



BEXHILL-ON-SEA TOWN COUNCIL

Bexhill-on-Sea Town Council Report

Glyne Gap Sculpture

Introduction:

This report is an exploration into the feasibility of installing a sculpture on the roundabout at Glyne Gap. The suggested installation consists of a 'Serpollet' car and a flag-waving man in a homage to Bexhill-on-Sea's motor racing history. It is worth noting this design hasn't been officially approved by the council.

Location:

The sculpture is proposed to be installed on the Glyne Gap roundabout on the A259 at the eastern end of the town.



The diameter of the roundabout is approximately 23 meters with a central 'core' of 14m consisting of soil. The outer area being of concrete or brick construction.

Design:

The design of the sculpture as has been proposed consists of a wire frame model of the Serpollet (car) with a driver and passenger and with an additional figure waving a chequered flag. (See below)



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Overall dimensions of the sculpture are estimated at approximately 5.5m x 2.5m. It is suggested this sits in a concrete base rather than into the loose soil

Construction:

It is proposed that the sculpture is constructed of steel and be compliant with any required road traffic requirements. Other materials suggested include brass (both brass tube and 6mm etched brass sheeting), bronze and fibreglass. The latter for the figure – made to look like bronze as it is both cheaper and less likely to be stolen.

Manufacturers:

A manufacturer had been sourced in China, but this is felt to be unfeasible due to several reasons:

- Doubts about the quality of the materials – British steel is noted for its superior quality whilst Chinese steel can be inconsistent - a recent report stated 40% of Chinese steel failed to meet international standards.
- The carbon footprint of transporting something this size from Asia
- The estimated cost of the sculpture is between US\$23,000 and US\$ 26,400 (depending on finish) and doesn't include shipping, installation and import/ taxes.
- Difficulties in managing a contractor from so far away especially if there are any quality issues.
- Two local British manufacturers have been approached for quotes: AF Metal Fabrication (AFMF) from Lewes and We Make Extraordinary Objects (WMEO) from Harlow, Essex.



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- AFMF quote comes in between £16000 and £18500 plus VAT
- WMEO quote comes in between £48000 and £85000 Inc VAT
- The price differences reflect different specifications and materials.

Installation Costs:

In addition to the cost of the sculpture there are costs associated with the installation of the piece. These will include the concrete foundation for the sculpture as well as any required traffic management and roadway costs.

Legal Requirements:

The legal requirements (which are highlighted by work done on the Little Common Flagpole project) include CG300; which concerns structures on the highway, CD622: Geotechnical risks in projects and BS EN 2767; which deals with passive safety of roadside structures. (Please see Appendix 1)

Compliance with these come with costs and requirements. These include planning permission, various licences and a large deposit to National Highways (Please see Appendix 2)

Next Steps:

- BoSTC to decide whether to approve and take forward this project.
- Confirm design and construction criteria – this should be in accordance with the tender document issued in January (30th) 2025.
- Assign a budget for the project. I would estimate an amount in the region of £100,000 should be assigned.



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Appendix I: An Overview of the Relevant Regulations

CG300

The document ensures that all highway structures meet safety, durability, maintainability, and operational standards throughout their life cycle

Categories of Structures

CG300 categorises highway structures into four main categories (0, 1, 2, 3) depending on their complexity and potential risk

- Category 0: Simple structures with minimal risk; may not require Approval in Principle (AIP).
- Categories 1–3: Increasing levels of complexity/risk; require formal AIP submission and thorough technical approval tracking. The TAA (Technical Approval Authority), usually the local highway authority, vets designs and compliance, ensuring safety and standards are met

Technical Approval Process

The CG300 process consists of:

1. **Approval in Principle (AIP):** Initial design submitted to TAA for review including risk assessment, structural calculations, and project documentation
2. **Design and Check Certificates (DCC):** Separate certificates for each structural element, signed by qualified engineers, confirming design accuracy and compliance with CG300 criteria
3. **Technical Approval and Certification:** Approval is granted once the TAA is satisfied with all aspects of design, safety, construction, and maintenance procedures

Documentation Requirements

For technical approval and eventual adoption, the following must usually be provided to the Overseeing Organisation:

- Health and Safety File
 - As-built drawings (digital format, e.g., *.dwg)
 - Approved design calculations
 - Inspection and material-testing certificates
 - Maintenance manuals and operational documents
 - Certificate of Construction Compliance (CCC)
- This ensures all legal, safety, and operational obligations are documented

Key Considerations

CG300 also emphasizes:

- **Temporary works:** Type N, S, P proposals with TA corresponding to potential risks
- **Sustainability and resilience:** Design should consider environmental impact, aesthetics, durability, and long-term maintenance
- **Special requirements:** Proprietary products must comply with Construction Products Regulations; documentation such as Declarations of Performance (DoP) is required

In summary, **CG300 provides a comprehensive framework to ensure all highway structures in the UK are designed, constructed, and operated safely, meeting statutory requirements and technical standards.** It continues to be used by most highway authorities even if some versions may be superseded, and adherence is critical for risk management and legal compliance in civil engineering projects.

CD622

CD622 provides a framework for identifying, assessing, and managing geotechnical risks in construction projects, ensuring safety and compliance with engineering standards.

Overview of CD622



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CD622 - Managing Geotechnical Risk, is part of the Design Manual for Roads and Bridges (DMRB) and outlines the procedures and requirements for managing geotechnical risks associated with construction projects. The primary objective of CD622 is to ensure that geotechnical risks are identified, assessed, and managed effectively throughout the project lifecycle, from planning to construction and maintenance.

Geotechnical risk refers to the potential hazards associated with ground conditions that can negatively impact construction projects. This includes risks such as soil instability, landslides, liquefaction, erosion, and ground settlement. Geotechnical hazards can significantly affect building plans and foundation efforts, making it crucial to assess these risks during the planning and construction phases. Proper geotechnical risk assessment helps identify and mitigate these hazards to ensure safer structures.

BS EN 12767

BS EN 12767:2019 (with corrigendum 2024) is the European Standard that defines the requirements, performance test procedures, and classifications for passively safe roadside support structures, aiming to reduce injury risk to vehicle occupants in collisions.

Purpose and Scope

BS EN 12767 applies to support structures for road equipment including lighting columns, signposts, signal supports, foundations, and other roadside elements. The standard does not cover road restraint systems such as guardrails

. Its primary objective is passive safety—minimizing the severity of injuries to vehicle occupants during collisions while retaining functional integrity of roadside installations

. It sets out performance classes based on crash test outcomes under specified vehicle speeds, structure types, and soil backfill conditions

Performance Assessment and Test Methods

The standard establishes vehicle impact test procedures for the roadside structures. Key elements include:

- Two collapse modes:
- Separation mode (SE): The structure shears, breaks, or detaches upon impact to absorb energy.
- No separation mode (NS): The structure bends or deforms without breaking, typically for lower energy absorption situations
- Energy absorption classes: High Energy (HE), Low Energy (LE), and Non-energy absorbing (NE), which influence how the potential injury risk is mitigated
- Test inputs consider vehicle speed classes (50, 70, 100 km/h) and various soil backfills (standard, special, rigid) to determine local site suitability
- Performance outcomes combine risk of roof indentation, structure deformation, and occupant injury indicators into a performance class code, e.g., 100-HE-A-S-SE-MD-1

Passive Safety Principles

The standard promotes a Safe System Approach, where road infrastructure is designed to be forgiving of human error. Features include:

- Lightweight or deformable posts that absorb vehicle energy rather than transmitting full impact force through to occupants
- Reduction of collisions severity via material choice, flexible connections, or breakaway/folding designs
- Compatibility with roadside electrical installations: structures may include provisions for Impact Electrical Isolation (IEI) to prevent electrical hazards in case of a collision, although detailed electrical requirements are no longer part of the 2019 standard

Implementation and Considerations

When selecting and installing BS EN 12767-compliant structures, designers must consider:

- Permitted speed and traffic conditions.
- Presence of other obstacles, secondary hazards, or non-motorised users (cyclists, pedestrians).
- Collapse mode suitability for each location, balancing primary collision safety and risk of secondary incidents
- Maintenance and installation practicality, including cable terminations for electrical equipment when present



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Materials commonly used include steel, aluminium, and glass-reinforced composites, often designed to self-right or diffuse impact forces to reduce injury risk

. Certified products are tested by accredited labs like MIRA and TRL under controlled vehicle impact conditions

Summary

- Standard Name: BS EN 12767:2019 (incorporating corrigendum 2024)
- Purpose: Define passive safety requirements and test methods for roadside support structures
- Coverage: Lighting columns, signposts, signal supports, foundations, detachable components; excludes road restraint systems
- Key Features: Performance testing, energy absorption classes, separation/no-separation modes, compatibility with roadside equipment
- Application: Improves road safety by reducing injuries during collisions, supports informed design and installation of roadside infrastructure

BS EN 12767 is essential for road safety engineers, traffic planners, and manufacturers seeking to implement state-of-the-art passive safety practices in roadside infrastructure.

Appendix 2: List of Estimated Costs

List of Costs in reference to Glyne Gap Sculpture (in addition to any manufacture/construction costs)

ESTIMATED PLANNING AND REGULATORY COSTS		
Cost	Amount	
Planning Permission	£379	
National Highways Deposit for any project on Nat Highways land – covers inspection fees etc	£6000	
<i>Licence to make an Excavation in the Highway</i>	<i>£431</i>	
<i>Licence to place a Crane, Cherry Picker, MEWP, etc on the Highway (date specific)</i>	<i>£125</i>	<i>Per Day</i>
<i>Site inspection to assess safety and condition, if deemed necessary before & after placing of scaffolding, etc on the highway, as well as attendance for enforcement issues</i>	<i>£65</i>	
<i>Temporary Traffic Regulation Order (Section 14)</i>	<i>£265</i>	<i>To close the road for up to 5 days</i>
<i>Traffic Management</i>		<i>Traffic lights, cones etc</i>

SCULPTURE MANUFACTURE COSTS			
Company	Cost	Other notes	Company Contact Details



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AF Metal Fabrication	£18500+vat. £16000+vat	For the car and man For the car only Car would be 50mm Brass Tube the men 6mm Brass laser etched sheet	(Alex) afmetalfabrication@gmail.com
We Make Extraordinary Objects Ltd.	£48,000 inc vat £85,000 inc vat	Figures in fibreglass fashioned to look like bronze. Figures in bronze (Apparently there is a high risk of theft)	(Omid) 07832386917 omid@wmeo.co.uk www.wmeo.co.uk
Chinese Company	\$26,400 \$23,600	Mirror Polish Finish Stainless Steel Finish Not inc Shipping or taxes	