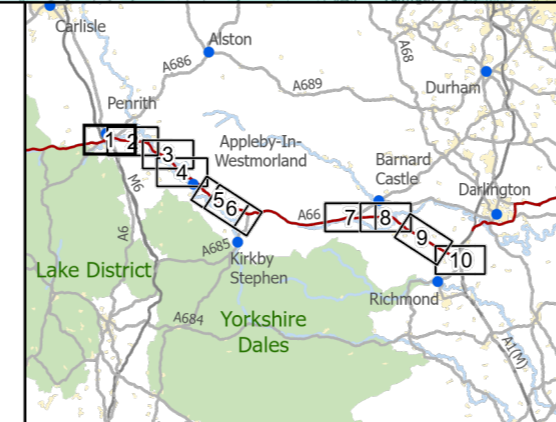


— Route Alignment  
 — Existing A66  
 — Order Limits  
 — Study Area 1000m  
**Groundwater Survey Results**  
 ▲ GW to SW Interaction  
 ● Non GWSWI  
 ▲ Potential GW to SW Interaction  
 ▼ SW to GW Interaction  
 ● Spring  
**Depression Site Survey Results**  
 ▭ Cave

● Enclosed depression - gypsum karst  
 ● Enclosed depression - non karst  
 ● Non-enclosed depression  
 ● Potential enclosed depression  
 ● Potential enclosed depression - gypsum karst  
 ▭ Valley  
 BGS 1:50k Bedrock  
 ▭ Alston Formation - Mudstone Sandstone and Siltstone  
 ▭ Alston Formation - Sandstone

▭ Belah Dolomite  
 ▭ Brockram Breccia  
 ▭ Crag Limestone  
 ▭ Eden Shales  
 ▭ Evaporite - Gypsum  
 ▭ Four Fathom Limestone  
 ▭ Great Limestone Member  
 ▭ Little Limestone  
 ▭ Penrith Sandstone  
 ▭ St Bees Sandstone Member  
 ▭ Stainmore Formation - Mudstone, Siltstone and Sandstone  
 ▭ Three Yard Limestone



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|          |             |          |          |          |            |          |
|----------|-------------|----------|----------|----------|------------|----------|
| P02      | First Issue | CESL     | LHAN     | MBRE     | AMIT       | KWHA     |
|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |

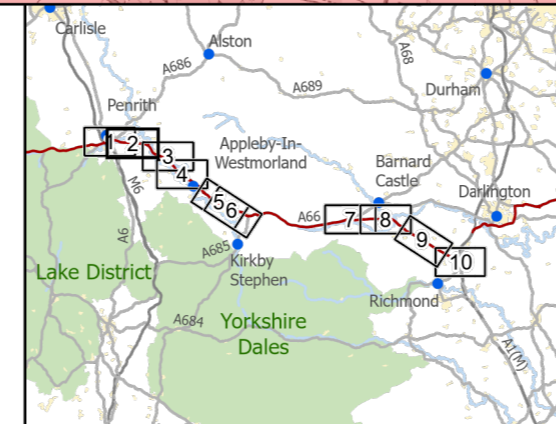
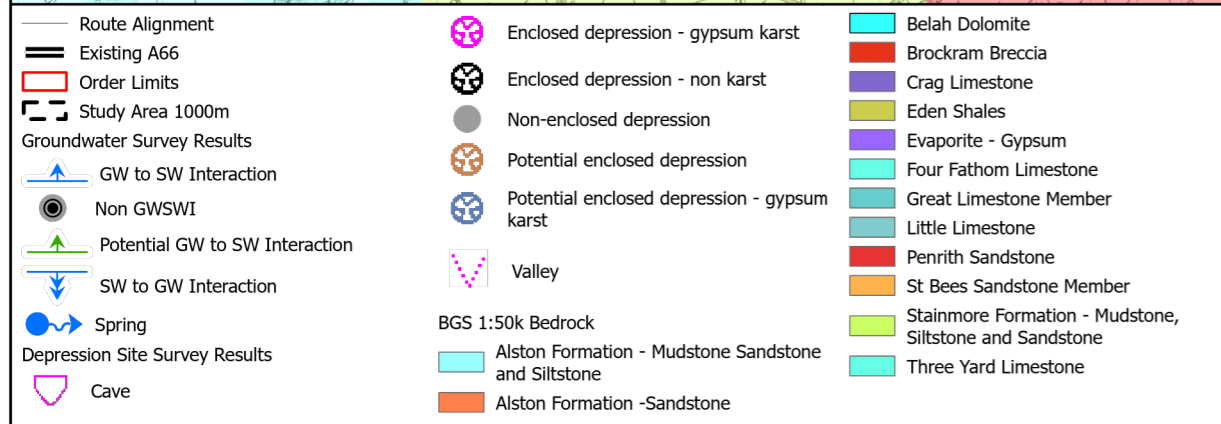
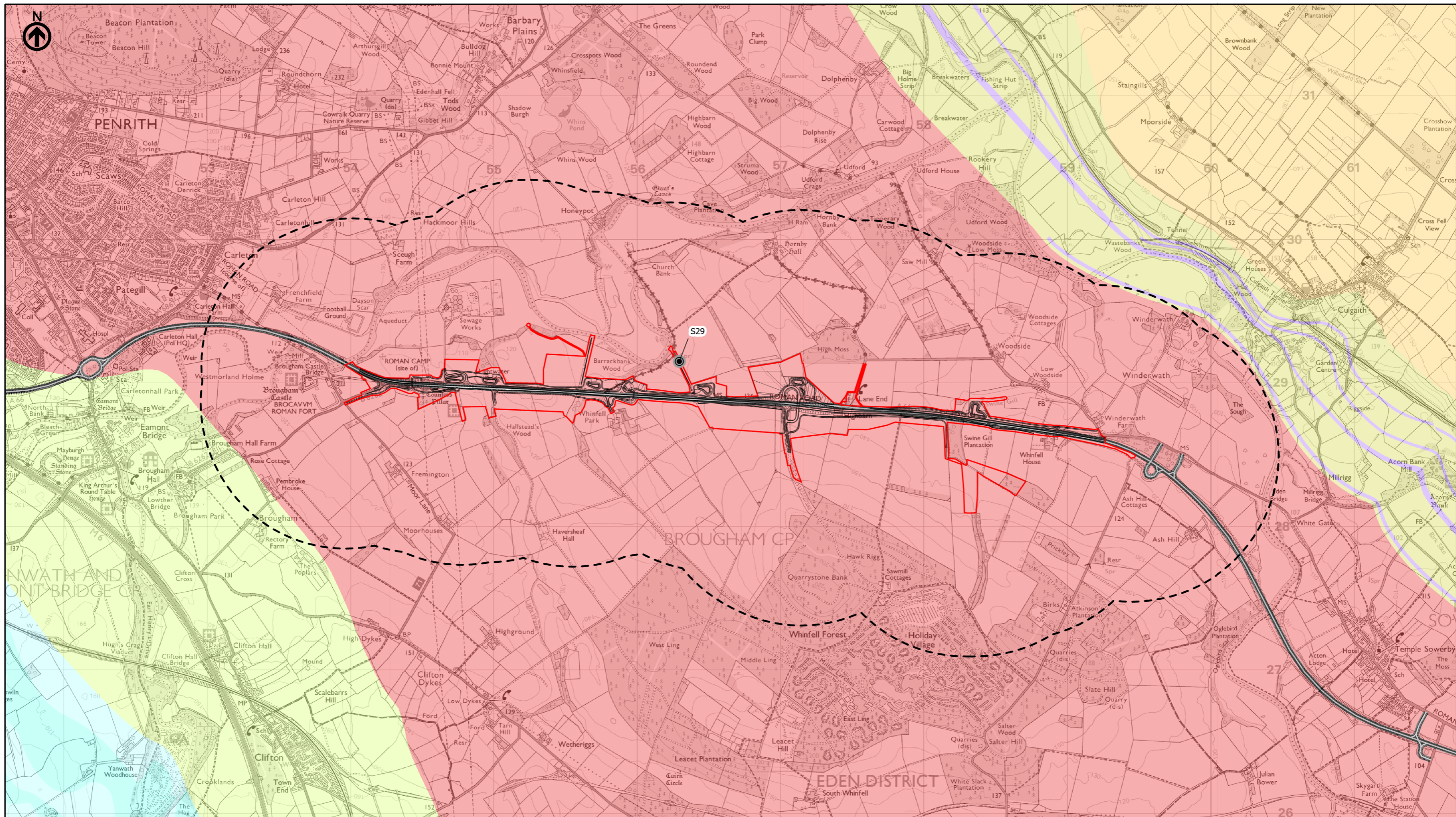
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**Project Name**  
 A66 Northern Trans-Pennine Project

**Map Title**  
 Figure 14.8.3  
**Karst Survey Results**  
 Scheme: 0102, M6 Junction 40 to Kemplay Bank  
 Sheet 1 of 10

|            |         |            |          |
|------------|---------|------------|----------|
| Map Number | Project | Originator | Volume   |
| HE565627   | -       | AMY        | - EWE    |
| S00        | -       | MP - LD    | - 011270 |
| Location   |         | Type       | Role     |

|             |                         |          |
|-------------|-------------------------|----------|
| Suitability | Suitability Description | Revision |
| S4          | FIT FOR STAGE APPROVAL  | P02      |



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| P02      | First Issue | CESL     | LHAN     | MBRE     | AMIT       | KWAH     |
|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |
|          |             |          |          |          |            |          |

Kilometres

0 1 2

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Project Name  
**A66 Northern Trans-Pennine Project**

Map Title  
**Figure 14.8.3**

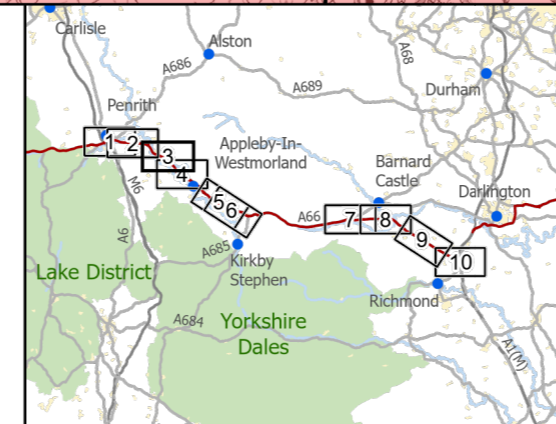
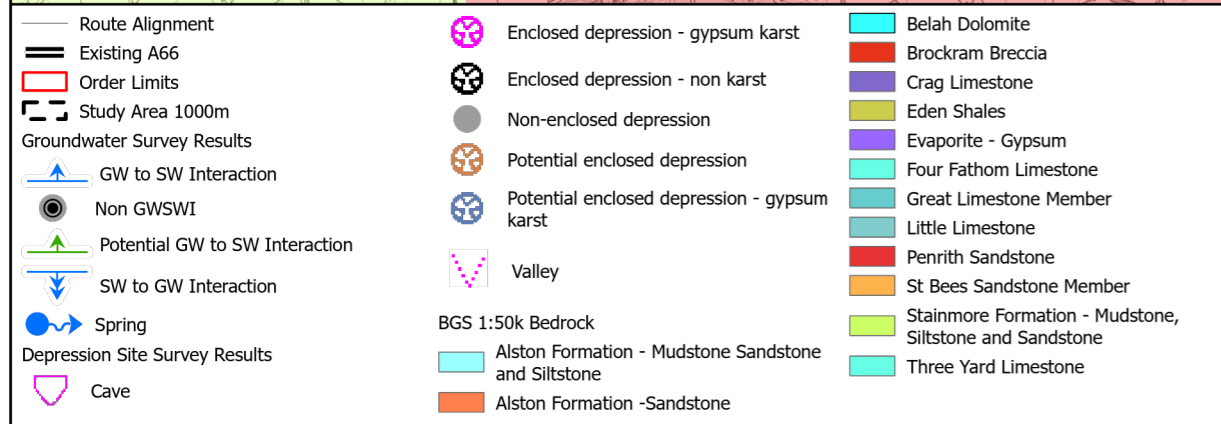
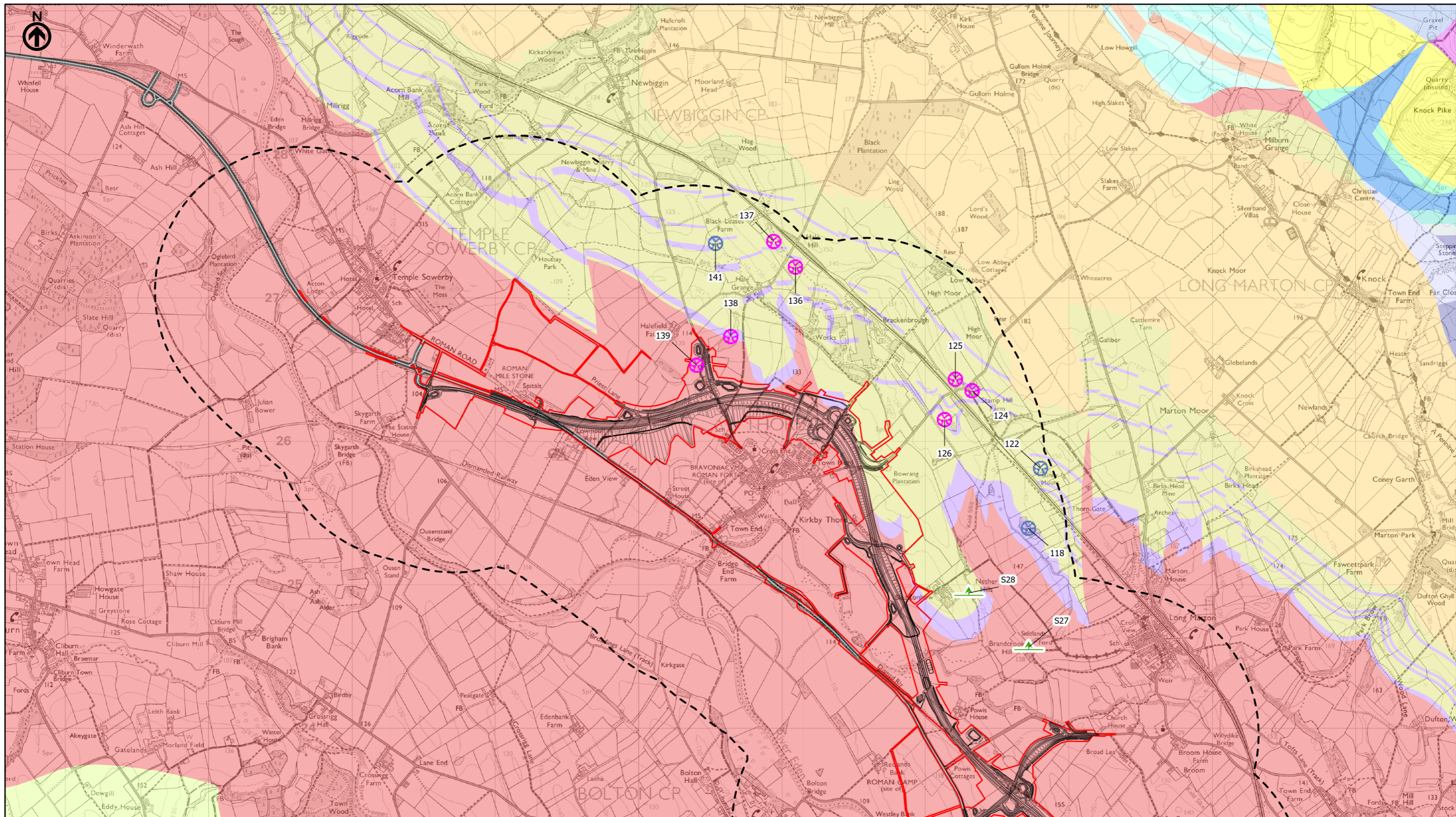
**Karst Survey Results**

Scheme: 03, Penrith to Temple Sowerby

Sheet 2 of 10

|            |         |            |          |
|------------|---------|------------|----------|
| Map Number | Project | Originator | Volume   |
| HE565627   | -       | AMY        | - EWE    |
| S00        | -       | MP - LD    | - 011271 |
| Location   |         | Type       | Role     |
| S4         |         |            |          |

|             |                         |          |
|-------------|-------------------------|----------|
| Suitability | Suitability Description | Revision |
| S4          | FIT FOR STAGE APPROVAL  | P02      |



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|          |             |          |          |          |            |          |
|----------|-------------|----------|----------|----------|------------|----------|
| P02      | First Issue | CESL     | LHAN     | MBRE     | AMIT       | KWHA     |
|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |

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Project Name  
**A66 Northern Trans-Pennine Project**

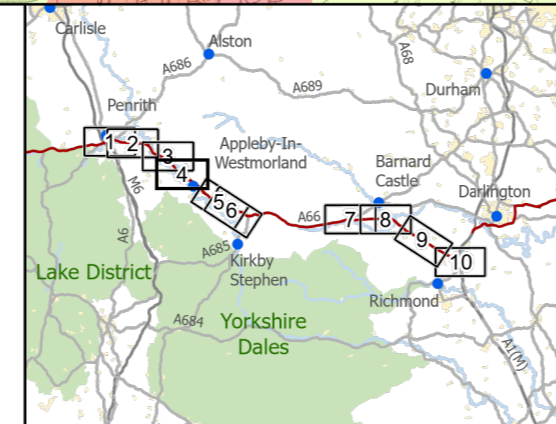
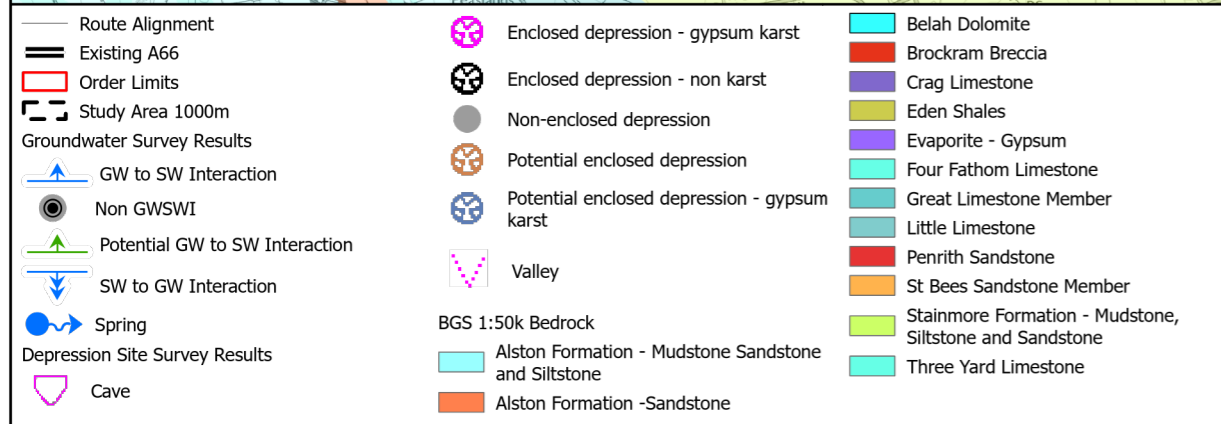
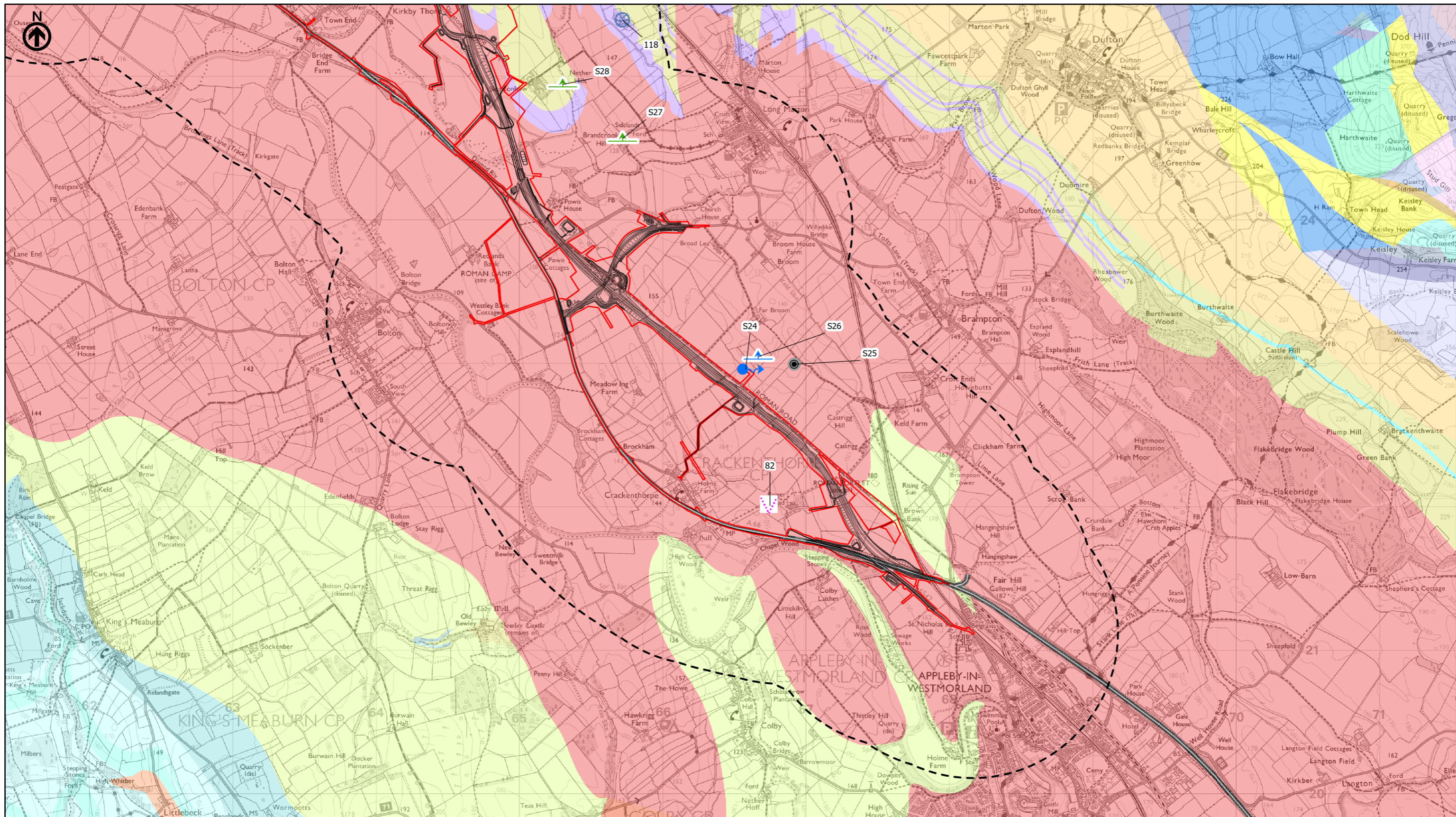
Map Title  
**Figure 14.8.3**

**Karst Survey Results**

Scheme: 0405, Temple Sowerby to Appleby  
Sheet 3 of 10

|            |         |            |        |
|------------|---------|------------|--------|
| Map Number | Project | Originator | Volume |
| HE565627   | -       | AMY        | EWE    |
| S00        | -       | MP         | LD     |
| Location   |         | Type       | Role   |
|            |         |            | Number |

|             |                         |          |
|-------------|-------------------------|----------|
| Suitability | Suitability Description | Revision |
| S4          | FIT FOR STAGE APPROVAL  | P02      |



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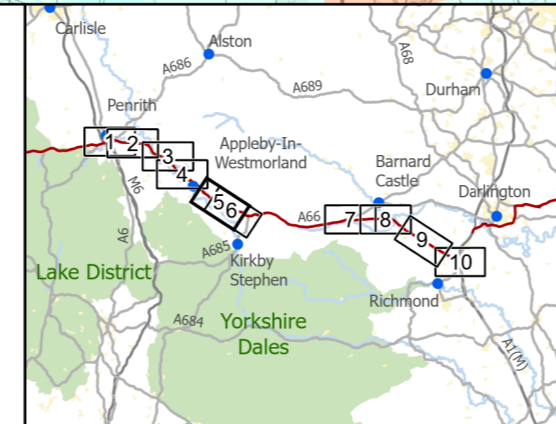
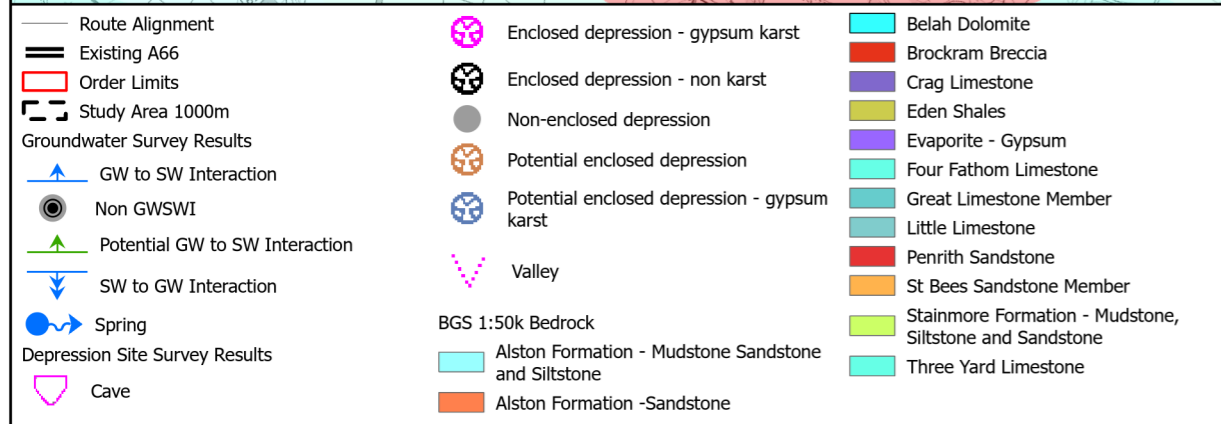
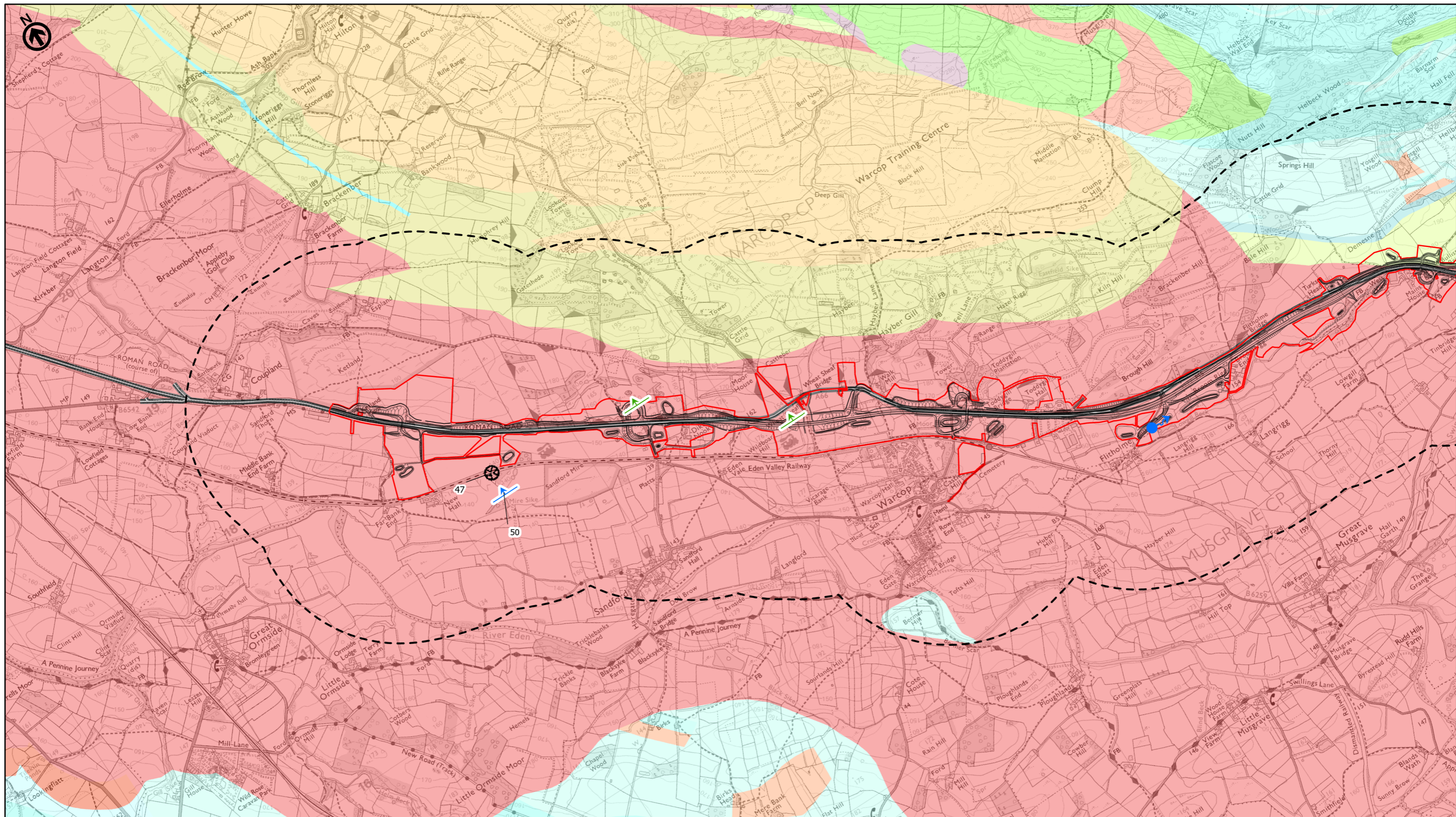
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|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |

Kilometres

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|   |                         |            |          |
|---|-------------------------|------------|----------|
| Project Name<br><b>A66 Northern Trans-Pennine Project</b> |                         |            |          |
| Map Title<br><b>Figure 14.8.3</b>                         |                         |            |          |
| Karst Survey Results                                      |                         |            |          |
| Scheme: 0405, Temple Sowerby to Appley                    |                         |            |          |
| Sheet 4 of 10   |                         |            |          |
| Map Number  | Project                 | Originator | Volume   |
| HE565627  | -                       | AMY        | EWE      |
| S00   | -                       | MP - LD    | 011273   |
| Location  |                         | Type       | Role     |
| Suitability   | Suitability Description |            | Revision |
| S4  | FIT FOR STAGE APPROVAL  |            | P02      |



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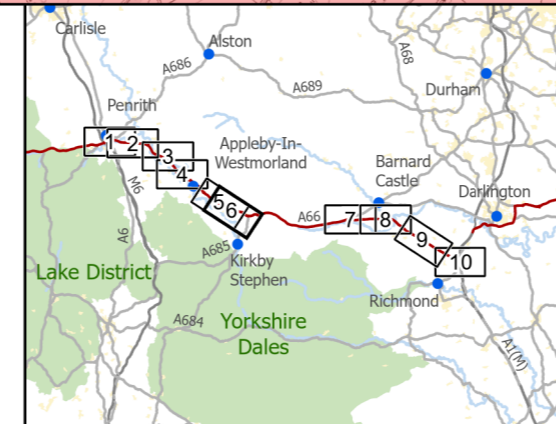
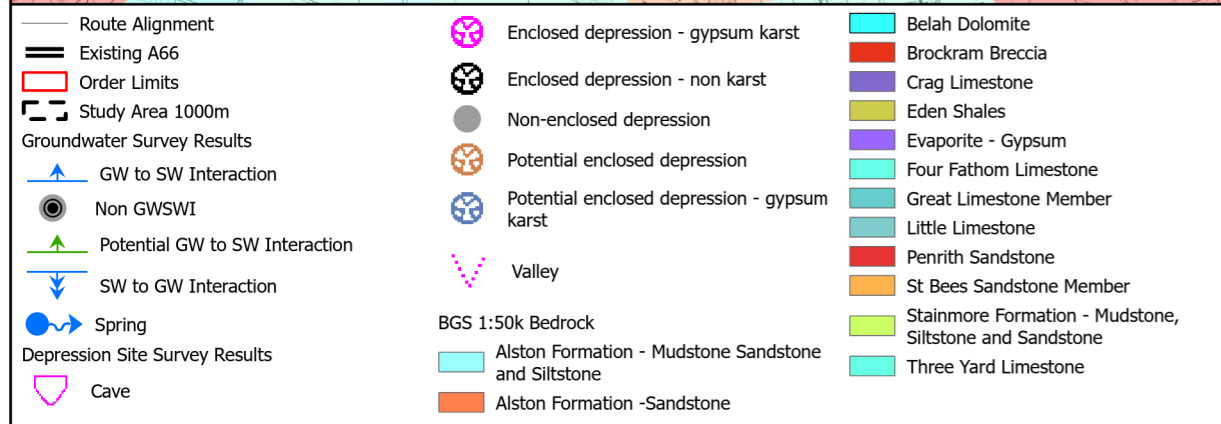
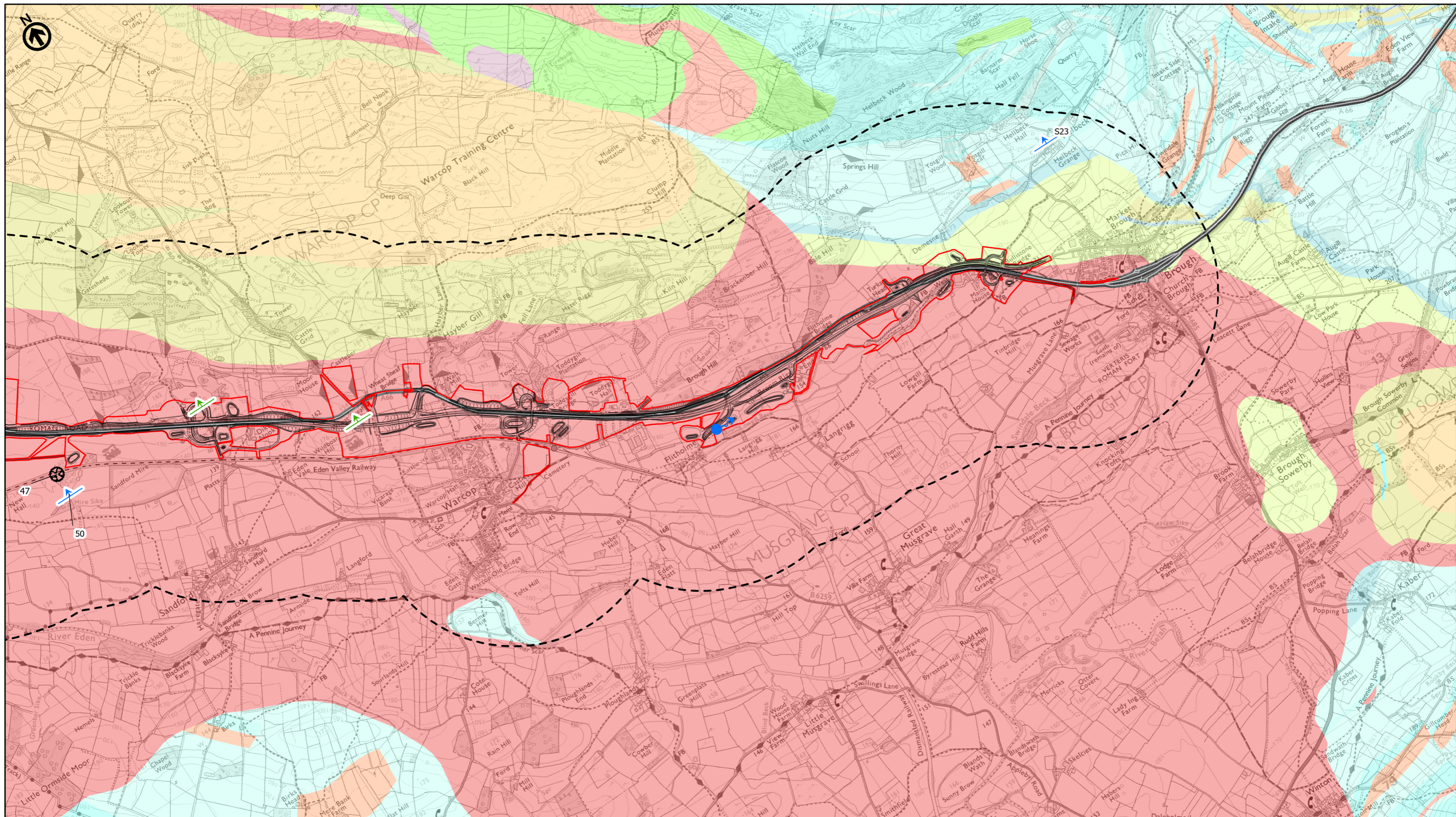
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|----------|------------------------------------|----------|----------|----------|------------|
|          | CESL                               | LHAN     | BWIL     | AMIT     | KWHA       |
|          | 19/04/23                           | 19/04/23 | 16/05/23 | 16/05/23 | 16/05/23   |
| Revision | Created                            | Checked  | Reviewed | Approved | Authorised |

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|   |   |                 |        |
|---|---|-----------------|--------|
| Project Name<br><b>A66 Northern Trans-Pennine Project</b> |   |                 |        |
| Map Title<br><b>Figure 14.8.3</b>                         |   |                 |        |
| Scheme: 06, Appleby to Brough                             |   |                 |        |
| Sheet 5 of 10   |   |                 |        |
| Map Number<br>Project                                     | Originator  | Volume          |        |
| HE565627  | AMY   | EWE             |        |
| S00   | MP  | LD              | 011274 |
| Location  | Type  | Role            | Number |
| Suitability<br>S4   | Suitability Description<br>FIT FOR STAGE APPROVAL | Revision<br>P03 |        |

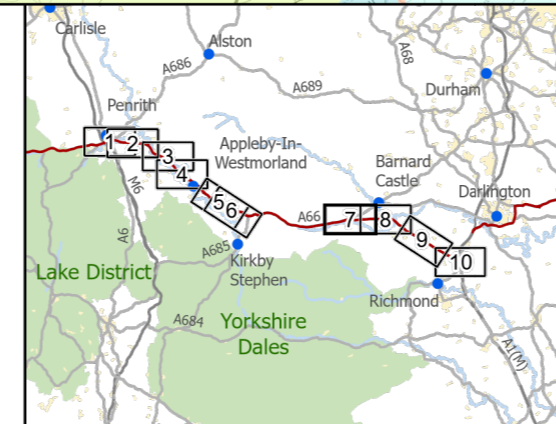
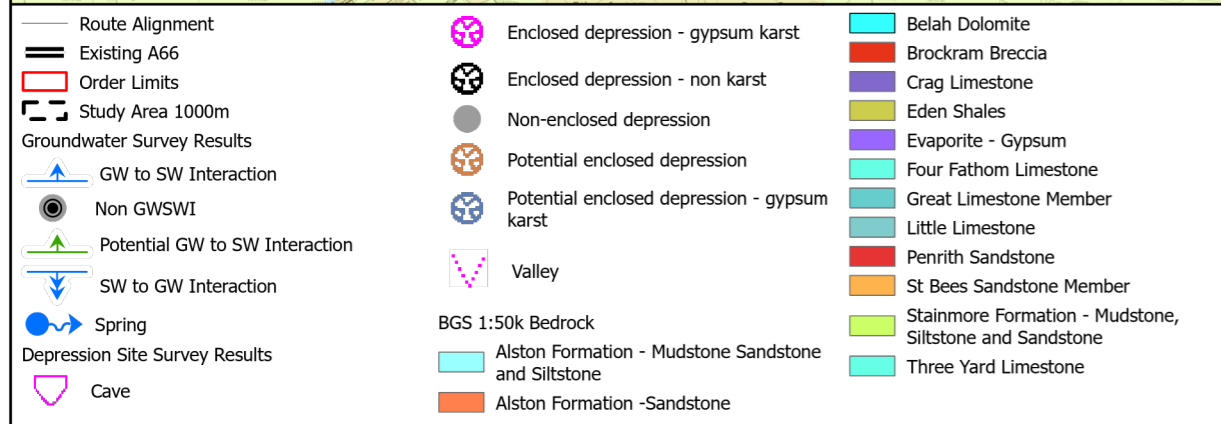
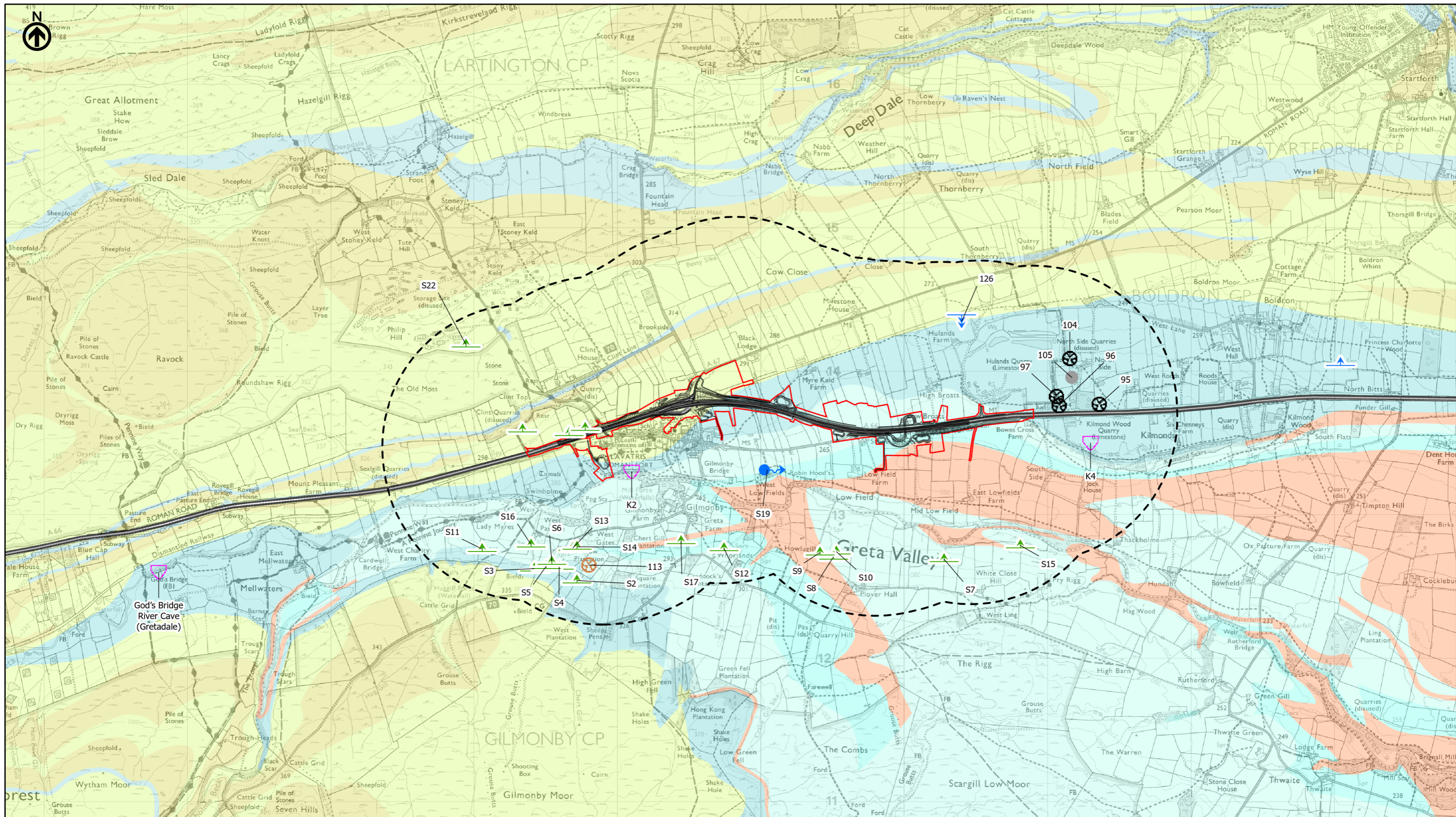


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| P03      | Second Issue: Revised Order Limits |          |          |          |            |
|----------|------------------------------------|----------|----------|----------|------------|
|          | CESL                               | LHAN     | BWIL     | AMIT     | KWHA       |
|          | 19/04/23                           | 19/04/23 | 16/05/23 | 16/05/23 | 16/05/23   |
| Revision | Created                            | Checked  | Reviewed | Approved | Authorised |

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|   |  |                       |                   |
|---|--|-----------------------|-------------------|
| Project Name<br><b>A66 Northern Trans-Pennine Project</b> |  |                       |                   |
| Map Title<br><b>Figure 14.8.3</b>                         |  |                       |                   |
| Scheme: 06, Appleby to Brough                             |  |                       |                   |
| Sheet 6 of 10   |  |                       |                   |
| Map Number<br>HE565627                                    | Project<br>S00   | Originator<br>- AMY - | Volume<br>- EWE - |
| Location  |  | Type<br>- MP -        | Role<br>- LD -    |
| Number  |  | 011275                |                   |
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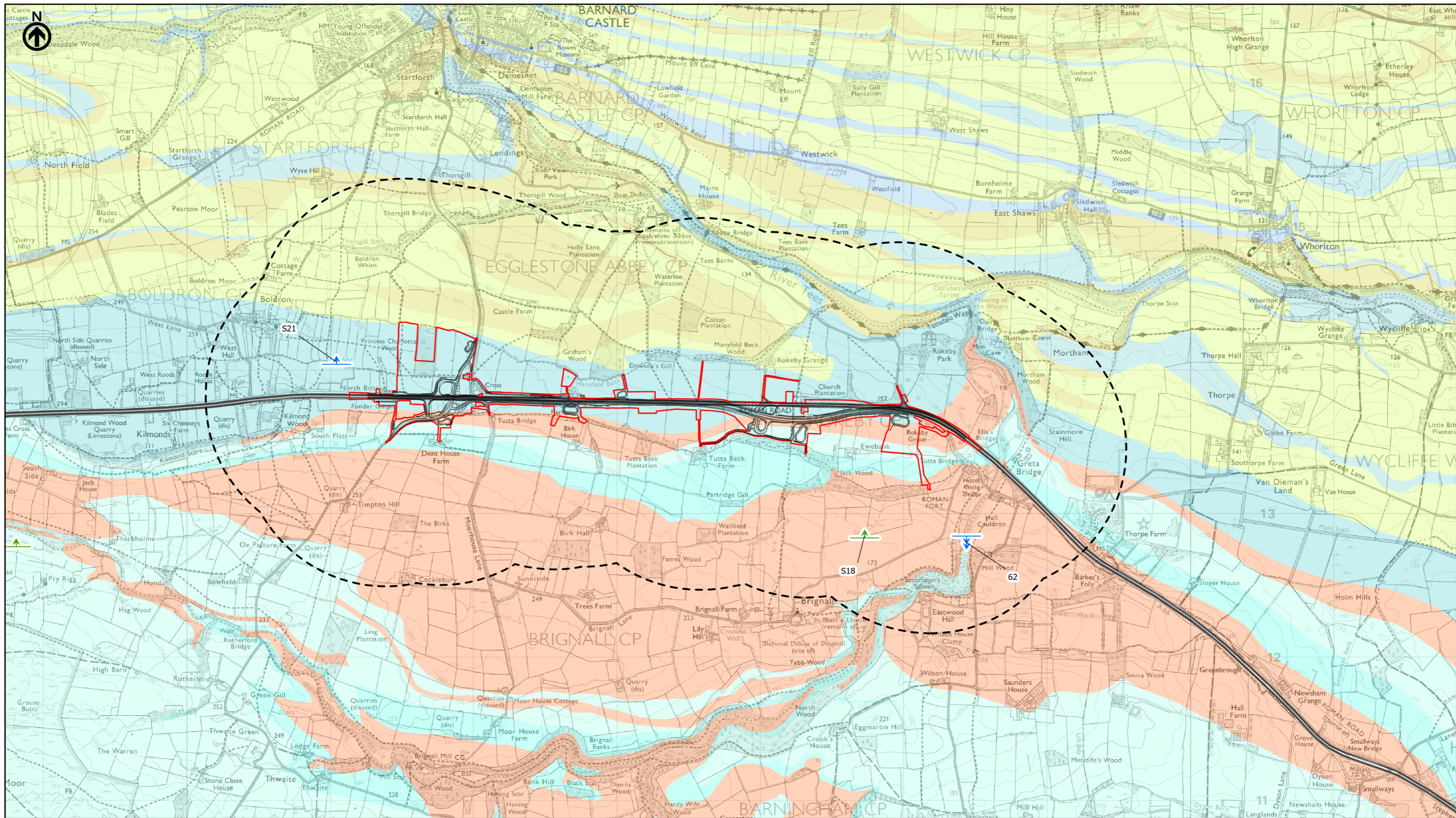
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|          |             |          |          |          |            |          |
|----------|-------------|----------|----------|----------|------------|----------|
| P02      | First Issue | CESL     | LHAN     | MBRE     | AMIT       | KWHA     |
|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |

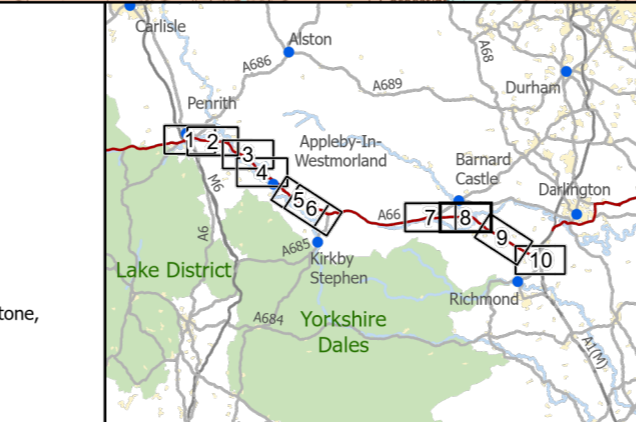
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|---|-------------------------|--------|----------|
| Project Name<br><b>A66 Northern Trans-Pennine Project</b> |                         |        |          |
| Map Title<br><b>Figure 14.8.3</b>                         |                         |        |          |
| Karst Survey Results<br><b>Scheme: 07, Bowes Bypass</b>   |                         |        |          |
| Sheet 7 of 10   |                         |        |          |
| Map Number<br>Project                                     | Originator              | Volume |          |
| HE565627  | AMY                     | EWE    |          |
| Location  | Type                    | Role   | Number   |
| S00   | MP                      | LD     | 011276   |
| Suitability   | Suitability Description |        | Revision |
| S4  | FIT FOR STAGE APPROVAL  |        | P02      |



— Route Alignment  
 = Existing A66  
 [Red Outline] Order Limits  
 [Dashed Black Line] Study Area 1000m  
**Groundwater Survey Results**  
 [Blue Arrow] GW to SW Interaction  
 [Black Circle] Non GWSWI  
 [Green Arrow] Potential GW to SW Interaction  
 [Blue Arrow] SW to GW Interaction  
 [Blue Circle] Spring  
**Depression Site Survey Results**  
 [Purple Outline] Cave  
 [Purple Circle] Enclosed depression - gypsum karst  
 [Black Circle] Enclosed depression - non karst  
 [Grey Circle] Non-enclosed depression  
 [Orange Circle] Potential enclosed depression  
 [Blue Circle] Potential enclosed depression - gypsum karst  
 [Purple Circle] Valley  
**BGS 1:50k Bedrock**  
 [Light Blue] Alston Formation - Mudstone Sandstone and Siltstone  
 [Orange] Alston Formation - Sandstone  
 [Light Blue] Belah Dolomite  
 [Red] Brockram Breccia  
 [Purple] Crag Limestone  
 [Green] Eden Shales  
 [Light Blue] Evaporite - Gypsum  
 [Light Blue] Four Fathom Limestone  
 [Light Blue] Great Limestone Member  
 [Light Blue] Little Limestone  
 [Red] Penrith Sandstone  
 [Orange] St Bees Sandstone Member  
 [Light Green] Stainmore Formation - Mudstone, Siltstone and Sandstone  
 [Light Green] Three Yard Limestone



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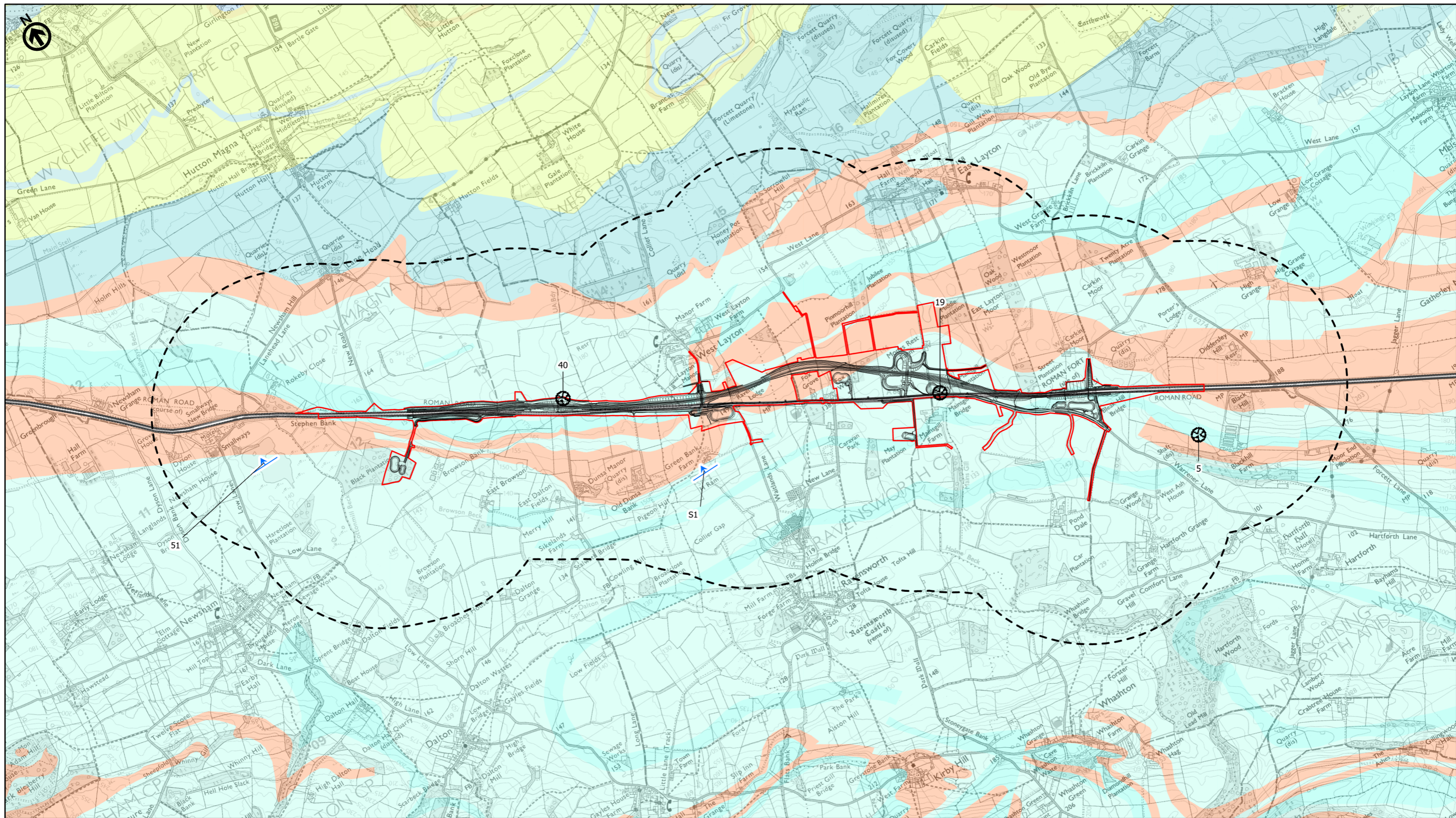
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| P02      | First Issue | CESL     | LHAN     | MBRE     | AMIT       | KWHA     |
|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |

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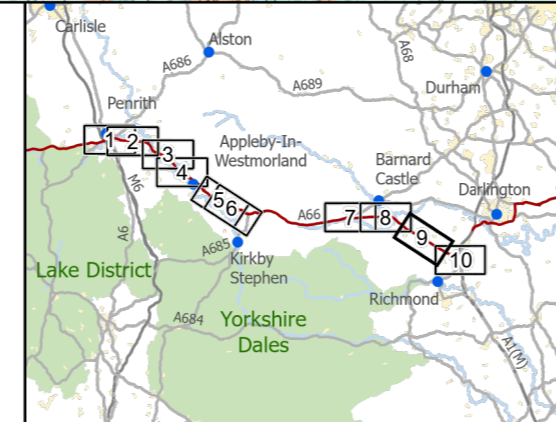
**Project Name**  
 A66 Northern Trans-Pennine Project  
**Map Title**  
 Figure 14.8.3  
**Karst Survey Results**  
 Scheme: 08, Cross Lanes to Rokeby  
 Sheet 8 of 10

|             |                         |            |          |
|-------------|-------------------------|------------|----------|
| Map Number  | Project                 | Originator | Volume   |
| HE565627    | -                       | AMY        | EWE      |
| S00         | -                       | MP - LD    | 011277   |
| Location    |                         | Type       | Role     |
| Suitability | Suitability Description |            | Revision |
| S4          | FIT FOR STAGE APPROVAL  |            | P02      |





|  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li> Route Alignment</li> <li> Existing A66</li> <li> Order Limits</li> <li> Study Area 1000m</li> <li>Groundwater Survey Results</li> <li> GW to SW Interaction</li> <li> Non GWSWI</li> <li> Potential GW to SW Interaction</li> <li> SW to GW Interaction</li> <li> Spring</li> <li>Depression Site Survey Results</li> <li> Cave</li> </ul> | <ul style="list-style-type: none"> <li> Enclosed depression - gypsum karst</li> <li> Enclosed depression - non karst</li> <li> Non-enclosed depression</li> <li> Potential enclosed depression</li> <li> Potential enclosed depression - gypsum karst</li> <li> Valley</li> <li>BGS 1:50k Bedrock</li> <li> Alston Formation - Mudstone Sandstone and Siltstone</li> <li> Alston Formation - Sandstone</li> </ul> | <ul style="list-style-type: none"> <li> Belah Dolomite</li> <li> Brockram Breccia</li> <li> Crag Limestone</li> <li> Eden Shales</li> <li> Evaporite - Gypsum</li> <li> Four Fathom Limestone</li> <li> Great Limestone Member</li> <li> Little Limestone</li> <li> Penrith Sandstone</li> <li> St Bees Sandstone Member</li> <li> Stainmore Formation - Mudstone, Siltstone and Sandstone</li> <li> Three Yard Limestone</li> </ul> |
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| P02      | First Issue | CESL     | LHAN     | MBRE     | AMIT       | KWHA     |
|          |             | 29/03/22 | 29/03/22 | 29/03/22 | 26/04/22   | 26/04/22 |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |          |

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Project Name  
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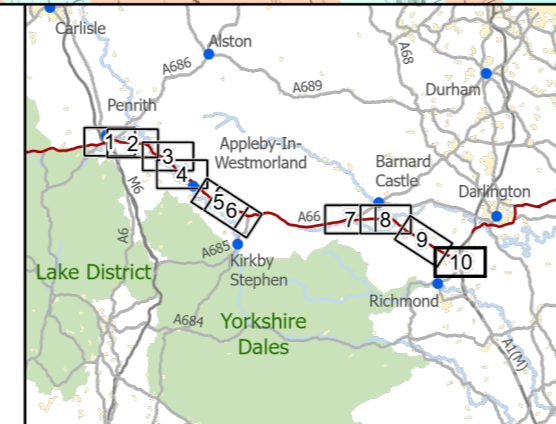
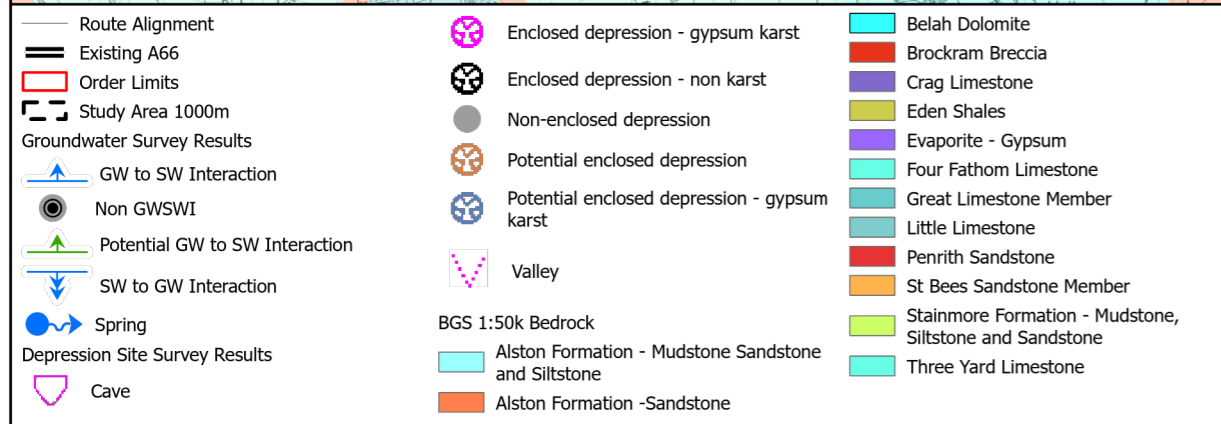
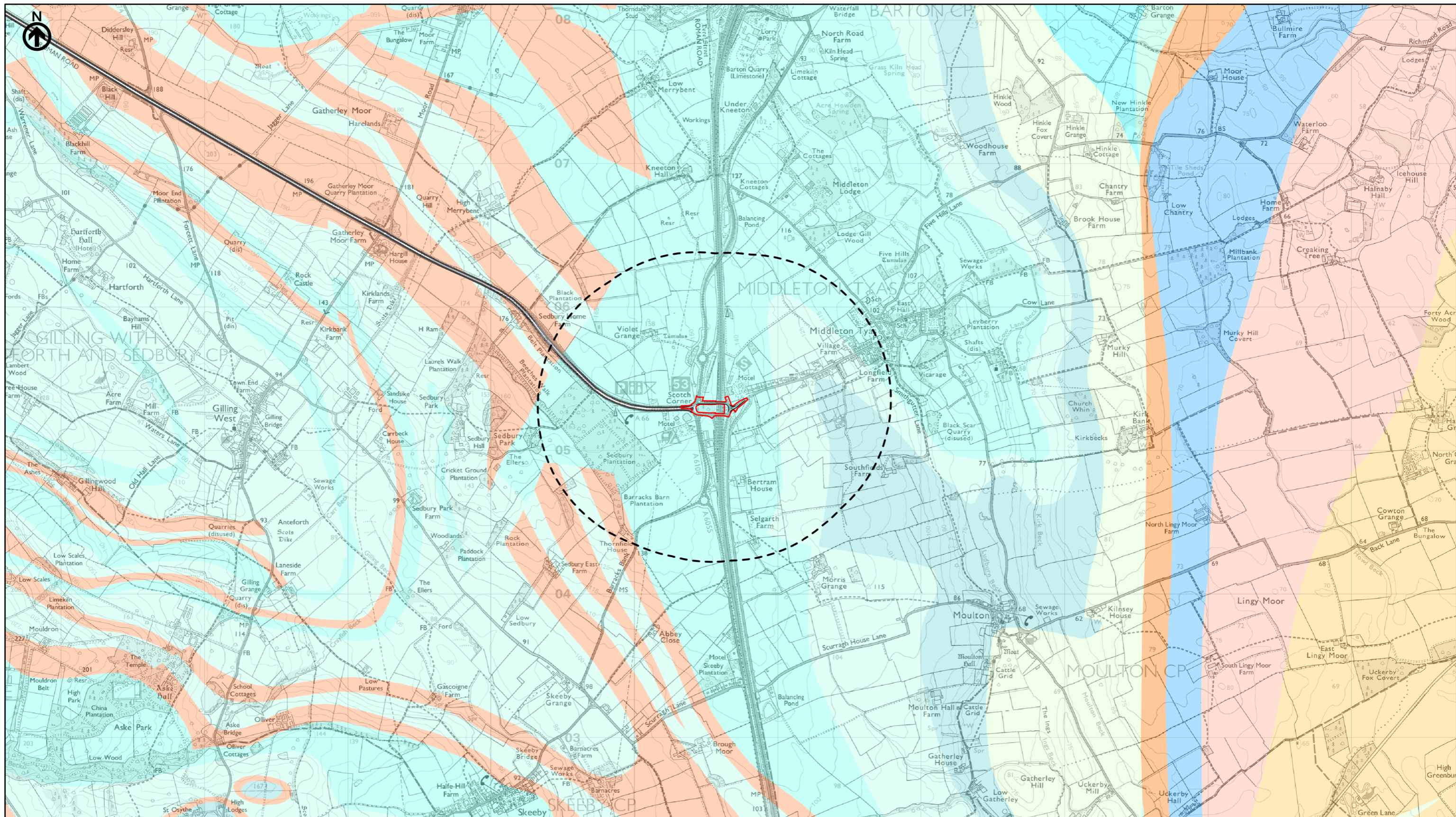
Map Title  
**Figure 14.8.3**

Karst Survey Results  
**Scheme: 09, Stephen Bank to Carkin Moor**

Sheet 9 of 10

|            |         |            |        |
|------------|---------|------------|--------|
| Map Number | Project | Originator | Volume |
| HE565627   | -       | AMY        | EWE    |
| S00        | -       | MP - LD    | 011278 |
| Location   |         | Type       | Role   |

|             |                         |          |
|-------------|-------------------------|----------|
| Suitability | Suitability Description | Revision |
| S4          | FIT FOR STAGE APPROVAL  | P02      |



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| P02      | First Issue |          |          |          |            |
|----------|-------------|----------|----------|----------|------------|
|          | CESL        | LHAN     | MBRE     | AMIT     | KWHA       |
|          | 29/03/22    | 29/03/22 | 29/03/22 | 26/04/22 | 26/04/22   |
| Revision | Created     | Checked  | Reviewed | Approved | Authorised |

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|--|---|------------------|--------|
| Project Name<br><b>A66 Northern Trans-Pennine Project</b>                  |   |                  |        |
| Map Title<br><b>Figure 14.8.3</b>  |   |                  |        |
| Karst Survey Results<br><b>Scheme: 11, A1(M) Junction 53 Scotch Corner</b> |   |                  |        |
| Sheet 10 of 10   |   |                  |        |
| Map Number<br>Project  | Originator  | Volume           |        |
| HE565627   | AMY   | EWE              |        |
| S00  | -   | MP - LD - 011279 |        |
| Location   | Type  | Role             | Number |
| Suitability<br>S4  | Suitability Description<br>FIT FOR STAGE APPROVAL | Revision<br>P02  |        |