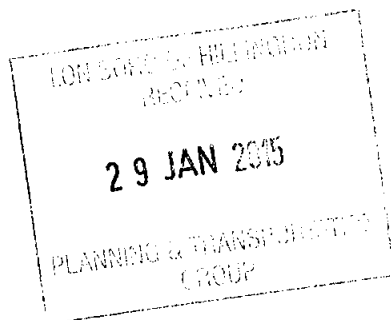


Soarbond Ltd.,
Chartered Civil and Structural
Consulting Engineers and Planners

W.K.J. Zablocki
B.Sc. C.Eng. MICE

London August 2014

Job No1156



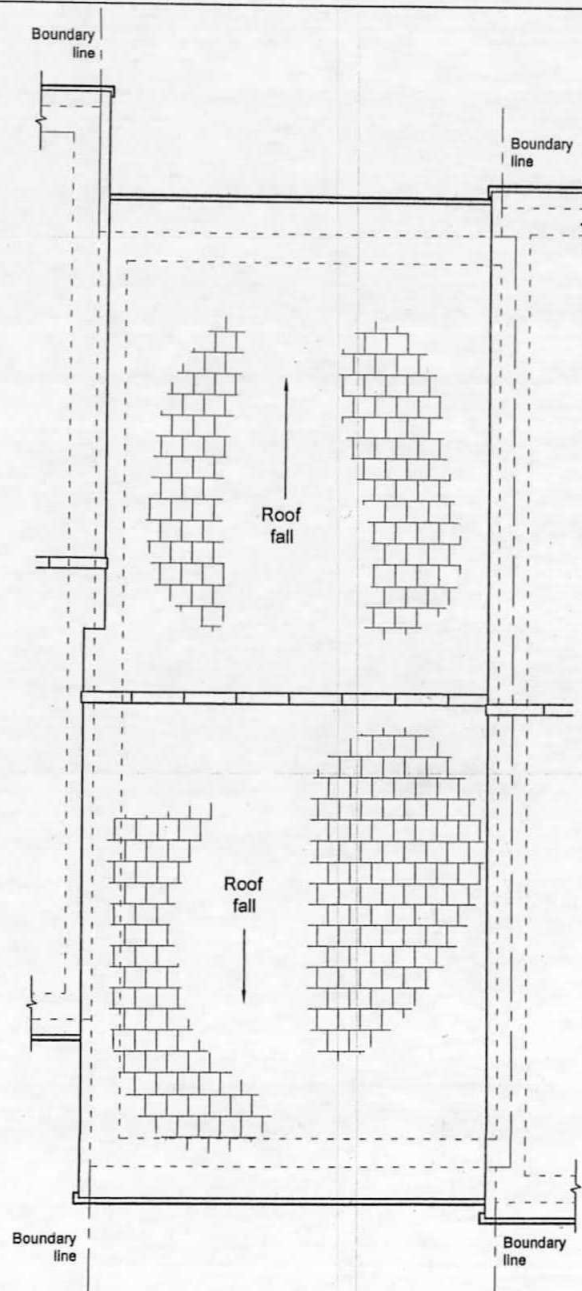
Volume and Ratio calculations for
a loft conversion at
40, Helmsdale Close,
Hayes,
MIDDX. UB 4 9 QS.

A terraced house owned by Mr. Piotr Smietalo.

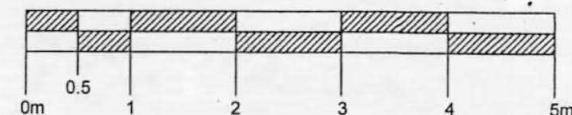
Index:-

V 01 to V 11 volume calculations.
First Amendments - January 2015.

Project 40 Helmsdale Close, Hayes, UB 4			Job ref 1156	
Part of structure Volume Calculations			Calc sheet no V 1	rev A
Drawing ref	Calc by	Date	Check by	Date
Ref	Calculations			Output
<u>1.0</u>	<u>Introduction</u>			
	1.1. 40 Helmsdale Close, Hayes, UB 4 is a single family, terraced house and is situated on the north side of Helmsdale Close, which forms an enclosed, circular "cul de sac" on an estate. It is the penultimate house on this row of 5 houses. These calculations have been prepared to show that the overall increase in roof space is less than 40 m3 as permitted. However, the allowances for Permitted Development (as given by SI 2362:2008) have been taken away from this property by Hillingdon when the previous application was made. There have been no extensions to this 1980's house in the past so this property should have been able to claim its full entitlement of permitted development but now we need to make a revised planning application showing that the volume increase is still well below 40 m3. 1.2. The house, at the moment, has two storeys of useable construction. The erection of this future loft addition above the two floors of the main house will form a third floor that will be accessed by new stairs from within the existing stair well. The enclosed sketches, V2A to V 8A, give the proposed dimensions for this work which is yet to be carried out. 1.3. These calculations are based on the drawings prepared at 1 : 50 at A3 but reduced by 70 % here to fit into this package as A4 sketches. The drawings have been prepared accurately and have been drawn on AutoCad to 1:1 scale; prior to printing. No guarantee can be given that the printed copies are completely accurate yet should be within +/- 3%. 1.4. No scaling of the drawings should be taken as we cannot guarantee that they are exactly to scale after printing. Figured dimensions should be used only. 1.5. A wedge volume is based on half base area multiplied by the perpendicular height. The volume for a pyramid is one third base area multiplied by its perpendicular apex height. 1.7 The increased roof volume is estimated to be 11.7 m3 and we ask if checks are made to allow for 12 m3 extra.			



Scale 1: 50

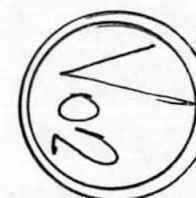


Notes:

1. For general notes see drawing 1156 - 01.

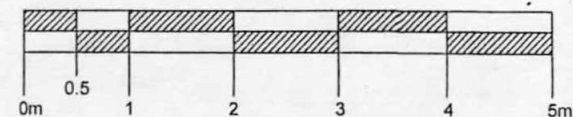
Existing Roof Plan

Scale 1 : 50



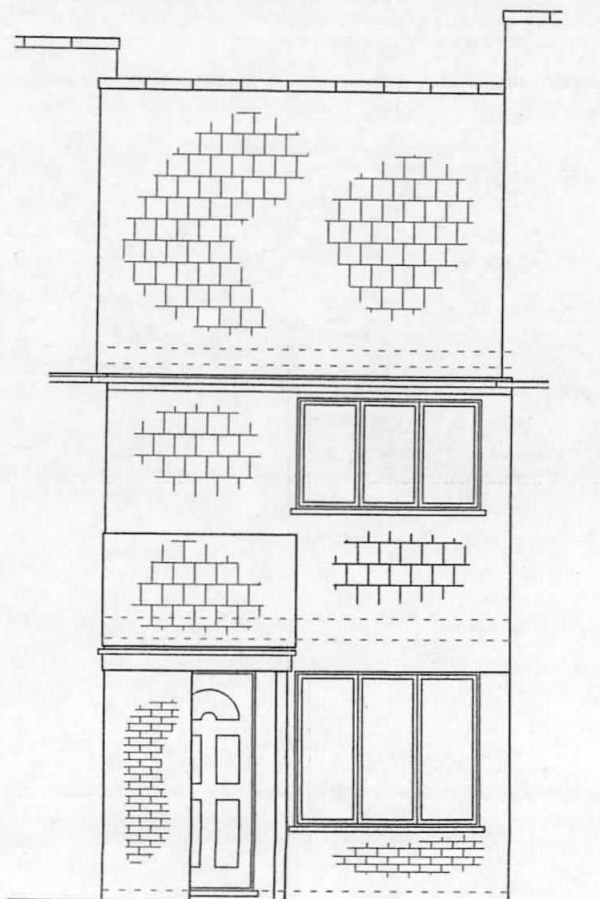
SOARBOND Ltd. Chartered Engineer 117 Chancery Road, Felling, London NE 14 1AA tel 020 8917 8823 mobile 07879 583 888 email soarbond@btopenworld.co.uk	
Job No: Redevelopment at 40 Heimsdale Close, Hayes, Middlesex UB4 9QS	
Drawing No: Existing Roof Plan	
Client: Mr. Piotr Smietalo	
Drawn by: S. Zablocki	Date: July 2014
Check'd by: W.K.J. Zablocki	Date: July 2014
Job number: 1156	Scale @ A3: 1 : 50
Drawing number: 1156 - 02	

Scale 1: 50

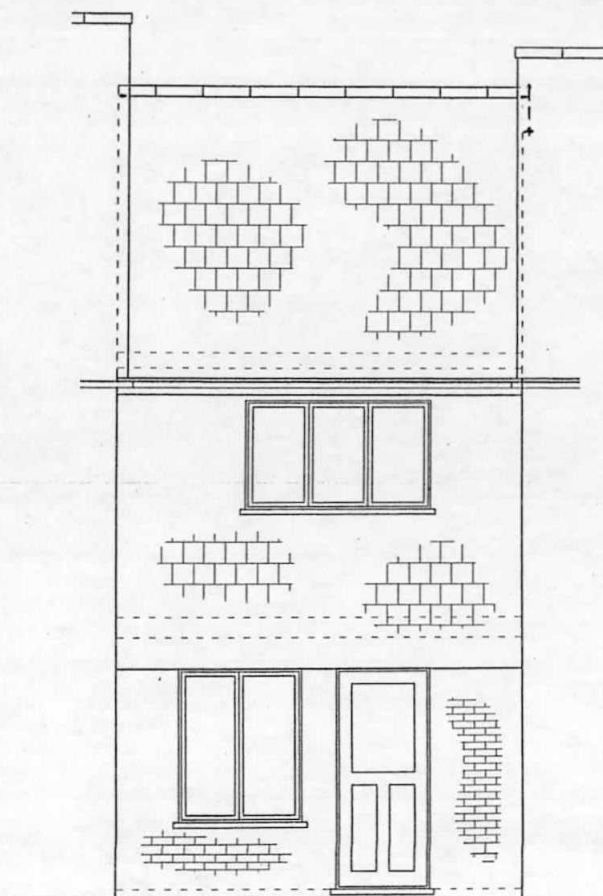


Notes:

1. For general notes see drawing 1156 - 01.



Existing Front Elevation
Scale 1: 50

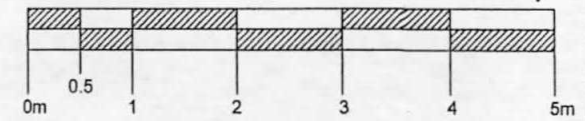


Existing Rear Elevation
Scale 1: 50



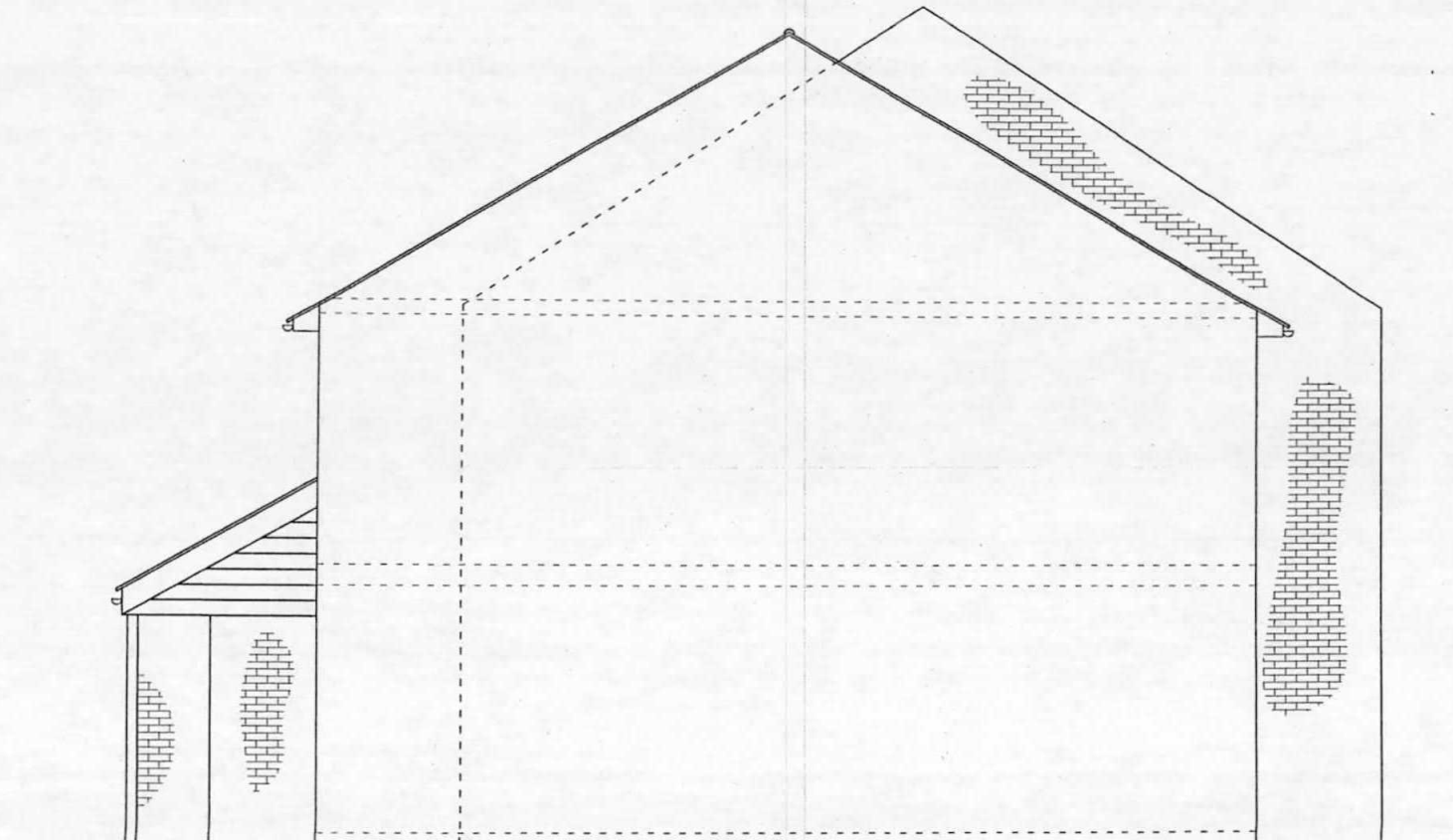
SOARBOND Ltd. Chartered Engineers 17 Clarendon Road Leigh Lancashire W5 1AA tel 01204 8877 8882 mobile 07779 887 888 email soarbond@soarbond.co.uk	
Job No Redevelopment at 40 Helmsdale Close, Hayes, Middlesex UB4 9QS	
Drawing No Existing Front Elevation & Existing Rear Elevation	
Client Mr. Piotr Smietala	
Drawn by S. Zablocki	Date July 2014
Check'd by W.K.J. Zablocki	Date July 2014
Job number 1156	Scale @ A3 1: 50
Drawing number 1156 - 03	

Scale 1: 50

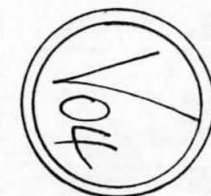


Notes:

1. For general notes see drawing 1156 - 01.

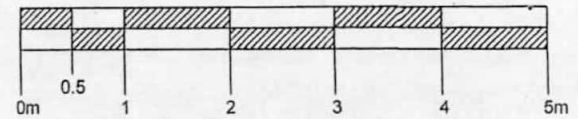


Existing Side Elevation
Scale 1: 50



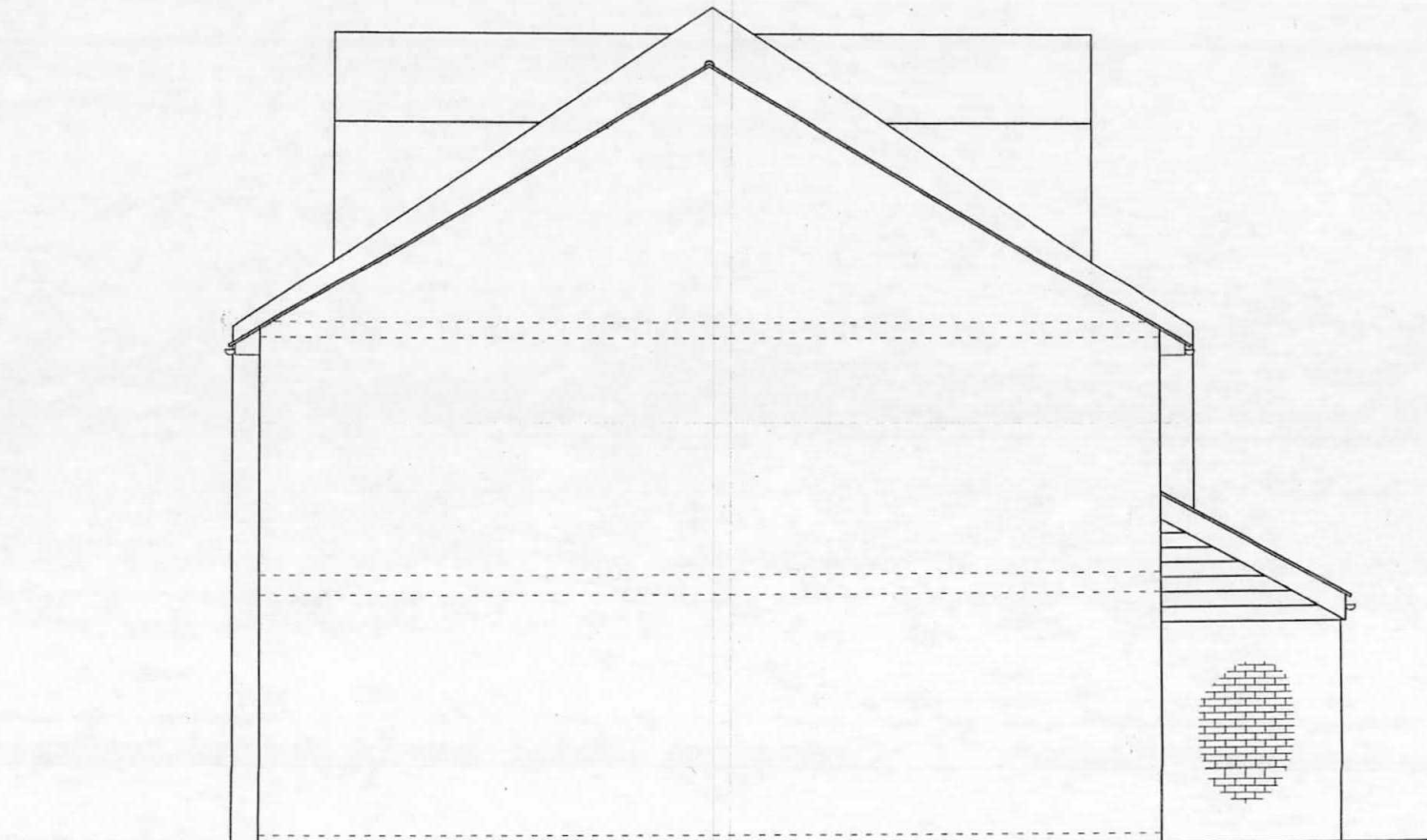
SOARBOND Ltd. Chartered Engineers 17 Chancery Road, City, London EC2A 4AA	
tel: 020 8817 8883 mobile: 07779 627 888 email: soarbond@yahoo.co.uk	
Job title Redevelopment at 40 Heimsdale Close, Hoyes, Middlesex UB4 9QS	
Drawing title Existing Side Elevation	
Client Mr. Piotr Smietalo	
Drawn by S. Zablocka	Date July 2014
Checked by W.K.J. Zablocki	Date July 2014
Job number 1156	Scale 1: 50
Drawing number 1156 - 04	

Scale 1: 50

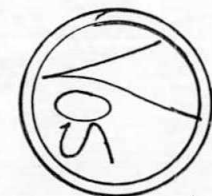


Notes:

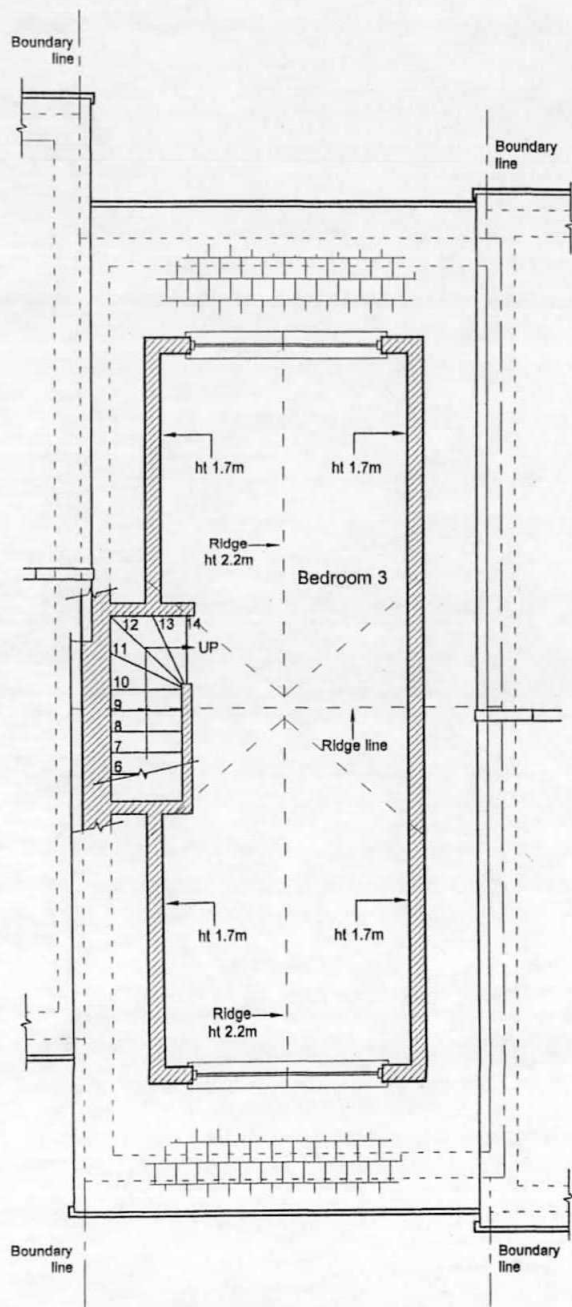
1. For general notes see drawing 1156 - 01.



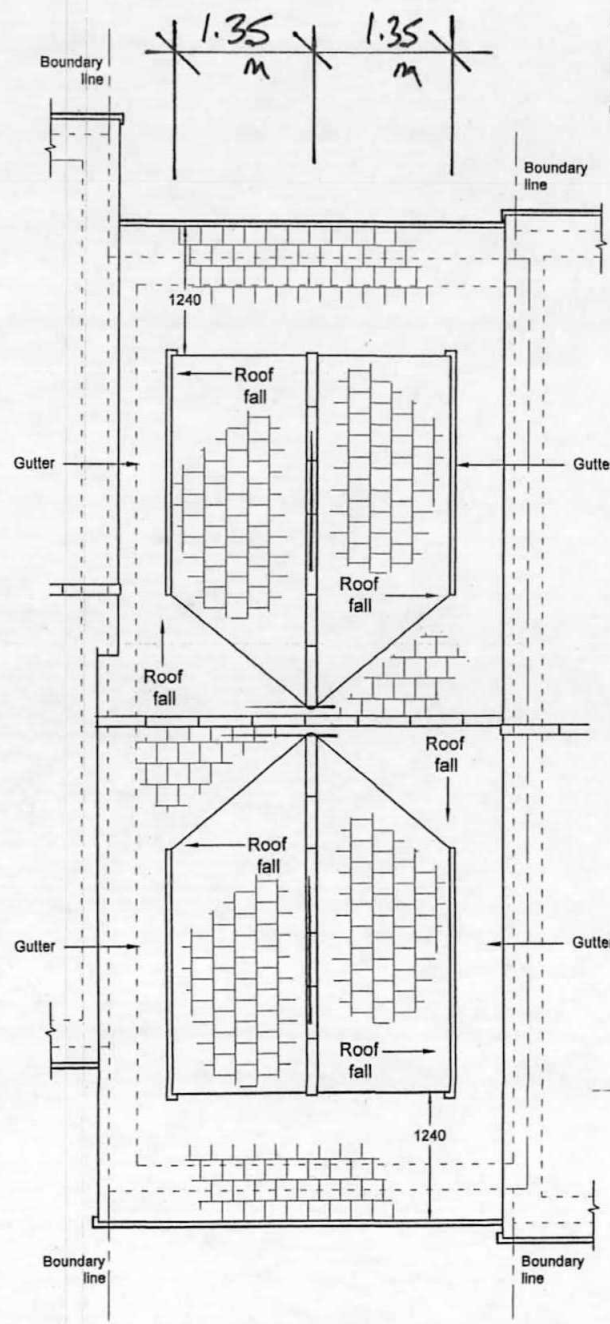
Existing Side Elevation
Scale 1 : 50



SOARBOND Ltd. Chartered Engineers 17 Cleveland Road, Epsom, Surrey, Surrey TW20 1JH Tel: 020 8877 8883 Mobile: 07779 822 988 Email: soarbond@soarbond.co.uk	
Job Title Redevelopment of 40 Helmsdale Close, Hayes, Middlesex UB4 9QS	
Drawing No. Existing Side Elevation	
Client Mr. Piotr Smietala	
Drawn by: S. Zablocki	Date: July 2014
Check'd by: W.K.J. Zablocki	Date: July 2014
Job Number 1156	Scale 1 : 50
Drawing Number 1156 - 05	

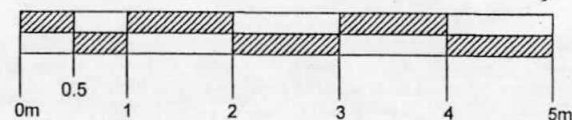


Proposed Loft Plan
Scale 1:50



Proposed Roof Plan
Scale 1:50

Scale 1:50



Notes:
1. For general notes see drawing 1156 - 21.

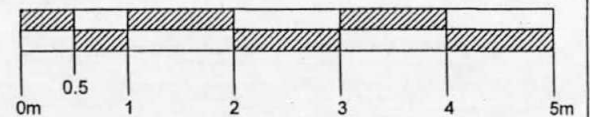
12.3m
1.07m
1.07m
2.3m

106

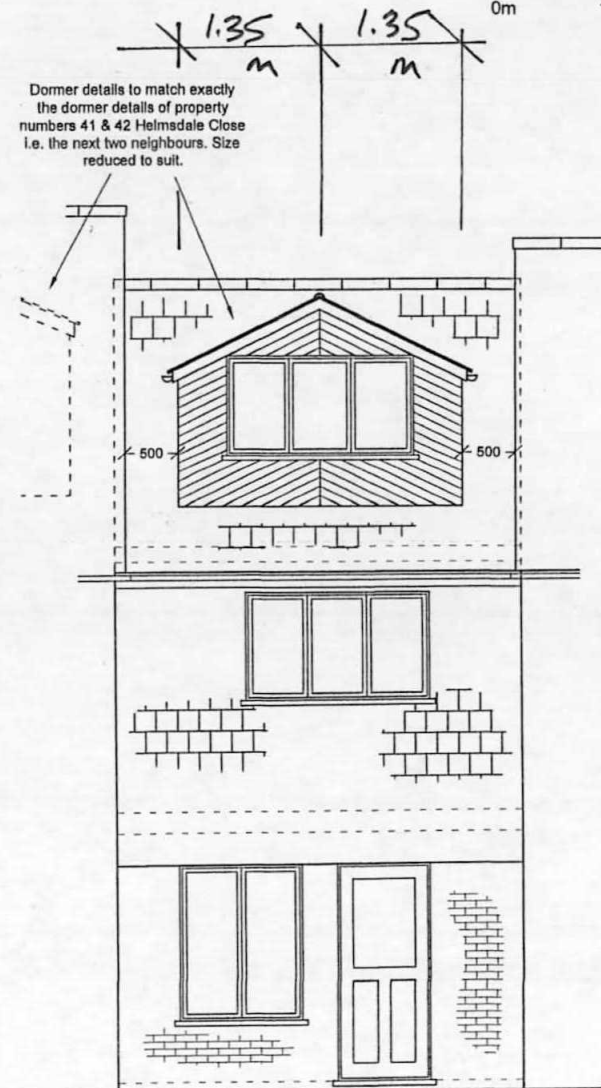
A - Revision 23.01.2015, S.Z. Minor modifications to suit hillingdon requirements.

 SOARBOND Ltd. Chartered Engineers 17 Chesham Road, Egham, Surrey TW20 9AA Tel: 01875 8057 8053 Mobile: 07779 863 700 Email: info@soarbond.co.uk	
Job No:	Redevelopment at 40 Helmsdale Close, Hayes, Middlesex UB4 9QS
Drawing No:	Proposed Loft Plan & Proposed Roof Plan
Client:	Mr. Piotr Smietala
Drawn by:	S. Zablocki
Date:	July 2014
Check:	W.K.J. Zablocki
Date:	July 2014
Alt. number:	1156
Scale:	1:50
Drawing number:	1156 - 22

Scale 1: 50



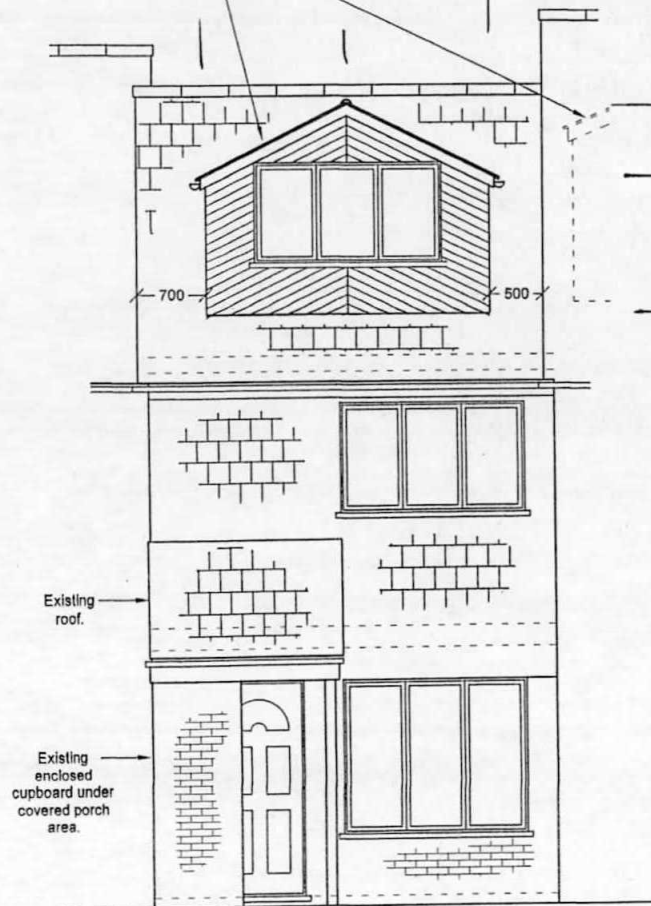
Notes:
1. For general notes see drawing 1156 - 21.



Proposed Rear Elevation
Scale 1 : 50



Dormer details to match exactly the dormer details of property numbers 41 & 42 i.e. the next two neighbours. Size reduced to suit.

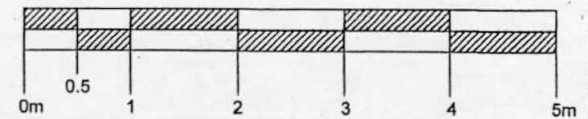


Proposed Front Elevation
Scale 1 : 50

A - Revision 23.01.2015, S.Z. Minor modifications to suit planning requirements.

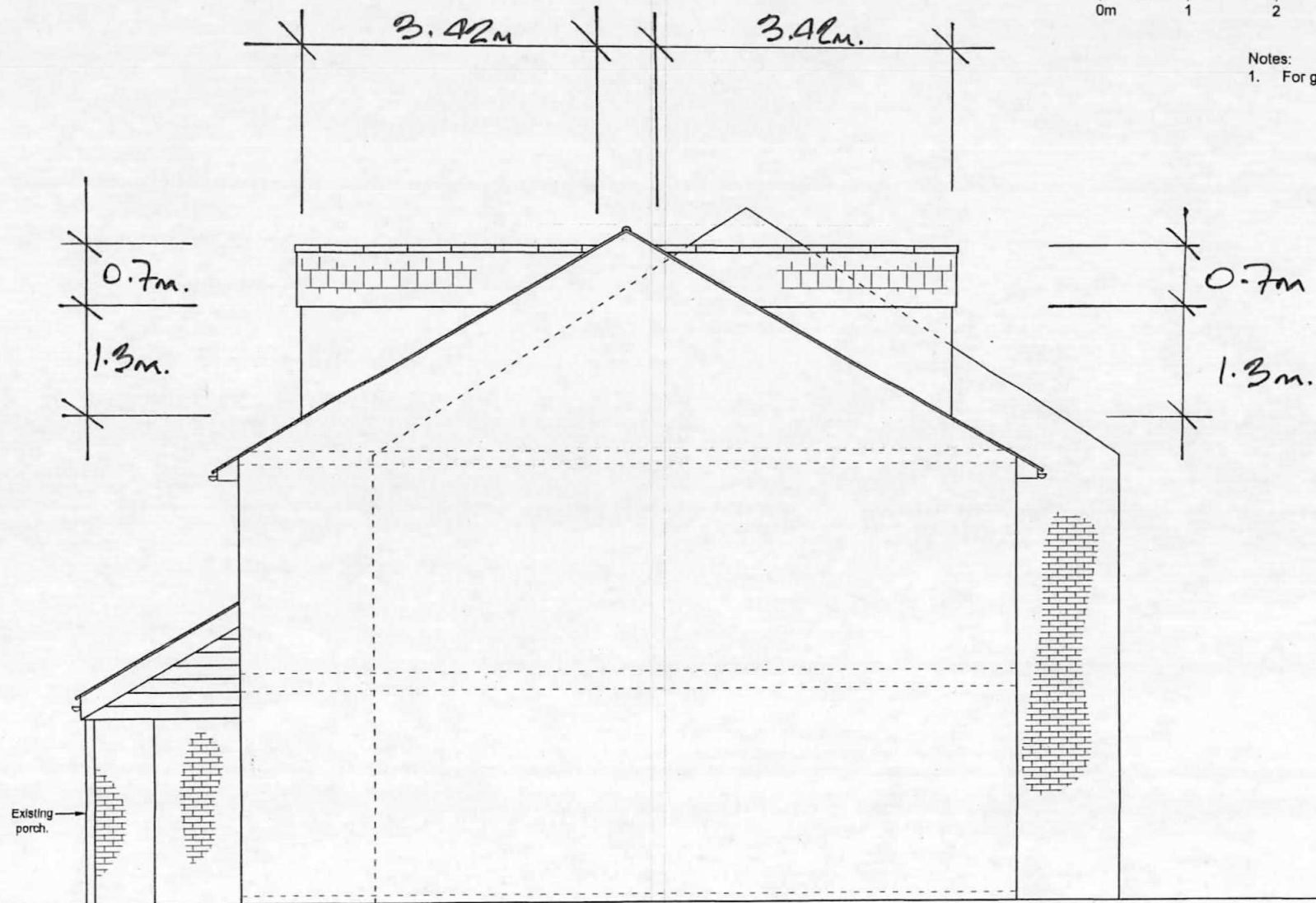
 SOARBOND Ltd. Chartered Engineers 17 Chesham Park Bury Lancashire M9 1AA Tel: 0161 2577 0063 Mobile: 07779 083 300 Email: info@soarbond.co.uk	
Job No	Redevelopment at 40 Helmsdale Close, Hayes, Middlesex UB4 9QS
Drawing Title	Proposed Front Elevation & Proposed Rear Elevation
Client	Mr. Piotr Smietala
Drawn by	S. Zablocki
Date	July 2014
Check	W.K.J. Zablocki
Date	July 2014
Job number	1155
Scale	1 : 50
Drawing number	1156 - 23

Scale 1: 50



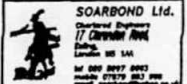
Notes:

1. For general notes see drawing 1156 - 21.



Proposed Side Elevation
Scale 1 : 50

A - Revision 23.01.2015. S.Z. Minor modifications to suit planning requirements.



Job No.
Redevelopment at
40 Heilmadale Close,
Hayes,
Middlesex UB4 9QS

Drawing No.
Proposed Side Elevation

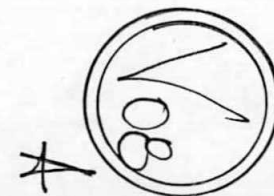
Drawn by
Mr. Piotr Smietala

Drawn by
S. Zablocki July 2014

Drawn by
W.K.J. Zablocki July 2014

Job number
1156 Scale 1: 50

Drawing number
1156 - 24



Project 40, Helmsdale Close, Hayes, UB 4.			Job ref 1156	
Part of structure Volume Calculations			Calc sheet no V 9 rev A	
Drawing ref	Calc by	Date	Check by	Date

Ref	Calculations	Output
	Site Area. 4.0 m x 24.50 m + 2.5 m x 5.0 m + (3.0 m + 5.7 m) x 2.8 m / 2 = 122.7 m2	
	Original House Floor Areas. Ground - Nett 3.90 m x 9.00 m 0.80 m x 0.80 m = 35.7 m2 First 3.90 m x 9.00 m = 35.1 m2 Second 0 m x 0 m = 0.0 m2 TOTALS. = 70.8m2 Increased House Floor Areas. New Second Floor Area 2.32 m x 6.78 m + 0.50 m x 1.75 m = 16.6 m2 House Floor Area after LDC. = 86.4 m2	

Project 40, Helmsdale Close, Hayes, UB 4.			Job ref 1156	
Part of structure Volume Calculations			Calc sheet no V 10 rev A	
Drawing ref	Calc by	Date	Check by	Date
Ref	Calculations			Output
	House Volumes.			
	Original.			
	Ground Floor	$35.7 \text{ m}^2 \times 2.60 \text{ m}$	=	92.8 m ³
	First Floor	$35.1 \text{ m}^2 \times 2.60 \text{ m}$	=	91.3 m ³
	Roof	$9.06 \times 4.0 \times 2.6 / 2$	=	47.0 m ³
	TOTAL		=	231.1 m³
	Added Loft Conversion Volume.			
	Two Dormers as $2 \times (2.30 \times 1.07 \times 2.70) / 2$			
	$+ 2(2.70 \times 0.7 / 2) \times 2.30 + 2(1.07 \times 0.7 \times 2.70 / 2)$			
			=	11.7 m³
	House Volume Proposed.			
		$231.1 \text{ m}^3 + 11.7 \text{ m}^3$	=	242.8 m³

Project 40, Helmsdale Close, Hayes, UB 4.			Job ref 1156	
Part of structure Volume Calculations			Calc sheet no V 11 rev A	
Drawing ref		Calc by	Date	Check by
				Date

Ref	Calculations	Output
	Loft Conversion Nett Increase in Volume. Allowed = 40.00m3 Actual = 11.70m3 Say OK. New Plot Ratio. 35.7 m2 / 122.7 m2 = 0.29 Allowed plot ratio to approach 2.0 in Hillingdon. Say OK. New Bulk Ratio. (231.1 + 11.70) m3 / 122.7 m2 = 1.98 Allowed Bulk Ratio can approach 8.0 Actual ratio to allowed ratio 1.98 / 8.0 = 0.25 i.e. 25.0 % utilised. Say OK.	