

Preliminary Environmental Information Report

Volume 2: Chapter 12 Figures

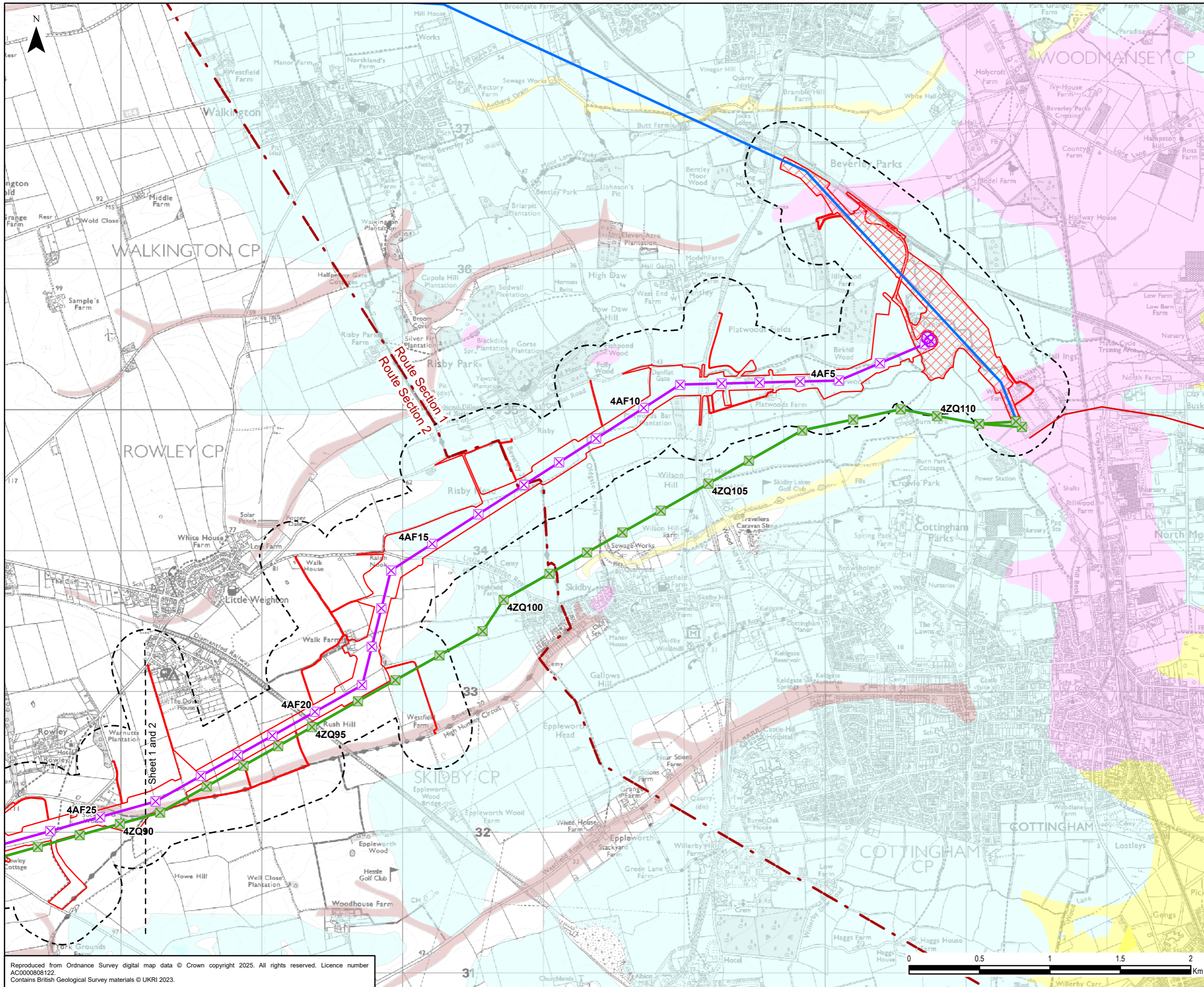
February 2025



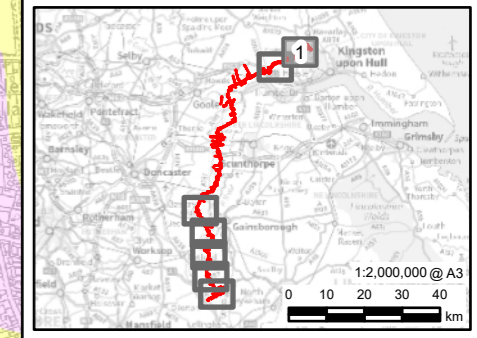
The Great Grid Upgrade

North Humber to High Marnham

nationalgrid

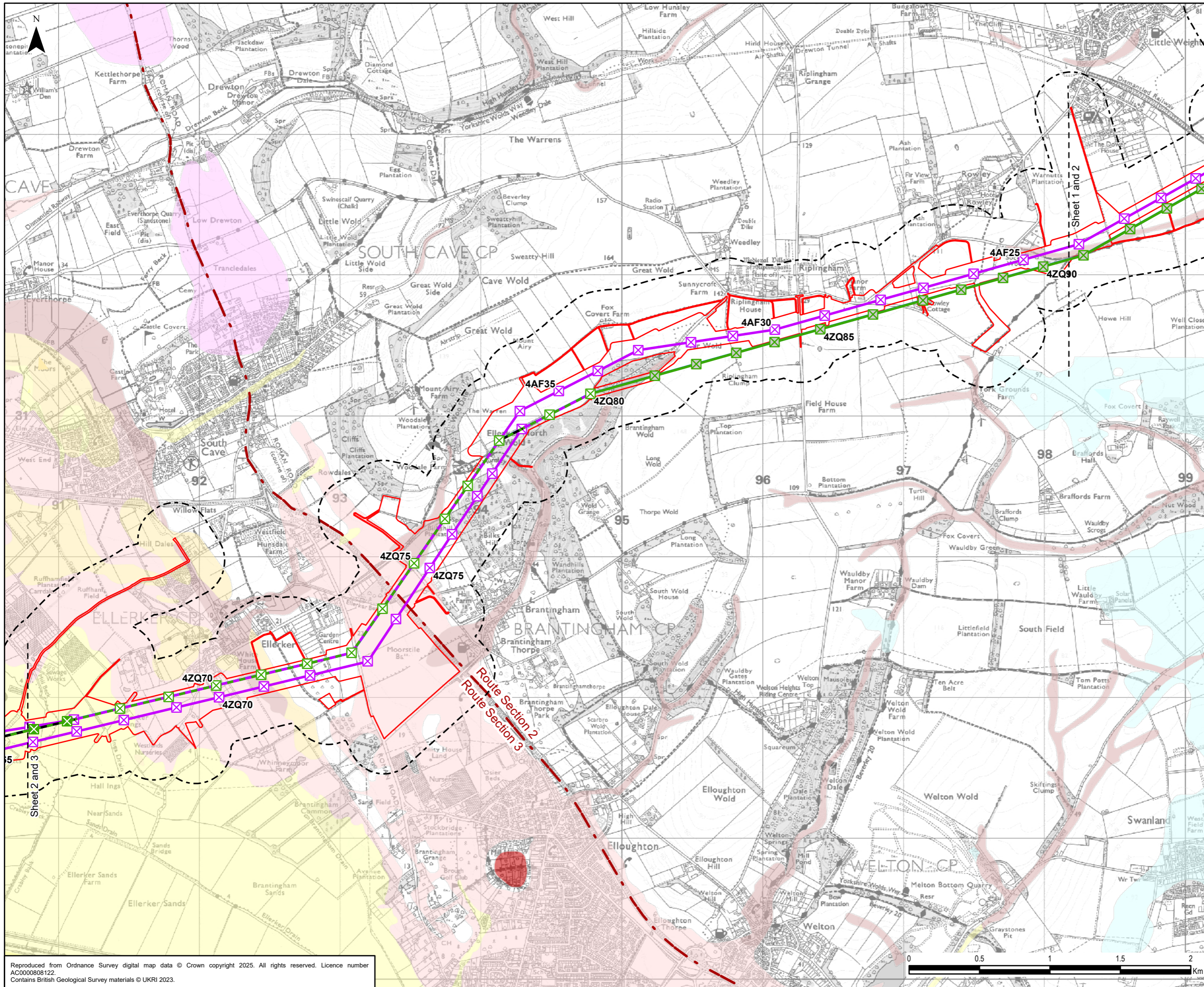


- Legend**
- Draft Order Limits
 - Proposed Substation Works
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 275 kV
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Indicative New Gantry
 - Existing Overhead Line Not Affected
 - Existing Lattice Pylon Not Affected
- Superficial Geology**
- Alluvium - clay, silt, sand and gravel
 - Head - clay, silt, sand and gravel
 - Superficial deposits - sand and gravel
 - Tidal flat deposits - clay and silt
 - Till, devensian - diamicton

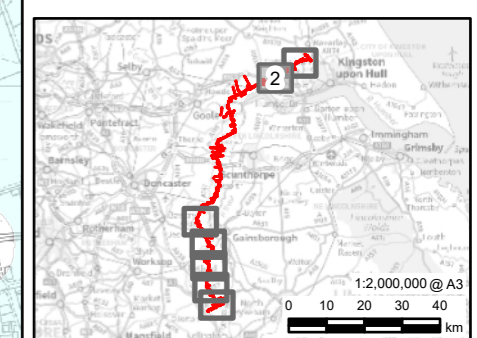


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Rev	Date	Description	GIS	Chk	App
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Scheme: NORTH HUMBER TO HIGH MARNHAM					
Figure Title: FIGURE 12.1 - SUPERFICIAL GEOLOGY					
Creator:	Date:	Checker:	Date:	Approver:	Date:
ID	2/5/2025	JG	2/5/2025	NC	2/5/2025
Figure Ref:	Scale:	Format:	Sheets:	Rev:	
12.1	1:25,000	A3	1 OF 13	0.1	

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- Draft Order Limits
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 - Existing Overhead Line Not Affected
 - Existing Overhead Line to be Reconstructed
 - Existing Overhead Line to be Dismantled
 - Existing Lattice Pylon Not Affected
 - Existing Lattice Pylon To Be Modified
 - Existing Lattice Pylon To Be Removed
- Superficial Geology**
- Alluvium - clay, silt, sand and gravel
 - Bielby sand member - sand, gravelly
 - Blown sand - sand
 - Glaciofluvial Deposits, Mid Pleistocene - Sand and gravel
 - Head - clay, silt, sand and gravel
 - Interglacial beach deposits - sand and gravel
 - Till, devensian - diamicton



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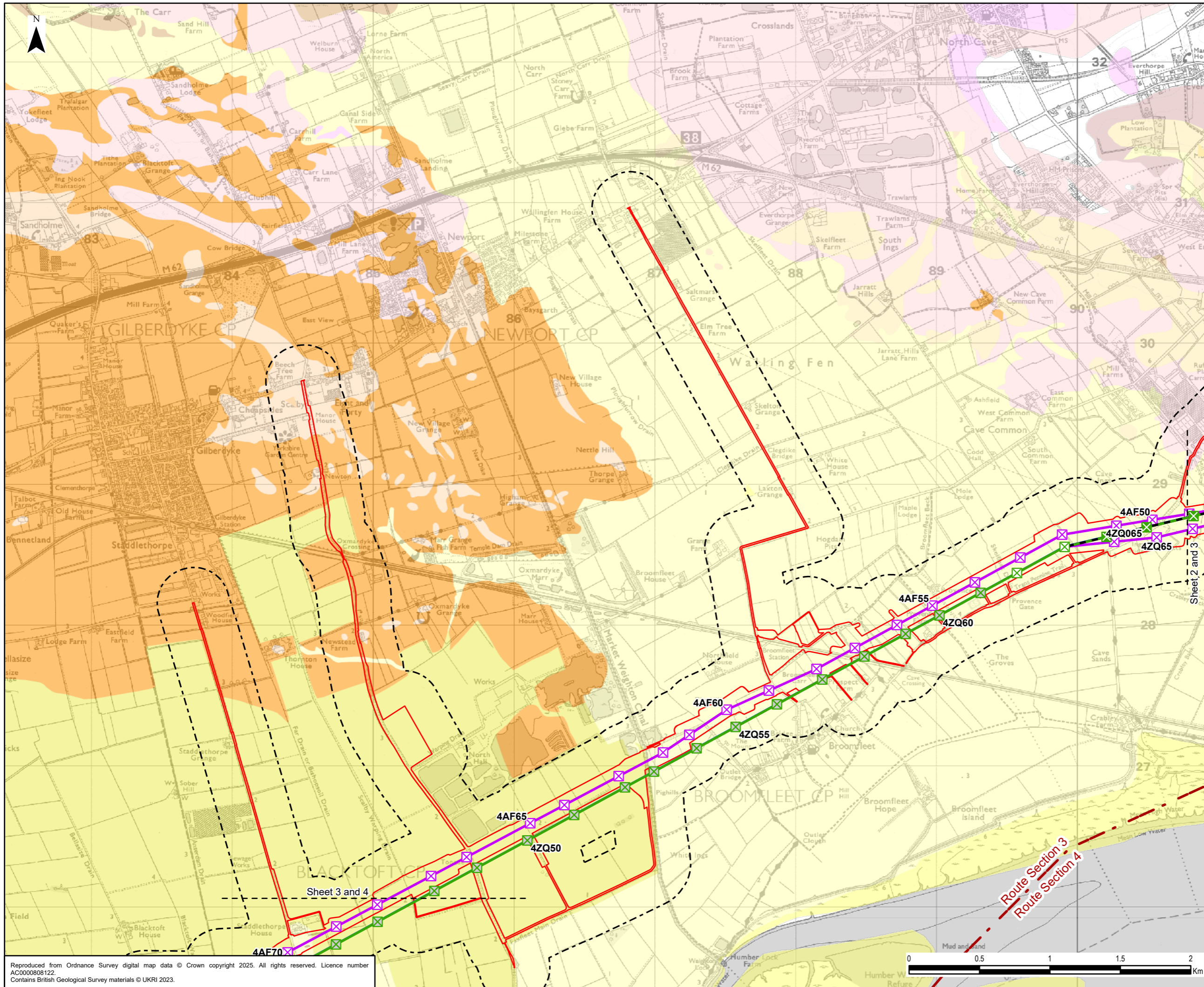
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Scheme: NORTH HUMBER TO HIGH MARNHAM

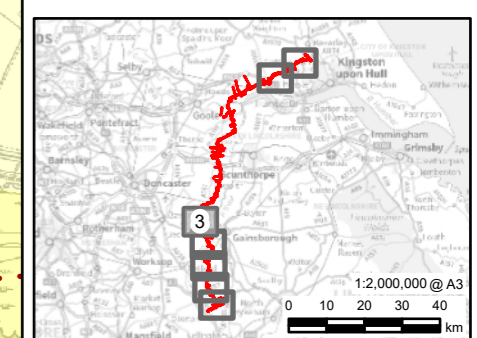
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ID	2/5/2025	JG	2/5/2025	NC	2/5/2025
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- Superficial Geology**
- Alluvium - clay, silt, sand and gravel
 - Blown sand - sand
 - Brighton sand formation (sand)
 - Glaciofluvial deposits, Devensian - sand and gravel
 - Hemingbrough glaciolacustrine formation - clay, silty
 - Warp - clay and silt



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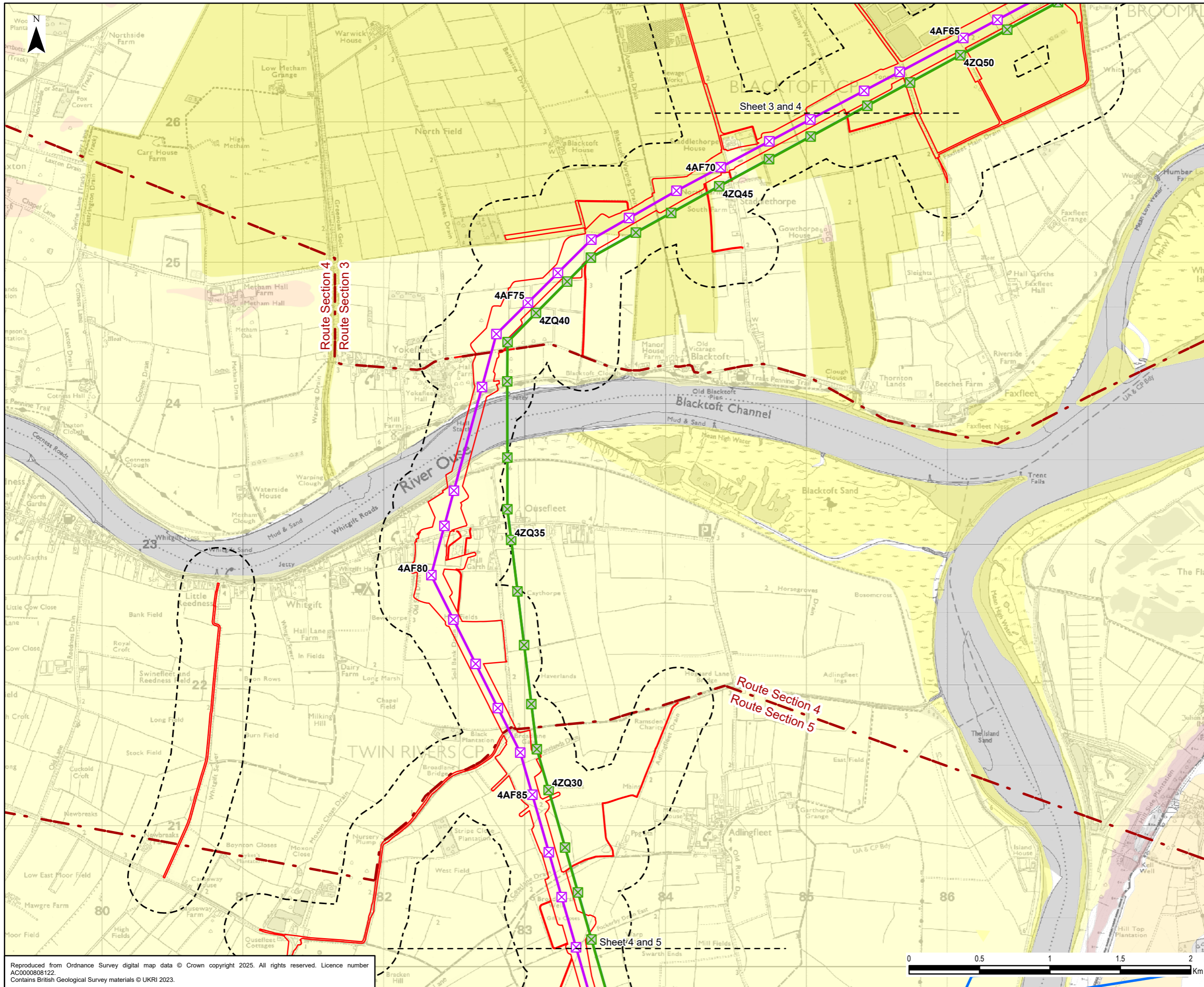
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Scheme: NORTH HUMBER TO HIGH MARNHAM

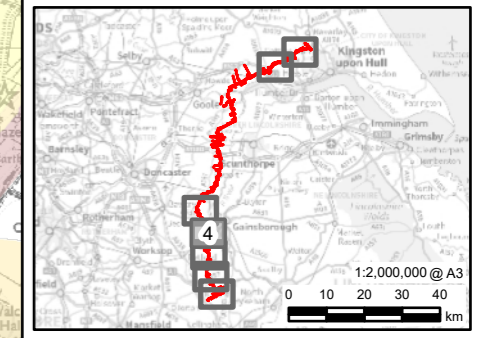
Figure Title: **FIGURE 12.1 - SUPERFICIAL GEOLOGY**

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Figure Ref: 12.1	Scale: 1:25,000	Format: A3	Sheets: 3 OF 13	Rev: 0.1	

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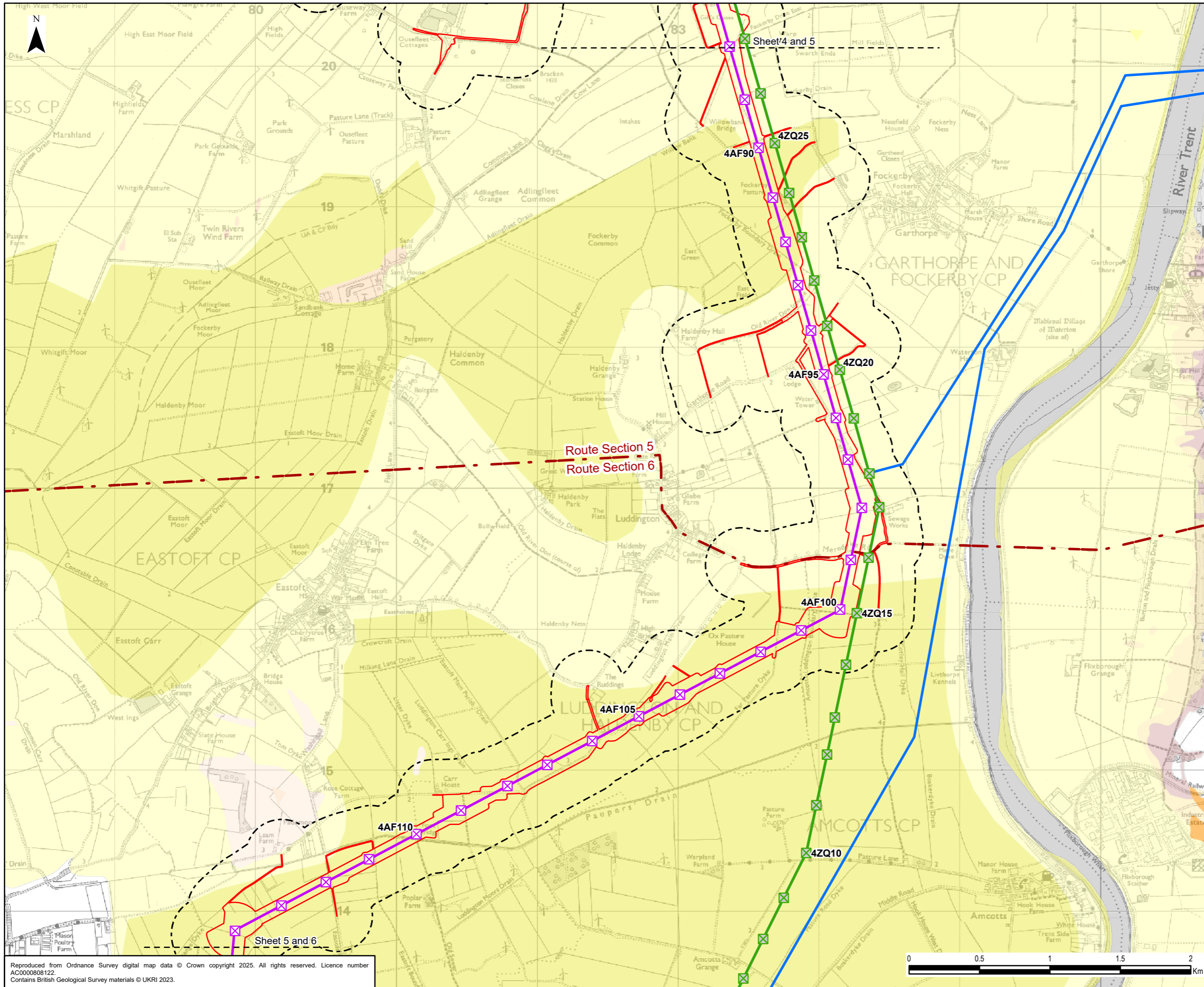


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- Superficial Geology**
- Alluvium - clay, silt, sand and gravel
 - Brighton sand formation (sand)
 - Warp - clay and silt
 - Tidal flat deposits - clay and silt

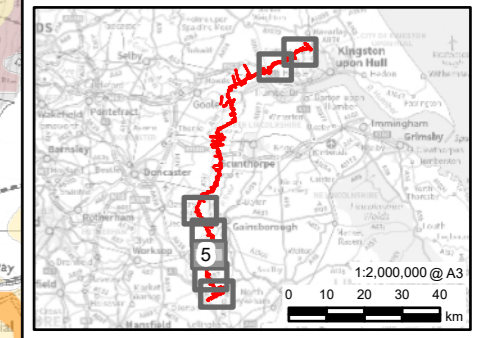


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nationalgrid					
Scheme: NORTH HUMBER TO HIGH MARNHAM					
Figure Title: FIGURE 12.1 - SUPERFICIAL GEOLOGY					
Creator: ID	Date: 2/5/2025	Checker: JG	Date: 2/5/2025	Approver: NC	Date: 2/5/2025
Figure Ref: 12.1	Scale: 1:25,000	Format: A3	Sheets: 4 OF 13	Rev: 0.1	

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- Superficial Geology**
- Alluvium - clay, silt, sand and gravel
 - Hemingbrough glaciolacustrine formation - clay, silty
 - Warp - clay and silt
 - Sutton sand formation - sand
 - Tidal flat deposits - clay and silt



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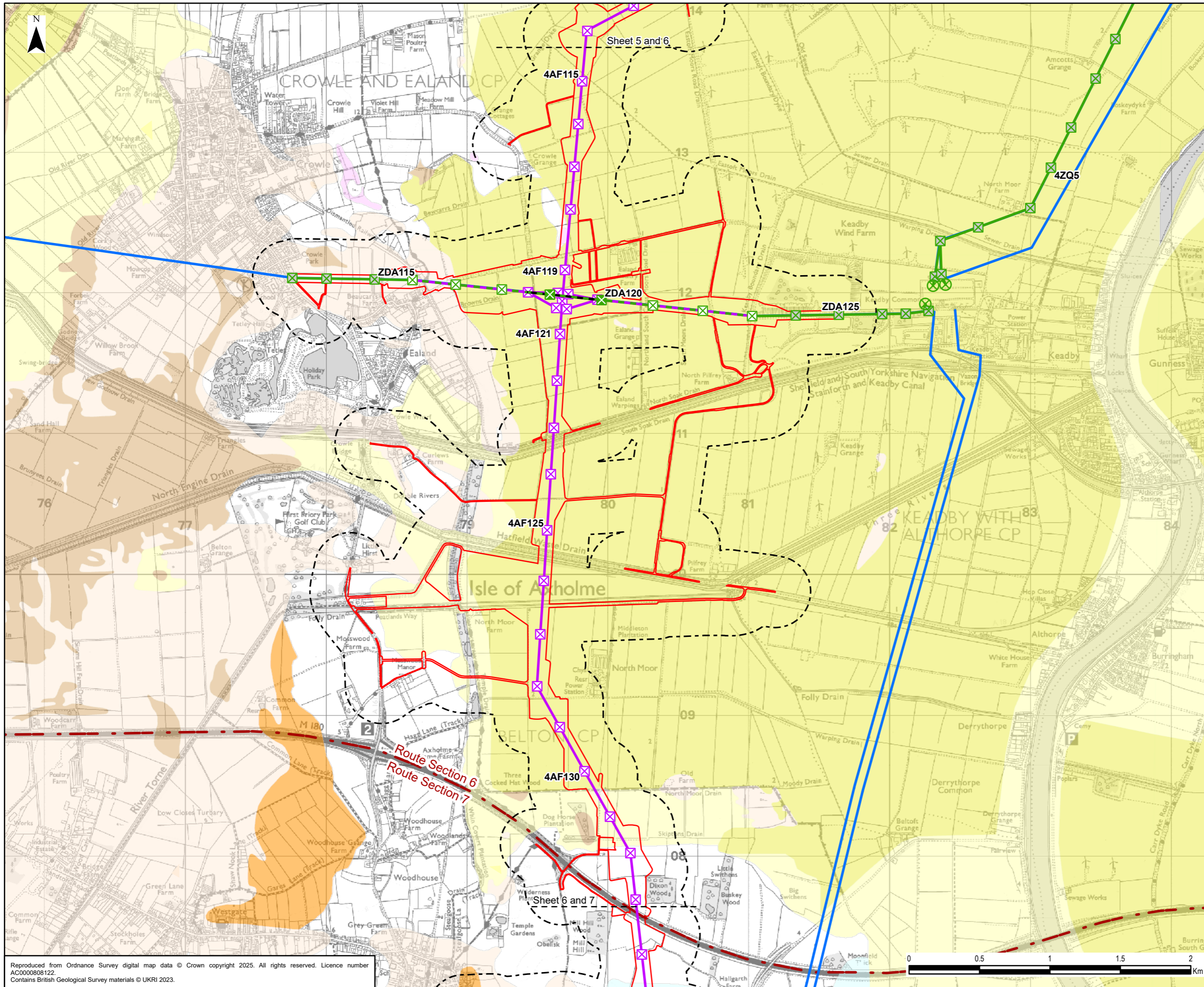
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Scheme: NORTH HUMBER TO HIGH MARNHAM

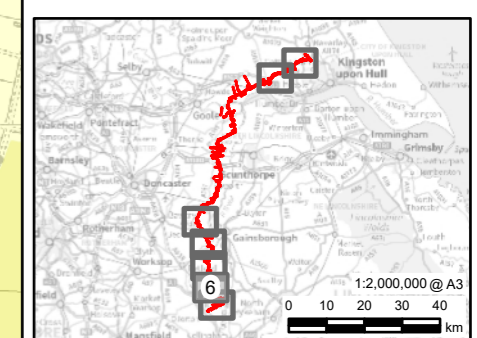
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 - Existing Gantry Not Affected
 - Existing Lattice Pylon To Be Removed
- Superficial Geology**
- Alluvium - clay, silt, sand and gravel
 - Glaciofluvial deposits, Devensian - sand and gravel
 - Hemingbrough glaciolacustrine formation - clay, silty
 - Warp - clay and silt
 - Peat - peat
 - Sutton sand formation - sand
 - Till, mid pleistocene - diamicton



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nationalgrid

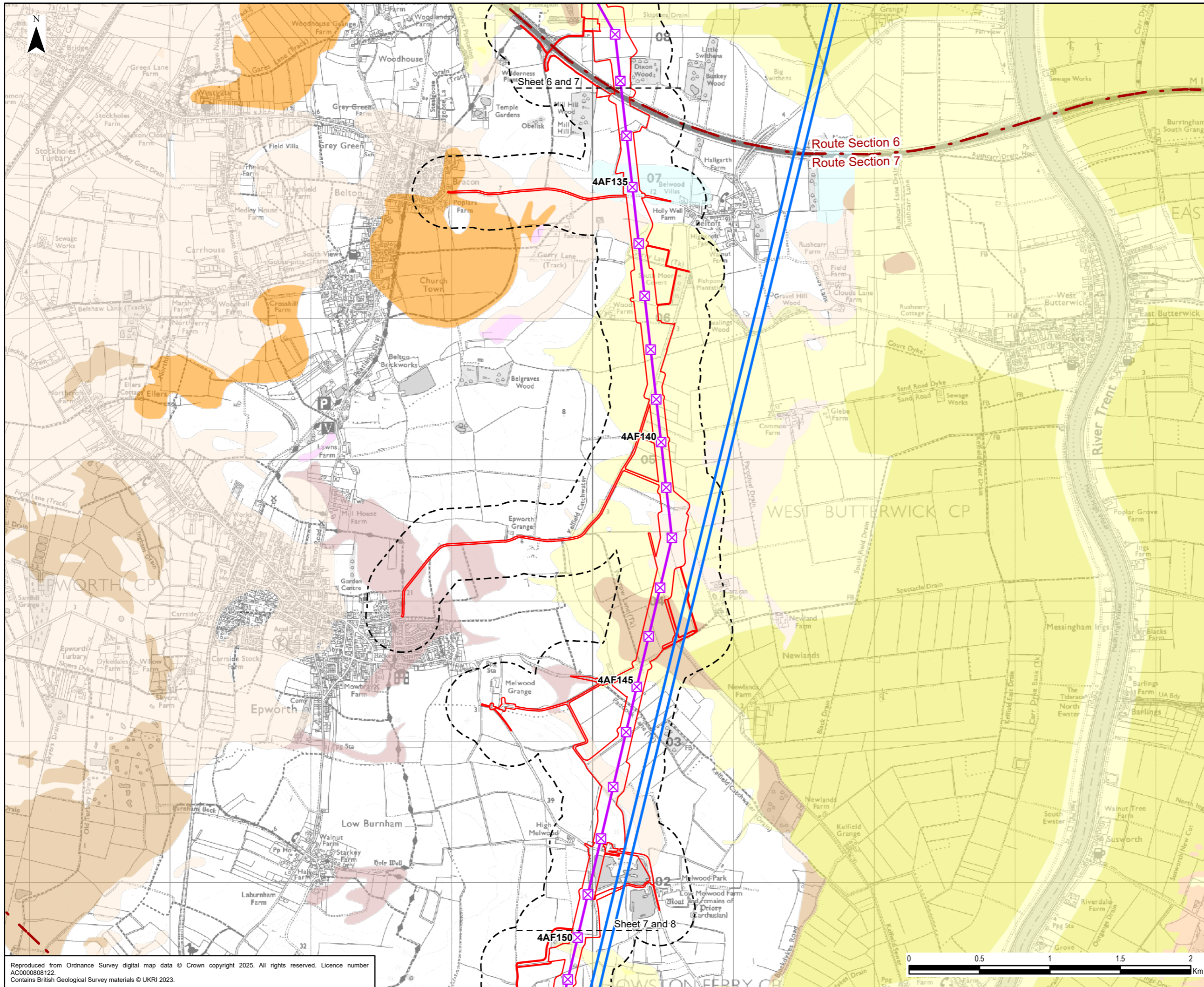
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Figure Title: **FIGURE 12.1 - SUPERFICIAL GEOLOGY**

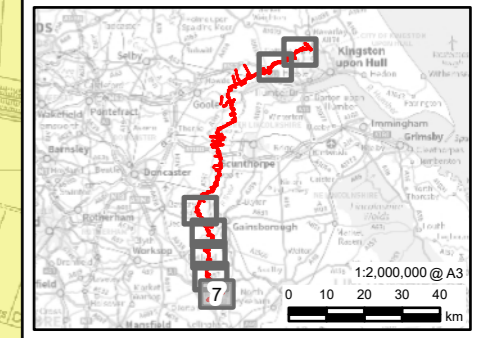
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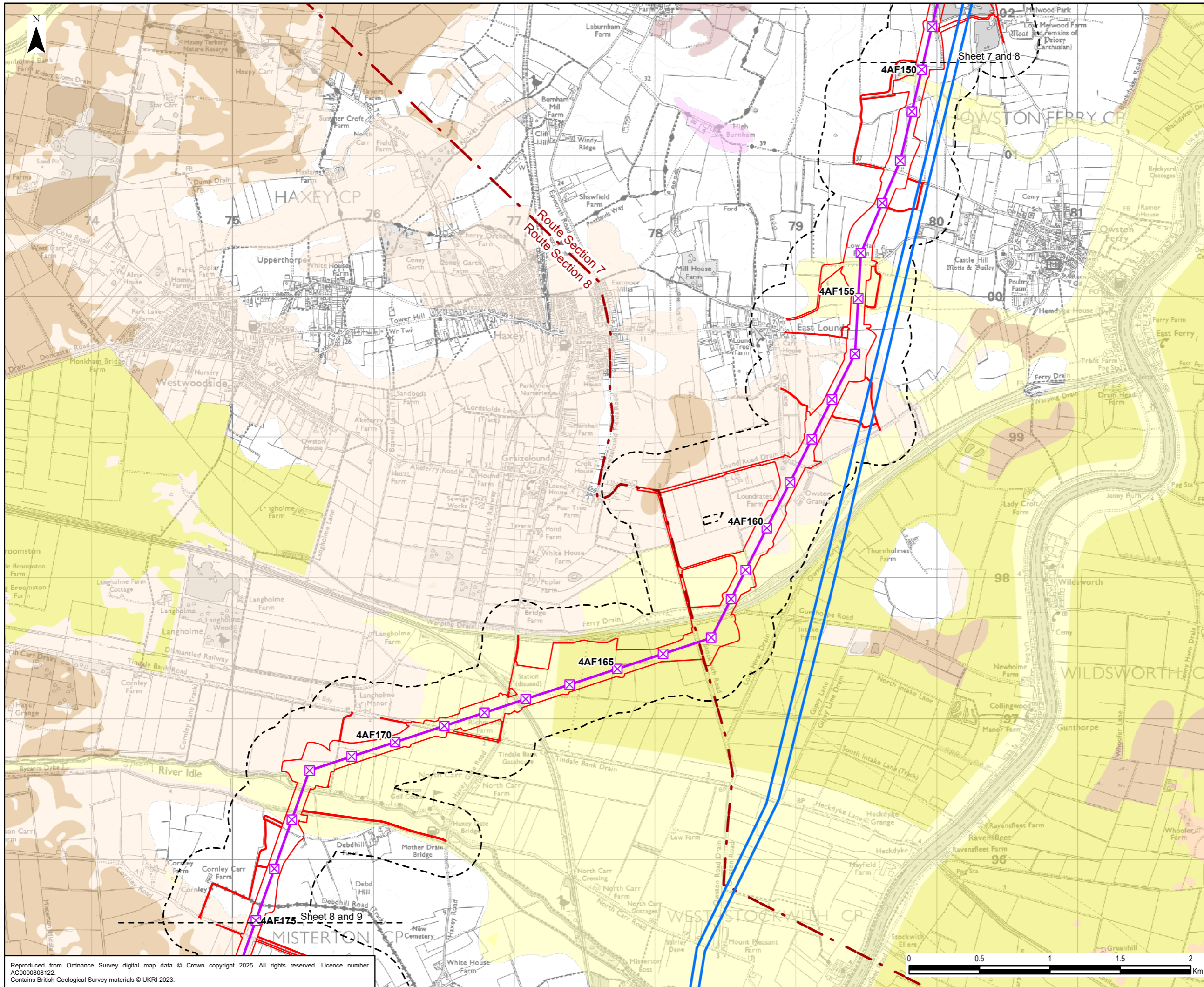
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Scheme: NORTH HUMBER TO HIGH MARNHAM

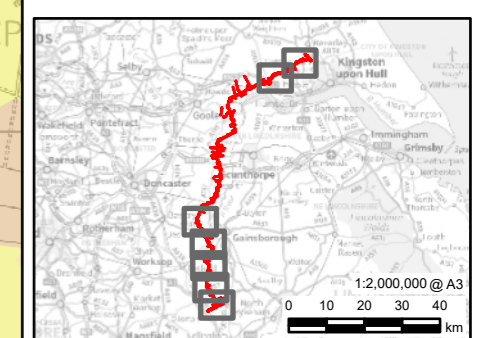
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 - Warp - clay and silt
 - Peat - peat
 - Sutton sand formation - sand



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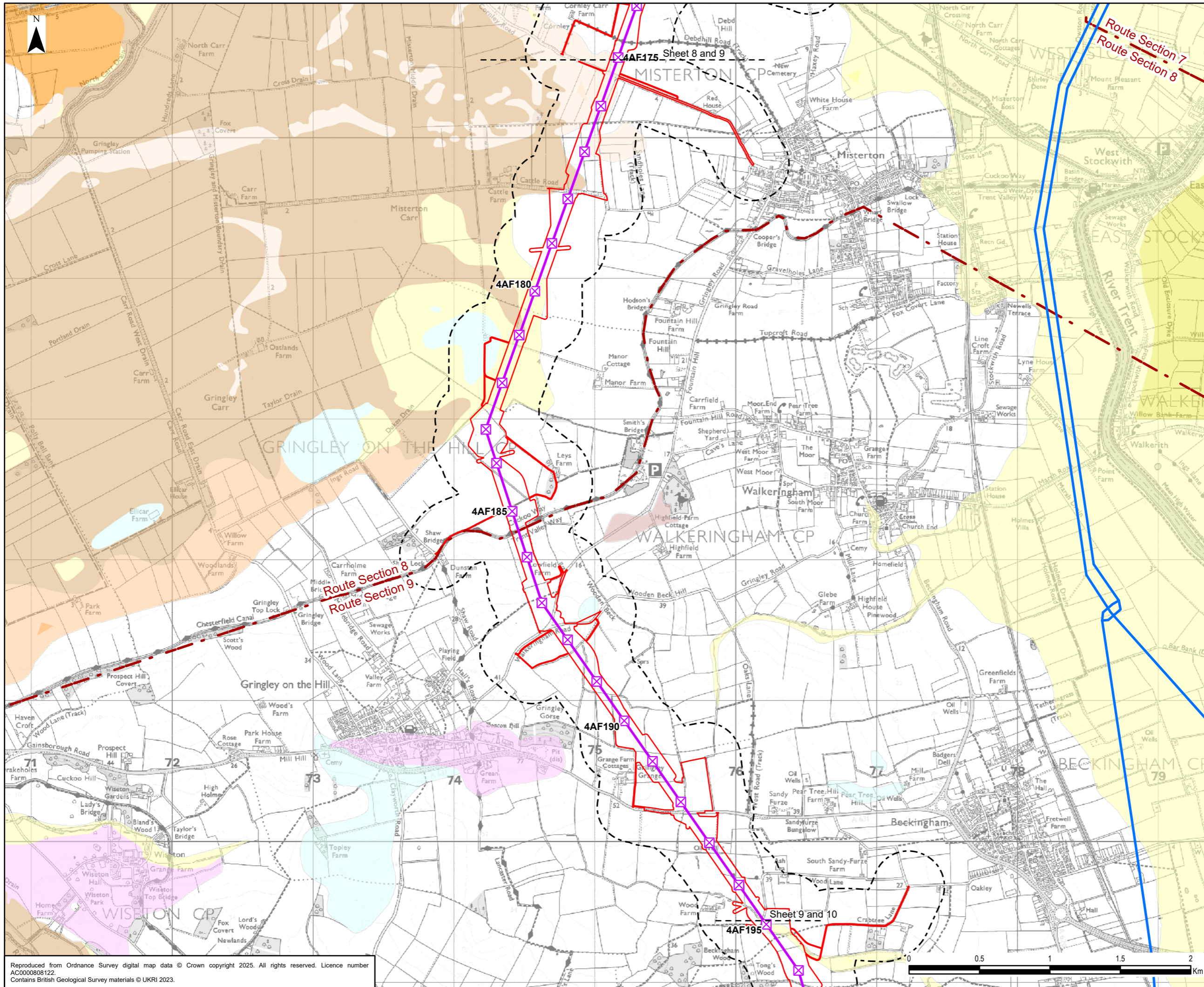
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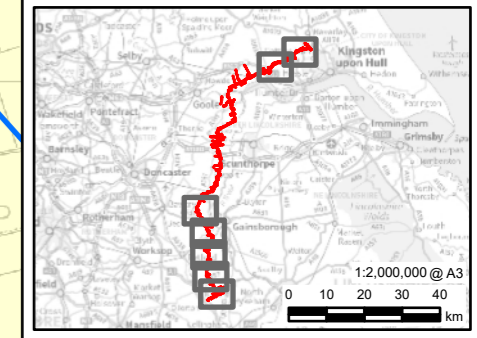
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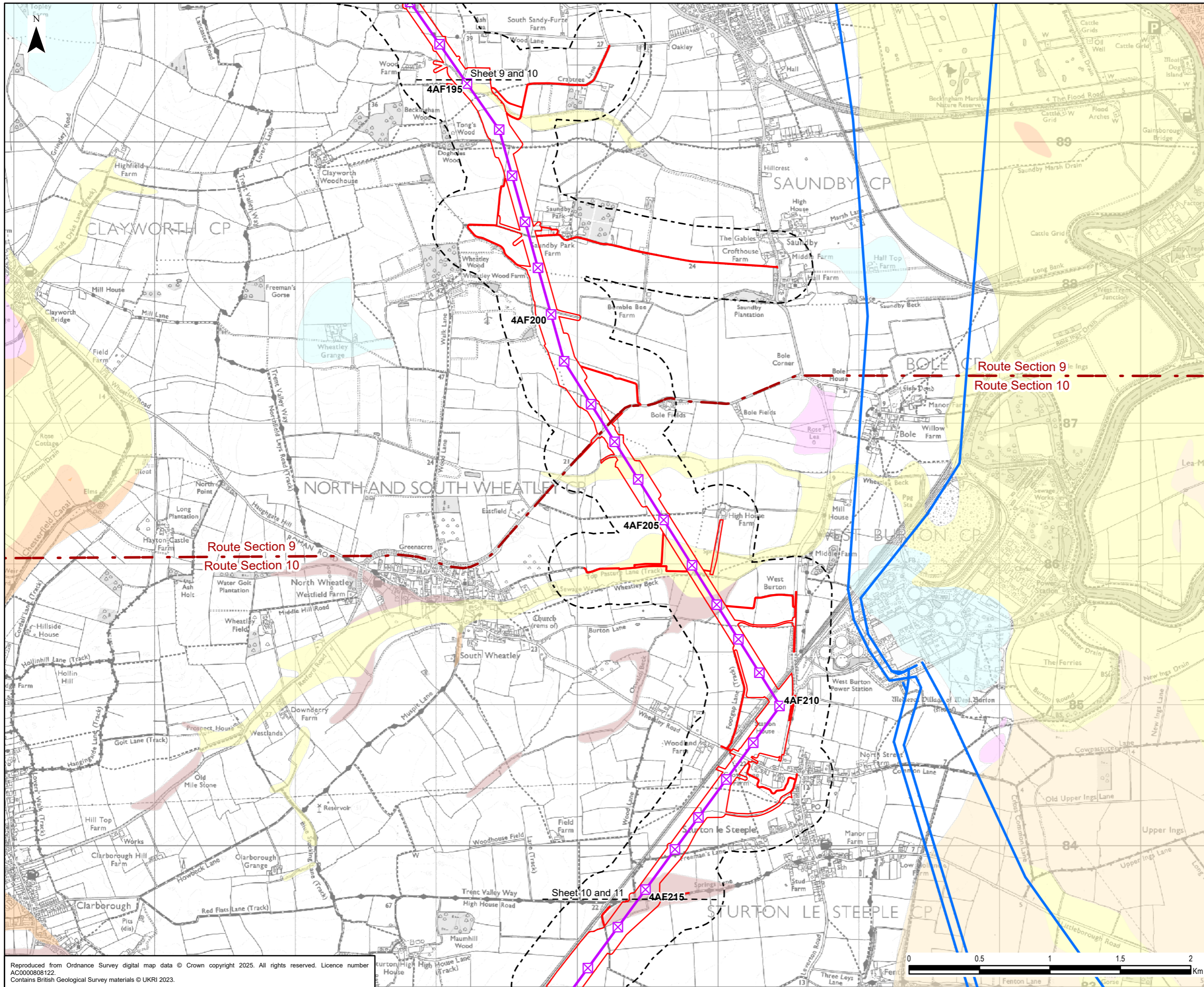


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 - Glaciofluvial Deposits, Mid Pleistocene - Sand and gravel
 - Hemingbrough glaciolacustrine formation - clay, silty
 - Warp - clay and silt
 - Peat - peat
 - River terrace deposits, 1 - sand and gravel
 - Sutton sand formation - sand
 - Till, mid pleistocene - diamicton

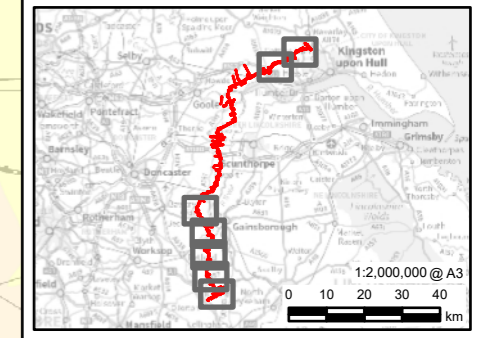


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Figure Ref: 12.1	Scale: 1:25,000	Format: A3	Sheets: 9 OF 13	Rev: 0.1	

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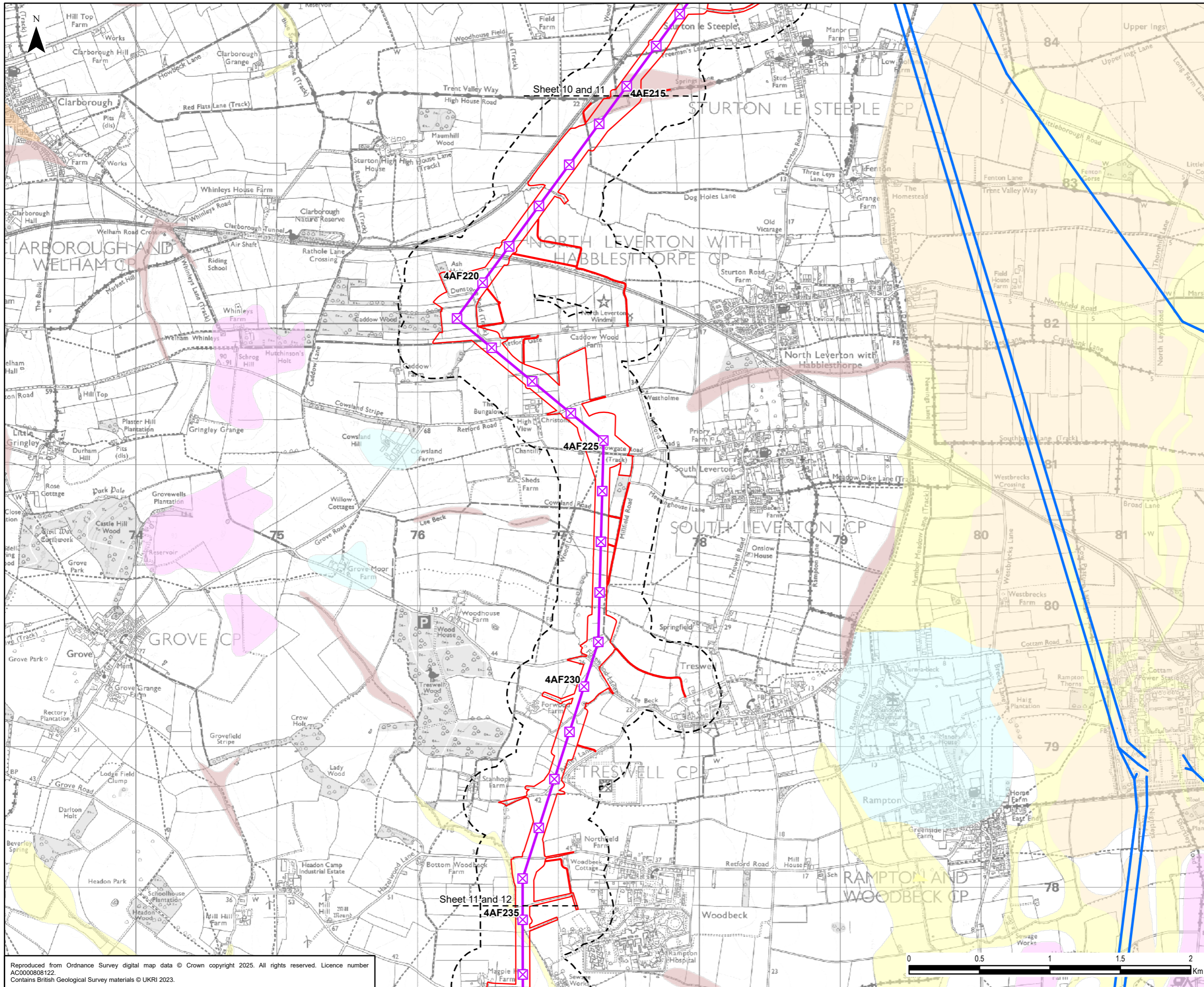


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 - Glaciofluvial Deposits, Mid Pleistocene - Sand and gravel
 - Head - clay, silt, sand and gravel
 - Holme Pierrepont sand and gravel member - sand and gravel
 - River terrace deposits, 1 - sand and gravel
 - Till, mid pleistocene - diamicton

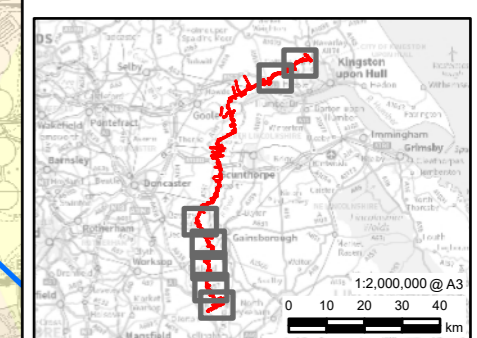


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 - Holme Pierrepont sand and gravel member - sand and gravel
 - River terrace deposits, 1 - sand and gravel
 - Till, mid pleistocene - diamicton



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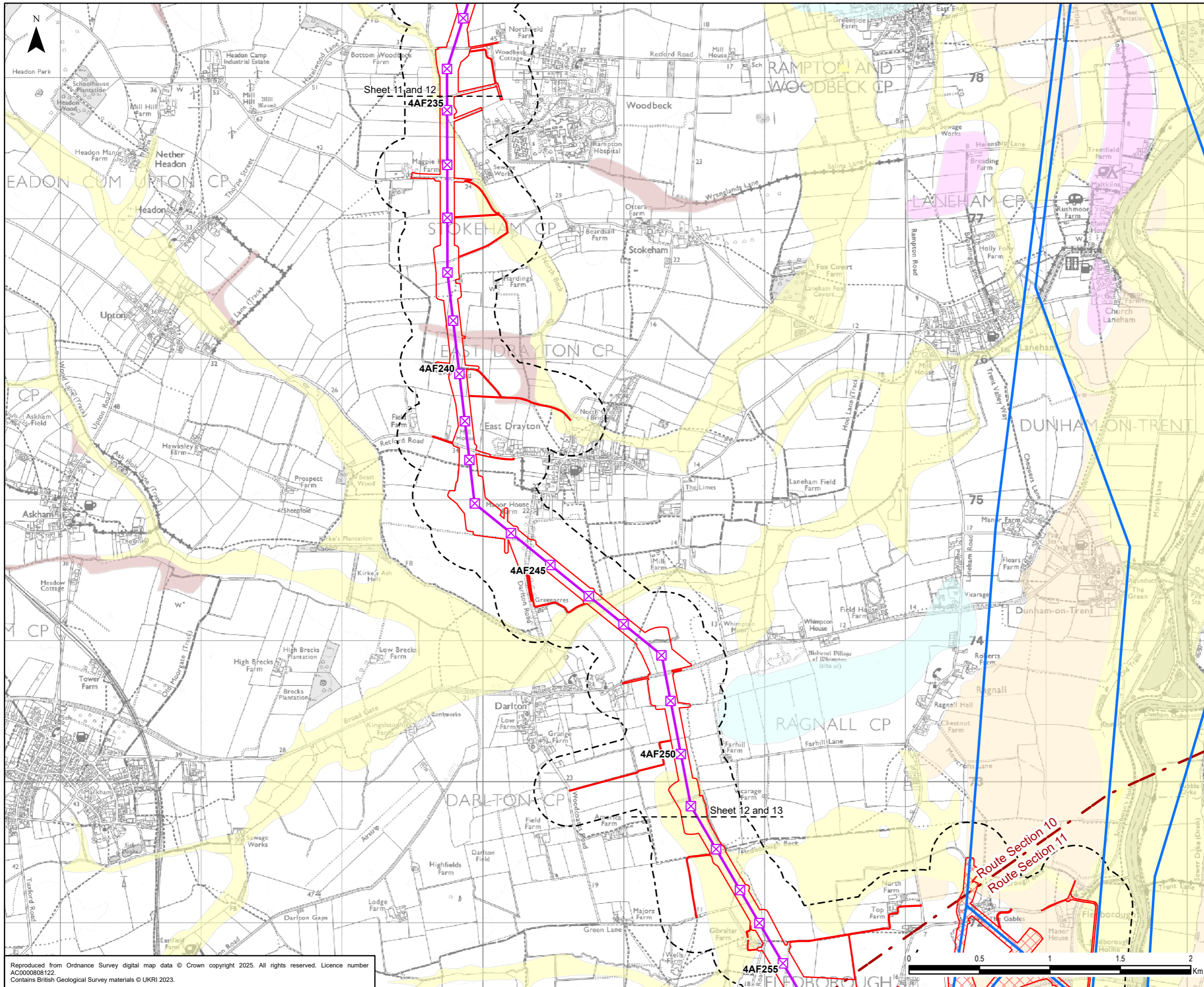
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Scheme: NORTH HUMBER TO HIGH MARNHAM

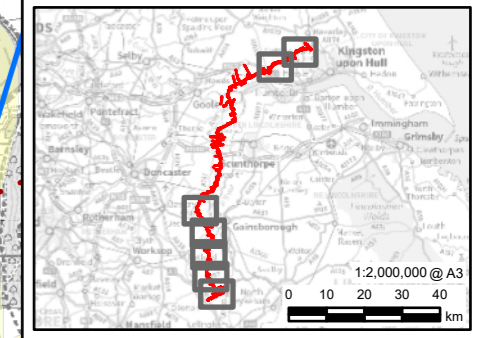
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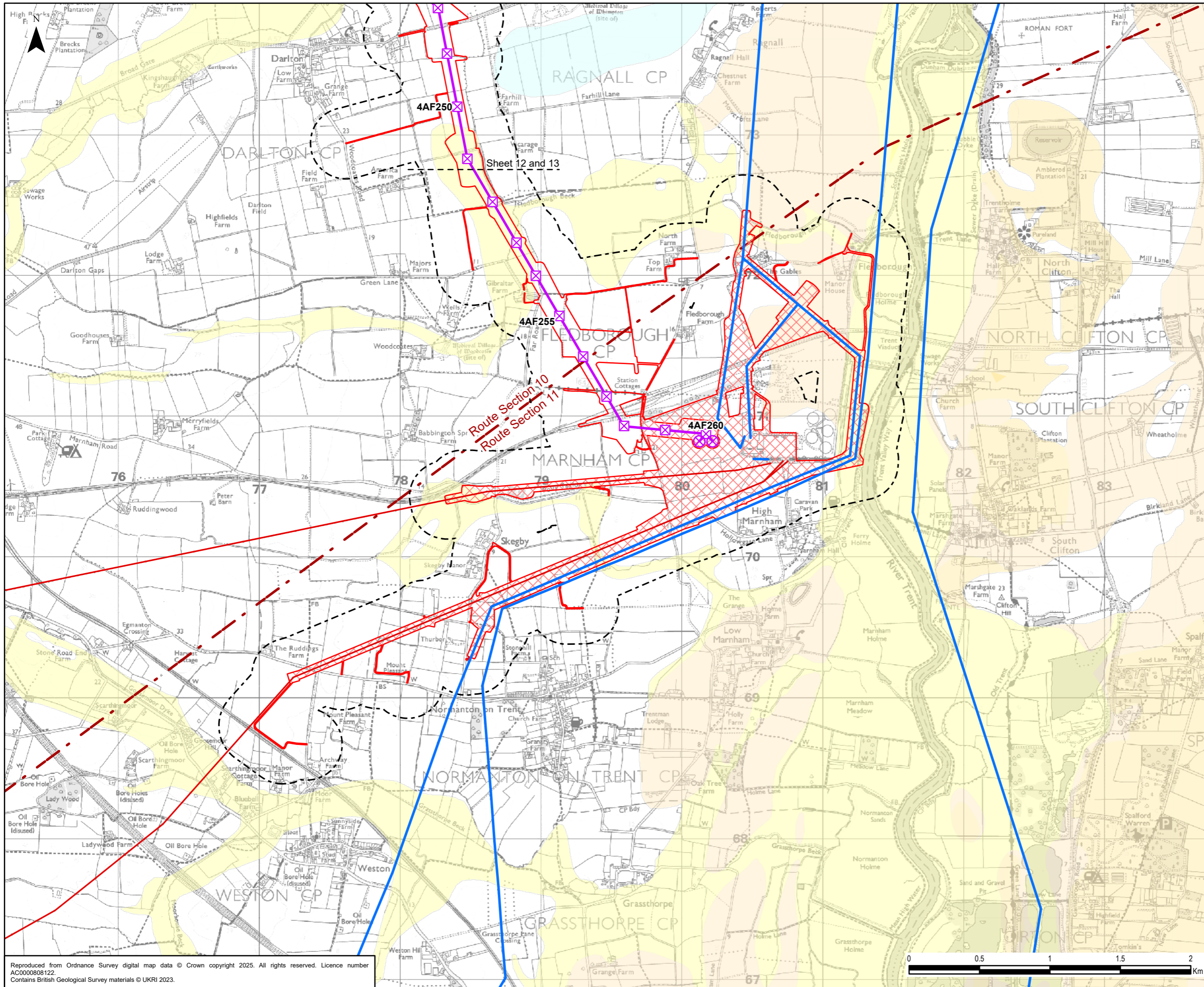
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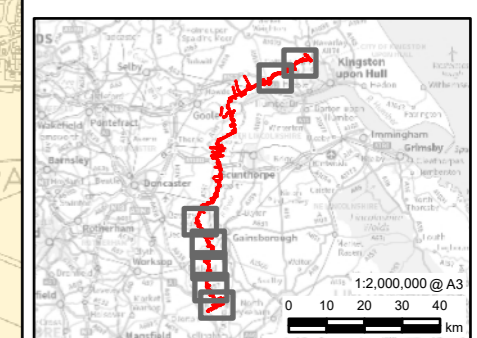
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 - Blown sand - sand
 - Holme Pierrepont sand and gravel member - sand and gravel
 - Till, mid pleistocene - diamicton



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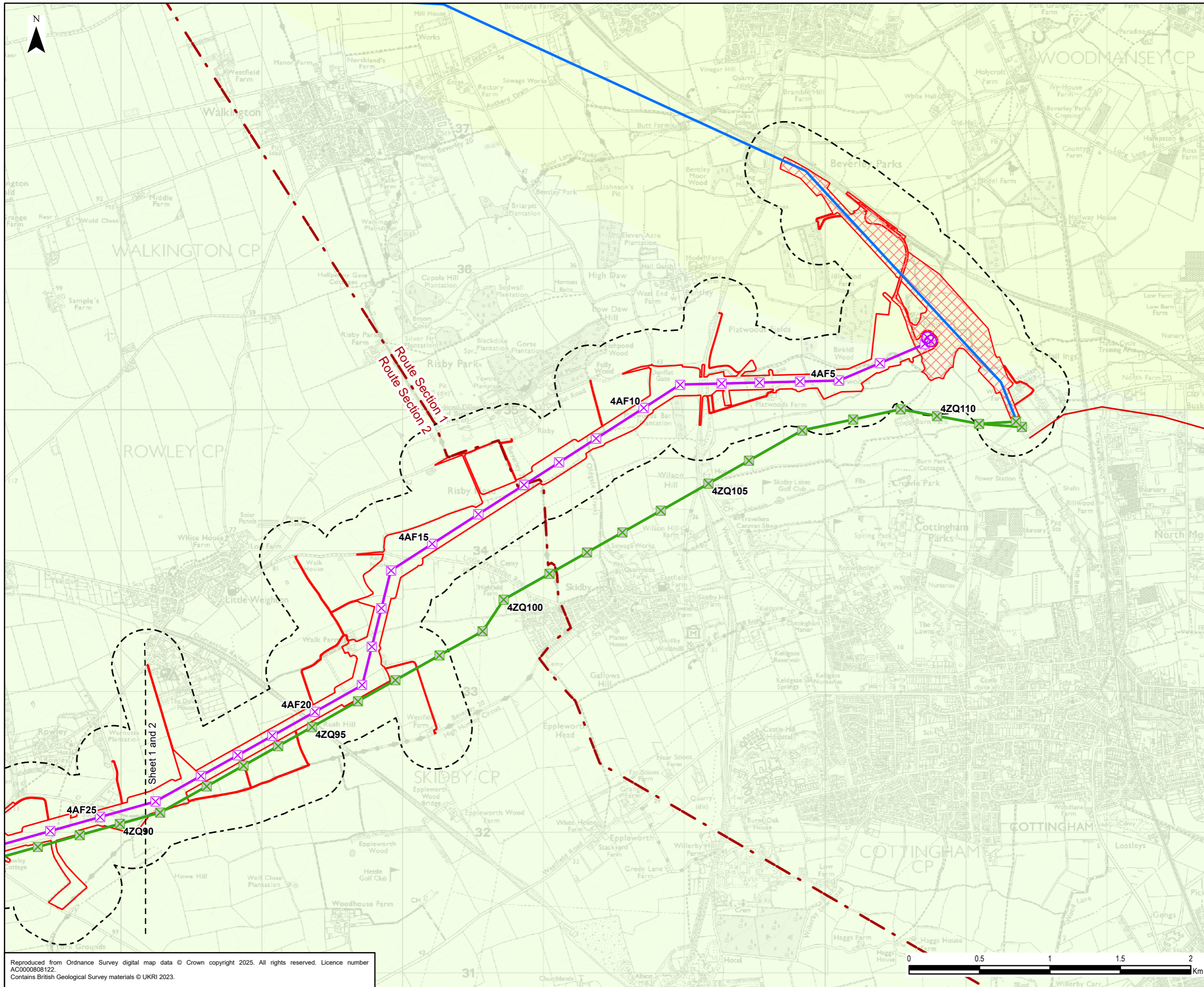
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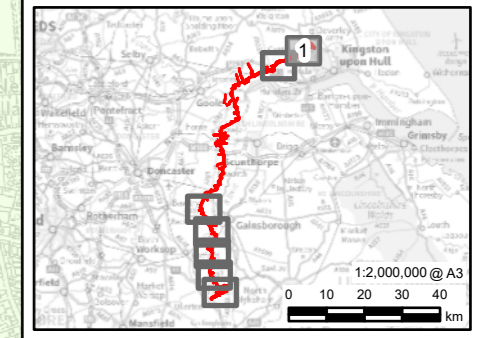
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 - ⊗ Indicative New Gantry
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 - ⊠ Existing Lattice Pylon Not Affected
- Bedrock Geology**
- Burham chalk formation - chalk
 - Flamborough Chalk Formation - Chalk



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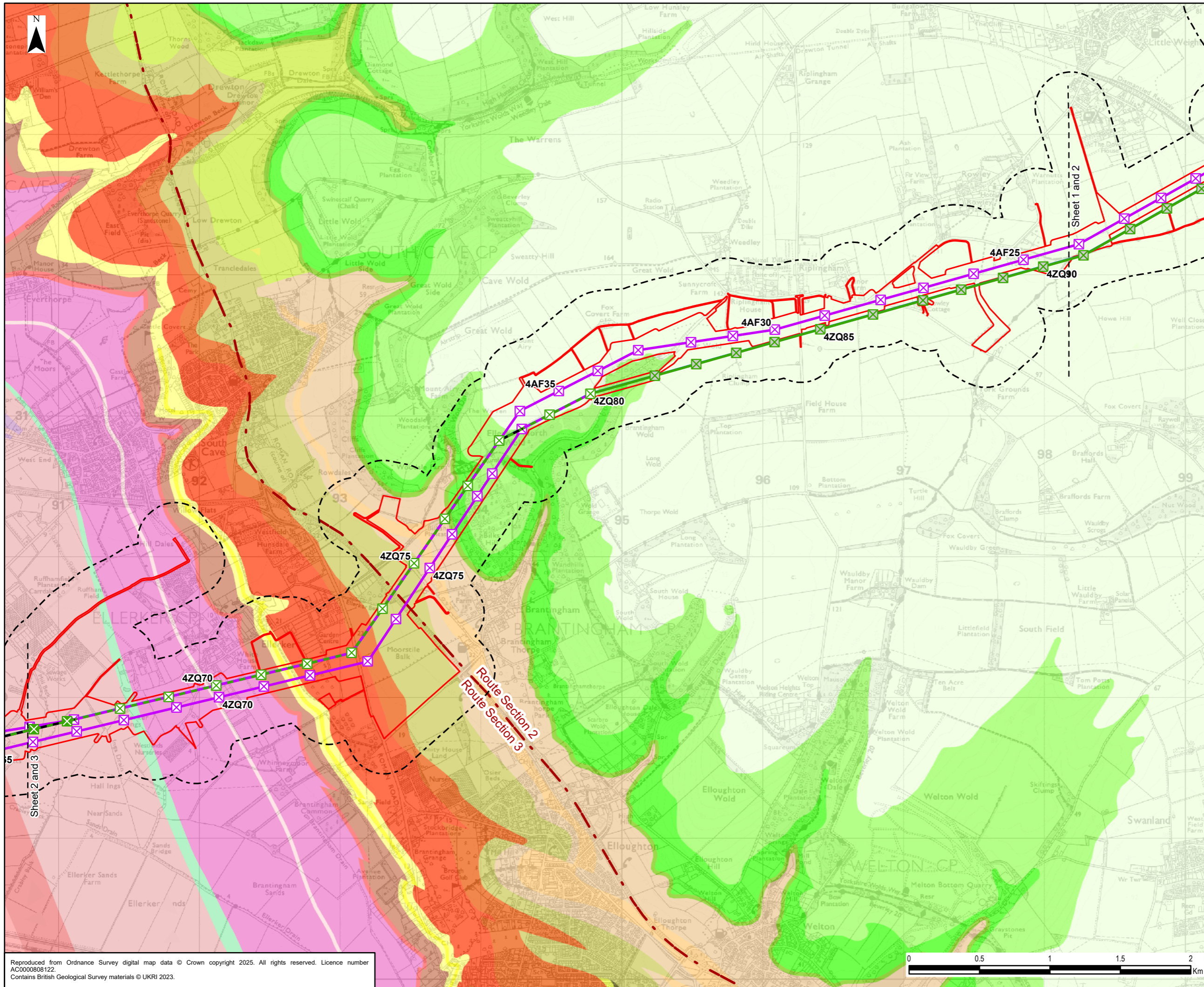
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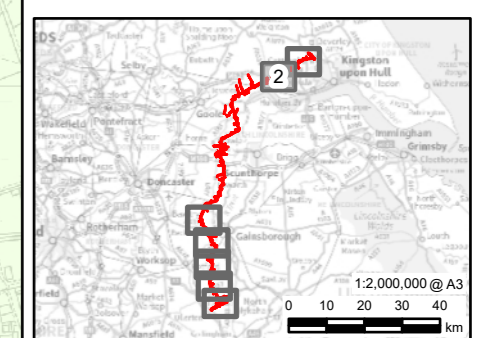
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- Bedrock Geology**
- ANCHOLME GROUP - MUDSTONE
 - Brantingham member - sandstone
 - Burham chalk formation - chalk
 - Charmouth mudstone formation - mudstone
 - Ferriby chalk formation - chalk
 - Frodingham ironstone member - ironstone
 - Hunstanton formation - chalk
 - Kellaways formation and Brantingham member - sandstone and siltstone, interbedded
 - Kirton cementstone beds - mudstone and limestone, interbedded
 - Lower Lincolnshire limestone member - limestone
 - Marlstone rock formation - ferruginous limestone and ferruginous sandstone
 - Mercia mudstone group - mudstone
 - Whitby mudstone formation - mudstone
 - Pecten ironstone (bed) - ironstone
 - Penarth group - mudstone
 - Scunthorpe mudstone formation - limestone
 - Scunthorpe mudstone formation - mudstone and limestone, interbedded
 - Thorncroft sand member - sandstone, siltstone and mudstone
 - Upper Lincolnshire limestone member - limestone, ooidal
 - Welton chalk formation - chalk
 - West Walton formation - mudstone and siltstone



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Rev	Date	Description	GIS	Chk	App

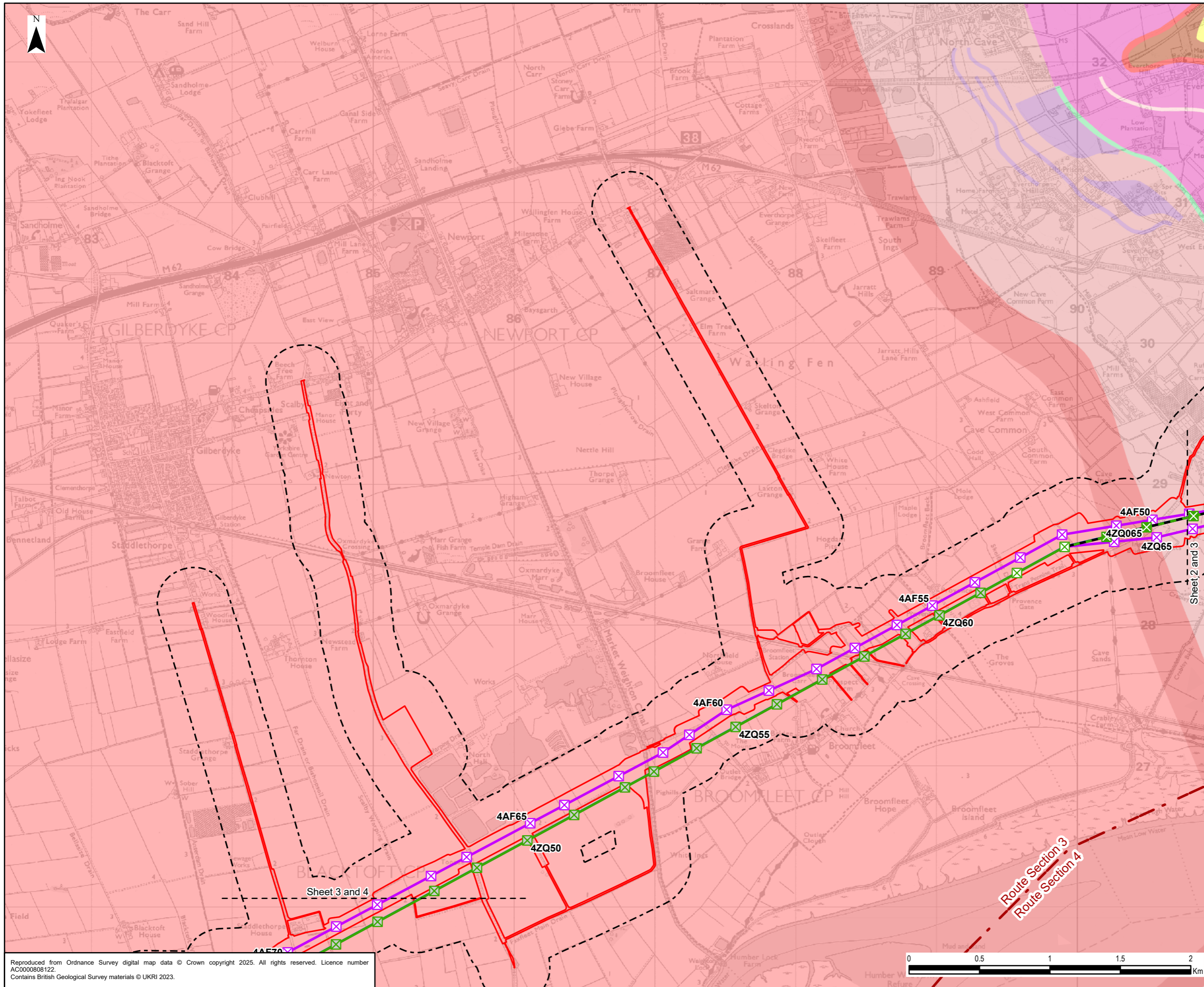
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Scheme: NORTH HUMBER TO HIGH MARNHAM

Figure Title: **FIGURE 12.2 - BEDROCK GEOLOGY**

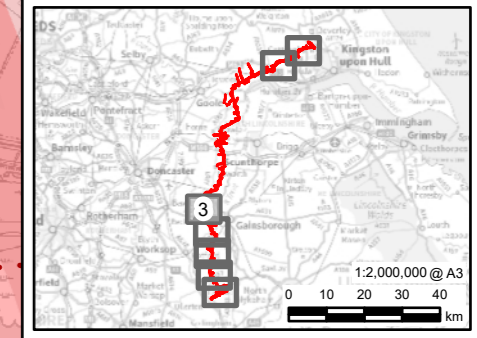
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Legend

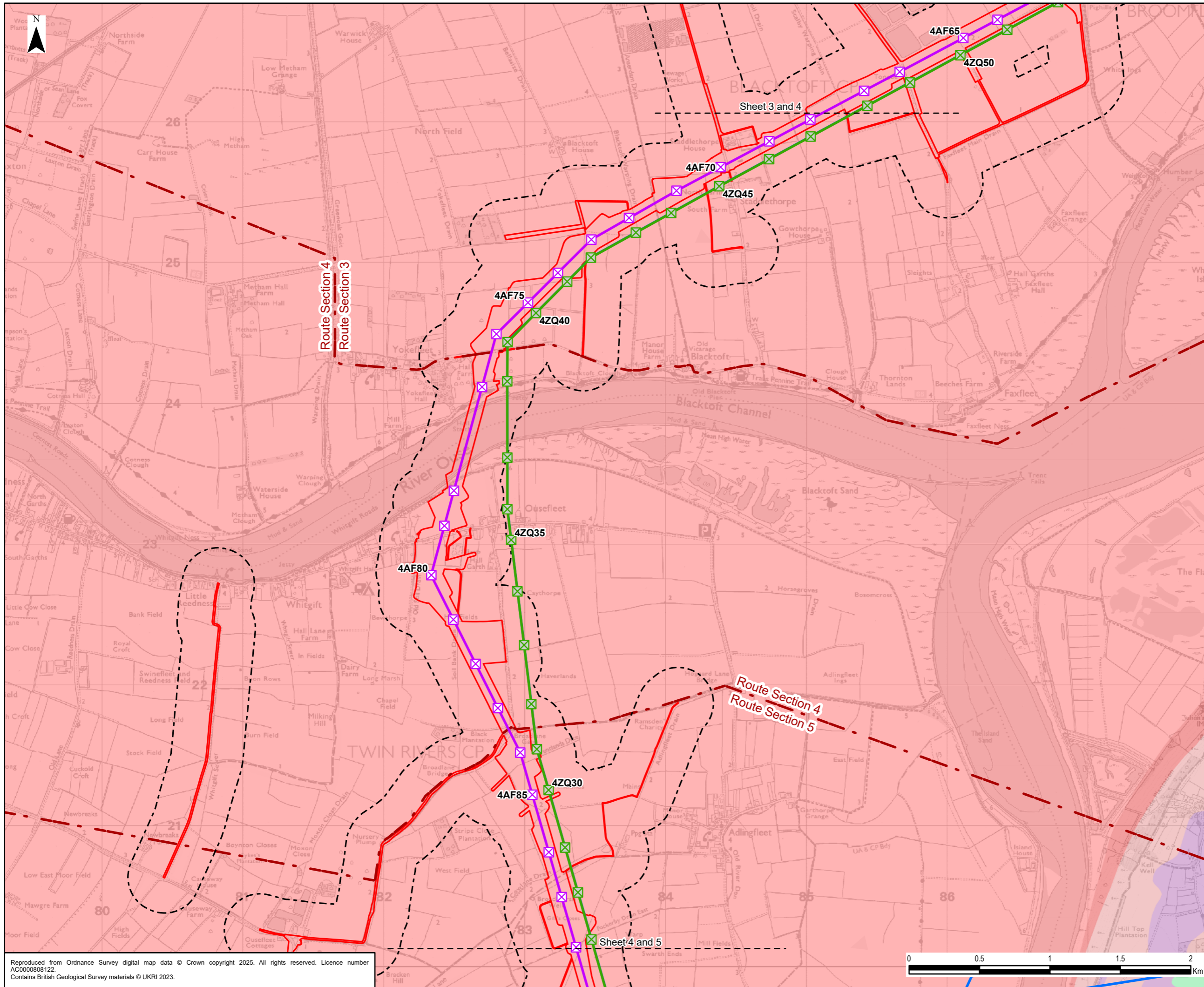
- Draft Order Limits
- 250 m Study Area
- Route Section
- Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Existing Overhead Line Not Affected
 - Existing Overhead Line to be Dismantled
 - Existing Lattice Pylon Not Affected
 - Existing Lattice Pylon To Be Modified
 - Existing Lattice Pylon To Be Removed
- Bedrock Geology
 - Charmouth mudstone formation - mudstone
 - Mercia mudstone group - mudstone
 - Penarth group - mudstone
 - Scunthorpe mudstone formation - limestone



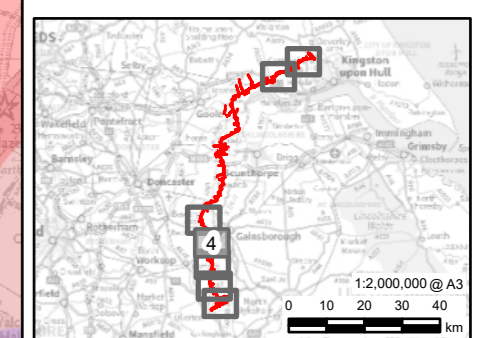
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nationalgrid					
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Creator: ID	Date: 2/5/2025	Checker: JG	Date: 2/5/2025	Approver: NC	Date: 2/5/2025
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Existing Overhead Line Not Affected
 - Existing Lattice Pylon Not Affected
 - Bedrock Geology
 - Mercia mudstone group - mudstone
 - Scunthorpe mudstone formation - limestone



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

nationalgrid

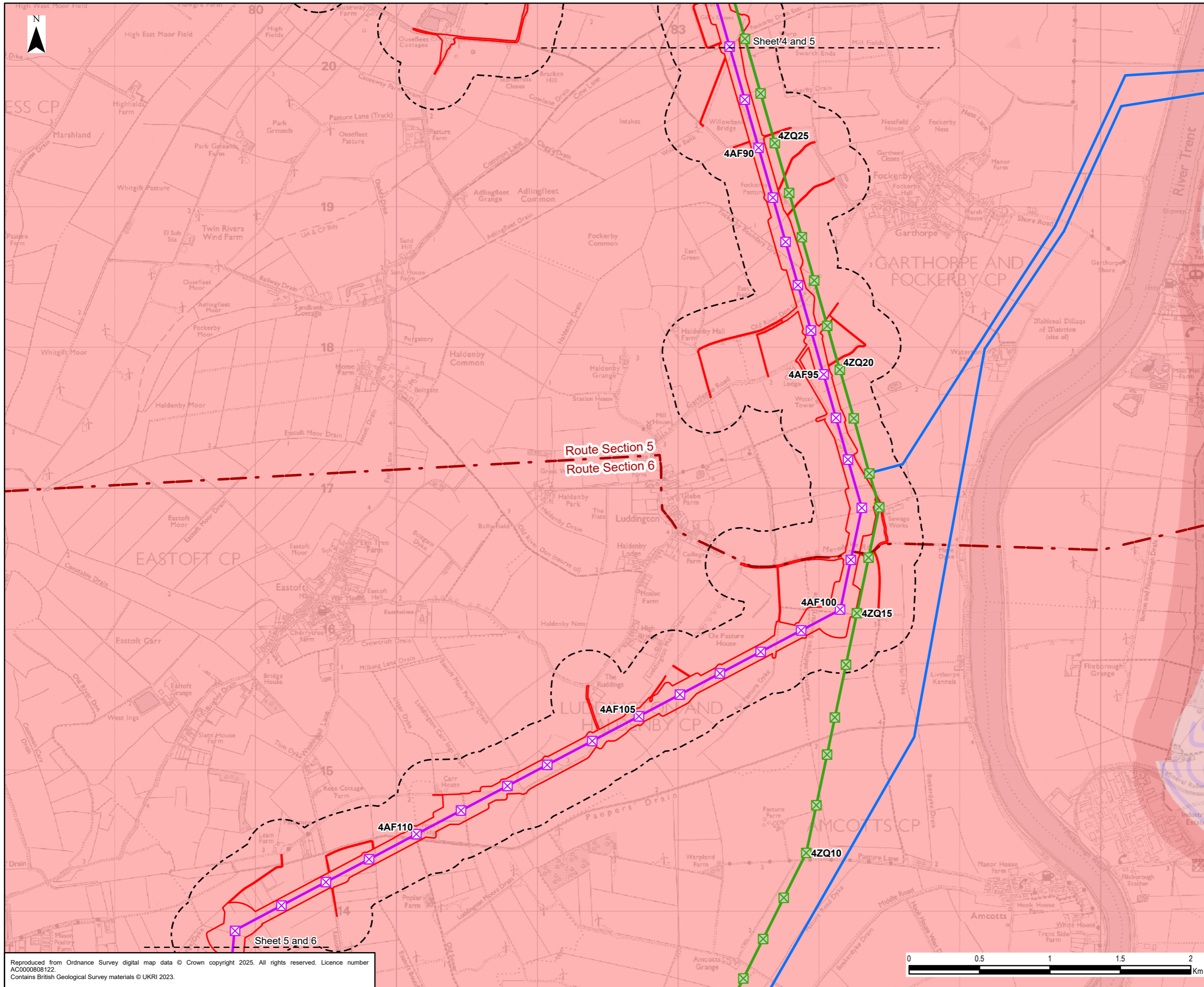
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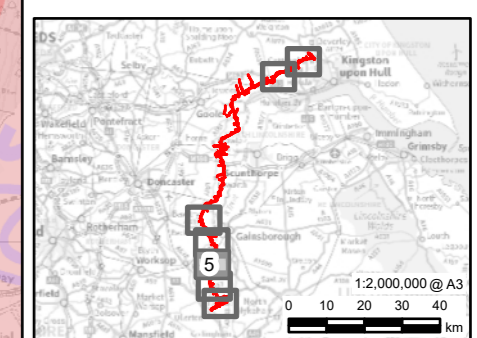
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Existing Overhead Line Not Affected
 - Existing Lattice Pylon Not Affected
- Bedrock Geology**
- Mercia mudstone group - mudstone
 - Scunthorpe mudstone formation - limestone
 - Scunthorpe mudstone formation - mudstone and limestone, interbedded



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

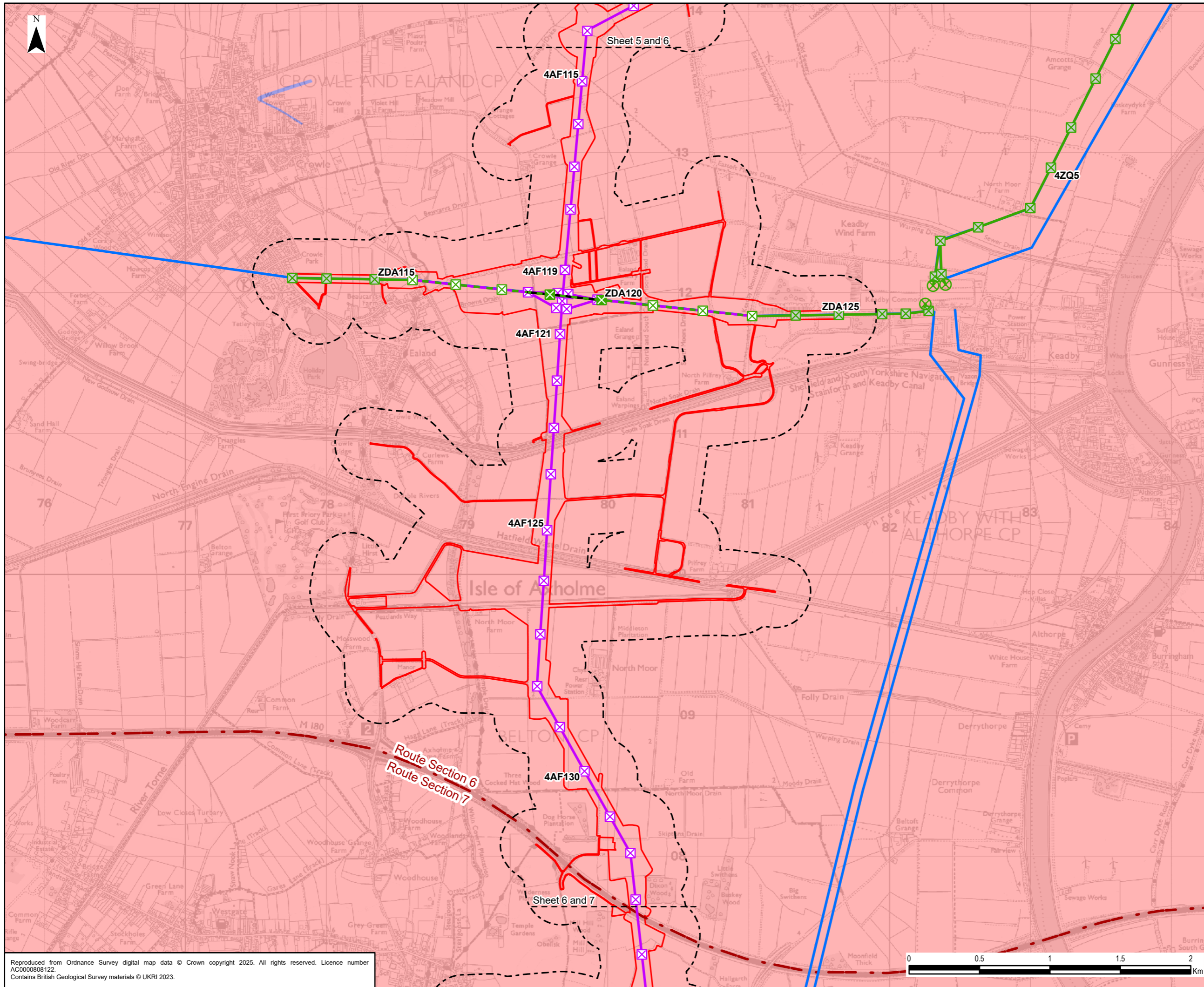
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Scheme: NORTH HUMBER TO HIGH MARNHAM

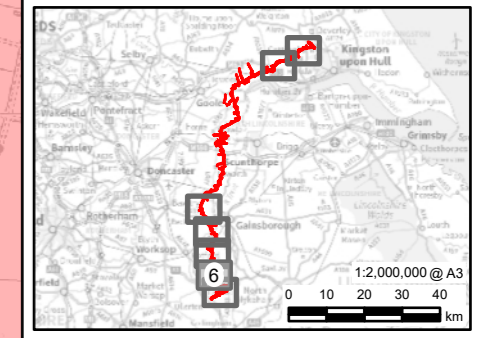
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Existing Overhead Line Not Affected
 - Existing Overhead Line to be Reconstructed
 - Existing Overhead Line to be Dismantled
 - Existing Lattice Pylon Not Affected
 - Existing Lattice Pylon To Be Modified
 - Existing Gantry Not Affected
 - Existing Lattice Pylon To Be Removed
 - Bedrock Geology
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

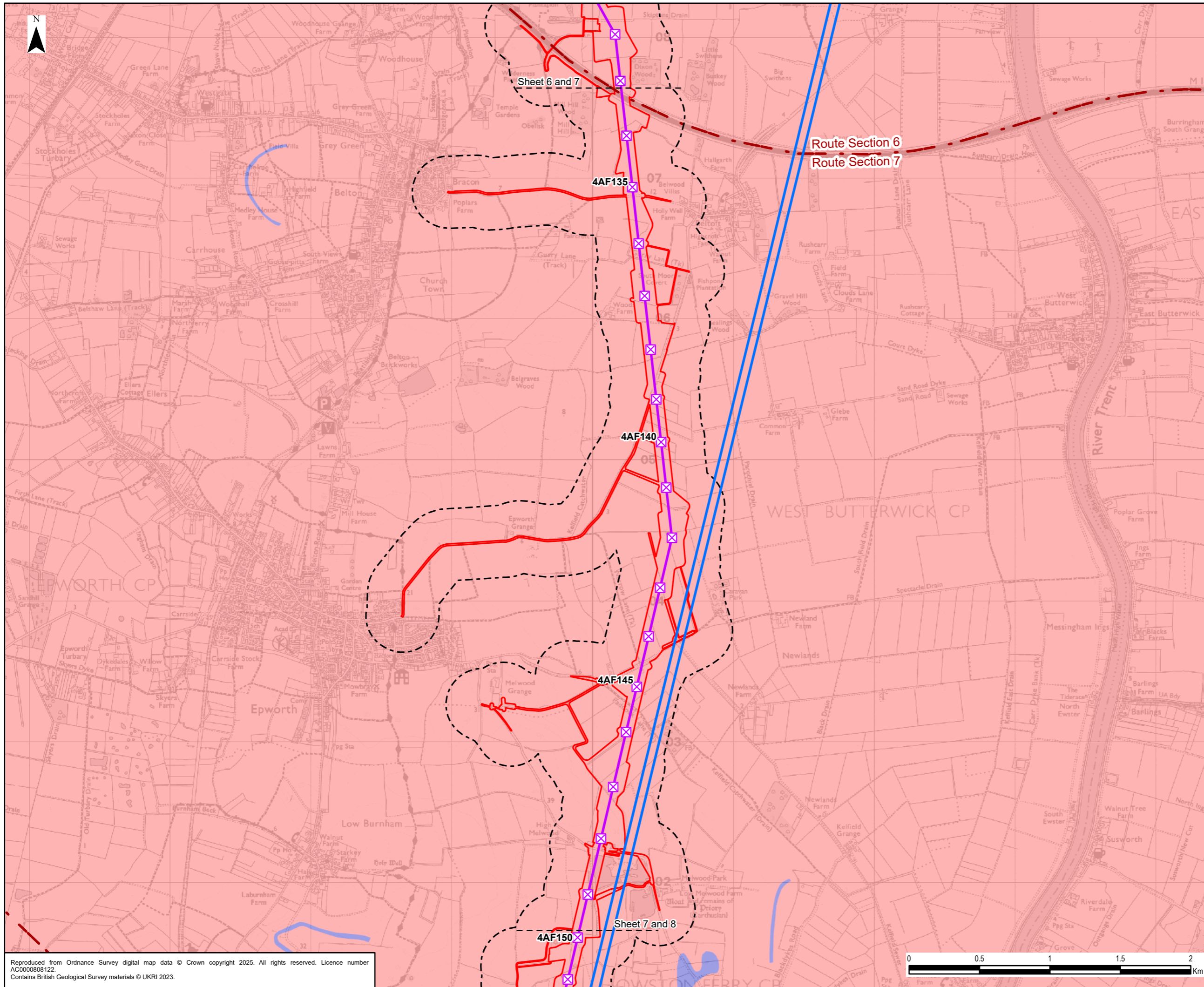
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Scheme: NORTH HUMBER TO HIGH MARNHAM

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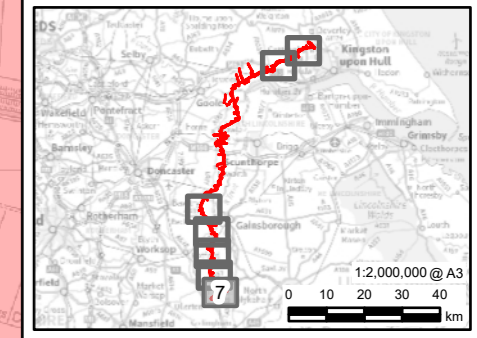
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Legend

- Draft Order Limits
- 250 m Study Area
- Route Section
- Existing Overhead Line
- 400 kV
- Indicative New Overhead Line
- X Indicative New Lattice Pylon
- Bedrock Geology
- Mercia mudstone group - mudstone
- Mercia mudstone group - siltstone, dolomitic



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

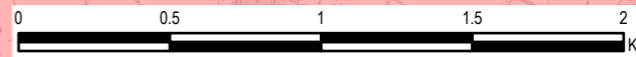
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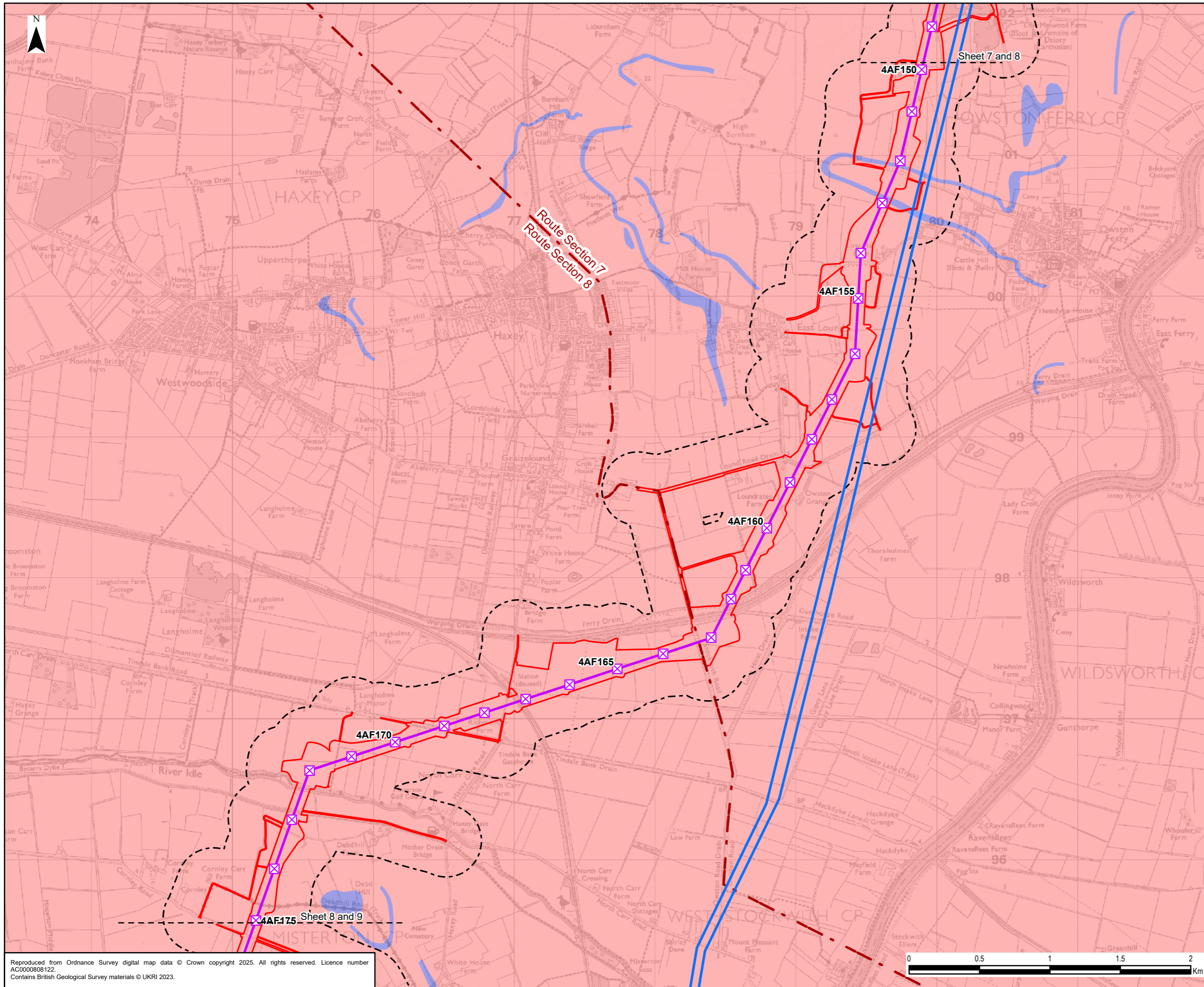
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Figure Title: **FIGURE 12.2 - BEDROCK GEOLOGY**

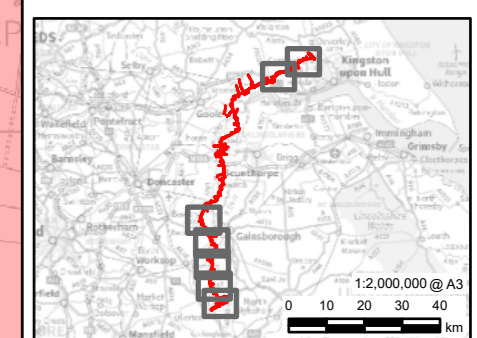
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - X Indicative New Lattice Pylon
 - Bedrock Geology**
 - Clabrough member - siltstone, dolomitic
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



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Rev	Date	Description	GIS	Chk	App

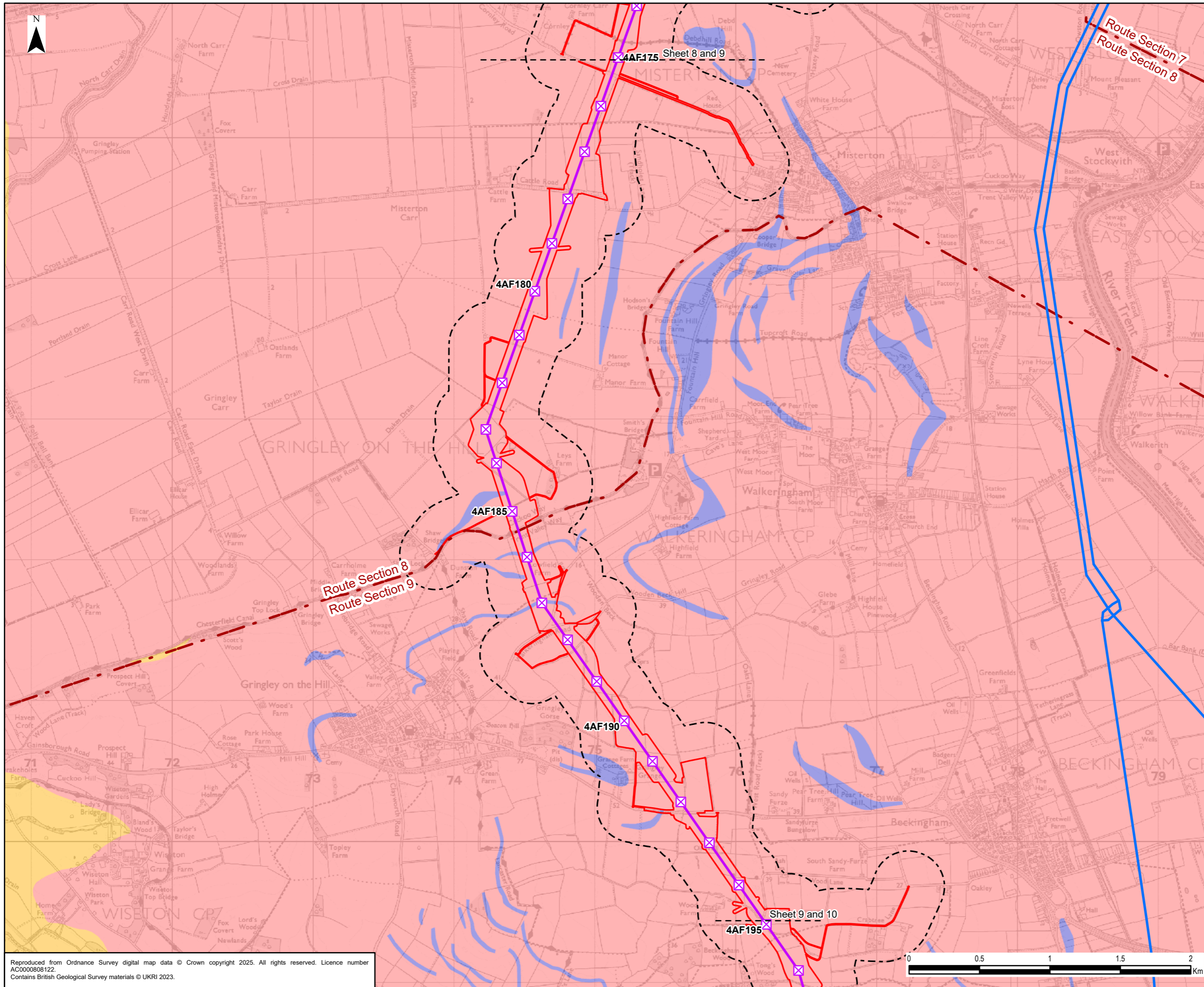
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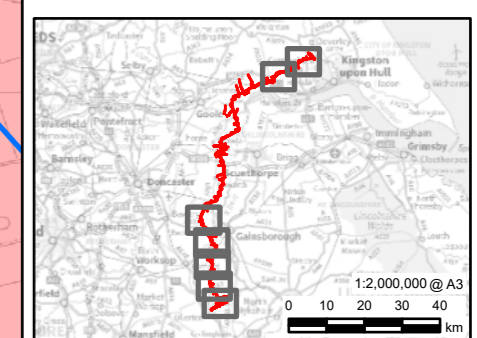
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - X Indicative New Lattice Pylon
 - Bedrock Geology**
 - Chester formation - sandstone, pebbly (gravelly)
 - Clarborough member - siltstone, dolomitic
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



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Rev	Date	Description	GIS	Chk	App

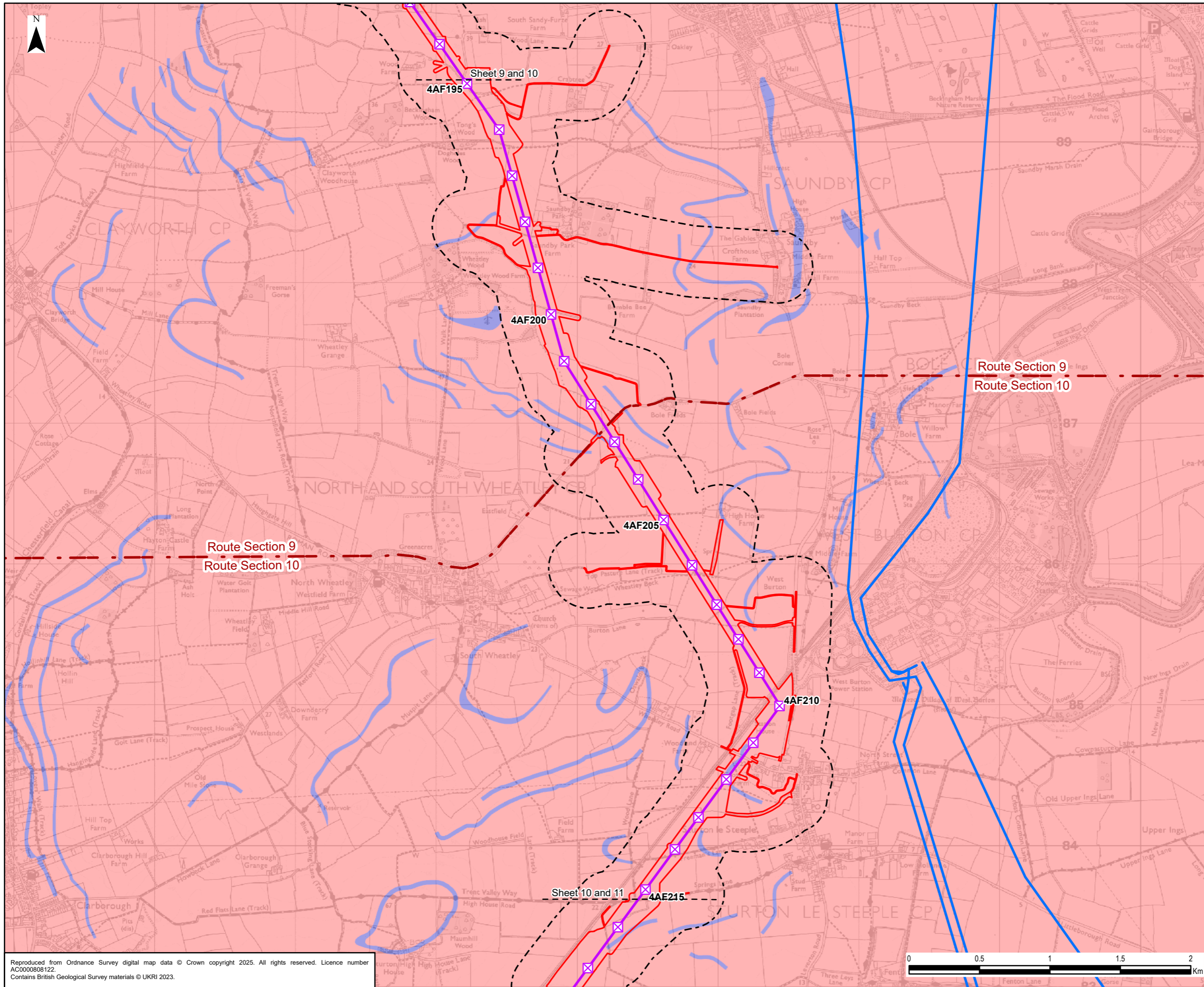
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Scheme: NORTH HUMBER TO HIGH MARNHAM

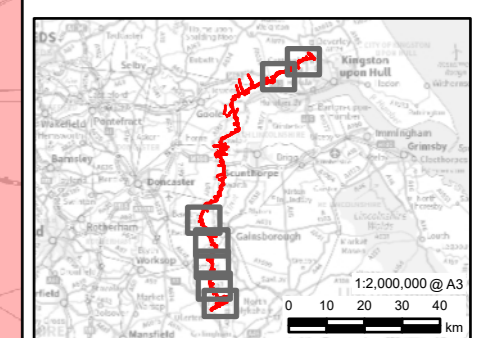
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Bedrock Geology
 - Clarborough member - siltstone, dolomitic
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

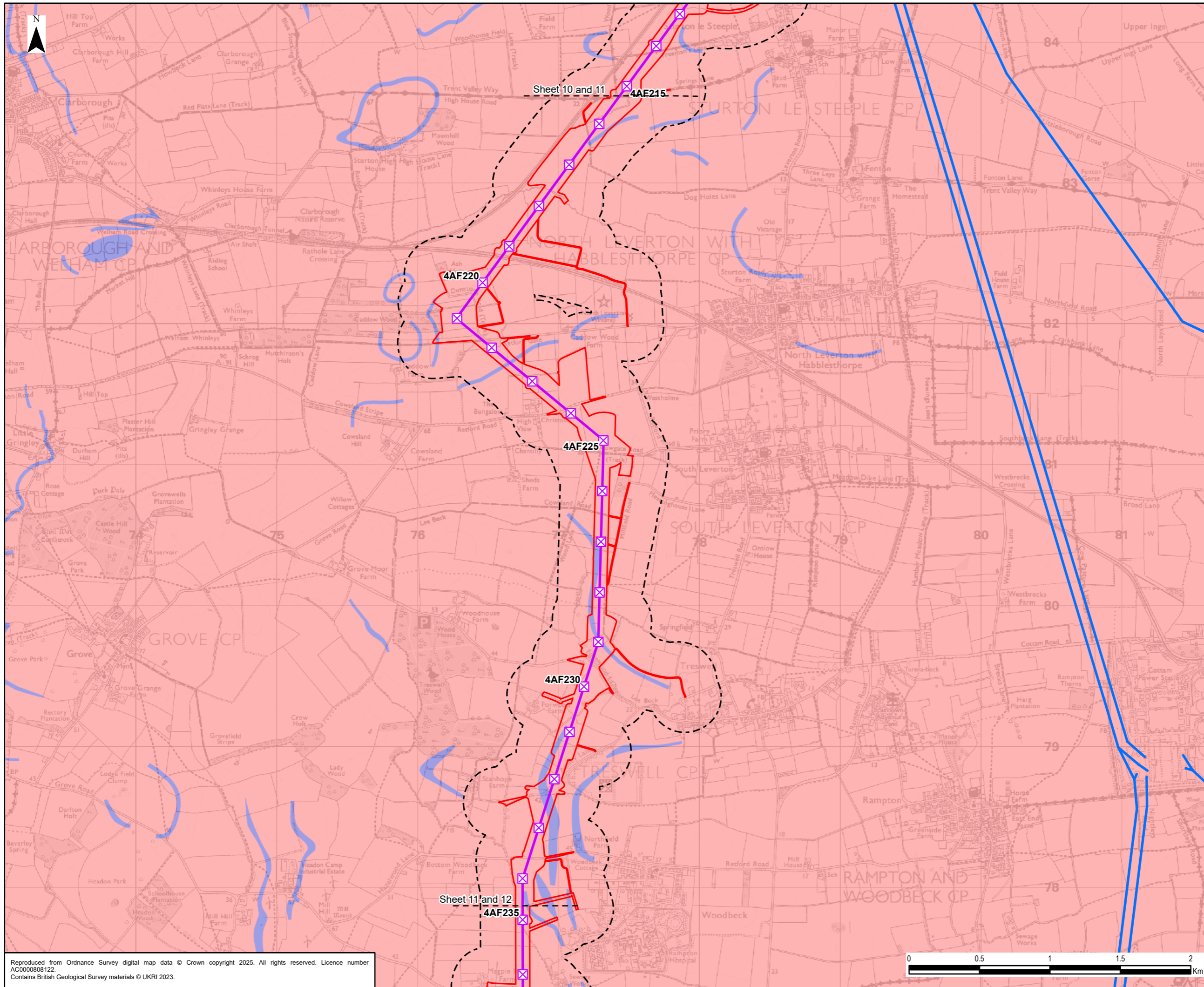
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Scheme: NORTH HUMBER TO HIGH MARNHAM

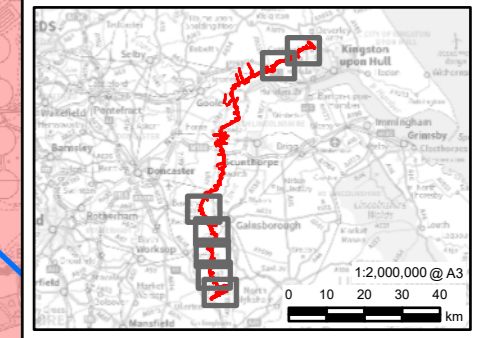
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - X Indicative New Lattice Pylon
 - Bedrock Geology
 - Clarborough member - siltstone, dolomitic
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



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Rev	Date	Description	GIS	Chk	App

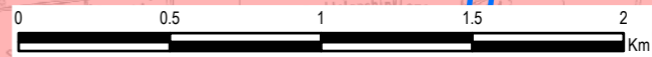
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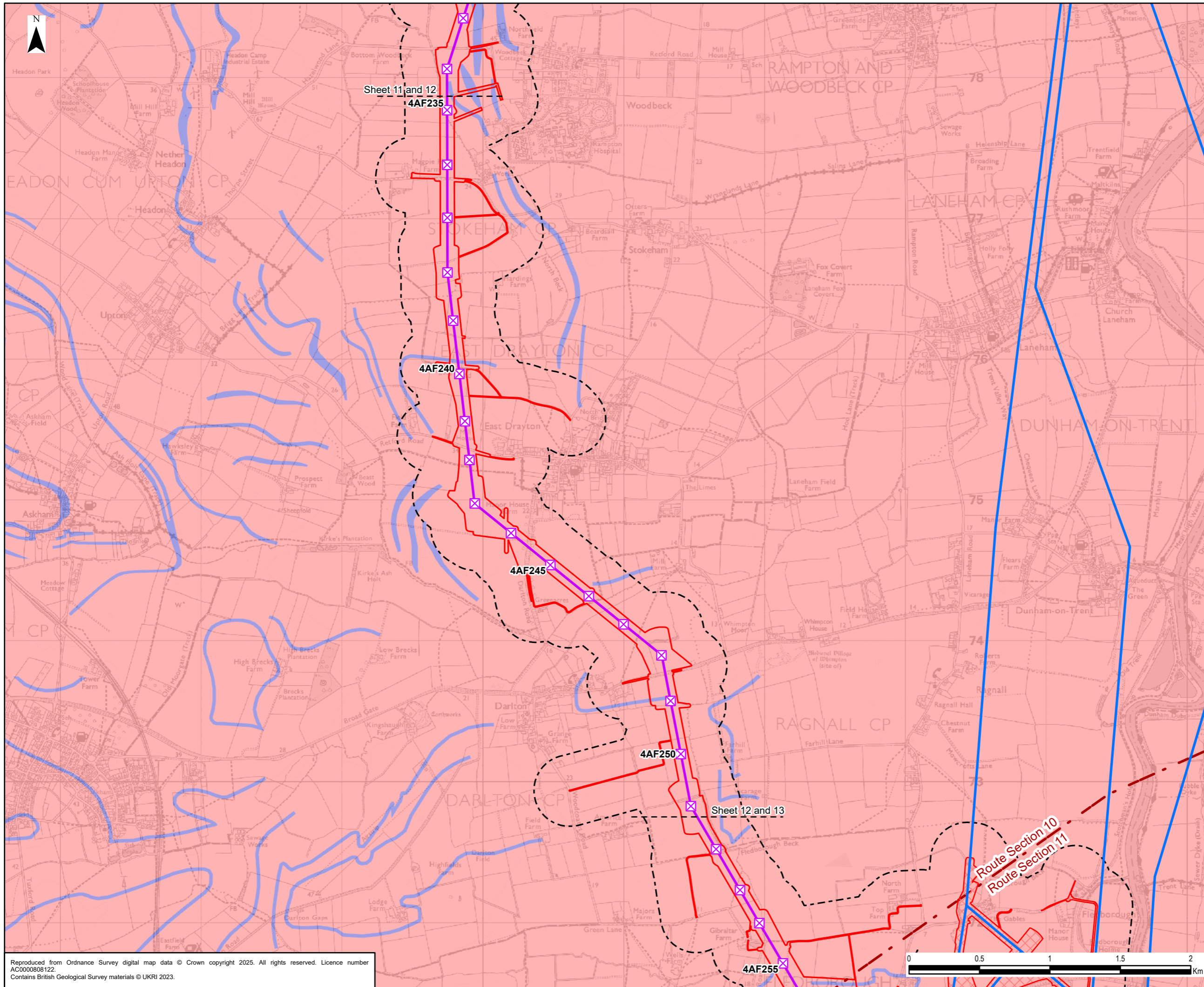
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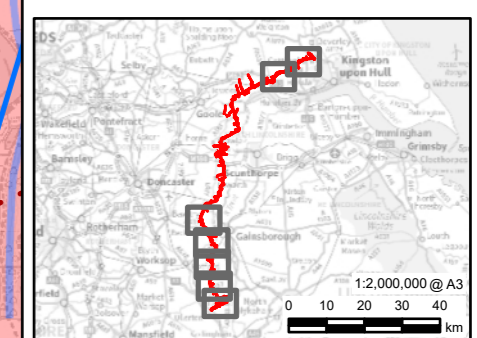
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- Legend**
- Draft Order Limits
 - Proposed Substation Works
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Bedrock Geology
 - Clarborough member - siltstone, dolomitic
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



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Rev	Date	Description	GIS	Chk	App

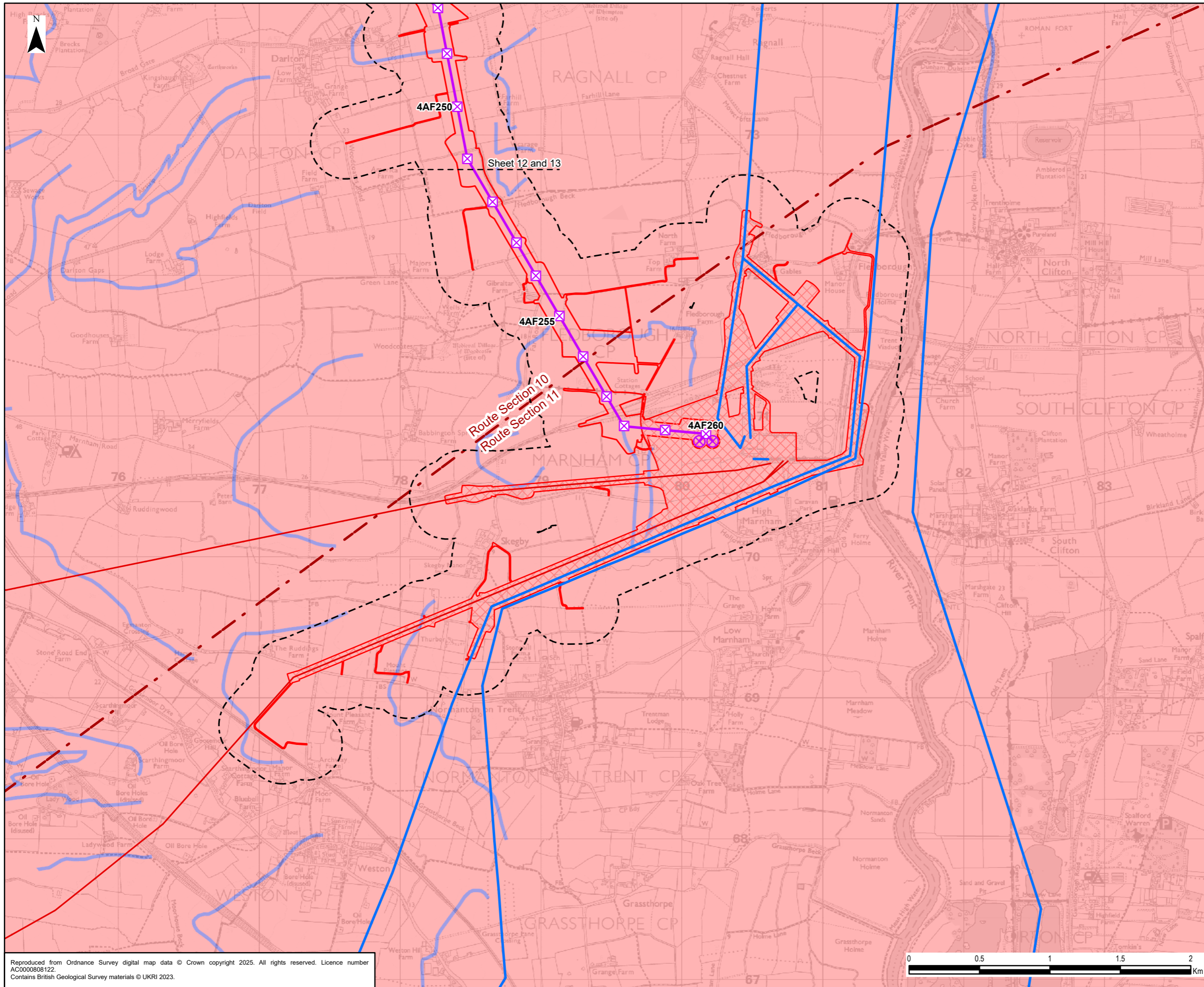
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Scheme: NORTH HUMBER TO HIGH MARNHAM

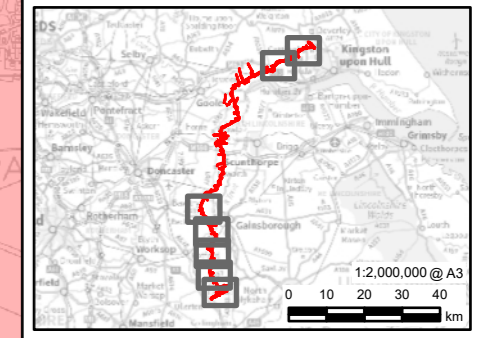
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- Legend**
- Draft Order Limits
 - Proposed Substation Works
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 275 kV
 - 400 kV
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Indicative New Gantry
 - Bedrock Geology**
 - Mercia mudstone group - mudstone
 - Mercia mudstone group - siltstone, dolomitic



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

nationalgrid

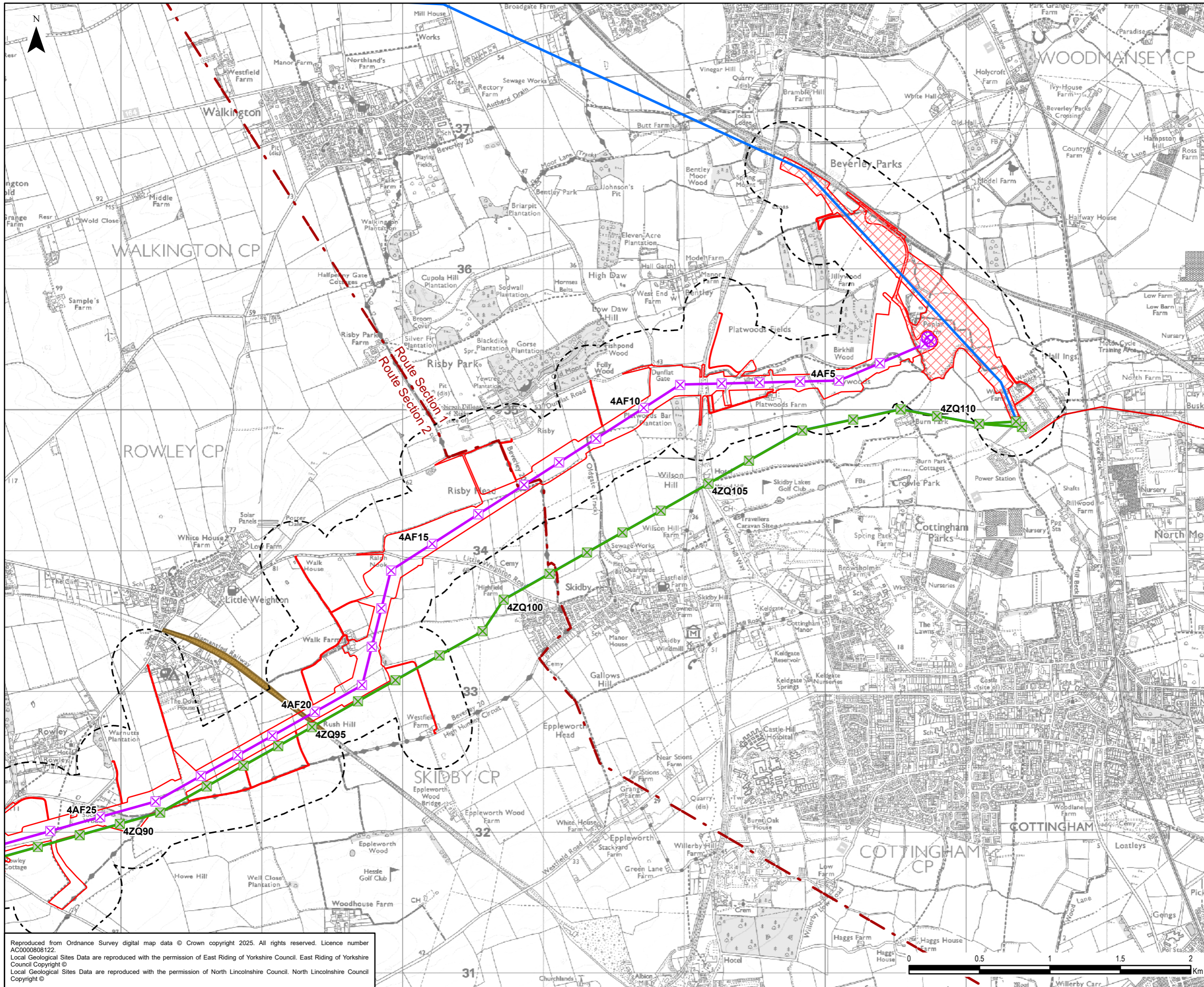
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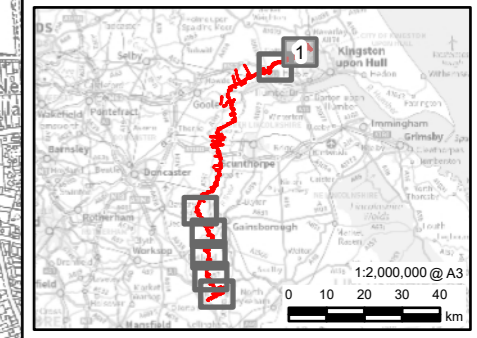




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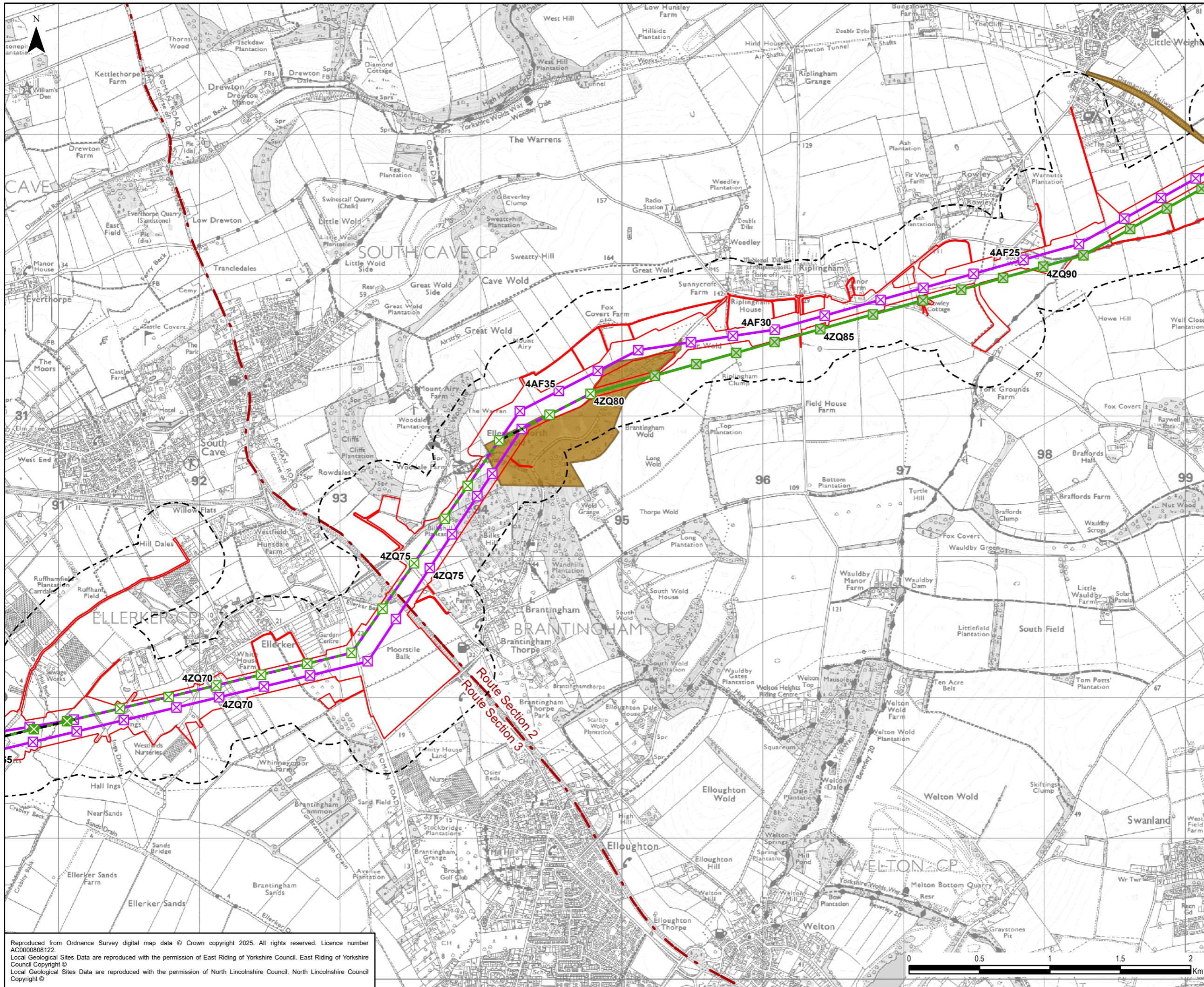
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- Proposed Substation Works
- 250 m Study Area
- Route Section
- Existing Overhead Line
- 275 kV
- 400 kV
- Proposed Project Design Details
- Indicative New Overhead Line
- Indicative New Lattice Pylon
- Indicative New Gantry
- Existing Overhead Line Not Affected
- Existing Lattice Pylon Not Affected
- Geology and Hydrogeology Data
- Local Geological Site

Note:
Figure only displays segments of the Project where Local Geological Site data is present.



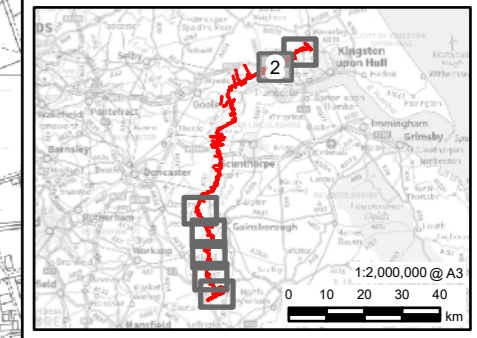
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nationalgrid					
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Figure Title: FIGURE 12.3 - GEOLOGICALLY DESIGNATED SITES					
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- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
400 kV
 - Proposed Project Design Details
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Existing Overhead Line Not Affected
 - Existing Overhead Line to be Reconstructed
 - Existing Overhead Line to be Dismantled
 - Existing Lattice Pylon Not Affected
 - Existing Lattice Pylon To Be Modified
 - Existing Lattice Pylon To Be Removed
 - Geology and Hydrogeology Data
Local Geological Site

Note:
Figure only displays segments of the Project where Local Geological Site data is present.



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Rev	Date	Description	GIS	Chk	App

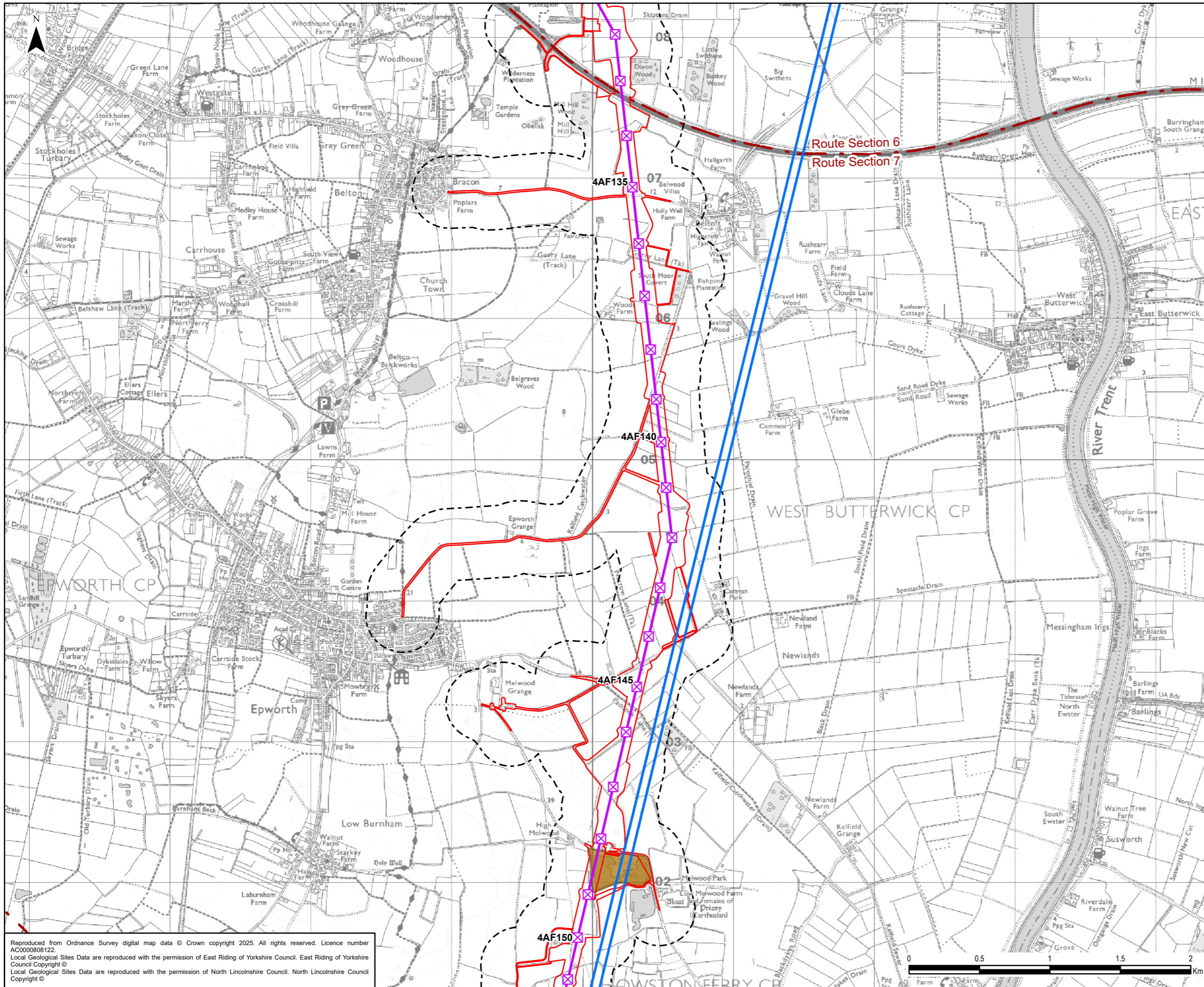
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Scheme: NORTH HUMBER TO HIGH MARNHAM

Figure Title: FIGURE 12.3 - GEOLOGICALLY DESIGNATED SITES

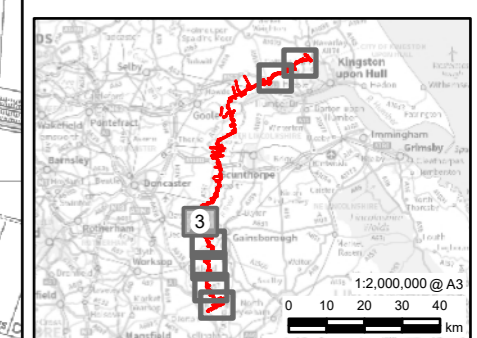
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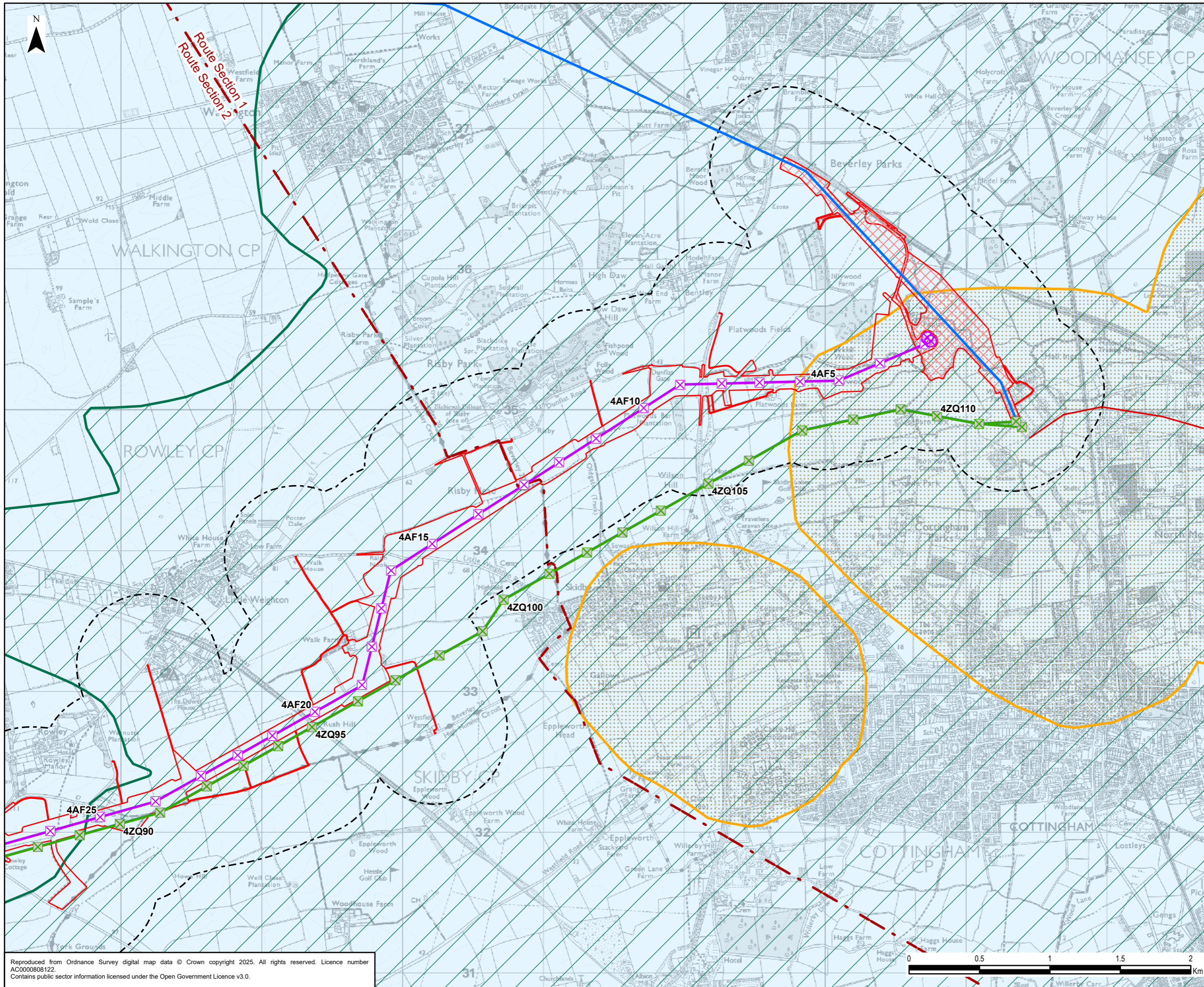
- Legend**
- Draft Order Limits
 - 250 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Proposed Project Design Details
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Geology and Hydrogeology Data
 - Local Geological Site

Note:
Figure only displays segments of the Project where Local Geological Site data is present.



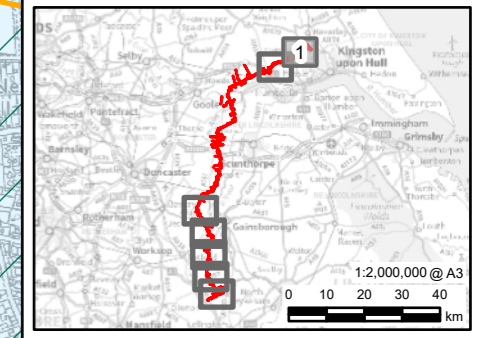
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- Legend**
- Draft Order Limits
 - Proposed Substation Works
 - 500 m Study Area
 - Route Section
 - Existing Overhead Line
 - 275 kV
 - 400 kV
 - Proposed Project Design Details**
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Indicative New Gantry
 - Existing Overhead Line Not Affected
 - Existing Lattice Pylon Not Affected
 - Groundwater Source Protection Zone**
 - Zone I - Inner Protection Zone
 - Zone II - Outer Protection Zone
 - Zone III - Total Catchment

Note:
 Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



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Rev	Date	Description	GIS	Chk	App

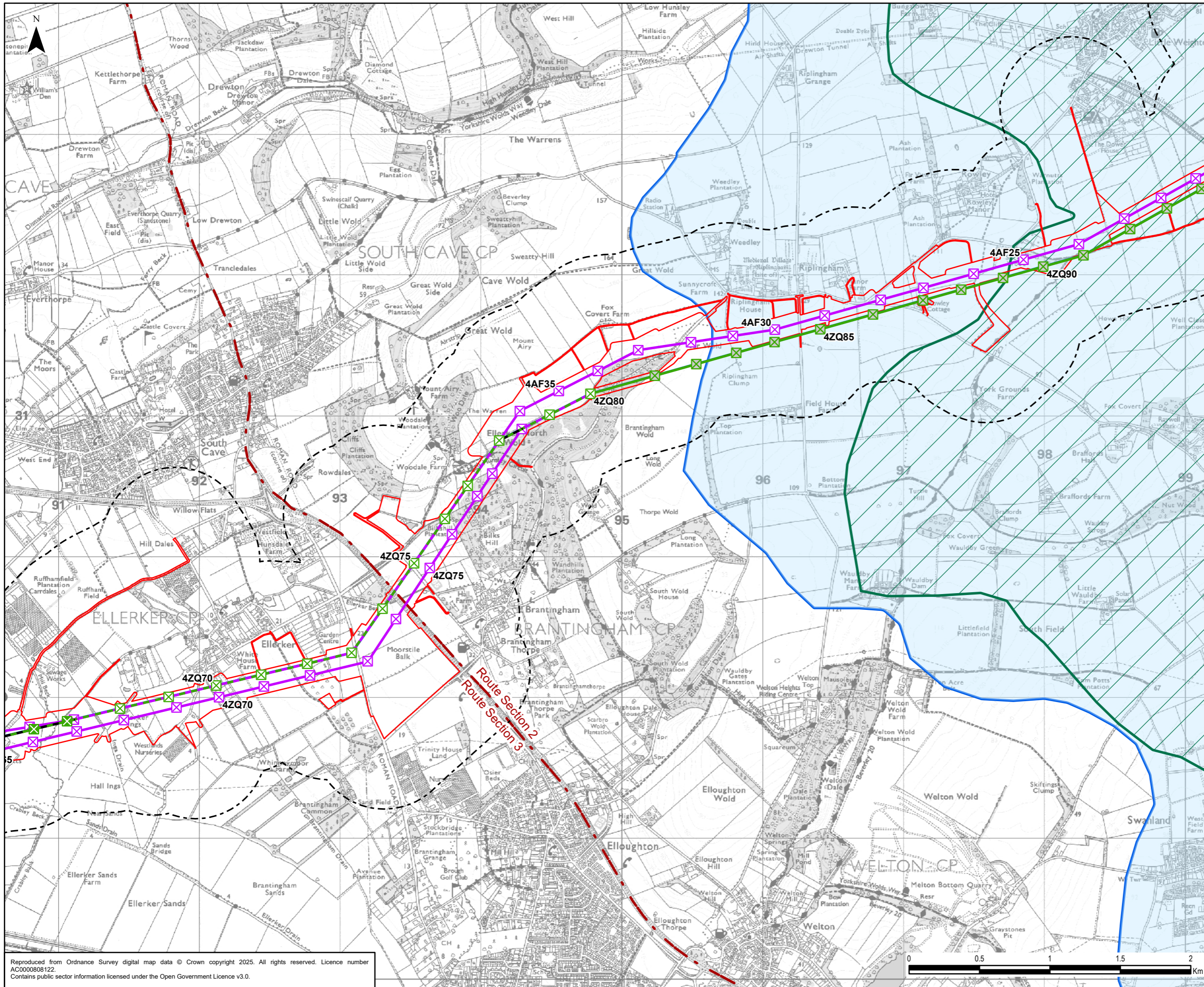
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Scheme: NORTH HUMBER TO HIGH MARNHAM

Figure Title: **FIGURE 12.4 - SOURCE PROTECTION ZONES**

Creator:	Date:	Checker:	Date:	Approver:	Date:
ID	2/5/2025	JG	2/5/2025	NC	2/5/2025
Figure Ref:	Scale:	Format:	Sheets:	Rev:	
12.4	1:25,000	A3	1 OF 7	0.1	

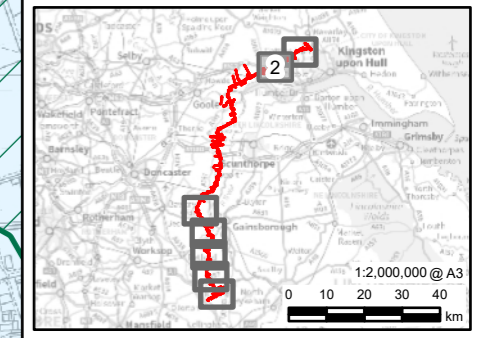
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Legend

- Draft Order Limits
- 500 m Study Area
- Route Section
- Existing Overhead Line
- Proposed Project Design Details
- Indicative New Overhead Line
- Indicative New Lattice Pylon
- Existing Overhead Line Not Affected
- Existing Overhead Line to be Reconstructed
- Existing Overhead Line to be Dismantled
- Existing Lattice Pylon Not Affected
- Existing Lattice Pylon To Be Modified
- Existing Lattice Pylon To Be Removed
- Groundwater Source Protection Zone
- Zone II – Outer Protection Zone
- Zone III - Total Catchment

Note:
 Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

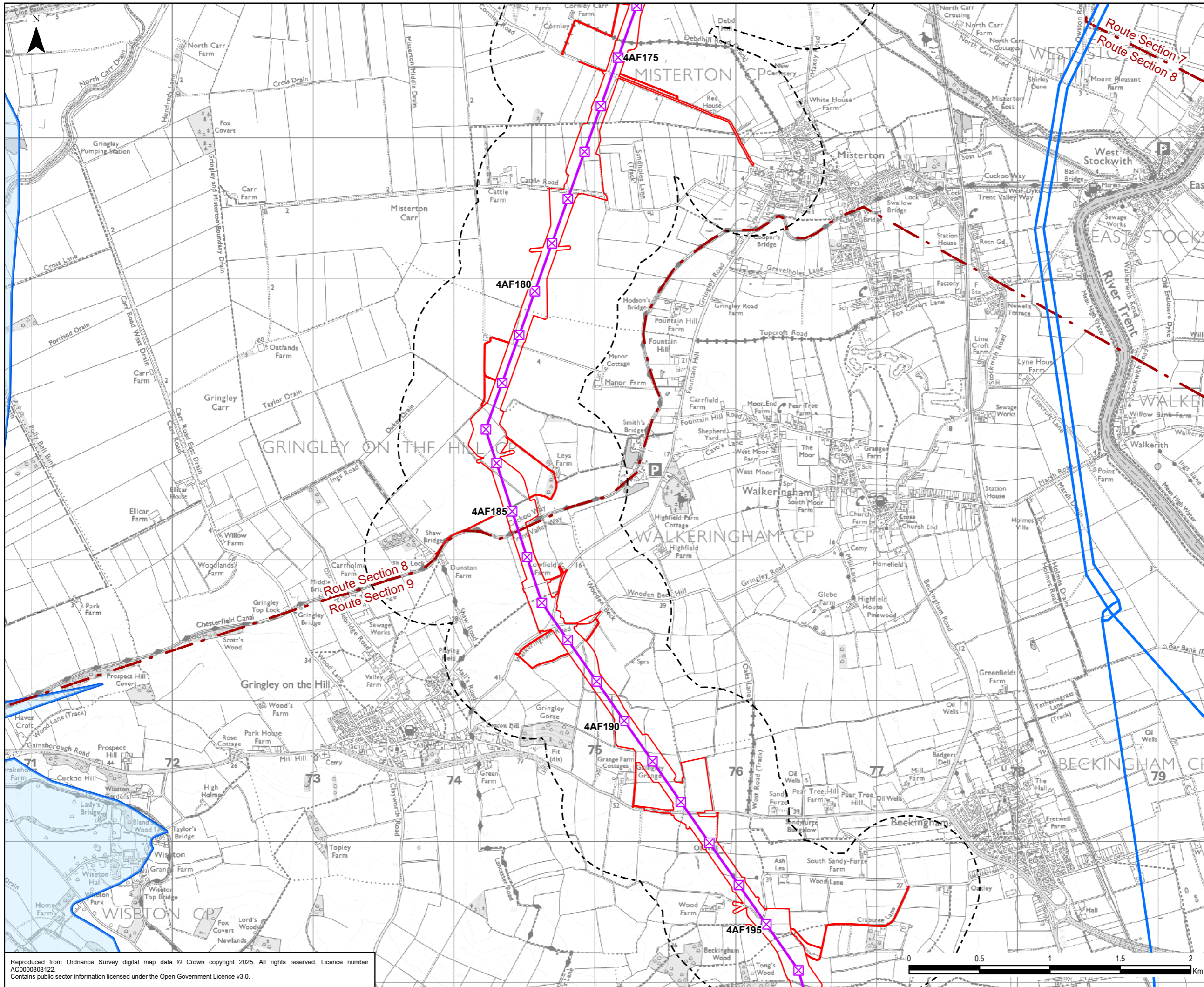
nationalgrid

Scheme: NORTH HUMBER TO HIGH MARNHAM

Figure Title: **FIGURE 12.4 - SOURCE PROTECTION ZONES**

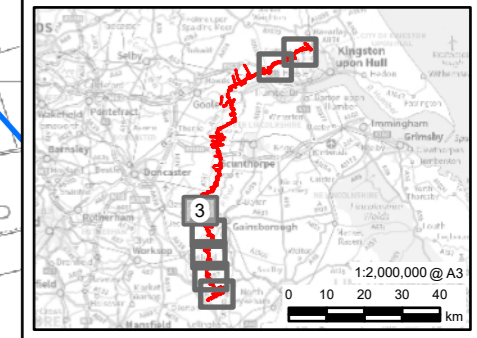
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- Legend**
- Draft Order Limits
 - 500 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Proposed Project Design Details
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Groundwater Source Protection Zone
 - Zone III - Total Catchment

Note:
Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

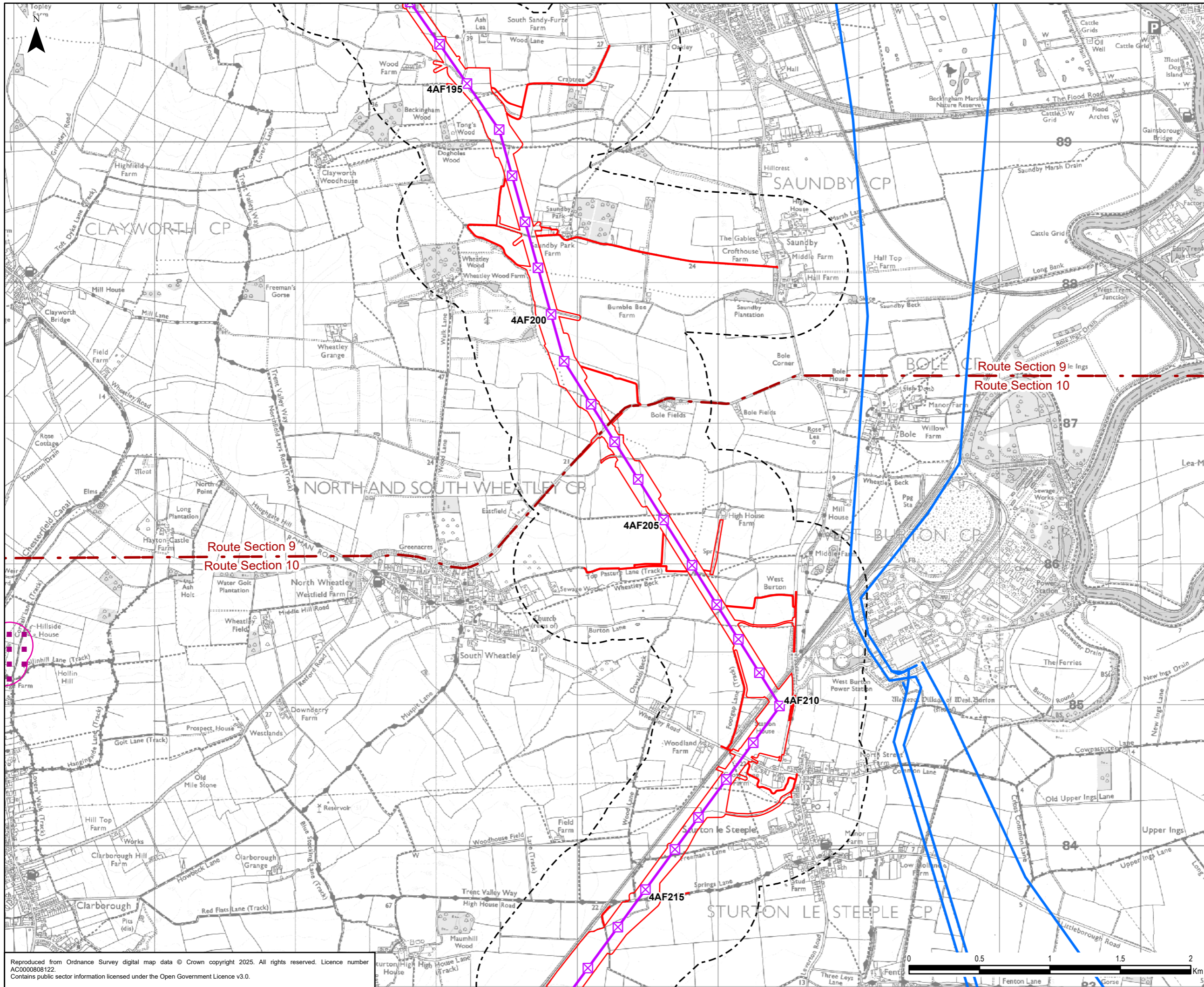
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Scheme: NORTH HUMBER TO HIGH MARNHAM

Figure Title: **FIGURE 12.4 - SOURCE PROTECTION ZONES**

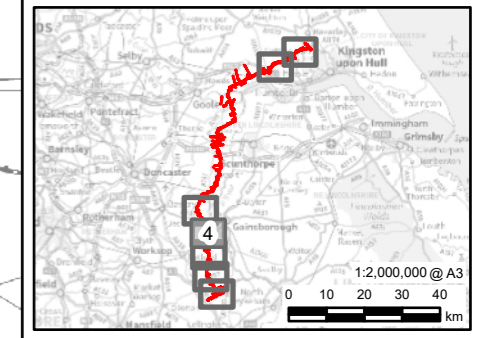
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Figure Ref:	Scale:	Format:	Sheets:	Rev:	
12.4	1:25,000	A3	3 OF 7	0.1	

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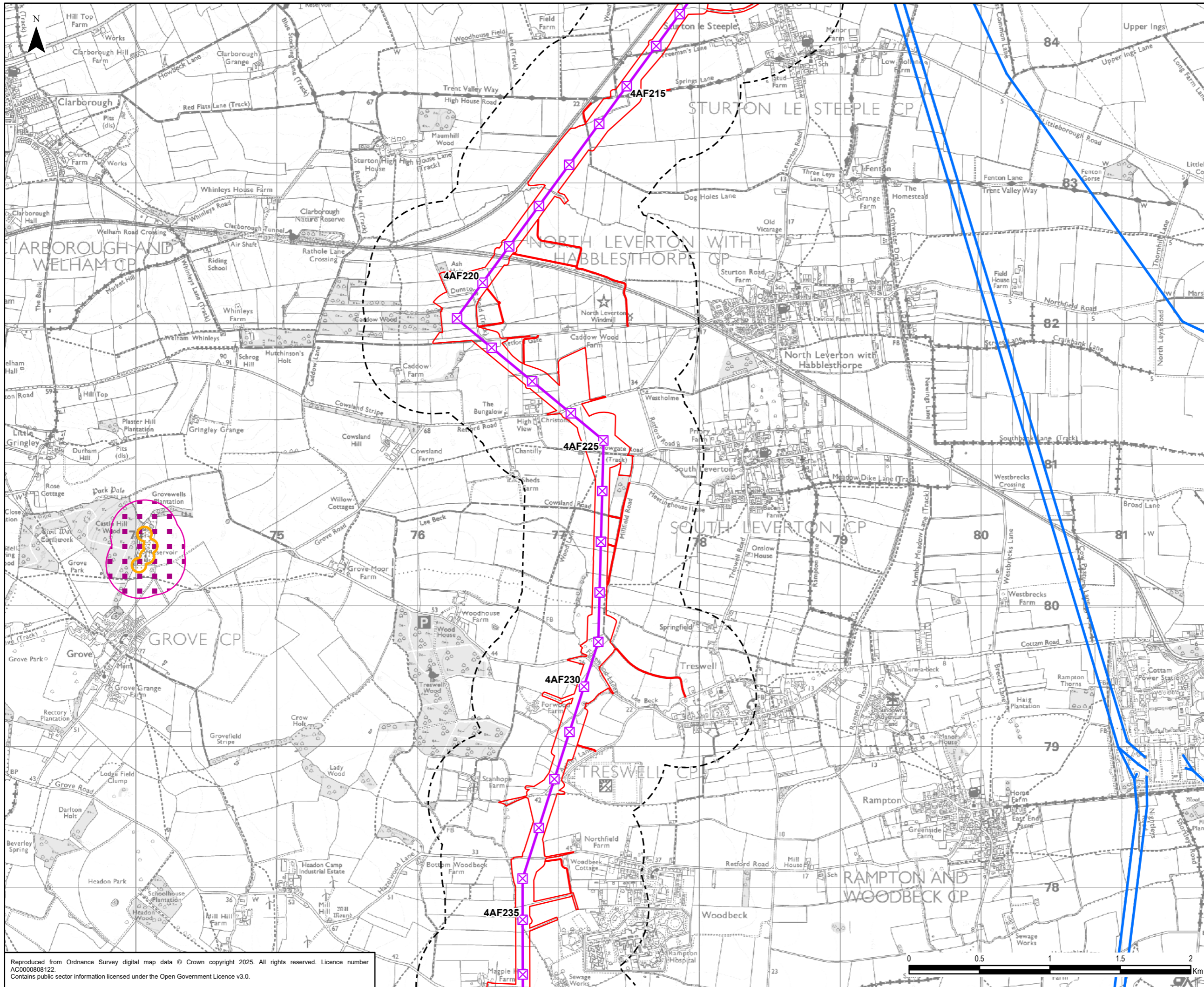
- Legend**
- Draft Order Limits
 - 500 m Study Area
 - Route Section
 - Existing Overhead Line
 - 400 kV
 - Proposed Project Design Details
 - Indicative New Overhead Line
 - Indicative New Lattice Pylon
 - Groundwater Source Protection Zone
 - Zone IIc – Outer Zone That is Below Protective Cover

Note:
Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App
nationalgrid					
Scheme: NORTH HUMBER TO HIGH MARNHAM					
Figure Title: FIGURE 12.4 - SOURCE PROTECTION ZONES					
Creator:	Date:	Checker:	Date:	Approver:	Date:
ID	2/5/2025	JG	2/5/2025	NC	2/5/2025
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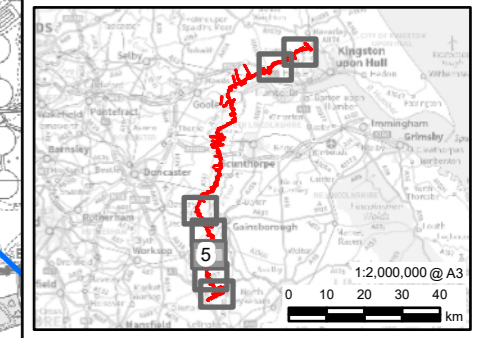
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Legend

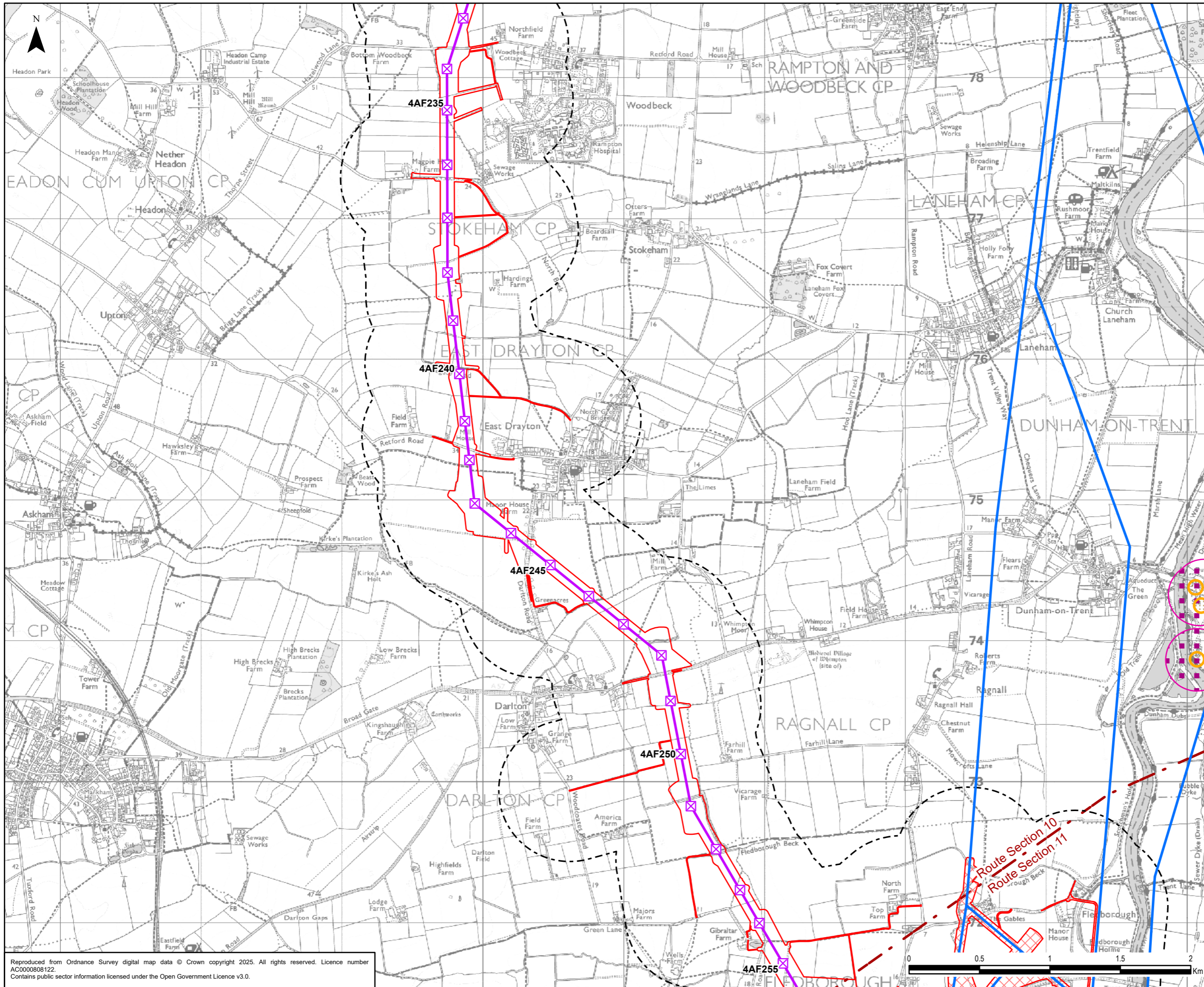
- Draft Order Limits
- 500 m Study Area
- Existing Overhead Line
- 400 kV
- Proposed Project Design Details
- Indicative New Overhead Line
- Indicative New Lattice Pylon
- Groundwater Source Protection Zone
- Zone I - Inner Protection Zone
- Zone IIc – Outer Zone That is Below Protective Cover

Note:
Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App
nationalgrid					
Scheme: NORTH HUMBER TO HIGH MARNHAM					
Figure Title: FIGURE 12.4 - SOURCE PROTECTION ZONES					
Creator: ID	Date: 2/5/2025	Checker: JG	Date: 2/5/2025	Approver: NC	Date: 2/5/2025
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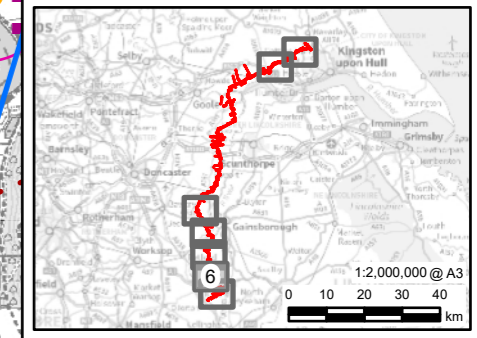
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Legend

- Draft Order Limits
- Proposed Substation Works
- 500 m Study Area
- Route Section
- Existing Overhead Line
- 400 kV
- Proposed Project Design Details
- Indicative New Overhead Line
- Indicative New Lattice Pylon
- Groundwater Source Protection Zone
- Zone I - Inner Protection Zone
- Zone IIc - Outer Zone That is Below Protective Cover

Note: Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App

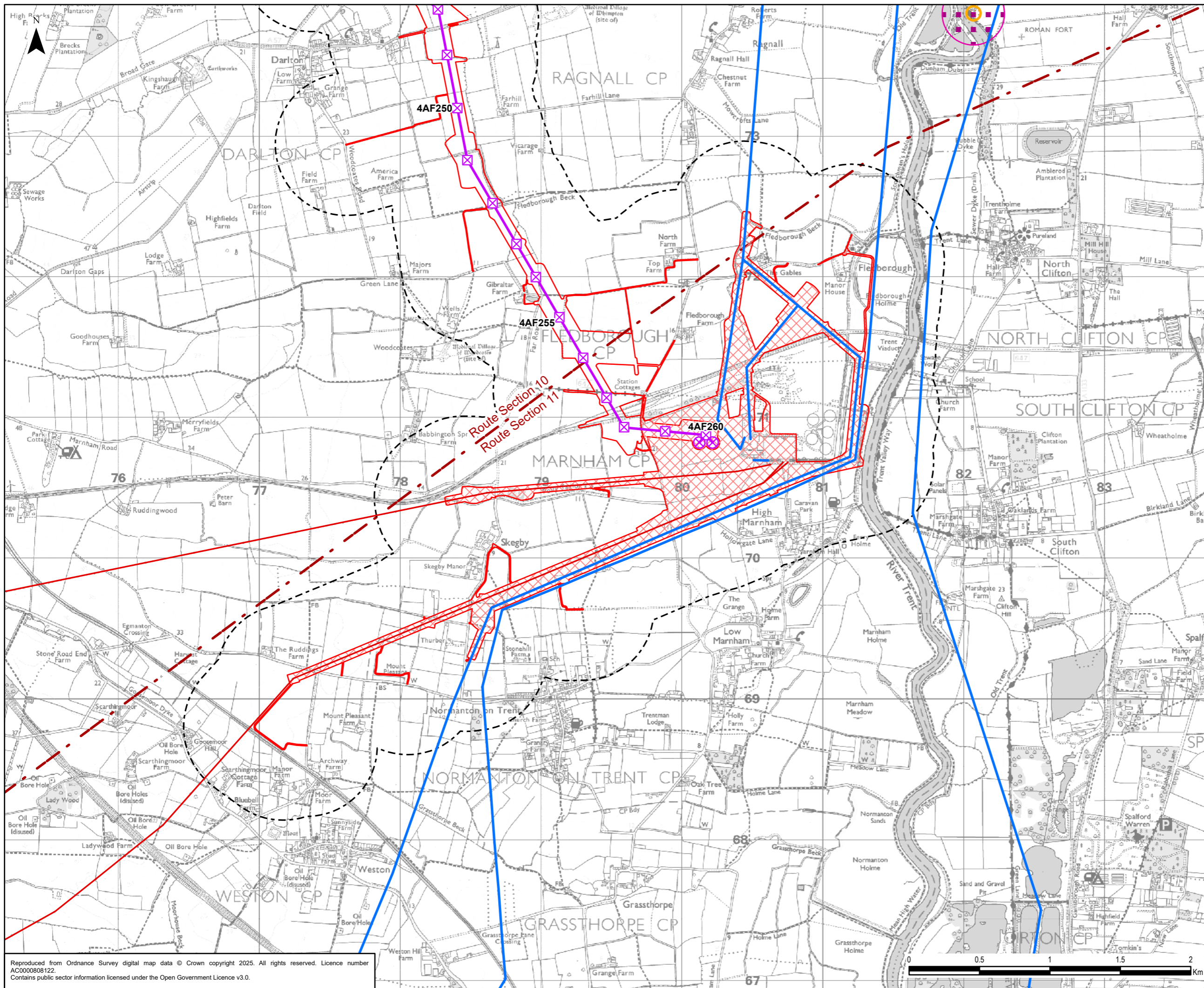
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Scheme: NORTH HUMBER TO HIGH MARNHAM

Figure Title: FIGURE 12.4 - SOURCE PROTECTION ZONES

Creator: ID	Date: 2/5/2025	Checker: JG	Date: 2/5/2025	Approver: NC	Date: 2/5/2025
Figure Ref: 12.4	Scale: 1:25,000	Format: A3	Sheets: 6 OF 7	Rev: 0.1	

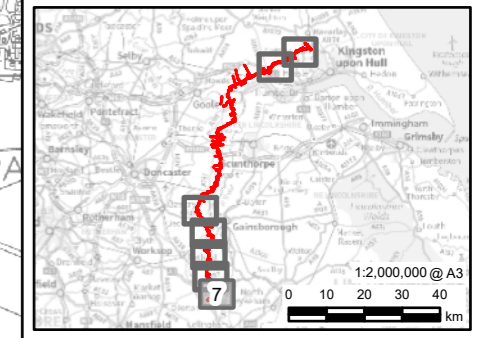
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Legend

- Draft Order Limits
- Proposed Substation Works
- 500 m Study Area
- Route Section
- Existing Overhead Line
- 275 kV
- 400 kV
- Proposed Project Design Details
- Indicative New Overhead Line
- Indicative New Lattice Pylon
- Indicative New Gantry
- Groundwater Source Protection Zone
- Zone I - Inner Protection Zone
- Zone IIc - Outer Zone That is Below Protective Cover

Note:
 Figure only displays segments of the Project where Groundwater Source Protection Zone data is present.



0.1	2/5/2025	PEIR	ID	JG	NC
Rev	Date	Description	GIS	Chk	App
nationalgrid					
Scheme: NORTH HUMBER TO HIGH MARNHAM					
Figure Title: FIGURE 12.4 - SOURCE PROTECTION ZONES					
Creator: ID	Date: 2/5/2025	Checker: JG	Date: 2/5/2025	Approver: NC	Date: 2/5/2025
Figure Ref: 12.4	Scale: 1:25,000	Format: A3	Sheets: 7 OF 7	Rev: 0.1	

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