support from the Verderers and the Higher Level Stewardship Scheme.

With car park charges being introduced, there’s concern about people parking illegally to avoid fees. Forestry England has mapped high-risk areas and is installing new or updated measures to prevent this kind of displacement parking.

Below are the main principles that will be followed when installing verge protection measures.

Principles

1. Ecological Sensitivity and Habitat Protection

- Principle: Verge protection must enhance, not compromise, the ecological integrity of the New Forest’s SSSI-designated verges.

- Rationale: Verges are vital habitats for rare flora and fauna and grazing for commoners' livestock.
- Action: Hold site visits before works commence; share constraints maps and agreed work plans openly.

2. Stakeholder Collaboration and Transparency

- Principle: All verge protection schemes must be co-designed with the Verderers, commoners, and other stakeholders.
- Rationale: The Verderers' HLS scheme has restored over 26 miles of verge, showing the value of joint stewardship.
- Action: Hold consultation meeting and site visits before finalising plans; share maps and work plans openly.

3. Commoning Compatibility

- Principle: Verge protection must not obstruct access for livestock, commoners, or agricultural and emergency services vehicles.
- Rationale: Poorly placed dragon's teeth have blocked access for tractors and fire engines, and displaced traffic has damaged opposite verges.
- Action: Design layouts that preserve access routes animal movement and emergency services.

4. Traffic and Safety Considerations

- Principle: Verge protection should improve road safety and not create blind spots or bottlenecks.
- Rationale: Misplaced dragon's teeth have led to dangerous parking patterns and visibility issues.
- Action: Consult Highways Authorities and Emergency Services before implementation; include passing places and visibility splays.

5. Long-Term Maintenance and Monitoring

- Principle: All installations must include a plan for ongoing maintenance and review.
- Rationale: Neglected dragon's teeth and ditches have led to overgrowth, loss of grazing, and verge degradation.
- Action: Assign responsibility for upkeep; monitor effectiveness and adapt as needed.

6. Visual and Landscape Integration

- Principle: Verge protection should blend with the Forest's natural character.
- Rationale: Verges soften the visual impact of roads and are part of the Forest's heritage.
- Action: Use natural, locally derived materials and low-impact previously agreed specifications.

Ditch & Bank (Guttering)

The following specification outlines the preferred method for ditching and banking across the New Forest. While this approach is the agreed standard, **site-specific conditions may require adjustments**. These variations will be assessed and agreed upon during pre-commencement site meetings.

This specification has been refined through extensive consultation and practical experience gained from recent large-scale ditching projects. The preferred method involves using a **wide 'V'-shaped bucket**, which provides an optimal ditch profile. Over time, natural slumping and weathering will soften the edges, creating a more rounded and visually sympathetic form.

Spoil Placement: Excavated material should be placed directly above the ditch on the Forest side, leaving a small buffer to prevent premature infill of the ditch.

Crossing Points: Existing natural crossing points (e.g. pony tracks) must be retained to allow safe passage for Forest stock, horse riders, and pedestrians. These crossings should not exceed 1.5 metres in width.

Functional Purpose: Ditching serves to prevent unauthorised vehicular access to the SSSI and to deter persistent verge-side parking. In some locations, historic ditching was set too far from the highway, allowing vehicles to park entirely off-road. In such cases, **new ditching may be required closer to the carriageway**, and redundant ditch lines may need to be reinstated to flat ground to avoid creating hazardous double ditches.

Works Impact Assessment

1. Ecological Recovery Timescale and Confidence

Forestry England acknowledges that ditch and bank works may cause temporary disturbance to verge habitats. However, based on long-standing experience and evidence from over **26 miles of restored verge** under the **Verderers' Higher Level Stewardship (HLS) Scheme**, we are confident that affected habitats will recover within an **ecologically acceptable timescale**, typically **1-3 growing seasons**, depending on site-specific conditions.

2. Basis for Confidence in Recovery

Evidence and Expert Opinion:

- **Historical Success:** The HLS programme has demonstrated successful recovery of verge habitats following similar interventions, with vegetation re-establishing naturally and grazing patterns resuming within months to a few years.
- **Design Mitigation:**
 - Use of **wide 'V'-shaped bucket** ensures a gentle ditch profile that naturally slumps and weathers, reducing harsh edges and promoting recolonisation.

- **Spoil placement** is carefully managed to avoid smothering adjacent vegetation and to allow natural regeneration.
- **Crossing points** are retained to maintain ecological connectivity for livestock and wildlife.
- **Site-Specific Planning:**
 - **Pre-commencement site visits and constraints mapping** ensure sensitive areas are identified and protected.
 - **Stakeholder collaboration** with the Verderers and ecologists ensures that works are ecologically informed and locally appropriate.

3. Ecologically Acceptable Timescale

- **Short-Term Effects:** Vegetation disturbance and soil exposure may occur immediately post-works.
- **Medium-Term Recovery:** Within **1-2 seasons**, native grasses and herbs typically recolonise disturbed areas, aided by grazing and natural seed dispersal.
- **Long-Term Integration:** By **year 3**, verge habitats generally return to pre-disturbance condition or better, especially where dragon's teeth or ditching prevent further compaction and illegal parking.

4. Alternative or Complementary Measures

- In areas where ditching is unsuitable (e.g. near tree roots), **Dragon's Teeth** are used to prevent vehicular access with minimal soil disturbance.
- These are constructed from **sustainable hardwoods** and installed with care to avoid ecological harm.

Identification of Erosion Risk Areas

Forestry England has identified that **ditch and bank alignments on gradients or sloped terrain** pose a higher risk of erosion, particularly during heavy rainfall or in areas with loose soil structure. These risks are assessed during **pre-commencement site visits**, which include:

- **Topographic review** of proposed ditch lines.
- **Mapping of slope gradients** and soil types.
- **Identification of historic erosion patterns** or water flow channels.

This process ensures that erosion-prone areas are flagged before works begin.

2. Steps to Avoid Damage

Preventative Measures:

- **Gradient-sensitive alignment:** Ditch lines are adjusted to follow natural contours where possible, avoiding steep fall lines.
- **Controlled spoil placement:** Excavated material is placed with a buffer to prevent runoff into the ditch and reduce slope destabilisation.
- **Vegetation retention:** Existing vegetation is preserved where feasible to stabilise soil and reduce erosion risk.
- **Crossing point retention:** Natural tracks are maintained to avoid creating concentrated flow paths that could erode ditch edges.

3. Restoration and Remediation Steps

If erosion occurs, Forestry England will implement the following:

- **Regrading and re-compaction** of eroded banks using locally sourced materials.
- **Installation of erosion control features**, such as:
 - **Check dams** or small bunds to slow water flow.
 - **Silt traps** where necessary to prevent sediment movement.
- **Monitoring and adaptive management**: Regular inspections post-installation will identify early signs of erosion and trigger remedial action.

4. Confidence in Mitigation

Evidence and Experience:

- The **Verderers' HLS programme** has successfully restored verges in erosion-prone areas using these techniques.
- The **wide 'V'-shaped ditch profile** naturally slumps and stabilises over time, reducing sharp edges that accelerate erosion.
- Past projects have shown that **erosion risks can be effectively managed** with site-specific planning and ongoing maintenance.

Monitoring of Recovery

Forestry England will implement a structured **monitoring programme** to assess habitat recovery following ditch and bank works. This will include:

- **Baseline photographic records** taken pre-works.
- **Follow-up surveys** at set intervals (e.g. 6 months, 12 months).
- **Visual inspections** by site managers and ecologists to assess vegetation regrowth, soil stability, and grazing activity.
- **Stakeholder feedback** from commoners and Verderers to report any observed issues or changes.

Monitoring will focus on:

- **Vegetation re-establishment** (native grasses, herbs).
- **Signs of compaction or erosion**.
- **Presence of invasive or undesirable species** (e.g. bramble, thistle, ragwort).

2. Management of Negative Indicators

If negative indicators are observed, Forestry England will take the following steps:

- **Targeted removal** of invasive species using manual or mechanical methods, avoiding chemical treatments unless necessary and agreed with stakeholders.
- **Additional verge protection** (e.g. dragon's teeth or fencing) if disturbance is ongoing due to illegal access or compaction.

3. Confidence in Recovery and Adaptive Management

Evidence and Experience:

- The **26-mile restoration record** under the HLS scheme shows that verge habitats typically recover well when protected from further disturbance.
- **Adaptive management** is built into the programme, allowing for responsive action if monitoring shows poor recovery or undesirable species establishment.

- **Stakeholder collaboration** ensures that local knowledge and ecological expertise inform all decisions.

Assessment of Proximity to Temporary Ponds

Forestry England confirms that **no ditch and bank works are proposed in locations that would impact the hydrology of temporary ponds**. As part of the planning process:

- **Constraints mapping** is used to identify sensitive ecological features, including temporary ponds.
- **Site visits** are conducted prior to works to verify pond locations and ensure protective buffers are maintained.
- **Work plans** are adjusted to avoid any interference with natural water retention areas or seasonal wetland features.

2. Hydrological Safeguards

Protective Measures:

- **Minimum buffer zones** are maintained between ditch alignments and known pond depressions or wet areas.
- **Spoil placement** is carefully managed to avoid altering surface water flow or drainage patterns.
- **No ditching is undertaken in low-lying areas** where water naturally pools or where ponding has been observed historically.

Biosecurity Precautions for Personnel and Vehicles

Forestry England will implement strict **biosecurity protocols** for all personnel, contractors, and vehicles involved in ditch and bank works to prevent the spread of invasive non-native species, particularly *Crassula helmsii*. These measures include:

Before Entering Site:

- **Inspection and cleaning of vehicles and equipment** to ensure no plant fragments, soil, or water from previous sites are present.
- **Use of designated access routes** to avoid contact with sensitive wetland or pond areas.
- **Briefing of all personnel** on biosecurity risks and required procedures.

During Works:

- **Avoidance of known *Crassula helmsii* sites**, based on mapping and site surveys.
- **Minimisation of soil and water movement** between locations.

After Leaving Site:

- **Thorough cleaning of machinery, tools, and boots** using water and disinfectant or steam cleaning.
- **Containment and safe disposal of spoil** from high-risk areas, avoiding movement to other parts of the Forest.

2. Specific Measures for *Crassula helmsii*

Crassula helmsii is a **high-risk aquatic invasive species** that spreads rapidly via tiny fragments. To prevent its spread:

- **No works will be undertaken near known *Crassula*-infested ponds or wet areas.**

- **Contractors will be trained to recognise *Crassula helmsii* and report any sightings immediately.**

3. Confidence in Biosecurity Measures

Evidence and Experience:

- Forestry England has successfully implemented biosecurity protocols in previous HLS and restoration projects.
- Procedures align with **Natural England's invasive species guidance** and **Defra's biosecurity best practice**.
- **Monitoring and compliance checks** will be carried out throughout the works programme.

Approach to Wet Weather Working

Forestry England recognises that **wet ground conditions** can increase the risk of habitat damage, soil compaction, erosion, and ineffective ditch formation. Therefore, the following precautions and protocols will be in place:

Pre-Works Assessment:

- **Weather forecasts and ground condition checks** will be reviewed prior to starting any works.
- **Site access will be restricted** if ground conditions are deemed unsuitable for machinery or spoil movement.
- **Works will be postponed** in areas where wet conditions pose a risk to sensitive habitats or verge integrity.

During Wet Conditions (if unavoidable):

- **Use of low-ground-pressure machinery** to minimise compaction.
- **Installation of temporary ground protection mats** in high-risk areas.
- **Spoil management** will be adapted to prevent runoff and siltation.

2. Restoration Measures if Damage Occurs

If works proceed and damage is observed:

- **Immediate cessation of works** in affected areas.
- **Monitoring of recovery** and follow-up inspections to ensure restoration is progressing.

Tender Pricing Requirements

Contractors are asked to provide two separate unit rates (per metre):

1. Reprofiling Existing Ditch and Bank

Renewal of the existing ditch and bank formation, potentially with minor

realignment to bring the feature closer to the road edge. This may involve working from the front edge of the existing ditch and bank using appropriate bucket types.

2. New Ditch and Bank Formation

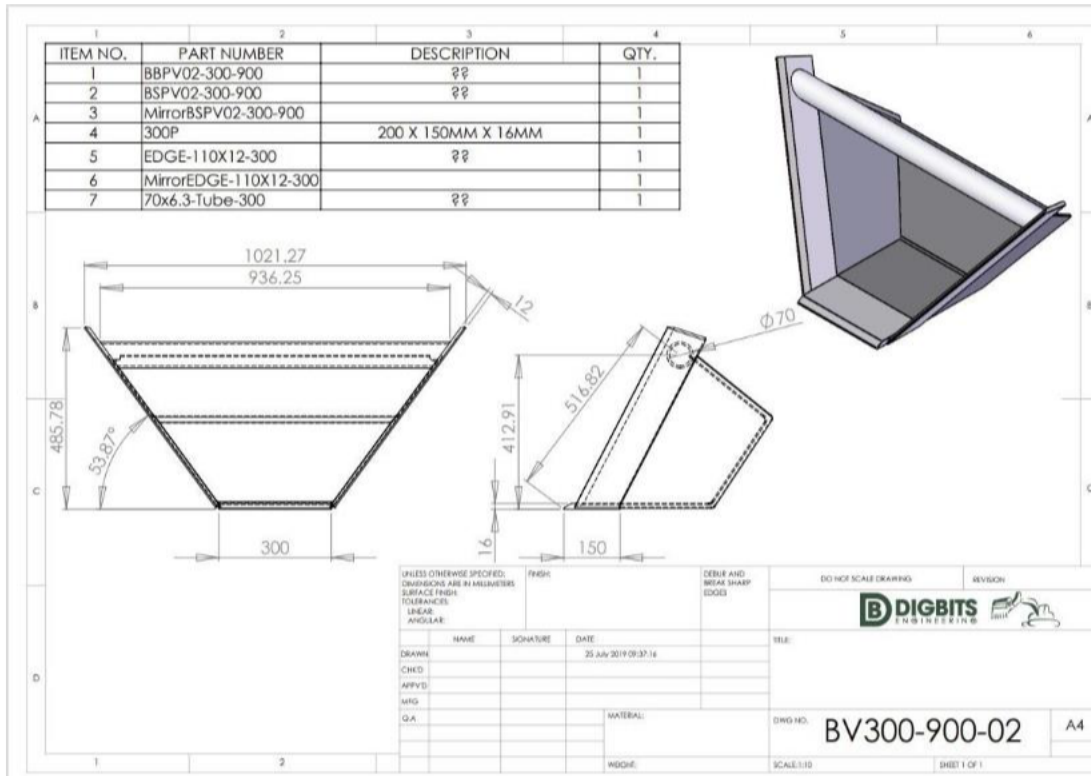
Creation of a new ditch and bank closer to the highway, including the regrading or removal of the old bank to avoid double banking and ensure safe, accessible ground conditions.

Most works will involve reprofiling existing ditch lines.

Final treatment types and locations will be confirmed on site following award of contract.

Photographic examples of acceptable installation standards and specification drawings are provided below.





Dragons Teeth

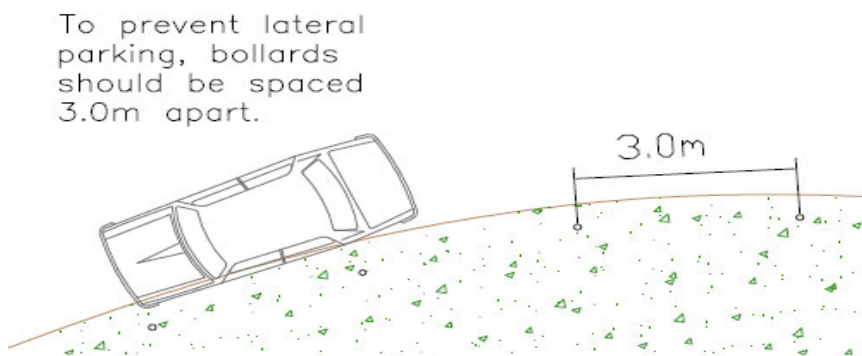
Where ditching and banking are not suitable – such as in areas with tree roots close to the road edge – Dragon’s Teeth shall be installed to serve the same protective function.

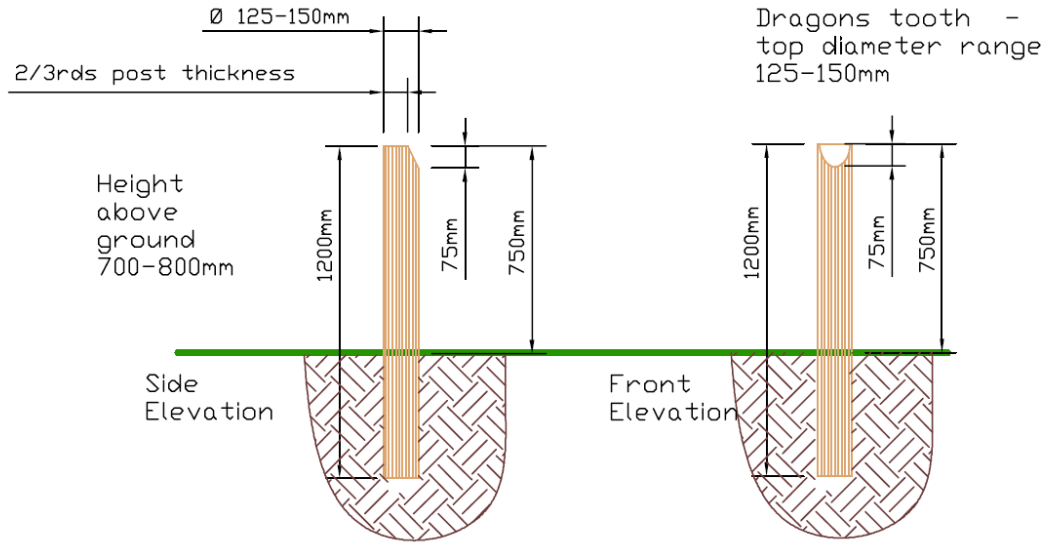
These barriers prevent vehicular access and protect sensitive verge habitats. Dragon’s Teeth must be constructed from hardwood posts, preferably peeled or unpeeled Chestnut, to meet sustainability standards and avoid the use of chemically treated softwood.

As part of these works, contractors may be required to remove and legally dispose of any existing Dragon’s Teeth and replace the full line with new posts. Where possible, replacements should be installed in the same locations. Any old post holes not reused must be safely backfilled to prevent hazards to livestock or pedestrians. Acceptable backfill materials include locally sourced gravel (hoggin) or soil.

Tendered prices must reflect the supply and installation of a single Dragon’s Tooth, inclusive of all associated works.

Photographic examples of acceptable installation standards and specification drawings are provided below.









Summary of Key Points

Verge protection must not obstruct access for livestock, commoners, or agricultural and emergency services vehicles.

Ditching & Dragon's Teeth

- 1. Functional Purpose:** Ditching prevents unauthorised vehicle access to the SSSI and discourages verge-side parking. In some areas, older ditches were placed too far from the road, allowing full off-road parking.
- 2. Spoil Placement:** Place excavated material on the Forest side above the ditch, leaving a buffer to prevent infill and protect adjacent vegetation, allowing natural regeneration.
- 3. Crossing Points:** Retain natural crossings (e.g., pony tracks) for safe passage of stock, riders, and pedestrians. Limit width to 1.5 m and culvert if water flow is affected.

4. **Hydrology/Temporary Ponds:** Contractor must ensure ditch works do not impact temporary ponds by maintaining buffer zones, verifying locations during site visits, and managing spoil to avoid altering natural water flow or drainage.
5. **Erosion Risk:** Contractor must identify erosion-prone areas through site review, align ditches to natural contours, place spoil with buffers, retain crossings, and implement culverts or erosion controls as needed.
6. **Biosecurity/Invasive Species:** Contractor must follow strict biosecurity protocols by cleaning vehicles and equipment before and after works, avoiding known invasive species sites, minimising soil/water transfer, and reporting any *Crassula helmsii* sightings immediately.
7. **Wet Weather Working:** Contractor must avoid working in unsuitable wet conditions by checking forecasts and ground stability, postponing if necessary, using low-pressure machinery and protection mats when unavoidable, and stopping immediately if damage occurs.
8. **Utilities: Underground/Overhead services:**
9. **Traffic and Safety Considerations:** DT's installation must enhance road safety without creating blind spots or bottlenecks.
10. **Commoning Practice:** DT's installation must maintain clear access for livestock, commoners, and agricultural or emergency vehicles by designing layouts that preserve movement routes.