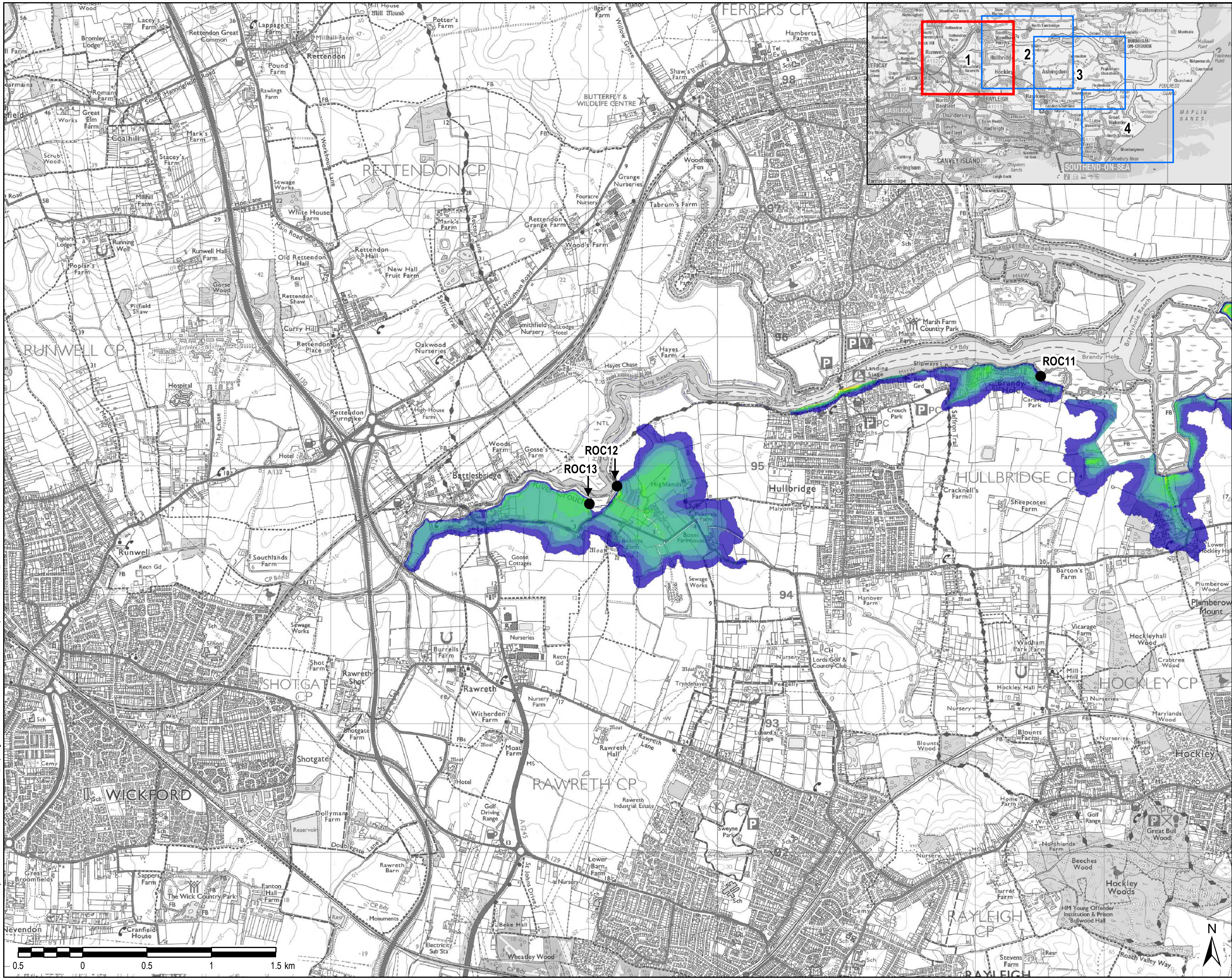

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LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

NOTES

Hydraulic modelling has been undertaken using 2D hydraulic modelling software MIKE21-HDFM (ver. 2009), to assess the effect of breaches at specified points and/or overtopping of defences.
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It should be noted that the breach width and depth, though based on EA guidance, are arbitrary and do not necessarily represent the actual dimensions of a potential breach at a given location.
A thorough description of methodology and assumptions is included within the SFRA Main Report.

Purpose of Issue

FINAL

Client

Basildon Council — BASILDON · BILLERICAY · WICKFORD
castlepoint
Rochford District Council
southend on sea BOROUGH COUNCIL

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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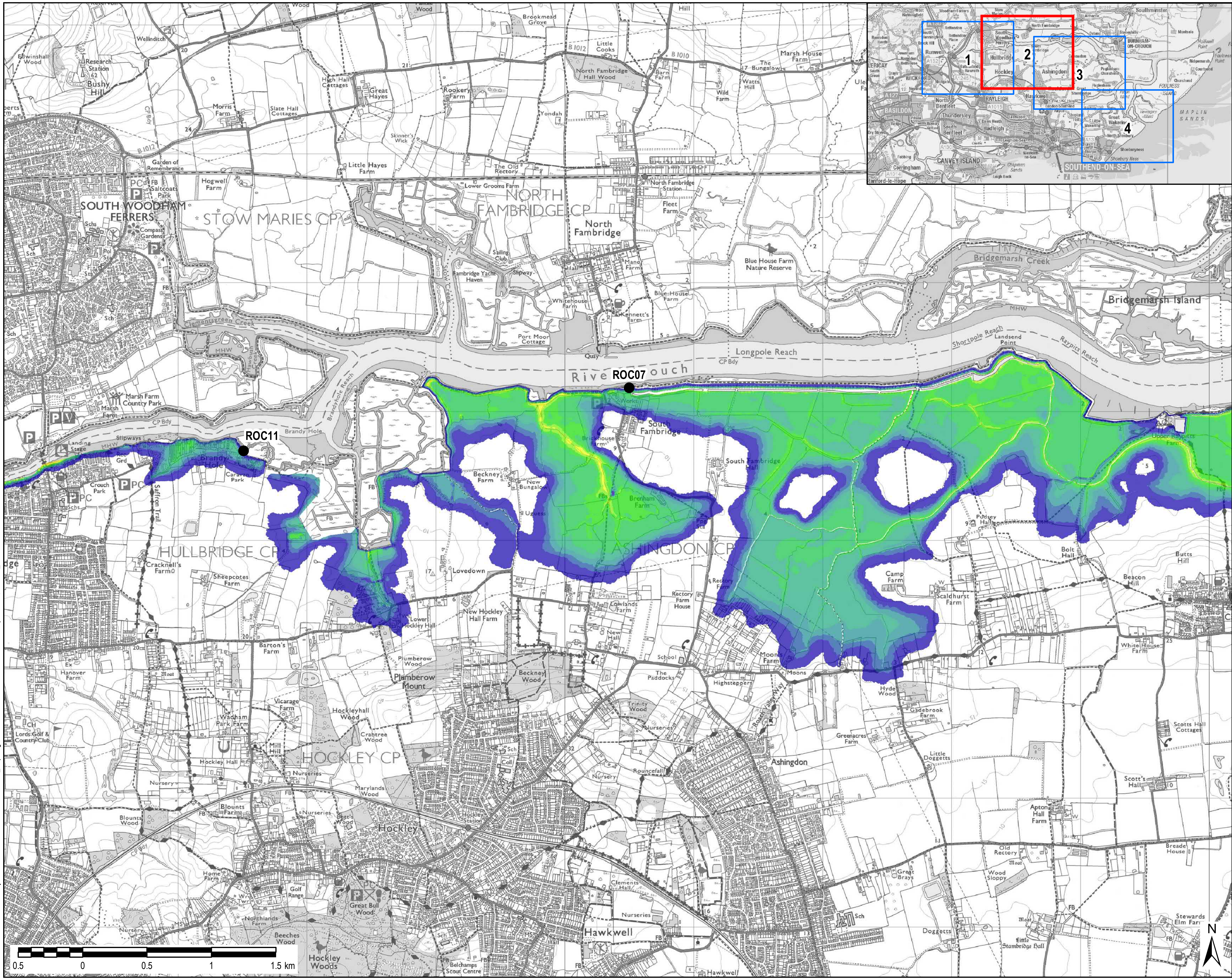
Drawing Number	Rev
FIGURE E35a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E35 Rochford Breach Maximum Flood Depth - 2016, 0.5 AEP_DDP.mxd



LEGEND

● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council (Basildon • Billericay • Wickford)
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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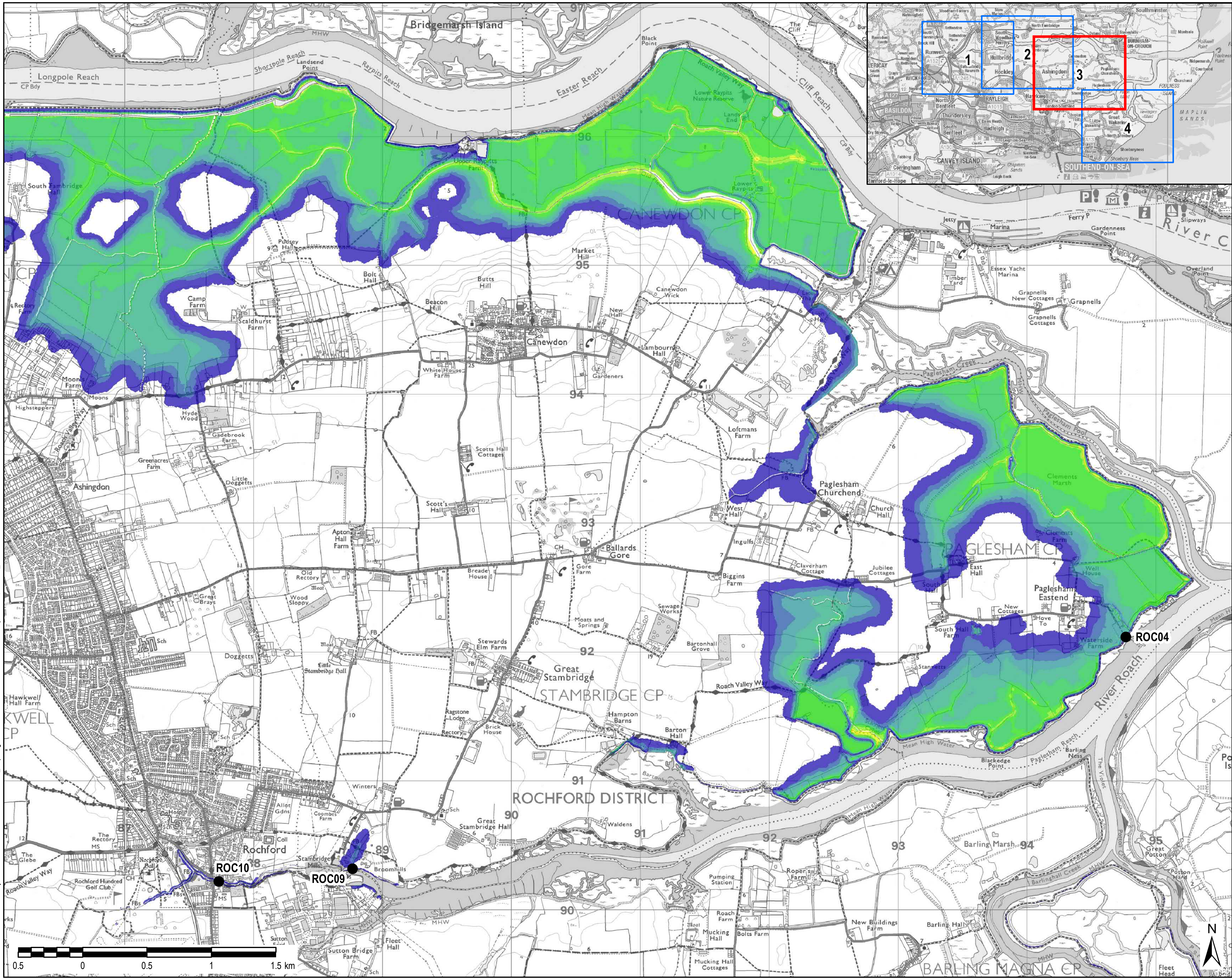
Drawing Number	Rev
FIGURE E35b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E35 Rochford Breach Maximum Flood Depth - 2016_0.5 AEP_DDP.mxd



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LEGEND

● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council — castlepoint — Rochford District Council — southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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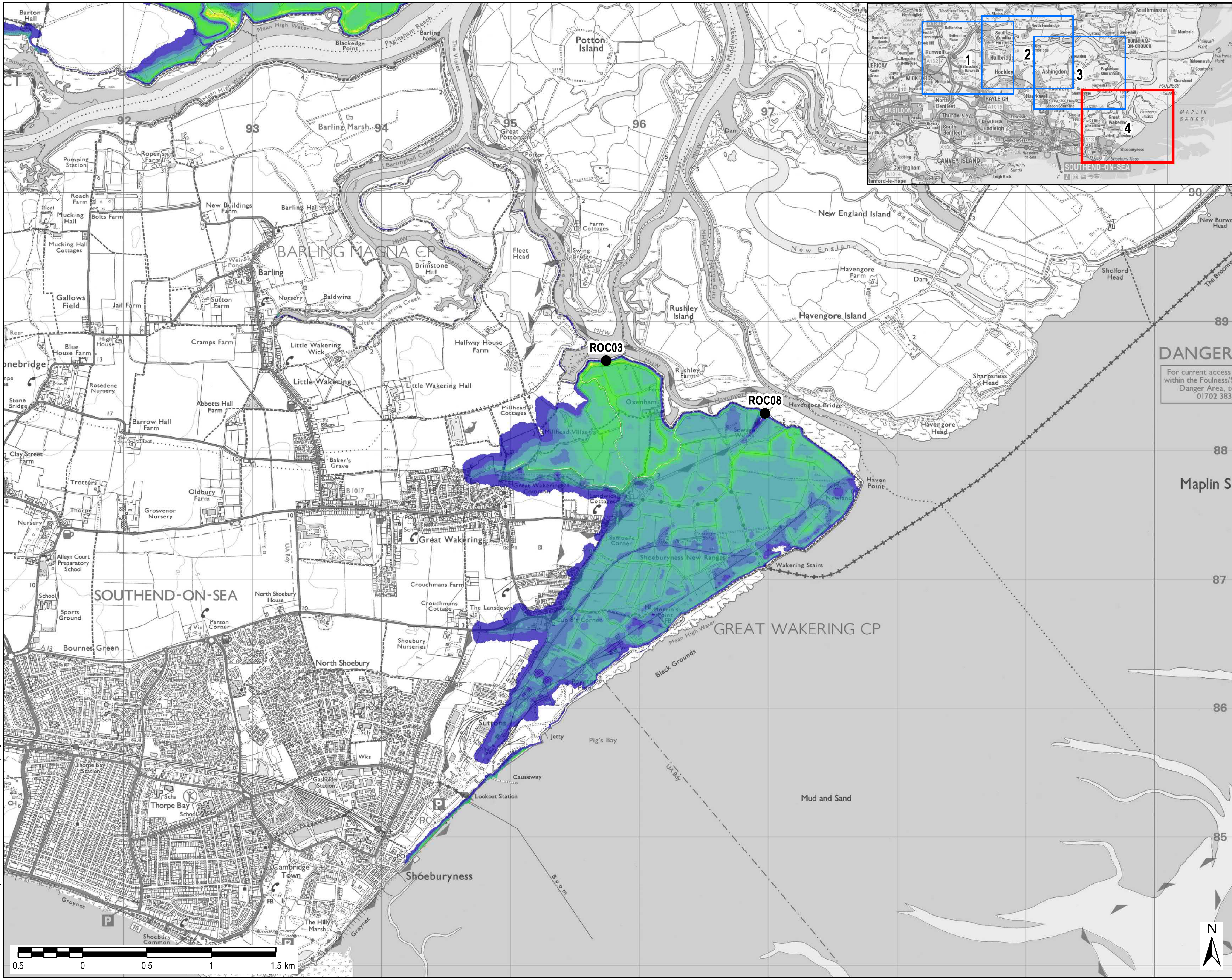
Drawing Number	Rev
FIGURE E35c	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E35 Rochford Breach Maximum Flood Depth - 2016, 0.5 AEP_DDP.mxd



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LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council – castlepoint – Rochford District Council – southend on sea Borough Council

Project Title
SOUTH ESSEX LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH MAXIMUM FLOOD DEPTH 2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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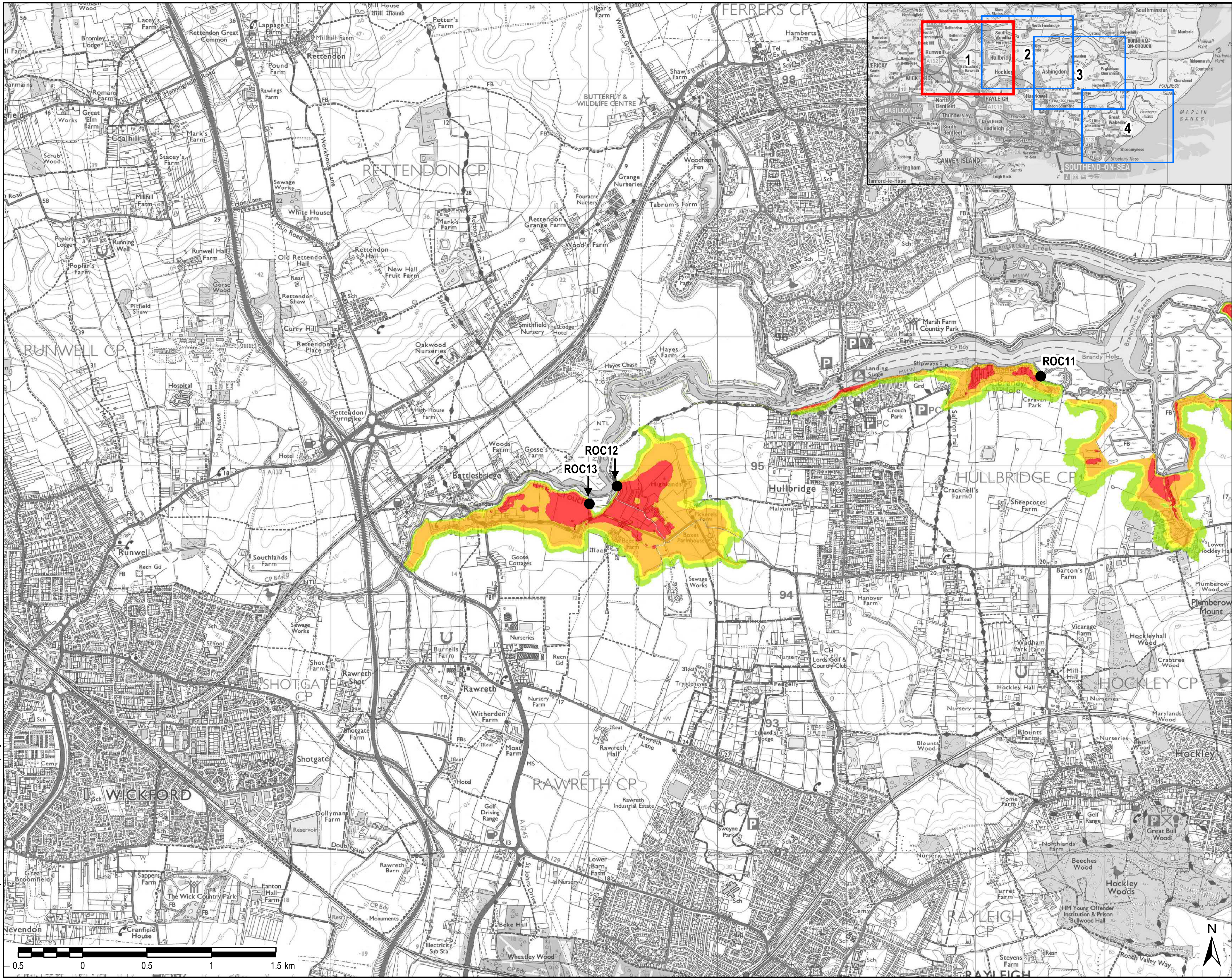
Drawing Number	Rev
FIGURE E35d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E35 Rochford Breach Maximum Flood Depth – 2016, 0.5 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

Hydraulic modelling has been undertaken using 2-D hydraulic modelling software MIKE21-HDFM (ver.2011), to assess the effect of a breach at a specific point in the defences. The model simulates 3 tidal cycles with the peak level occurring on the second peak and two slightly smaller peaks either side. Breaches in the defence walls are modelled to occur in advance of the peak tide level to assess the maximum potential volume of inflow into the flood cell. Flood hazard is calculated as a function of flood depth and flow velocity at a particular point in the floodplain, along with a suitable debris factor and is based on the methodology from Flood Risk to People FD2320 (Defra &EA, 2005). These hazard classifications do not indicate a change in the flood probability. When using flood hazard maps it should be noted that they represent the hazard arising from one or more specified breach locations, and that the rating will almost certainly vary spatially if the breach locations are in different local areas. It should be noted that the breach width and depth, though based on EA guidance, are arbitrary and do not necessarily represent the actual dimensions of a potential breach at a given location. A thorough description of methodology and assumptions is included within the SFRA Main Report.

Purpose of Issue

FINAL

Client

Basildon Council · castlepoint · Rochford District Council · southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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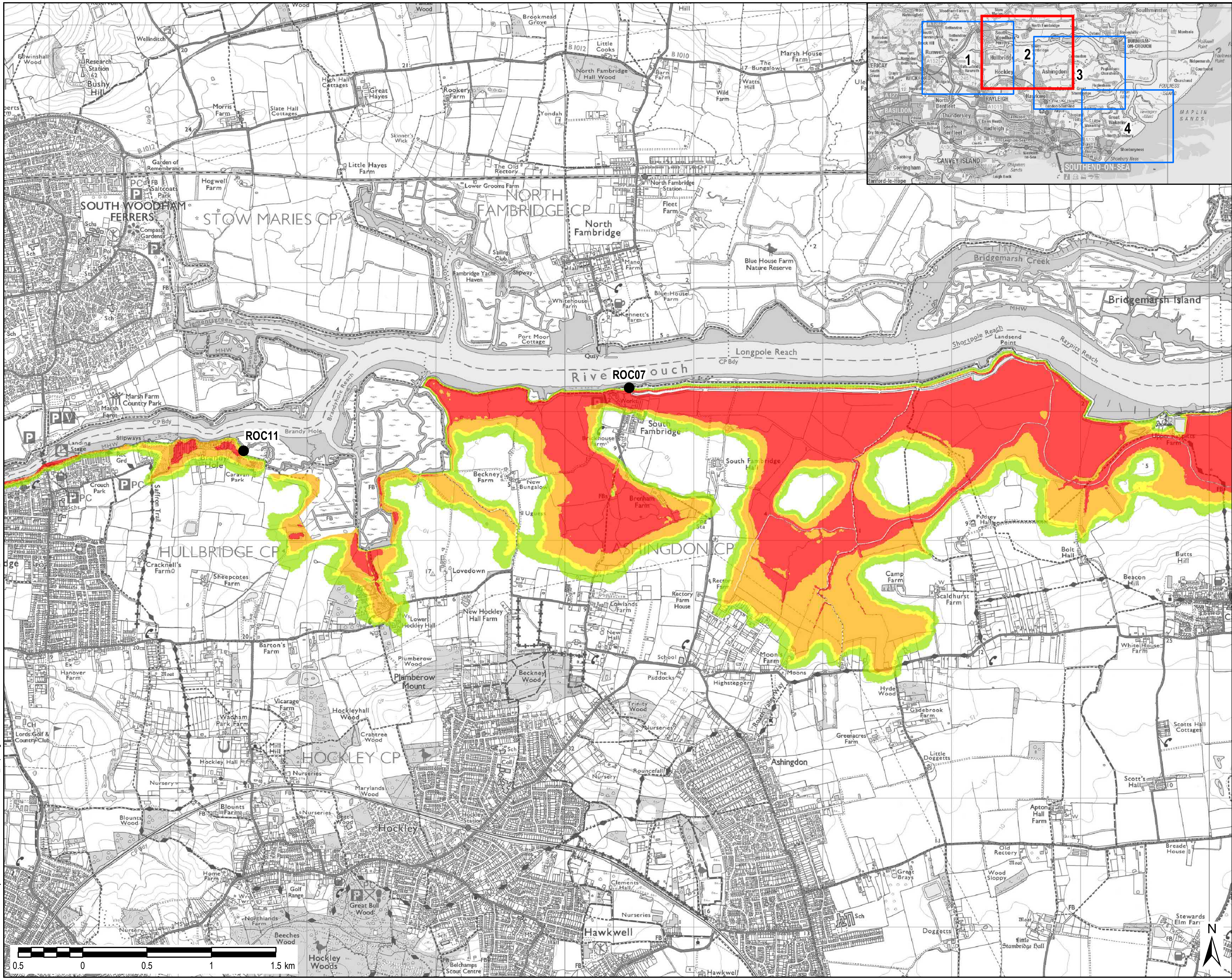
Drawing Number	Rev
FIGURE E36a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E36 Rochford Breach Maximum Flood Hazard – 2016 0.5 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

Hydraulic modelling has been undertaken using 2-D hydraulic modelling software MIKE21-HDFM (ver.2011), to assess the effect of a breach at a specific point in the defences. The model simulates 3 tidal cycles with the peak level occurring on the second peak and two slightly smaller peaks either side. Breaches in the defence walls are modelled to occur in advance of the peak tide level to assess the maximum potential volume of inflow into the flood cell. Flood hazard is calculated as a function of flood depth and flow velocity at a particular point in the floodplain, along with a suitable debris factor and is based on the methodology from Flood Risk to People FD2320 (Defra &EA, 2005). These hazard classifications do not indicate a change in the flood probability. When using flood hazard maps it should be noted that they represent the hazard arising from one or more specified breach locations, and that the rating will almost certainly vary spatially if the breach locations are in different local areas. It should be noted that the breach width and depth, though based on EA guidance, are arbitrary and do not necessarily represent the actual dimensions of a potential breach at a given location. A thorough description of methodology and assumptions is included within the SFRA Main Report.

Purpose of Issue

FINAL

Client

Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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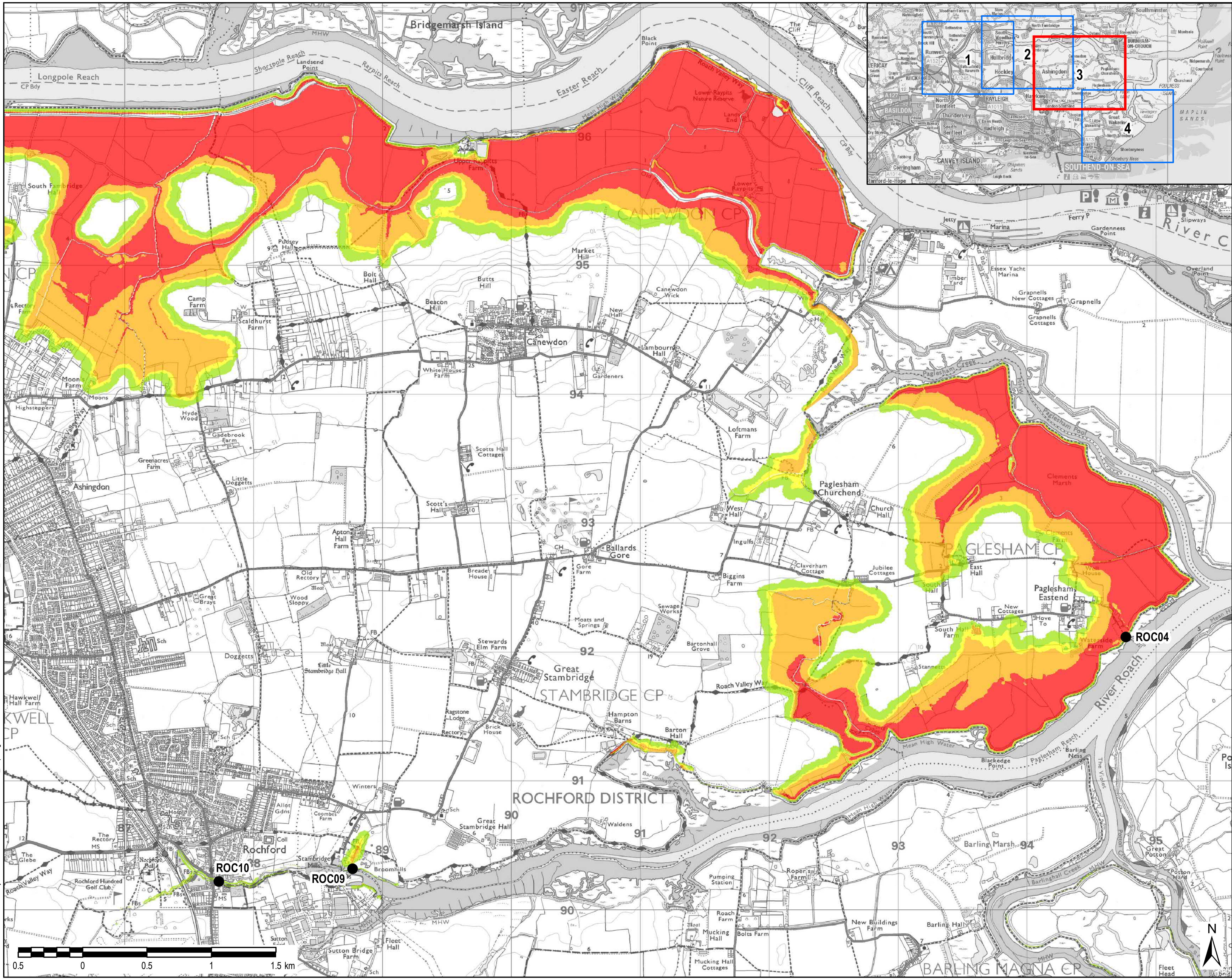
Drawing Number	Rev
FIGURE E36b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E36 Rochford Breach Maximum Flood Hazard – 2016 0.5 AEP_DDP.mxd



File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E36 Rochford Breach Maximum Flood Hazard – 2016 0.5 AEP_DDP.mxd

LEGEND

- ● Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council — castlepoint — Rochford District Council — southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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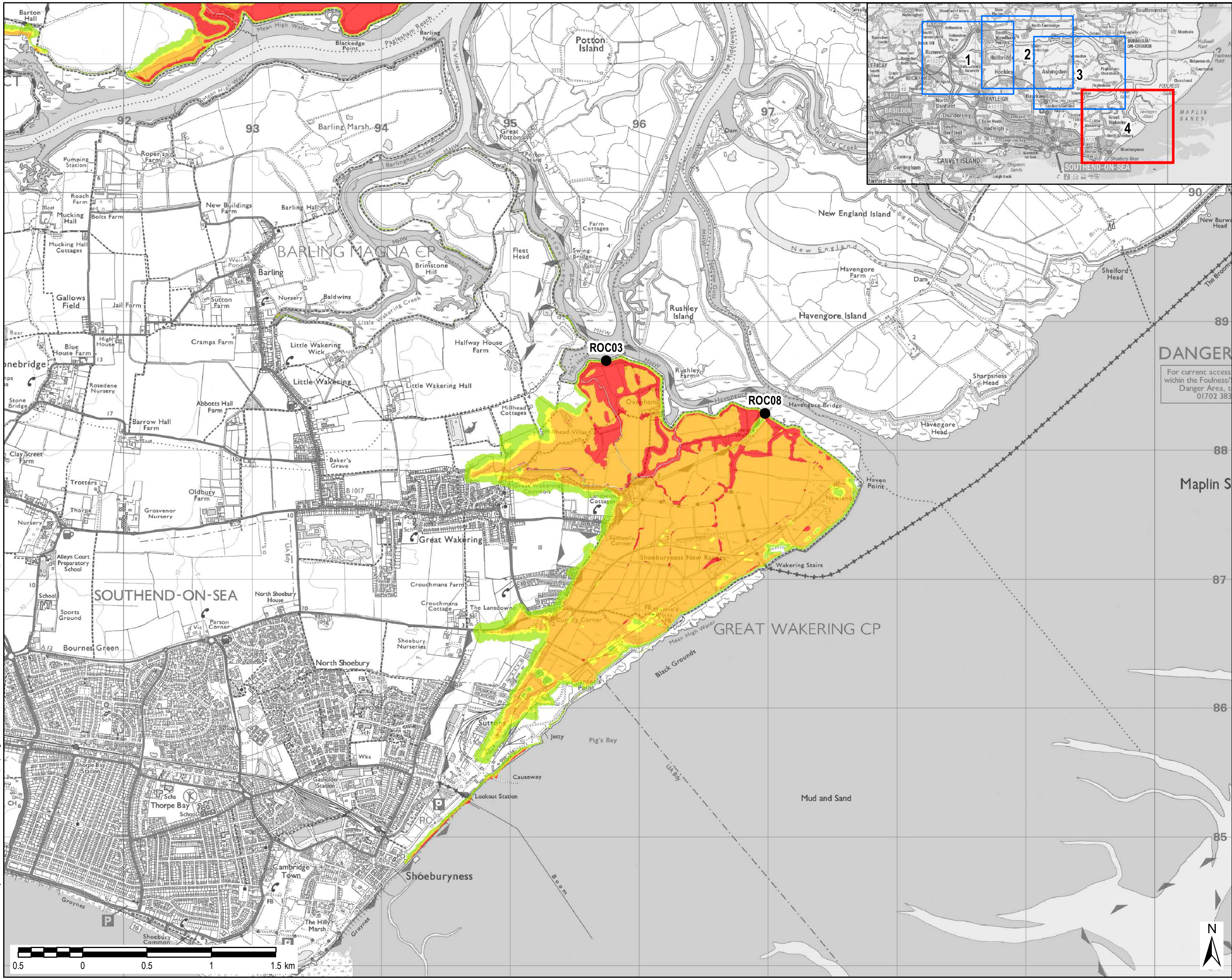
Drawing Number	Rev
FIGURE E36c	1



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LEGEND

- ● Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

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Purpose of Issue

FINAL

Client

Basildon Council · castlepoint · Rochford District Council · southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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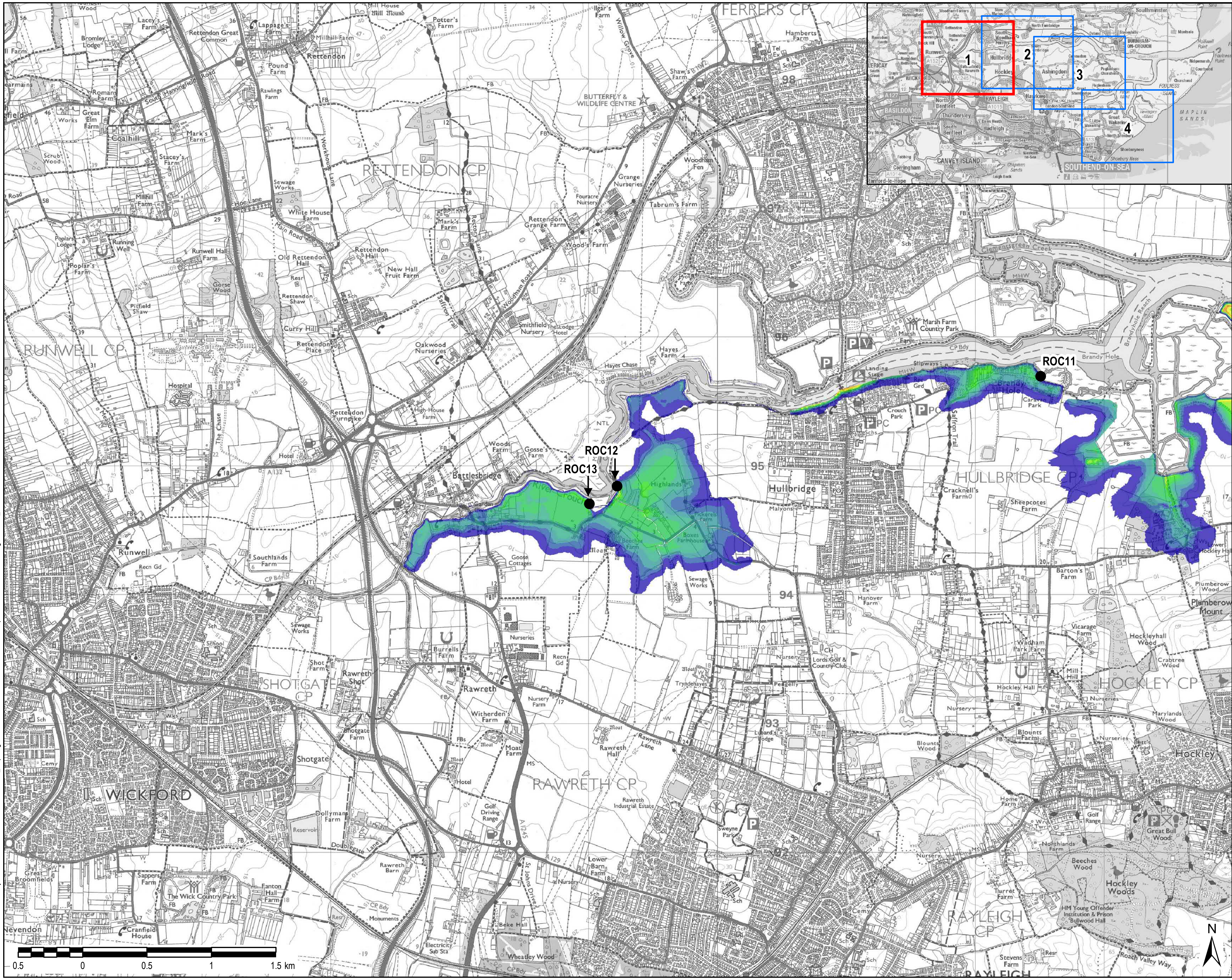
Drawing Number	Rev
FIGURE E36d	1



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LEGEND

- Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council — castlepoint — Rochford District Council — southend on sea

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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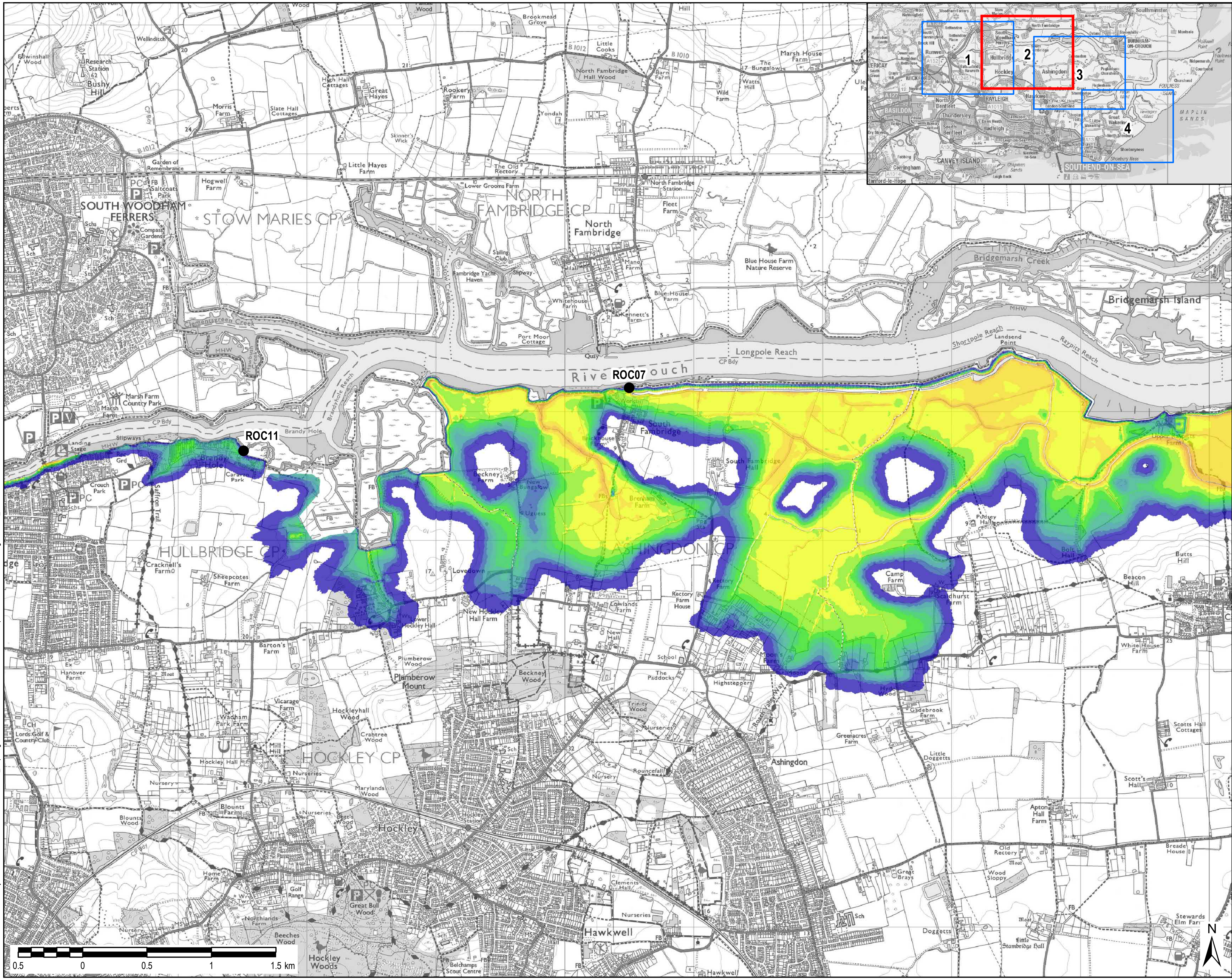
Drawing Number
FIGURE E37a

Rev
1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E37 Rochford Breach Maximum Flood Depth – 2116 with climate change 0.5 AEP_DDP.mxd



LEGEND

- Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
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NOTES

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Purpose of Issue

FINAL

Client

Basildon Council · castlepoint · Rochford District Council · southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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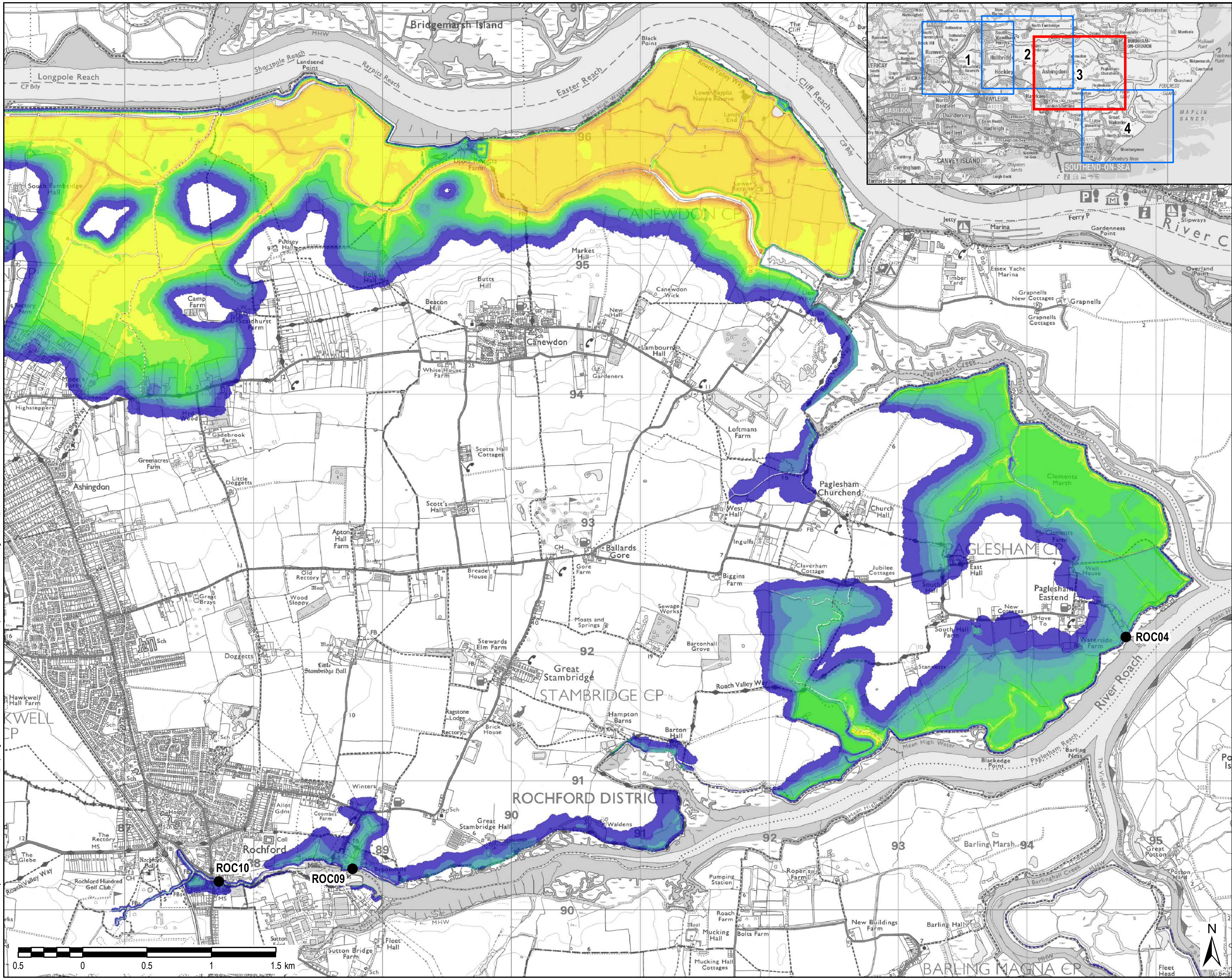
Drawing Number	Rev
FIGURE E37b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E37 Rochford Breach Maximum Flood Depth – 2116 with climate change 0.5 AEP_DDP.mxd



File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E37 Rochford Breach Maximum Flood Depth – 2116 with climate change 0.5 AEP_DDP.mxd

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LEGEND

- Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
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Purpose of Issue
FINAL

Client
Basildon Council – Basildon • Billericay • Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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Scott House
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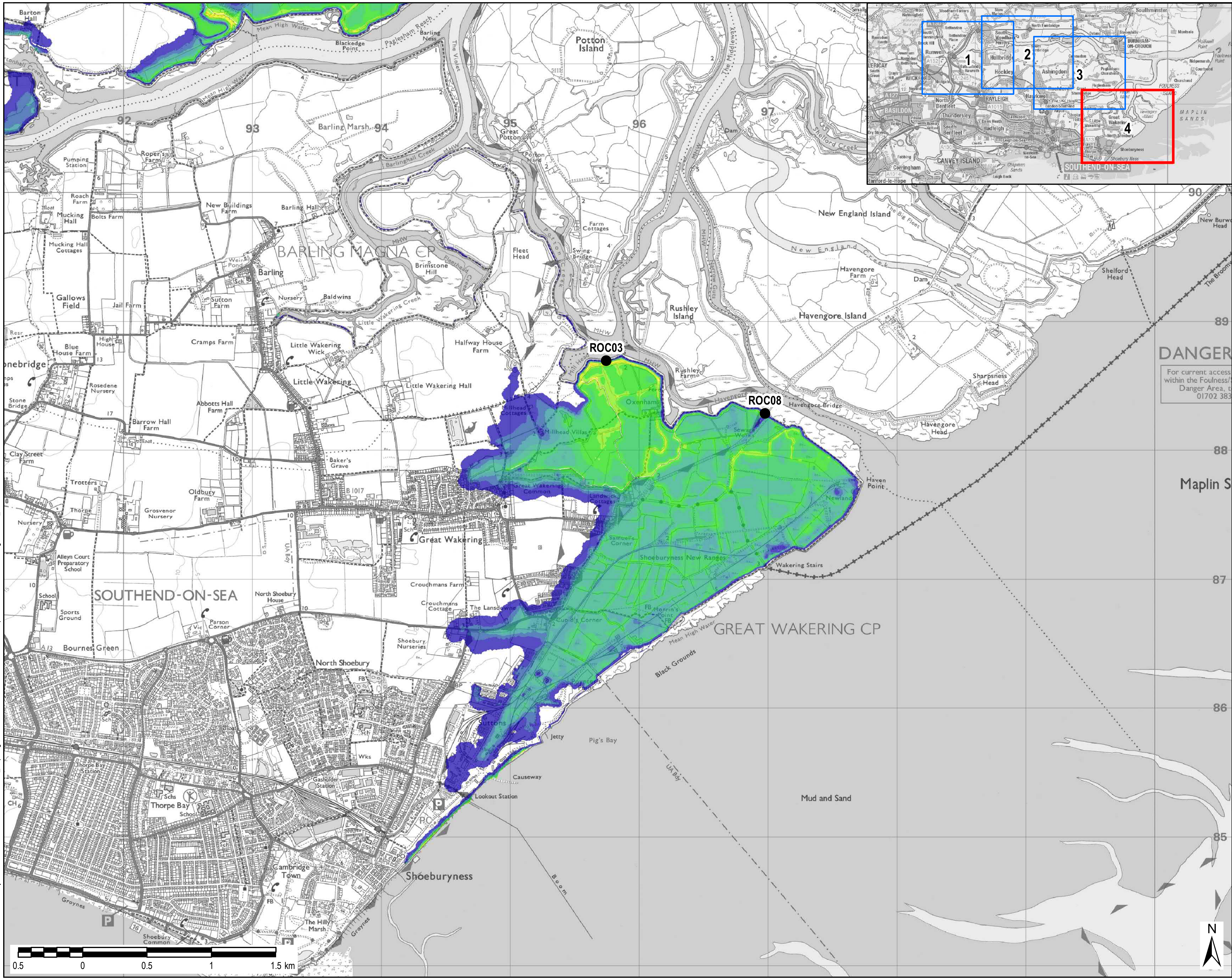
Drawing Number	Rev
FIGURE E37c	1



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LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

NOTES

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Purpose of Issue
FINAL

Client
Basildon Council — castlepoint — Rochford District Council — southend on sea

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.5% AEP

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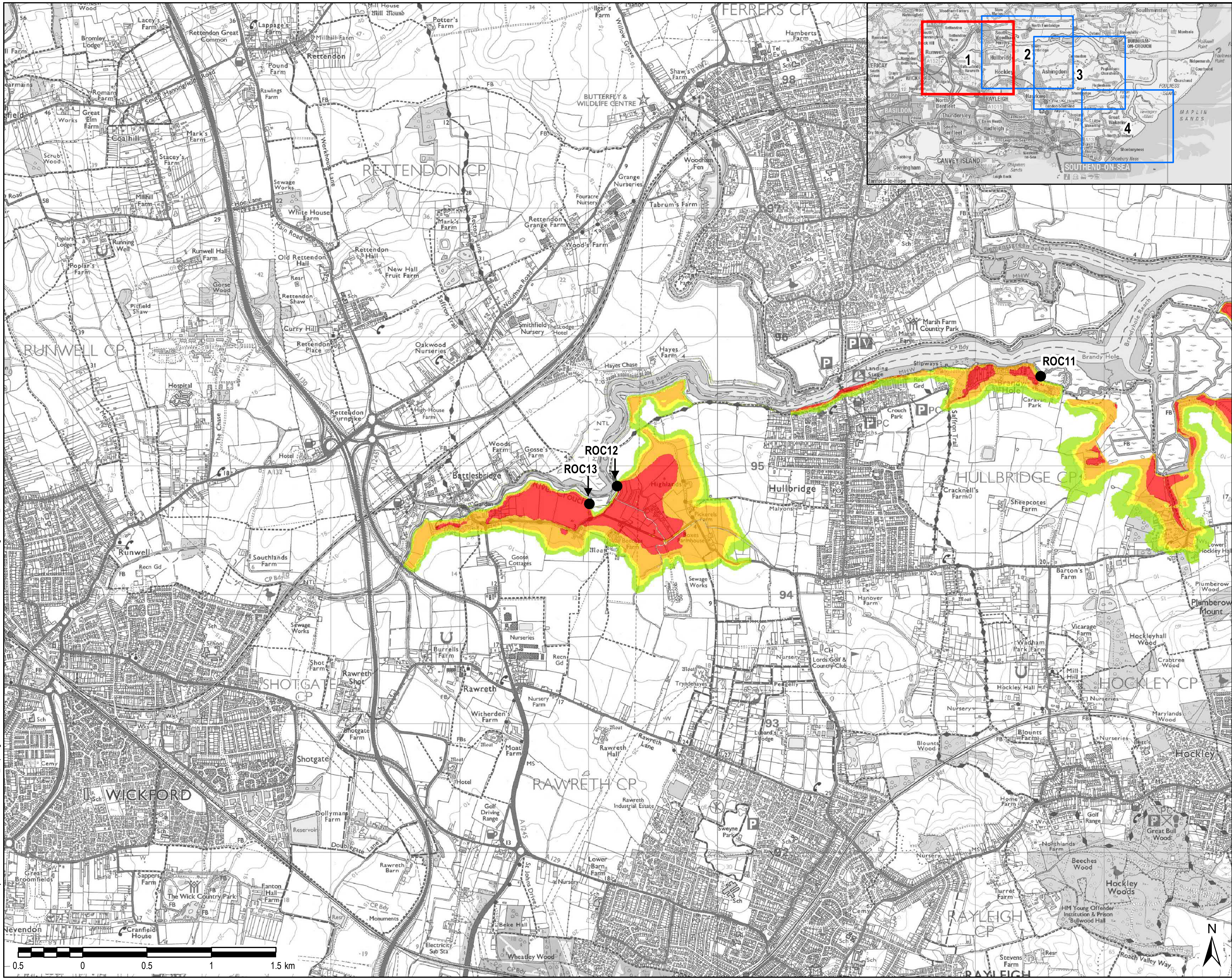
FIGURE E37d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E37 Rochford Breach Maximum Flood Depth - 2116 with climate change 0.5 AEP_DDP.mxd



LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
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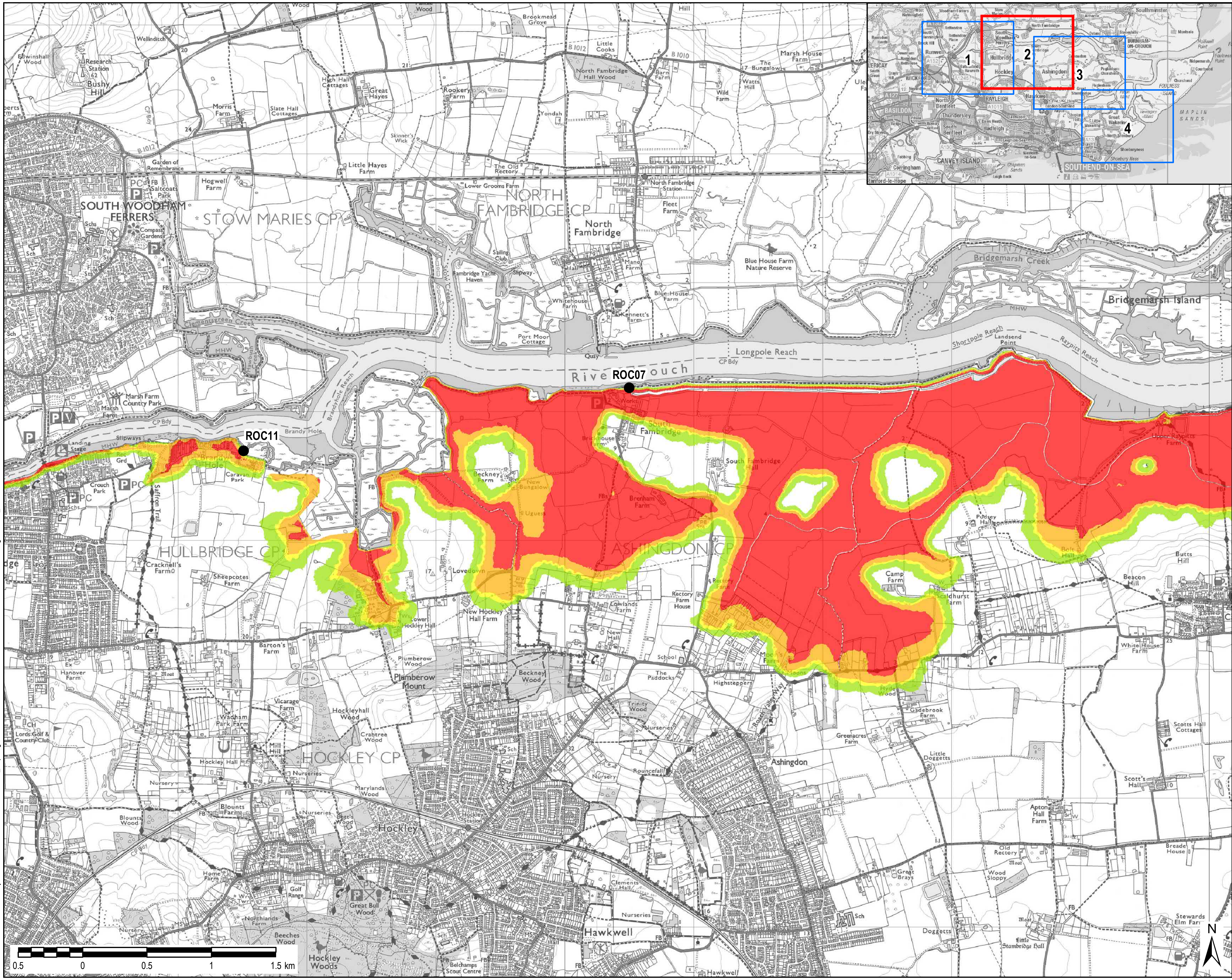
Drawing Number	Rev
FIGURE E38a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E38 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.5 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
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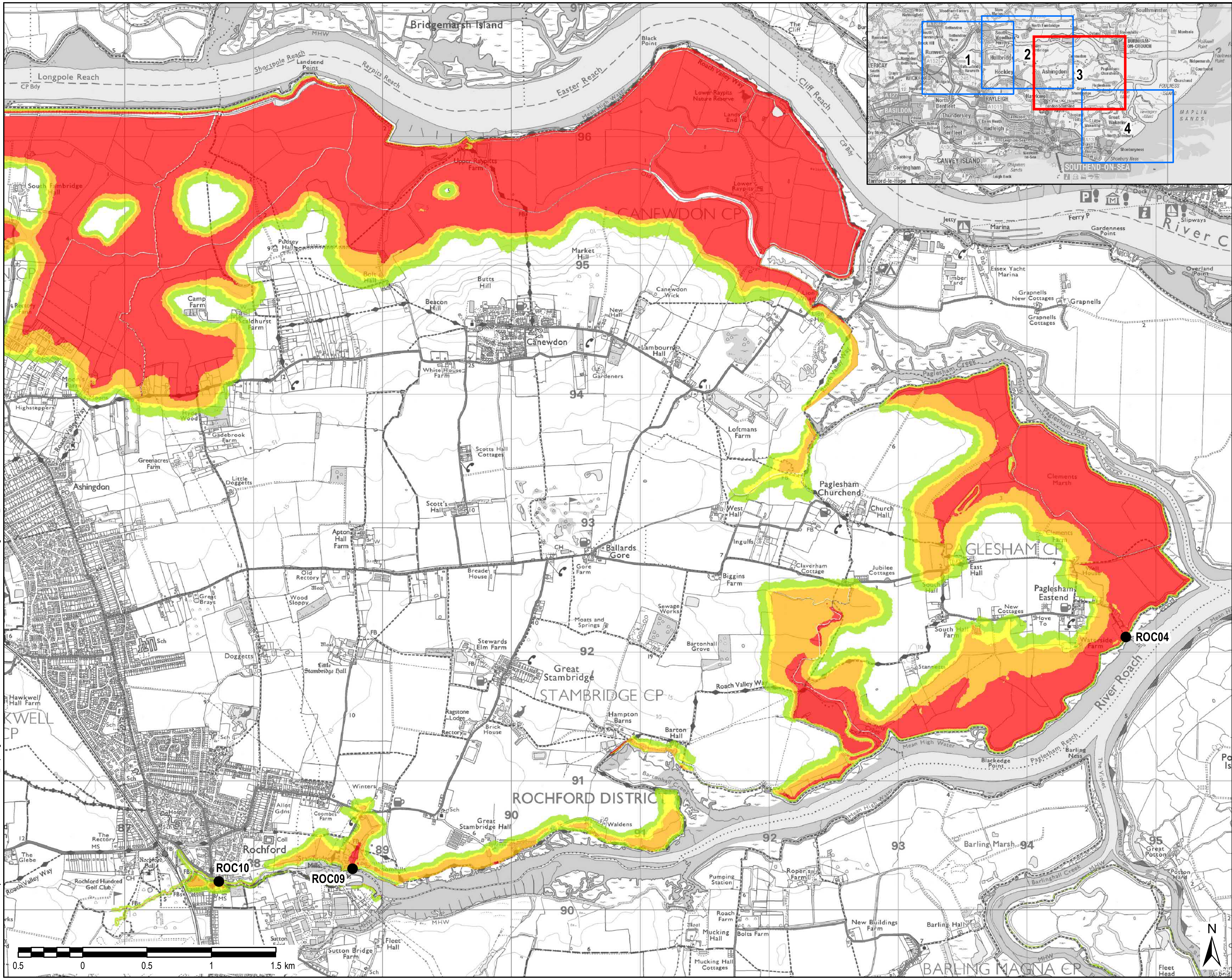
Drawing Number	Rev
FIGURE E38b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E38 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.5 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council (BASILDON · BILLERICAY · WICKFORD), castlepoint, Rochford District Council, southend on sea BOROUGH COUNCIL

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
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Drawing Number	Rev
FIGURE E38c	1

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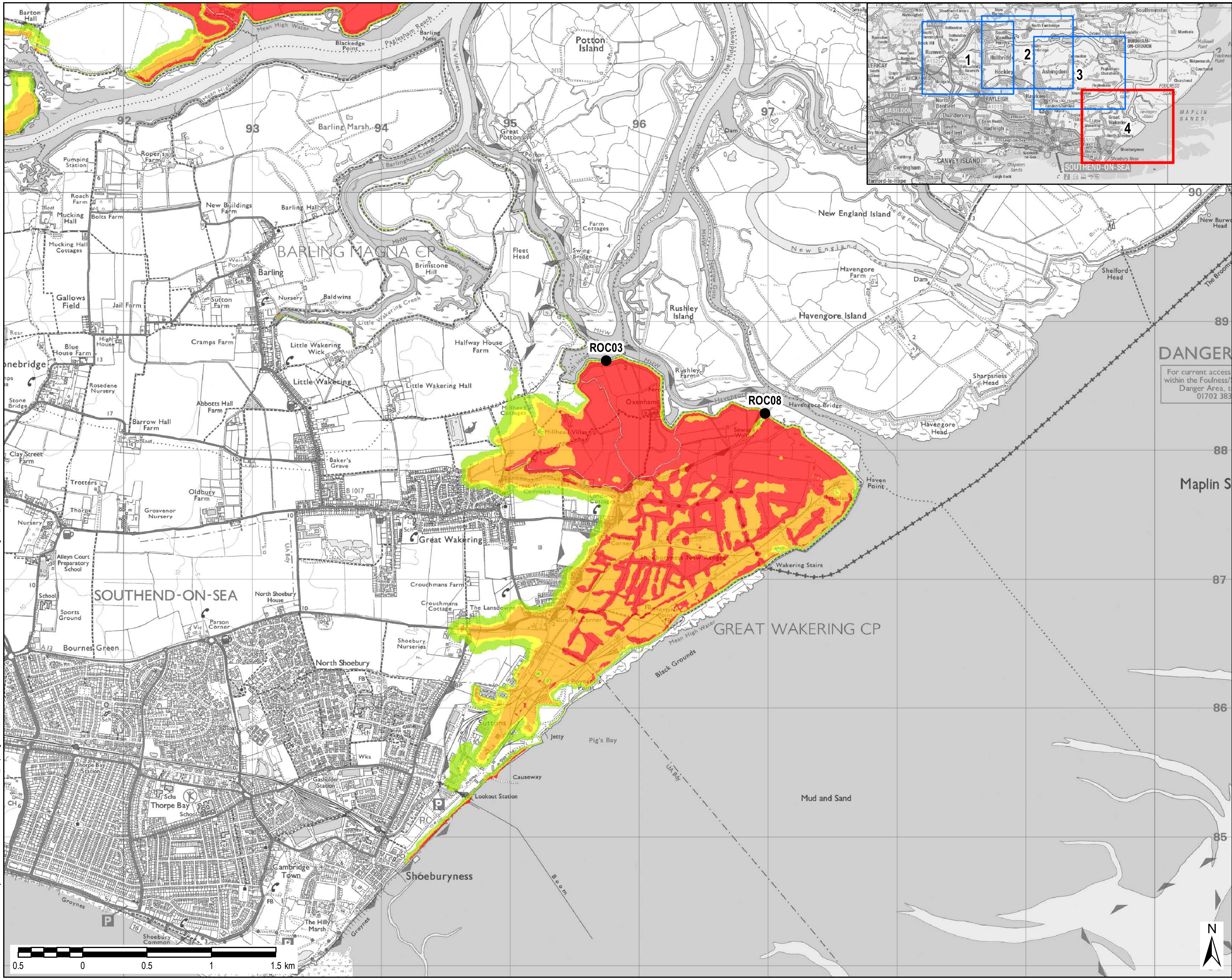

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LEGEND

- ● Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue
FINAL

Client
Basildon Council · Castle Point · Rochford District Council · Southend on Sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.5% AEP

Drawn	Checked	Approved	Date
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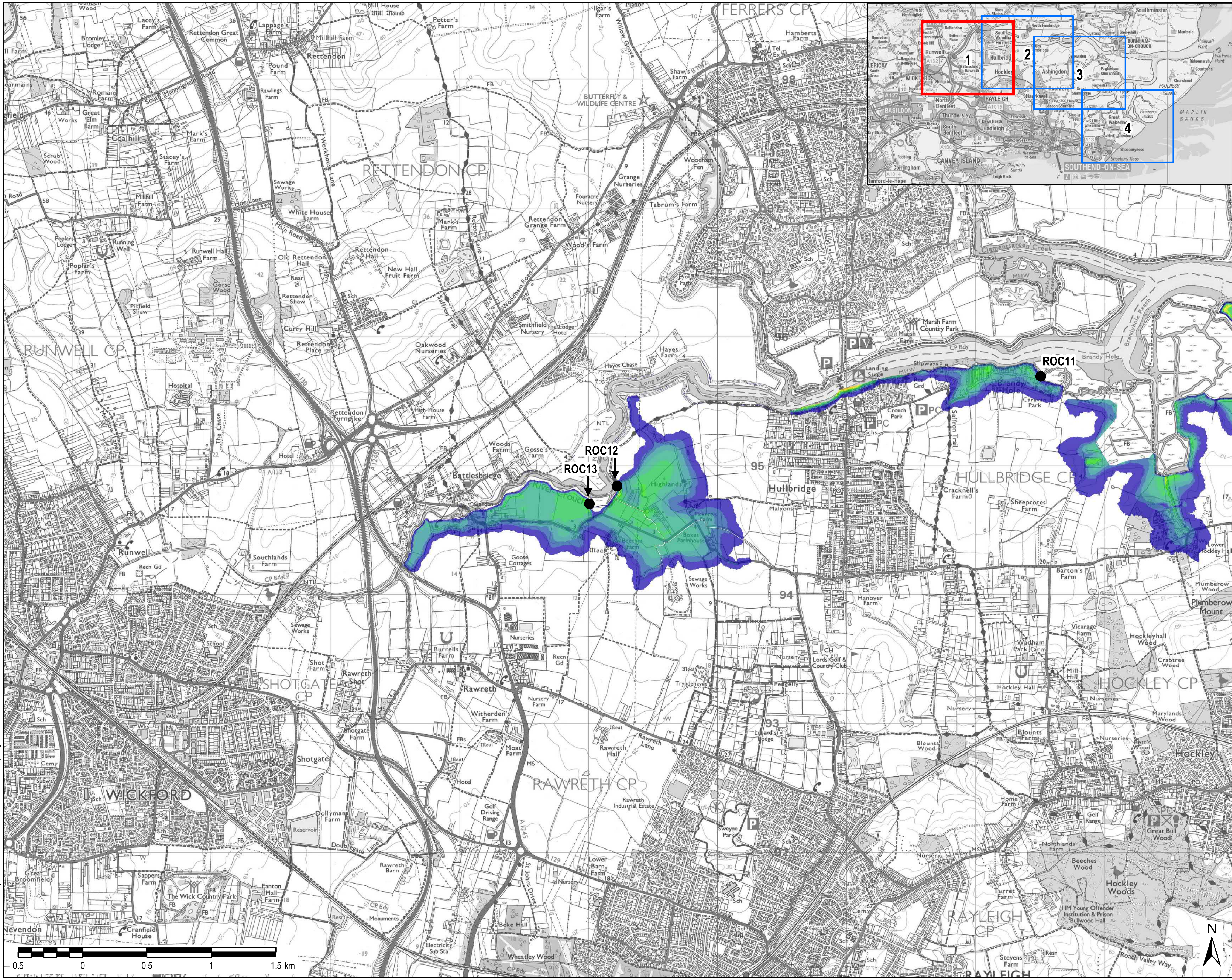
FIGURE E38d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E38 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.5 AEP_DDP.mxd



File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E39 Rochford Breach Maximum Flood Depth - 2016 0.1 AEP_DDP.mxd

LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

NOTES

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Purpose of Issue
FINAL

Client
Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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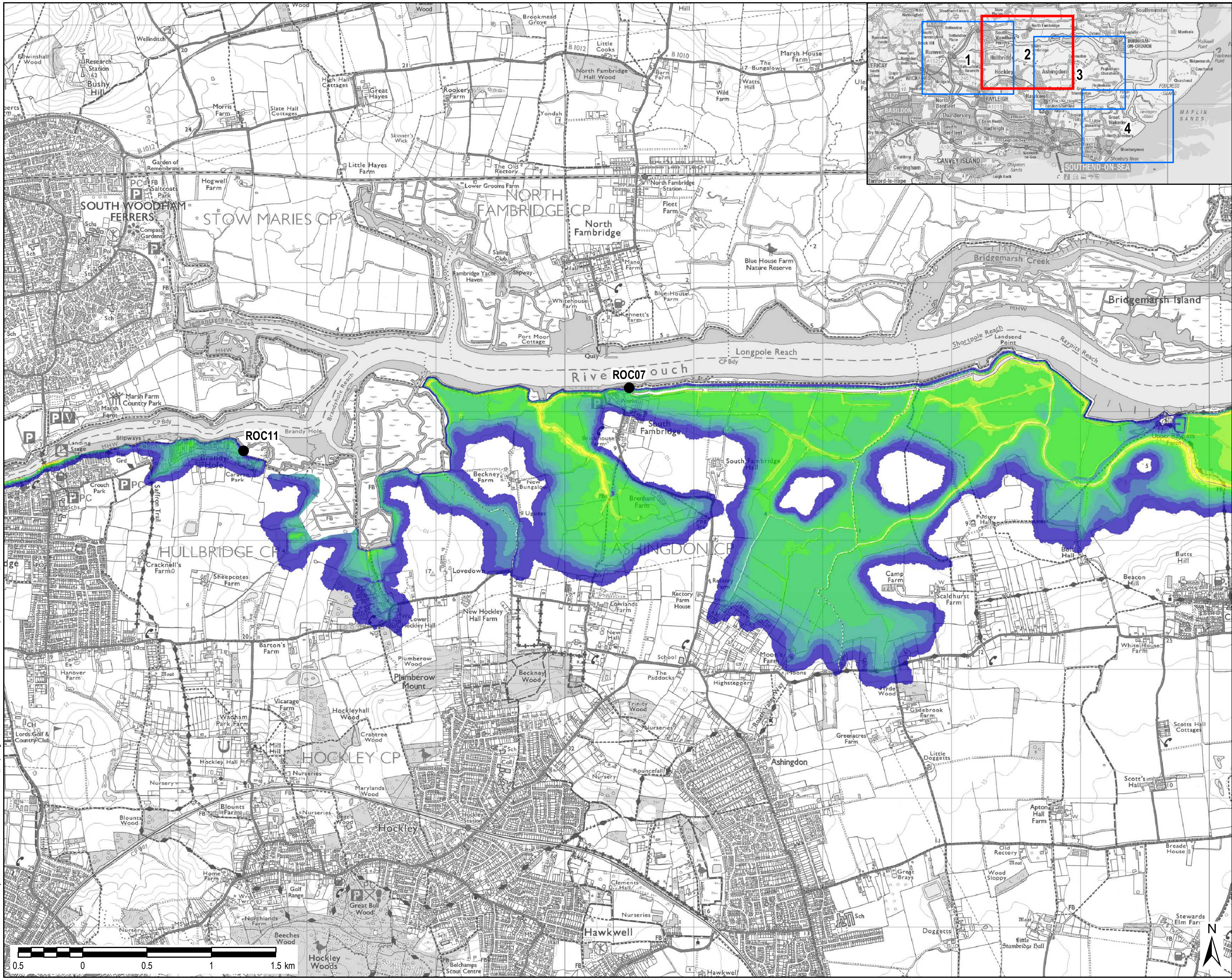
Drawing Number	Rev
FIGURE 39a	1



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LEGEND

● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council (Basildon · Billericay · Wickford)
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.1% AEP

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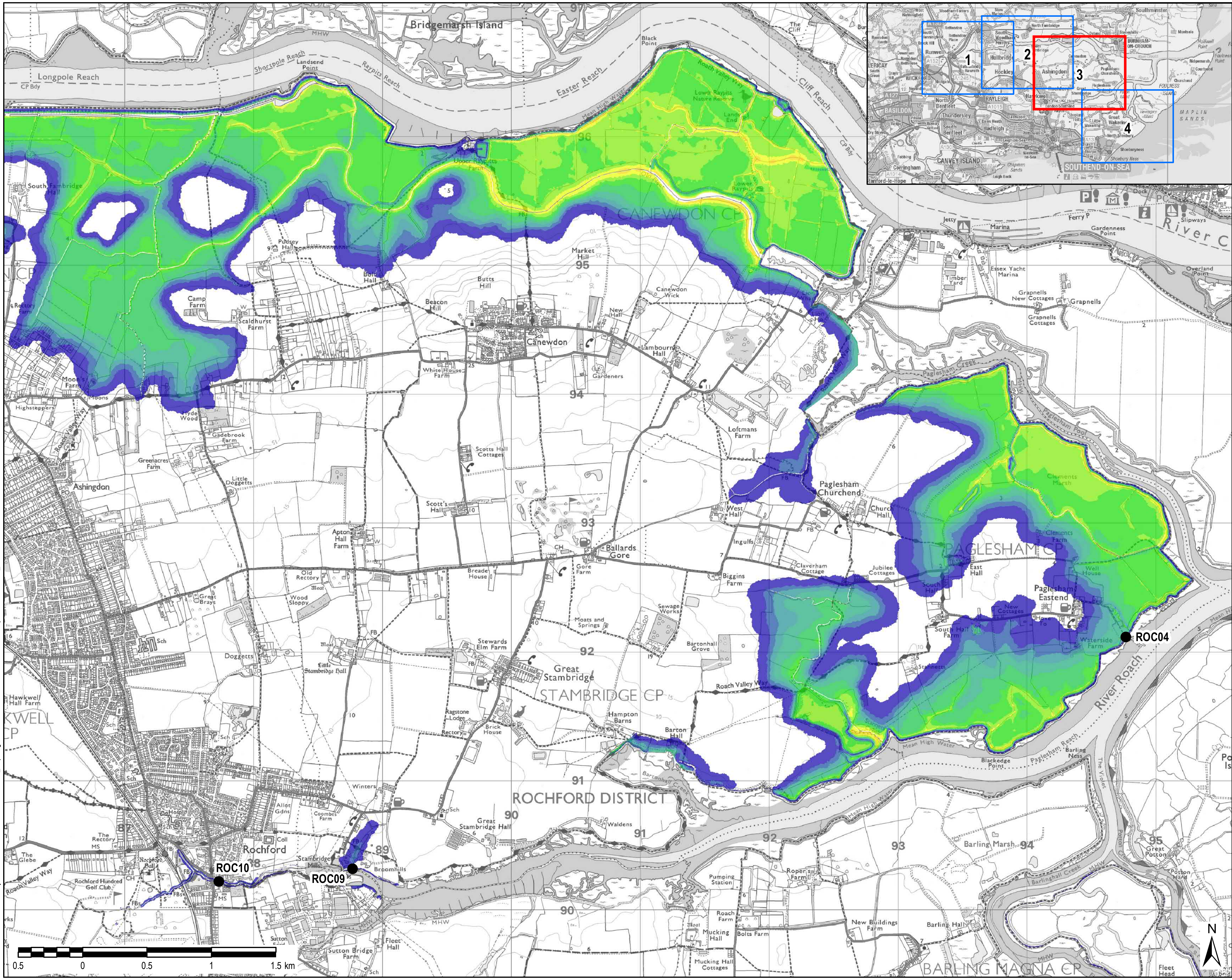
Drawing Number	Rev
FIGURE 39b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E39 Rochford Breach Maximum Flood Depth - 2016 0.1 AEP_DDP.mxd



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LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council, castlepoint, Rochford District Council, southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

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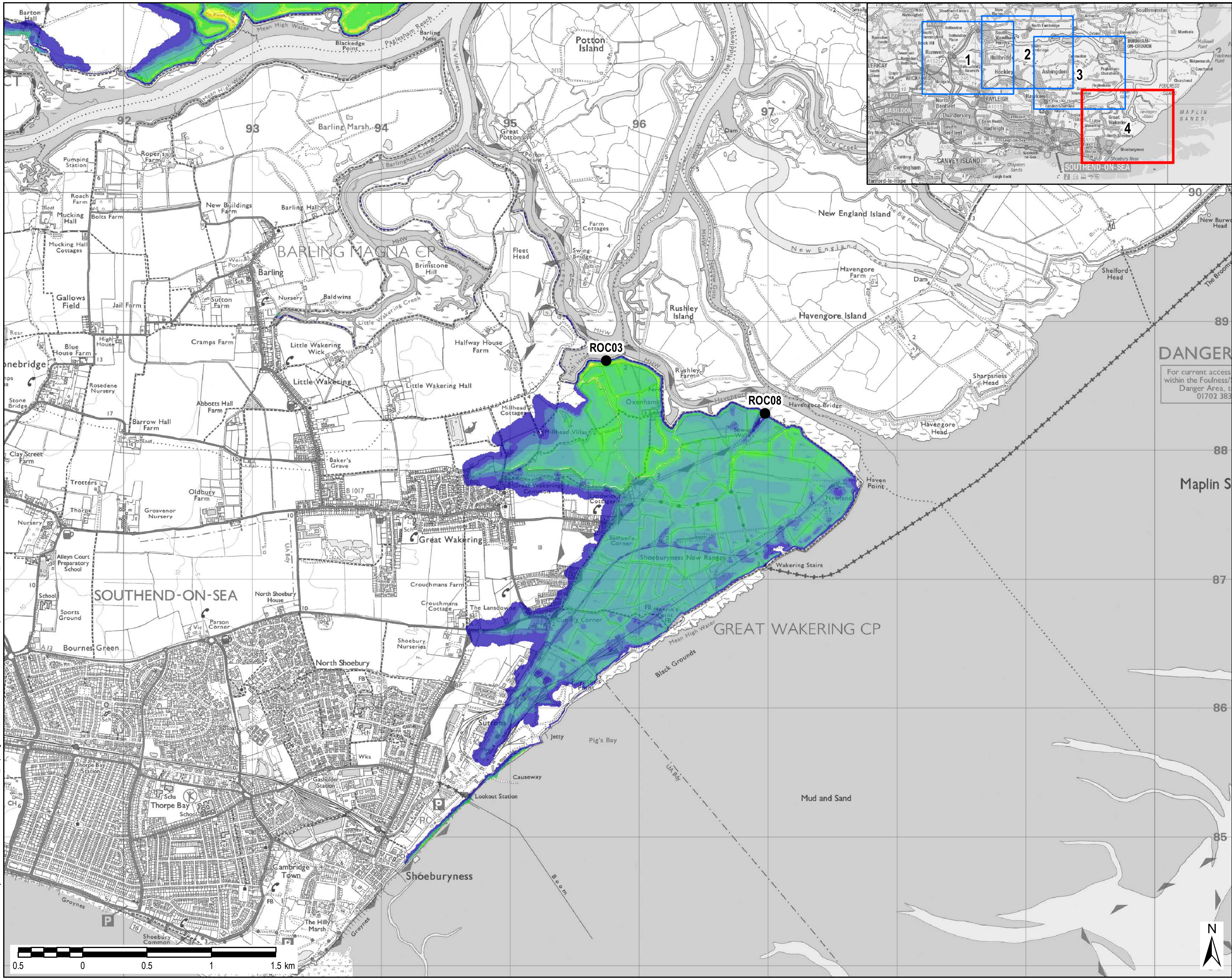
Drawing Number	Rev
FIGURE 39c	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E39 Rochford Breach Maximum Flood Depth - 2016 0.1 AEP_DDP.mxd



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LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
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- > 5 to 5.5m
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Purpose of Issue
FINAL

Client
Basildon Council — castlepoint — Rochford District Council — southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2016, 0.1% AEP

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FIGURE 39d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E39 Rochford Breach Maximum Flood Depth – 2016 0.1 AEP_DDP.mxd

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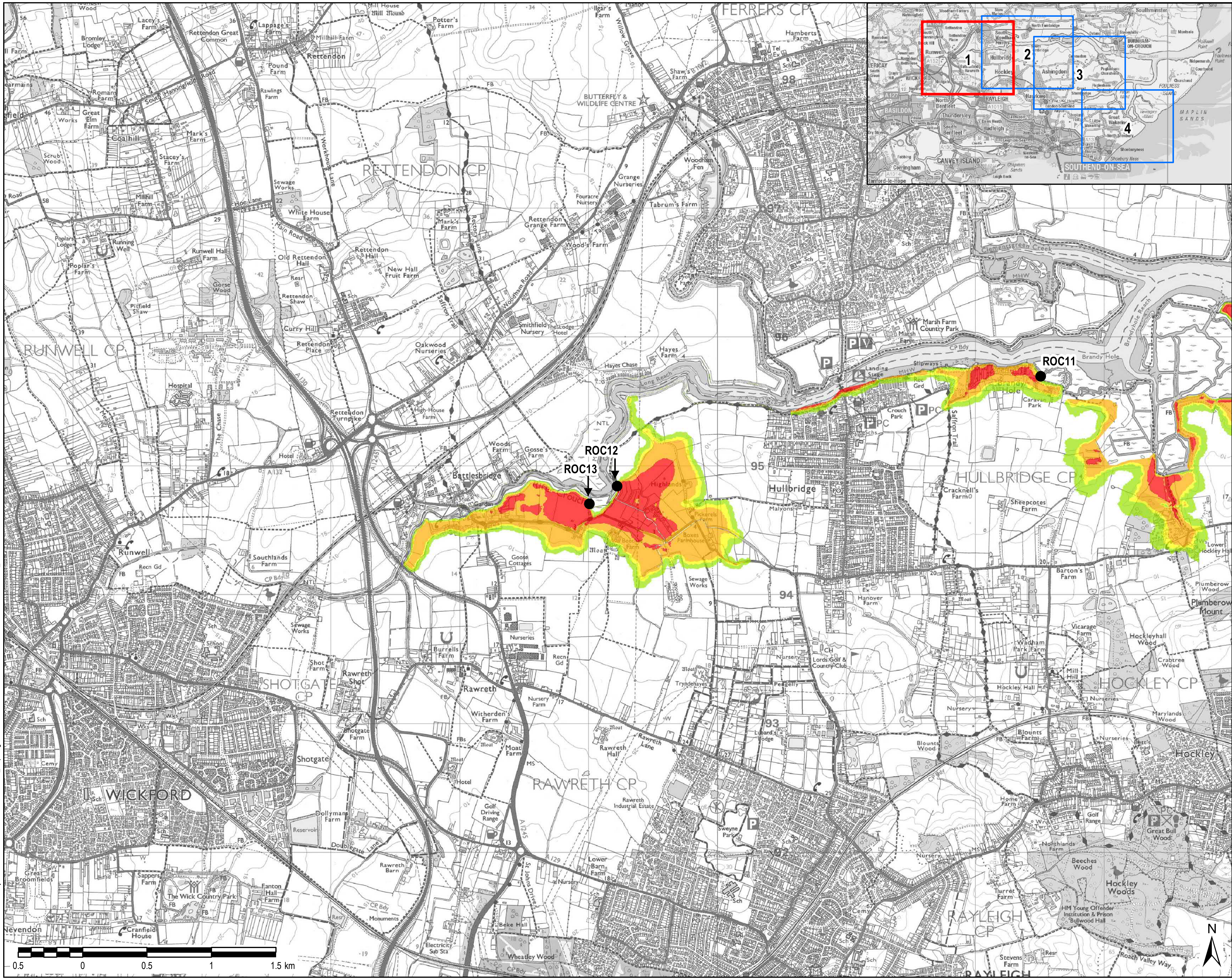

LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council — BASILDON · BILLERICAY · WICKFORD
castlepoint
Rochford District Council
southend on sea BOROUGH COUNCIL

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.1% AEP

Drawn	Checked	Approved	Date
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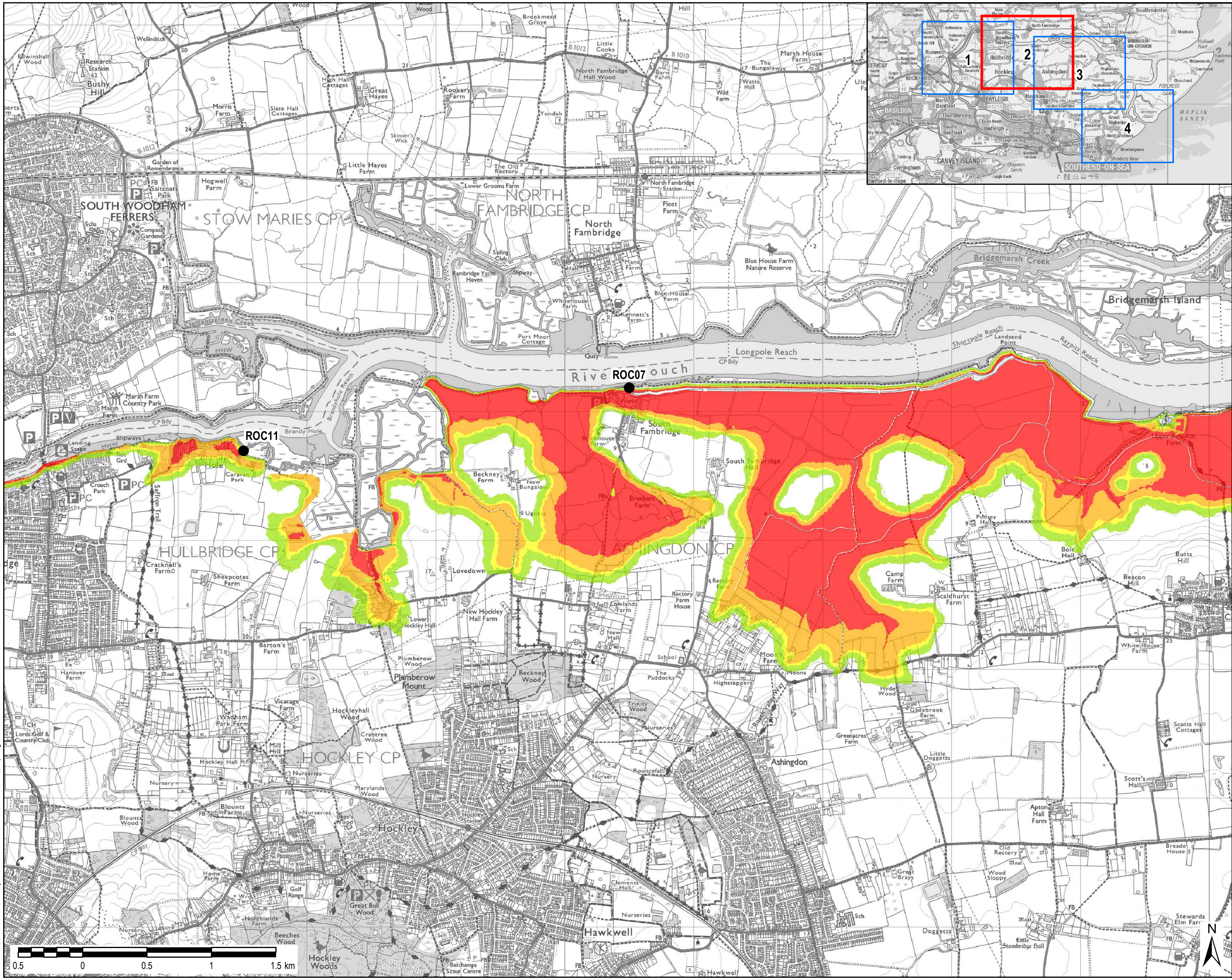
Drawing Number	Rev
FIGURE E40a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E40 Rochford Breach Maximum Flood Hazard – 2016 0.1 AEP_DDP.mxd



File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E40 Rochford Breach Maximum Flood Hazard – 2016 0.1 AEP_DDP.mxd

LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

Hydraulic modelling has been undertaken using 2-D hydraulic modelling software MIKE21-HDFM (ver.2011), to assess the effect of a breach at a specific point in the defences. The model simulates 3 tidal cycles with the peak level occurring on the second peak and two slightly smaller peaks either side. Breaches in the defence walls are modelled to occur in advance of the peak tide level to assess the maximum potential volume of inflow into the flood cell. Flood hazard is calculated as a function of flood depth and flow velocity at a particular point in the floodplain, along with a suitable debris factor and is based on the methodology from Flood Risk to People FD2320 (Defra &EA, 2005). These hazard classifications do not indicate a change in the flood probability. When using flood hazard maps it should be noted that they represent the hazard arising from one or more specified breach locations, and that the rating will almost certainly vary spatially if the breach locations are in different local areas. It should be noted that the breach width and depth, though based on EA guidance, are arbitrary and do not necessarily represent the actual dimensions of a potential breach at a given location. A thorough description of methodology and assumptions is included within the SFRA Main Report.

Purpose of Issue
FINAL

Client
Basildon Council – Castle Point – Rochford District Council – Southend on Sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:27,000

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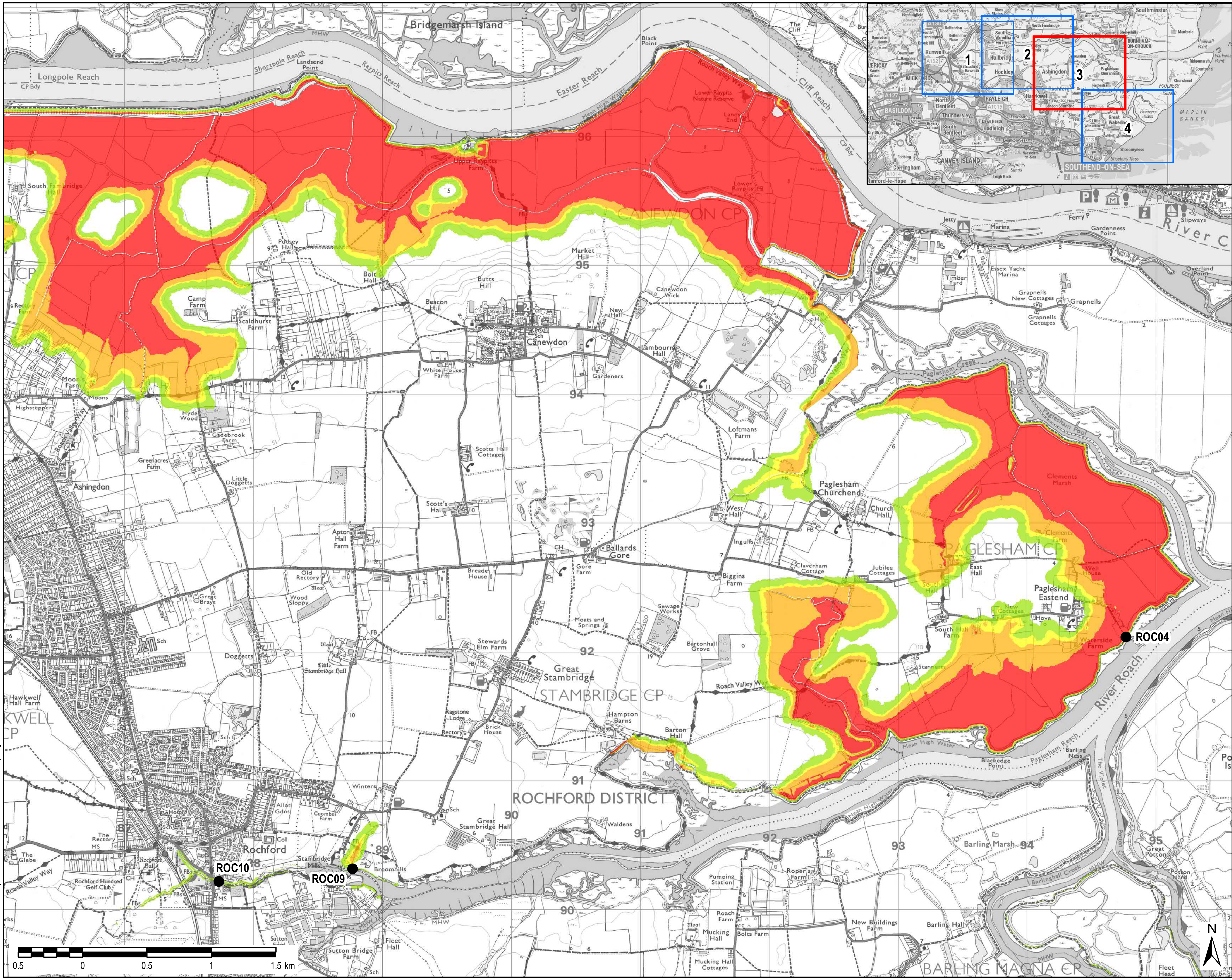
Drawing Number	Rev
FIGURE E40b	1



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue: FINAL

Client: Basildon Council, castlepoint, Rochford District Council, southend on sea Borough Council

Project Title: SOUTH ESSEX LEVEL 1 SFRA

Drawing Title: ROCHFORD BREACH MAXIMUM FLOOD HAZARD 2016, 0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
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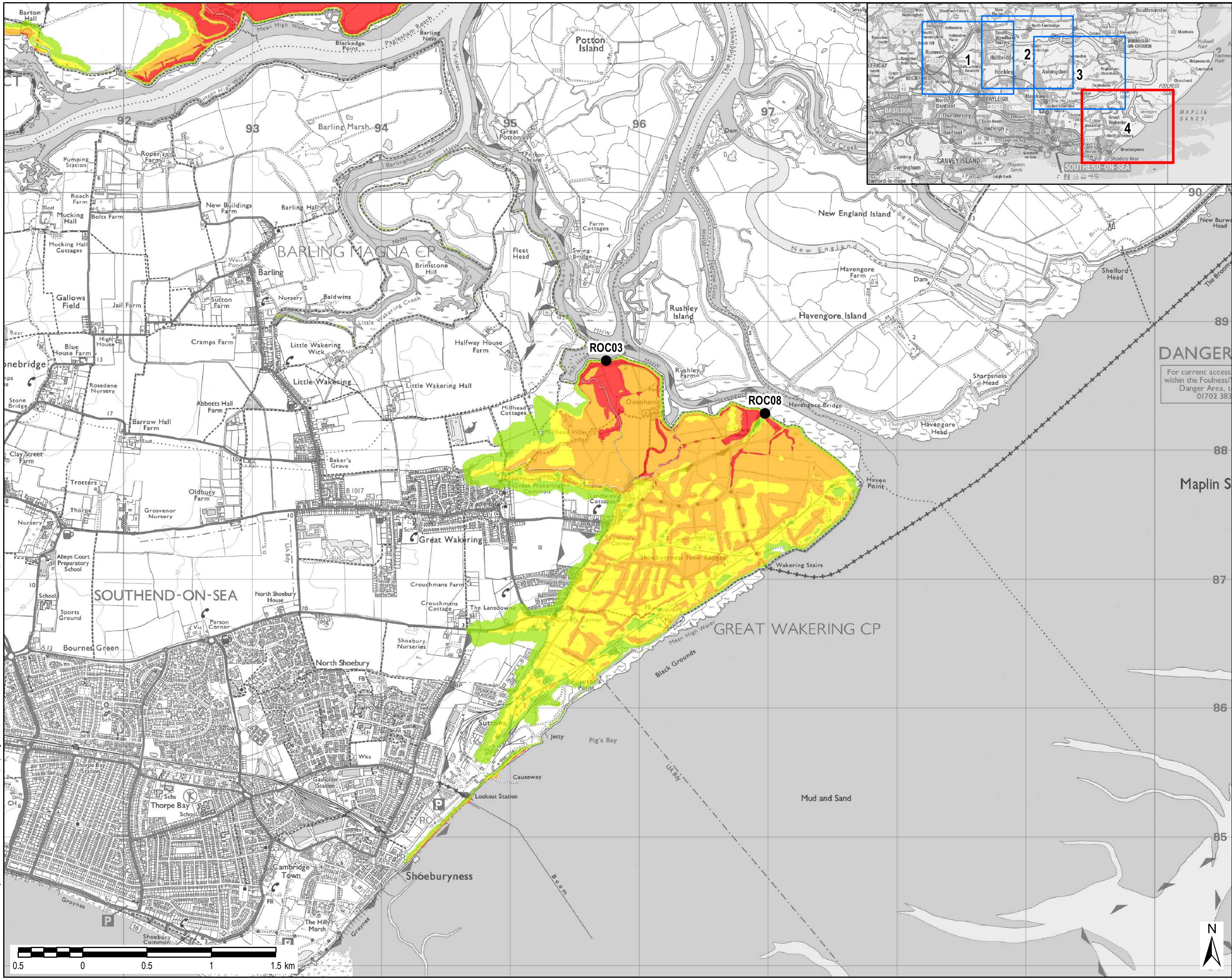
Drawing Number	Rev
FIGURE E40c	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E40 Rochford Breach Maximum Flood Hazard – 2016 0.1 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council, Castle Point, Rochford District Council, Southend on Sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2016, 0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
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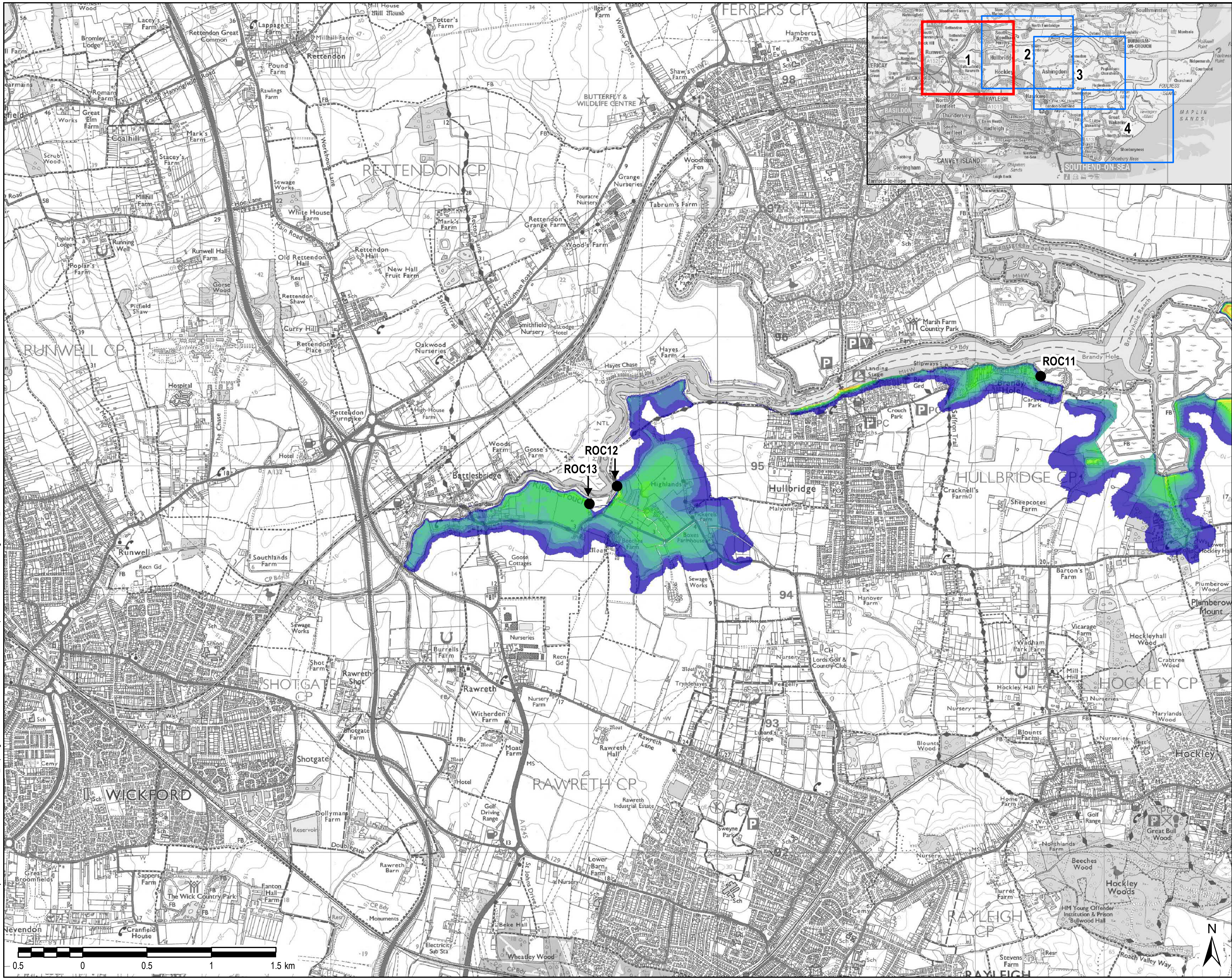
Drawing Number	Rev
FIGURE E40d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E40 Rochford Breach Maximum Flood Hazard – 2016 0.1 AEP_DDP.mxd



LEGEND

- ● Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

NOTES

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Purpose of Issue
FINAL

Client
Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

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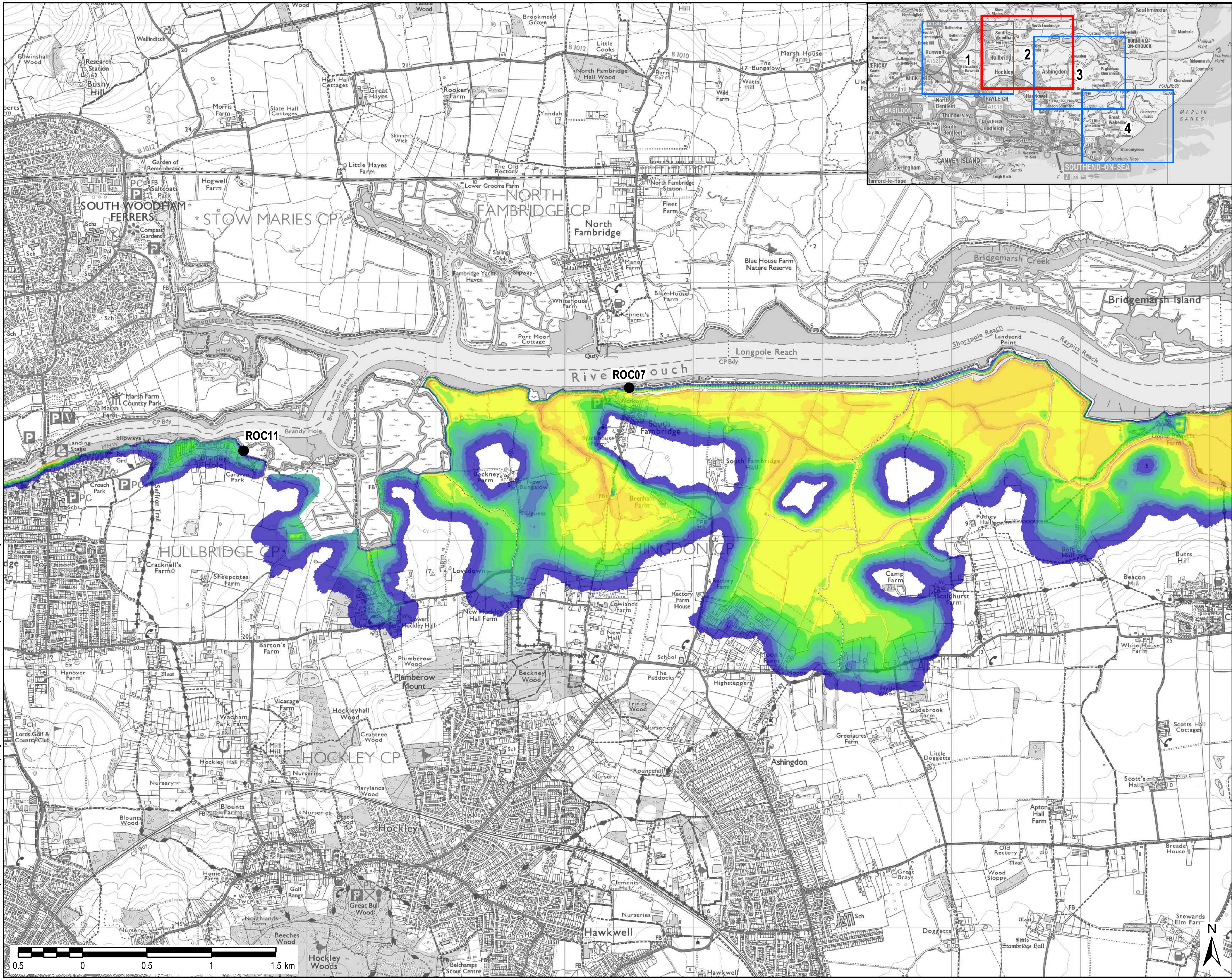
Drawing Number	Rev
FIGURE E41a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E41 Rochford Breach Maximum Flood Depth – 2116 with climate change 0.1 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

NOTES

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Purpose of Issue
FINAL

Client
Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
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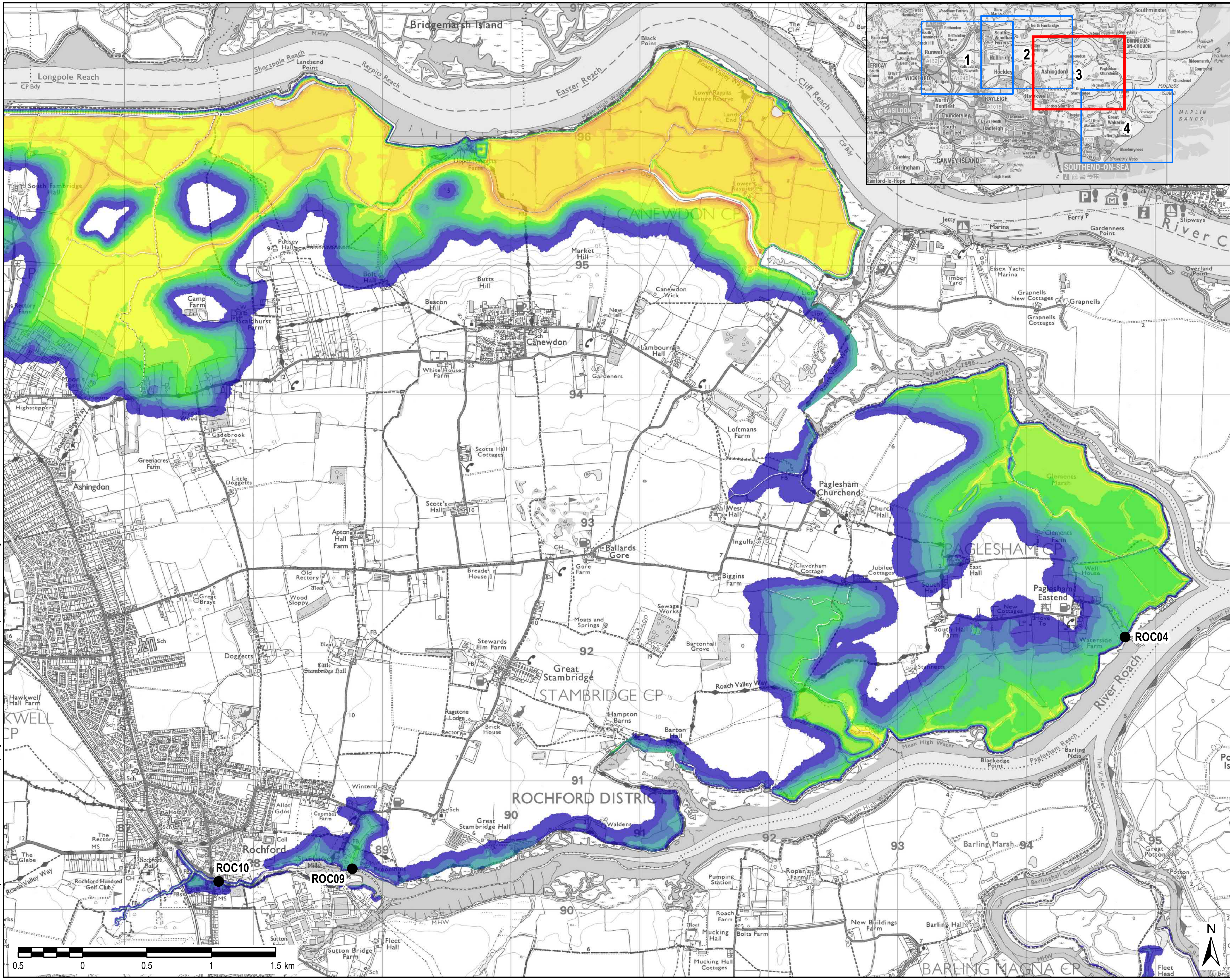
Drawing Number	Rev
FIGURE E41b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E41 Rochford Breach Maximum Flood Depth – 2116 with climate change 0.1 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
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- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.1% AEP

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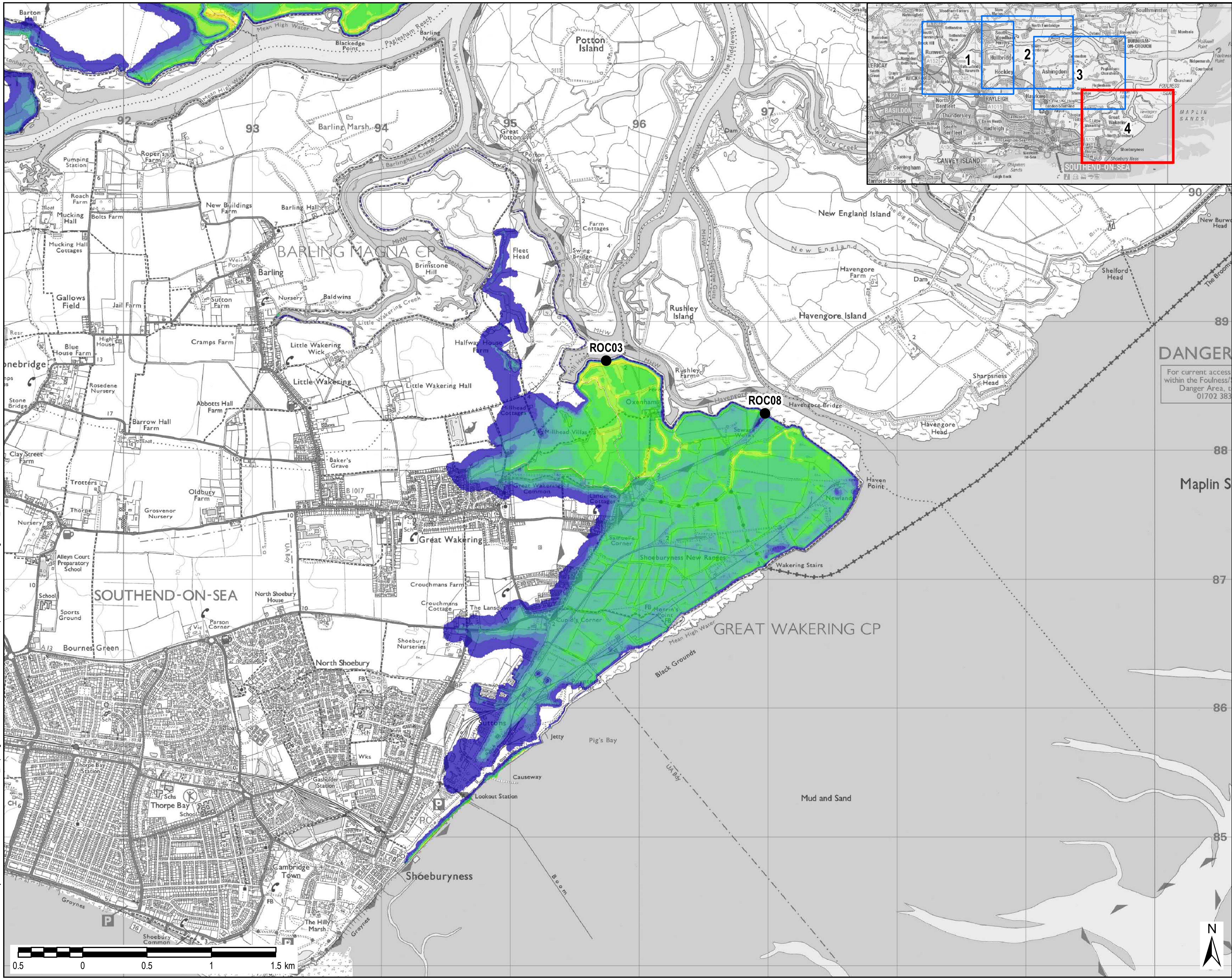
FIGURE E41c	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E41 Rochford Breach Maximum Flood Depth – 2116 with climate change 0.1 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Depth (m)

- > 0 to 0.5m
- > 0.5 to 1m
- > 1 to 1.5m
- > 1.5 to 2m
- > 2 to 2.5m
- > 2.5 to 3m
- > 3 to 3.5m
- > 3.5 to 4m
- > 4 to 4.5m
- > 4.5 to 5m
- > 5 to 5.5m
- > 5.5 to 6m
- > 6m

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Purpose of Issue
FINAL

Client
Basildon Council
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD DEPTH
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
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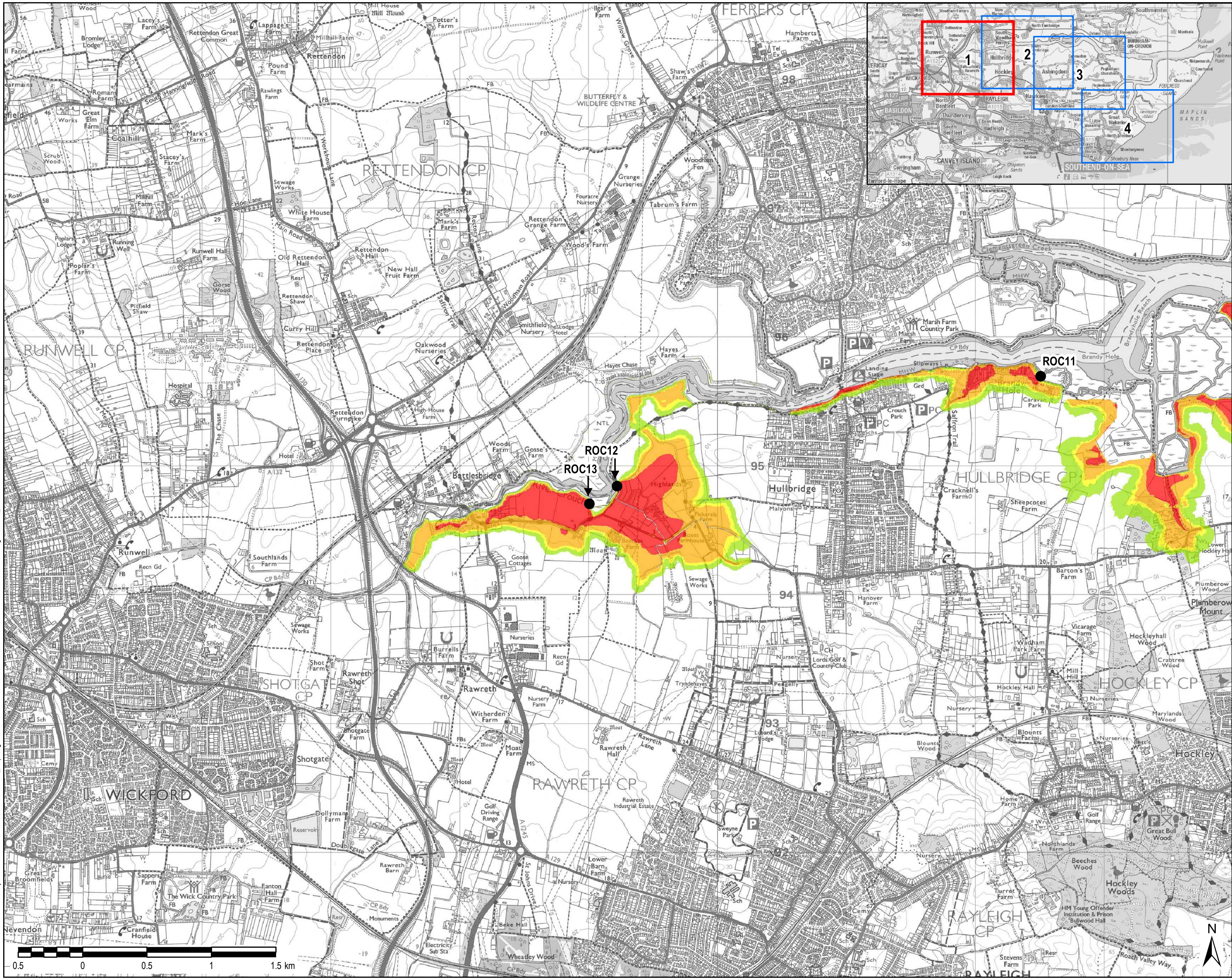
Drawing Number	Rev
FIGURE E41d	1



LEGEND

- ● Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

NOTES

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Purpose of Issue
FINAL

Client
Basildon Council · castlepoint · Rochford District Council · southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

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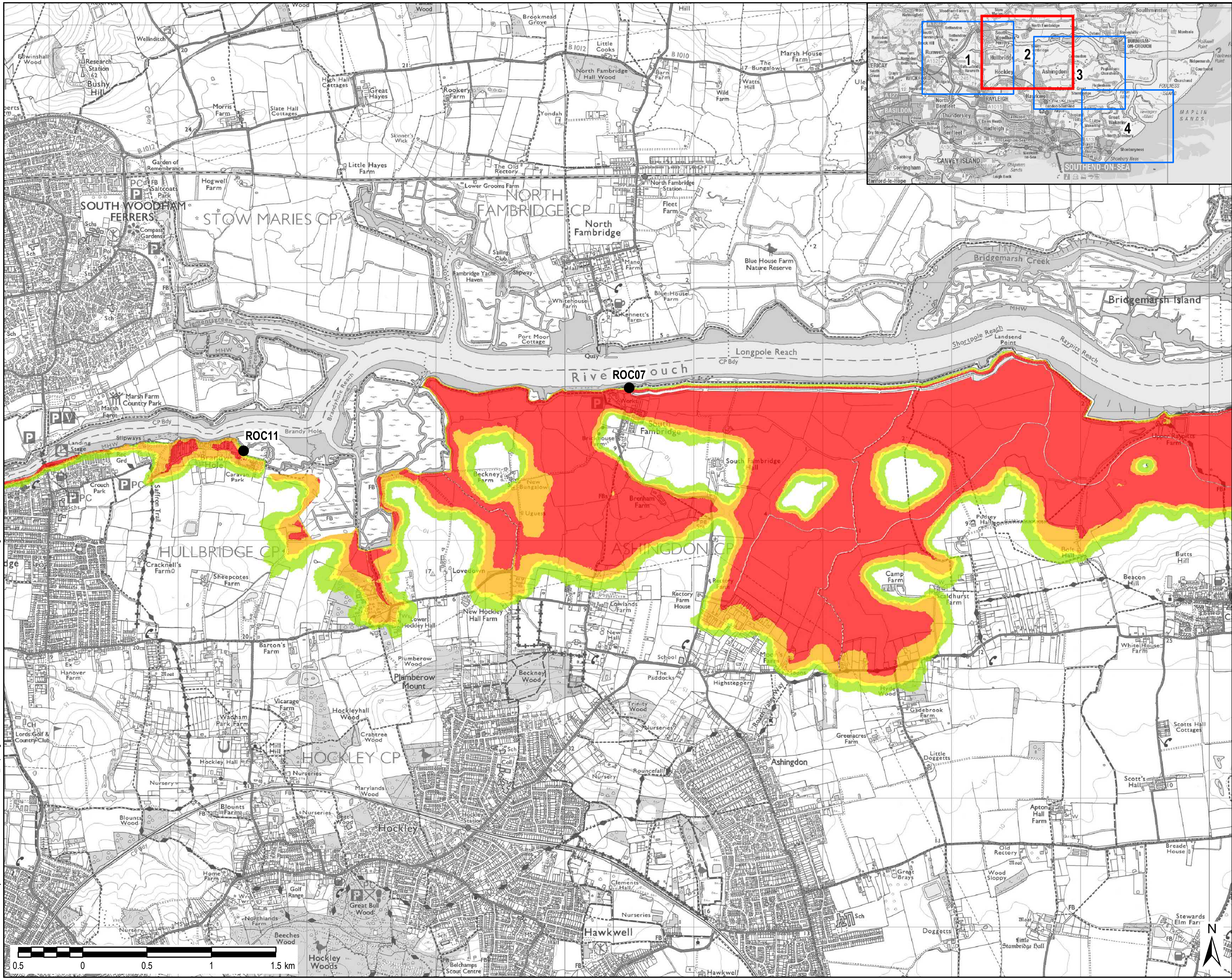
Drawing Number	Rev
FIGURE E42a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E42 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.1 AEP_DDP.mxd



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LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

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Purpose of Issue

FINAL

Client

Basildon Council · castlepoint · Rochford District Council · southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

AECOM Internal Project No.	Scale @ A3
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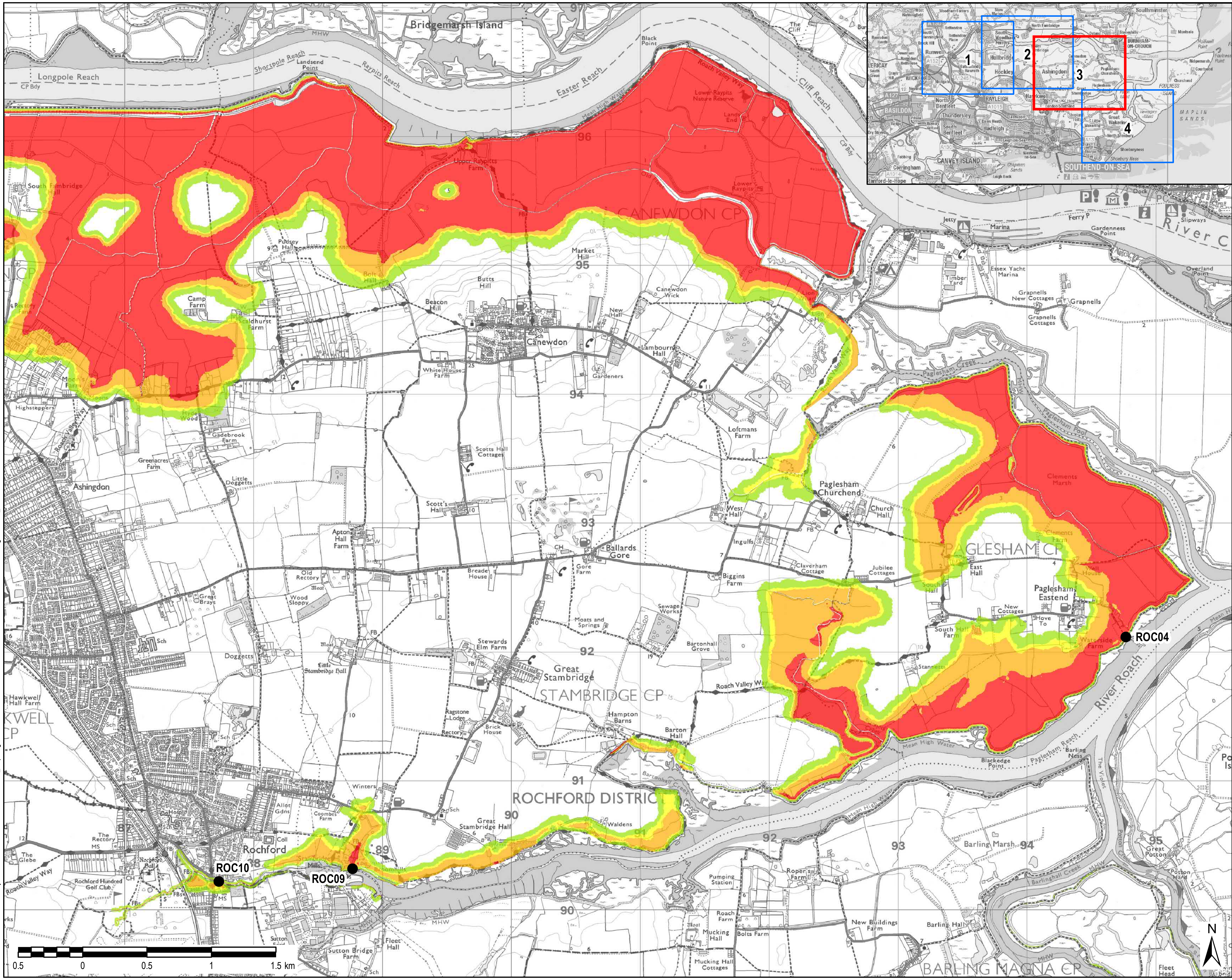
Drawing Number	Rev
FIGURE E42b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E42 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.1 AEP_DDP.mxd



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LEGEND

- ● Breach Location

Maximum Flood Hazard

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- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
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Purpose of Issue
FINAL

Client
Basildon Council · Castle Point · Rochford District Council · Southend on Sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	08/04/2018

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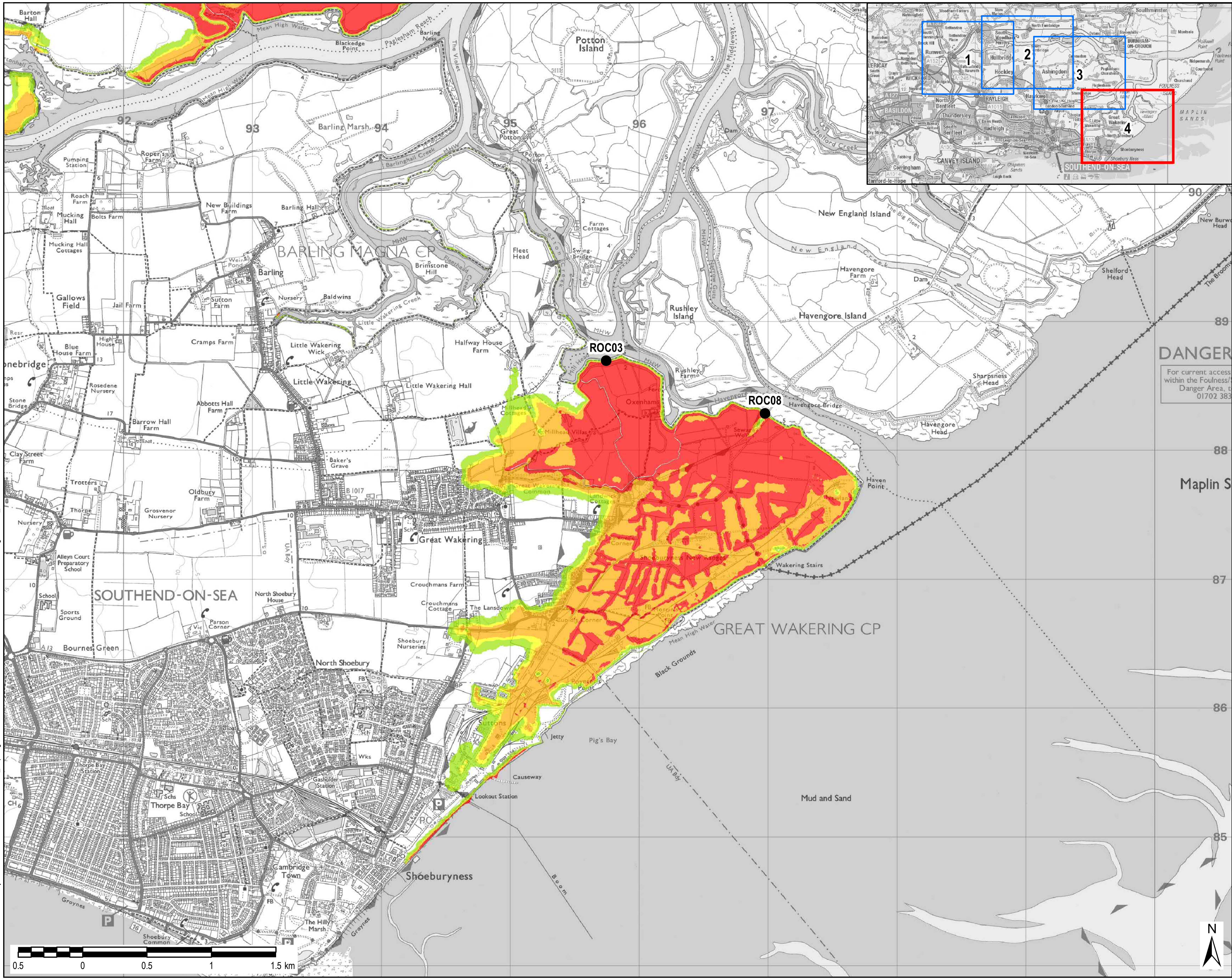
Drawing Number	Rev
FIGURE E42c	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E42 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.1 AEP_DDP.mxd



LEGEND

- Breach Location

Maximum Flood Hazard

- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

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Purpose of Issue
FINAL

Client
Basildon Council – Castle Point – Rochford District Council – Southend-on-Sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
ROCHFORD BREACH
MAXIMUM FLOOD HAZARD
2116 WITH CLIMATE CHANGE
0.1% AEP

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60532482	1:27,000

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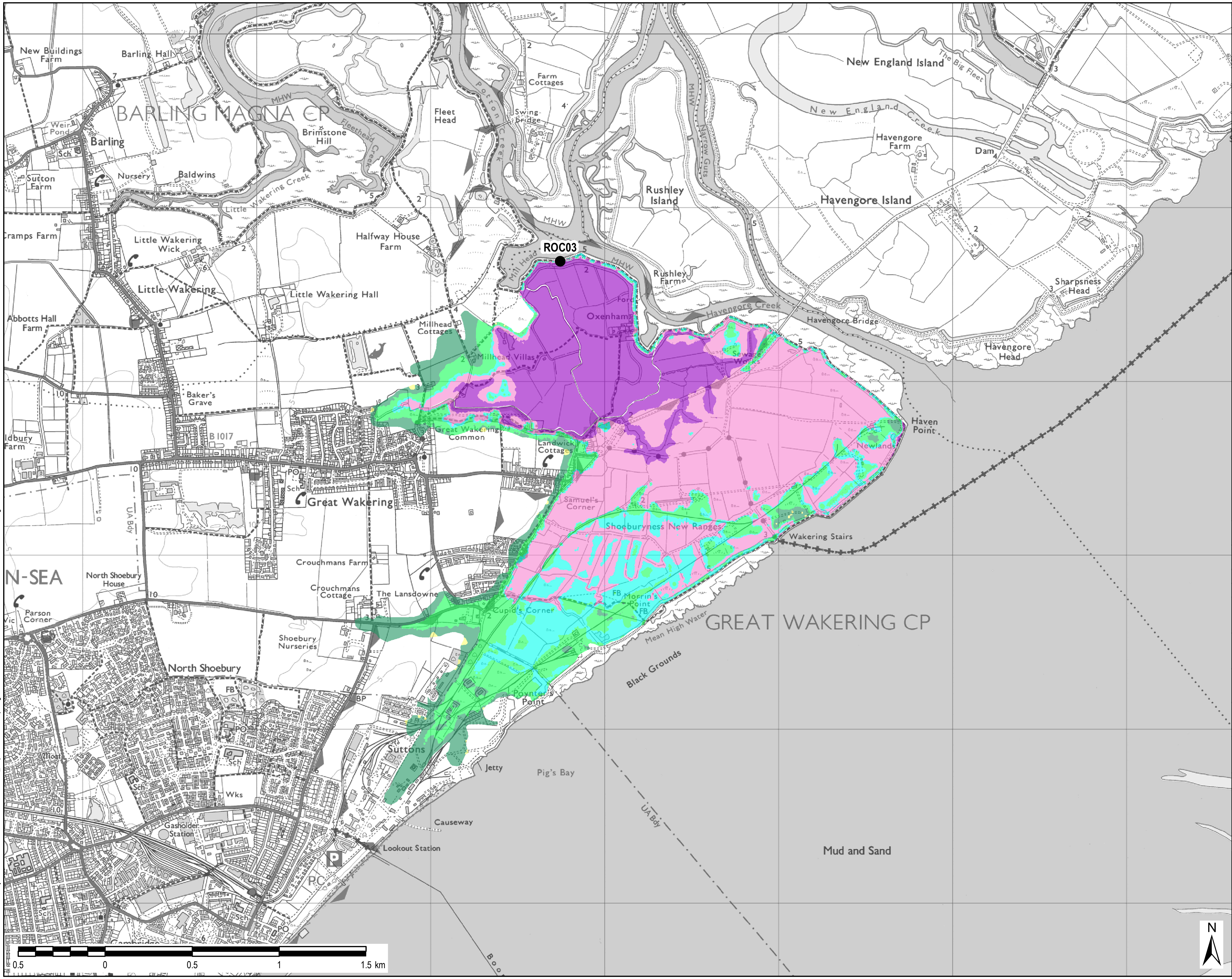
Drawing Number	Rev
FIGURE E42d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Figure E42 Rochford Breach Maximum Flood Hazard – 2116 with climate change 0.1 AEP_DDP.mxd



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LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

Time to inundation mapping illustrates the length of time from a breach before floodwaters reach a particular site. This information is particularly useful for emergency planning as it provides details of the time available for evacuation to a place of safety.

Time zero is set to the time when tidal water enters the specific breach. This means that the <1 hour band encompasses all areas that are inundated (wet) within the first hour of water travelling through the specific breach and into the flood cell. Further bands have been produced to show wet cells at: 1-4 hours, 4-8 hours, 8-12 hours, 12 to 16 and 16-20 hours. Time to inundation is specific to each breach location.

Mapping has been provided for the 1 in 1000 year + CC event as it represents the most conservative scenario and should be used for emergency planning purposes when considering safe access/egress routes from any potential development site.

Purpose of Issue
FINAL

Client
Basildon Council · castlepoint · Rochford District Council · southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
BREACH ROC03
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:20,000

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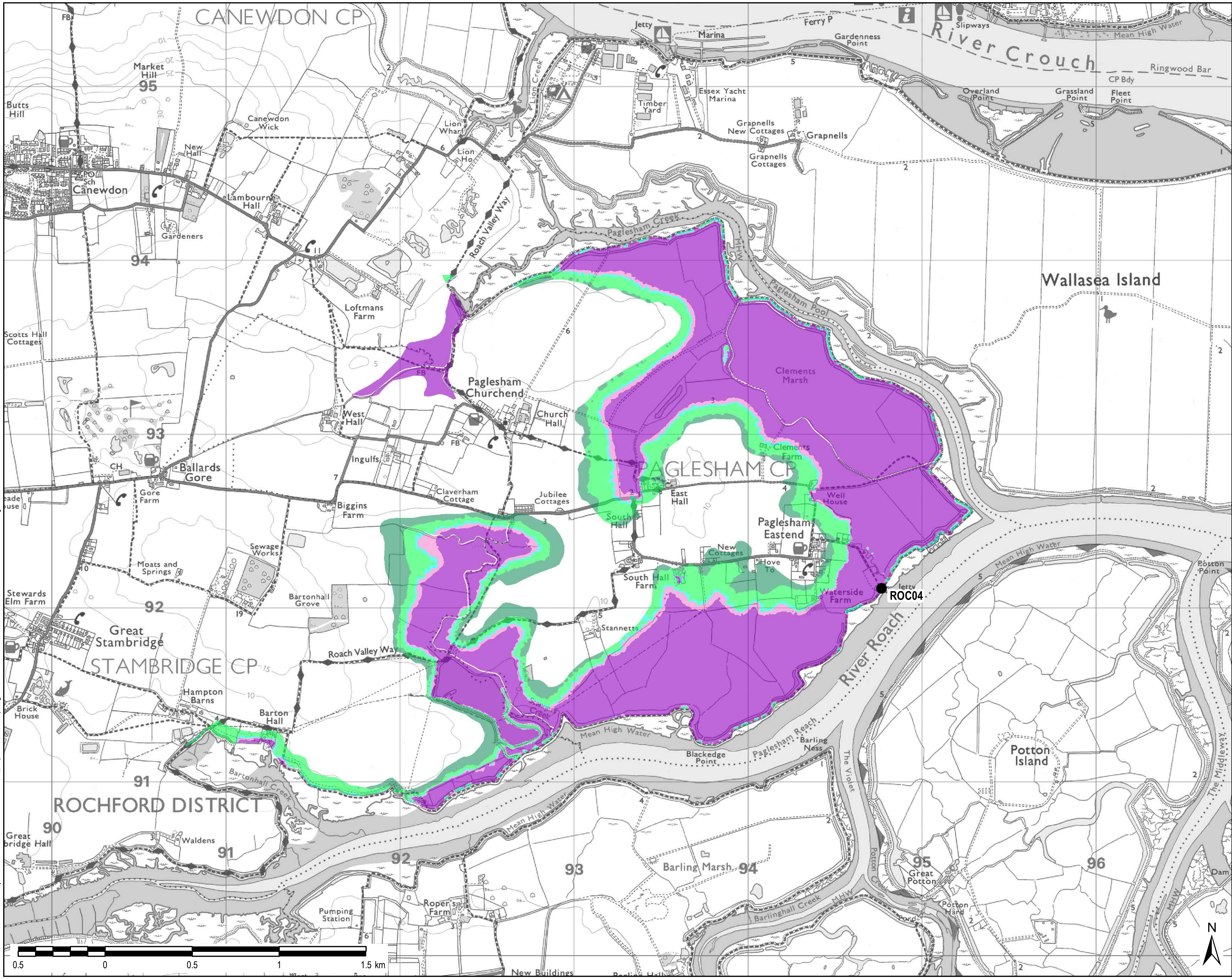
Drawing Number	Rev
FIGURE E43a	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43a Breach ROC03 Time to Inundation - 2116 with climate change 0.1 AEP.mxd



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LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

Time to inundation mapping illustrates the length of time from a breach before floodwaters reach a particular site. This information is particularly useful for emergency planning as it provides details of the time available for evacuation to a place of safety.

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Mapping has been provided for the 1 in 1000 year + CC event as it represents the most conservative scenario and should be used for emergency planning purposes when considering safe access/egress routes from any potential development site.

Purpose of Issue
FINAL

Client
Basildon Council – Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
BREACH ROC04
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:20,000

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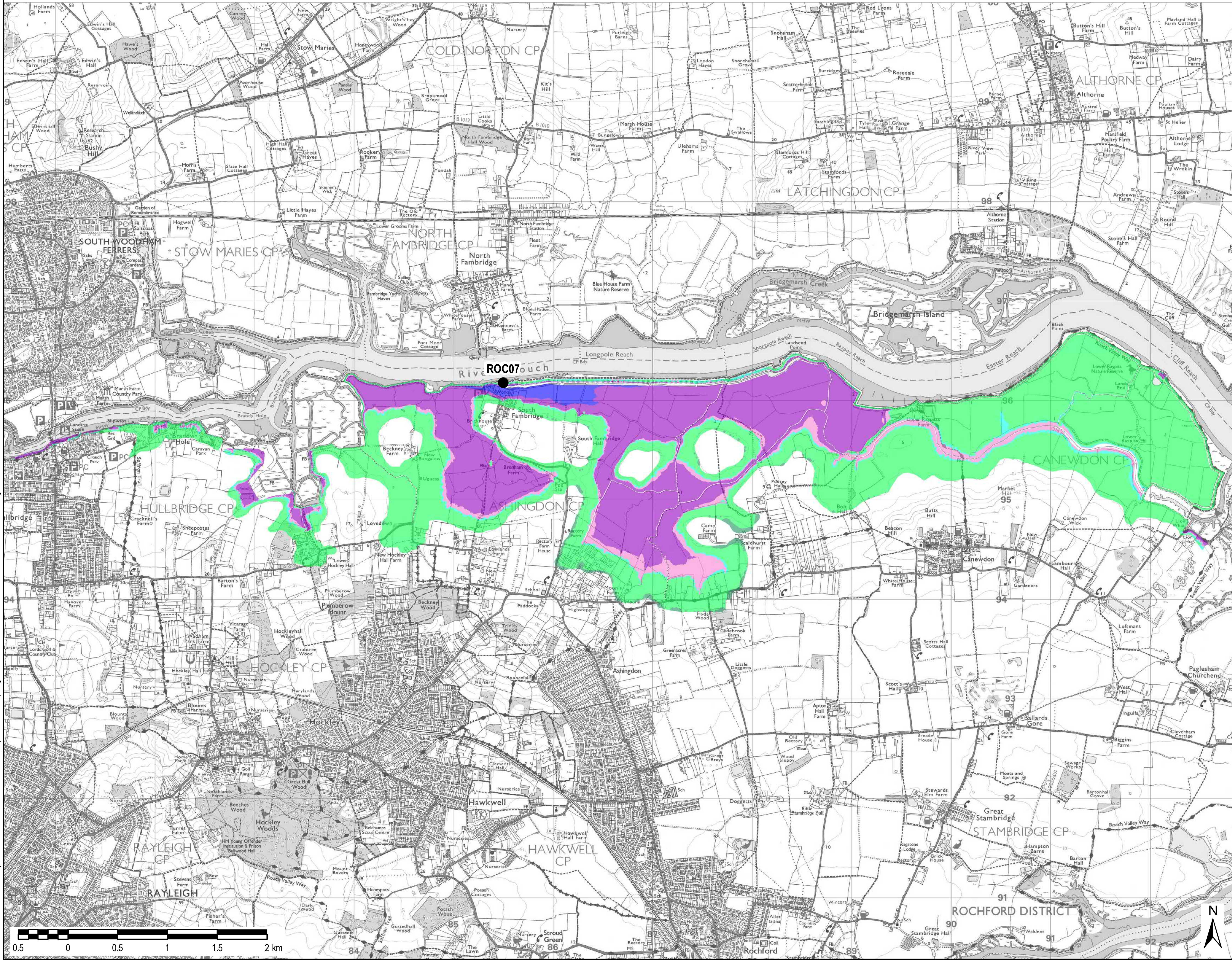
Drawing Number	Rev
FIGURE E43b	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43b Breach ROC04 Time to Inundation - 2116 with climate change 0.1 AEP.mxd



File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43c Breach ROC07 Time to Inundation - 2116 with climate change 0.1 AEP.mxd

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LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

Time to inundation mapping illustrates the length of time from a breach before floodwaters reach a particular site. This information is particularly useful for emergency planning as it provides details of the time available for evacuation to a place of safety.

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Mapping has been provided for the 1 in 1000 year + CC event as it represents the most conservative scenario and should be used for emergency planning purposes when considering safe access/egress routes from any potential development site.

Purpose of Issue

FINAL

Client

Basildon Council · Castle Point · Rochford District Council · Southend on Sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

BREACH ROC07
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:35,000

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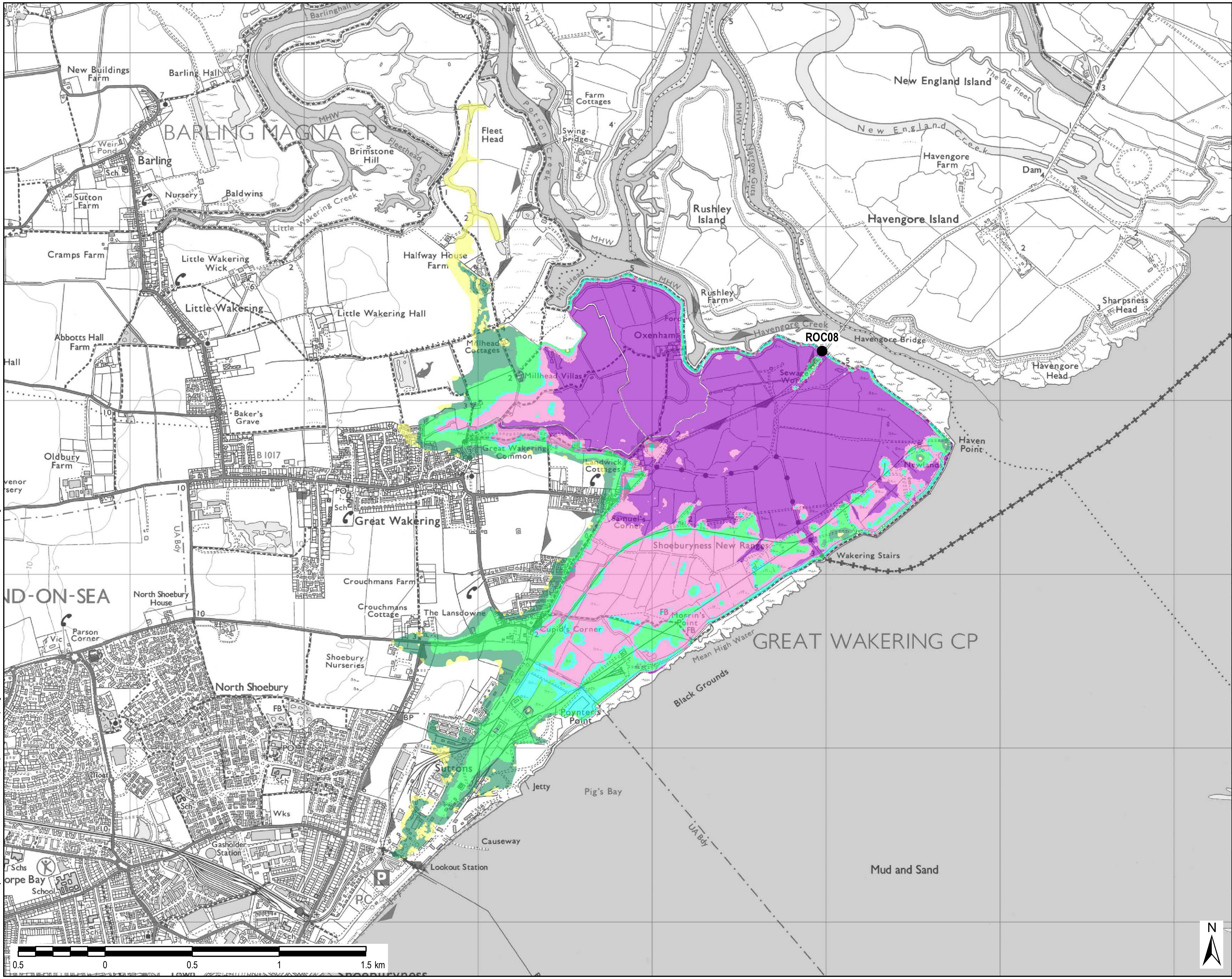
Drawing Number	Rev
FIGURE E43c	1



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LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

Time to inundation mapping illustrates the length of time from a breach before floodwaters reach a particular site. This information is particularly useful for emergency planning as it provides details of the time available for evacuation to a place of safety.

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Purpose of Issue
FINAL

Client
Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
BREACH ROC08
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:20,000

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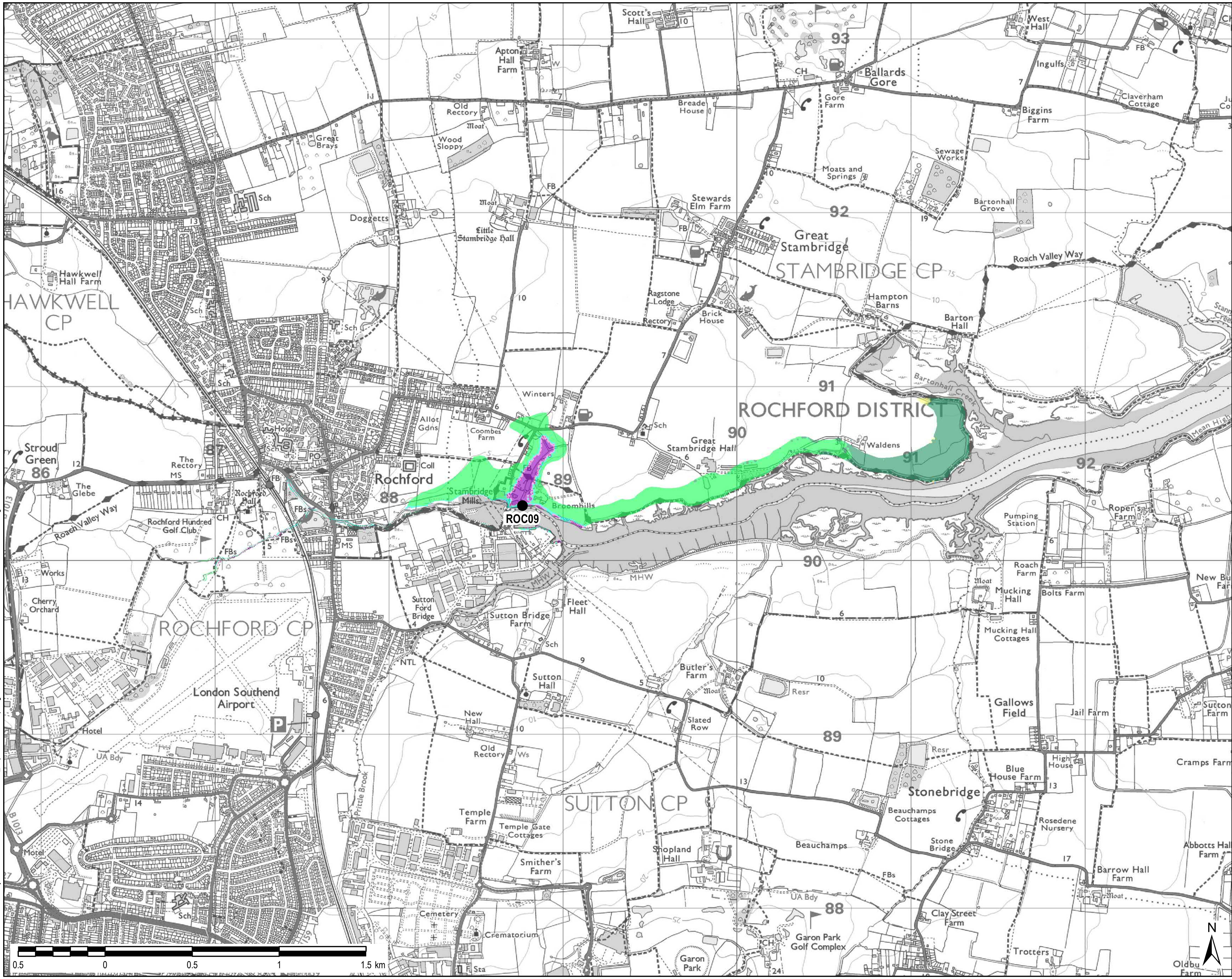
Drawing Number	Rev
FIGURE E43d	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43d Breach ROC08 Time to Inundation - 2116 with climate change 0.1 AEP.mxd



LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

Time to inundation mapping illustrates the length of time from a breach before floodwaters reach a particular site. This information is particularly useful for emergency planning as it provides details of the time available for evacuation to a place of safety.

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Purpose of Issue
FINAL

Client
Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title
SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title
BREACH ROC09
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

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60532482	1:20,000

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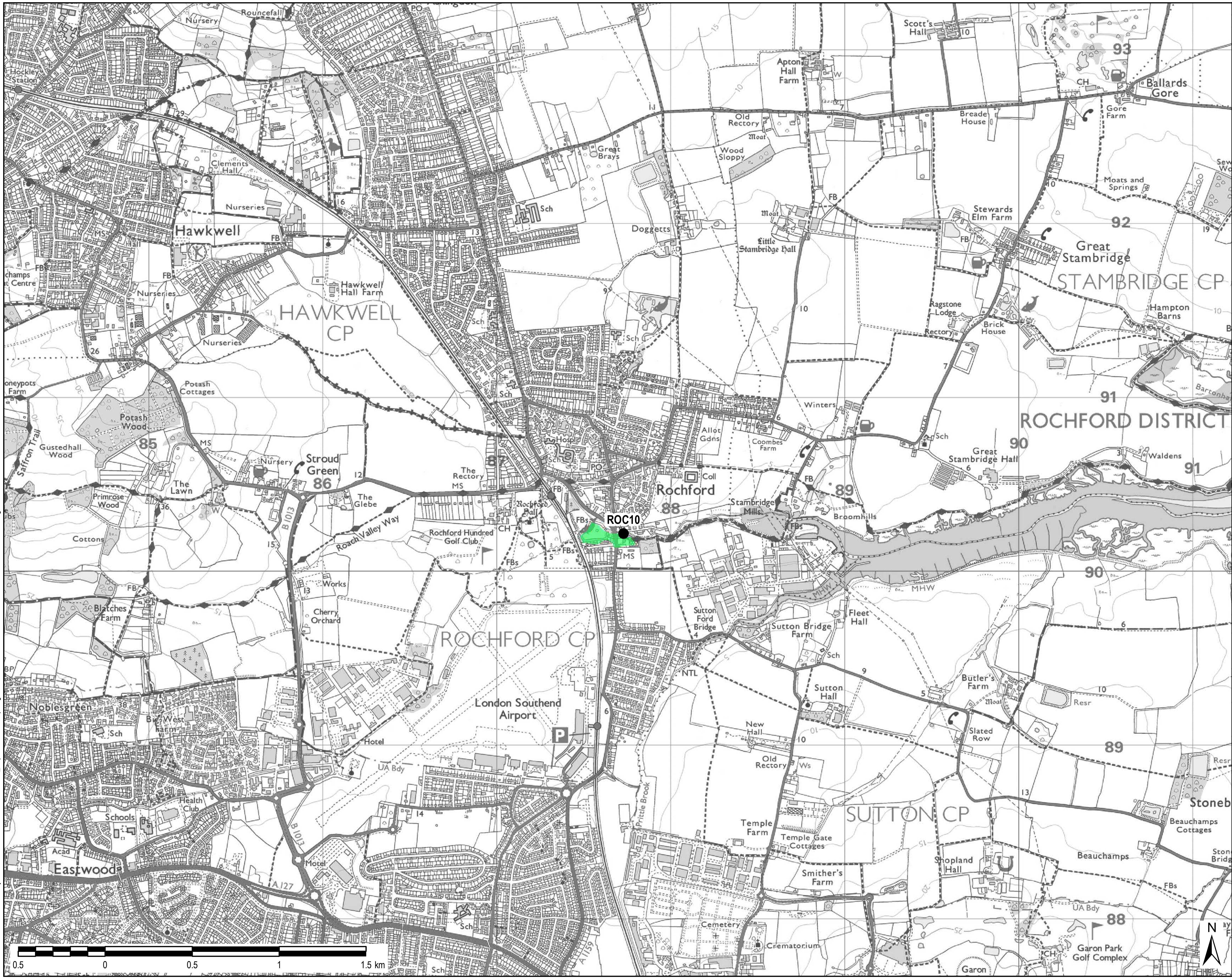
Drawing Number	Rev
FIGURE E43e	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43e Breach ROC09 Time to Inundation - 2116 with climate change 0.1 AEP.mxd



LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

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Mapping has been provided for the 1 in 1000 year + CC event as it represents the most conservative scenario and should be used for emergency planning purposes when considering safe access/egress routes from any potential development site.

Purpose of Issue: FINAL

Client: Basildon Council, Castle Point, Rochford District Council, Southend on Sea Borough Council

Project Title: SOUTH ESSEX LEVEL 1 SFRA

Drawing Title: BREACH ROC10 TIME TO INUNDATION 2116 WITH CLIMATE CHANGE 0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
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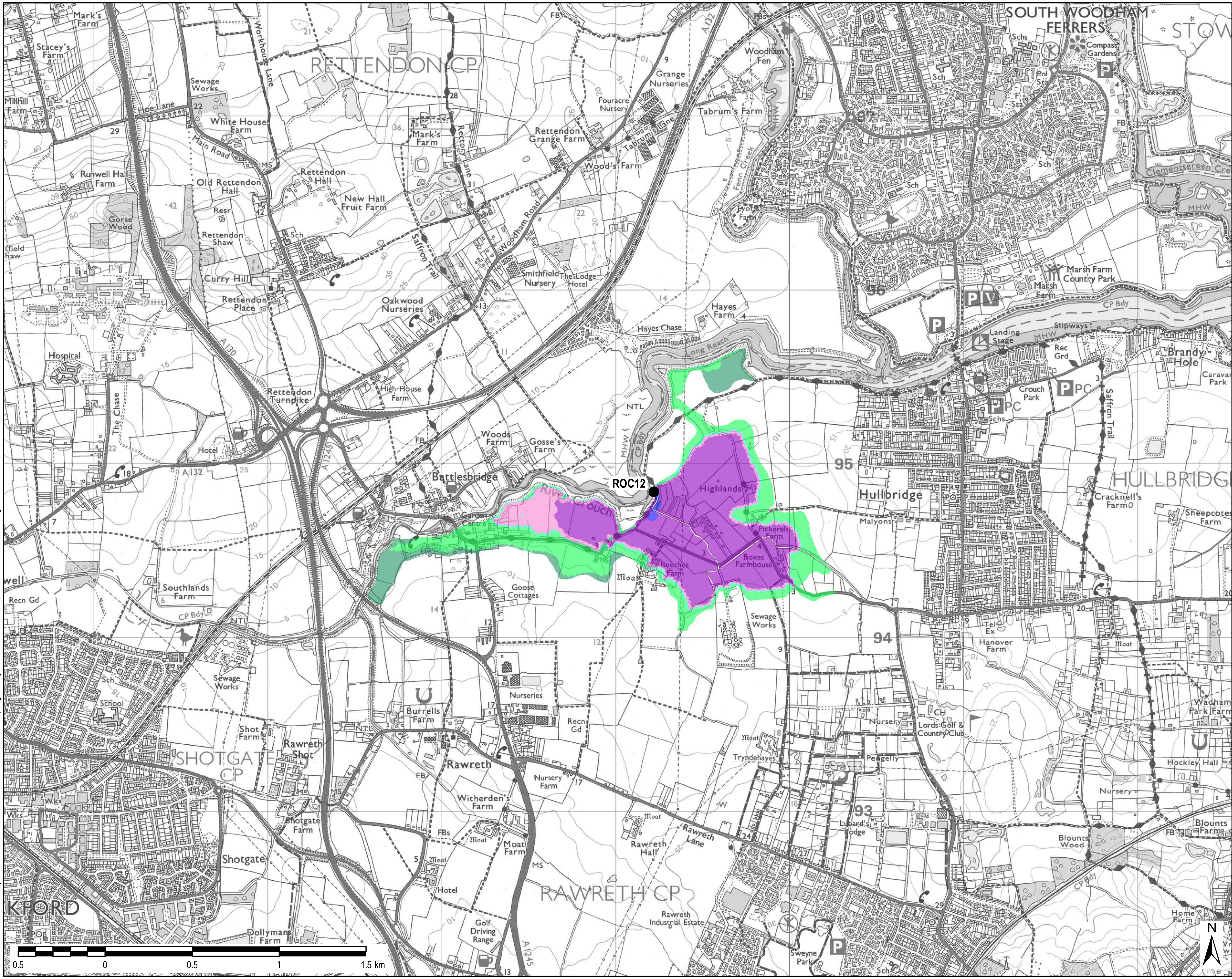
Drawing Number: FIGURE E43.f | Rev: 1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43\ Breach ROC10 Time to Inundation - 2116 with climate change 0.1 AEP.mxd



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LEGEND

● Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

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Purpose of Issue

FINAL

Client

Basildon Council, Castle Point, Rochford District Council, Southend on Sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

BREACH ROC12
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:20,000

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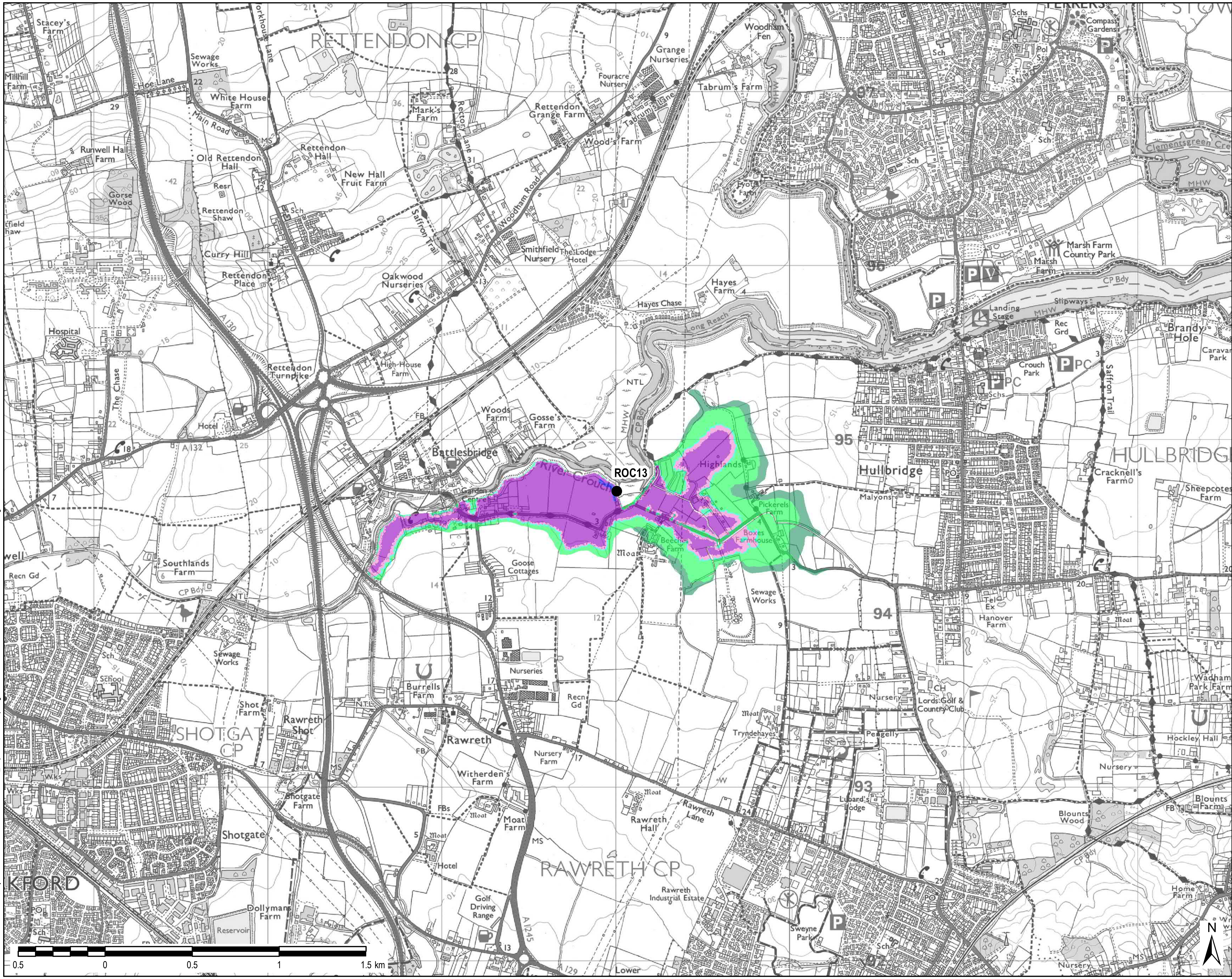
Drawing Number	Rev
FIGURE E43g	1

File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43g Breach ROC12 Time to Inundation - 2116 with climate change 0.1 AEP.mxd



File Name:K:\5004 - Information Systems\60532482 - South Essex SFRA\02_Maps\Inundation Maps\Figure E43h Breach ROC13 Time to Inundation - 2116 with climate change 0.1 AEP.mxd

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LEGEND

- Breach Location

Time to Inundation (Hours)

- < 1 Hour
- 1 - 4 Hours
- 4 - 8 Hours
- 8 - 12 Hours
- 12 - 16 Hours
- 16 to 20 Hours
- > 20 Hours

NOTES

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Purpose of Issue

FINAL

Client

Basildon Council — Basildon · Billericay · Wickford
castlepoint
Rochford District Council
southend on sea Borough Council

Project Title

SOUTH ESSEX
LEVEL 1 SFRA

Drawing Title

BREACH ROC13
TIME TO INUNDATION
2116 WITH CLIMATE CHANGE
0.1% AEP

Drawn	Checked	Approved	Date
JW	BB	CP	09/04/2018

AECOM Internal Project No.	Scale @ A3
60532482	1:20,000

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Drawing Number	Rev
FIGURE E43h	1