HORIZON
NUCLEAR POWER

WYLFA NEWYDD

ENERGY WORKING FOR BRITAIN

Wylfa Newydd Project

6.4.29 ES Volume D - WNDA Development App D8-4 - Flood Consequence Assessment (Part 3/8)

PINS Reference Number: EN010007

Application Reference Number: 6.4.29

June 2018

Revision 1.0

Regulation Number: 5(2)(a) and (e)

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Horizon Internal DCRM Number: WN0902-JAC-PAC-APP-00015

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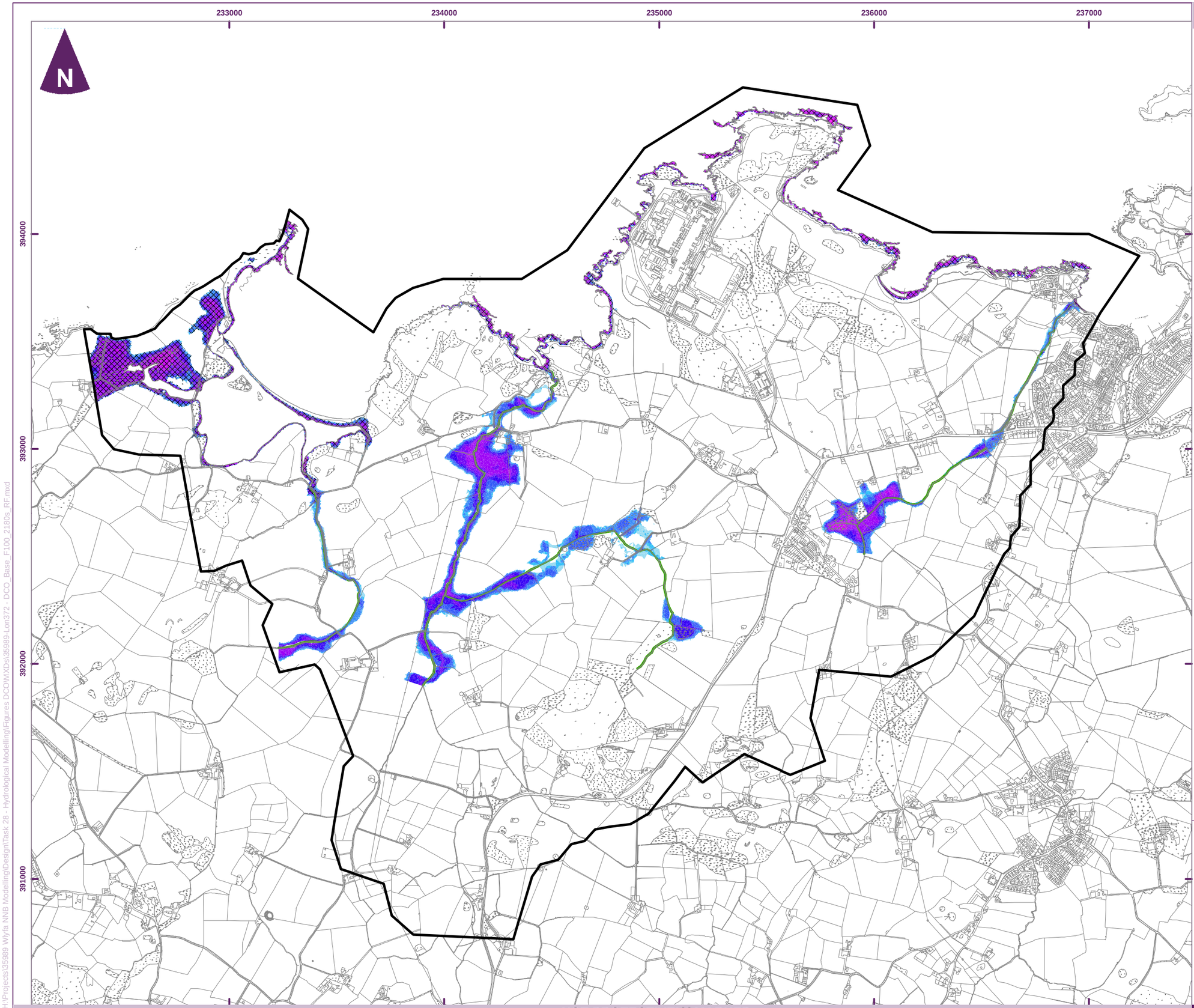

Key

Peak flood depth (m)
Baseline
1 : 100 year AEP fluvial
Climate change 2180s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2180s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 30/11/2016
Corresponding data:
35989-C1234_DCO_Base_F100_2180s_RF.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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Figure 43
DCO baseline peak fluvial depth 1:100 year AEP climate change 2180s - reasonably foreseeable

NOT PROTECTIVELY MARKED

December 2016 35989-Lon372-brays

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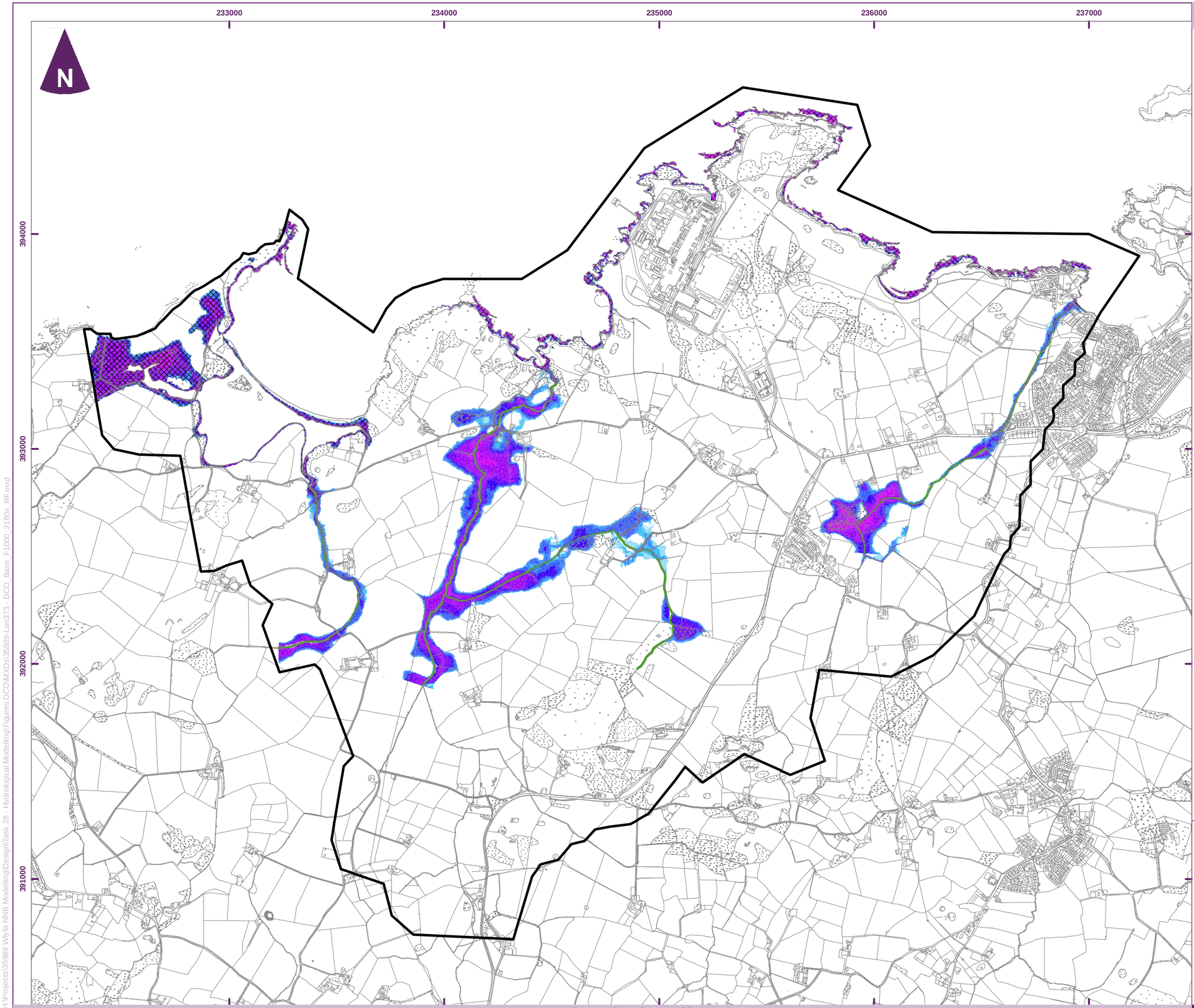

Key

Peak flood depth (m)
Baseline
1 : 1000 year AEP fluvial
Climate change 2180s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2180s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 30/11/2016
Corresponding data:
35989-C1235_DCO_Base_F1000_2180s_RF.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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Figure 44
DCO baseline peak fluvial depth 1:1000 year AEP climate change 2180s - reasonably foreseeable

NOT PROTECTIVELY MARKED

December 2016 35989-Lon373-brays

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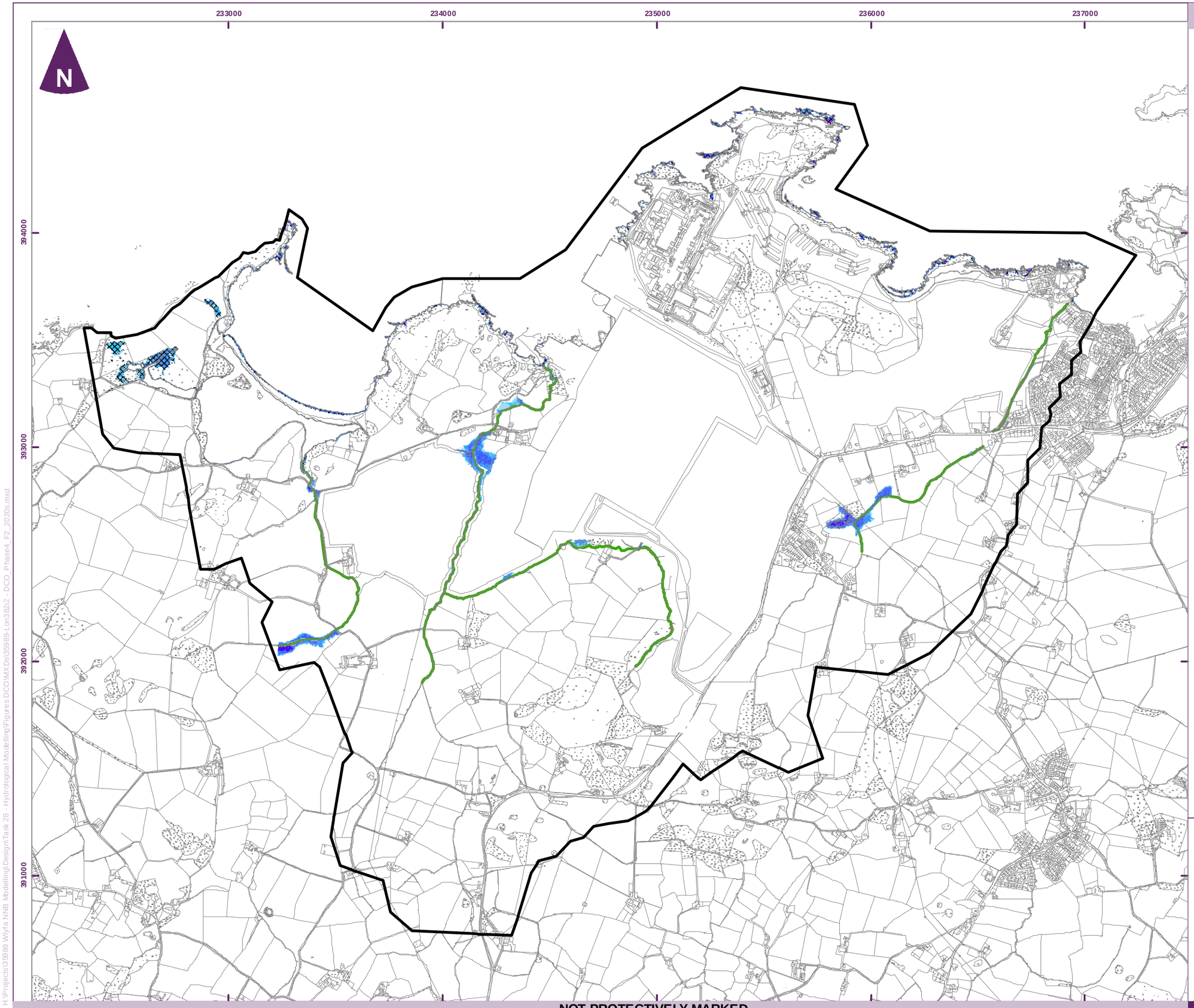
Appendix D8-4-5 Fluvial construction phase modelling results



Key

Peak flood depth (m)
Reference Point 4
1 : 2 year AEP Fluvial
Climate Change 2020s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 01/06/2017
Corresponding data:
35989-C1244i2_DCO_Phase4_F2_2020s.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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Figure 53
DCO Reference Point 4 peak fluvial depth 1:2 year AEP climate change 2020s - reasonably foreseeable

NOT PROTECTIVELY MARKED

June 2017 35989-Lon382i2 caldi

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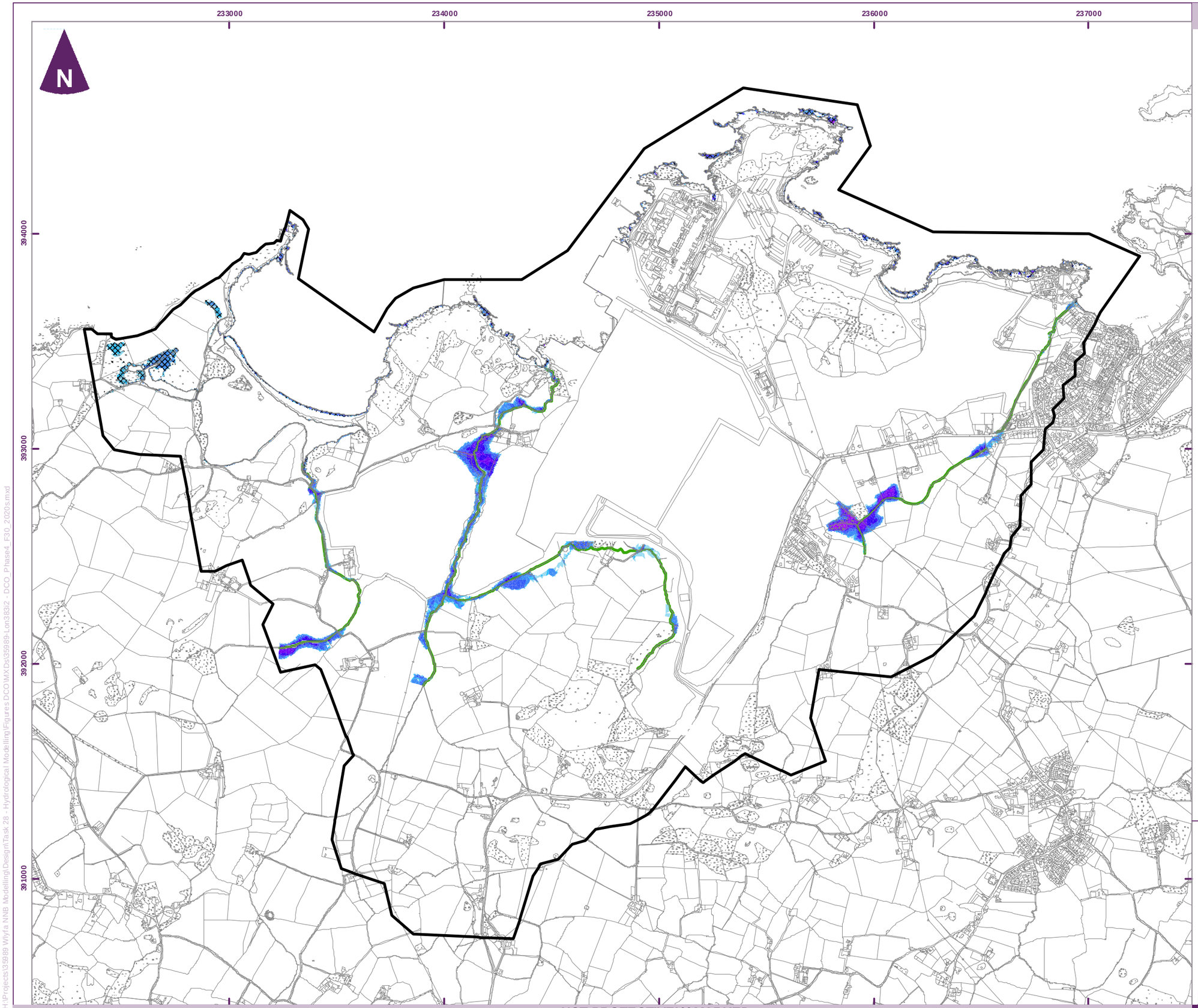

Key

Peak flood depth (m)
Reference Point 4
1 : 30 year AEP Fluvial
Climate Change 2020s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 31/05/2017
Corresponding data:
35989-C1245i2_DCO_Phase4_F30_2020s.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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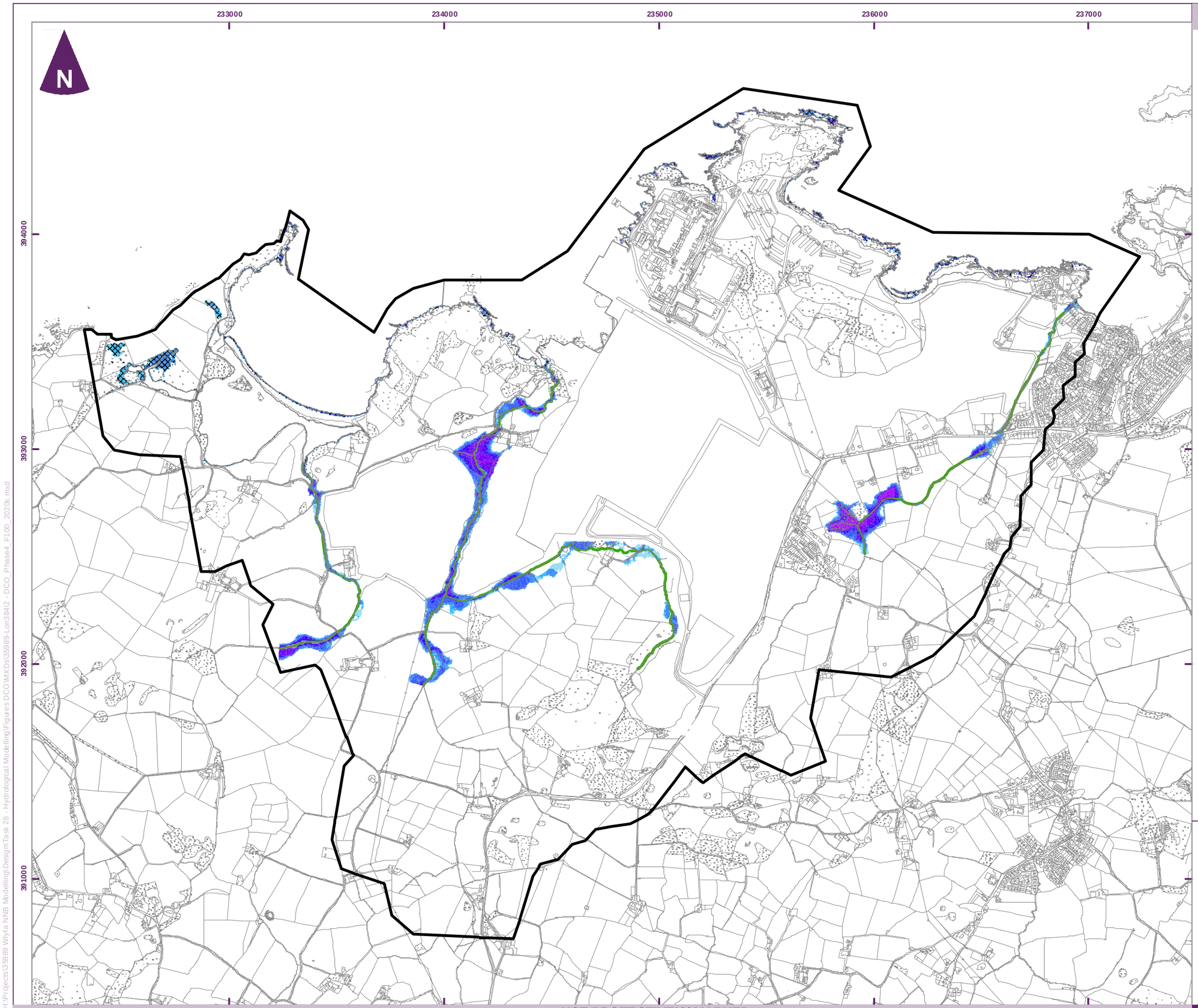
Figure 54
DCO Reference Point 4 peak fluvial depth 1:30 year AEP climate change 2020s - reasonably foreseeable



Key

Peak flood depth (m)
Reference Point 4
1 : 100 year AEP Fluvial
Climate Change 2020s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 31/05/2017
Corresponding data:
35989-C1246i2_DCO_Phase4_F100_2020s.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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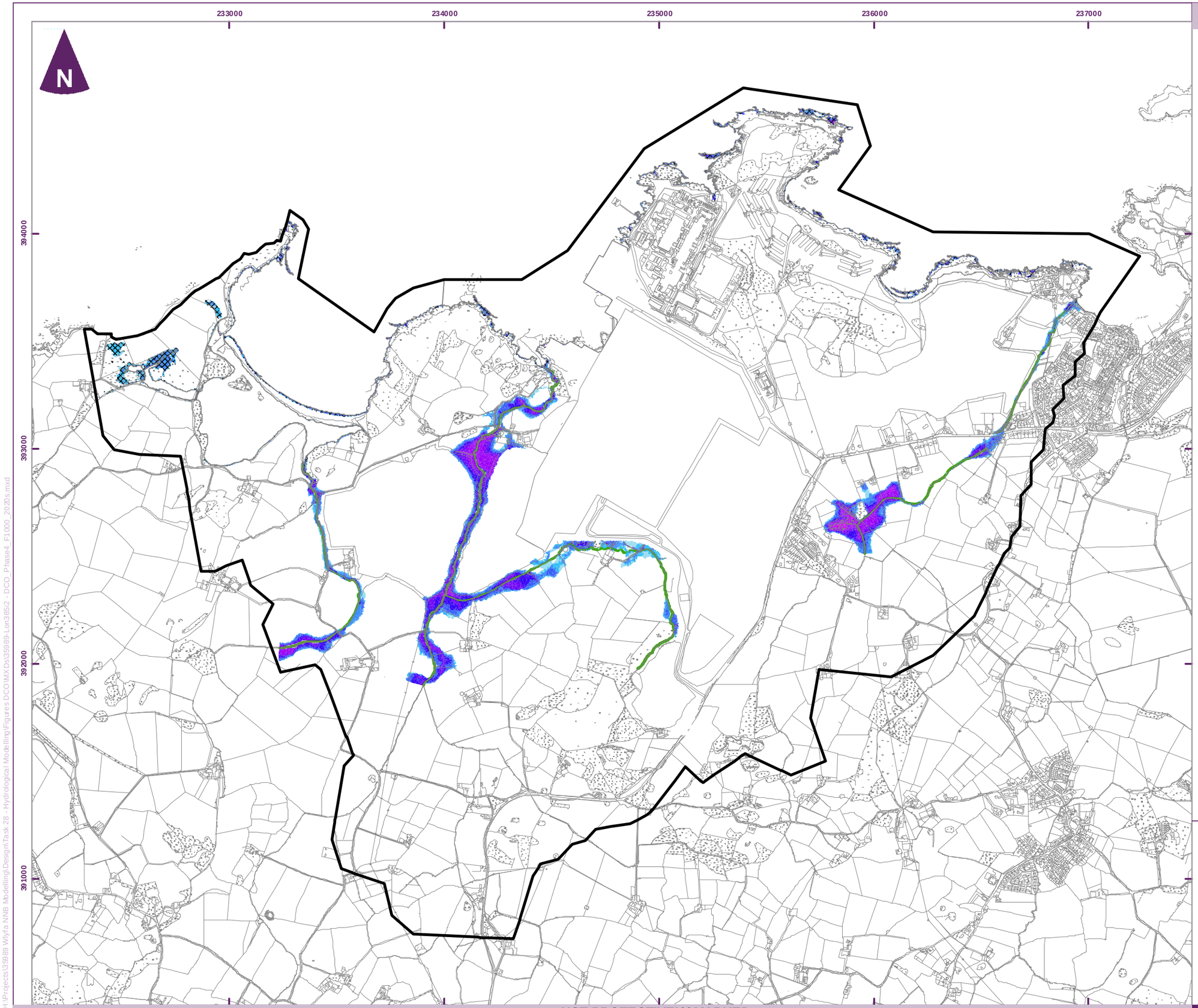
Figure 55
DCO Reference Point 4 peak fluvial depth 1:100 year AEP climate change 2020s - reasonably foreseeable



Key

Peak flood depth (m)
Reference Point 4
1 : 1000 year AEP Fluvial
Climate Change 2020s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 31/05/2017
Corresponding data:
35989-C1247i2_DCO_Phase4_F1000_2020s.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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Figure 56
DCO Reference Point 4 peak fluvial depth 1:1000 year AEP climate change 2020s - reasonably foreseeable

NOT PROTECTIVELY MARKED

May 2017 35989-Lon385i2 caldi

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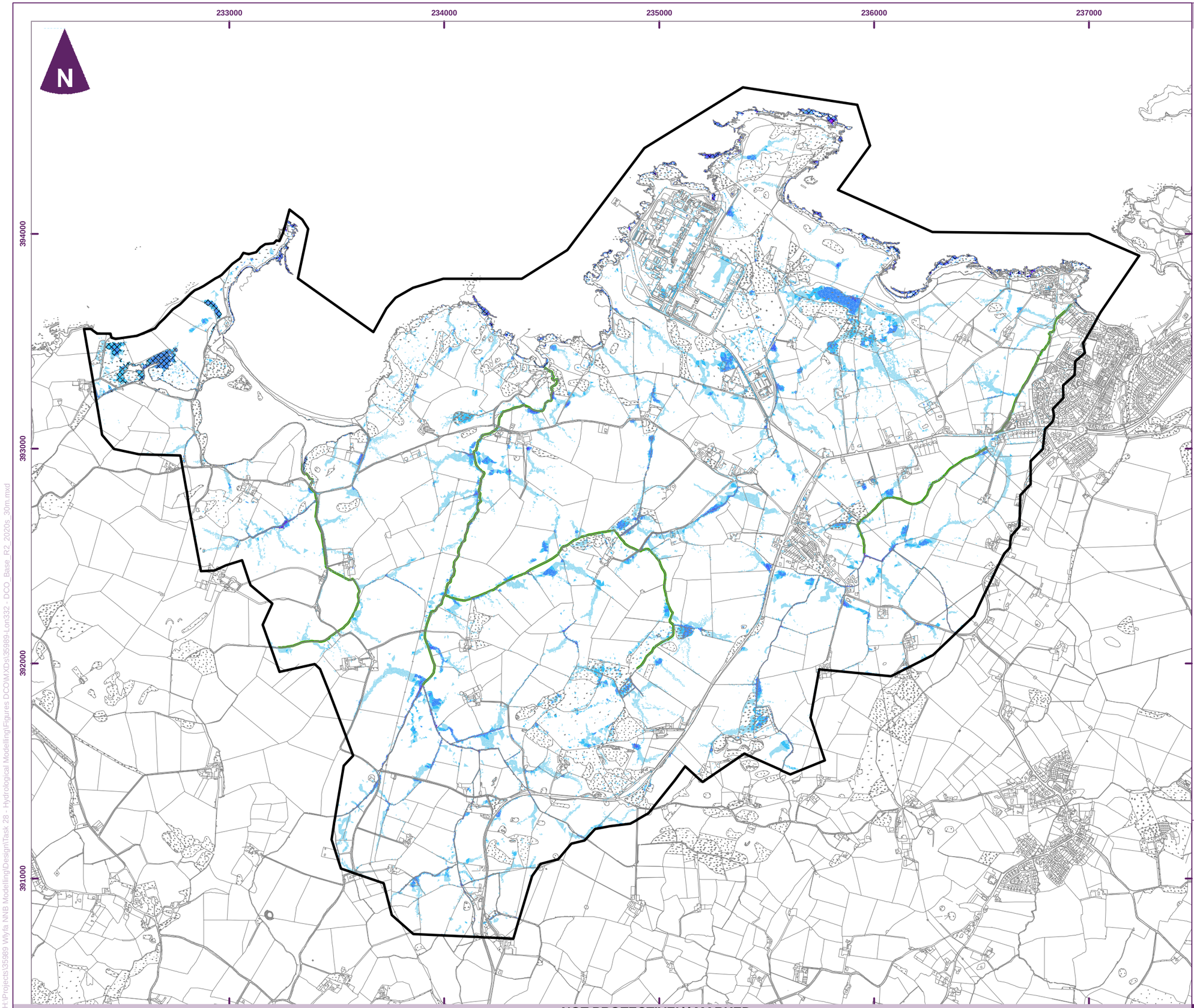
Appendix D8-4-6 Pluvial baseline modelling results



Key

Peak flood depth (m)
Baseline
1 : 2 year AEP pluvial
30 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1194_DCO_Base_R2_2020s_30m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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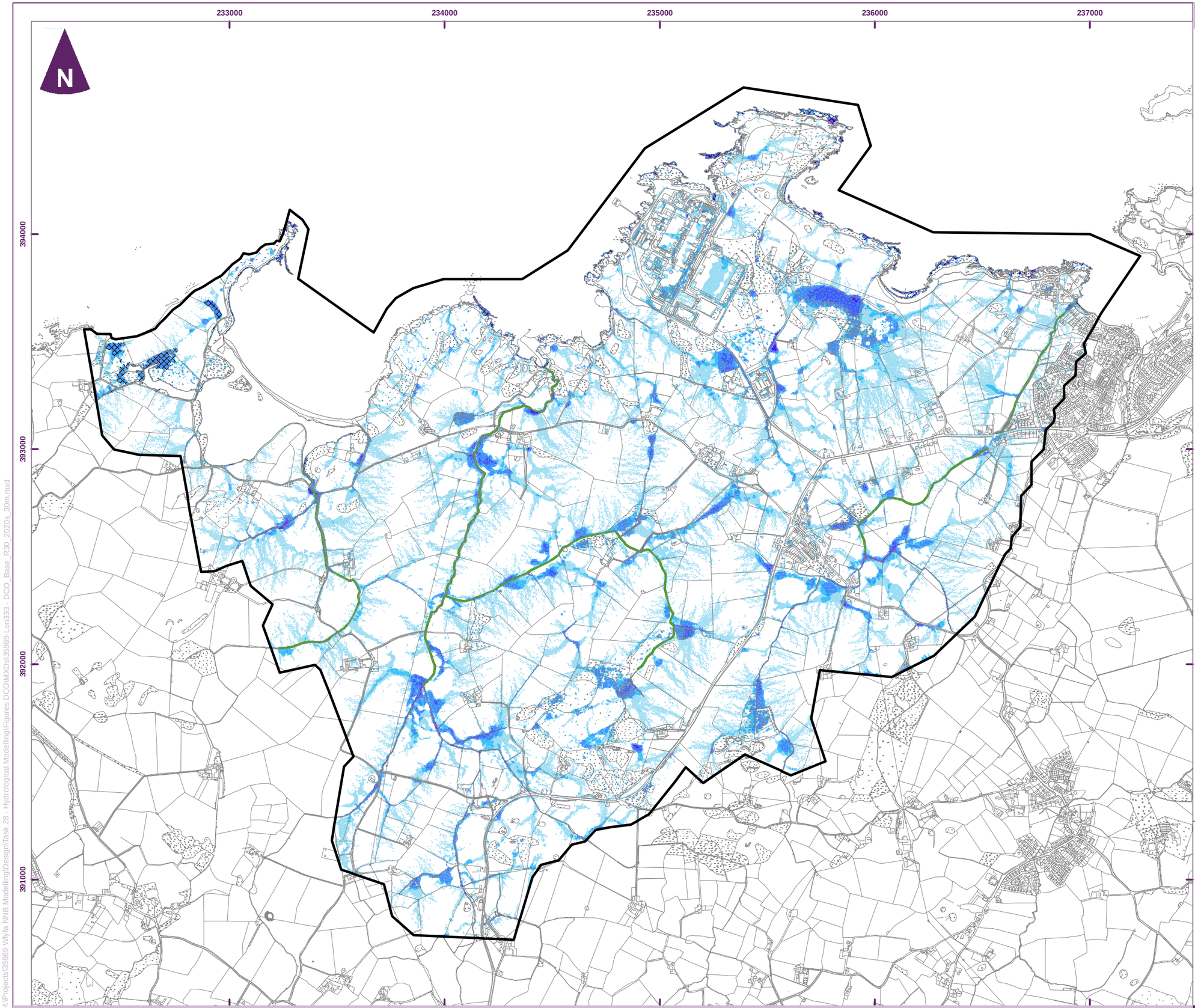
Figure 3
DCO baseline peak pluvial depth 1:2 year AEP 30 min duration climate change 2020s



Key

Peak flood depth (m)
Baseline
1 : 30 year AEP pluvial
30 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1195_DCO_Base_R30_2020s_30m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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Figure 4
DCO baseline peak pluvial depth
1:30 year AEP 30 min duration
climate change 2020s

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December 2016 35989-Lon333-brays

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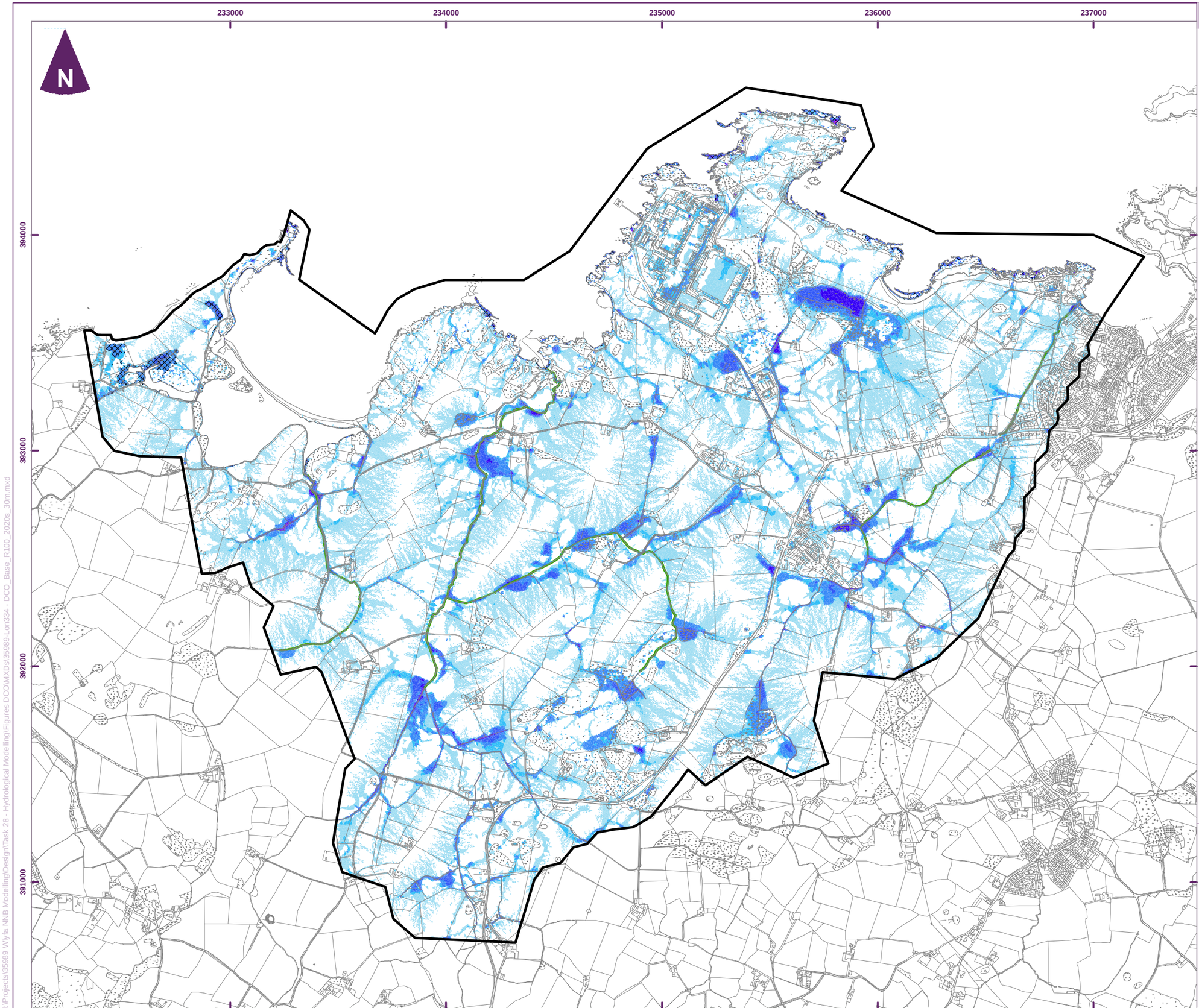

Key

Peak flood depth (m)
Baseline
1 : 100 year AEP pluvial
30 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1196_DCO_Base_R100_2020s_30m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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Figure 5
DCO baseline peak pluvial depth 1:100 year AEP 30 min duration climate change 2020s

NOT PROTECTIVELY MARKED

December 2016 35989-Lon334-brays

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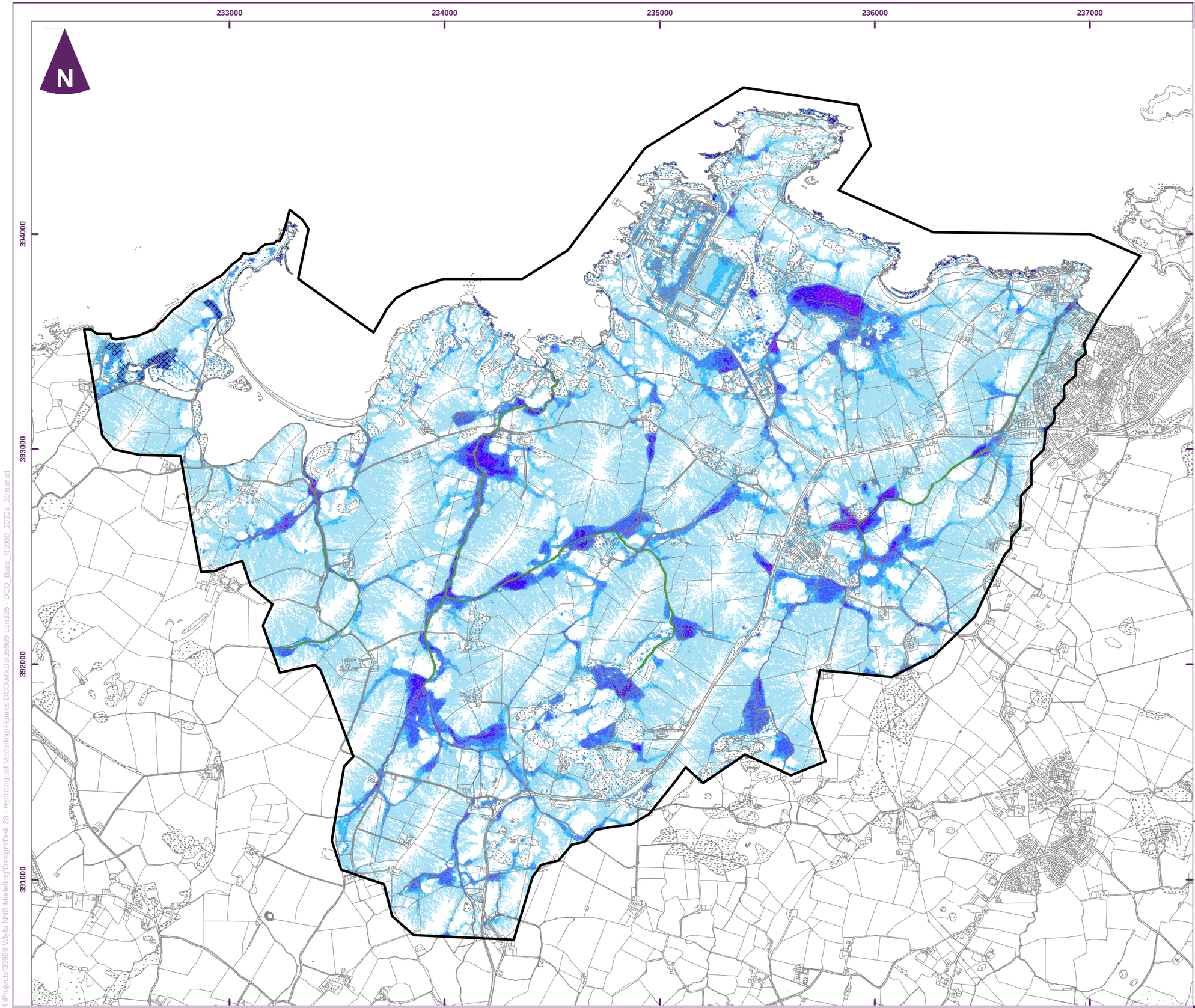

Key

Peak flood depth (m)
Baseline
1 : 1000 year AEP pluvial
30 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1197_DCO_Base_R1000_2020s_30m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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DCO
Hydraulic Modelling

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Figure 6
DCO baseline peak pluvial depth 1:1000 year AEP 30 min duration climate change 2020s

NOT PROTECTIVELY MARKED

December 2016 35989-Lon335-brays

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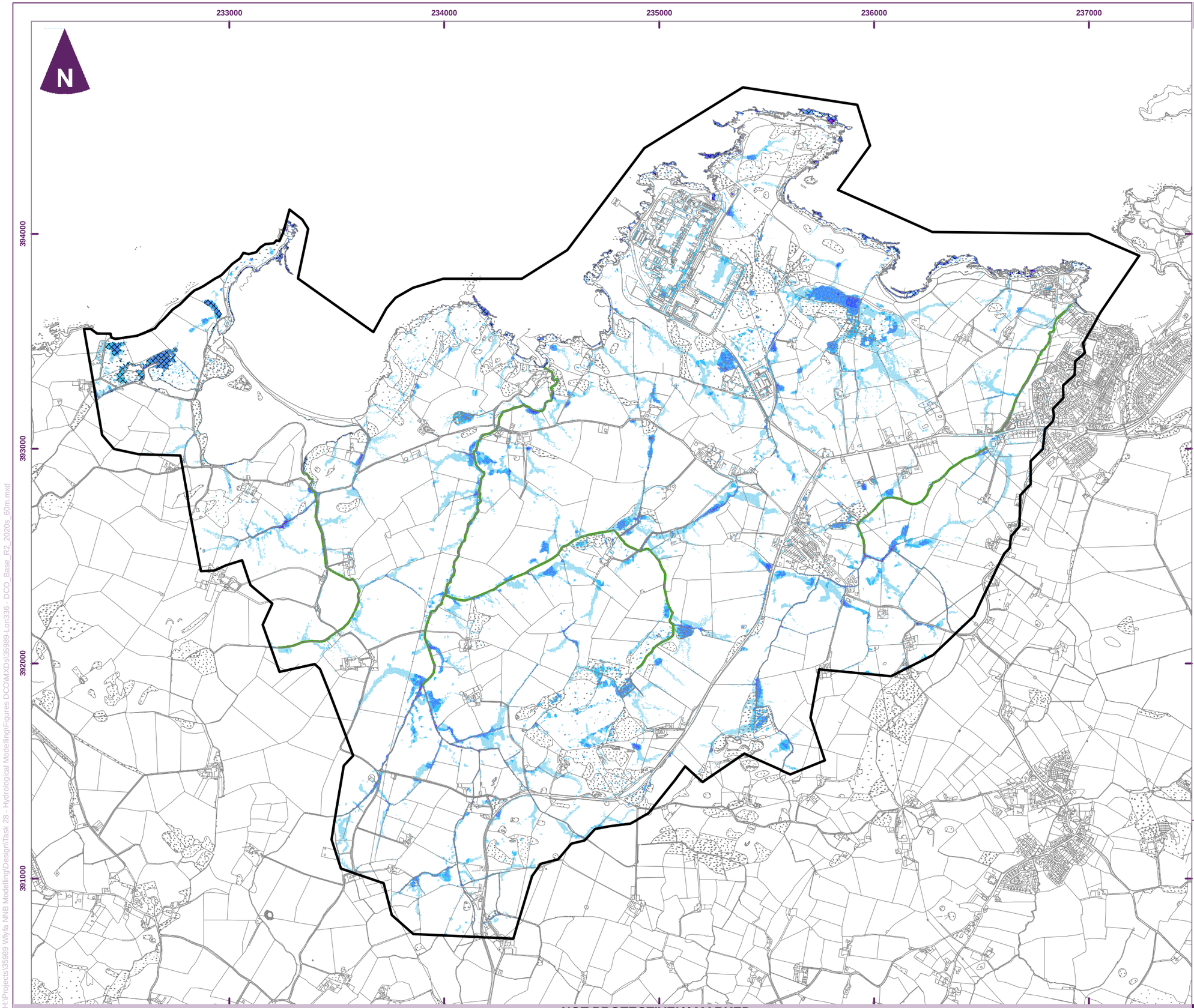

Key

Peak flood depth (m)
Baseline
1 : 2 year AEP pluvial
60 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1198_DCO_Base_R2_2020s_60m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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DCO
Hydraulic Modelling

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Figure 7
DCO baseline peak pluvial depth 1:2 year AEP 60 min duration climate change 2020s

NOT PROTECTIVELY MARKED

December 2016 35989-Lon336-brays

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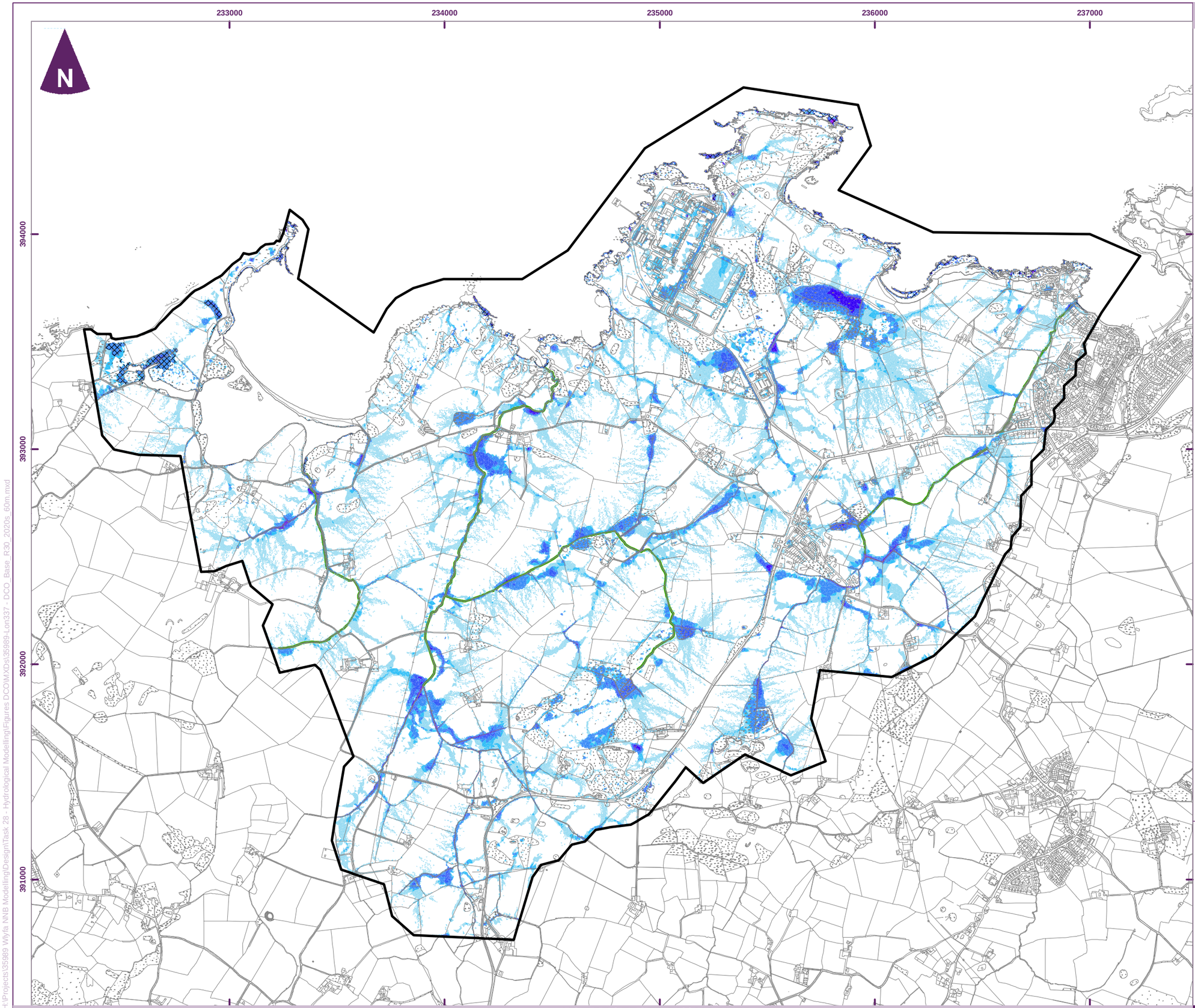

Key

Peak flood depth (m)
Baseline
1 : 30 year AEP pluvial
60 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1199_DCO_Base_R30_2020s_60m

Meters
0 250 500 750 1,000
Scale at A3

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Figure 8
DCO bsaeline peak pluvial depth
1:30 year AEP 60 min duration
climate change 2020s

NOT PROTECTIVELY MARKED

December 2016 35989-Lon337-brays

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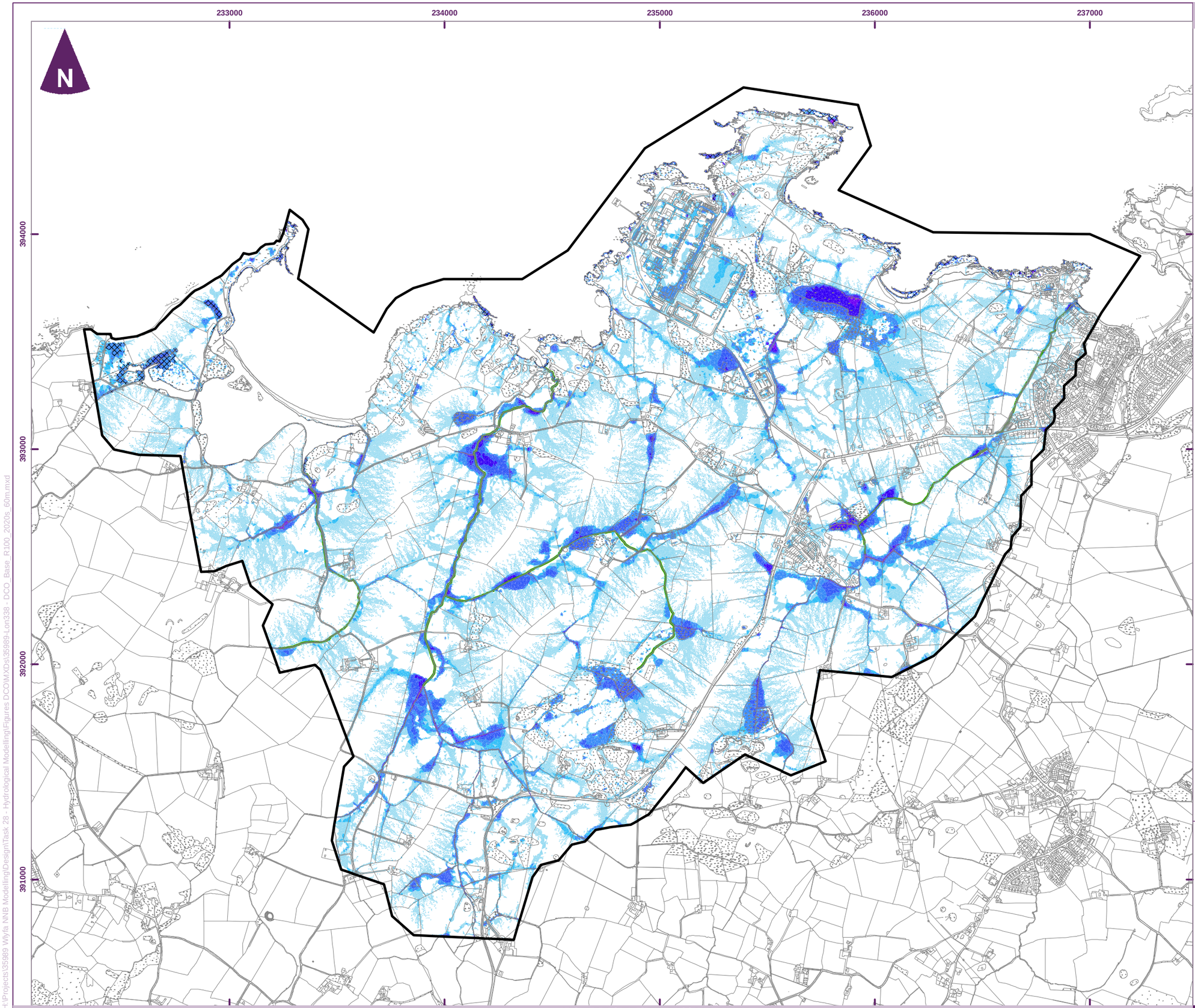

Key

Peak flood depth (m)
Baseline
1 : 100 year AEP pluvial
60 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1200_DCO_Base_R100_2020s_60m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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DCO
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Figure 9
DCO baseline peak pluvial depth 1:100 year AEP 60 min duration climate change 2020s

NOT PROTECTIVELY MARKED

December 2016 35989-Lon338-brays

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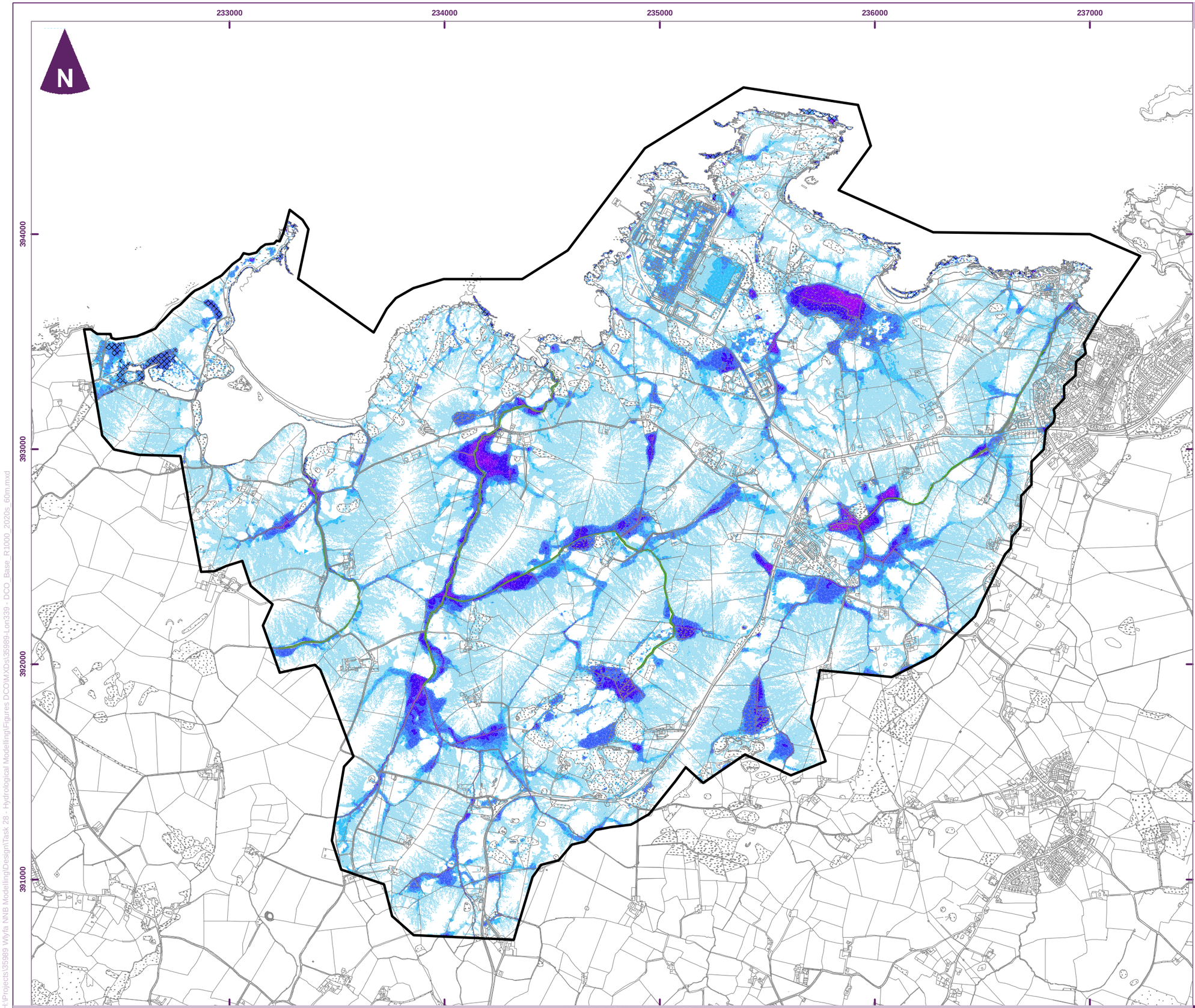

Key

Peak flood depth (m)
Baseline
1 : 1000 year AEP pluvial
60 min duration
Climate change 2020s

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2020s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1201_DCO_Base_R1000_2020s_60m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

Wylfa Newydd
DCO
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Figure 10
DCO baseline peak pluvial depth 1:1000 year AEP 60 min duration climate change 2020s

NOT PROTECTIVELY MARKED

December 2016 35989-Lon339-brays

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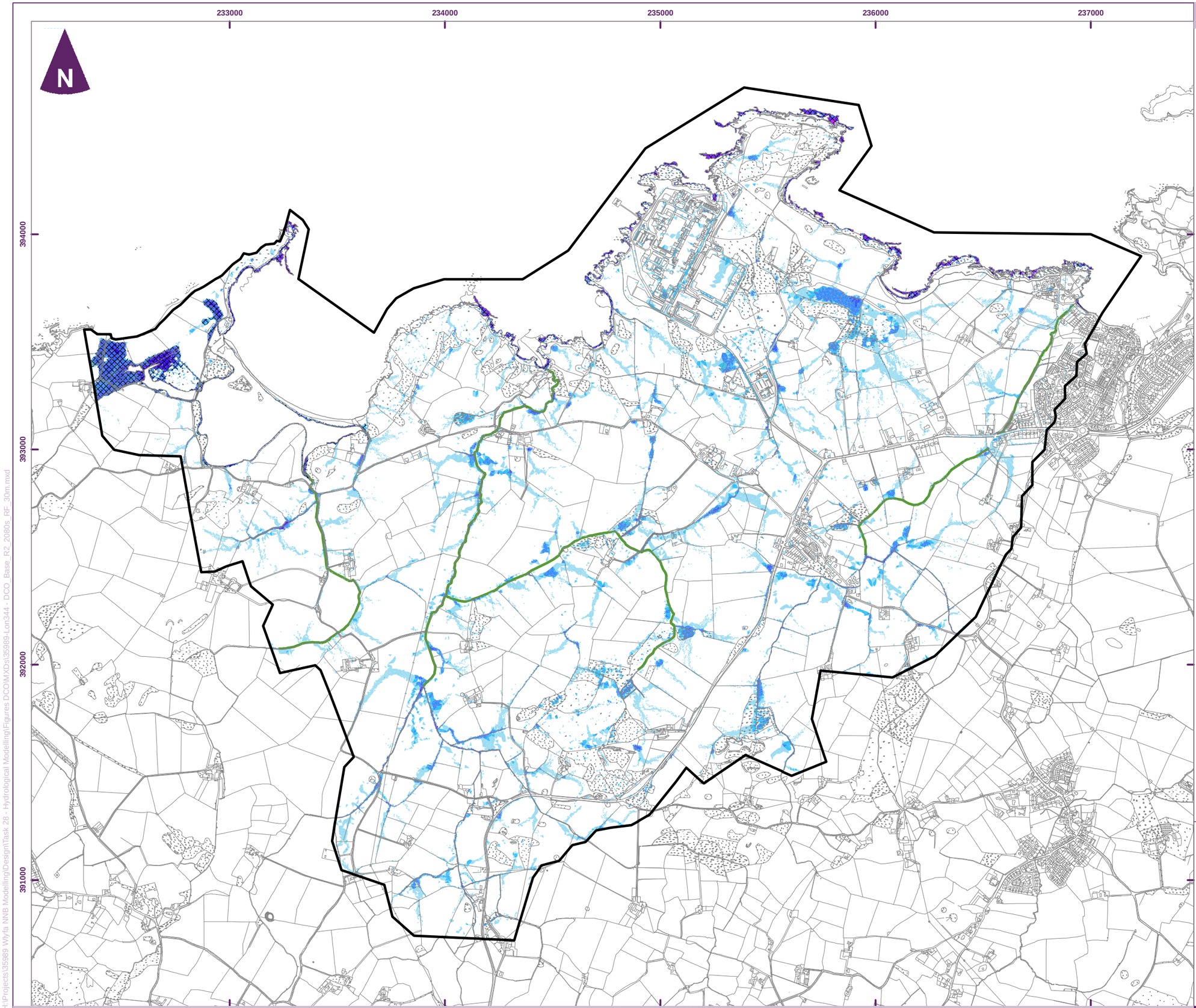

Key

Peak flood depth (m)
Baseline
1 : 2 year AEP pluvial
30 min duration
Climate change 2080s - reasonably foreseeable

- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00
- Model boundary
- MHWS Extent 2080s
- Model river centreline

Notes:
The depths represent the maximum depth achieved. The flood prediction does not represent a moment in time as maximum depths can be achieved at different times.

Model run date: 28/11/2016
Corresponding data:
35989-C1206_DCO_Base_R2_2080s_RF_30m.xlsx

Meters
0 250 500 750 1,000
Scale at A3

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DCO
Hydraulic Modelling

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Figure 15
DCO baseline peak pluvial depth 1:2 year AEP 30 min duration climate change 2080s - reasonably foreseeable

NOT PROTECTIVELY MARKED

December 2016 35989-Lon344-brays

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