Lightweight Sedum Living Roof Specification and Maintenance Scheme

1. Introduction

This document provides full details for the lightweight sedum living roof system to be installed in the area indicated on the approved roof plan. It outlines the construction, material specifications, and maintenance scheme in accordance with the approved planning conditions and the environmental policies of the London Borough of Camden Local Plan 2017. This system is based on the GRD Lightweight System, as detailed in the attached specification from Green Roofs Direct (www.greenroofsdirect.com).

2. Construction and Materials

- **Design and Layout:**
  The roof system is designed per the approved drawings, with detailed sections at a scale of 1:20. These sections illustrate the layered construction required for effective performance.
- **System Overview:**
  The system is a lightweight sedum living roof consisting of two primary layers:

  a. Drainage Layer:

  - **Properties:**
    - Total pore volume: 30–40% by volume
    - Maximum water capacity: ≥75% by volume
  - **Key Data:**
    - Dry weight: approximately 15 kg/m²
    - Water-saturated weight: approximately 32 kg/m²
      This layer ensures effective water retention and drainage, critical for stormwater management and the longevity of the system.

  b. Vegetation Layer (Sedum Blanket):

  - **Composition and Structure:**
    - The sedum blanket comprises a lightweight substrate mix made from LECA, compost, coir pith and fibre, and horticultural grit.
    - It has a compression factor of 1.2, ensuring durability under load while remaining lightweight.
    - Standard installation size is 1 m x 1 m, with a blanket thickness ranging from 2.5 to 4.5 cm.
  - **Sedum Species:**
    The system includes a variety of hardy sedum species to ensure rapid establishment, uniform coverage, and enhanced environmental benefits. Species include:

- Sedum Acre Aureum
- Sedum Album Coral Carpet
- Sedum Album Mini
- Sedum Album Athoum
- Sedum Hispanicum
- Sedum Summer Glory
- Sedum Reflexum
- Sedum Weihenstephaner Gold
- Sedum Voodoo

- **Fire and Environmental Certification:**
  The system complies with UK BS 476: Part 3:2004, with the evermat core system classified as class EXT F.AA and achieving an AA rating for surface spread of fire. The product is not regulated as hazardous and meets the required environmental standards.

3. Detailed Maintenance Scheme

To ensure the long-term performance of the living roof, the following maintenance procedures shall be implemented:

- **Initial Establishment (First 3–6 Months):**
  - **Watering:**
    - Regular watering is essential until the sedum blanket is fully established.
    - Once established, watering will only be required during prolonged dry periods, taking advantage of the sedum's natural water-retaining properties.
  - **Inspection:**
    - Weekly inspections during the establishment phase to monitor plant growth, substrate moisture, and any weed intrusion.
- **Routine Maintenance:**
  - **Weeding:**
    - Prompt removal of any competing weed species to maintain uniform coverage and plant health.
  - **Fertilisation:**
    - Sedum generally requires little to no fertilisation.
    - Natural, slow-release fertiliser may be applied if the sedum's vigor appears diminished.
  - **Trimming and Renewal:**
    - Periodic trimming (a few times per year) will maintain a tidy roof.
    - Trimmed sedum can be left in place to promote new growth and further consolidate coverage.
- **Seasonal Maintenance:**
  - **Winter Care:**
    - During winter, sedum enters a natural dormant phase.

        - Removal of any dead leaves or accumulated debris is advised to prevent rot and maintain system integrity.
    - **Spring Inspection:**
        - An early spring check will ensure that any issues related to plant establishment or substrate integrity are addressed promptly.

4. Environmental Benefits

The lightweight sedum living roof system contributes to:

- **Stormwater Management:**
  The drainage layer's design effectively absorbs and retains rainwater, reducing runoff and mitigating urban flooding risks.
- **Enhanced Air Quality:**
  The sedum layer filters pollutants and produces oxygen, contributing to a healthier urban environment.
- **Energy Efficiency:**
  The natural insulation provided by the roof helps maintain cooler indoor temperatures in summer and warmer temperatures in winter.
- **Biodiversity:**
  The sedum blanket creates habitats for pollinators such as bees and butterflies, thus enhancing urban biodiversity.
- **Aesthetic Improvement:**
  Seasonal variations in sedum colour and texture improve the visual appeal of the building and its surroundings.

5. Compliance and Ongoing Responsibilities

The living roof shall be installed and maintained strictly in accordance with this specification and the approved details. All maintenance activities are to be documented and made available for inspection by the local planning authority to ensure continuous compliance with environmental and safety standards.