RAINWATER HARVESTING FEASIBILITY

for

9 New Build Luxury Apartments

The Prosperity Group Ltd

Adjacent 35 YORK WAY

Camden,

N7 9QF

1.0 Project Particulars

1.01 The Project

The project will consist of a new build construction to create 9 New Luxury Apartments in Camden, London.

1.02 Site Address

Land Adjacent
35 York Way
N7 9QF

1.03 Client

The Prosperity Group Ltd
Unit 3, Stuckley Place,
Camden Town, NW1 8NS

1.04 Client Representative

STAR Real Estate
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London W1G 0PW

1.05 Architect

Eyal Moran Architects Ltd
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London N12 8NP

(tel:) +44 (0)20 8369 6057
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1.06 Mechanical & Electrical Engineering Consultants

WW Futures Ltd
1 Aire Street
Leeds LS1 4PR

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2.0 Mechanical Performance Specification

2.1 Scope of Works

2.1.1 The project will consist of a new build construction to create 9 New Luxury Apartments in Camden, London.

2.1.2 The intent of the report is to provide feasibility of the requirement of Camden Planning department to assess the merits and practicalities of using rainwater to reduce water consumption.

2.1.3 At the planning stage a document was produced by Syntegra Consulting, the document indicated that

> Re-use of water
>
> Where feasible rainwater will be collected and used for irrigation of the landscaped areas, e.g. the provision of water butts

We have engaged the assistance of Stormsaver Ltd to assist

2.2 Design Criteria

BS 16941-1 2018	British Standard for Rainwater Harvesting
Roof Area	155m2
Rainwater	591mm Annual Rainfall per m2
Listed losses	10% Due to collection (x90%) 20% Due to evaporation (x80%)

3.00 Calculations

155m2 x 591mm Rainfall for Camden = 91,605 Litres x 0.9 x 0.8 = 65,955 Litres per annum

Daily average = 65,955/365 = 180 Litres per day from the roof.

Should we store Water for Harvesting the recommended period in the BS is 18 days

18 x 180 equates to 3,252 Litres of storage

4.00 Considerations

There are several types of systems available.

In selecting the most appropriate system we should consider the usage of the building, ownerships and responsibilities.

Our building consists of 9 x new build privately owned apartments who will pay a service charge to a maintenance company.

Each apartment is seperately metered and has a dedicated supply,

Each Apartment differs in quantity of bedrooms, bathrooms, sanitary ware and occupancy.

Therefore assigning pipework and distribution to each apartment is difficult, maintenance charges etc would become logistically very difficult and is something we do not believe would benefit this scheme

Location of plant space is also at a premium.

We do recognise the requirement to consolidate the use of rainwater available and consider that giving the benefit to common landlords services, particularly irrigation is prudent.

Irrigation estimate based providing water butts to collect a % of the available rainwater is feasible

This would require redesign of the rainwater system to ensure the roof rainwater collects at a water butt, practically the Butt needs to be below ground

5.00 Estimating Water needed for Irrigation

The quantity of water used for irrigation is not an exact science, We would propose to install a tank with Pump which is technically feasible

We are proposing the following

1600L 3P Technik Rain Tank System - Black (2 x 800L Tanks) is much more than just a typical water butt. It is in fact an excellent rainwater harvesting system which includes a steel pump which is both waterproof and submersible.

The tanks are simple to install and include a 3P Technik quality Filter Collector, ensuring maximum diversion of rainwater from your downpipes into your tank(s). The Filter Collector also filters the rainwater ensuring leaves and other debris cannot enter the tanks.

The Garden Steel pump hooks up to the brass connectors at the base of the first tank giving you the full benefit of all the combined capacity.

The garden steel pump has a 600W power rating, generating a flow of up to 3,000 litres per hour. It comes with a generous 10 litre mains power cable and is light enough to carry comfortably for putting away. A hosetail connector is supplied for connection to your standard hosepipe or watering accessories.

The tanks also feature taps for use with a watering can if desired. The tap is approximately 30cm from the base, enough to get a standard watering can underneath. Each tank interconnects using high quality connection sets with metal threads to combine the capacity.

A Wall Tank Kit, which includes a wall fixing bracket, plastic high flow 3/4" BSP tap and holesaw set with rubber grommets also comes with the tank.

Dimensions for each tank:
Height: 179cm (70.5 inches)
Width: 80cm (31.5 inches)
Depth: 60cm (24 inches)
Capacity: 800 Litres (176 Gallons)
Material: PE (Polyethylene) UV stabilised. Shot finish.
Weight: 37kg, sealed construction.

The pump would be located in the tank room