

### 3. Thurrock Strategic Flood Risk Assessment (June 2018) – continued from Part 1



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**LEGEND**

- Breach Location
- Maximum Flood Hazard(m)**
- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

**NOTES**

Hydraulic modelling has been undertaken using 2D hydraulic modelling software TUFLOW (ver.2016-03-AD-IDP-w64) to assess the effect of breaches at specified points and / or overtopping of defences. Breaches have been modelled to be 'open' for the duration of three tidal cycles (36 hours).

It should be noted that the breach widths and depths, though based on available guidance, are arbitrary and do not necessarily represent the actual dimensions of a potential breach at a given location.

A description of the modelling methodology and assumptions is including in the accompanying 'Breach Modelling Technical Note' (AECOM 2017).

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Purpose of Issue  
**FINAL**

Client  
**THURROCK COUNCIL**

Project Title  
**THURROCK COUNCIL LEVEL 1 SFRA  
LEVEL 1 SFRA**

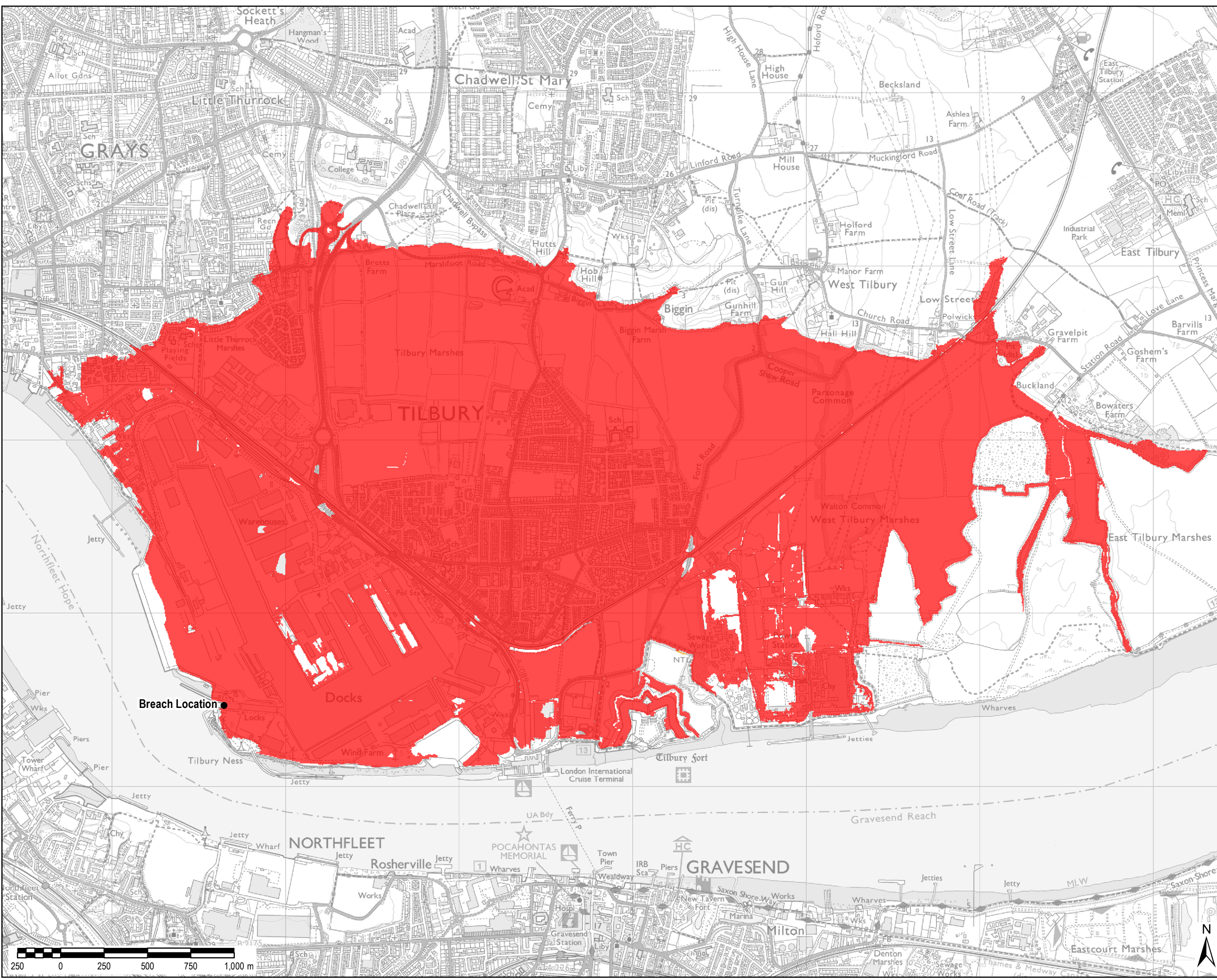
Drawing Title  
**MAXIMUM MODELLED FLOOD HAZARD FROM A BREACH AT TIL003 IN A 0.1% (1 IN 1000 +CC YEAR) AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 09/03/2018
AECOM Internal Project No. 60492009		Scale @ A3 1:20,000	

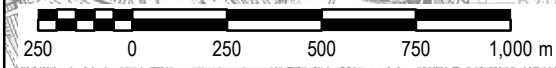
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Drawing Number  
**A001 TIL003 1000YR + CC (2116) HAZARD**



File Name: \\ba-wip-003\700 - Water\WaterProjects & Jobs\60492009 - Thurrock flood projects\4 - WIP\GIS\MXDs\Thurrock\_Breach\_TIL003\_1000yr\_Hazard.mxd





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**LEGEND**

- Breach Location
- Time to Inundation**
- ≤ 1 Hour
- > 1 to 4 Hours
- > 4 to 8 Hours
- > 8 to 12 Hours
- > 12 to 16 Hours
- > 16 to 20 Hours
- > 20 Hours

**NOTES**

Hydraulic modelling has been undertaken using 2D hydraulic modelling software TUFLOW (ver.2016-03-AD-IDP-w64) to assess the effect of breaches at specified points and / or overtopping of defences. Breaches have been modelled to be 'open' for the duration of three tidal cycles (36 hours).

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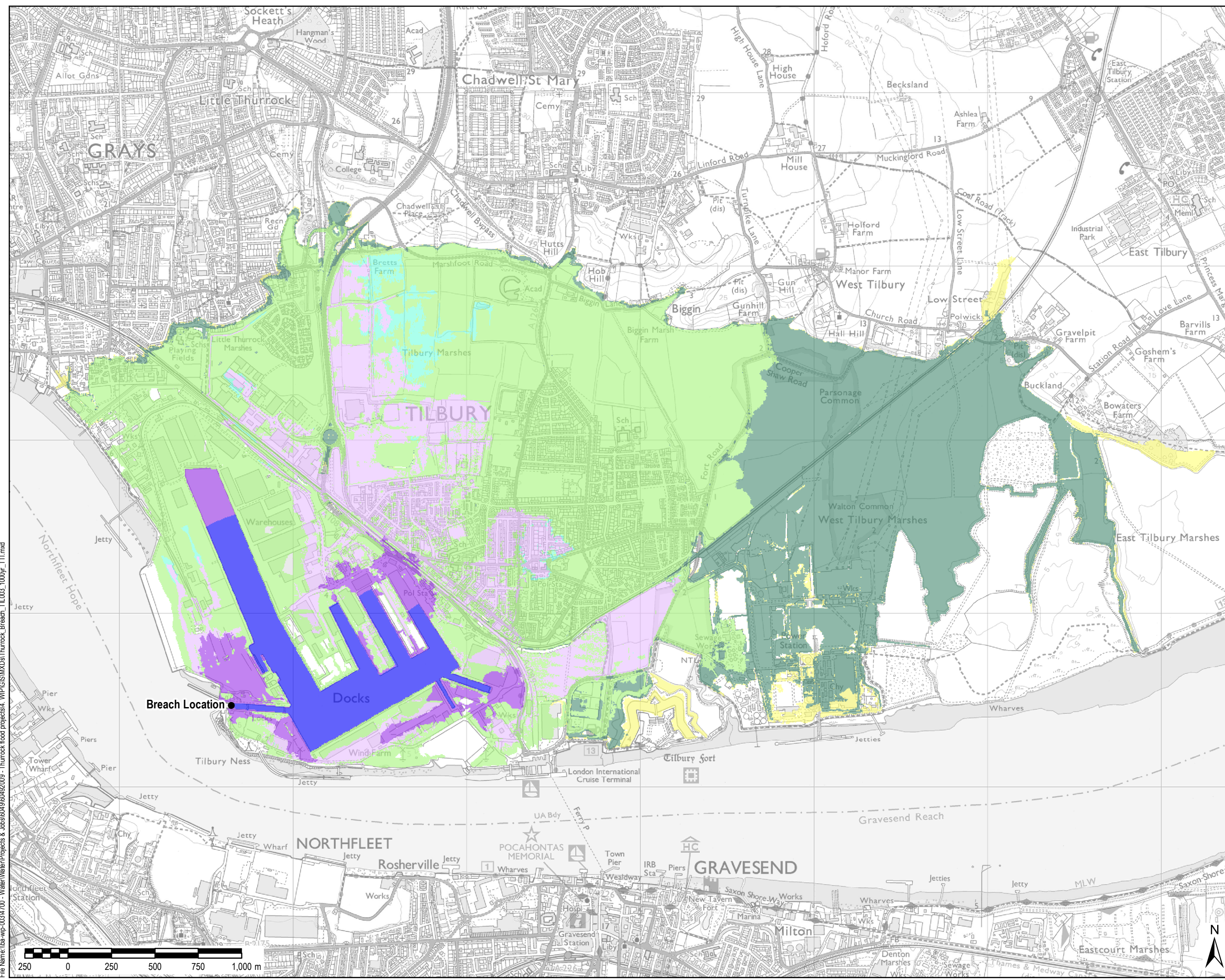
Drawing Title  
**TIME TO INUNDATION  
MODELLED FROM A BREACH AT  
TIL003 IN A 0.1% (1 IN 1000 +CC YEAR)  
AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 06/04/2018
AECOM Internal Project No. 60492009		Scale @ A3 1:20,000	

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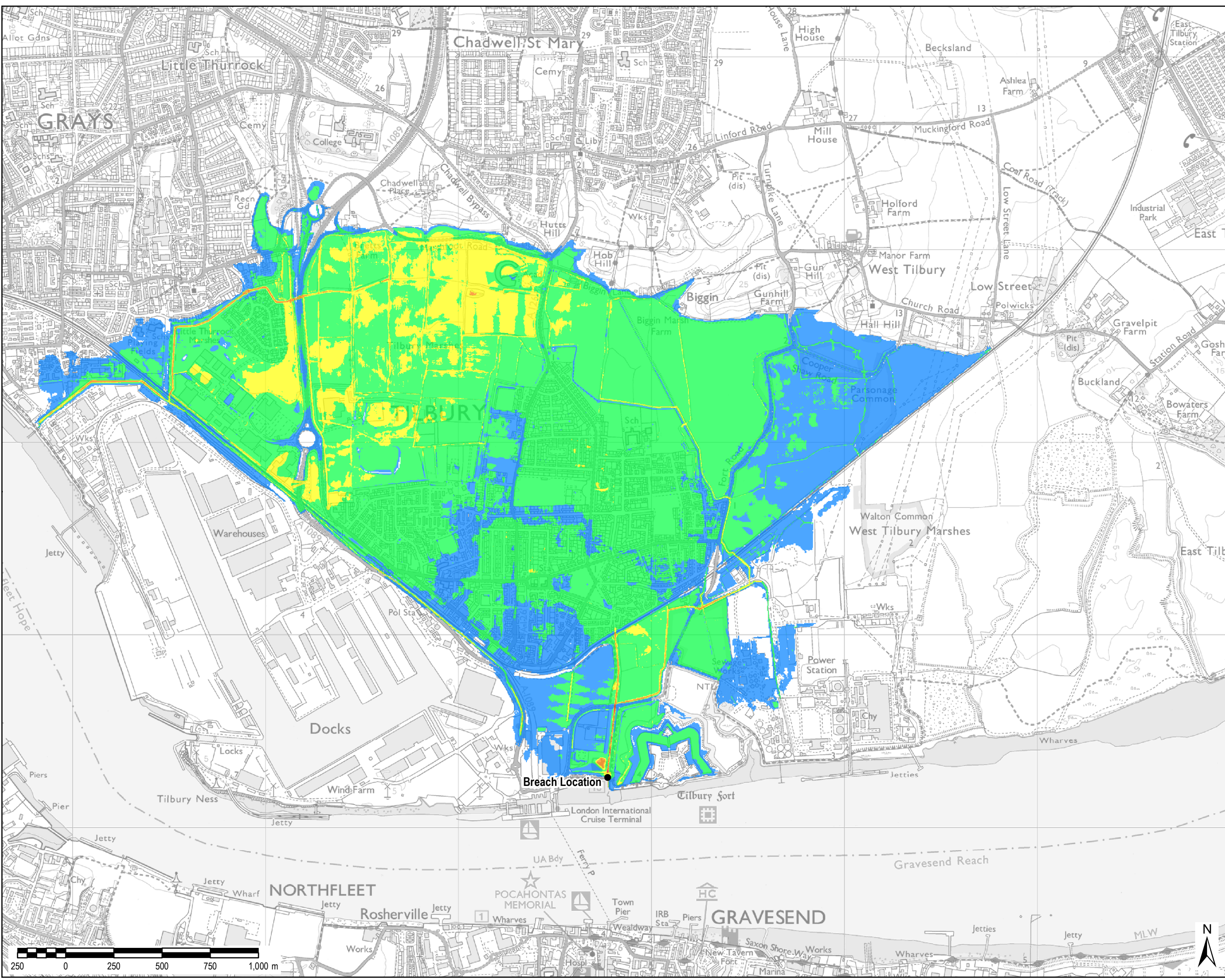
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**A001 TIL003 1000YR + CC (2116) TTI**



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- LEGEND**
- Breach Location
- Maximum Modelled Flood Depth(m)**
- 0m to <= 1m
  - > 1m to <= 2m
  - > 2m to <= 3m
  - > 3m to <= 4m
  - > 4m to <= 5m
  - > 5m

**NOTES**

Hydraulic modelling has been undertaken using 2D hydraulic modelling software TUFLOW (ver.2016-03-AD-IDP-w64) to assess the effect of breaches at specified points and / or overtopping of defences. Breaches have been modelled to be 'open' for the duration of three tidal cycles (36 hours).

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Drawing Title  
**MAXIMUM MODELLED FLOOD  
 DEPTH FROM A BREACH AT  
 TIL004 IN A 0.5% (1 IN 200 + CC YEAR)  
 AEP EVENT IN 2116**

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Drawing Number  
**A001 TIL004 200YR + CC (2116) DEPTH**

File Name: \\ba-wip-003\700 - Water\Water\Projects & Jobs\6049160492009 - Thurrock flood projects\4 - WIP\GIS\MXDs\Thurrock\_Breach\_TIL004\_200yr\_Depth.mxd





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**LEGEND**

- Breach Location
- Maximum Flood Hazard(m)**
- Low Hazard
- Moderate Hazard (Danger to Some)
- Significant Hazard (Danger to Most)
- Extreme Hazard (Danger to All)

**NOTES**

Hydraulic modelling has been undertaken using 2D hydraulic modelling software TUFLOW (ver.2016-03-AD-IDP-w64) to assess the effect of breaches at specified points and / or overtopping of defences. Breaches have been modelled to be 'open' for the duration of three tidal cycles (36 hours).

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Project Title  
**THURROCK COUNCIL LEVEL 1 SFRA**

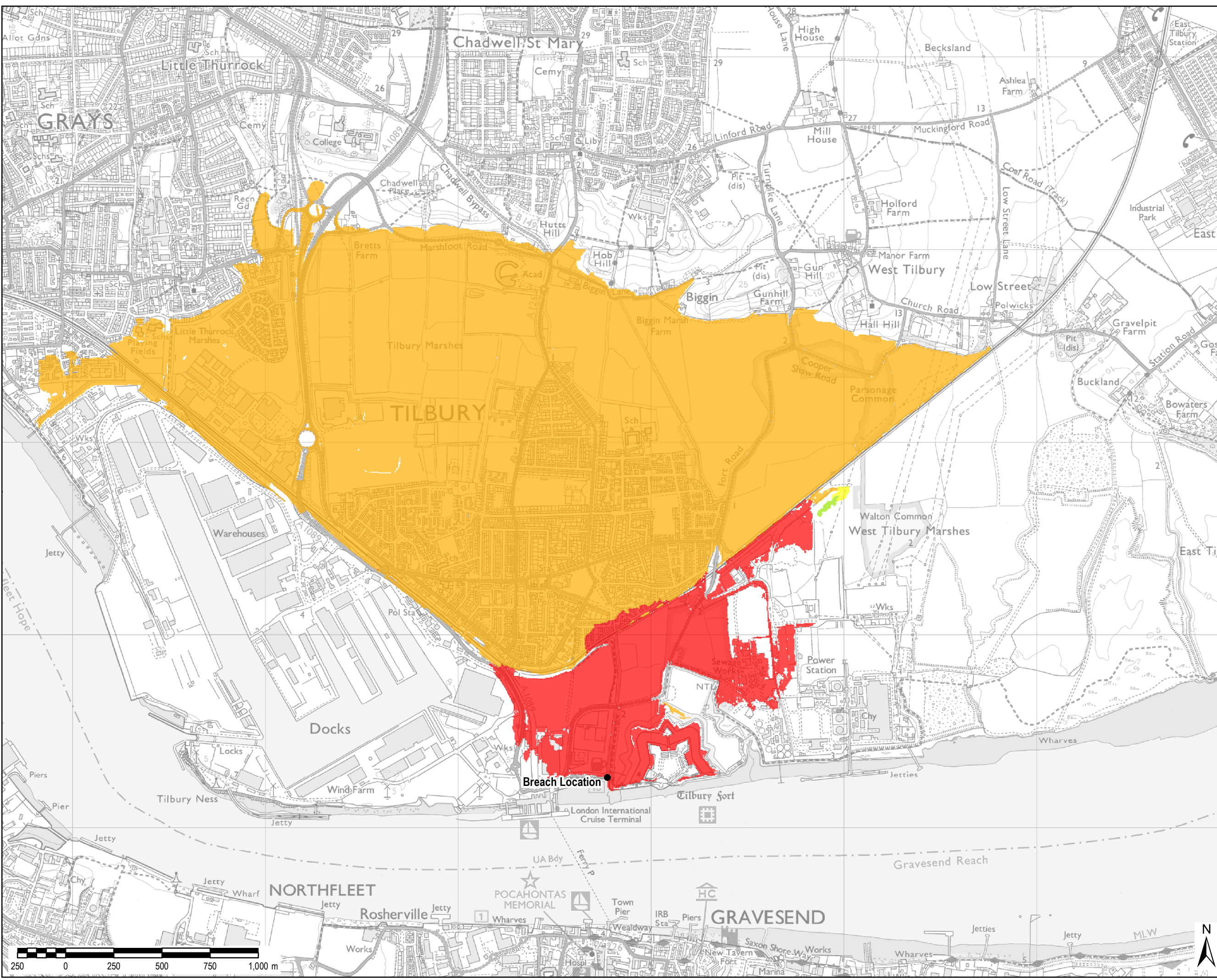
Drawing Title  
**MAXIMUM MODELLLED FLOOD HAZARD FROM A BREACH AT TIL004 IN A 0.5% (1 IN 200 + CC YEAR) AEP EVENT IN 2116**

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**A001 TIL004 200YR + CC (2116) HAZARD**



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**LEGEND**

- Breach Location
- Time to Inundation**
- ≤ 1 Hour
- > 1 to 4 Hours
- > 4 to 8 Hours
- > 8 to 12 Hours
- > 12 to 16 Hours
- > 16 to 20 Hours
- > 20 Hours

**NOTES**

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Project Title **THURROCK COUNCIL LEVEL 1 SFRA**

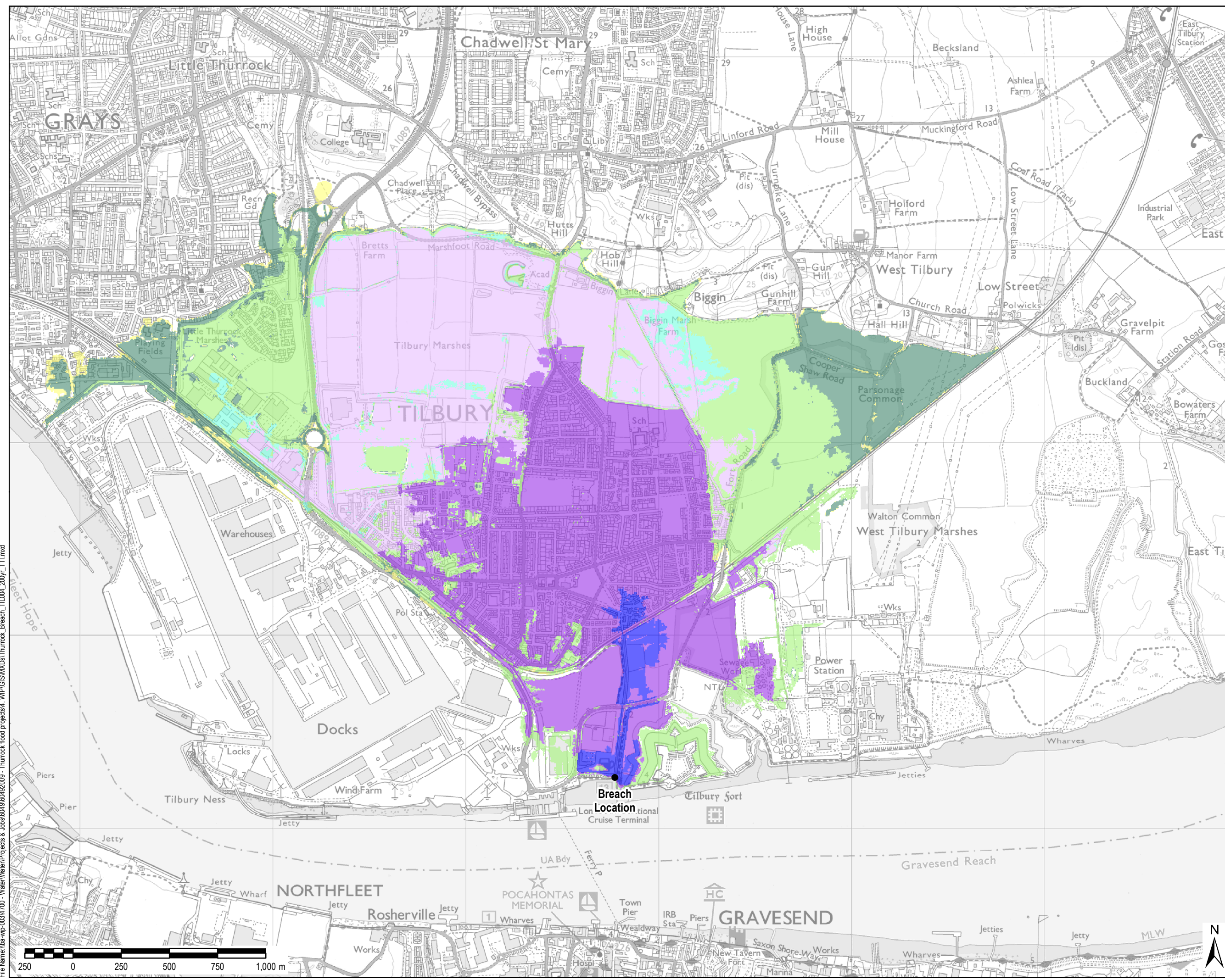
Drawing Title **TIME TO INUNDATION MODELLED FROM A BREACH AT TIL004 IN A 0.5% (1 IN 200 +CC YEAR) AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 06/04/2018
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Drawing Number **A001 TIL004 200YR + CC (2116) TTI**



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- LEGEND**
- Breach Location
- Maximum Modelled Flood Depth (m)**
- 0m to <= 1m
  - > 1m to <= 2m
  - > 2m to <= 3m
  - > 3m to <= 4m
  - > 4m to <= 5m
  - > 5m

**NOTES**

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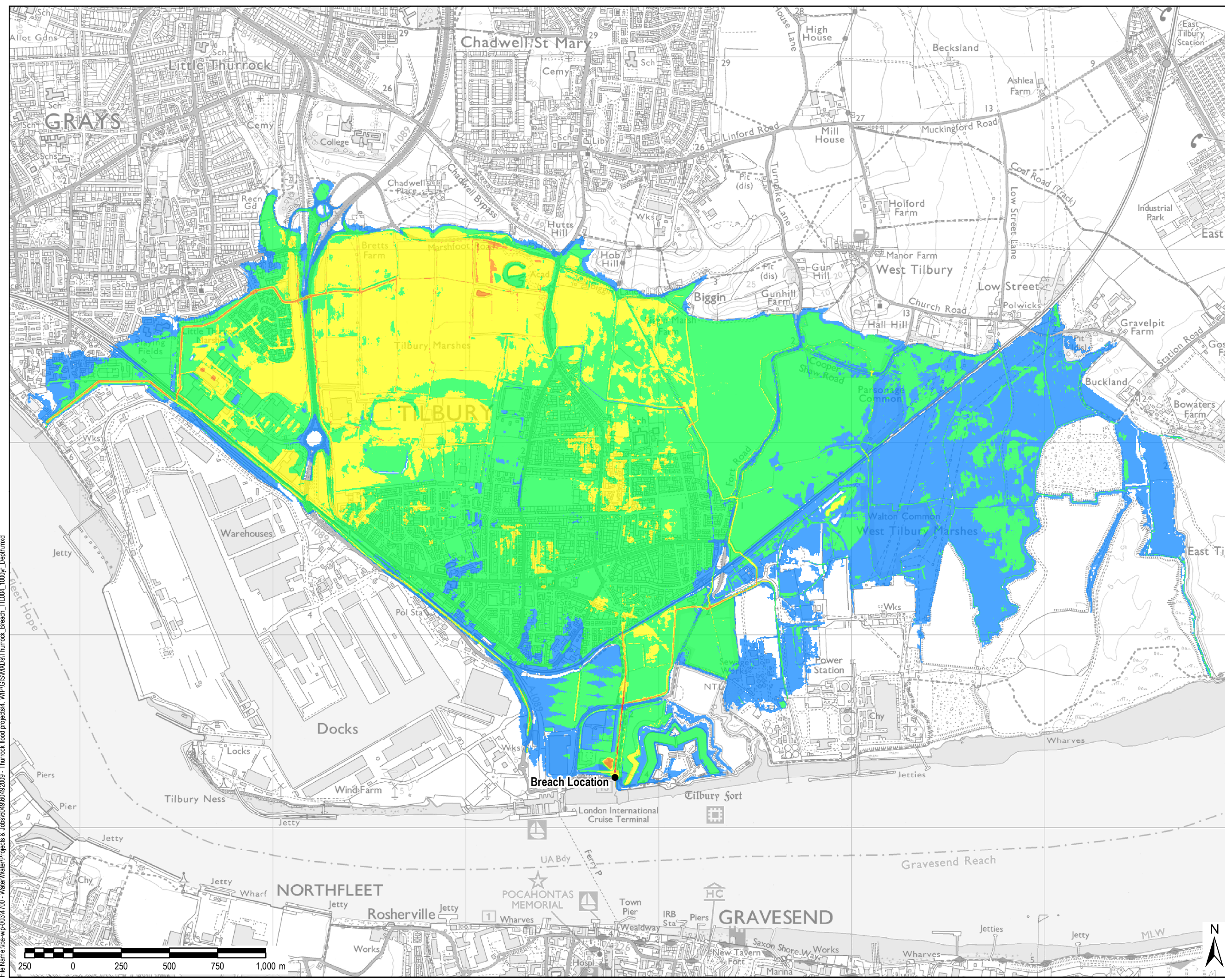
Drawing Title  
**MAXIMUM MODELLED FLOOD DEPTH FROM A BREACH AT TIL004 IN A 0.1% (1 IN 1000 +CC YEAR) AEP EVENT IN 2116**

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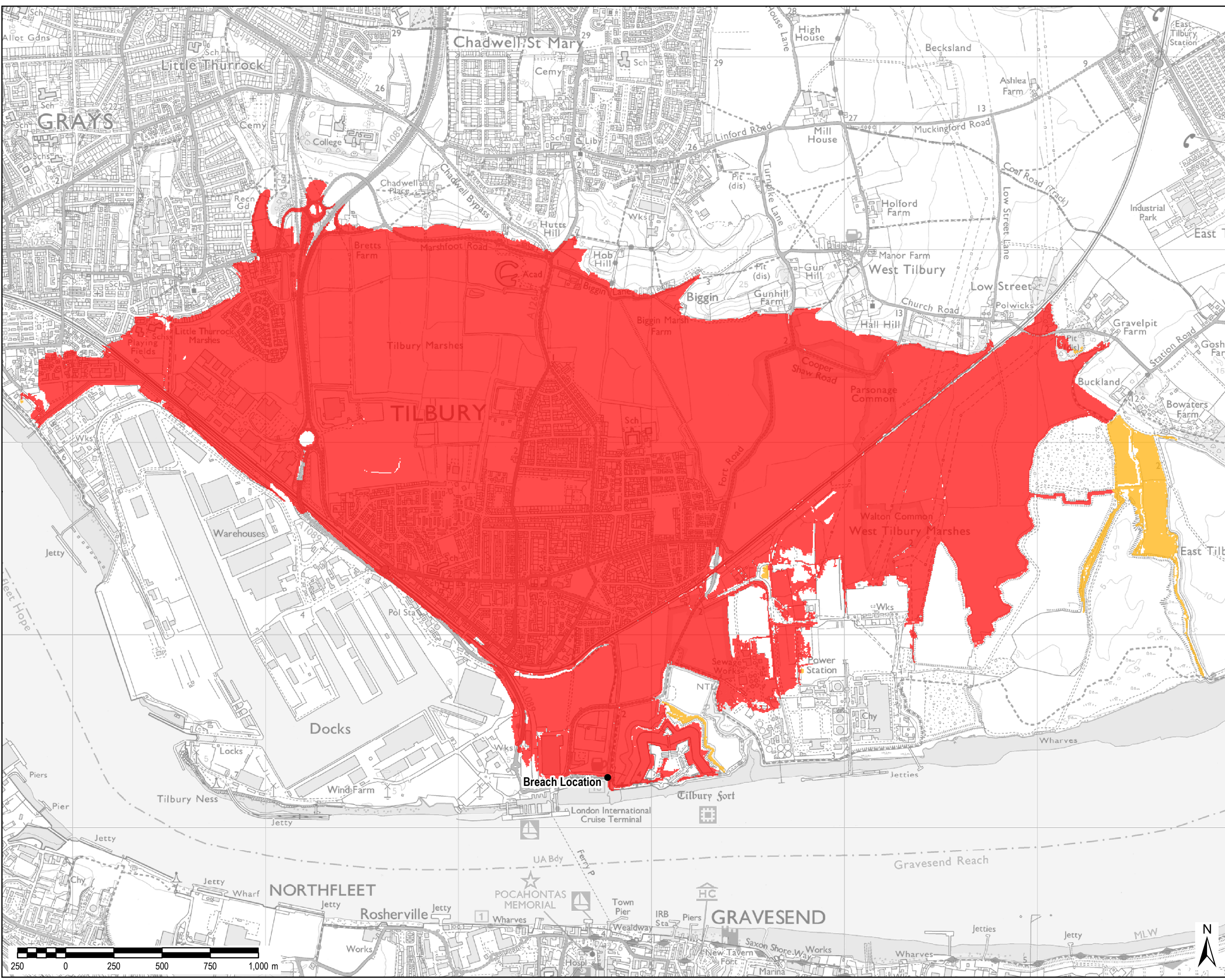
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**A001 TIL004 1000YR + CC (2116) DEPTH**



File Name: \\ba-wip-003\700 - Water\Water\Projects & Jobs\6049\60492009 - Thurrock flood projects\4 - WIP\GIS\MXDs\Thurrock\_Breach\_TIL004\_1000yr\_Depth.mxd







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- LEGEND**
- Breach Location
- Maximum Flood Hazard(m)**
- Low Hazard
  - Moderate Hazard (Danger to Some)
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**THURROCK COUNCIL LEVEL 1 SFRA**

Drawing Title  
**MAXIMUM MODELLED FLOOD HAZARD FROM A BREACH AT TIL004 IN A 0.1% (1 IN 1000 +CC YEAR) AEP EVENT IN 2116**

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**A001 TIL004 1000YR + CC (2116) HAZARD**

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**LEGEND**

- Breach Location
- Time to Inundation**
- ≤ 1 Hour
- > 1 to 4 Hours
- > 4 to 8 Hours
- > 8 to 12 Hours
- > 12 to 16 Hours
- > 16 to 20 Hours
- > 20 Hours

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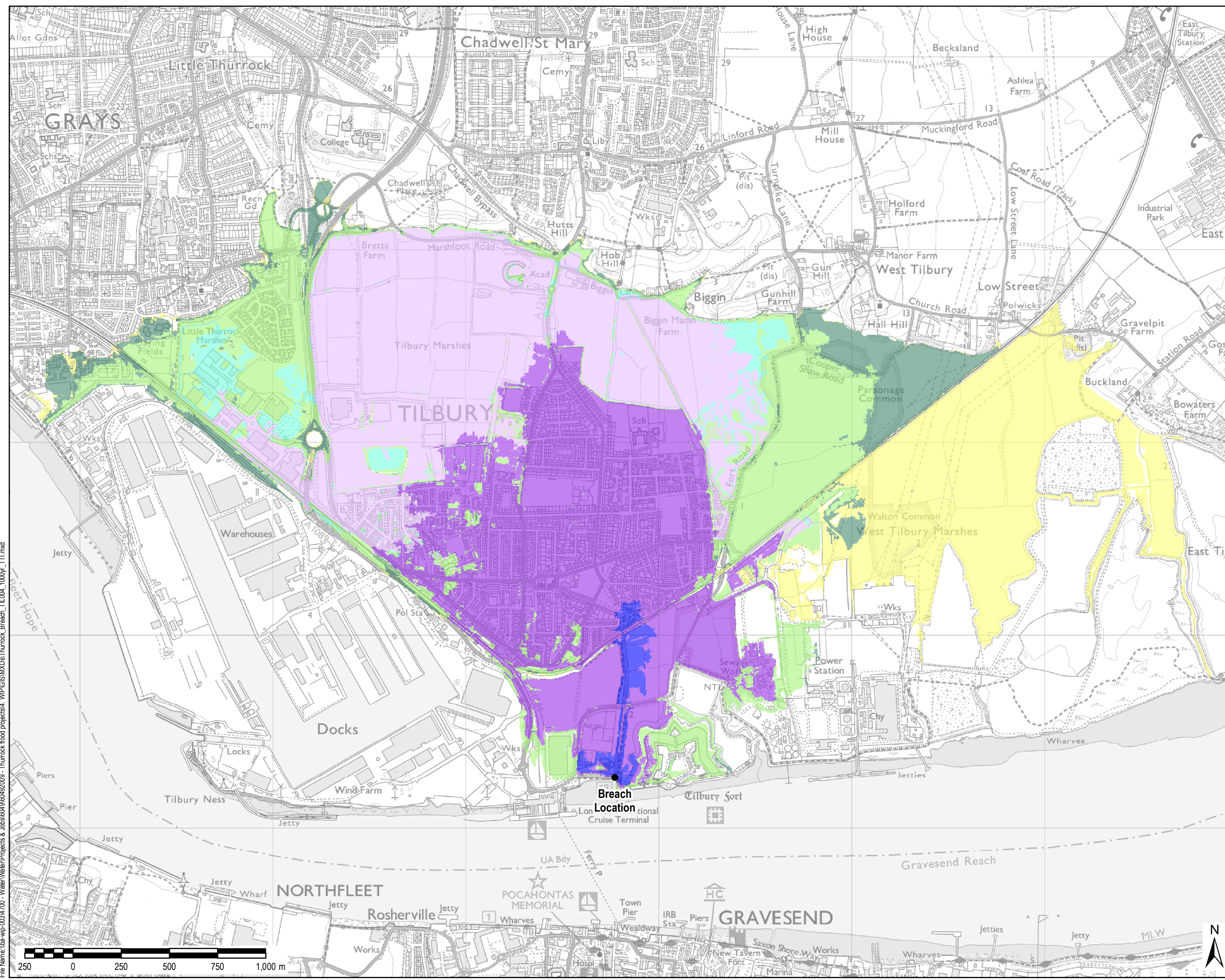
Drawing Title  
**TIME TO INUNDATION  
 MODELLED FROM A BREACH AT  
 TIL004 IN A 0.1% (1 IN 1000 +CC YEAR)  
 AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 06/04/2018
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**LEGEND**

- Breach Location
- Maximum Modelled Flood Depth(m)**
- 0m to <= 1m
- > 1m to <= 2m
- > 2m to <= 3m
- > 3m to <= 4m
- > 4m to <= 5m
- > 5m

**NOTES**

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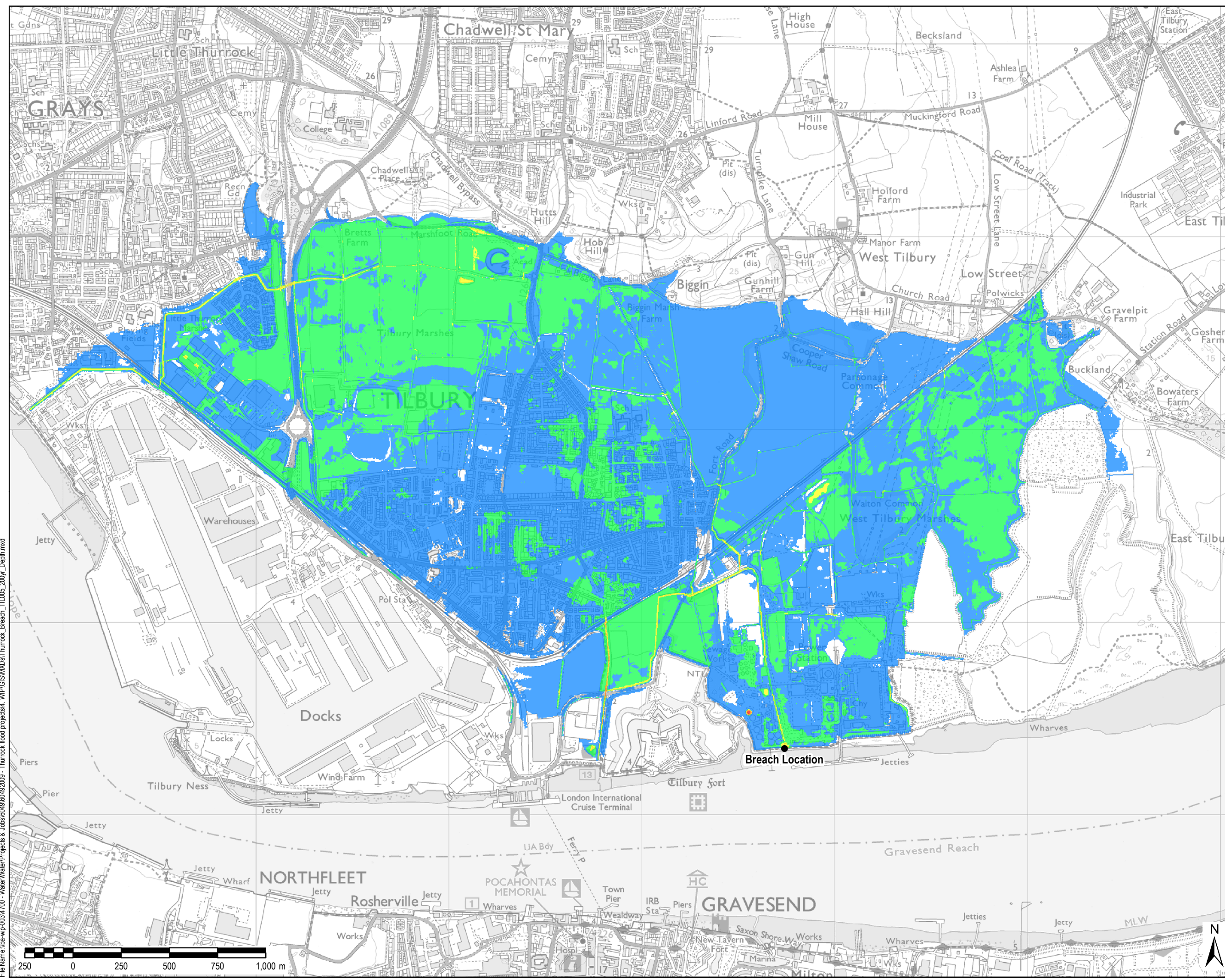
Drawing Title  
**MAXIMUM MODELLED FLOOD  
DEPTH FROM A BREACH AT  
TIL005 IN A 0.5% (1 IN 200 + CC YEAR)  
AEP EVENT IN 2116**

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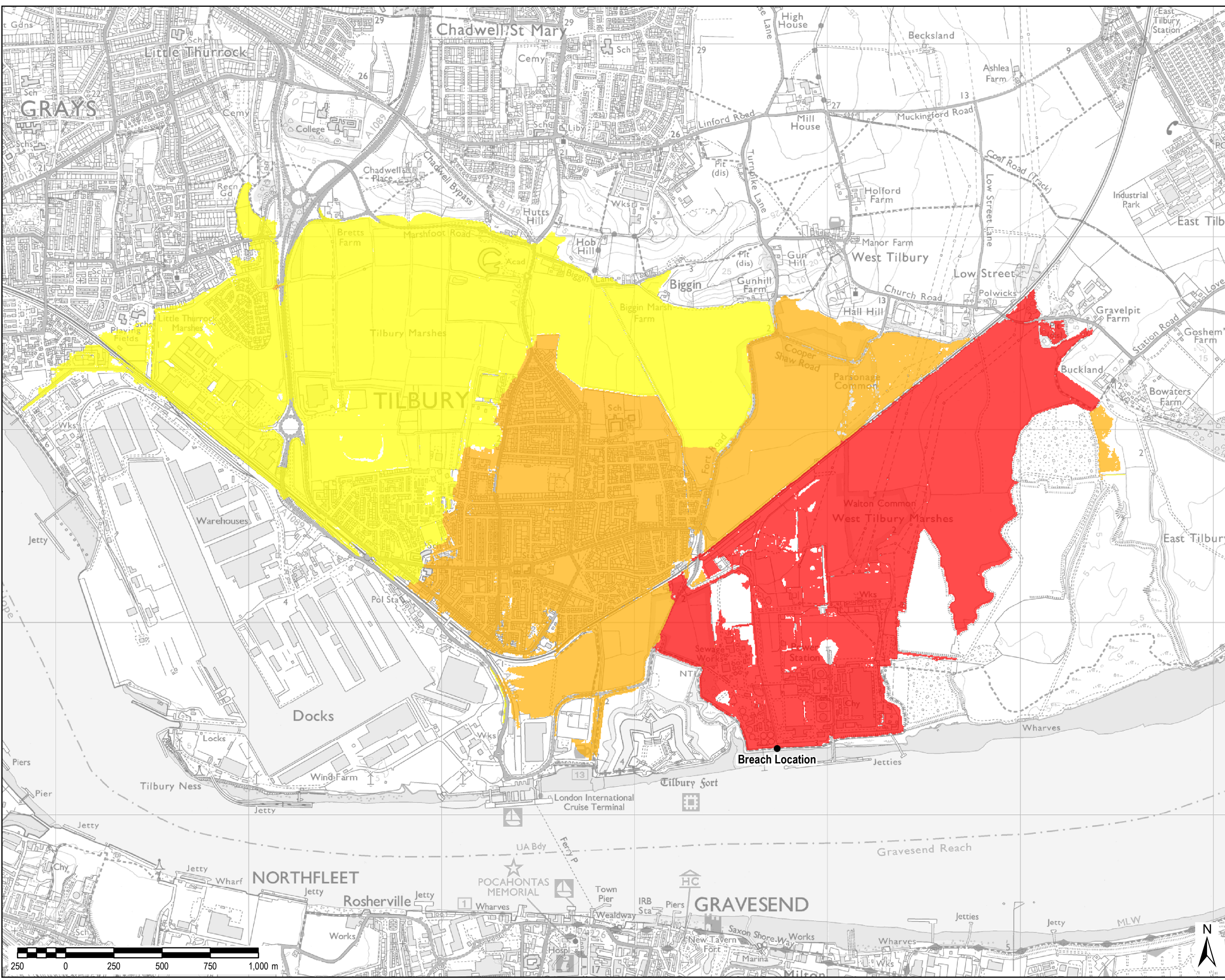
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**A001 TIL005 200YR + CC (2116) DEPTH**



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**LEGEND**

- Breach Location

**Maximum Flood Hazard(m)**

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

**NOTES**

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Drawing Title  
**MAXIMUM MODELLED FLOOD HAZARD FROM A BREACH AT TIL005 IN A 0.5% (1 IN 200 + CC YEAR) AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 09/03/2018
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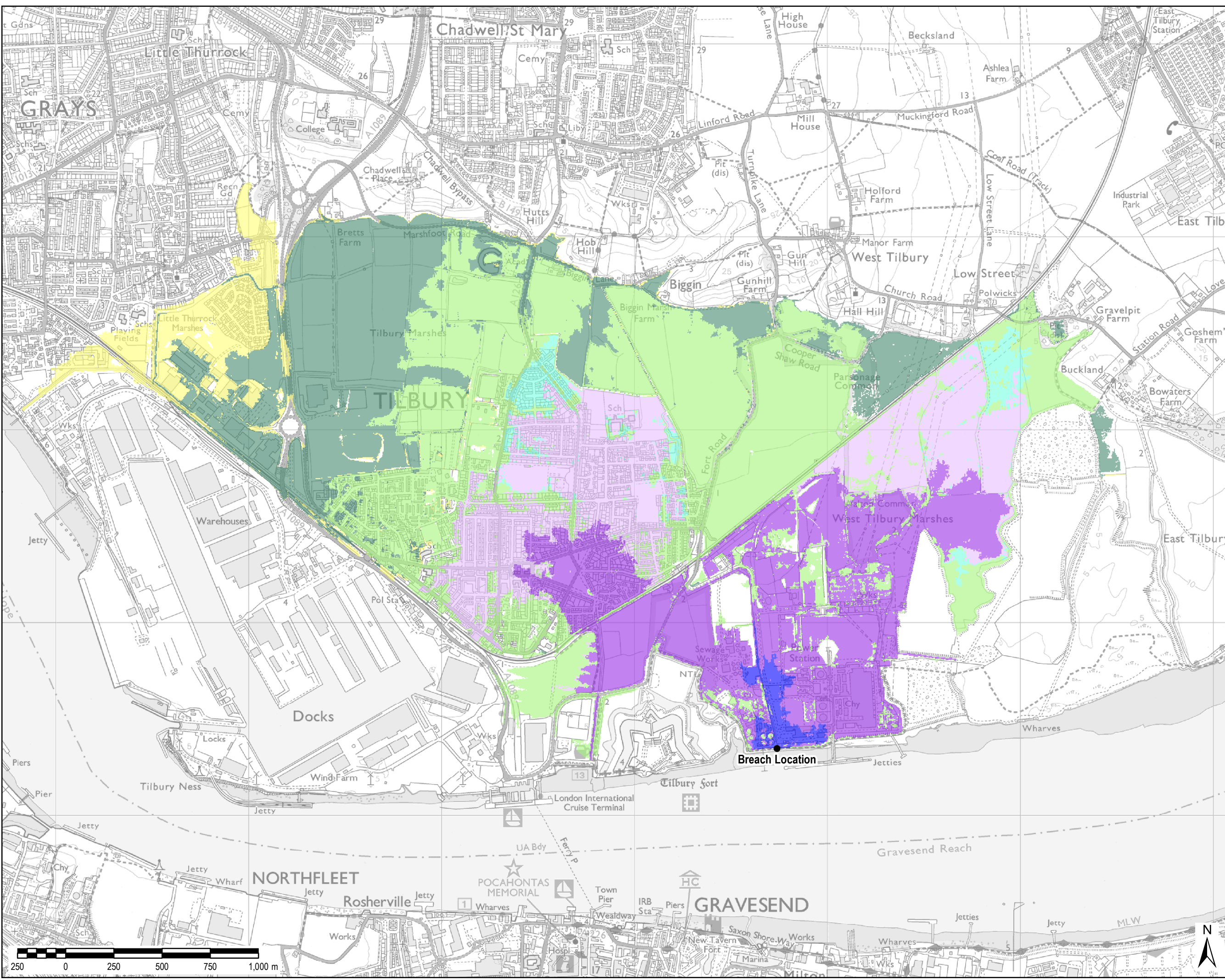
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- LEGEND**
- Breach Location
- Time to Inundation**
- Blue: ≤ 1 Hour
  - Purple: > 1 to 4 Hours
  - Light Purple: > 4 to 8 Hours
  - Cyan: > 8 to 12 Hours
  - Light Green: > 12 to 16 Hours
  - Dark Green: > 16 to 20 Hours
  - Yellow: > 20 Hours

**NOTES**

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Purpose of Issue: **FINAL**

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Drawing Title: **TIME TO INUNDATION MODELLED FROM A BREACH AT TIL005 IN A 0.5% (1 IN 200 +CC YEAR) AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 06/04/2018
AECOM Internal Project No. 60492009		Scale @ A3 1:18,000	

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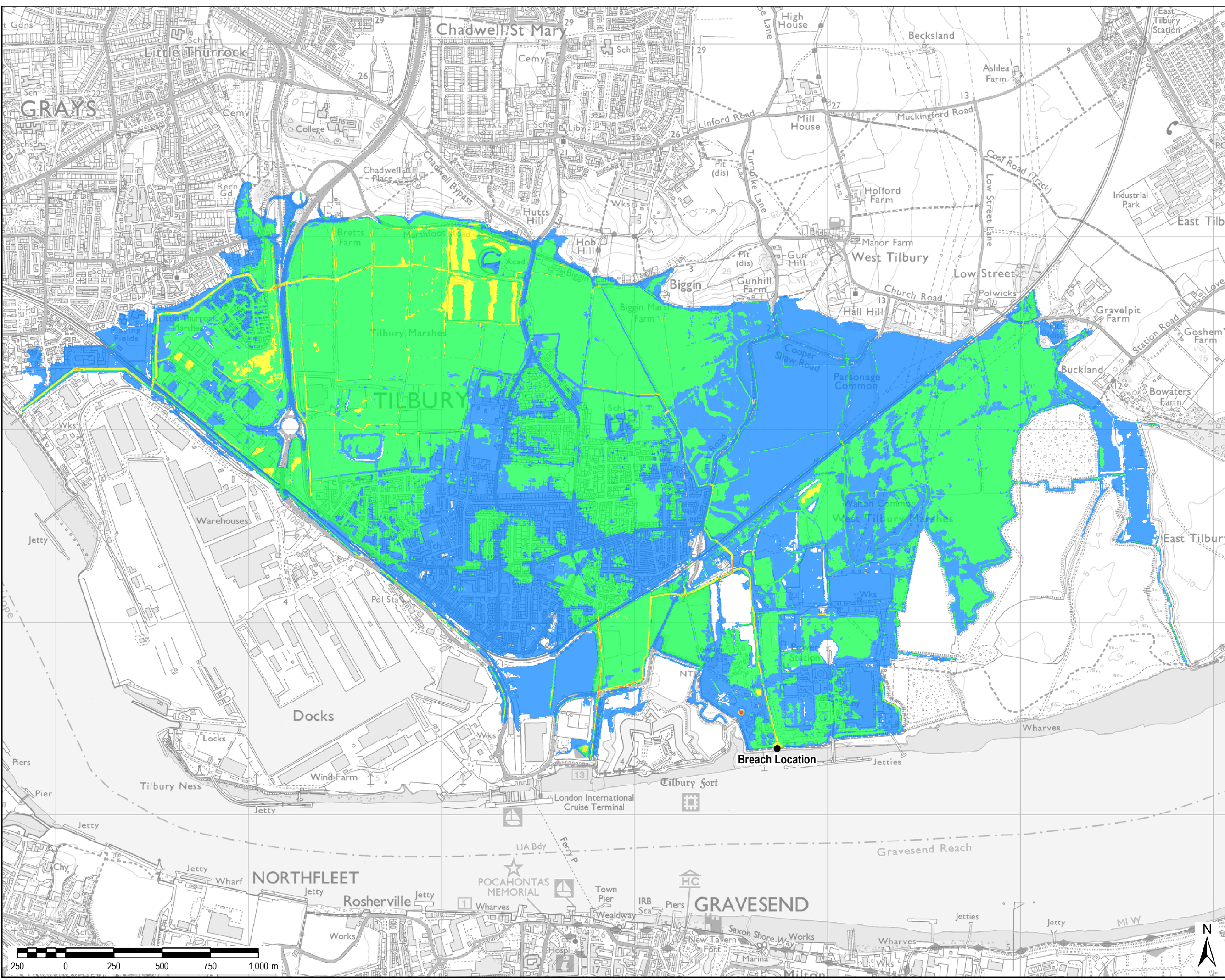
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Drawing Number: **A001 TIL005 200YR + CC (2116) TTI**

File Name: lba-wip-003\700 - Water\Water\Projects & Jobs\6049160492009 - Thurrock flood projects\4 - WIP\GIS\MXDs\Thurrock\_Breach\_TIL005\_200yr\_TTI.mxd







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**LEGEND**

- Breach Location

**Maximum Modelled Flood Depth(m)**

- 0m to <= 1m
- > 1m to <= 2m
- > 2m to <= 3m
- > 3m to <= 4m
- > 4m to <= 5m
- > 5m

**NOTES**

Hydraulic modelling has been undertaken using 2D hydraulic modelling software TUFLOW (ver.2016-03-AD-IDP-w64) to assess the effect of breaches at specified points and / or overtopping of defences. Breaches have been modelled to be 'open' for the duration of three tidal cycles (36 hours).

It should be noted that the breach widths and depths, though based on available guidance, are arbitrary and do not necessarily represent the actual dimensions of a potential breach at a given location.

A description of the modelling methodology and assumptions is including in the accompanying 'Breach Modelling Technical Note' (AECOM 2017).

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Purpose of Issue  
**FINAL**

Client  
**THURROCK COUNCIL**

Project Title  
**THURROCK COUNCIL  
LEVEL 1 SFRA**

Drawing Title  
**MAXIMUM MODELLED FLOOD  
DEPTH FROM A BREACH AT  
TIL005 IN A 0.1% (1 IN 1000 +CC YEAR)  
AEP EVENT IN 2116**

Drawn JW	Checked BB	Approved HJ	Date 09/03/2018
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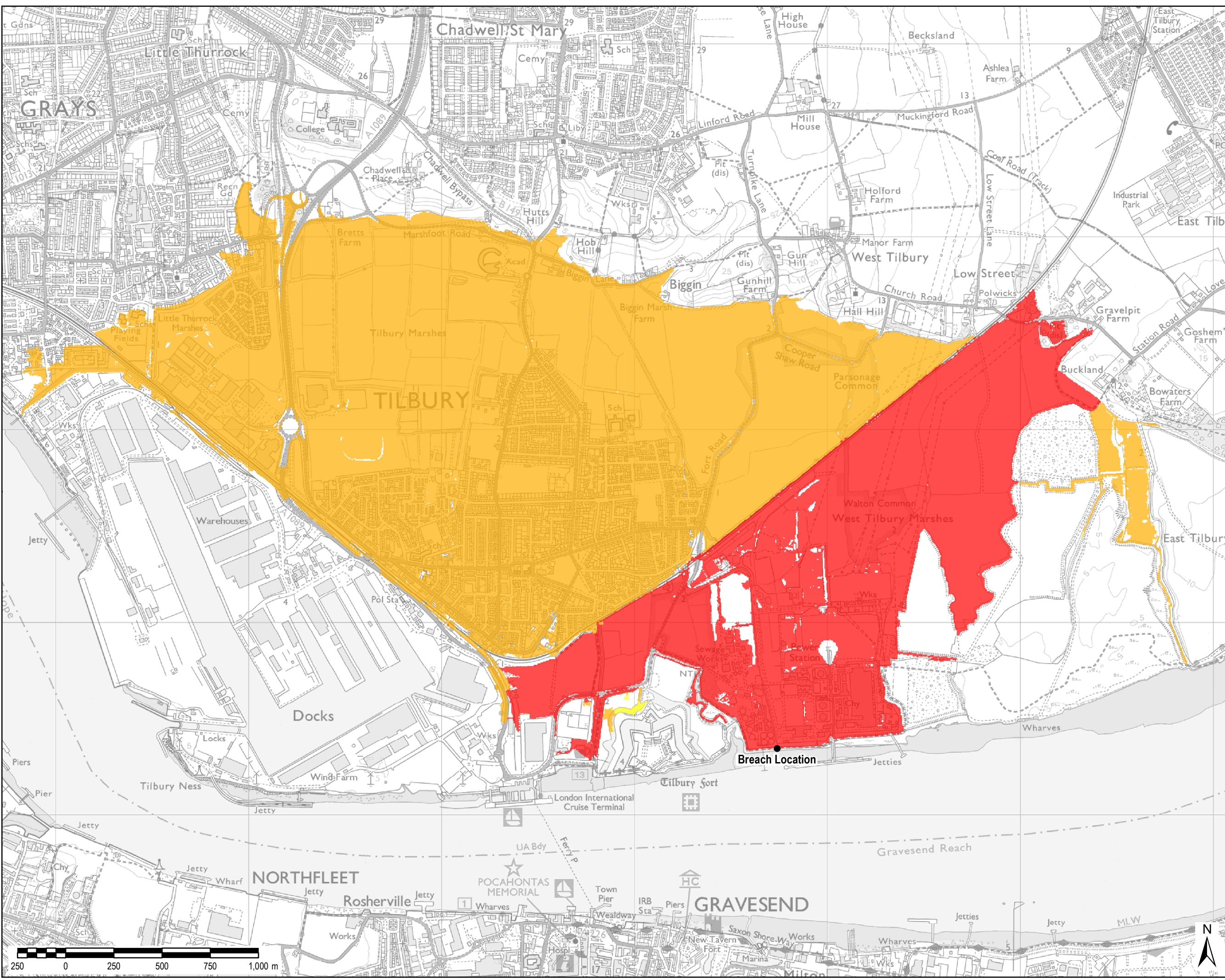
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Drawing Number  
**A001 TIL005 1000YR + CC (2116) DEPTH**

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**LEGEND**

- Breach Location
- Maximum Flood Hazard(m)**
- 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  
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Client  
**THURROCK COUNCIL**

Project Title  
**THURROCK COUNCIL  
 LEVEL 1 SFRA**

Drawing Title  
**MAXIMUM MODELLED FLOOD HAZARD FROM A BREACH AT TIL005 IN A 0.1% (1 IN 1000 +CC YEAR) AEP EVENT IN 2116**

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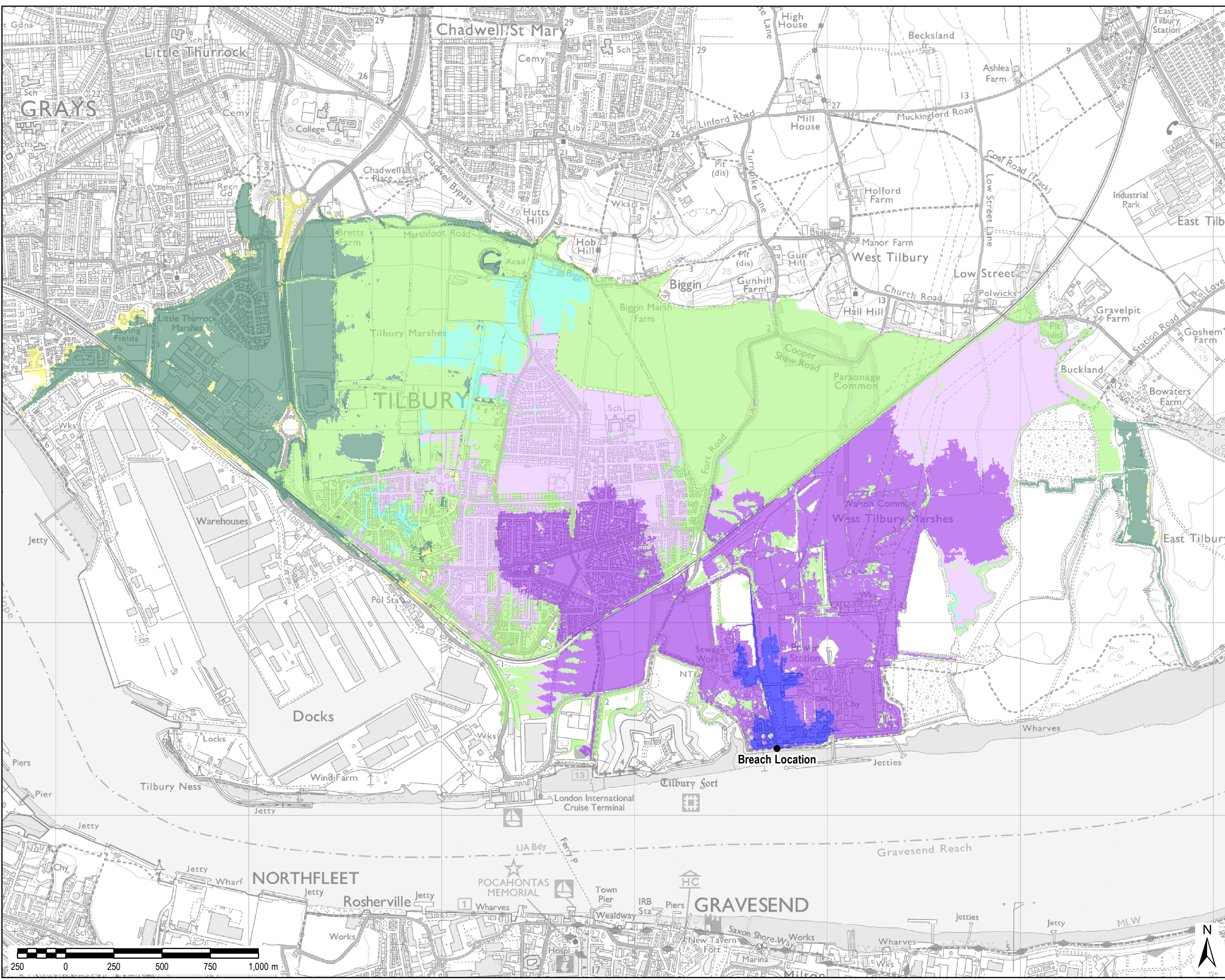
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Drawing Number  
**A001 TIL005 1000YR + CC (2116) HAZARD**

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- LEGEND**
- Breach Location
- Time to Inundation**
- Blue: ≤ 1 Hour
  - Purple: > 1 to 4 Hours
  - Light Purple: > 4 to 8 Hours
  - Cyan: > 8 to 12 Hours
  - Green: > 12 to 16 Hours
  - Dark Green: > 16 to 20 Hours
  - Yellow: > 20 Hours

**NOTES**

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Purpose of Issue  
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Client  
**THURROCK COUNCIL**

Project Title  
**THURROCK COUNCIL  
 LEVEL 1 SFRA**

Drawing Title  
**TIME TO INUNDATION  
 MODELLED FROM A BREACH AT  
 TIL005 IN A 0.1% (1 IN 1000 +CC YEAR)  
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