Severn Estuary Shoreline Management Plan Review

Appendix H: Economic Appraisal

ATKINS

Shoreline Management Plan Review (SMP2)

Appendix H: Economic Appraisal

December 2010

Notice

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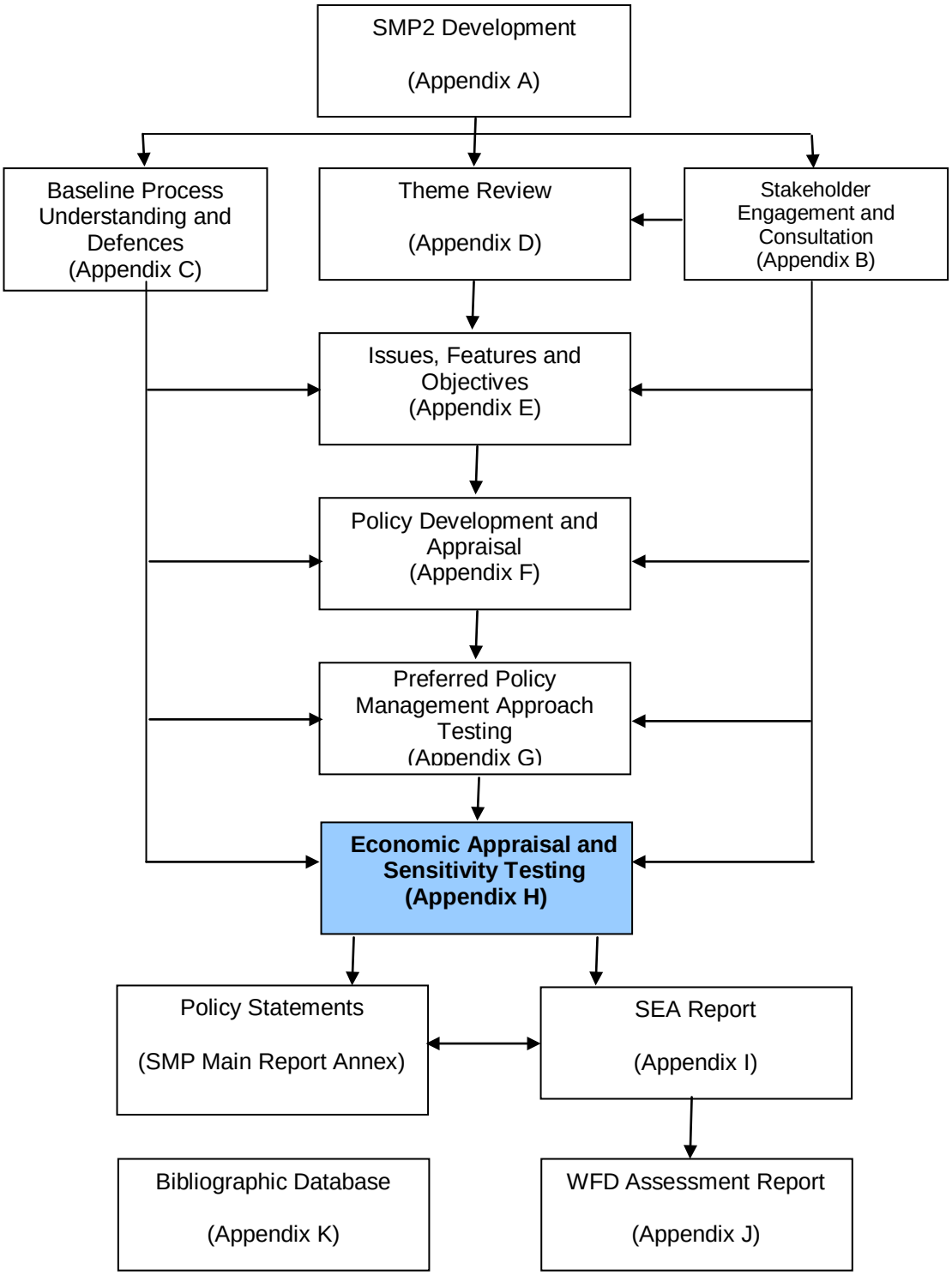
Supporting Appendices

Information required to support the Severn Estuary Shoreline Management Plan Review (SMP2) is provided in the following appendices. These supporting documents offer transparency to the decision making process that is undertaken, leading to explanations and reasoning for the promoted policies.

The information presented in each appendix is supported and guided by other appendices; the broad relationships between the appendices are illustrated overleaf.

A: SMP2 Development	The history, structure and development of the SMP are detailed in this report. The investigation and decision making process are explained more fully to outline the procedure to setting policy.
B: Stakeholder Engagement and Consultation	Stakeholder communication is continuous through the SMP2 process, comments on the progress of the management plan are recorded within Appendix B.
C: Baseline Understanding of Coastal Behaviour and Dynamics, Coastal Defences and Baseline Scenario Report	This report includes detail of coastal dynamics, defence data and shoreline scenario assessments of NAI (No Active Intervention – defences are not maintained, repaired or replaced allowing the shoreline to evolve more naturally) and With Present Management (WPM) i.e.: SMP1 Policy.
D: Theme Review	The identification and evaluation of the natural landscape and conservation, the historic environment and present and future land use of the shoreline.
E: Issues, Features and Objectives	The features of the shoreline are listed within this report. A series of strategic objectives are then set along with commentary on the relative importance of each feature identified.
F: Policy Development and Appraisal	Presents the consideration of generic policy options for each frontage identifying possible acceptable policies and their combination into 'Management Approaches' for testing. Also presents the appraisal of impacts upon shoreline evolution and the appraisal of objective achievement.
G: Preferred Policy Scenario Testing	Presents the policy assessment of appraisal of objective achievement towards definition of the Preferred Plan (as presented in the Shoreline Management Plan document).
H: Economic Appraisal and Sensitivity Testing	**Presents the economic analysis undertaken in support of the Preferred Plan.**
I: Strategic Environmental Assessment Report	Presents the various items undertaken in developing the Plan that specifically relate to the requirements of the EU Council Directive 2001/42/EC (the Strategic Environmental Assessment Directive), such that all of this information is readily accessible in one document. This includes work to help towards a Habitat Regulatory Assessment (HRA).
J: Water Framework Assessment Report	Provides a retrospective assessment of the policies defined under the Severn Estuary SMP2 highlighting future issues for consideration at policy implementation stage.
K: Bibliographic Database	All supporting information used to develop the SMP is referenced for future examination and retrieval.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Acronyms and Abbreviations

Term	Definition
AA	Appropriate Assessment.
AONB	Area of Outstanding Natural Beauty.
ASERA	Association of Severn Estuary Relevant Authorities
ATL	Advance the Line
BCCPA	Bristol Channel Counter Pollution Association
CAPE	Community Adaptation Planning and Engagement
CCW	Countryside Council for Wales
CD	Chart Datum.
CFMP	Catchment Flood Management Plan
CPSE	Coast Protection Survey England
CSG	Client Steering Group, principal decision-making body for the Shoreline Management Plan = Severn Estuary Coastal Group (SECG)
CV	Capital Value. The actual value of costs or benefits.
DEFRA	Department for Food, Environment and Rural Affairs.
EA	Environment Agency, may also be referred to as 'The Agency'
EH	English Heritage
EMF	Elected Members Forum (SMP2), comprising an Elected Member from each of the Local Authorities
FCDPAG3	Flood and Coastal Defences Project Appraisal Guidance
FCS	Favourable Conservation Status
GCR	Geological Conservation Review site
GIS	Geographic Information System
HAT	Highest Astronomical Tide
HER	Historic Environment Record
HLT	High Level Target
HRA	Habitats Regulations Assessment
HTL	Hold the Line

Term	Definition
ICZM	Integrated Coastal Zone Management
IROPI	Imperative Reasons of Over-riding Public Interest
JAC	Joint Advisory Committee (of the Severn Estuary Partnership)
KSG	Key Stakeholder Group, which acts as a focal point for discussion and consultation through development of the SMP
LAT	Lowest Astronomical Tide
MAFF	Ministry of Agriculture Fisheries and Food (now DEFRA)
MHWN	Mean High Water Neap tide
MHWS	Mean High Water Spring tide
MLWN	Mean Low Water Neap tide
MLWS	Mean Low Water Spring tide
MR	Managed Realignment
MSL	Mean Sea Level
MU	Management Unit
NAI	No Active Intervention
NE	Natural England
NFDCC	National Flood and Coastal Defence Database
NMR	National Monuments Record
NT	National Trust
ODPM	Office of the Deputy Prime Minister
PMG	Project Management Group
PPG	Planning Policy Guidance
PSA	Public Service Agreement
PU	Policy Unit
QRG	Quality Review Group
RBMP	River Basin Management Plan
RCZAS	Rapid Coastal Zone Assessment Survey
SAC	Special Area of Conservation
SCOPAC	Standing Conference on Problems Associated with the Coast

Term	Definition
SEA	Strategic Environmental Assessment
SECG	Severn Estuary Coastal Group = Client Steering Group (CSG)
SEFRMS	Severn Estuary Flood Risk Management Strategy
SEP	Severn Estuary Partnership
SESMP2	Severn Estuary Shoreline Management Plan Review
SMP	Shoreline Management Plan
SMP1	A first-round Shoreline Management Plan
SMP2	A second-round Shoreline Management Plan
SMR	Sites and Monuments Record
SoP	Standard of Protection
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WAG	Welsh Assembly Government
WFD	Water Framework Directive
WPM	With Present Management

1. Introduction

A review of the economic viability of the preferred plan for each policy unit has been carried out. This economic analysis adheres to the approach recommended in the SMP2 Procedural Guidance.

It should be noted that further detailed economic analysis will be undertaken as part of the Severn Estuary Flood Risk Management Study (SEFRMS) to help justify any specific scheme. This shall be in line with the principles as set out in Defra's Flood and Coastal Defence Project Appraisal Guidance Note 3: Economic Appraisal (FCDPAG3), which has also been adopted by WAG.

This economic review is a top level economic assessment which aims to assess whether or not each policy is:

- Clearly economically viable;
- Clearly not economically viable;
- Of marginal viability.

The aim of this review is to determine to what degree the preferred policy may be justified in economic terms relating to coast protection or flood defence. It must also be recognised that the justification for a particular policy is not necessarily dependant on economic viability alone, as impacts on other benefits may be considered more important (i.e. internationally / nationally designated habitats). Any policies where this is the case may not be considered economically efficient under current treasury guidance.

The following sections detail how the economic assessment was undertaken. This is followed by a series of economic statements for each policy unit or linked policy units, and spreadsheets providing the numerical analysis performed as part of the SMP.

A discussion of sensitivity is provided together with an identification of the approach to assessing the future costs of schemes or maintenance.

1.1 Post-consultation amendments

It should be noted that the assessments made in this Appendix are those undertaken to prepare the draft SMP2 prior to the public consultation in 2009. Following the analysis of the consultation results, policy options may be changed, based on the feedback and comments received during the consultation. The policies presented in the final SMP2 document could, therefore, differ from those presented in this Appendix. Comments received and amendments made as a result of the public consultation are set out in Appendix B – Stakeholder Involvement.

2. No Active Intervention Damage Assessment

2.1 Methodology and Assumptions

The economic damage assessment has been produced in accordance with the HM Treasury Guidance, FCDPAG3 and related addendums, the Flood Hazard Research Centre's Multi-Coloured Manual (2005) and the latest Defra guidance. Performance and residual life of the flood and coastal protection defences was based on the findings of SMP2 Task 2.2 **(see Appendix C)**.

It is assumed that for No Active Intervention (NAI), once the weakest section of defence fails, total progressive failure occurs as all flood and coastal risk management activities are abandoned. No costs are incurred. Flooding (for eight Annual Exceedance Probability (AEP) events ranging from 100%to 0.1% AEP) and erosion extents (based on Task 2.2) have been used to determine damages over time, using four points in time (years 2005, 2025, 2055 and 2105). Flood extent was estimated by projecting the relevant extreme water level across the floodplain and carrying out a check on the physical limitation of flooding volumes. The damages related to erosion and flooding were assessed in a combined manner, although flooding is by far the predominant source of damage within the Severn Estuary.

2.2 Policy Unit Interactions

Some stretches of shoreline (***Policy Unit***) are linked to adjacent Policy Units because they fall within a similar shoreline behaviour unit (possessing similar landforms or coastal processes, have similar geology and have similar patterns of erosion). Some Policy Units are linked because coastal flooding in one Policy Unit would have an impact on another. ***Appendix G*** describes this inter-linked relationship in more detail.

For the purpose of the Economics assessment linked policy units have been grouped together as the impact of flooding/erosion would impact on all units within that group. When assessing the economic implications of a selected policy option for linked Policy Units, the way in which they are linked needs to be taken into account so that the choice of policy option in one does not have a negative impact on the other Policy Units to which it is linked. ***Table 1*** shows all the Policy Units in the SMP2 area and which ones are linked.

Table 1 - Shoreline interactions between Policy Units

<table>
<tr><th>Policy Unit</th><th>Geomorphological Process Linkage</th><th>Flood Cell Linkage</th><th>Combined Processes</th><th>Comments</th></tr>
<tr><td>PEN1</td><td rowspan="2">PEN1-2 linked</td><td>No linkages</td><td rowspan="2">PEN1-2 linked</td><td rowspan="2">The cliff frontage supplies sediment to Penarth beach.</td></tr>
<tr><td>PEN2</td><td>No linkages</td></tr>
<tr><td>CAR1</td><td>No linkages</td><td rowspan="2">CAR1-2 linked</td><td rowspan="5">CAR1-3, WEN1-2 linked</td><td rowspan="5">The Cardiff Flats and right bank of the River Rhymney are linked floodplains. The River Rhymney banks interact geomorphologically. The left bank of River Rhymney connects to the Wentlooge floodplain.</td></tr>
<tr><td>CAR2</td><td rowspan="4">CAR2-3, WEN1-2 linked.</td></tr>
<tr><td>CAR3</td><td rowspan="3">CAR3, WEN1-2 linked</td></tr>
<tr><td>WEN1</td></tr>
<tr><td>WEN2</td></tr>
<tr><td>NEW1</td><td rowspan="2">NEW1-2 linked</td><td rowspan="2">NEW1-2 linked</td><td rowspan="2">NEW1-2 linked</td><td rowspan="2">Tidally dominated River Usk with linkage through to the Wentlooge floodplain. River Usk left bank</td></tr>
<tr><td>NEW2</td></tr>
</table>

Policy Unit	Geomorphological Process Linkage	Flood Cell Linkage	Combined Processes	Comments
				throughout this reach is linked due to fluvial-tidal sediment transport processes.
NEW3	No linkages	No linkages	No linkages	Fluvial River Usk region.
NEW4	NEW4-5 linked	NEW4-5, CALD1 linked	NEW4-5, CALD1 linked	Tidally dominated River Usk with floodplain linkage through to the Caldicot floodplain. River Usk left bank throughout this reach is linked due to fluvial-tidal sediment transport processes.
NEW5				
CALD1	No linkages			
CALD2	No linkages	No linkages	No linkages	High ground and rocky promontories.
CALD3	No linkages	No linkages	No linkages	Self contained floodplain with promontories.
WYE1	No linkages	WYE1, 3-4 linked	WYE1, 3-4 linked	Tidally dominated River Wye with connected floodplains and hard geology banks.
WYE3	No linkages			
WYE4	No linkages			
WYE2	No linkages	No linkages	No linkages	Fluvial River Wye with no floodplain and hard geology banks..
TID1	No linkages	No linkages	No linkages	Self contained floodplains, with promontories at Beachley Point and Guscar Rocks.
TID2	No linkages	TID2, LYD1 linked	TID2, LYD1 linked	Lydney Harbour connected to Lydney floodplain.
LYD1	No linkages			
GLO1	GLO1-2 linked	No linkages	GLO1-2 linked	Tidal-fluvial region of the Severn Estuary, with left and right bank geomorphological interaction and significant meanders. Due to the increasing dominance of fluvial processes, management of flood risk has the potential to have wider impacts.
GLO2		No linkages		
GLO3	GLO3-5, SHA3-5 linked	No linkages	GLO3-5, SHA3-7 linked	
GLO4		No linkages		
GLO5		No linkages		
SHA3		SHA3-7 linked		
SHA4				
SHA5				
SHA6	SHA6-7 linked			
SHA7				
GLO6	No linkages	GLO6-8, SHA1-2 linked	GLO6-8, SHA1-2 linked	
GLO7	No linkages			
GLO8	No linkages			
SHA1	No linkages			
SHA2	No linkages			
MAI1	MAI1-6 linked	MAI1-6 linked	MAI1-6 linked	
MAI2				
MAI3				
MAI4				
MAI5				
MAI6				
SHA8	No linkages	No linkages	No linkages	Hard coastline and high ground.
SEV1	SEV1-3 linked	SEV1-6	SEV1-6	Upper Avon Levels floodplain is all

Policy Unit	Geomorphological Process Linkage	Flood Cell Linkage	Combined Processes	Comments
SEV2		linked	linked	inter-linked. Sediment transport processes are partially constrained by rocky outcrops and man-made features (Sharpness Docks, Oldbury Power Station tidal reservoir and Severn Road Bridge).
SEV3				
SEV4	No linkages			
SEV5	SEV5-6 linked			
SEV6				
BRIS1	No linkages	BRIS1-5 linked	BRIS1-5 linked	Lower Avon Levels floodplain is all inter-linked. Sediment transport processes are partially constrained by rocky outcrops and man-made features (Severn Road Bridge, Second Severn Crossing and Avonmouth Docks jetties).
BRIS2	BRIS2-3 linked			
BRIS3				
BRIS4	BRIS4-5 linked			
BRIS5				
BRIS6	No linkages	No linkages	No linkages	Self-contained floodplain with promontories.
PORT1	No linkages	No linkages	No linkages	Hard coastline and high ground.
PORT2	PORT2-4 linked	No linkages	PORT2-4 linked	Hard coastline with sediment transport links. High ground.
PORT3		No linkages		
PORT4		No linkages		
KIN2	No linkages	No linkages	No linkages	Hard coastline and high ground.
KIN1	No linkages	KIN1, 3 linked	KIN1, 3-4 linked	Somerset Levels floodplain is all inter-linked. Sediment transport processes within bays are interrupted by hard geology promontories.
KIN3	KIN3-4 linked			
KIN4		No linkages		
HOL1	No linkages	No linkages	No linkages	Hard coastline with sediment transport links. High ground.
HOL2	No linkages	No linkages	No linkages	Hard coastline with sediment transport links. High ground.

2.3 Assets at Risk

2.3.1 Property

Within the SMP2 study boundaries there are approximately 80,000 properties at risk. These comprise of an estimated 72,000 residential properties and 8,000 non-residential properties. Table 2 shows the breakdown of these properties.

Table 2 – Number of properties at risk

Linked Policy Units	Number of residential properties	Number of non-residential properties	Total
PEN1-2	Minimal	Minimal	Minimal
CAR1-3, WEN1-2	8,683	528	9,211
NEW1-2	2,599	730	3,329
NEW3	50	Minimal	50
NEW4-5, CALD1	8,944	1,170	10,114
CALD2	Minimal	Minimal	Minimal

Linked Policy Units	Number of residential properties	Number of non-residential properties	Total
CALD3	4,349	181	4530
WYE1, 3, 4	Minimal	Minimal	Minimal
WYE2	Minimal	Minimal	Minimal
TID1	Minimal	Minimal	Minimal
TID2, LYD1	1635	233	1868
GLO1-2	Minimal	Minimal	Minimal
GLO3-5, SHAR3-7	981	120	1,101
GLO6-8, SHAR1-2	102	9	111
MAI1-6	51	75	126
SHAR8	Minimal	Minimal	Minimal
SEV1-6	1,043	149	1,192
BRIS1-5	3,654	924	4,578
BRIS6	5,186	546	5,732
PORT1	Minimal	Minimal	Minimal
PORT2-4	Minimal	Minimal	Minimal
KIN2	Minimal	Minimal	Minimal
KIN1, 3-4	35,441	3,077	38,518
HOL1	Minimal	Minimal	Minimal
HOL2	Minimal	Minimal	Minimal

2.3.2 Agricultural land

The land use for over 69% of the study area is agricultural, of which the vast majority is of Grade 3 quality, with very small areas of land of Grade 1 and 5 quality; as shown in Table 3..

Table 3 – Agricultural Land Classification in the study area.

Agricultural Land Grade	Area at risk (km²)
1	2
2	27
3	347
4	56
5	1
Total	**433**

2.3.3 Transport links

There are a number of major transport links at risk, as displayed in Table 4**.**. There are also a number of smaller but critical local routes such as the B4239 and B4071 which, despite being minor roads which carry relatively low traffic volumes are locally important, the loss of which would cause a significant level of disruption to local communities.

Table 4 – Transport Infrastructure at risk

Transport link at risk	Potential length affected (km)
Mainline railway between Cardiff and Newport	24.8
B4239 (critical local route)	12.5
A455	3.8
M4	6.5
Local railway link between Chepstow and Caldicot	8.0
A48	1.3
B4071 (critical local route)	1.0
Local railway to Severn Beach	8.1
Mainline railway to Wales	2.4
A403	10.6
A5	2.2
M49	7.6
M48	1.9
A369	3.4
Mainline railway between Bristol and Exeter	6.9
A370	11.5
A371	1.3
M5	4.1

2.3.4 Recreation and Environmental Sites

Recreational benefits or losses will not be calculated since these are thought to contribute only a very small proportion of the total damages within the study area. The impact of flooding and erosion on environmental sites will be analysed in the Strategic Environmental Assessment.

2.3.5 Receptors Vulnerable to Flooding

The Environment Agency's Receptors Vulnerable to Flooding Database was interrogated to assess the potential impact on key infrastructure assets such as water treatment plants, electricity sub stations and schools. This analysis indicated that at the 0.1% AEP event in 2005 the following assets would be at risk:

- 18 telephone exchanges;
- 20 water and sewage treatment works;
- 139 schools;
- 25 railway stations;
- 538 electricity sub-stations (including small substations to major primary, grid and supergrid substations);
- 7 hospitals;
- 43 emergency response centres; and,
- 122 care homes.

2.3.6 Other

There are a number of other significant assets within the study area at risk of flooding and erosion, these include:

- The Severn Railway Tunnel;
- Major power transmission lines (275kV and 400kV) across the Gwent Levels and Somerset Levels. The Gwent Levels transmission lines provide electricity to much of South Wales from Newport to Swansea. The Somerset Levels transmission lines form part of the Hinkley Point – Melksham system.
- Avonmouth, Portbury, Portishead, Lydney, Newport and Gloucester docks.

It should also be noted that whilst the Oldbury and Hinkley Point Nuclear Power Stations are at risk of becoming isolated under the NAI scenario as defences fail and the surrounding land becomes flooded and erodes.

2.4 Valuation of Assets at Risk

2.4.1 Identification of property type

The National Property Database (NPD), provided by the Environment Agency in 2008, has been used to identify all of the residential and non-residential (NRP) properties within the flood risk area. Although a more recent edition of the NPD has been produced, this was not made available in time for inclusion in this assessment. We have therefore used the NPD provided in 2008.

Using the FOCUS property type code provided in the NPD, the property use could be looked up in the FOCUS-MCM Indicative depth-damage spreadsheet to determine its equivalent MCM code. Where no FOCUS property type code was provided for NRP a weighted average for NRP was applied.

2.4.2 Depth-damage calculations

Residential Properties

Damages for residential properties have been taken from the Flood Hazard Research Centre's (FHRC) Multi-Coloured Manual (MCM). The MCM contains depth-damage data for a range of residential and non-residential property types. This enables specific depth-damage calculations to be made according to the type and age of a property. It was considered most appropriate to use

the weighted average of residential properties to represent all residential properties in the at risk areas and to avoid the issue of social distributional impacts, as this is a high level study.

Non-Residential Properties

The depth-damage data for the NRP's is based on the figures published in the MCM. MCM data for NRP's is provided in damages per m². As a high level study, and due to the large number of properties in the study area, an average floor area for each NRP type has been calculated using statistics from the Communities and Local Government, rather than using property areas specific to each NRP provided in the NPD. The depth-damage statistics are quoted at 2005 prices; these have therefore been increased to reflect 2008 prices using the Retail Price Index (RPI) over the past 12 months (see Table 5).

Table 5 – Retail Price Index

Month / Year	RPI (CHAW)	Month / Year	RPI (CHAW)
08 / 2007	207.3	02 / 2008	211.4
09 / 2007	208	03 / 2008	212.1
10 / 2007	208.9	04 / 2008	214
11 / 2007	209.7	05 / 2008	215.1
12 / 2007	210.9	06 / 2008	216.8
01 / 2008	209.8	07 / 2008	216.5
		Average	**211.7**

2.4.3 Capital Value of residential and non-residential properties

Property capital values have been derived from those provided in the NPD, with the exception of approximately 20% of NRPs for which no capital value was provided. Capital values for these properties are based on average floorspace and rateable value figures for the south-west published by Communities and Local Government, and equivalent yields published by the Environment Agency.

2.4.4 Transport Infrastructure

Costs associated with damage to the transport network will be confined to estimating write-off values for key transport links under No Active Intervention. Given the scale of the study it was not felt appropriate to estimate losses associated with temporary disruption of transport networks. Where No Active Intervention results in significant or permanent flood or erosion risk to a traffic route, this will result in write-off of the road. It has been assumed that the cost of building a new motorway is £14 million per kilometre, and a new dual carriageway £7 million per kilometre (Hansard, 2005). The write-off value for railway lines has been derived from Chapter 6 of the MCM, a case study of damages associated with the Paddington to South Wales Inter-City rail link and Midlands regional railway which cross the Gwent Levels. In this case study it is argued that the option for re-laying the track away from flood or erosion risk would take at least 20 years and include a convoluted process of negotiating wayleaves and Acts of Parliament. Therefore, the logical response to No Active Intervention is to raise the track and armour the embankments against future slippage, and protect against wave scour. This was estimated to cost £3.6 million

per kilometre to include for track, earthworks, structures, signalling and telecommunications equipment. This study has applied the value of £3.6 million per kilometre; although it is accepted this value may underestimate the true cost at today's prices.

2.4.5 Agricultural Land

Agricultural damages have been calculated following Defra guidance, and applying average market values by agricultural grade provided in the MCM. Under NAI we have assumed that agricultural land is written off since the progressive ingress of saline water would make the land unsuitable for agriculture. Table 6 contains the market and write-off values applied in this assessment.

Table 6 – Market value of agricultural land

Agricultural Land Grade	Approximate market value (£/ha)	Write-off value (£/ha)
1	6,890	6,290
2	6,890	6,290
3	7,650	7,050
4	5,100	4,500
5	5,100	4,500

2.4.6 Other Assets

Avonmouth and Royal Portbury Docks

This assessment has utilised the Avonmouth to Aust Tidal Defence Scheme (2006) analysis to provide a write-off value for the Avonmouth and Royal Portbury Docks. Bristol Port Authority has invested over £330 million in Royal Portbury and Avonmouth Docks. It is estimated that as Royal Portbury is the newer of the two docks two-thirds of this value will have been invested there. Of the £110 million that is invested in the Avonmouth Dock it is estimated that approximately £70 million is already accounted for in the values provided by the NPD. The assumption, consequently, is that the value in the dock infrastructure is in the region of £40 million.

Major electricity transmission lines

Damages incurred from flooding of the electricity transmission lines on the Gwent levels which supply electricity to much of South Wales have been derived from Chapter 6 of the MCM, and applied in the same manner as in the Gwent Levels Foreshore Management Plan (Atkins, 2004). Damages can be separated between costs associated with disruption in the supply of electricity, and the cost of re-routing the lines under a permanent flooding scenario. For each repeat flood event (assuming an outage of 28 days), the cost to consumers in South Wales is estimated to be £49.1 million (2005 prices), whilst re-routing costs are estimated at £140 million. The total damages that would be generated across a 100 year time horizon, following a breach event, would be above the write-off value of the assets. Consequently this study has capped losses for NAI at the costs of re-routing the transmission lines. A nominal figure to cover any disruption damages has also been included in the write-off damages, assuming that supply will be disrupted for a period of 3 months at a cost of approximately £1.8 million a day, equalling to £147.3 million.

The total write-off value of £287.3 million has been split equally between the Wentlooge and Caldicot Levels.

2.4.7 Calculation of Average Annual Damages, Write-off and capping

Average annual damage (AAD) figures were calculated across the 100 year appraisal period, based on the four time horizons (2005, 2025, 2055 and 2105) with AAD's interpolated between these years. The AAD's were used to determine present value damages (PVds) over the 100 year appraisal period. Where properties are shown to have damages above their capital value, based on the discounted value of the property specific AAD over the 100 year time horizon, it has been assumed that the property should be abandoned and has been written off. The year of write-off has been taken at the point where the probability of breach or being eroded is 1 (i.e. it is a certainty).

2.4.8 Discounting

Damages were discounted using the HM Treasury recommended rates, as published in the Green Book and given in Table 7. Discounting will have the effect of reducing the value of damages that are incurred in the future.

Table 7 – Variable discount rate

Year	Discount Rate (%)
0-30	3.5
31-75	3
76-100	2.5

2.5 Economic Damages

The Present Value economic damages are summarised in Table 8. The following assumptions have been made in calculating the economic damages:

- Property threshold levels have been derived by adding 0.3m to the LiDAR ground levels;
- Flood event duration has been assumed to be less than 12 hours;
- The cost to emergency services has been included at 10.7% of the property event damages;
- A 10% increase in damages to residential building fabric has been included due to the increased costs associated with saltwater damage, as recommended by the MCM;
- Temporary accommodation costs are based on the average time out of a flooded property of 22 weeks, as stated in the MCM. The average rental value for the south-west of £495 per month, derived from the Communities and Local Government website was applied; and,
- No measure of non-residential temporary accommodation has been included.

Table 8 – Do Nothing Present Value damages

Linked Policy Units	Residential PVd (£k)	NRP PVd (£k)	Property Write-off (£k)	Total Write-off (£k)	Total PVd (£k)
PEN1-2	Minimal	Minimal	Minimal	Minimal	Minimal
CAR1-3, WEN1-2	194,852	46,795	871,440	1,157,213	568,415
NEW1-2	25,191	20,264	215,261	215,303	176,688
NEW3	Minimal	Minimal	Minimal	Minimal	1,072
NEW4-5, CALD1	53,438	92,644	1,185,865	1,462,374	1,134,868
CALD2	Minimal	Minimal	Minimal	Minimal	Minimal
CALD3	42	5,585	1,509	17,250	9,738
WYE1, 3, 4	Minimal	Minimal	Minimal	Minimal	Minimal
WYE2	Minimal	Minimal	Minimal	Minimal	Minimal
TID1	Minimal	Minimal	Minimal	Minimal	Minimal
TID2, LYD1	903	2,274	10,212	31,876	10,005
GLO1-2	Minimal	Minimal	Minimal	Minimal	Minimal
GLO3-5, SHAR3-7	75,222	5,998	64,784	135,862	123,763
GLO6-8, SHAR1-2	10,198	394	7,842	54,132	23,519
MAI1-6	2,675	4,917	3,235	18,287	18,037
SHAR8	Minimal	Minimal	Minimal	Minimal	Minimal
SEV1-6	16,023	1,300	63,093	101,648	45,722
BRIS1-5	147,901	72,916	529,116	923,709	460,533
BRIS6	206,968	19,514	45,123	78,814	268,297
PORT1	Minimal	Minimal	Minimal	Minimal	Minimal
PORT2-4	Minimal	Minimal	Minimal	Minimal	Minimal
KIN2	Minimal	Minimal	Minimal	Minimal	Minimal
KIN1, 3-4	119,195	110,310	4,554,114	4,756,904	3,172,358
HOL1	Minimal	Minimal	Minimal	Minimal	Minimal
HOL2	Minimal	Minimal	Minimal	Minimal	Minimal

2.6 Sensitivity Analysis

The critical uncertainties with respect to policy are highlighted and discussed in the Main Report of the SMP2. With respect to the economics, there is recognised uncertainty particularly in relation to erosion rates and possible timing of required works. Such uncertainty affects both the timing of

the occurrence of damages and when works might be required. As such these aspects tend to balance in the economics.

Certainly within the scope of the SMP2, to assess the likely affordability and overall sustainability of policies such issues of timing are already accounted for. Clearly in terms of actual loss and hence planning of individual situations, timing may be quite important and the SMP2 has recommended monitoring to improve information.

Where the preferred policy changes from present management, the tables that follow allow comparison of the economics associated with this change. This highlights, purely from an economic perspective, the sensitivity of decisions being made.

The sensitivity analyses below were considered in relation to the selection of preferred policies. The sensitivity analyses did not result in any preferred policies being changed.

2.6.1 Property threshold levels

Property threshold levels have been based on ground levels extracted from filtered LiDAR data for the area with an average increase of 0.3m. To test the sensitivity of the results to this assumption we have increased and decreased threshold levels by 0.3m for an example group of policy units. Table 9 contains the results of this test.

Table 9 – Threshold level sensitivity test

Linked Policy Units	Total PVd (£k) Baseline	Total PVd (£k) -0.3m threshold level	% Change	Total PVd (£k) +0.3m threshold level	% Change
TID2, LYD1	10,005	13,363	34%	8,150	-19%
BRIS6	268,297	301,945	13%	240,209	-10%

2.6.2 Standard of Protection

The Standard of Protection (SoP) of defences (i.e. the extreme event under which they would breach) can vary significantly dependent on detailed geometry and climate change predictions. To assess the likely range of variation, the SoP was varied by ±50%. The effect of the variation is summarised in Table 10 for an example group of policy units. It is apparent that the estimated economic damages are not sensitive to this level of variation in SoP.

Table 10 – SoP sensitivity test: % change in PVd

Linked Policy Units	50% reduction in SoP	50% increase in SoP
CAR1-3, WEN1-2	8	0
CALD1-3	-4	0
TID2, LYD1	-3	0
SEV1-6	6	0
BRIS1-5	9	-3
BRIS6	0	0

Linked Policy Units	50% reduction in SoP	50% increase in SoP
KIN1, 3-4	0	0

2.7 Risks to people and social vulnerability to flooding

The potential impact of flooding and erosion on communities in this study area is significant. In the 0.1% AEP event in 2008 there are an estimated 80,000 residential properties at risk of flooding, putting approximately 189,000 people at risk (based on the average of 2.36 people per household derived from the 2001 census).

As well as the distress experienced during and following flooding, people have to cope with the time, effort and cost of cleaning up and making repairs. Some people may also have the disruption of living in temporary accommodation. This can cause people to suffer from extreme stress and can result in illness. Specific groups of people will be more vulnerable than others to these effects of flooding. We have assessed how vulnerable the population is to flooding incidents by using the Flood Hazard Research Centre's Social Flood Vulnerability Index (SFVI).

The SFVI is a national dataset that covers the whole of England and Wales, and categorises vulnerability by output areas based on the latest survey information and aims to identify communities that are most vulnerable to the adverse health and social effects associated with floods. A SFVI of 1 is very low social vulnerability to flooding, whilst a SFVI of 5 is very high social vulnerability to flooding.

The factors used to define vulnerability to flooding are:

- people aged 75 and over;
- people suffering from long term limiting illnesses;
- lone parent households; and,
- financially deprived households (unemployment, overcrowding, non-car ownership, non-home owning).

The first three variables are directly available from census data. The financial deprivation is represented by the Townsend Index, which uses unemployment, overcrowding, non-car ownership and non home ownership as indicators. This index was created in the context of a "broad-scale" approach to the assessment of vulnerability and cannot be used for more detailed applications. Five resulting categories of risk are defined ranging from very low to very high vulnerability. From Table 11 there are clearly a number of areas in the study area with an SFVI rating of 4 or 5; these are predominantly found in Weston-Super-Mare, Newport, Cardiff, Aylburton, west of Gloucester and Avonmouth.

Table 11 – Social Flood Vulnerability Index

Social Flood Vulnerability Index (SFVI)	Number of Wards	Approximate total population
1	2	725
2	82	26,086
3	611	183,224
4	298	82,263
5	6	1348

2.8 Summary

Under the NAI policy a large part of the study area would suffer significant flooding with some erosion and would no longer be a viable centre for business and habitation.

The Present Value damage associated with this option over a hundred year horizon is estimated at £6 billion. Table 12 summarises the economic damage assessment. Further details of the economic damage assessment are given in Annex A.

Table 12 – Summary of damages

Economic Damage Summary	
PVd	£6,011,942k
Total write-off value	£8,953,373k
Property write-off	£7,551,594k
Infrastructure and agriculture write-off	£1,401,778k
Number of residential properties written off	41,085
Number of non-residential properties written off	5,392

3. Preferred Plan Cost Assessment

3.1 Methodology and Assumptions

Several assumptions have been made in the estimation of defence costs, as set out in the SMP2 guidance:

- Costs are calculated in line with SMP2 Procedural Guidance, Appendix C.
- An allowance for increase in maintenance and construction costs due to climate change was applied: for epoch 20-50 years costs were factored up by 1.5; for epoch 50-100 years costs factored up by 2.0.
- A 60% optimism bias has been applied to all costs to reflect uncertainty in broad level analysis at the SMP scale.
- Estimates of coastal erosion risk and coastal flood risk are made from current best knowledge and understanding (using published data up to June 2009 only).

3.2 Cost Estimates

The following Table 13 outlines the preferred plan indicative costs for the study area. Further details of the cost assessment are given in Annex B.

Table 13 – Summary of costs

Linked Policy Units	Indicative Present Value Costs (£k)
PEN1-2	508
CAR1-3, WEN1-2	24,259
NEW1-2	9,469
NEW3	417
NEW4-5, CALD1	36,673
CALD2	0
CALD3	4,763
WYE1, 3, 4	0
WYE2	0
TID1	0
TID2, LYD1	8,089
GLO1-2	1,429
GLO3-5, SHAR3-7	23,221
GLO6-8, SHAR1-2	10,455
MAI1-6	5,184
SHAR8	0

Linked Policy Units	Indicative Present Value Costs (£k)
SEV1-6	15,132
BRIS1-5	58,379
BRIS6	5,954
PORT1	0
PORT2-4	0
KIN2	0
KIN1, 3-4	15,199
HOL1	0
HOL2	0

It should be noted that there are no standard cost estimates available for the maintenance or replacement of a structure like the Cardiff Bay Barrage. Standard 'hard defences' costs have been used for the Cardiff Bay Barrage. It should be recognised that this underestimates the costs of maintaining the Cardiff Bay Barrage. An increase in costs would not, however, alter the policy option, although the BCR may alter.

4. Comparison of Costs and Benefits

4.1 Methodology and Assumptions

This SMP does not offer a full economic assessment, a formal benefit – cost ratio assessment has not been undertaken; rather, the information available has been used to review the 'robustness' of the preferred plan. It is however still useful, in comparing likely benefits and likely costs for the policies over the full 100 year period, to be able to consider these in terms of Present Value (PV). It has been assumed that

- NAI incurs no costs, although there would be some minimal expenditure required to address health and safety requirements.
- Maximum benefits are achieved i.e. all damages are avoided.

The SEFRMS will provide more specific economic detail to support any future implementation approach.

4.2 Benefit – Cost Assessment

The following Table 14 outlines the preferred plan indicative costs for the study area. It is apparent that for the majority of linked policy units, the preferred plan is clearly economically viable.

The linked policy units of PEN1-2, NEW3, CALD3, GLO6-8, SHAR1-2, MAI1-6 and SEV1-6, have indicative benefit cost ratios of below 5, which is close to marginal economic viability. Where the benefit-cost ratio (BCR) of the proposed policy option is low, schemes may be less likely to receive public funding and it may be necessary to secure funding from non-public sources.

Table 14 – Summary of BCR

Linked Policy Units	Indicative Benefit-Cost Ratio
PEN1-2	1
CAR1-3, WEN1-2	23
NEW1-2	19
NEW3	2
NEW4-5, CALD1	31
CALD2	NA
CALD3	2
WYE1, 3, 4	NA
WYE2	NA
TID1	NA
TID2, LYD1	6
GLO1-2	NA
GLO3-5, SHAR3-7	6

Linked Policy Units	Indicative Benefit-Cost Ratio
GLO6-8, SHAR1-2	4
MAI1-6	8
SHAR8	NA
SEV1-6	3
BRIS1-5	8
BRIS6	45
PORT1	NA
PORT2-4	NA
KIN2	NA
KIN1, 3-4	211
HOL1	NA
HOL2	NA

Annex A: Economic Damage Spreadsheets

								Sheet Nr.	CAR1-3, WEN1-2
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	439	857	11,158	60,275	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	221	442	3,604	5,968	**£k**	Printed	03/09/2009
		Temp Acc + Clean Up	648	1,296	10,006	14,855	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	71	139	1,579	7,088	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			1,379	2,734	26,347	88,185			
		PV Total Damage	568,415				**£k**		
		Property Write-off	1,157,214				**£k**		

		AAD Post Breach					**£ 1,157,214**	**£ -**	**£ 568,415**
Year	**Discount Factor**	**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc + Clean Up**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
		194,852	**46,795**	**64,195**	**-**	**27,451**	**-**	**-**	**-**
0	1.000	439	221	648	-	71	-	0	1379
1	0.966	436	233	682	-	74	-	0	1377
2	0.934	434	245	716	-	78	-	0	1375
3	0.902	435	256	750	-	81	-	0	1374
4	0.871	438	268	785	-	85	-	0	1373
5	0.842	445	279	819	-	89	-	0	1373
6	0.814	453	291	853	-	92	-	0	1374
7	0.786	465	303	887	-	96	-	0	1376
8	0.759	479	314	921	-	99	-	0	1378
9	0.734	497	326	955	-	103	-	0	1380
10	0.709	517	338	989	-	107	-	0	1383
11	0.685	541	349	1,023	-	110	-	0	1386
12	0.662	568	361	1,057	-	114	-	0	1390
13	0.639	598	372	1,092	-	117	-	0	1394
14	0.618	632	384	1,126	-	121	-	0	1398
15	0.597	670	396	1,160	-	125	-	0	1403
16	0.577	711	407	1,194	-	128	-	0	1407
17	0.557	756	419	1,228	-	132	-	0	1412
18	0.538	804	430	1,262	-	135	-	0	1417
19	0.520	857	442	1,296	-	139	-	0	1422
20	0.503	1,002	547	1,592	-	174	-	0	1666
21	0.486	1,160	653	1,888	-	209	-	0	1898
22	0.469	1,330	758	2,183	-	246	-	0	2119
23	0.453	1,514	864	2,478	-	283	-	0	2329
24	0.438	1,711	969	2,772	-	322	-	0	2529
25	0.423	1,921	1,074	3,066	-	361	-	0	2718
26	0.409	2,144	1,180	3,360	-	401	-	0	2897
27	0.395	2,381	1,285	3,653	-	442	-	0	3066
28	0.382	2,631	1,391	3,946	-	484	-	0	3226
29	0.369	2,895	1,496	4,238	-	527	-	0	3377
30	0.356	3,173	1,601	4,530	-	571	-	0	3518
31	0.346	3,464	1,707	4,822	-	616	-	0	3670
32	0.336	3,769	1,812	5,113	-	662	-	0	3814
33	0.326	4,088	1,918	5,404	-	708	-	0	3951
34	0.317	4,421	2,023	5,695	-	756	-	0	4082
35	0.307	4,768	2,128	5,985	-	804	-	0	4206
36	0.298	5,130	2,234	6,274	-	854	-	0	4324
37	0.290	5,505	2,339	6,564	-	904	-	0	4436
38	0.281	5,895	2,445	6,853	-	955	-	0	4542
39	0.273	6,300	2,550	7,141	-	1,008	-	0	4642
40	0.265	6,719	2,655	7,430	-	1,061	-	0	4736
41	0.257	7,152	2,761	7,717	-	1,115	-	0	4825
42	0.250	7,601	2,866	8,005	-	1,169	-	0	4908
43	0.243	8,064	2,972	8,292	-	1,225	-	0	4986
44	0.236	8,542	3,077	8,579	-	1,282	-	0	5059
45	0.229	9,035	3,182	8,865	-	1,340	-	0	5127
46	0.222	9,543	3,288	9,151	-	1,398	-	0	5191
47	0.216	10,066	3,393	9,436	-	1,458	-	0	5249
48	0.209	10,604	3,499	9,721	-	1,518	-	0	5304
49	0.203	11,158	3,604	10,006	-	1,579	1,157,214	0	240477
50	0.197	11,727	3,651	-	-	1,667	-	0	3362
51	0.192	12,311	3,699	-	-	1,756	-	0	3402
52	0.186	12,911	3,746	-	-	1,845	-	0	3440
53	0.181	13,527	3,793	-	-	1,936	-	0	3476
54	0.175	14,159	3,840	-	-	2,027	-	0	3510
55	0.170	14,806	3,888	-	-	2,119	-	0	3542
56	0.165	15,469	3,935	-	-	2,212	-	0	3571
57	0.160	16,148	3,982	-	-	2,307	-	0	3599
58	0.156	16,844	4,029	-	-	2,402	-	0	3624
59	0.151	17,555	4,077	-	-	2,498	-	0	3648
60	0.147	18,283	4,124	-	-	2,594	-	0	3670
61	0.143	19,027	4,171	-	-	2,692	-	0	3690
62	0.138	19,788	4,219	-	-	2,791	-	0	3708
63	0.134	20,565	4,266	-	-	2,890	-	0	3724
64	0.130	21,358	4,313	-	-	2,991	-	0	3738
65	0.127	22,169	4,360	-	-	3,092	-	0	3751
66	0.123	22,996	4,408	-	-	3,195	-	0	3761
67	0.119	23,840	4,455	-	-	3,298	-	0	3771
68	0.116	24,701	4,502	-	-	3,402	-	0	3778
69	0.112	25,579	4,549	-	-	3,507	-	0	3784
70	0.109	26,474	4,597	-	-	3,613	-	0	3788
71	0.106	27,387	4,644	-	-	3,720	-	0	3791
72	0.103	28,316	4,691	-	-	3,828	-	0	3792
73	0.100	29,263	4,739	-	-	3,937	-	0	3792
74	0.097	30,228	4,786	-	-	4,047	-	0	3790
75	0.094	31,210	4,833	-	-	4,157	-	0	3787
76	0.092	32,210	4,880	-	-	4,269	-	0	3802
77	0.090	33,227	4,928	-	-	4,381	-	0	3814
78	0.087	34,263	4,975	-	-	4,495	-	0	3826
79	0.085	35,316	5,022	-	-	4,609	-	0	3836
80	0.083	36,387	5,069	-	-	4,724	-	0	3846
81	0.081	37,476	5,117	-	-	4,840	-	0	3854
82	0.079	38,584	5,164	-	-	4,957	-	0	3860
83	0.077	39,710	5,211	-	-	5,075	-	0	3866
84	0.075	40,854	5,258	-	-	5,194	-	0	3871
85	0.074	42,016	5,306	-	-	5,314	-	0	3874
86	0.072	43,197	5,353	-	-	5,435	-	0	3876
87	0.070	44,397	5,400	-	-	5,557	-	0	3878
88	0.068	45,615	5,448	-	-	5,679	-	0	3878
89	0.067	46,852	5,495	-	-	5,803	-	0	3877
90	0.065	48,108	5,542	-	-	5,927	-	0	3876
91	0.063	49,383	5,589	-	-	6,052	-	0	3873
92	0.062	50,677	5,637	-	-	6,178	-	0	3869
93	0.060	51,990	5,684	-	-	6,306	-	0	3865
94	0.059	53,322	5,731	-	-	6,434	-	0	3859
95	0.057	54,674	5,778	-	-	6,563	-	0	3853
96	0.056	56,045	5,826	-	-	6,693	-	0	3846
97	0.055	57,435	5,873	-	-	6,823	-	0	3838
98	0.053	58,845	5,920	-	-	6,955	-	0	3829
99	0.052	60,274	5,968	-	-	7,088	-	0	3820
		1792355.72	309376.83	194201.86	0.00	236409.22	0	0	568415.42

								Sheet Nr.	NEW1-2
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	50	97	516	9,573	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	218	373	874	3,512	**£k**	Printed	03/09/2009
		Temp Acc	764	1,315	2,772	4,914	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	29	50	149	1,400	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			1,061	1,836	4,311	19,399			
		PV Total Damage	176,688				**£k**		
		Property Write-off	215,303				**£k**		

			AAD Post Breach					**£ 215,303**	**£ -**	**£ 176,688**
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
			25,191	**20,264**	**14,321**	**-**	**4,921**			
0	1.000		50	218	764	-	29	-		1061
1	0.966		48	226	782	-	30	-		1049
2	0.934		47	235	801	-	31	-		1039
3	0.902		46	243	821	-	32	-		1030
4	0.871		46	251	843	-	33	-		1022
5	0.842		46	259	867	-	34	-		1015
6	0.814		47	267	891	-	36	-		1009
7	0.786		48	275	917	-	37	-		1003
8	0.759		49	284	944	-	38	-		998
9	0.734		51	292	972	-	39	-		994
10	0.709		54	300	1,002	-	40	-		989
11	0.685		57	308	1,032	-	41	-		985
12	0.662		60	316	1,064	-	42	-		981
13	0.639		64	324	1,097	-	44	-		977
14	0.618		68	333	1,131	-	45	-		974
15	0.597		73	341	1,166	-	46	-		970
16	0.577		78	349	1,202	-	47	-		967
17	0.557		84	357	1,239	-	48	-		963
18	0.538		90	365	1,277	-	49	-		959
19	0.520		97	373	1,316	-	50	215,303		112947
20	0.503		104	390	-	-	54			275
21	0.486		112	407	-	-	57			279
22	0.469		120	423	-	-	60			283
23	0.453		129	440	-	-	63			287
24	0.438		138	457	-	-	67			290
25	0.423		147	474	-	-	70			292
26	0.409		157	490	-	-	73			295
27	0.395		168	507	-	-	77			297
28	0.382		178	524	-	-	80			298
29	0.369		190	540	-	-	83			300
30	0.356		202	557	-	-	86			301
31	0.346		214	574	-	-	90			304
32	0.336		227	591	-	-	93			306
33	0.326		240	607	-	-	96			308
34	0.317		254	624	-	-	100			309
35	0.307		268	641	-	-	103			311
36	0.298		283	657	-	-	106			312
37	0.290		298	674	-	-	109			313
38	0.281		314	691	-	-	113			314
39	0.273		330	707	-	-	116			315
40	0.265		346	724	-	-	119			315
41	0.257		363	741	-	-	123			316
42	0.250		381	758	-	-	126			316
43	0.243		399	774	-	-	129			316
44	0.236		417	791	-	-	132			316
45	0.229		436	808	-	-	136			315
46	0.222		455	824	-	-	139			315
47	0.216		475	841	-	-	142			314
48	0.209		496	858	-	-	146			314
49	0.203		516	874	-	-	149			313
50	0.197		697	927	-	-	174			355
51	0.192		879	980	-	-	199			394
52	0.186		1,060	1,033	-	-	224			431
53	0.181		1,241	1,085	-	-	249			465
54	0.175		1,422	1,138	-	-	274			497
55	0.170		1,603	1,191	-	-	299			526
56	0.165		1,784	1,244	-	-	324			554
57	0.160		1,965	1,296	-	-	349			579
58	0.156		2,146	1,349	-	-	374			603
59	0.151		2,328	1,402	-	-	399			624
60	0.147		2,509	1,455	-	-	424			644
61	0.143		2,690	1,507	-	-	449			662
62	0.138		2,871	1,560	-	-	474			679
63	0.134		3,052	1,613	-	-	499			694
64	0.130		3,233	1,666	-	-	524			707
65	0.127		3,414	1,718	-	-	549			719
66	0.123		3,595	1,771	-	-	574			730
67	0.119		3,777	1,824	-	-	599			740
68	0.116		3,958	1,877	-	-	624			748
69	0.112		4,139	1,929	-	-	649			756
70	0.109		4,320	1,982	-	-	674			762
71	0.106		4,501	2,035	-	-	699			767
72	0.103		4,682	2,088	-	-	724			772
73	0.100		4,863	2,140	-	-	749			775
74	0.097		5,044	2,193	-	-	774			777
75	0.094		5,226	2,246	-	-	799			779
76	0.092		5,407	2,299	-	-	824			784
77	0.090		5,588	2,351	-	-	850			788
78	0.087		5,769	2,404	-	-	875			792
79	0.085		5,950	2,457	-	-	900			794
80	0.083		6,131	2,510	-	-	925			797
81	0.081		6,312	2,562	-	-	950			798
82	0.079		6,493	2,615	-	-	975			799
83	0.077		6,675	2,668	-	-	1,000			800
84	0.075		6,856	2,721	-	-	1,025			800
85	0.074		7,037	2,773	-	-	1,050			799
86	0.072		7,218	2,826	-	-	1,075			798
87	0.070		7,399	2,879	-	-	1,100			797
88	0.068		7,580	2,932	-	-	1,125			795
89	0.067		7,761	2,984	-	-	1,150			793
90	0.065		7,942	3,037	-	-	1,175			791
91	0.063		8,124	3,090	-	-	1,200			788
92	0.062		8,305	3,143	-	-	1,225			785
93	0.060		8,486	3,195	-	-	1,250			781
94	0.059		8,667	3,248	-	-	1,275			777
95	0.057		8,848	3,301	-	-	1,300			773
96	0.056		9,029	3,354	-	-	1,325			769
97	0.055		9,210	3,406	-	-	1,350			764
98	0.053		9,391	3,459	-	-	1,375			760
99	0.052		9,573	3,512	-	-	1,400			754
			266310.26	135861.96	20127.40	0.00	43173.91			176688.45

								Sheet Nr.	NEW4-5, CALD1
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	85	161	2,998	17,579	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	1,638	2,611	4,703	5,970	**£k**	Printed	03/09/2009
		Temp Acc + Clean Up	11,106	18,544	20,349	21,712	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	184	297	824	2,520	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			13,014	21,612	28,873	47,781			
		PV Total Damage	1,134,868				**£k**		
		Property Write-off	1,462,374				**£k**		

			AAD Post Breach					**£ 1,462,374**	**£ -**	**£ 1,134,868**
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc + Clean Up**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
			53,438	**92,644**	**211,537**	**-**	**16,586**			
0	1.000		85	1,638	11,106	-	184	-		13014
1	0.966		89	1,690	11,497	-	190	-		13011
2	0.934		93	1,741	11,889	-	196	-		12994
3	0.902		97	1,792	12,280	-	202	-		12962
4	0.871		101	1,843	12,672	-	208	-		12918
5	0.842		105	1,894	13,063	-	214	-		12863
6	0.814		109	1,946	13,455	-	220	-		12796
7	0.786		113	1,997	13,846	-	226	-		12719
8	0.759		117	2,048	14,238	-	232	-		12632
9	0.734		121	2,099	14,629	-	238	-		12537
10	0.709		125	2,150	15,021	-	243	-		12434
11	0.685		129	2,201	15,412	-	249	-		12324
12	0.662		133	2,253	15,804	-	255	-		12206
13	0.639		137	2,304	16,195	-	261	-		12083
14	0.618		141	2,355	16,587	-	267	-		11954
15	0.597		145	2,406	16,978	-	273	-		11820
16	0.577		149	2,457	17,370	-	279	-		11681
17	0.557		153	2,509	17,761	-	285	-		11538
18	0.538		157	2,560	18,153	-	291	-		11392
19	0.520		161	2,611	18,544	-	297	1,462,374		771904
20	0.503		184	2,681	-	-	314			1598
21	0.486		212	2,750	-	-	332			1600
22	0.469		245	2,820	-	-	349			1602
23	0.453		283	2,890	-	-	367			1604
24	0.438		326	2,960	-	-	384			1607
25	0.423		374	3,029	-	-	402			1610
26	0.409		426	3,099	-	-	420			1613
27	0.395		484	3,169	-	-	437			1615
28	0.382		546	3,238	-	-	455			1618
29	0.369		614	3,308	-	-	472			1620
30	0.356		686	3,378	-	-	490			1622
31	0.346		763	3,448	-	-	508			1632
32	0.336		846	3,517	-	-	525			1642
33	0.326		933	3,587	-	-	543			1651
34	0.317		1,025	3,657	-	-	560			1659
35	0.307		1,122	3,726	-	-	578			1668
36	0.298		1,224	3,796	-	-	595			1676
37	0.290		1,331	3,866	-	-	613			1683
38	0.281		1,443	3,936	-	-	631			1690
39	0.273		1,559	4,005	-	-	648			1696
40	0.265		1,681	4,075	-	-	666			1702
41	0.257		1,808	4,145	-	-	683			1708
42	0.250		1,939	4,215	-	-	701			1713
43	0.243		2,075	4,284	-	-	718			1717
44	0.236		2,217	4,354	-	-	736			1721
45	0.229		2,363	4,424	-	-	754			1724
46	0.222		2,514	4,493	-	-	771			1727
47	0.216		2,670	4,563	-	-	789			1729
48	0.209		2,832	4,633	-	-	806			1731
49	0.203		2,998	4,703	-	-	824			1732
50	0.197		3,168	4,728	-	-	858			1727
51	0.192		3,344	4,753	-	-	892			1722
52	0.186		3,525	4,779	-	-	926			1716
53	0.181		3,711	4,804	-	-	960			1710
54	0.175		3,901	4,829	-	-	993			1704
55	0.170		4,097	4,855	-	-	1,027			1698
56	0.165		4,297	4,880	-	-	1,061			1691
57	0.160		4,503	4,905	-	-	1,095			1685
58	0.156		4,713	4,931	-	-	1,129			1678
59	0.151		4,928	4,956	-	-	1,163			1670
60	0.147		5,149	4,981	-	-	1,197			1663
61	0.143		5,374	5,007	-	-	1,231			1655
62	0.138		5,604	5,032	-	-	1,265			1647
63	0.134		5,839	5,058	-	-	1,299			1638
64	0.130		6,079	5,083	-	-	1,333			1629
65	0.127		6,323	5,108	-	-	1,367			1620
66	0.123		6,573	5,134	-	-	1,401			1611
67	0.119		6,828	5,159	-	-	1,434			1602
68	0.116		7,088	5,184	-	-	1,468			1592
69	0.112		7,352	5,210	-	-	1,502			1582
70	0.109		7,622	5,235	-	-	1,536			1572
71	0.106		7,896	5,260	-	-	1,570			1562
72	0.103		8,175	5,286	-	-	1,604			1551
73	0.100		8,459	5,311	-	-	1,638			1540
74	0.097		8,749	5,336	-	-	1,672			1529
75	0.094		9,043	5,362	-	-	1,706			1518
76	0.092		9,342	5,387	-	-	1,740			1514
77	0.090		9,646	5,412	-	-	1,774			1509
78	0.087		9,955	5,438	-	-	1,808			1505
79	0.085		10,268	5,463	-	-	1,841			1500
80	0.083		10,587	5,489	-	-	1,875			1495
81	0.081		10,911	5,514	-	-	1,909			1489
82	0.079		11,239	5,539	-	-	1,943			1484
83	0.077		11,573	5,565	-	-	1,977			1478
84	0.075		11,911	5,590	-	-	2,011			1472
85	0.074		12,255	5,615	-	-	2,045			1466
86	0.072		12,603	5,641	-	-	2,079			1459
87	0.070		12,956	5,666	-	-	2,113			1453
88	0.068		13,314	5,691	-	-	2,147			1446
89	0.067		13,677	5,717	-	-	2,181			1439
90	0.065		14,045	5,742	-	-	2,215			1431
91	0.063		14,418	5,767	-	-	2,248			1424
92	0.062		14,796	5,793	-	-	2,282			1416
93	0.060		15,179	5,818	-	-	2,316			1408
94	0.059		15,567	5,843	-	-	2,350			1400
95	0.057		15,959	5,869	-	-	2,384			1392
96	0.056		16,357	5,894	-	-	2,418			1384
97	0.055		16,759	5,920	-	-	2,452			1375
98	0.053		17,167	5,945	-	-	2,486			1367
99	0.052		17,579	5,970	-	-	2,520			1358
			510586.42	420696.52	296499.24	0.00	106321.34			1134867.51

								Sheet Nr.	CALD3
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	0	0	1	28	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	2	5	435	1,063	**£k**	Printed	03/09/2009
		Temp Acc	0	0	0	3	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	0	0	47	117	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			2	5	482	1,210			
		PV Total Damage	9,738				**£k**		
		Property Write-off	17,250				**£k**		

Year	Discount Factor	Residential property AAD	Ind/commercial (direct) AAD	Temp Acc	Traffic related AAD	Emergency services AAD	Property Write-off		PV damages
		AAD Post Breach					**£ 17,250**	**£ -**	**£ 9,738**
		42	**5,585**	**2**	**-**	**605**			
0	1.000	0	2	0	-	0	-		2
1	0.966	0	2	0	-	0	-		2
2	0.934	0	2	0	-	0	-		2
3	0.902	0	2	0	-	0	-		2
4	0.871	0	2	0	-	0	-		2
5	0.842	0	3	0	-	0	-		3
6	0.814	0	3	0	-	0	-		3
7	0.786	0	3	0	-	0	-		3
8	0.759	0	3	0	-	0	-		3
9	0.734	0	3	0	-	0	-		3
10	0.709	0	3	0	-	0	-		3
11	0.685	0	3	0	-	0	-		3
12	0.662	0	4	0	-	0	-		3
13	0.639	0	4	0	-	0	-		3
14	0.618	0	4	0	-	0	-		3
15	0.597	0	4	0	-	0	-		3
16	0.577	0	4	0	-	0	-		3
17	0.557	0	4	0	-	0	-		3
18	0.538	0	4	0	-	0	-		3
19	0.520	0	5	0	-	0	-		3
20	0.503	- 0	19	0	-	2	-		11
21	0.486	- 0	33	0	-	4	-		18
22	0.469	- 0	48	0	-	5	-		25
23	0.453	- 1	62	0	-	7	-		31
24	0.438	- 1	76	0	-	8	-		37
25	0.423	- 1	91	0	-	10	-		42
26	0.409	- 1	105	0	-	11	-		47
27	0.395	- 1	119	0	-	13	-		52
28	0.382	- 1	134	0	-	14	-		56
29	0.369	- 1	148	0	-	16	-		60
30	0.356	- 1	162	0	-	17	-		64
31	0.346	- 1	177	0	-	19	-		67
32	0.336	- 1	191	0	-	20	-		71
33	0.326	- 1	205	0	-	22	-		74
34	0.317	- 1	220	0	-	24	-		77
35	0.307	- 1	234	0	-	25	-		79
36	0.298	- 1	248	0	-	27	-		82
37	0.290	- 1	263	0	-	28	-		84
38	0.281	- 1	277	0	-	30	-		86
39	0.273	- 1	291	0	-	31	-		88
40	0.265	- 1	306	0	-	33	-		90
41	0.257	- 1	320	0	-	34	-		91
42	0.250	- 0	334	0	-	36	-		92
43	0.243	- 0	349	0	-	37	-		94
44	0.236	- 0	363	0	-	39	-		95
45	0.229	- 0	377	0	-	40	-		96
46	0.222	0	392	0	-	42	-		96
47	0.216	0	406	0	-	44	-		97
48	0.209	1	420	0	-	45	-		98
49	0.203	1	435	0	-	47	17,250		3603
50	0.197	1	447	-	-	48			98
51	0.192	1	460	-	-	49			98
52	0.186	1	472	-	-	51			98
53	0.181	2	485	-	-	52			97
54	0.175	2	498	-	-	54			97
55	0.170	2	510	-	-	55			97
56	0.165	3	523	-	-	56			96
57	0.160	3	535	-	-	58			96
58	0.156	3	548	-	-	59			95
59	0.151	4	560	-	-	61			94
60	0.147	4	573	-	-	62			94
61	0.143	4	585	-	-	63			93
62	0.138	5	598	-	-	65			92
63	0.134	5	611	-	-	66			92
64	0.130	5	623	-	-	68			91
65	0.127	6	636	-	-	69			90
66	0.123	6	648	-	-	70			89
67	0.119	7	661	-	-	72			88
68	0.116	7	673	-	-	73			87
69	0.112	8	686	-	-	75			86
70	0.109	8	698	-	-	76			85
71	0.106	9	711	-	-	77			85
72	0.103	9	724	-	-	79			84
73	0.100	10	736	-	-	80			83
74	0.097	10	749	-	-	82			82
75	0.094	11	761	-	-	83			81
76	0.092	11	774	-	-	84			80
77	0.090	12	786	-	-	86			79
78	0.087	13	799	-	-	87			79
79	0.085	13	812	-	-	89			78
80	0.083	14	824	-	-	90			77
81	0.081	14	837	-	-	91			77
82	0.079	15	849	-	-	93			76
83	0.077	16	862	-	-	94			75
84	0.075	16	874	-	-	96			74
85	0.074	17	887	-	-	97			74
86	0.072	18	899	-	-	98			73
87	0.070	19	912	-	-	100			72
88	0.068	19	925	-	-	101			71
89	0.067	20	937	-	-	103			71
90	0.065	21	950	-	-	104			70
91	0.063	21	962	-	-	105			69
92	0.062	22	975	-	-	107			68
93	0.060	23	987	-	-	108			68
94	0.059	24	1,000	-	-	110			67
95	0.057	25	1,012	-	-	111			66
96	0.056	25	1,025	-	-	113			65
97	0.055	26	1,038	-	-	114			64
98	0.053	27	1,050	-	-	115			64
99	0.052	28	1,063	-	-	117			63
		579.76	44620.19	4.96	0.00	4854.12			9737.80

								Sheet Nr.	TYD2, LYD1
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	0	1	24	338	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	0	1	67	832	**£k**	Printed	03/09/2009
		Temp Acc	0	0	2	122	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	0	0	10	125	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			0	2	102	1,416			
		PV Total Damage	10,005				**£k**		
		Property Write-off	31,876				**£k**		

			AAD Post Breach					**£ 31,876**		**£ - **		**£ 10,005**
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**				**PV damages**
			903	**2,274**	**12**	**-**	**340**					
0	1.000		-	-	-	-	-	-				0
1	0.966		0	0	0	-	0	-				0
2	0.934		0	0	0	-	0	-				0
3	0.902		0	0	0	-	0	-				0
4	0.871		0	0	0	-	0	-				0
5	0.842		0	0	0	-	0	-				0
6	0.814		0	0	0	-	0	-				1
7	0.786		0	0	0	-	0	-				1
8	0.759		0	0	0	-	0	-				1
9	0.734		0	0	0	-	0	-				1
10	0.709		0	0	0	-	0	-				1
11	0.685		0	1	0	-	0	-				1
12	0.662		0	1	0	-	0	-				1
13	0.639		1	1	0	-	0	-				1
14	0.618		1	1	0	-	0	-				1
15	0.597		1	1	0	-	0	-				1
16	0.577		1	1	0	-	0	-				1
17	0.557		1	1	0	-	0	-				1
18	0.538		1	1	0	-	0	-				1
19	0.520		1	1	0	-	0	-				1
20	0.503		2	3	0	-	0	-				3
21	0.486		2	5	0	-	1	-				4
22	0.469		3	7	0	-	1	-				6
23	0.453		4	10	1	-	1	-				7
24	0.438		5	12	1	-	2	-				8
25	0.423		5	14	1	-	2	-				9
26	0.409		6	16	1	-	2	-				10
27	0.395		7	18	1	-	3	-				11
28	0.382		8	21	1	-	3	-				12
29	0.369		8	23	1	-	3	-				13
30	0.356		9	25	1	-	4	-				14
31	0.346		10	27	1	-	4	-				15
32	0.336		11	29	1	-	4	-				15
33	0.326		11	32	1	-	5	-				16
34	0.317		12	34	1	-	5	-				16
35	0.307		13	36	1	-	5	-				17
36	0.298		14	38	1	-	6	-				18
37	0.290		15	40	1	-	6	-				18
38	0.281		15	43	1	-	6	-				18
39	0.273		16	45	1	-	7	-				19
40	0.265		17	47	1	-	7	-				19
41	0.257		18	49	1	-	7	-				19
42	0.250		18	51	1	-	7	-				20
43	0.243		19	54	1	-	8	-				20
44	0.236		20	56	2	-	8	-				20
45	0.229		21	58	2	-	8	-				20
46	0.222		21	60	2	-	9	-				20
47	0.216		22	62	2	-	9	-				21
48	0.209		23	65	2	-	9	-				21
49	0.203		24	67	2	-	10	31,876				6497
50	0.197		30	82	-	-	12					24
51	0.192		36	97	-	-	14					28
52	0.186		43	113	-	-	17					32
53	0.181		49	128	-	-	19					35
54	0.175		55	143	-	-	21					38
55	0.170		61	159	-	-	24					41
56	0.165		68	174	-	-	26					44
57	0.160		74	189	-	-	28					47
58	0.156		80	204	-	-	30					49
59	0.151		87	220	-	-	33					51
60	0.147		93	235	-	-	35					53
61	0.143		99	250	-	-	37					55
62	0.138		105	266	-	-	40					57
63	0.134		112	281	-	-	42					58
64	0.130		118	296	-	-	44					60
65	0.127		124	312	-	-	47					61
66	0.123		131	327	-	-	49					62
67	0.119		137	342	-	-	51					63
68	0.116		143	357	-	-	54					64
69	0.112		149	373	-	-	56					65
70	0.109		156	388	-	-	58					66
71	0.106		162	403	-	-	60					66
72	0.103		168	419	-	-	63					67
73	0.100		175	434	-	-	65					67
74	0.097		181	449	-	-	67					68
75	0.094		187	465	-	-	70					68
76	0.092		193	480	-	-	72					69
77	0.090		200	495	-	-	74					69
78	0.087		206	510	-	-	77					69
79	0.085		212	526	-	-	79					70
80	0.083		219	541	-	-	81					70
81	0.081		225	556	-	-	84					70
82	0.079		231	572	-	-	86					70
83	0.077		237	587	-	-	88					71
84	0.075		244	602	-	-	91					71
85	0.074		250	618	-	-	93					71
86	0.072		256	633	-	-	95					71
87	0.070		263	648	-	-	97					71
88	0.068		269	663	-	-	100					71
89	0.067		275	679	-	-	102					70
90	0.065		281	694	-	-	104					70
91	0.063		288	709	-	-	107					70
92	0.062		294	725	-	-	109					70
93	0.060		300	740	-	-	111					70
94	0.059		307	755	-	-	114					69
95	0.057		313	771	-	-	116					69
96	0.056		319	786	-	-	118					69
97	0.055		325	801	-	-	121					68
98	0.053		332	816	-	-	123					68
99	0.052		338	832	-	-	125					67
			9586.81	23900.39	36.37	0.00	3583.13					10005.34

							Sheet Nr.	GLO6-8, SHAR1-2	
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	13	28	908	1,247	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	1	1	35	50	**£k**	Printed	03/09/2009
		Temp Acc	2	5	184	216	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	1	3	101	139	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			18	38	1,228	1,652			
		PV Total Damage	22,189				**£k**		
		Property Write-off	53,133				**£k**		

			AAD Post Breach					**£ 53,133**	**£ -**	**£ 22,189**		
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**		
			9,898	**394**	**-**	**-**	**1,101**	**-**	**-**	**-**		
0	1.000		13	1	-	-	1	-	0	15		
1	0.966		14	1	-	-	2	-	0	16		
2	0.934		15	1	-	-	2	-	0	16		
3	0.902		16	1	-	-	2	-	0	16		
4	0.871		16	1	-	-	2	-	0	17		
5	0.842		17	1	-	-	2	-	0	17		
6	0.814		18	1	-	-	2	-	0	17		
7	0.786		19	1	-	-	2	-	0	17		
8	0.759		19	1	-	-	2	-	0	17		
9	0.734		20	1	-	-	2	-	0	17		
10	0.709		21	1	-	-	2	-	0	17		
11	0.685		22	1	-	-	2	-	0	17		
12	0.662		23	1	-	-	3	-	0	17		
13	0.639		23	1	-	-	3	-	0	17		
14	0.618		24	1	-	-	3	-	0	17		
15	0.597		25	1	-	-	3	-	0	17		
16	0.577		26	1	-	-	3	-	0	17		
17	0.557		26	1	-	-	3	-	0	17		
18	0.538		27	1	-	-	3	-	0	17		
19	0.520		28	1	-	-	3	-	0	17		
20	0.503		57	2	-	-	6	-	0	33		
21	0.486		87	4	-	-	10	-	0	49		
22	0.469		116	5	-	-	13	-	0	63		
23	0.453		145	6	-	-	16	-	0	76		
24	0.438		175	7	-	-	19	-	0	88		
25	0.423		204	8	-	-	23	-	0	99		
26	0.409		233	9	-	-	26	-	0	110		
27	0.395		263	10	-	-	29	-	0	119		
28	0.382		292	12	-	-	32	-	0	128		
29	0.369		321	13	-	-	36	-	0	136		
30	0.356		351	14	-	-	39	-	0	144		
31	0.346		380	15	-	-	42	-	0	151		
32	0.336		409	16	-	-	46	-	0	158		
33	0.326		439	17	-	-	49	-	0	165		
34	0.317		468	18	-	-	52	-	0	170		
35	0.307		497	20	-	-	55	-	0	176		
36	0.298		527	21	-	-	59	-	0	181		
37	0.290		556	22	-	-	62	-	0	185		
38	0.281		585	23	-	-	65	-	0	189		
39	0.273		615	24	-	-	68	-	0	193		
40	0.265		644	25	-	-	72	-	0	196		
41	0.257		673	26	-	-	75	-	0	199		
42	0.250		703	28	-	-	78	-	0	202		
43	0.243		732	29	-	-	81	-	0	204		
44	0.236		761	30	-	-	85	-	0	206		
45	0.229		791	31	-	-	88	-	0	208		
46	0.222		820	32	-	-	91	-	0	209		
47	0.216		849	33	-	-	94	-	0	211		
48	0.209		879	34	-	-	98	-	0	211		
49	0.203		908	35	-	-	101	53,133	0	11008		
50	0.197		915	36	-	-	102	-	0	208		
51	0.192		921	36	-	-	102	-	0	203		
52	0.186		928	36	-	-	103	-	0	199		
53	0.181		935	37	-	-	104	-	0	194		
54	0.175		942	37	-	-	105	-	0	190		
55	0.170		949	37	-	-	105	-	0	186		
56	0.165		955	38	-	-	106	-	0	182		
57	0.160		962	38	-	-	107	-	0	178		
58	0.156		969	38	-	-	108	-	0	174		
59	0.151		976	38	-	-	109	-	0	170		
60	0.147		982	39	-	-	109	-	0	166		
61	0.143		989	39	-	-	110	-	0	162		
62	0.138		996	39	-	-	111	-	0	159		
63	0.134		1,003	40	-	-	112	-	0	155		
64	0.130		1,010	40	-	-	112	-	0	152		
65	0.127		1,016	40	-	-	113	-	0	148		
66	0.123		1,023	40	-	-	114	-	0	145		
67	0.119		1,030	41	-	-	115	-	0	141		
68	0.116		1,037	41	-	-	115	-	0	138		
69	0.112		1,044	41	-	-	116	-	0	135		
70	0.109		1,050	42	-	-	117	-	0	132		
71	0.106		1,057	42	-	-	118	-	0	129		
72	0.103		1,064	42	-	-	118	-	0	126		
73	0.100		1,071	43	-	-	119	-	0	123		
74	0.097		1,077	43	-	-	120	-	0	120		
75	0.094		1,084	43	-	-	121	-	0	118		
76	0.092		1,091	43	-	-	121	-	0	115		
77	0.090		1,098	44	-	-	122	-	0	113		
78	0.087		1,105	44	-	-	123	-	0	111		
79	0.085		1,111	44	-	-	124	-	0	109		
80	0.083		1,118	45	-	-	124	-	0	107		
81	0.081		1,125	45	-	-	125	-	0	105		
82	0.079		1,132	45	-	-	126	-	0	103		
83	0.077		1,139	45	-	-	127	-	0	101		
84	0.075		1,145	46	-	-	127	-	0	99		
85	0.074		1,152	46	-	-	128	-	0	98		
86	0.072		1,159	46	-	-	129	-	0	96		
87	0.070		1,166	47	-	-	130	-	0	94		
88	0.068		1,172	47	-	-	130	-	0	92		
89	0.067		1,179	47	-	-	131	-	0	91		
90	0.065		1,186	48	-	-	132	-	0	89		
91	0.063		1,193	48	-	-	133	-	0	87		
92	0.062		1,200	48	-	-	134	-	0	86		
93	0.060		1,206	48	-	-	134	-	0	84		
94	0.059		1,213	49	-	-	135	-	0	82		
95	0.057		1,220	49	-	-	136	-	0	81		
96	0.056		1,227	49	-	-	137	-	0	79		
97	0.055		1,234	50	-	-	137	-	0	78		
98	0.053		1,240	50	-	-	138	-	0	76		
99	0.052		1,247	50	-	-	139	-	0	75		
			68932.09	2738.97	0.00	0.00	7668.80	0	0	22189.07		

								Sheet Nr.	GLO3-5, SHAR3-7
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	45	120	6,424	11,899	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	2	7	479	1,084	**£k**	Printed	03/09/2009
		Temp Acc	17	37	1,477	1,961	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	5	14	739	1,389	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			69	178	9,119	16,334			
		PV Total Damage	123,762				**£k**		
		Property Write-off	135,863				**£k**		

			AAD Post Breach					**£ 135,863**	**£ -**	**£ 123,762**
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
			75,221	**5,997**	**6,249**	**-**	**8,690**	**-**	**-**	**-**
0	1.000		45	2	9	-	5	-	0	61
1	0.966		49	3	10	-	5	-	0	64
2	0.934		53	3	11	-	6	-	0	67
3	0.902		56	3	11	-	6	-	0	70
4	0.871		60	3	12	-	7	-	0	72
5	0.842		64	4	12	-	7	-	0	74
6	0.814		68	4	13	-	8	-	0	76
7	0.786		72	4	14	-	8	-	0	77
8	0.759		76	4	14	-	9	-	0	79
9	0.734		80	5	15	-	9	-	0	80
10	0.709		84	5	15	-	10	-	0	81
11	0.685		88	5	16	-	10	-	0	82
12	0.662		92	6	17	-	10	-	0	83
13	0.639		96	6	17	-	11	-	0	83
14	0.618		100	6	18	-	11	-	0	84
15	0.597		104	6	19	-	12	-	0	84
16	0.577		108	7	19	-	12	-	0	84
17	0.557		112	7	20	-	13	-	0	84
18	0.538		116	7	20	-	13	-	0	84
19	0.520		120	7	21	-	14	-	0	84
20	0.503		330	23	66	-	38	-	0	230
21	0.486		540	39	111	-	62	-	0	365
22	0.469		750	54	156	-	86	-	0	491
23	0.453		961	70	202	-	110	-	0	609
24	0.438		1,171	86	247	-	134	-	0	717
25	0.423		1,381	102	292	-	159	-	0	818
26	0.409		1,591	117	337	-	183	-	0	911
27	0.395		1,801	133	382	-	207	-	0	997
28	0.382		2,011	149	427	-	231	-	0	1076
29	0.369		2,222	164	472	-	255	-	0	1148
30	0.356		2,432	180	518	-	279	-	0	1215
31	0.346		2,642	196	563	-	304	-	0	1281
32	0.336		2,852	212	608	-	328	-	0	1343
33	0.326		3,062	227	653	-	352	-	0	1400
34	0.317		3,272	243	698	-	376	-	0	1453
35	0.307		3,482	259	743	-	400	-	0	1501
36	0.298		3,693	274	789	-	424	-	0	1546
37	0.290		3,903	290	834	-	449	-	0	1586
38	0.281		4,113	306	879	-	473	-	0	1623
39	0.273		4,323	322	924	-	497	-	0	1656
40	0.265		4,533	337	969	-	521	-	0	1686
41	0.257		4,743	353	1,014	-	545	-	0	1713
42	0.250		4,953	369	1,059	-	569	-	0	1737
43	0.243		5,164	384	1,105	-	594	-	0	1758
44	0.236		5,374	400	1,150	-	618	-	0	1776
45	0.229		5,584	416	1,195	-	642	-	0	1792
46	0.222		5,794	432	1,240	-	666	-	0	1805
47	0.216		6,004	447	1,285	-	690	-	0	1816
48	0.209		6,214	463	1,330	-	714	-	0	1825
49	0.203		6,424	479	1,376	-	739	135,863	0	29437
50	0.197		6,534	491	-	-	752	-	0	1534
51	0.192		6,643	503	-	-	765	-	0	1515
52	0.186		6,753	515	-	-	778	-	0	1496
53	0.181		6,862	527	-	-	791	-	0	1477
54	0.175		6,972	539	-	-	804	-	0	1457
55	0.170		7,081	551	-	-	817	-	0	1438
56	0.165		7,191	564	-	-	830	-	0	1418
57	0.160		7,300	576	-	-	843	-	0	1398
58	0.156		7,410	588	-	-	856	-	0	1379
59	0.151		7,519	600	-	-	869	-	0	1359
60	0.147		7,629	612	-	-	882	-	0	1339
61	0.143		7,738	624	-	-	895	-	0	1319
62	0.138		7,848	636	-	-	908	-	0	1299
63	0.134		7,957	648	-	-	921	-	0	1280
64	0.130		8,067	660	-	-	934	-	0	1260
65	0.127		8,176	673	-	-	947	-	0	1240
66	0.123		8,286	685	-	-	960	-	0	1221
67	0.119		8,395	697	-	-	973	-	0	1201
68	0.116		8,505	709	-	-	986	-	0	1182
69	0.112		8,614	721	-	-	999	-	0	1163
70	0.109		8,724	733	-	-	1,012	-	0	1143
71	0.106		8,833	745	-	-	1,025	-	0	1124
72	0.103		8,943	757	-	-	1,038	-	0	1105
73	0.100		9,052	769	-	-	1,051	-	0	1087
74	0.097		9,162	782	-	-	1,064	-	0	1068
75	0.094		9,271	794	-	-	1,077	-	0	1050
76	0.092		9,381	806	-	-	1,090	-	0	1036
77	0.090		9,490	818	-	-	1,103	-	0	1023
78	0.087		9,600	830	-	-	1,116	-	0	1010
79	0.085		9,709	842	-	-	1,129	-	0	997
80	0.083		9,819	854	-	-	1,142	-	0	984
81	0.081		9,928	866	-	-	1,155	-	0	971
82	0.079		10,038	879	-	-	1,168	-	0	958
83	0.077		10,147	891	-	-	1,181	-	0	945
84	0.075		10,257	903	-	-	1,194	-	0	932
85	0.074		10,366	915	-	-	1,207	-	0	919
86	0.072		10,476	927	-	-	1,220	-	0	906
87	0.070		10,585	939	-	-	1,233	-	0	894
88	0.068		10,695	951	-	-	1,246	-	0	881
89	0.067		10,804	963	-	-	1,259	-	0	869
90	0.065		10,913	975	-	-	1,272	-	0	856
91	0.063		11,023	988	-	-	1,285	-	0	844
92	0.062		11,132	1,000	-	-	1,298	-	0	832
93	0.060		11,242	1,012	-	-	1,311	-	0	819
94	0.059		11,351	1,024	-	-	1,324	-	0	807
95	0.057		11,461	1,036	-	-	1,337	-	0	795
96	0.056		11,570	1,048	-	-	1,350	-	0	784
97	0.055		11,680	1,060	-	-	1,363	-	0	772
98	0.053		11,789	1,072	-	-	1,376	-	0	760
99	0.052		11,899	1,084	-	-	1,389	-	0	749
			563786.40	47007.27	21927.59	0.00	65354.92	0	0	123761.94

								Sheet Nr.	MAI1-6
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	6	23	113	341	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	1	11	19	22	**£k**	Printed	03/09/2009
		Temp Acc	6	20	40	62	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	1	4	14	39	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			14	57	185	464			
		PV Total Damage	11,156				**£k**		
		Property Write-off	15,577				**£k**		

			AAD Post Breach					**£ 15,577**	**£ -**	**£ 11,156**
Year	**Discount Factor**	**Probability of breach in year**	**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
			1,895	**324**	**118**	**-**	**237**	**-**	**-**	**-**
0	1.000	1.00	6	1	2	-	1	999	0	1010
1	0.966	1.00	7	2	3	-	1	-	0	12
2	0.934	1.00	8	2	4	-	1	-	0	14
3	0.902	1.00	9	3	4	-	1	-	0	16
4	0.871	1.00	10	3	5	-	1	-	0	17
5	0.842	1.00	11	4	6	-	2	-	0	18
6	0.814	1.00	11	4	6	-	2	-	0	19
7	0.786	1.00	12	5	7	-	2	-	0	20
8	0.759	1.00	13	5	8	-	2	-	0	21
9	0.734	1.00	14	6	8	-	2	-	0	22
10	0.709	1.00	15	6	9	-	2	-	0	23
11	0.685	1.00	16	7	10	-	2	-	0	24
12	0.662	1.00	17	7	10	-	3	-	0	25
13	0.639	1.00	18	8	11	-	3	-	0	25
14	0.618	1.00	19	8	12	-	3	-	0	26
15	0.597	1.00	20	9	12	-	3	-	0	26
16	0.577	1.00	20	9	13	-	3	-	0	26
17	0.557	1.00	21	10	14	-	3	-	0	27
18	0.538	1.00	22	10	14	-	3	-	0	27
19	0.520	1.00	23	11	15	-	4	14,577	0	7610
20	0.503	1.00	26	11	-	-	4	-	0	21
21	0.486	1.00	29	11	-	-	4	-	0	22
22	0.469	1.00	32	11	-	-	5	-	0	23
23	0.453	1.00	35	12	-	-	5	-	0	23
24	0.438	1.00	38	12	-	-	5	-	0	24
25	0.423	1.00	41	12	-	-	6	-	0	25
26	0.409	1.00	44	12	-	-	6	-	0	26
27	0.395	1.00	47	13	-	-	6	-	0	26
28	0.382	1.00	50	13	-	-	7	-	0	27
29	0.369	1.00	53	13	-	-	7	-	0	27
30	0.356	1.00	56	14	-	-	7	-	0	27
31	0.346	1.00	59	14	-	-	8	-	0	28
32	0.336	1.00	62	14	-	-	8	-	0	28
33	0.326	1.00	65	14	-	-	8	-	0	29
34	0.317	1.00	68	15	-	-	9	-	0	29
35	0.307	1.00	71	15	-	-	9	-	0	29
36	0.298	1.00	74	15	-	-	10	-	0	29
37	0.290	1.00	77	15	-	-	10	-	0	30
38	0.281	1.00	80	16	-	-	10	-	0	30
39	0.273	1.00	83	16	-	-	11	-	0	30
40	0.265	1.00	86	16	-	-	11	-	0	30
41	0.257	1.00	89	17	-	-	11	-	0	30
42	0.250	1.00	92	17	-	-	12	-	0	30
43	0.243	1.00	95	17	-	-	12	-	0	30
44	0.236	1.00	98	17	-	-	12	-	0	30
45	0.229	1.00	101	18	-	-	13	-	0	30
46	0.222	1.00	104	18	-	-	13	-	0	30
47	0.216	1.00	107	18	-	-	13	-	0	30
48	0.209	1.00	110	18	-	-	14	-	0	30
49	0.203	1.00	113	19	-	-	14	-	0	30
50	0.197	1.00	117	19	-	-	15	-	0	30
51	0.192	1.00	122	19	-	-	15	-	0	30
52	0.186	1.00	126	19	-	-	16	-	0	30
53	0.181	1.00	131	19	-	-	16	-	0	30
54	0.175	1.00	135	19	-	-	17	-	0	30
55	0.170	1.00	140	19	-	-	17	-	0	30
56	0.165	1.00	145	19	-	-	18	-	0	30
57	0.160	1.00	149	19	-	-	18	-	0	30
58	0.156	1.00	154	19	-	-	19	-	0	30
59	0.151	1.00	158	19	-	-	19	-	0	30
60	0.147	1.00	163	19	-	-	19	-	0	30
61	0.143	1.00	167	19	-	-	20	-	0	29
62	0.138	1.00	172	19	-	-	20	-	0	29
63	0.134	1.00	177	20	-	-	21	-	0	29
64	0.130	1.00	181	20	-	-	21	-	0	29
65	0.127	1.00	186	20	-	-	22	-	0	29
66	0.123	1.00	190	20	-	-	22	-	0	29
67	0.119	1.00	195	20	-	-	23	-	0	28
68	0.116	1.00	199	20	-	-	23	-	0	28
69	0.112	1.00	204	20	-	-	24	-	0	28
70	0.109	1.00	209	20	-	-	24	-	0	28
71	0.106	1.00	213	20	-	-	25	-	0	27
72	0.103	1.00	218	20	-	-	25	-	0	27
73	0.100	1.00	222	20	-	-	26	-	0	27
74	0.097	1.00	227	20	-	-	26	-	0	27
75	0.094	1.00	232	20	-	-	27	-	0	26
76	0.092	1.00	236	20	-	-	27	-	0	26
77	0.090	1.00	241	20	-	-	28	-	0	26
78	0.087	1.00	245	20	-	-	28	-	0	26
79	0.085	1.00	250	20	-	-	29	-	0	26
80	0.083	1.00	254	21	-	-	29	-	0	25
81	0.081	1.00	259	21	-	-	30	-	0	25
82	0.079	1.00	264	21	-	-	30	-	0	25
83	0.077	1.00	268	21	-	-	31	-	0	25
84	0.075	1.00	273	21	-	-	31	-	0	25
85	0.074	1.00	277	21	-	-	32	-	0	24
86	0.072	1.00	282	21	-	-	32	-	0	24
87	0.070	1.00	286	21	-	-	33	-	0	24
88	0.068	1.00	291	21	-	-	33	-	0	24
89	0.067	1.00	296	21	-	-	34	-	0	23
90	0.065	1.00	300	21	-	-	34	-	0	23
91	0.063	1.00	305	21	-	-	35	-	0	23
92	0.062	1.00	309	21	-	-	35	-	0	23
93	0.060	1.00	314	21	-	-	36	-	0	22
94	0.059	1.00	318	21	-	-	36	-	0	22
95	0.057	1.00	323	21	-	-	37	-	0	22
96	0.056	1.00	328	21	-	-	37	-	0	22
97	0.055	1.00	332	22	-	-	38	-	0	21
98	0.053	1.00	337	22	-	-	38	-	0	21
99	0.052	1.00	341	22	-	-	39	-	0	21
			13834.33	1573.01	175.16	0.00	1648.59	0	0	11155.81

								Sheet Nr.	SEV1-6
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	46	75	1,163	2,841	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	7	8	55	347	**£k**	Printed	03/09/2009
		Temp Acc	101	109	874	1,012	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	6	9	130	341	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			160	200	2,222	4,541			
		PV Total Damage	45,722				**£k**		
		Property Write-off	101,648				**£k**		

			AAD Post Breach					**£ 101,648**	**£ -**	**£ 45,722**
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
			16,023	**1,300**	**5,892**	**-**	**1,854**	**-**	**-**	**-**
0	1.000		46	7	101	-	6	-	0	160
1	0.966		48	7	101	-	6	-	0	156
2	0.934		49	7	102	-	6	-	0	153
3	0.902		51	7	102	-	6	-	0	150
4	0.871		52	7	102	-	6	-	0	147
5	0.842		54	7	103	-	7	-	0	144
6	0.814		55	7	103	-	7	-	0	140
7	0.786		57	7	104	-	7	-	0	137
8	0.759		58	7	104	-	7	-	0	134
9	0.734		60	7	105	-	7	-	0	131
10	0.709		61	7	105	-	7	-	0	128
11	0.685		63	7	105	-	8	-	0	126
12	0.662		65	7	106	-	8	-	0	123
13	0.639		66	8	106	-	8	-	0	120
14	0.618		68	8	107	-	8	-	0	117
15	0.597		69	8	107	-	8	-	0	115
16	0.577		71	8	107	-	8	-	0	112
17	0.557		72	8	108	-	9	-	0	109
18	0.538		74	8	108	-	9	-	0	107
19	0.520		75	8	109	-	9	-	0	104
20	0.503		112	9	134	-	13	-	0	135
21	0.486		148	11	160	-	17	-	0	163
22	0.469		184	12	185	-	21	-	0	189
23	0.453		220	14	211	-	25	-	0	213
24	0.438		257	16	236	-	29	-	0	235
25	0.423		293	17	262	-	33	-	0	256
26	0.409		329	19	287	-	37	-	0	275
27	0.395		365	20	313	-	41	-	0	292
28	0.382		401	22	338	-	45	-	0	308
29	0.369		438	24	364	-	49	-	0	322
30	0.356		474	25	389	-	53	-	0	336
31	0.346		510	27	415	-	57	-	0	349
32	0.336		546	28	440	-	61	-	0	362
33	0.326		583	30	466	-	66	-	0	373
34	0.317		619	31	491	-	70	-	0	383
35	0.307		655	33	517	-	74	-	0	393
36	0.298		691	35	542	-	78	-	0	402
37	0.290		728	36	568	-	82	-	0	409
38	0.281		764	38	593	-	86	-	0	417
39	0.273		800	39	619	-	90	-	0	423
40	0.265		836	41	645	-	94	-	0	428
41	0.257		873	43	670	-	98	-	0	433
42	0.250		909	44	696	-	102	-	0	437
43	0.243		945	46	721	-	106	-	0	441
44	0.236		981	47	747	-	110	-	0	444
45	0.229		1,018	49	772	-	114	-	0	447
46	0.222		1,054	50	798	-	118	-	0	448
47	0.216		1,090	52	823	-	122	-	0	450
48	0.209		1,126	54	849	-	126	-	0	451
49	0.203		1,163	55	874	-	130	101,648	0	21104
50	0.197		1,196	61	-	-	135	-	0	275
51	0.192		1,230	67	-	-	139	-	0	275
52	0.186		1,263	73	-	-	143	-	0	275
53	0.181		1,297	79	-	-	147	-	0	275
54	0.175		1,330	84	-	-	151	-	0	274
55	0.170		1,364	90	-	-	156	-	0	274
56	0.165		1,398	96	-	-	160	-	0	273
57	0.160		1,431	102	-	-	164	-	0	272
58	0.156		1,465	108	-	-	168	-	0	271
59	0.151		1,498	114	-	-	172	-	0	270
60	0.147		1,532	119	-	-	177	-	0	268
61	0.143		1,565	125	-	-	181	-	0	267
62	0.138		1,599	131	-	-	185	-	0	265
63	0.134		1,632	137	-	-	189	-	0	263
64	0.130		1,666	143	-	-	194	-	0	261
65	0.127		1,700	149	-	-	198	-	0	259
66	0.123		1,733	154	-	-	202	-	0	257
67	0.119		1,767	160	-	-	206	-	0	255
68	0.116		1,800	166	-	-	210	-	0	252
69	0.112		1,834	172	-	-	215	-	0	250
70	0.109		1,867	178	-	-	219	-	0	247
71	0.106		1,901	184	-	-	223	-	0	245
72	0.103		1,935	189	-	-	227	-	0	242
73	0.100		1,968	195	-	-	231	-	0	239
74	0.097		2,002	201	-	-	236	-	0	237
75	0.094		2,035	207	-	-	240	-	0	234
76	0.092		2,069	213	-	-	244	-	0	232
77	0.090		2,102	219	-	-	248	-	0	230
78	0.087		2,136	224	-	-	253	-	0	229
79	0.085		2,170	230	-	-	257	-	0	227
80	0.083		2,203	236	-	-	261	-	0	225
81	0.081		2,237	242	-	-	265	-	0	223
82	0.079		2,270	248	-	-	269	-	0	221
83	0.077		2,304	254	-	-	274	-	0	219
84	0.075		2,337	259	-	-	278	-	0	217
85	0.074		2,371	265	-	-	282	-	0	215
86	0.072		2,405	271	-	-	286	-	0	213
87	0.070		2,438	277	-	-	291	-	0	211
88	0.068		2,472	283	-	-	295	-	0	208
89	0.067		2,505	289	-	-	299	-	0	206
90	0.065		2,539	294	-	-	303	-	0	204
91	0.063		2,572	300	-	-	307	-	0	202
92	0.062		2,606	306	-	-	312	-	0	200
93	0.060		2,639	312	-	-	316	-	0	197
94	0.059		2,673	318	-	-	320	-	0	195
95	0.057		2,707	324	-	-	324	-	0	193
96	0.056		2,740	329	-	-	328	-	0	191
97	0.055		2,774	335	-	-	333	-	0	188
98	0.053		2,807	341	-	-	337	-	0	186
99	0.052		2,841	347	-	-	341	-	0	184
			121250.83	11314.54	17219.16	0.00	14184.49	0	0	45722.01

								Sheet Nr.	BRIS1-5
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	144	286	12,215	24,372	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	60	119	6,674	9,871	**£k**	Printed	03/09/2009
		Temp Acc	98	100	6,132	6,951	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	22	43	2,021	3,664	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			324	549	27,042	44,859			
		PV Total Damage	460,533				**£k**		
		Property Write-off	923,709				**£k**		

		AAD Post Breach					**£ 923,709**	**£ -**	**£ 460,533**
Year	**Discount Factor**	**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
		147,901	**72,916**	**28,410**	**-**	**23,627**			
0	1.000	144	60	98		22	-		324
1	0.966	151	63	99		23	-		324
2	0.934	159	66	99		24	-		324
3	0.902	166	69	99		25	-		324
4	0.871	174	72	99		26	-		324
5	0.842	181	76	99		27	-		323
6	0.814	189	79	99		29	-		321
7	0.786	196	82	99		30	-		320
8	0.759	204	85	99		31	-		318
9	0.734	211	88	99		32	-		316
10	0.709	219	91	99		33	-		314
11	0.685	226	94	99		34	-		311
12	0.662	234	97	100		35	-		309
13	0.639	241	101	100		37	-		306
14	0.618	249	104	100		38	-		303
15	0.597	256	107	100		39	-		300
16	0.577	264	110	100		40	-		296
17	0.557	271	113	100		41	-		293
18	0.538	279	116	100		42	-		289
19	0.520	286	119	100		43	-		286
20	0.503	684	338	301		109	-		720
21	0.486	1,081	556	502		175	-		1124
22	0.469	1,479	775	703		241	-		1501
23	0.453	1,877	993	905		307	-		1850
24	0.438	2,274	1,212	1,106		373	-		2174
25	0.423	2,672	1,430	1,307		439	-		2475
26	0.409	3,070	1,649	1,508		505	-		2752
27	0.395	3,467	1,867	1,709		571	-		3008
28	0.382	3,865	2,086	1,910		637	-		3243
29	0.369	4,262	2,304	2,111		703	-		3459
30	0.356	4,660	2,523	2,312		769	-		3657
31	0.346	5,058	2,741	2,513		834	-		3856
32	0.336	5,455	2,960	2,714		900	-		4040
33	0.326	5,853	3,178	2,915		966	-		4210
34	0.317	6,250	3,397	3,116		1,032	-		4367
35	0.307	6,648	3,615	3,317		1,098	-		4511
36	0.298	7,046	3,834	3,518		1,164	-		4643
37	0.290	7,443	4,052	3,720		1,230	-		4764
38	0.281	7,841	4,271	3,921		1,296	-		4874
39	0.273	8,239	4,489	4,122		1,362	-		4973
40	0.265	8,636	4,708	4,323		1,428	-		5062
41	0.257	9,034	4,926	4,524		1,494	-		5142
42	0.250	9,431	5,145	4,725		1,560	-		5213
43	0.243	9,829	5,363	4,926		1,626	-		5275
44	0.236	10,227	5,582	5,127		1,691	-		5330
45	0.229	10,624	5,800	5,328		1,757	-		5376
46	0.222	11,022	6,019	5,529		1,823	-		5416
47	0.216	11,420	6,237	5,730		1,889	-		5448
48	0.209	11,817	6,456	5,931		1,955	-		5475
49	0.203	12,215	6,674	6,132		2,021	923,709		193174
50	0.197	12,458	6,738	-		2,054			4192
51	0.192	12,701	6,802	-		2,087			4135
52	0.186	12,944	6,866	-		2,120			4078
53	0.181	13,187	6,930	-		2,153			4020
54	0.175	13,430	6,994	-		2,185			3963
55	0.170	13,674	7,058	-		2,218			3905
56	0.165	13,917	7,122	-		2,251			3848
57	0.160	14,160	7,186	-		2,284			3790
58	0.156	14,403	7,250	-		2,317			3733
59	0.151	14,646	7,314	-		2,350			3675
60	0.147	14,889	7,378	-		2,383			3618
61	0.143	15,133	7,441	-		2,415			3561
62	0.138	15,376	7,505	-		2,448			3504
63	0.134	15,619	7,569	-		2,481			3448
64	0.130	15,862	7,633	-		2,514			3392
65	0.127	16,105	7,697	-		2,547			3336
66	0.123	16,348	7,761	-		2,580			3281
67	0.119	16,591	7,825	-		2,613			3226
68	0.116	16,835	7,889	-		2,645			3171
69	0.112	17,078	7,953	-		2,678			3117
70	0.109	17,321	8,017	-		2,711			3064
71	0.106	17,564	8,081	-		2,744			3010
72	0.103	17,807	8,145	-		2,777			2958
73	0.100	18,050	8,209	-		2,810			2905
74	0.097	18,293	8,273	-		2,843			2854
75	0.094	18,537	8,337	-		2,875			2803
76	0.092	18,780	8,401	-		2,908			2766
77	0.090	19,023	8,465	-		2,941			2729
78	0.087	19,266	8,529	-		2,974			2692
79	0.085	19,509	8,593	-		3,007			2655
80	0.083	19,752	8,656	-		3,040			2619
81	0.081	19,996	8,720	-		3,073			2583
82	0.079	20,239	8,784	-		3,105			2546
83	0.077	20,482	8,848	-		3,138			2511
84	0.075	20,725	8,912	-		3,171			2475
85	0.074	20,968	8,976	-		3,204			2440
86	0.072	21,211	9,040	-		3,237			2405
87	0.070	21,454	9,104	-		3,270			2370
88	0.068	21,698	9,168	-		3,303			2335
89	0.067	21,941	9,232	-		3,335			2301
90	0.065	22,184	9,296	-		3,368			2267
91	0.063	22,427	9,360	-		3,401			2233
92	0.062	22,670	9,424	-		3,434			2200
93	0.060	22,913	9,488	-		3,467			2167
94	0.059	23,156	9,552	-		3,500			2134
95	0.057	23,400	9,616	-		3,533			2101
96	0.056	23,643	9,680	-		3,565			2069
97	0.055	23,886	9,744	-		3,598			2037
98	0.053	24,129	9,807	-		3,631			2006
99	0.052	24,372	9,871	-		3,664			1975
		1118530.60	522210.26	98492.72	0.00	175559.27			460533.47

								Sheet Nr.	BRIS6
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	0	0	0	97,668	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	0	0	0	9,210	**£k**	Printed	03/09/2009
		Temp Acc	0	0	0	6,360	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	0	0	0	11,436	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			0	0	0	124,673			
		PV Total Damage	268,297				**£k**		
		Property Write-off	78,814				**£k**		

		AAD Post Breach					**£** 78,814	**£** -	**£** 268,297
Year	**Discount Factor**	**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**		**PV damages**
		206,968	**19,514**	**13,477**	**-**	**24,233**			
0	1.000	-	-	-	-	-	-		0
1	0.966	-	-	-	-	-	-		0
2	0.934	-	-	-	-	-	-		0
3	0.902	-	-	-	-	-	-		0
4	0.871	-	-	-	-	-	-		0
5	0.842	-	-	-	-	-	-		0
6	0.814	-	-	-	-	-	-		0
7	0.786	-	-	-	-	-	-		0
8	0.759	-	-	-	-	-	-		0
9	0.734	-	-	-	-	-	-		0
10	0.709	-	-	-	-	-	-		0
11	0.685	-	-	-	-	-	-		0
12	0.662	-	-	-	-	-	-		0
13	0.639	-	-	-	-	-	-		0
14	0.618	-	-	-	-	-	-		0
15	0.597	-	-	-	-	-	-		0
16	0.577	-	-	-	-	-	-		0
17	0.557	-	-	-	-	-	-		0
18	0.538	-	-	-	-	-	-		0
19	0.520	-	-	-	-	-	-		0
20	0.503	-	-	-	-	-	-		0
21	0.486	-	-	-	-	-	-		0
22	0.469	-	-	-	-	-	-		0
23	0.453	-	-	-	-	-	-		0
24	0.438	-	-	-	-	-	-		0
25	0.423	-	-	-	-	-	-		0
26	0.409	-	-	-	-	-	-		0
27	0.395	-	-	-	-	-	-		0
28	0.382	-	-	-	-	-	-		0
29	0.369	-	-	-	-	-	-		0
30	0.356	-	-	-	-	-	-		0
31	0.346	-	-	-	-	-	-		0
32	0.336	-	-	-	-	-	-		0
33	0.326	-	-	-	-	-	-		0
34	0.317	-	-	-	-	-	-		0
35	0.307	-	-	-	-	-	-		0
36	0.298	-	-	-	-	-	-		0
37	0.290	-	-	-	-	-	-		0
38	0.281	-	-	-	-	-	-		0
39	0.273	-	-	-	-	-	-		0
40	0.265	-	-	-	-	-	-		0
41	0.257	-	-	-	-	-	-		0
42	0.250	-	-	-	-	-	-		0
43	0.243	-	-	-	-	-	-		0
44	0.236	-	-	-	-	-	-		0
45	0.229	-	-	-	-	-	-		0
46	0.222	-	-	-	-	-	-		0
47	0.216	-	-	-	-	-	-		0
48	0.209	-	-	-	-	-	-		0
49	0.203	3	- 0	0	-	0	-		1
50	0.197	1,956	184	127	-	229	-		492
51	0.192	3,909	368	255	-	458	-		956
52	0.186	5,863	552	382	-	686	-		1391
53	0.181	7,816	737	509	-	915	-		1801
54	0.175	9,770	921	636	-	1,144	-		2186
55	0.170	11,723	1,105	763	-	1,373	-		2546
56	0.165	13,676	1,289	891	-	1,601	-		2884
57	0.160	15,630	1,473	1,018	-	1,830	-		3200
58	0.156	17,583	1,658	1,145	-	2,059	-		3495
59	0.151	19,537	1,842	1,272	-	2,287	-		3770
60	0.147	21,490	2,026	1,399	-	2,516	-		4026
61	0.143	23,443	2,210	1,527	-	2,745	-		4265
62	0.138	25,397	2,394	1,654	-	2,974	-		4485
63	0.134	27,350	2,579	1,781	-	3,202	-		4690
64	0.130	29,304	2,763	1,908	-	3,431	-		4878
65	0.127	31,257	2,947	2,035	-	3,660	-		5052
66	0.123	33,210	3,131	2,163	-	3,889	-		5211
67	0.119	35,164	3,315	2,290	-	4,117	-		5357
68	0.116	37,117	3,500	2,417	-	4,346	-		5490
69	0.112	39,071	3,684	2,544	-	4,575	-		5611
70	0.109	41,024	3,868	2,671	-	4,803	-		5719
71	0.106	42,977	4,052	2,799	-	5,032	-		5817
72	0.103	44,931	4,236	2,926	-	5,261	-		5905
73	0.100	46,884	4,420	3,053	-	5,490	-		5982
74	0.097	48,838	4,605	3,180	-	5,718	-		6050
75	0.094	50,791	4,789	3,307	-	5,947	-		6108
76	0.092	52,744	4,973	3,435	-	6,176	-		6188
77	0.090	54,698	5,157	3,562	-	6,404	-		6261
78	0.087	56,651	5,341	3,689	-	6,633	-		6327
79	0.085	58,605	5,526	3,816	-	6,862	-		6385
80	0.083	60,558	5,710	3,943	-	7,091	-		6437
81	0.081	62,511	5,894	4,071	-	7,319	-		6483
82	0.079	64,465	6,078	4,198	-	7,548	-		6522
83	0.077	66,418	6,262	4,325	-	7,777	-		6556
84	0.075	68,372	6,447	4,452	-	8,005	-		6584
85	0.074	70,325	6,631	4,579	-	8,234	-		6607
86	0.072	72,278	6,815	4,707	-	8,463	-		6625
87	0.070	74,232	6,999	4,834	-	8,692	-		6638
88	0.068	76,185	7,183	4,961	-	8,920	-		6646
89	0.067	78,139	7,368	5,088	-	9,149	-		6651
90	0.065	80,092	7,552	5,215	-	9,378	-		6651
91	0.063	82,045	7,736	5,343	-	9,607	-		6647
92	0.062	83,999	7,920	5,470	-	9,835	-		6639
93	0.060	85,952	8,104	5,597	-	10,064	-		6628
94	0.059	87,906	8,288	5,724	-	10,293	-		6613
95	0.057	89,859	8,473	5,851	-	10,521	-		6595
96	0.056	91,812	8,657	5,979	-	10,750	-		6574
97	0.055	93,766	8,841	6,106	-	10,979	-		6550
98	0.053	95,719	9,025	6,233	-	11,208	-		6524
99	0.052	97,673	9,209	6,360	-	11,436	78,814		10600
		2490717.60	234837.66	162185.10	0.00	291632.28			268297.21

								Sheet Nr.	KIN1, 3, 4
Client/Authority									
SECG									
Project name		**Option:**							
SESMP2		No Active Intervention							
Project reference	5078599		**AAD Year 0**	**AAD Year 19**	**AAD Year 49**	**AAD Year 99**			
Base date for estimates (year 0)	Q3 2008		**0**	**19**	**49**	**99**			
Scaling factor (e.g. £m, £k, £)	£k	Residential property	305	917	5,094	46,644	**£k**	Prepared (date)	01/07/2009
Discount rate	0%	Ind/commercial (direct)	203	3,634	5,000	13,058	**£k**	Printed	03/09/2009
		Temp Acc	2,336	65,066	66,178	70,226	**£k**	Prepared by	AMC
		Traffic related	0	0	0	0	**£k**	Checked by	PJC
		Emergency services	54	487	1,080	6,388	**£k**	Checked date	01/08/2009
		Agricultural	0	0	0	0	**£k**		
			2,899	70,103	77,353	136,315			
		PV Total Damage	3,172,358				**£k**		
		Property Write-off	4,756,904				**£k**		

			AAD Post Breach					**£ 4,756,904**	**£**	**-**	**£ 3,172,358**
Year	**Discount Factor**		**Residential property AAD**	**Ind/commercial (direct) AAD**	**Temp Acc**	**Traffic related AAD**	**Emergency services AAD**	**Property Write-off**			**PV damages**
			119,195	**110,310**	**440,613**	**-**	**27,910**				
0	1.000		305	203	2,336	-	54	-			2899
1	0.966		337	384	5,638	-	77	-			6219
2	0.934		369	565	8,939	-	100	-			9310
3	0.902		402	745	12,241	-	123	-			12185
4	0.871		434	926	15,542	-	145	-			14856
5	0.842		466	1,106	18,844	-	168	-			17331
6	0.814		498	1,287	22,145	-	191	-			19623
7	0.786		530	1,467	25,447	-	214	-			21739
8	0.759		563	1,648	28,748	-	237	-			23690
9	0.734		595	1,828	32,050	-	259	-			25484
10	0.709		627	2,009	35,351	-	282	-			27130
11	0.685		659	2,190	38,653	-	305	-			28635
12	0.662		691	2,370	41,954	-	328	-			30007
13	0.639		723	2,551	45,256	-	350	-			31254
14	0.618		756	2,731	48,557	-	373	-			32382
15	0.597		788	2,912	51,859	-	396	-			33398
16	0.577		820	3,092	55,160	-	419	-			34309
17	0.557		852	3,273	58,462	-	441	-			35119
18	0.538		884	3,453	61,763	-	464	-			35836
19	0.520		917	3,634	65,065	-	487	4,756,904			2510795
20	0.503		805	3,679		-	507				2508
21	0.486		711	3,725		-	526				2410
22	0.469		634	3,771		-	546				2323
23	0.453		574	3,816		-	566				2247
24	0.438		532	3,862		-	586				2181
25	0.423		507	3,907		-	606				2124
26	0.409		499	3,953		-	625				2076
27	0.395		509	3,998		-	645				2035
28	0.382		536	4,044		-	665				2002
29	0.369		580	4,089		-	685				1974
30	0.356		641	4,135		-	704				1953
31	0.346		720	4,180		-	724				1946
32	0.336		816	4,226		-	744				1943
33	0.326		929	4,271		-	764				1945
34	0.317		1,060	4,317		-	784				1950
35	0.307		1,208	4,363		-	803				1959
36	0.298		1,373	4,408		-	823				1971
37	0.290		1,556	4,454		-	843				1985
38	0.281		1,755	4,499		-	863				2002
39	0.273		1,972	4,545		-	882				2020
40	0.265		2,207	4,590		-	902				2041
41	0.257		2,458	4,636		-	922				2063
42	0.250		2,727	4,681		-	942				2087
43	0.243		3,014	4,727		-	961				2111
44	0.236		3,317	4,772		-	981				2137
45	0.229		3,638	4,818		-	1,001				2163
46	0.222		3,976	4,863		-	1,021				2189
47	0.216		4,332	4,909		-	1,041				2216
48	0.209		4,704	4,955		-	1,060				2243
49	0.203		5,094	5,000		-	1,080				2270
50	0.197		5,502	5,161		-	1,186				2337
51	0.192		5,926	5,322		-	1,292				2402
52	0.186		6,368	5,484		-	1,399				2464
53	0.181		6,827	5,645		-	1,505				2523
54	0.175		7,304	5,806		-	1,611				2580
55	0.170		7,798	5,967		-	1,717				2634
56	0.165		8,309	6,128		-	1,823				2686
57	0.160		8,837	6,289		-	1,929				2736
58	0.156		9,383	6,450		-	2,036				2783
59	0.151		9,946	6,612		-	2,142				2827
60	0.147		10,526	6,773		-	2,248				2869
61	0.143		11,123	6,934		-	2,354				2909
62	0.138		11,738	7,095		-	2,460				2946
63	0.134		12,370	7,256		-	2,566				2981
64	0.130		13,020	7,417		-	2,672				3014
65	0.127		13,686	7,578		-	2,779				3044
66	0.123		14,370	7,740		-	2,885				3073
67	0.119		15,072	7,901		-	2,991				3099
68	0.116		15,790	8,062		-	3,097				3123
69	0.112		16,526	8,223		-	3,203				3145
70	0.109		17,279	8,384		-	3,309				3164
71	0.106		18,050	8,545		-	3,416				3182
72	0.103		18,838	8,707		-	3,522				3198
73	0.100		19,643	8,868		-	3,628				3212
74	0.097		20,465	9,029		-	3,734				3224
75	0.094		21,305	9,190		-	3,840				3235
76	0.092		22,162	9,351		-	3,946				3259
77	0.090		23,036	9,512		-	4,053				3282
78	0.087		23,927	9,673		-	4,159				3303
79	0.085		24,836	9,835		-	4,265				3323
80	0.083		25,762	9,996		-	4,371				3342
81	0.081		26,706	10,157		-	4,477				3358
82	0.079		27,666	10,318		-	4,583				3374
83	0.077		28,644	10,479		-	4,690				3388
84	0.075		29,640	10,640		-	4,796				3400
85	0.074		30,652	10,801		-	4,902				3412
86	0.072		31,682	10,963		-	5,008				3422
87	0.070		32,729	11,124		-	5,114				3430
88	0.068		33,794	11,285		-	5,220				3438
89	0.067		34,875	11,446		-	5,326				3444
90	0.065		35,974	11,607		-	5,433				3449
91	0.063		37,091	11,768		-	5,539				3452
92	0.062		38,224	11,929		-	5,645				3455
93	0.060		39,375	12,091		-	5,751				3456
94	0.059		40,543	12,252		-	5,857				3457
95	0.057		41,729	12,413		-	5,963				3456
96	0.056		42,932	12,574		-	6,070				3454
97	0.055		44,152	12,735		-	6,176				3451
98	0.053		45,389	12,896		-	6,282				3447
99	0.052		46,644	13,058		-	6,388				3442
			1199768.04	624035.62	674010.14	0.00	218572.70				3172358.30

Annex B: Preferred Policy Cost Estimates

Policy Unit	Maintenance 0-20 1	Replacement 0-20	0-20 Policy Costs	0-20 Policy Costs (with 60% OB)	Maintenance 20-50 1.5	Replacement 20-50	20-50 Policy Costs	20-50 Policy Costs (with 60% OB)	Maintenance 50-100 2	Replacement 50-100	50-100 Policy Costs	50-100 Policy Costs (with 60% OB)	TOTAL policy costs	TOTAL policy costs with 60% OB
PEN1-2	£ 34,099	£ 271,215	£ 305,314	£ 488,503	£ 22,408	£ 67,942	£ 90,350	£ 144,560	£ 12,294	£ 55,862	£ 68,156	£ 109,050	£ 463,821	£ 742,113
CAR1-3, WEN1-2	£ 3,573,020	£ 2,412,482	£ 5,985,502	£ 9,576,803	£ 3,565,335	£ 3,028,204	£ 6,593,539	£ 10,549,662	£ 2,583,115		£ 2,583,115	£ 4,132,984	£ 15,162,156	£ 24,259,449
NEW1, 2	£ 1,222,093	£ 2,592,872	£ 3,814,966	£ 6,103,945	£ 1,219,465		£ 1,219,465	£ 1,951,144	£ 883,513		£ 883,513	£ 1,413,620	£ 5,917,943	£ 9,468,709
NEW3	£ -		£ -	£ -			£ -	£ -	£ 164,462	£ 96,666	£ 261,128	£ 417,805	£ 261,128	£ 417,805
NEW4, 5, CALD1	£ 4,329,105		£ 4,329,105	£ 6,926,568	£ 4,319,795	£ 11,141,815	£ 15,461,610	£ 24,738,575	£ 3,129,727		£ 3,129,727	£ 5,007,564	£ 22,920,442	£ 36,672,707
CALD3	£ 750,937		£ 750,937	£ 1,201,500	£ 749,322	£ 933,513	£ 1,682,836	£ 2,692,537	£ 542,890		£ 542,890	£ 868,624	£ 2,976,663	£ 4,762,661
TID2, LYD1	£ 535,144		£ 535,144	£ 856,230	£ 889,988	£ 3,437,145	£ 4,327,134	£ 6,923,414	£ 193,441		£ 193,441	£ 309,506	£ 5,055,719	£ 8,089,150
GLO1-2	£ -	£ 602,028	£ 602,028	£ 963,245	£ 188,762		£ 188,762	£ 302,019	£ 102,570		£ 102,570	£ 164,111	£ 893,359	£ 1,429,375
GLO3-5, SHAR3-7	£ 3,402,091	£ 1,163,172	£ 4,565,263	£ 7,304,421	£ 3,759,479	£ 4,229,245	£ 7,988,724	£ 12,781,958	£ 1,845,082	£ 114,168	£ 1,959,250	£ 3,134,799	£ 14,513,237	£ 23,221,179
GLO6-8, SHAR1-2	£ 1,841,230	£ 1,908,139	£ 3,749,369	£ 5,998,991	£ 725,495	£ 1,595,598	£ 2,321,092	£ 3,713,748	£ 463,876		£ 463,876	£ 742,202	£ 6,534,338	£ 10,454,940
MAI1-6	£ 448,650	£ 1,671,260	£ 2,119,910	£ 3,391,856	£ 673,240		£ 673,240	£ 1,077,184	£ 446,914		£ 446,914	£ 715,062	£ 3,240,064	£ 5,184,103
SEV1	£ 379,514		£ 379,514	£ 607,222	£ 378,698	£ 471,785	£ 850,483	£ 1,360,773	£ 274,370		£ 274,370	£ 438,991	£ 1,504,366	£ 2,406,986
SEV2-4	£ 1,444,506		£ 1,444,506	£ 2,311,210	£ 1,441,399	£ 1,795,710	£ 3,237,110	£ 5,179,375	£ 1,044,306		£ 1,044,306	£ 1,670,889	£ 5,725,922	£ 9,161,474
SEV5	£ 561,916		£ 561,916	£ 899,065	£ 560,707	£ 698,535	£ 1,259,242	£ 2,014,788	£ 406,237		£ 406,237	£ 649,979	£ 2,227,395	£ 3,563,832
BRIS1-5	£ 6,461,590	£ 1,853,835	£ 8,315,425	£ 13,304,680	£ 6,447,694	£ 17,052,115	£ 23,499,809	£ 37,599,694	£ 4,671,408		£ 4,671,408	£ 7,474,252	£ 36,486,641	£ 58,378,626
BRIS6	£ 887,003	£ 1,307,671	£ 2,194,675	£ 3,511,479	£ 885,096		£ 885,096	£ 1,416,153	£ 641,259		£ 641,259	£ 1,026,015	£ 3,721,029	£ 5,953,647
KIN1-4	£ 2,027,016	£ 4,300,647	£ 6,327,663	£ 10,124,261	£ 1,137,071	£ 1,416,575	£ 2,553,647	£ 4,085,835	£ 617,863		£ 617,863	£ 988,581	£ 9,499,173	£ 15,198,676

Policy Unit	Maintenance	Replacement	0-20 Policy Costs	0-20 Policy Costs (with 60% OB)	Maintenance	Replacement	20-50 Policy Costs	20-50 Policy Costs (with 60% OB)	Maintenance	Replacement
	0-20	0-20			20-50	20-50			50-100	50-100
	1				1.5				2	
PEN1	£ -		£ -	£ -			£ -	£ -	£ -	
PEN2	£ 34,099	£ 271,215	£ 305,314	£ 488,503	£ 22,408	£ 67,942	£ 90,350	£ 144,560	£ 12,294	£ 55,862
CAR1	£ -		£ -	£ -			£ -	£ -	£ -	
CAR2	£ 859,055	£ 1,822,626	£ 2,681,680	£ 4,290,688	£ 857,207		£ 857,207	£ 1,371,531	£ 621,054	
CAR3	£ 723,724	£ 1,535,500	£ 2,259,224	£ 3,614,758	£ 722,168		£ 722,168	£ 1,155,468	£ 523,216	
WEN1	£ 1,601,901		£ 1,601,901	£ 2,563,042	£ 1,598,456	£ 1,991,373	£ 3,589,829	£ 5,743,727	£ 1,158,095	
WEN2	£ 388,340		£ 388,340	£ 621,344	£ 387,505	£ 482,757	£ 870,262	£ 1,392,419	£ 280,750	
NEW1	£ 768,589	£ 1,630,688	£ 2,399,277	£ 3,838,843	£ 766,936		£ 766,936	£ 1,227,098	£ 555,652	
NEW2	£ 453,504	£ 962,184	£ 1,415,688	£ 2,265,101	£ 452,529		£ 452,529	£ 724,046	£ 327,861	
NEW3	£ -		£ -	£ -			£ -	£ -	£ 164,462	£ 96,666
NEW4	£ 474,834		£ 474,834	£ 759,734	£ 473,812	£ 2,656,261	£ 3,130,074	£ 5,008,118	£ 343,281	
NEW5	£ 849,052		£ 849,052	£ 1,358,483	£ 847,226	£ 4,749,672	£ 5,596,897	£ 8,955,036	£ 613,822	
CALD1	£ 3,005,220		£ 3,005,220	£ 4,808,352	£ 2,998,757	£ 3,735,882	£ 6,734,638	£ 10,775,422	£ 2,172,624	
CALD2	£ -		£ -	£ -			£ -	£ -	£ -	
CALD3	£ 750,937		£ 750,937	£ 1,201,500	£ 749,322	£ 933,513	£ 1,682,836	£ 2,692,537	£ 542,890	
WYE1	£ -		£ -	£ -			£ -	£ -	£ -	
WYE2	£ -		£ -	£ -			£ -	£ -	£ -	
WYE3	£ -		£ -	£ -			£ -	£ -	£ -	
WYE4	£ -		£ -	£ -			£ -	£ -	£ -	
TID1	£ -		£ -	£ -			£ -	£ -	£ -	
TID2	£ 535,144		£ 535,144	£ 856,230	£ 889,988	£ 3,437,145	£ 4,327,134	£ 6,923,414	£ 193,441	
LYD1	£ -		£ -	£ -			£ -	£ -	£ -	
GLO1	£ -		£ -	£ -			£ -	£ -	£ -	
GLO2	£ -	£ 602,028	£ 602,028	£ 963,245	£ 188,762		£ 188,762	£ 302,019	£ 102,570	
GLO3	£ -		£ -	£ -			£ -	£ -	£ -	
GLO4	£ 364,804		£ 364,804	£ 583,686	£ 364,019	£ 453,499	£ 817,519	£ 1,308,030	£ 263,735	
GLO5	£ 1,016,450		£ 1,016,450	£ 1,626,320	£ 1,014,264	£ 1,263,580	£ 2,277,844	£ 3,644,550	£ 734,843	
GLO6	£ -		£ -	£ -			£ -	£ -	£ -	
GLO7	£ 139,743		£ 139,743	£ 223,590	£ 139,443	£ 173,719	£ 313,162	£ 501,060	£ 101,028	
GLO8	£ 245,654		£ 245,654	£ 393,047	£ 245,126	£ 305,380	£ 550,506	£ 880,810	£ 177,596	

Policy Unit	Maintenance	Replacement	0-20 Policy Costs	0-20 Policy Costs (with 60% OB)	Maintenance	Replacement	20-50 Policy Costs	20-50 Policy Costs (with 60% OB)	Maintenance	Replacement
	0-20	0-20			20-50	20-50			50-100	50-100
	1				1.5				2	
MAI1	£ -	£ 719,375	£ 719,375	£ 1,151,001	£ 225,555		£ 225,555	£ 360,888	£ 122,562	
MAI2	£ 501,605	£ 1,064,239	£ 1,565,844	£ 2,505,350	£ 500,527		£ 500,527	£ 800,843	£ 362,636	
MAI3	£ -		£ -	£ -			£ -	£ -	£ -	
MAI4	£ 367,746	£ 780,234	£ 1,147,979	£ 1,836,767	£ 366,955		£ 366,955	£ 587,128	£ 265,862	
MAI5	£ 454,534	£ 964,369	£ 1,418,903	£ 2,270,244	£ 453,556		£ 453,556	£ 725,690	£ 328,605	
MAI6	£ 448,650	£ 951,885	£ 1,400,535	£ 2,240,856	£ 447,685		£ 447,685	£ 716,296	£ 324,352	
SHAR1	£ 251,538	£ 533,680	£ 785,218	£ 1,256,349	£ 250,997		£ 250,997	£ 401,596	£ 181,850	
SHAR1	£ 899,359	£ 1,908,139	£ 2,807,499	£ 4,491,998	£ 277,712	£ 345,976	£ 623,688	£ 997,900	£ 150,903	
SHAR2	£ 556,473		£ 556,473	£ 890,357	£ 63,214	£ 770,522	£ 833,736	£ 1,333,977	£ 34,349	
SHAR3	£ 628,110		£ 628,110	£ 1,004,976	£ 626,759	£ 780,823	£ 1,407,582	£ 2,252,132	£ 454,092	
SHAR5	£ -		£ -	£ -			£ -	£ -	£ -	
SHAR4	£ 1,392,727		£ 1,392,727	£ 2,228,364	£ 1,389,732	£ 1,731,343	£ 3,121,075	£ 4,993,720	£ 194,239	£ 114,168
SHAR6	£ 73,549	£ 156,047	£ 229,596	£ 367,353	£ 73,391		£ 73,391	£ 117,426	£ 53,172	
SHAR7	£ -	£ 1,007,125	£ 1,007,125	£ 1,611,401	£ 315,777		£ 315,777	£ 505,243	£ 171,587	
SHAR8	£ -		£ -	£ -			£ -	£ -	£ -	
SEV1	£ 379,514		£ 379,514	£ 607,222	£ 378,698	£ 471,785	£ 850,483	£ 1,360,773	£ 274,370	
SEV2	£ 147,098		£ 147,098	£ 235,357	£ 146,782	£ 182,863	£ 329,645	£ 527,431	£ 106,345	
SEV3	£ 935,546		£ 935,546	£ 1,496,873	£ 933,534	£ 1,163,006	£ 2,096,539	£ 3,354,463	£ 676,353	
SEV4	£ 208,880		£ 208,880	£ 334,208	£ 208,430	£ 259,665	£ 468,095	£ 748,952	£ 151,010	
SEV5	£ 714,898		£ 714,898	£ 1,143,837	£ 713,361	£ 888,712	£ 1,602,073	£ 2,563,316	£ 516,836	
BRIS1	£ 496,457	£ 1,053,315	£ 1,549,772	£ 2,479,636	£ 495,389		£ 495,389	£ 792,623	£ 358,914	
BRIS2	£ 909,068		£ 909,068	£ 1,454,509	£ 907,113		£ 907,113	£ 1,451,381	£ 657,211	
BRIS3	£ 865,674	£ 800,520	£ 1,666,194	£ 2,665,910	£ 863,812		£ 863,812	£ 1,382,100	£ 625,839	
BRIS4	£ 1,837,259		£ 1,837,259	£ 2,939,614	£ 1,833,307		£ 1,833,307	£ 2,933,292	£ 1,328,246	
BRIS5	£ 2,353,133		£ 2,353,133	£ 3,765,012	£ 2,348,072	£ 6,774,326	£ 9,122,398	£ 14,595,836	£ 1,701,198	
BRIS6	£ 887,003	£ 1,307,671	£ 2,194,675	£ 3,511,479	£ 885,096		£ 885,096	£ 1,416,153	£ 641,259	
PORT1	£ -		£ -	£ -			£ -	£ -	£ -	
PORT2	£ -		£ -	£ -			£ -	£ -	£ -	
PORT3	£ -		£ -	£ -			£ -	£ -	£ -	
PORT4	£ -		£ -	£ -			£ -	£ -	£ -	
KIN1	£ 1,629,850	£ 3,457,995	£ 5,087,845	£ 8,140,552	£ 1,137,071	£ 1,416,575	£ 2,553,647	£ 4,085,835	£ 617,863	
KIN2	£ -		£ -	£ -			£ -	£ -	£ -	
KIN3	£ 397,166	£ 842,652	£ 1,239,818	£ 1,983,709			£ -	£ -	£ -	
KIN4	£ -		£ -	£ -			£ -	£ -	£ -	
HOL1	£ -		£ -	£ -			£ -	£ -	£ -	
HOL2	£ -		£ -	£ -			£ -	£ -	£ -	