Flood Risk Assessment

at

West Lodge Grange Road
Hedge End

For

Mr A. Christopher

August 2012

Such·Salinger·Peters

CONSULTING ENGINEERS

Issue Record

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Flood Risk Assessment

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Flood Risk Assessment

1. Introduction:

1.1. Such Salinger Peters have been instructed to produce a site specific Flood Risk Assessment (FRA) for a Planning Application. This report has been prepared in accordance with the National Planning Policy Framework (former PPS 25): Development & Flood Risk and a copy of the EA Pro-forma Appendix C can be found in Appendix F of this report

1.2. The site is located at NGR SU 4940,1360 Postcode SO30 2FL. The property is a bungalow and the proposal is to provide a small extension on the north side to enlarge a bedroom and provide a dining room. In addition there will be a conservatory and a porch.

1.3. The property is situated to the north of a small stream and according to published flood mapping is located on the fringe of Flood Zone 3 the 1 in 100 year flood zone.

1.4. Flood mapping has been obtained from the EA website and the Partnership for Urban South Hampshire (PUSH) website.

1.5. We have included the following information in this report:

- Photographs of the existing site.
- Levels of the site to Ordnance Datum
- An assessment of routes for access for emergency vehicles
- A strategy for the foul and surface water drainage of the proposed development
- Residual Risk recommendation

2. Topography: (Levels in metres AOD.)

2.1. The site has an area of 0.23 hectares.

2.2. The land around the house varies from 19.27 on the north side to 18.95 on the south. The first part of the garden to the rear falls gently by 500 mm in 32 m and then falls steeply to 16.6 which is the general level of the rear part of the garden.

2.3. The floor level of the existing house is 19.32 and this is the proposed level for the extensions.

3. Flood Risks:

3.1. In Appendix F we have summarised the risks in accordance with the Environment Agency's standard pro-forma.

3.2. Flooding from Rivers:

3.2.1. The Environment Agency flood risk plan shows the site to be partly within Flood Zone 3.

3.2.2. The nearest watercourse is an unnamed tributary of the River Hamble. The catchment at this point is small at only 2.0 sq. km. with a drainage path of less than 3 km. The predicted 100 year flood using the Revitalised rainfall method is only 2.5 cumecs. Due to the nature of the catchment which is small and heavily urbanised any flooding is likely to be of short duration. Because of the small size of the catchment and the low lying flood storage in the rear garden our assessment is that the house is at low risk of flooding. The flooding shown on the published mapping is likely to be restricted to the rear garden.

3.3. Flooding from Land:

3.3.1. The topography of the site is falling from north to south and west to east any surface runoff will be channelled away from the house.

3.4. Flooding from Ground Water:

3.4.1. The house is elevated above the garden to the east and groundwater is unlikely to be a problem.

3.5. Flooding from Sewers:

3.5.1. We are unaware of any instances of sewer flooding in this area and none are reported in the SFRA.

4. Emergency Access Route:

4.1. Planning Guidelines ask that consideration should be given to access for emergency vehicles during an extreme flood event. In this case the main road access lies outside Flood Zone 2 the 1 in 1000 year flood ..

5. **Foul Water Drainage Strategy:**

5.1. The proposed extension will not increase flows to the foul sewer

6. Surface Water Drainage Strategy:

6.1. The surface water run-off from the proposed development will be designed in accordance with Sustainable Urban Drainage System (SUDS) guidelines.

.

7. Land Drainage Consent (Flood Defence Consent):

7.1. There are no proposed works within 8 m of the watercourse. It should be noted that if any were proposed Flood Risk Consent may be required.

8. Residual Risk and Mitigation

8.1. The only flood risk identified is fluvial flooding from the small stream. The following measures should be adopted as mitigation against any flood risk.

A: The floor levels should be no lower than the existing building.

B: Construction should be traditional not timber framed

C: Floors should be of concrete construction.

D: There should be a good connection between the damp proof membrane and the damp proof course.

9. Exception & Sequential Tests:

9.1. These tests are not normally considered applicable to small domestic extensions.

10. Conclusions & Recommendations:

10.1 The proposal is for small improvements to an existing property. The site is shown on flood mapping to be at risk from fluvial flooding but it is clear that the garden at the rear is considerably lower than the house and it is probable that any flooding which has occurred was in this area. The catchment of the stream is small and any flooding is likely to be of short duration and is unlikely to affect the house.

10.2 Our conclusion is that the proposed extension is safe and will have no impact on flood levels upstream or downstream.

10.3 The construction should adhere to the recommendations in paragraph 8.1 above.

G. Willett



R J Salinger B.Eng. C.Eng. MICE



Appendix A

Topographical Survey & Site Plan

x
19.800
(manhole)

MISSENDEN ACRES

48

42

50

GRANGE ROAD

x
19.330

proposed patio area

various mature hedgerow

proposed conservatory

proposed extension

x
19.270

existing roof outline

x
19.320
FFL

WEST LODGE

x
19.230

x
19.348

x
18.990

x
18.675

x
18.955

proposed entrance
improvement

existing laurel hedge

proposed detached garage
max 30m² with a pitched
roof max 4m to ridge.
NO PLANNING REQUIRED

x
19.120

x
18.570

x
18.140

x
18.445

x
18.960

x
18.395
(top of bridge)

Site Layout – 1:200

0m 10 20

5 15 25m

NORTH

x
18.445

x
17.030

x
18.275

mature oak and
beech woodland

water level in stream

x
16.200

x
16.875

x
16.600

x
16.670

WEST LODGE



Location Plan – 1:1250

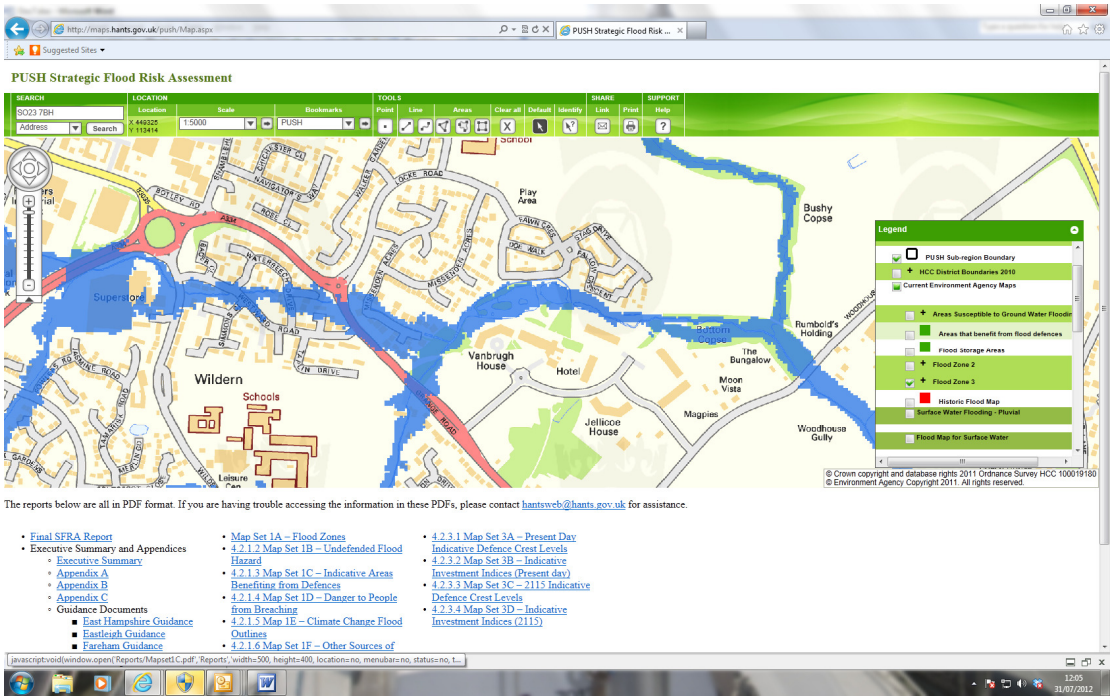
A - 15/08/12 - Levels added

JOB TITLE:				
West Lodge Grange Road Hedge End	**PROPOSED SITE LAYOUT - LOCATION PLAN**	SCALE: 1:200 A1 SHEET	DATE: 02/06/12	DRAWN BY: AP
		JOB REFERENCE: W/Lodge	DRAWING NO: 01	REVISION: A

Appendix B

SFRA
Flood Map

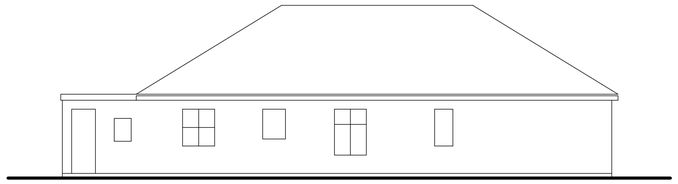
Appendix C

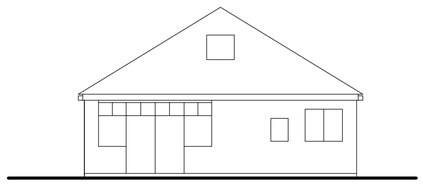


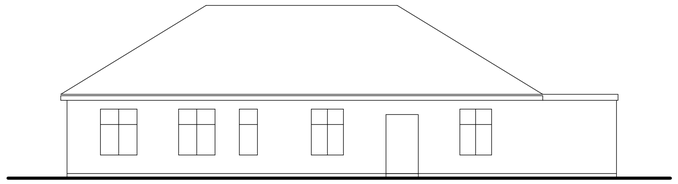
The reports below are all in PDF format. If you are having trouble accessing the information in these PDFs, please contact hantsweb@hants.gov.uk for assistance.

- Final SFRA Report
- Executive Summary and Appendices
  - Executive Summary
  - Appendix A
  - Appendix B
  - Appendix C
  - Guidance Documents
    - East Hampshire Guidance
    - Eastleigh Guidance
    - Fareham Guidance
- Map Set 1A – Flood Zones
- 4.2.1.2 Map Set 1B – Undefended Flood Hazard
- 4.2.1.3 Map Set 1C – Indicative Areas Benefiting from Defences
- 4.2.1.4 Map Set 1D – Danger to People from Breaching
- 4.2.1.5 Map 1E – Climate Change Flood Outlines
- 4.2.1.6 Map Set 1F – Other Sources of
- 4.2.3.1 Map Set 3A – Present Day Indicative Defence Crest Levels
- 4.2.3.2 Map Set 3B – Indicative Investment Indices (Present day)
- 4.2.3.3 Map Set 3C – 2115 Indicative Defence Crest Levels
- 4.2.3.4 Map Set 3D – Indicative Investment Indices (2115)

Appendix C
Plan of Proposed Extension



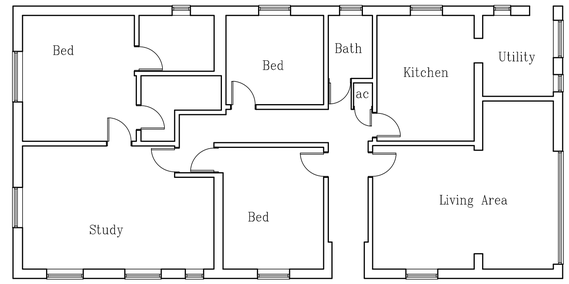


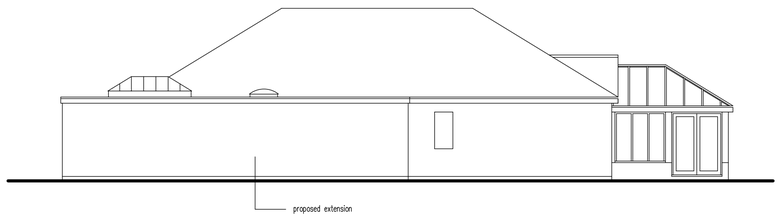




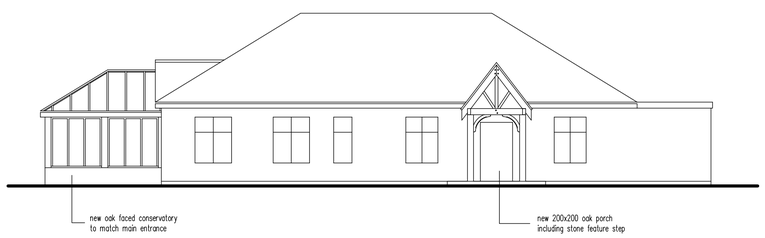
EXISTING

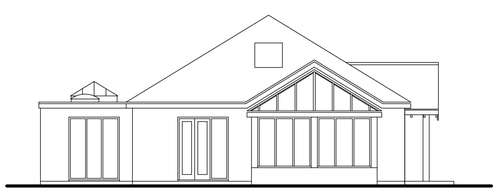




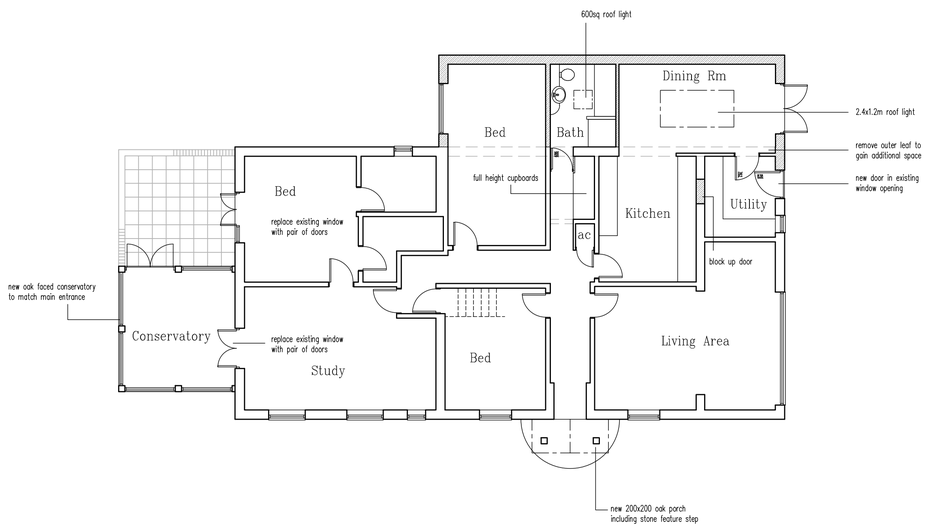








PROPOSED



JOB TITLE:

West Lodge
Grange Road
Hedge End

PROPOSED ALTERATIONS - FLOOR PLANS & ELEVATIONS

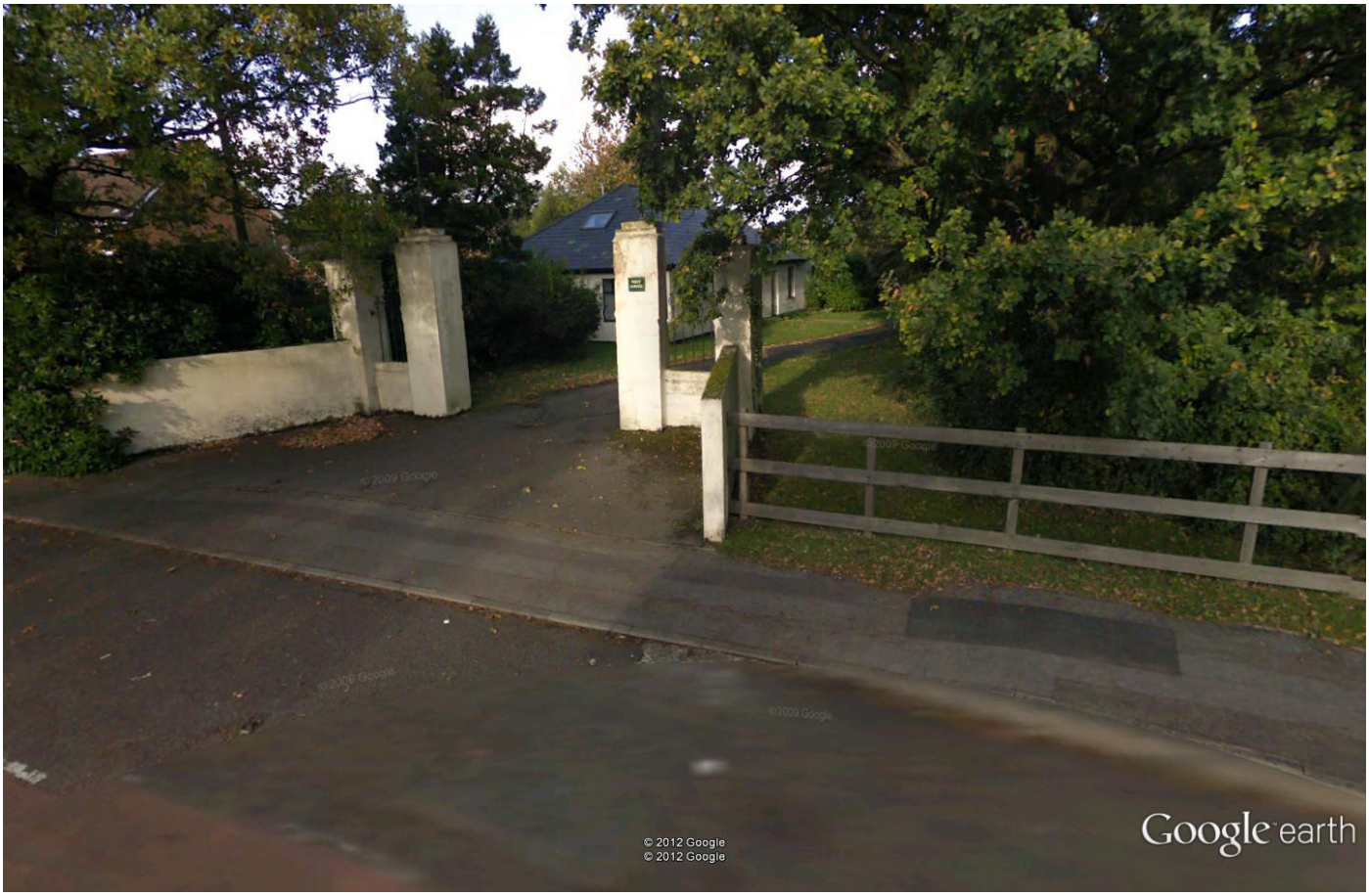
SCALE:	DATE:	DRAWN BY:
1:100 A1 SHEET	02/06/12	AP
JOB REFERENCE:	DRAWING NO:	REVISION:
W/Lodge	02	

Appendix D
Aerial Photograph



Google earth

feet 300
meters 100



Google earth

feet 9
meters 2

Appendix E
E.A Pro -Forma

1a The proposed development is an extension to a bungalow

1b *What is the vulnerability classification?*
As a dwellingified as "more vulnerable".

1c *Is the proposed development consistent with the Local Development Documents?*
The site is consistent with the LDD

1d *Provide evidence that the Sequential Test or Exception Test has been applied in the selection of this site for this development type.*
Not required small domestic extension.

2. Definition of Flood Hazards:

2a *What sources of flooding could affect the site?*
From Annex C (PPS 25):
C4 - Flooding from Rivers
C6 - Flooding from Land
C7 - Flooding from Ground
C8 - Flooding from the local Sewers.

2b *For each identified source, describe how flooding will occur, with reference to any historic records where available.*

Flooding from Rivers:
See section 3.2
Flooding from Land:
See section 3.3
Flooding from Ground:
See section 3.4
Flooding from Sewers:
See section 3.5

2c *What are the existing surface water drainage arrangements for the site?*
See section 6.1

3. Probability:

3a *Which Flood Zone is the site within?*
The site is partly in Zone 3 .

3b *If there is a Strategic Flood Risk Assessment covering the site, what does it show?*
The SFRA shows the site to be partly in Zone 3.

3c *What is the probability of the site flooding, taking account of the SFRA and any further site specific assessment?*
Low except the rear garden which is high.

3d *What are the existing rates and volumes of run-off generated by the site?*
Samll extension little change .

4. Climate Change:

4a *How is flood risk at the site likely to be affected by climate change?*
slight increase in risk from climate change.

5. Detailed Development Proposals:

5a *Please provide details of the development layout, referring to relevant drawings.*
Refer to APPENDIX C.

5b *Where appropriate, demonstrate how land-uses most sensitive to flood damage have been placed in areas within the site that are at least risk of flooding.*
Extension is on the north away from the stream.

6. Flood Risk Management Measures:

6a *How will the site be protected from flooding, including the potential impacts of climate change, over the development's lifetime?*
The house is unlikely to flood but as a precaution certain mitigation measures are recommended in paragraph 8.0.

7. Off site Impacts:

7a *How will you ensure that your proposed development and the measures to protect your site from flooding will not increase flood risk elsewhere?*
This is a small extension with negligible impact..

7b *How will you prevent run-off from the completed development causing an impact elsewhere?*
By utilising SUDS techniques for roof drainage..

8. Residual Risk

8a *What flood-related risks will remain after you have implemented the measures to protect the site from flooding?*
See section 8.0

8b *How, and by whom, will these risks be managed over the lifetime of the development?*
By the property owner.

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