



Drainage Statement
For
23 ROCHESTER ROAD, LONDON, NW1 9JJ

26.06.14
Project Reference 277



 **CHILTERN DESIGN**
CONSULTING ENGINEERS

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1. Introduction

Physon Property group have engaged Chiltern Design Limited to undertake a drainage calculation and preliminary drainage assessment for the proposed extension and refurbishment at number 23 Rochester Road, London, NW1 9JJ.

The information used in producing the following report are as follows:

- Topographical Survey undertaken by Terrain Surveys ref TS14-227M\1 dated June 2014
- Architectural layout plan prepared by Clive Sall Architecture ref 252-110-P3

2. Existing/Proposed Stormwater Regime

The existing site benefits from a combined sewer connection to a 225mm diameter combined sewer, which flows south from the development. It is assumed that the receiving Thames Water combined sewer resides within Rochester Road, pending receipt of the Thames Water sewer records. The drainage generally runs to the east of the existing dwelling, and a section potentially runs beneath it from the rear courtyard area – all flowing south.

The proposed extension will require some adjustment to the existing drainage, and will require a new system to run from the rear of the plot beneath the extension to connect into the front system. An indirect sewer connection application will be required to be submitted to Thames Water Utilities under Section 106 of the Water Industries Act, as there will be an increase in impermeable areas.

The existing impermeable area = 143sq.m and equates to a stormwater flow of 2l/s for the 2 year return, and 3l/s for the 30 year return (refer to accompanying drawing 277/1001 for calc using modified rational method).

The proposed impermeable area = 218sq.m, a modest increase of 75sq.m. This area equates to a flow rate of 3l/s for the 2 year storm return and 4.5l/s for the 30 year return.

Given that the increase in flow rate is modest (1.5l/s for the 30 year rainfall intensity) it is unlikely that Thames Water will object to the increase, as ordinarily TWU seek to limit new storm connections to 5l/s and the increased flow is below this threshold. This is of comfort, as the ground conditions (impermeable London Clay) in the local area do not support the use of SUDS such as infiltration techniques. Given the modest increase in area, a water butt may be an appropriate means of mitigating the additional flows, although as stated above we would consider the increase in flow to be very modest.

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N-WITCHER PLACE

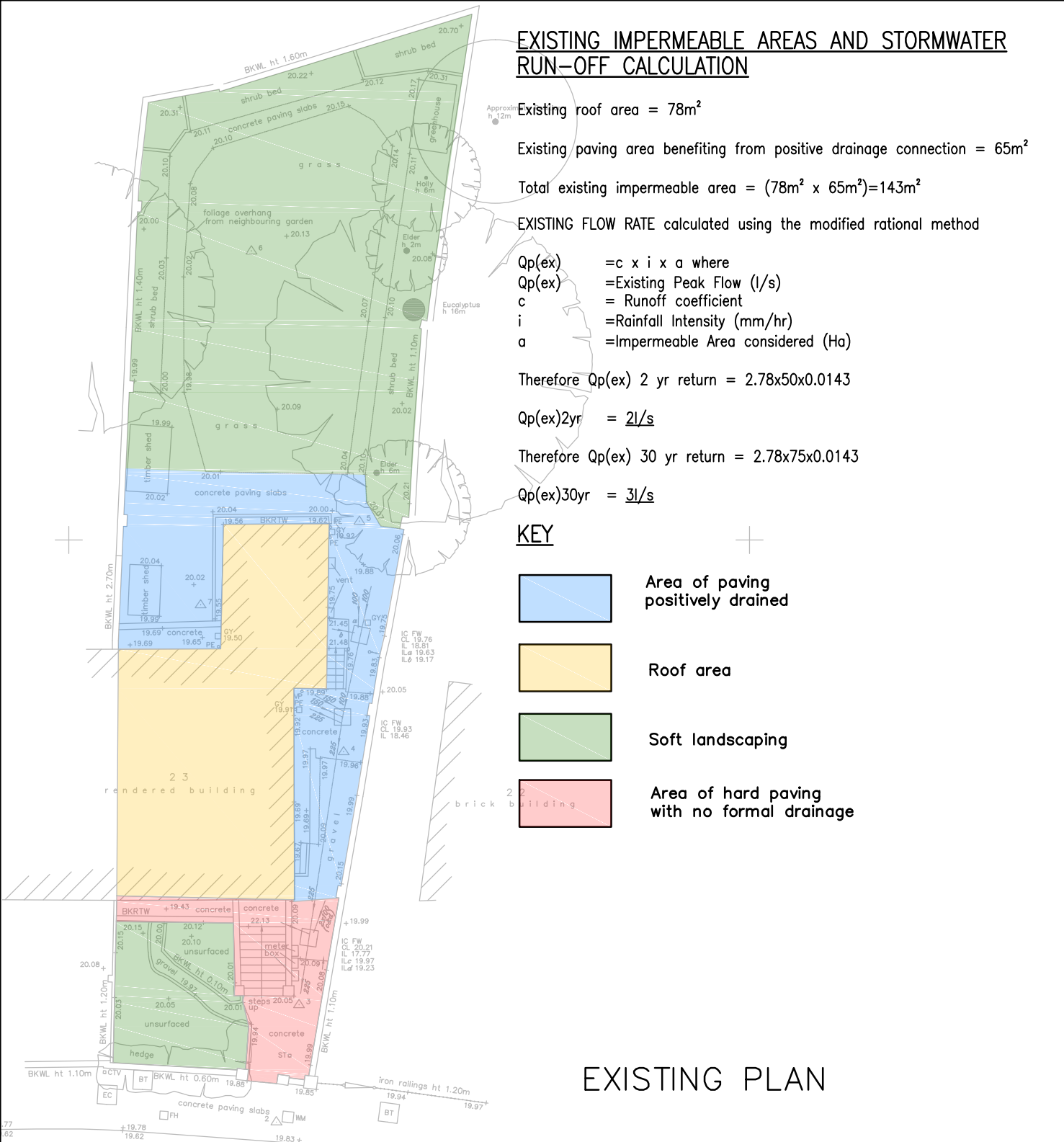
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3. Conclusion

Given that the increase in impermeable area is only 75sq.m and the resultant increase in flow is 1.5l/s for the 30year return we would consider the impact of the scheme to be negligible.

SUDS infiltration techniques are not appropriate for this site given the underlying geology, however water butts could be considered to store water for re-use.



EXISTING IMPERMEABLE AREAS AND STORMWATER RUN-OFF CALCULATION

Existing roof area = 78m²

Existing paving area benefiting from positive drainage connection = 65m²

Total existing impermeable area = (78m² x 65m²)=143m²

EXISTING FLOW RATE calculated using the modified rational method

Qp(ex) = c x i x a where
Qp(ex) = Existing Peak Flow (l/s)
c = Runoff coefficient
i = Rainfall Intensity (mm/hr)
a = Impermeable Area considered (Ha)

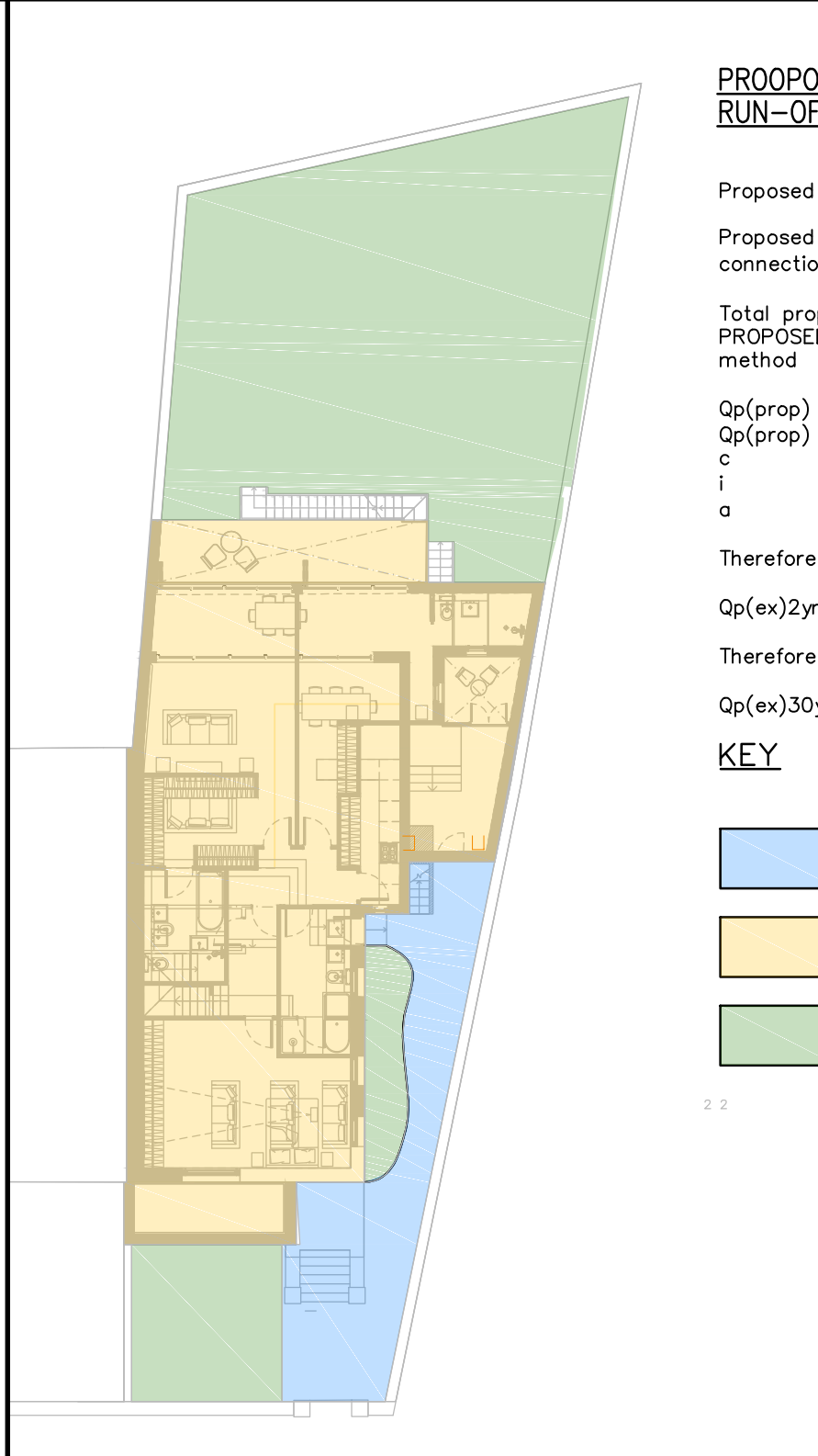
Therefore Qp(ex) 2 yr return = 2.78x50x0.0143

Qp(ex)2yr = 2l/s

Therefore Qp(ex) 30 yr return = 2.78x75x0.0143

Qp(ex)30yr = 3l/s

EXISTING PLAN



PROPOSED IMPERMEABLE AREAS AND STORMWATER RUN-OFF CALCULATION

Proposed roof area = 178m²

Proposed paving area benefiting from positive drainage connection = 40m²

Total proposed impermeable area = (178m² x 40m²)=218m²

PROPOSED FLOW RATE calculated using the modified rational method

Qp(prop) = c x i x a where
Qp(prop) = Proposed Peak Flow (l/s)
c = Runoff coefficient
i = Rainfall Intensity (mm/hr)
a = Impermeable Area considered (Ha)

Therefore Qp(prop) 2 yr return = 2.78x50x0.0218

Qp(prop)2yr = 3l/s

Therefore Qp(prop) 30 yr return = 2.78x75x0.0218

Qp(prop)30yr = 4.5l/s

PROPOSED PLAN

Notes:

- Do not scale from this drawing.
- In case of any discrepancies in drawings, details or bills, refer to engineers for clarification: unilateral decisions by the Contractor will not be accepted.
- This drawing is to be read in conjunction with all related Architects, Consultants & Sub-Contractors drawings and specifications.
- The Contractor is advised that all design drawings and information are to be read concurrently and any discrepancies or omissions reported directly to Chiltern Design Limited.

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Client

PHYSON PROPERTY

Drawing Status

INFORMATION

Project Title

23 ROCHESTER ROAD
LONDON NW1 9JJ

Drawing Title

IMPERMEABLE AREA
COMPARISON

CHILTERN DESIGN

CONSULTING ENGINEERS

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Drawn	MS			A3
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