

High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and  
Additional Provision 2 Environmental Statement**

LV-01 - Photomontages

**Current baseline (2013)**



**Operation Year 1 (2026) - Winter verifiable photomontage**



**Technical Information**

Location: Viewpoint 365-2-004: View south-west from Tuppenhurst Lane near Show Lane Farm and Shaw House.  
 Date taken: 19/03/13  
 Time taken: 09:35  
 Focal length: 57.296mm  
 AP Reference: AP2-022-001  
 Status: Revised photomontage  
 Viewpoint location shown on Map LV-04-096.  
 For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.

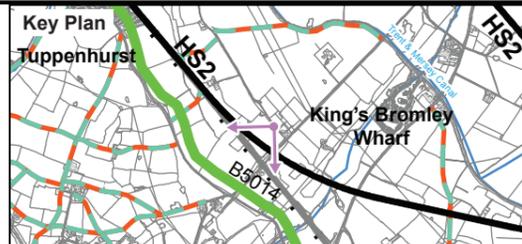


Figure Number	LV-01-161
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 365-2-004 SES and AP2 ES
Community Forum Area CFA22: Whittington to Handsacre Phase One	



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**Doc Number:** C250-ARP-EV-PHO-000-001160-AP02-P01 **Date:** 09/06/15

# Viewpoint 365.2.004: View south-west from Tuppenhurst Lane

This viewpoint is representative of views experienced by residential receptors at Shaw Lane Farm and Shaw House, near Shaw Lane Farm and Shaw House<sup>1</sup>.

## Current baseline - Winter view

Date taken: 14/03/2012. Camera: Nikon D3100 35mm lens (this stitched panorama differs in layout as it was created for Phase One of HS2 to a different methodology). Approximate GPS Co-ordinates ref: 410468.6875, 314491.2813.



## Winter Verifiable Photomontage - Operation year 1 (2026)

Date taken: 14/03/2012. Camera: Nikon D3100 35mm lens (this stitched panorama differs in layout as it was created for Phase One of HS2 to a different methodology). Approximate GPS Co-ordinates ref: 410468.6875, 314491.2813.



The viewpoint has been taken approximately 126 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-203-L1.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2026 (the opening year). The design of the AP2 revised scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the AP2 revised scheme. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the AP2 revised scheme into the landscape.

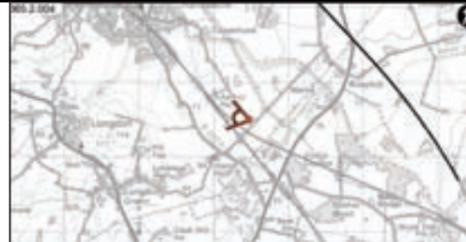


Figure Number	LV-01-161
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 365.2.004
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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Doc Number: C861-ARP-EV-REP-000-124788

Date: 12/12/18

**Current baseline (2013)**



**Peak construction phase - Winter verifiable photomontage**



**Technical Information**  
 Location: Viewpoint 365-2-004: View south-west from Tuppenhurst Lane near Shaw Lane Farm and Shaw House.  
 Date taken: 19/03/13  
 Time taken: 09:35  
 Focal length: 57.296mm  
 AP Reference: AP2-022-001  
 Status: Revised photomontage  
 Viewpoint location shown on Map LV-03-096.  
 For key plan legend refer to map series LV-03.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase for this part of the route. The construction methods and siting of construction activities may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the Proposed Scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme.



Figure Number	LV-01-212
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 365-2-004 SES and AP2 ES
Community Forum Area CFA22: Whittington to Handsacre Phase One	



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# Viewpoint 365.2.004: View south-west from Tuppenhurst Lane

This viewpoint is representative of views experienced by residential receptors at Shaw Lane Farm and Shaw House, near Shaw Lane Farm and Shaw House<sup>1</sup>.

## Current baseline - Winter view

Date taken: 14/03/2012. Camera: Nikon D3100 35mm lens (this stitched panorama differs in layout as it was created for Phase One of HS2 to a different methodology). Approximate GPS Co-ordinates ref: 410468.6875, 314491.2813.



## Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 14/03/2012. Camera: Nikon D3100 35mm lens (this stitched panorama differs in layout as it was created for Phase One of HS2 to a different methodology). Approximate GPS Co-ordinates ref: 410468.6875, 314491.2813.



The viewpoint has been taken approximately 126 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-07-203-L1.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look during the peak construction phase for this part of the route. The construction methods and siting of construction activities may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the AP2 revised scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the AP2 revised scheme.

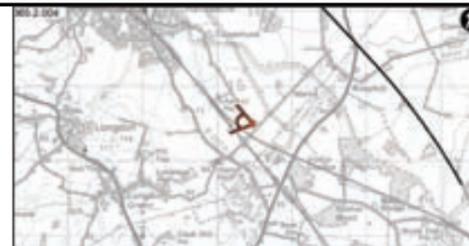


Figure Number LV-01-212  
 Figure Name Verifiable Photomontage Peak Construction Phase - Winter Viewpoint 365.2.004  
 Community Area 1: Fradley to Colton SES2 and AP2 ES

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**Current baseline (2013)**



**Operation Year 15 (2041) - Summer verifiable photomontage**



**Technical Information**

Location: Viewpoint 365-2-004: View south-west from Tuppenhurst Lane near Show Lane Farm and Shaw House.  
 Date taken: 18/09/13  
 Time taken: 16:15  
 Focal length: 57.296mm  
 AP Reference: AP2-022-001  
 Status: Revised photomontage  
 Viewpoint location shown on Map LV-04-096.  
 For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2041 (15 years after opening). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the Proposed Scheme will further integrate into the landscape over time.



Figure Number	LV-01-262
Figure Name	Verifiable Photomontage Operation Year 15 (2041) - Summer Viewpoint 365-2-004 SES and AP2 ES
Community Forum Area CFA22: Whittington to Handsacre Phase One	

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 Date: 09/06/15

# Viewpoint 365.2.004: View south-west from Tuppenhurst Lane

This viewpoint is representative of views experienced by residential receptors at Shaw Lane Farm and Shaw House, near Shaw Lane Farm and Shaw House<sup>1</sup>.

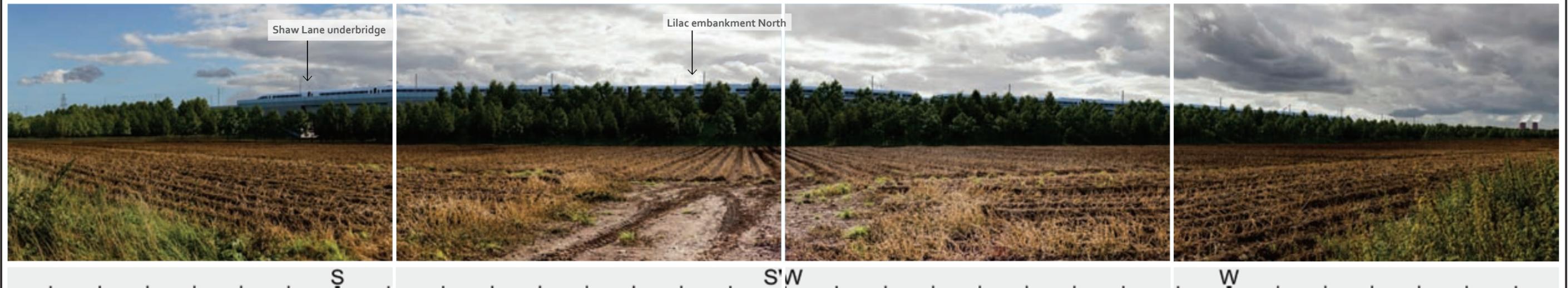
## Current baseline - Summer view

Date taken: 09/08/2012. Camera: Nikon D3100 35mm lens (this stitched panorama differs in layout as it was created for Phase One of HS2 to a different methodology). Approximate GPS Co-ordinates ref: 410468.6875, 314491.2813.



## Summer Verifiable Photomontage - Operation year 15 (2041)

Date taken: 09/08/2012. Camera: Nikon D3100 35mm lens (this stitched panorama differs in layout as it was created for Phase One of HS2 to a different methodology). Approximate GPS Co-ordinates ref: 410468.6875, 314491.2813.



The viewpoint has been taken approximately 126 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-203-L1.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2041 (15 years after opening). The design of the AP2 revised scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the AP2 revised scheme. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the AP2 revised scheme will further integrate into the landscape over time.

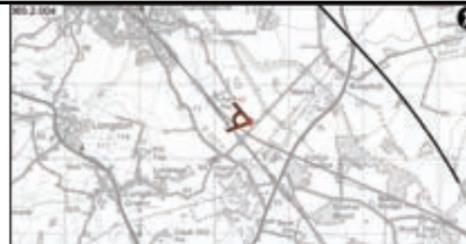


Figure Number	LV-01-262
Figure Name	Verifiable Photomontage Operation Year 15 (2041) - Summer Viewpoint 365.2.004
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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# Viewpoint 004.03.005: View south-west from track off Blithbury Road

This viewpoint is representative of views experienced by recreational receptors on Mavesyn Ridware 34.

## Current Baseline - Winter View

Date taken: 22/03/2016. Time taken: 16:07. Camera: Sony a7RII, Zeiss Loxia 50mm lens (stitched panorama). Co-ordinates: 409454.214, 318866.721. Elevation: 93.142 Metres AOD.



## Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 22/03/2016. Time taken: 16:07. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 409454.214, 318866.721. Elevation: 93.142 Metres AOD.



The viewpoint has been taken approximately 511 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-205. For full details of the visual assessment at viewpoint 004.03.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the LV-01-511 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

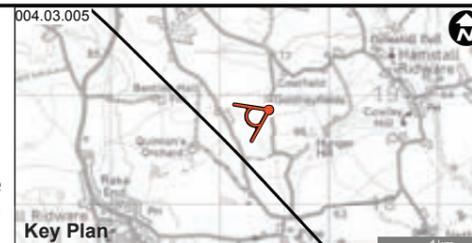


Figure Number	LV-01-511
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 004.03.005
Community Area 1:	Fradley to Colton

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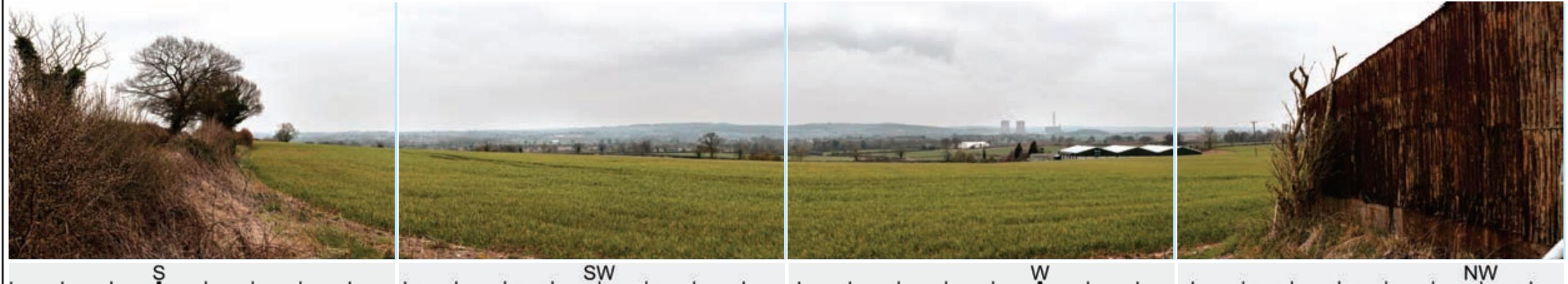
**Doc Number:** C861-ARP-EV-MAP-000-101511-P01 **Date:** 12/06/17

# Viewpoint 004.03.005: View south-west from track off Blithbury Road

This viewpoint is representative of views experienced by recreational receptors on Mavesyn Ridware 34.

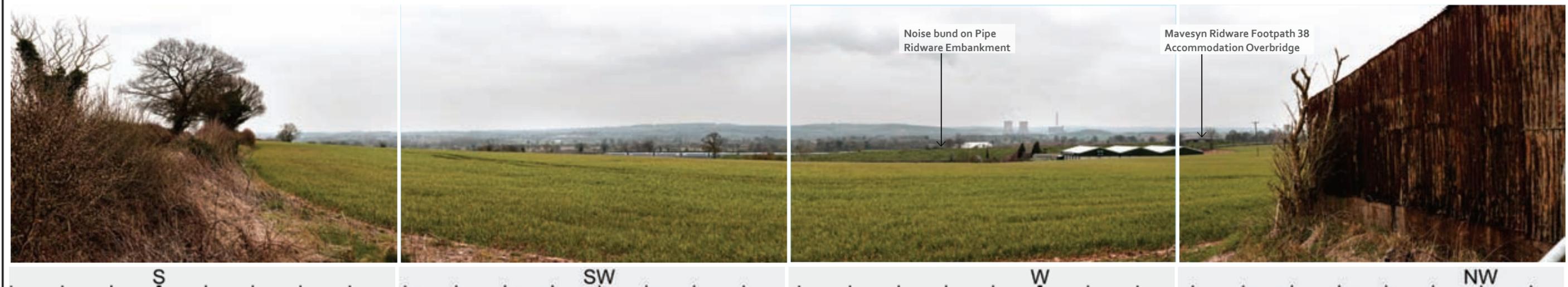
## Current baseline - Winter

Date taken: 22/03/2016. Time taken: 16:07. Camera: Sony a7RII, Zeiss Loxia 50mm lens (stitched panorama). Approximate GPS Co-ordinates ref: 409454.214, 318866.721. Elevation: 93.142 metres AOD.



## Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 22/03/2016. Time taken: 16:07. Camera: Sony a7RII, Zeiss Loxia 50mm lens (stitched panorama). Approximate GPS Co-ordinates ref: 409454.214, 318866.721. Elevation: 93.142 metres AOD.



The viewpoint has been taken approximately 511 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-205.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the AP2 revised scheme into the landscape.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).

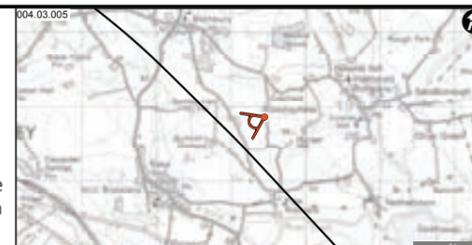


Figure Number	LV-01-511
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 004.03.005
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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Date: 12/12/18

# Viewpoint 007.03.008: View north-east from Colton Footpath 57

This viewpoint is representative of views experienced by recreational receptors on Colton Footpath 57.

## Current Baseline - Winter View

Date taken: 22/03/2016. Time taken: 14:24. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.872, 322048.793. Elevation: 89.487 Metres AOD.



## Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 22/03/2016. Time taken: 14:24. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.872, 322048.793. Elevation: 89.487 Metres AOD.



NOTE: Exact pylon design has not been shown at this stage. Exact appearance of pylon may vary following detailed design.  
The viewpoint has been taken approximately 480 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-208a.  
For full details of the visual assessment at viewpoint 007.03.008 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the LV-01-519 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-519
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 007.03.008
Community Area 1:	Fradley to Colton

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# Viewpoint 007.03.008: View north-east from Colton Footpath 57

This viewpoint is representative of views experienced by recreational receptors on Colton Footpath 57.

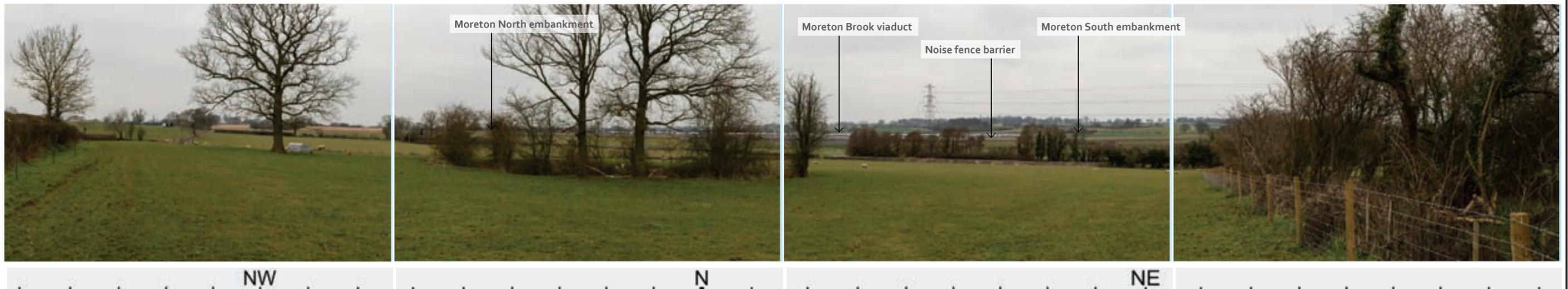
## Current baseline - Winter view

Date taken: 22/03/2016. Time taken: 14:24. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.872, 322048.793. Elevation: 89.487 metres AOD.



## Winter Verifiable Photomontage - Operation year 1 (2027)

Date taken: 04/08/2016. Time taken: 10:37. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.876,322048.789. Elevation: 89.502 metres AOD.



The viewpoint has been taken approximately 480 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-o8-208a.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the AP2 revised scheme into the landscape. At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).

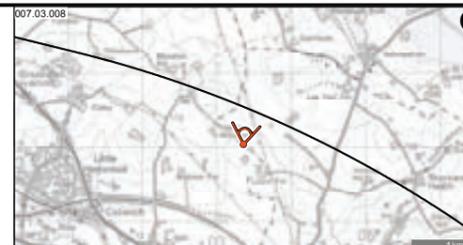


Figure Number	LV-01-519
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 007.03.008
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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# Viewpoint 007.03.008: View north-east from Colton Footpath 57

This viewpoint is representative of views experienced by recreational receptors on Colton Footpath 57.

## Current Baseline - Summer View

Date taken: 04/08/2016. Time taken: 10:37. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.876,322048.789. Elevation: 89.502 Metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 04/08/2016. Time taken: 10:37. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.876,322048.789. Elevation: 89.502 Metres AOD.



NOTE: Exact pylon design has not been shown at this stage. Exact appearance of pylon may vary following detailed design.  
 The viewpoint has been taken approximately 480 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-208a.  
 For full details of the visual assessment at viewpoint 007.03.008 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the LV-01-634 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the Proposed Scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

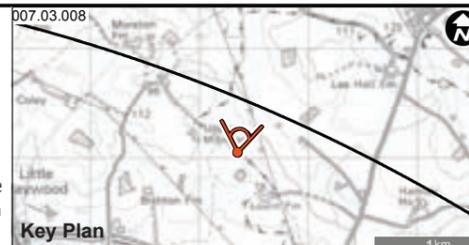


Figure Number	LV-01-634
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 007.03.008
Community Area 1:	Fradley to Colton

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# Viewpoint 007.03.008: View north-east from Colton Footpath 57

This viewpoint is representative of views experienced by recreational receptors on Colton Footpath 57.

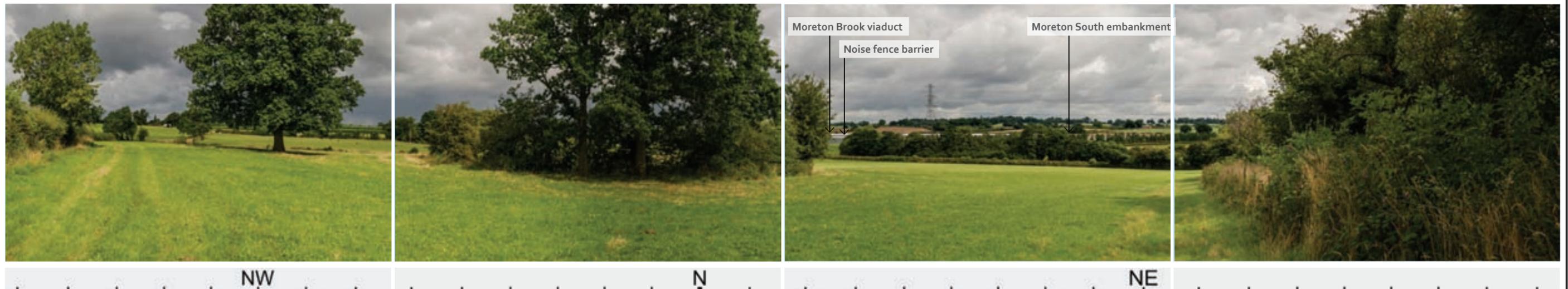
## Current baseline - Summer view

Date taken: 04/08/2016. Time taken: 10:37. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.876,322048.789. Elevation: 89.502 metres AOD.



## Summer Verifiable Photomontage - Operation year 15 (2042)

Date taken: 04/08/2016. Time taken: 10:37. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 403351.876,322048.789. Elevation: 89.502 metres AOD.



The viewpoint has been taken approximately 480 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-o8-208a.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the AP2 revised scheme will further integrate into the landscape over time. At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-634
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 007.03.008
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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No corresponding page in the main ES

# Viewpoint 005.03.024: View south-east from Newlands Lane

This viewpoint is representative of views experienced by recreational receptors using Colton Footpath 79 and transport receptors using Newlands Lane.

## Current Baseline - Summer View

Date taken: 28/08/2018. Time taken: 14:09. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Approximate GPS Co-ordinates ref: 407136.423, 321622.368. Elevation: 101.434 metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 28/08/2018. Time taken: 14:09. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Approximate GPS Co-ordinates ref: 407136.423, 321622.368. Elevation: 101.434 metres AOD.



The viewpoint has been taken approximately 180 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-o8-2o6.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the AP2 revised scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).

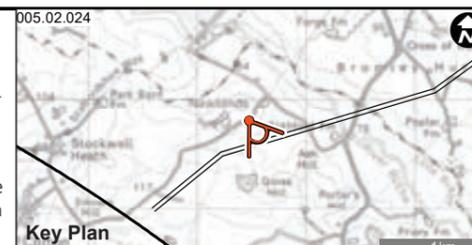


Figure Number	LV-01-681
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 005.02.024
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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**Doc Number: C861-ARP-EV-REP-000-124788** **Date: 12/12/18**

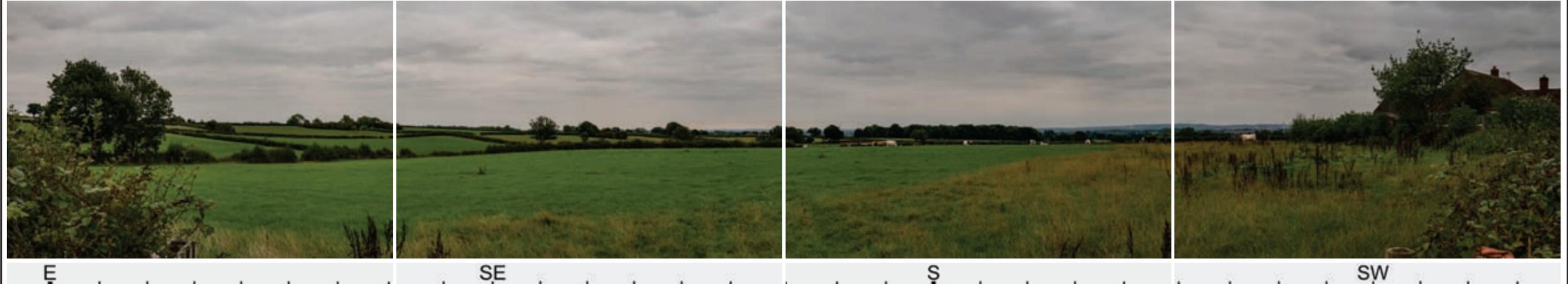
No corresponding page in the main ES

# Viewpoint 005.02.031: View south-east from the B5234 at Bromley Wood

This viewpoint is representative of views experienced by residential receptors at Slate House and the surrounding properties at Bromley Wood and transport receptors using the B5234 Abbots Bromley to Burton upon Trent Road.

## Current Baseline - Summer View

Date taken: 28/08/2018. Time taken: 16:45. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 410318.856, 324345.983. Elevation: 120.582 Metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 28/08/2018. Time taken: 16:45. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 410318.856, 324345.983. Elevation: 120.582 Metres AOD.



The viewpoint has been taken approximately 570 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-206-R1 and LV-08-206-R2.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the AP2 revised scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-683
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 005.02.031
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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No corresponding page in the main ES

# Viewpoint 005.02.035: View south from B5234 near Parkgate

This viewpoint is representative of views experienced by transport receptors using B5234 Abbots Bromley to Burton upon Trent Road and residential receptors at Parkgate.

## Current Baseline - Summer View

Date taken: 21/09/2018. Time taken: 15:00. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Approximate GPS Co-ordinates ref: 412084.224, 325036.157. Elevation: 106.383 metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 21/09/2018. Time taken: 15:00. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Approximate GPS Co-ordinates ref: 412084.224, 325036.157. Elevation: 104.799 metres AOD.



The viewpoint has been taken approximately 160 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-o8-2o6-R2.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the AP2 revised scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).

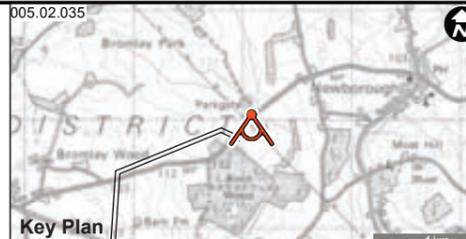


Figure Number	LV-01-684
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 005.02.035
Community Area 1:	Fradley to Colton SES2 and AP2 ES

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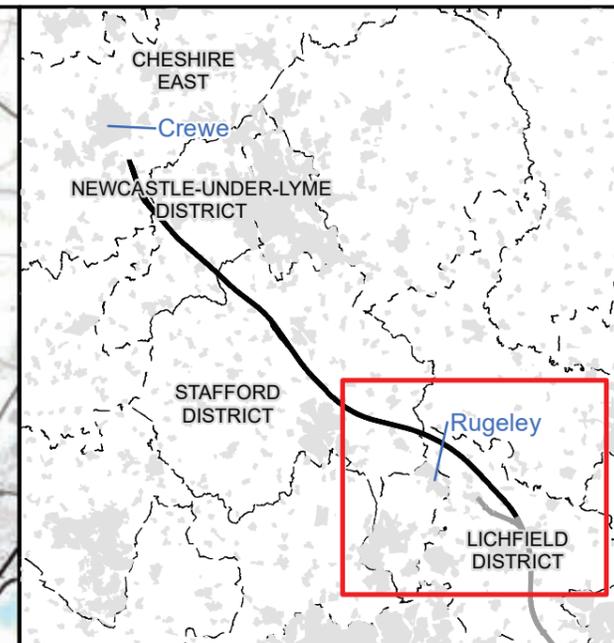
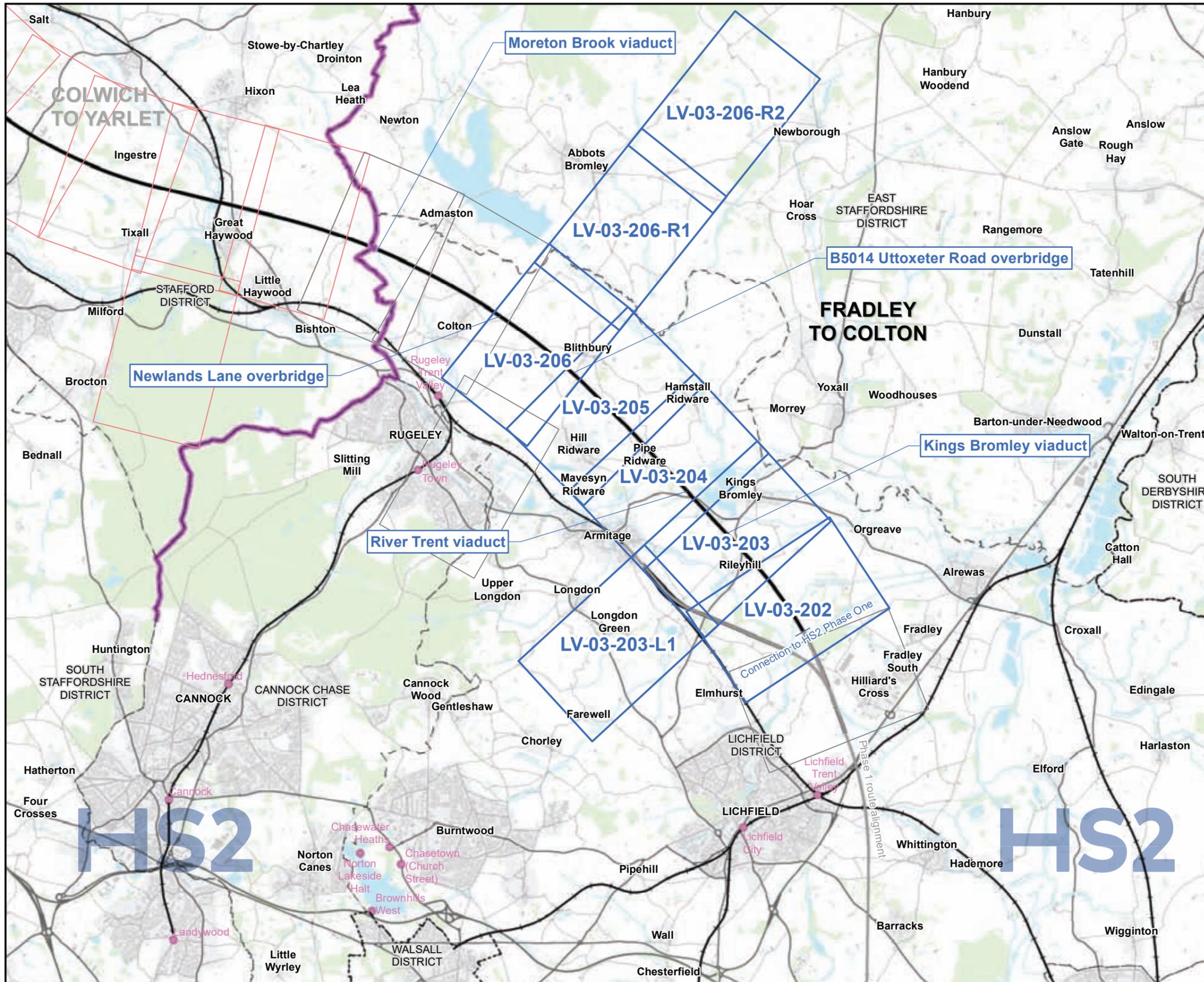
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High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and  
Additional Provision 2 Environmental Statement**

LV-03 - Construction Phase Significantly Affected Viewpoints

LV-04 - Operational Phase Significantly Affected Viewpoints



**Map Series Information:**

Maps showing the viewpoint locations from which the AP2 revised scheme has been assessed to give rise to new or different significant effects during the construction phase. (All significant and non-significant photomontage locations are shown).

**Main Map Legend**

- Route on surface
- Route in tunnel
- Depot, station, headhouse or portal building
- Community area boundary
- Existing railway station
- County boundary
- District/Borough boundary
- Map sheets included in this community area with amendment
- Map sheets included in this community area with no amendment
- Map sheets not included in this community area

Map Number	LV-03-INDEX-CA1
Map Name	Index Map of: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES
Community Area 1:	Fradley to Colton

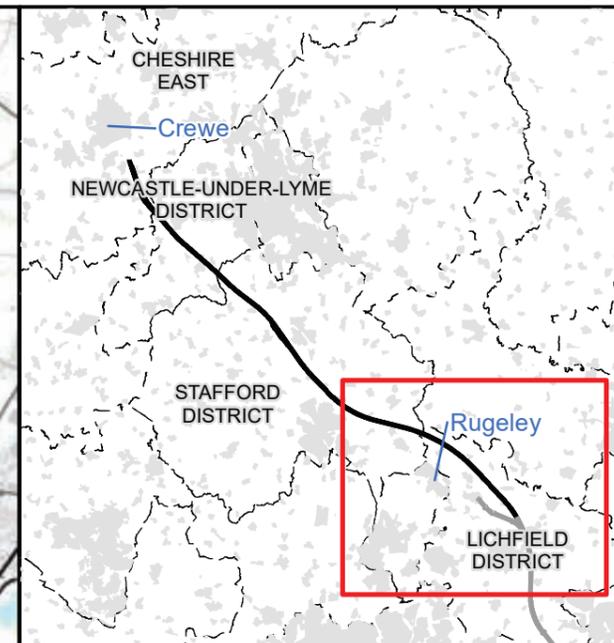
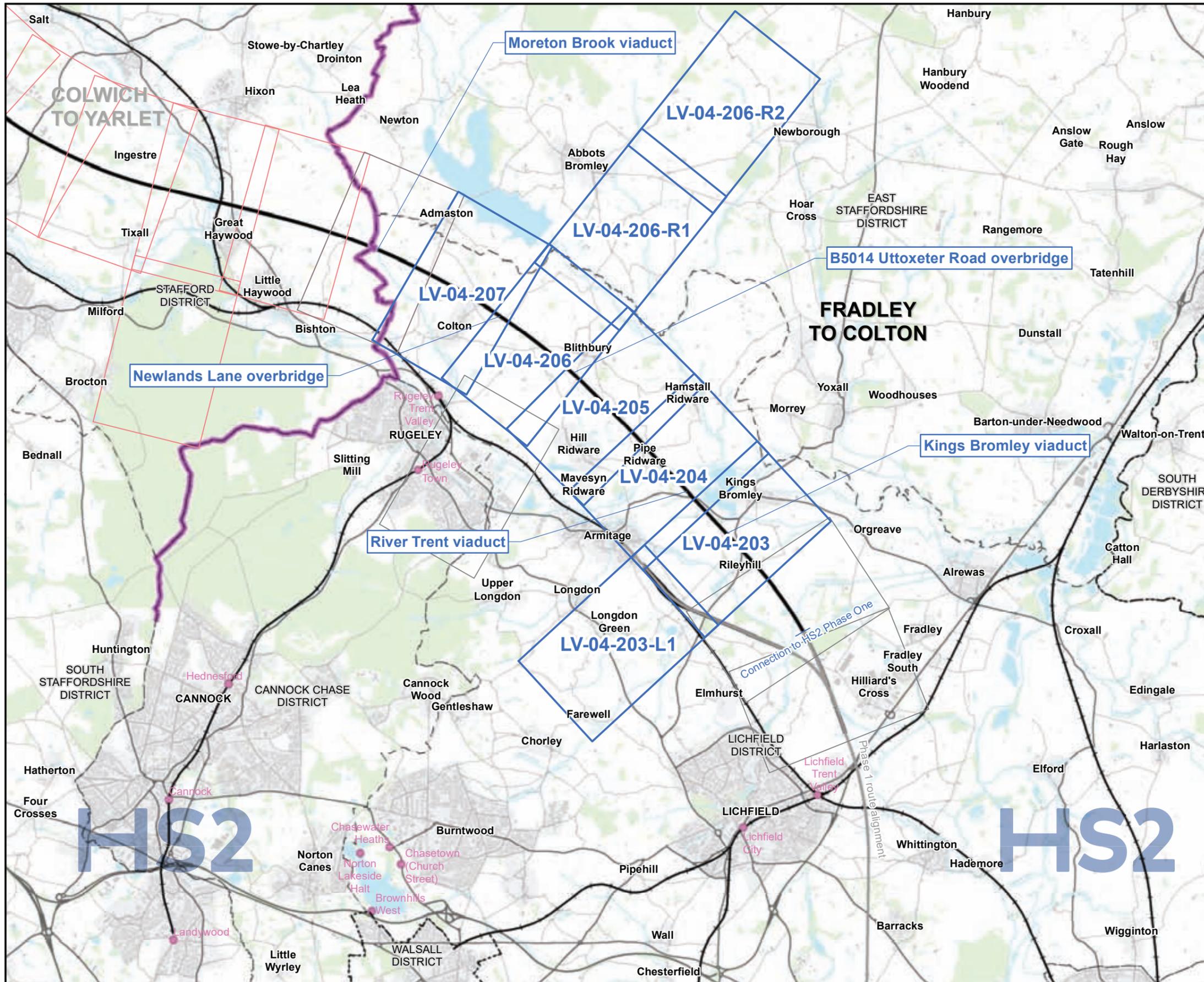
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**Map Series Information:**

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**Main Map Legend**

- Route on surface
- Route in tunnel
- Depot, station, headhouse or portal building
- Community area boundary
- Existing railway station
- County boundary
- District/Borough boundary
- Map sheets included in this community area with amendment
- Map sheets included in this community area with no amendment
- Map sheets not included in this community area

Map Number	LV-04-INDEX-CA1
Map Name	Index Map of: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES
Community Area 1:	Fradley to Colton

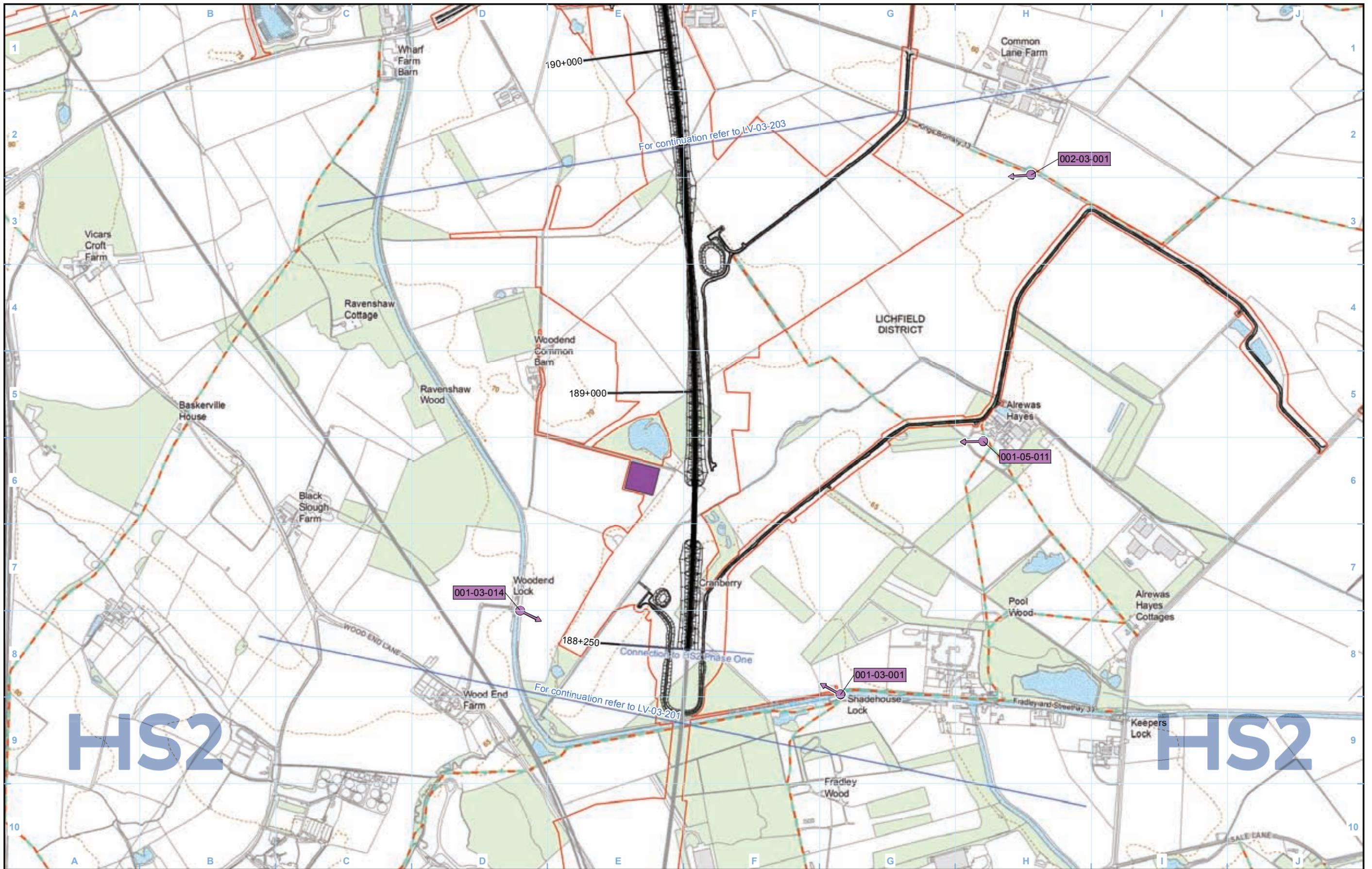
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- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Land potentially required during construction
  - Community area boundary
  - County boundary
  - District/Borough boundary
  - Public Rights of Way (PRoW)
  - 5m contours
  - Water body
  - Existing woodland and tree belts
  - Construction compounds
  - Cannock Chase Area of Outstanding Natural Beauty (AONB)

- Significantly affected viewpoint
- Photomontage location
- Significantly affected viewpoint number
- Photomontage viewpoint number

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

Map Number: LV-03-202

Map Name: Construction Phase Significantly Affected Viewpoints

Community Area 1: Fradley to Colton

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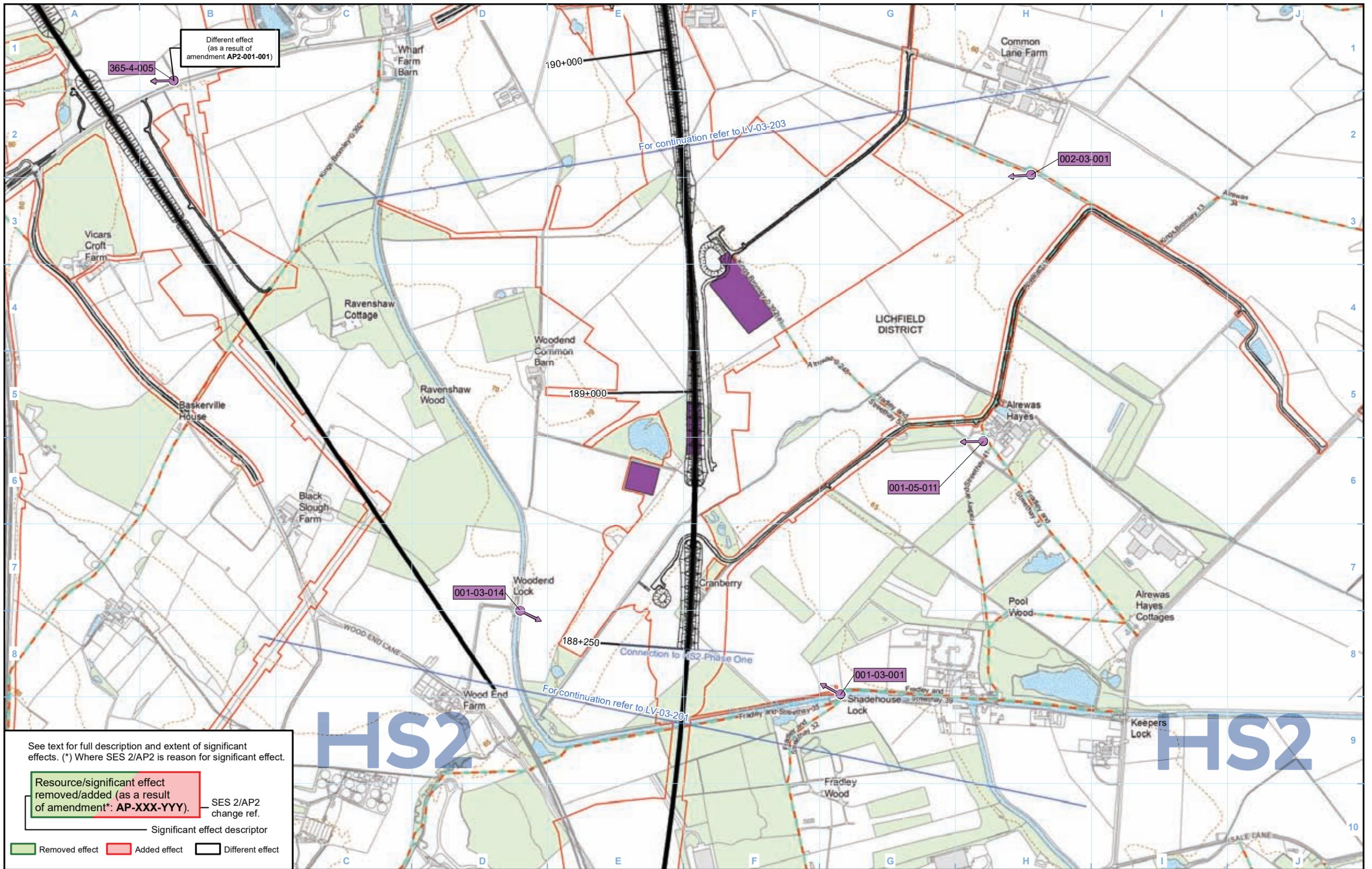
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Date: 06/06/17

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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
Significant effect descriptor	
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<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Different effect	

**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	<span style="background-color: #ccccff; border: 1px solid black; padding: 2px;">001-01-001</span> Significantly affected viewpoint number
Land potentially required during construction	Existing woodland and tree belts	<span style="background-color: #ffcc99; border: 1px solid black; padding: 2px;">001-01-001</span> Photomontage viewpoint number
Community area boundary	Construction compounds	
County boundary	Cannock Chase	
District/Borough boundary	Area of Outstanding Natural Beauty (AONB)	

**Engineering earthworks:**

Embankment
Cutting

**Non engineering earthworks:**

Embankment
Cutting

Map Number: LV-03-202

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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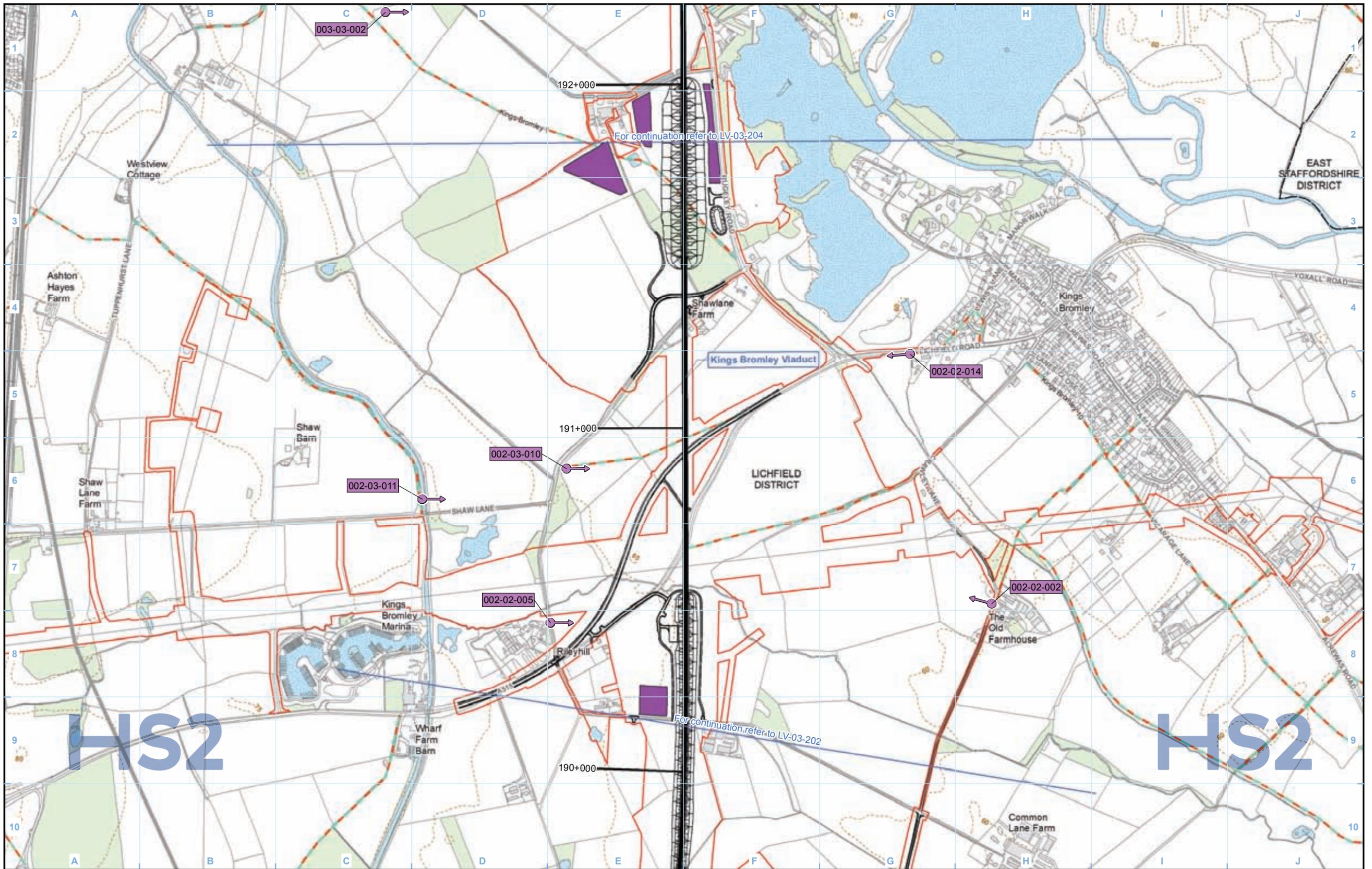
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Date: 11/01/19

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**Legend**

	Route in tunnel		Public Rights of Way (PRoW)
	Route on surface		5m contours
	Depot, station, headhouse or portal building		Water body
	Land potentially required during construction		Existing woodland and tree belts
	Community area boundary		Construction compounds
	County boundary		Cannock Chase Area of Outstanding Natural Beauty (AONB)
	District/Borough boundary		

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-203
Map Name	Construction Phase Significantly Affected Viewpoints
	Community Area 1: Fradley to Colton

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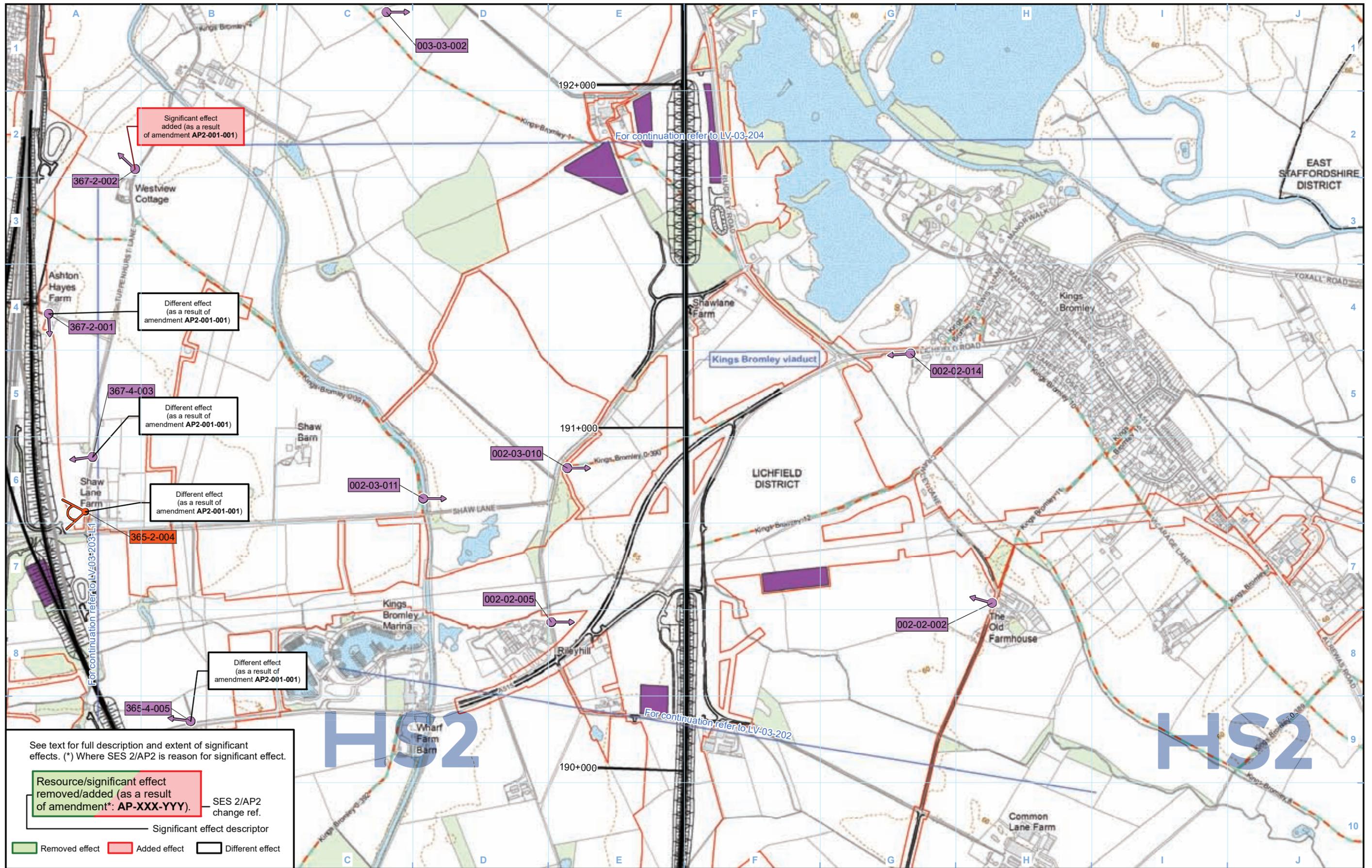
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Date: 06/06/17

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Resource/significant effect removed/added (as a result of amendment\*: AP-XXX-YYY). — SES 2/AP2 change ref.

Significant effect descriptor

Removed effect    Added effect    Different effect

**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Construction compounds
- Cannock Chase
- Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- 001-01-001 Significantly affected viewpoint number
- 001-01-001 Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-03-203

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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Date: 11/01/19

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0 100 200 300 400 Metres



Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	County boundary
	District/Borough boundary
	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Proposed tree planting
	Cannock Chase Area of Outstanding Natural Beauty (AONB)
	Significantly affected viewpoint
	Photomontage location
	001-1-001 Significantly affected viewpoint number
	001-1-001 Photomontage viewpoint number
	Engineering earthworks: Embankment
	Cutting
	Non engineering earthworks: Embankment
	Cutting

Map Number	LV-04-203
Map Name	Operational Phase Significantly Affected Viewpoints
Community Area 1: Fradley to Colton	

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— Significant effect descriptor

Removed effect Added effect Different effect

- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - County boundary
  - District/Borough boundary
  - Public Rights of Way (PRoW)
  - 5m contours
  - Water body
  - Existing woodland and tree belts
  - Proposed tree planting
  - Cannock Chase Area of Outstanding Natural Beauty (AONB)
  - Significantly affected viewpoint
  - Photomontage location
  - Significantly affected viewpoint number
  - Photomontage viewpoint number

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

Map Number: LV-04-203

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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Metres

Date: 11/01/19

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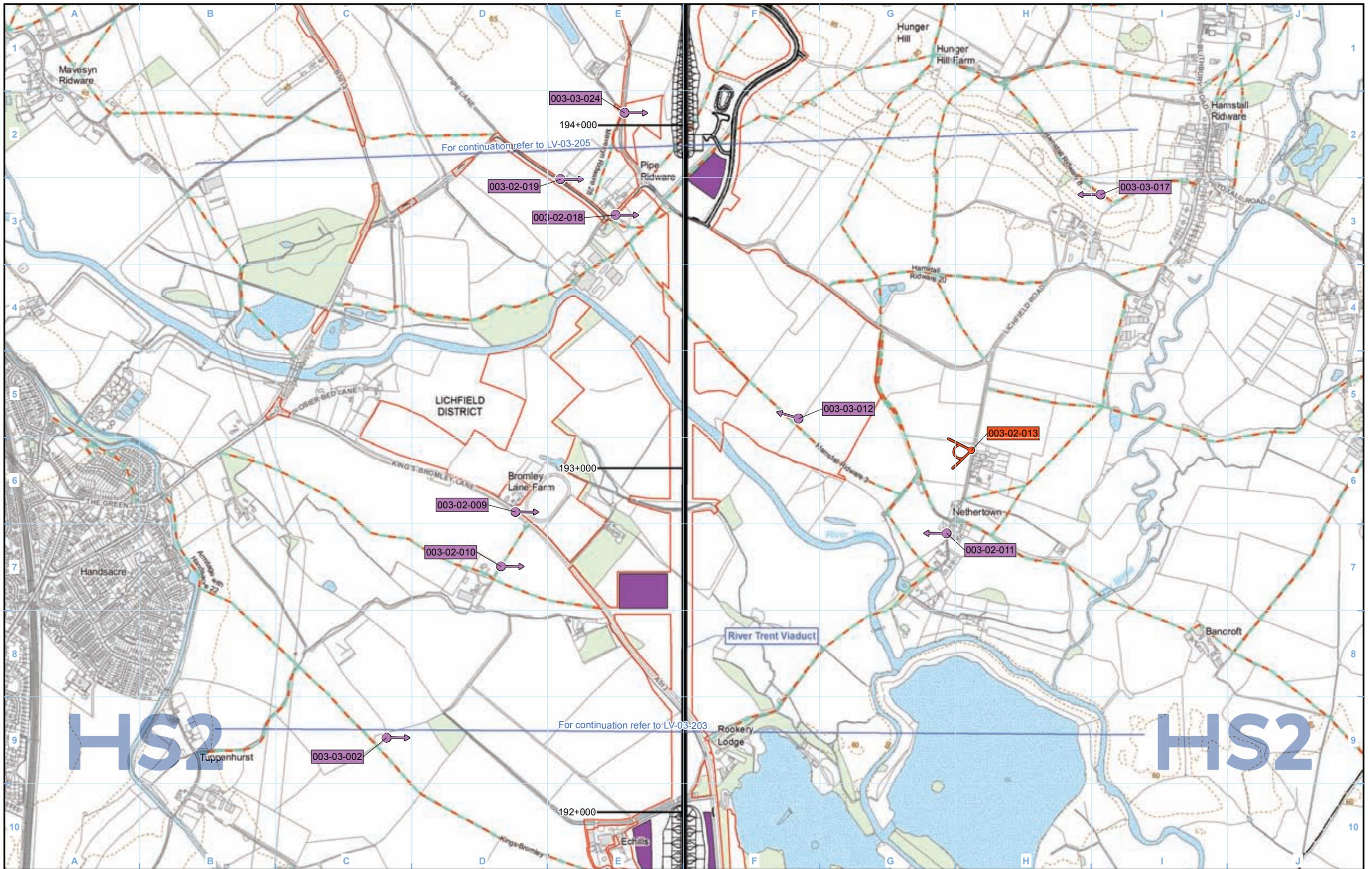
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No corresponding page in the main ES



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**Legend**

	Route in tunnel		Public Rights of Way (PRoW)
	Route on surface		5m contours
	Depot, station, headhouse or portal building		Water body
	Land potentially required during construction		Existing woodland and tree belts
	Community area boundary		Construction compounds
	County boundary		Cannock Chase Area of Outstanding Natural Beauty (AONB)
	District/Borough boundary		

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-204
Map Name	Construction Phase Significantly Affected Viewpoints
Community Area 1: Fradley to Colton	

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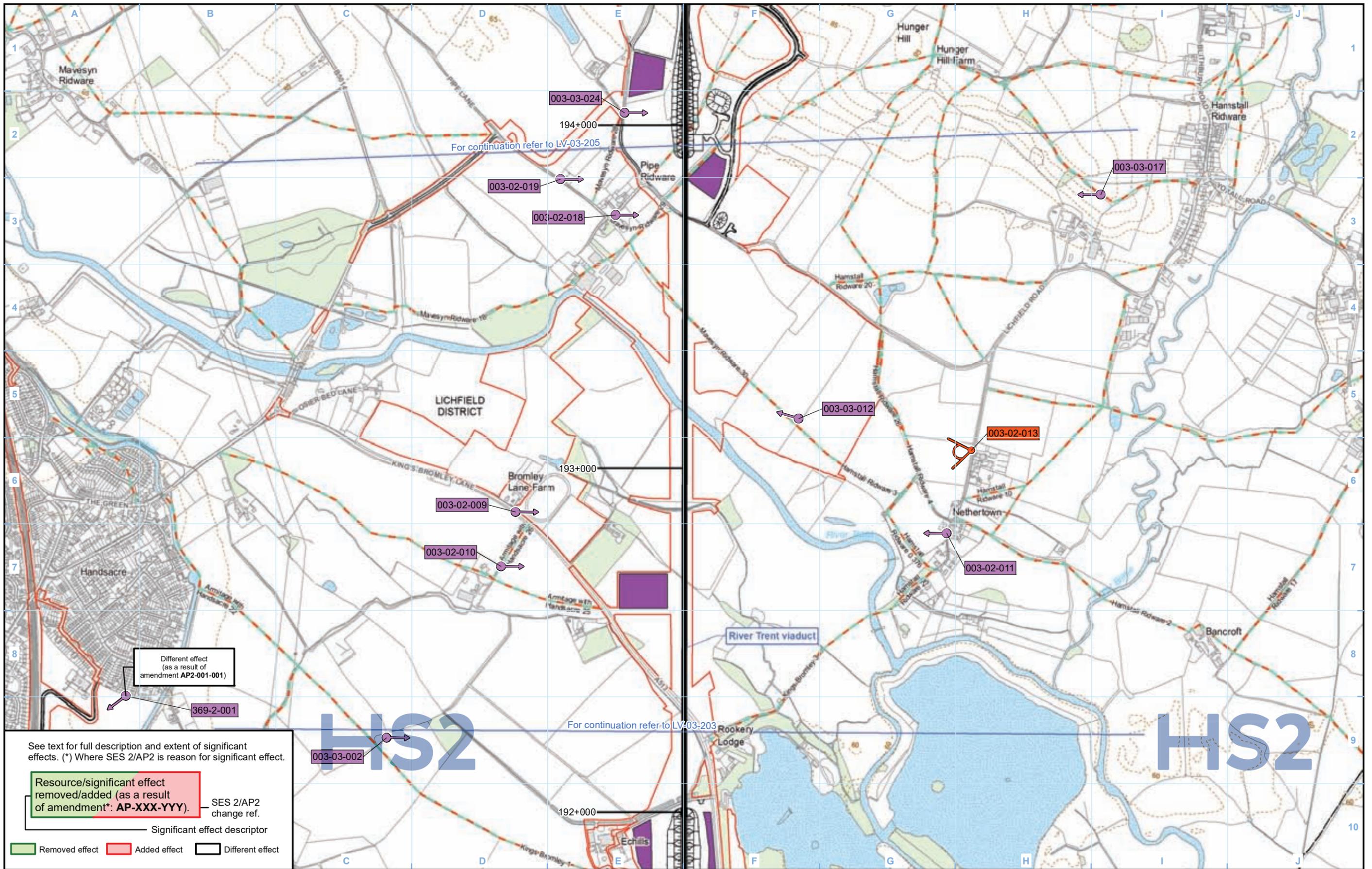
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Resource/significant effect removed/added (as a result of amendment\*: AP-XXX-YYY). — SES 2/AP2 change ref.

Significant effect descriptor

Removed effect Added effect Different effect

- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Land potentially required during construction
  - Community area boundary
  - County boundary
  - District/Borough boundary
  - Public Rights of Way (PRoW)
  - 5m contours
  - Water body
  - Existing woodland and tree belts
  - Construction compounds
  - Cannock Chase Area of Outstanding Natural Beauty (AONB)
  - Significantly affected viewpoint
  - Photomontage location
  - Significantly affected viewpoint number
  - Photomontage viewpoint number
  - Engineering earthworks:
    - Embankment
    - Cutting
  - Non engineering earthworks:
    - Embankment
    - Cutting

Map Number: LV-03-204

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

For continuation refer to LV-03-205

For continuation refer to LV-03-203

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Date: 11/01/19



**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint	<b>Engineering earthworks:</b>
Route on surface	5m contours	Photomontage location	Embankment
Depot, station, headhouse or portal building	Water body	Significantly affected viewpoint number	Cutting
Community area boundary	Existing woodland and tree belts	Photomontage viewpoint number	<b>Non engineering earthworks:</b>
County boundary	Proposed tree planting		Embankment
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)		Cutting

Map Number: LV-04-204

Map Name: Operational Phase Significantly Affected Viewpoints

Community Area 1: Fradley to Colton

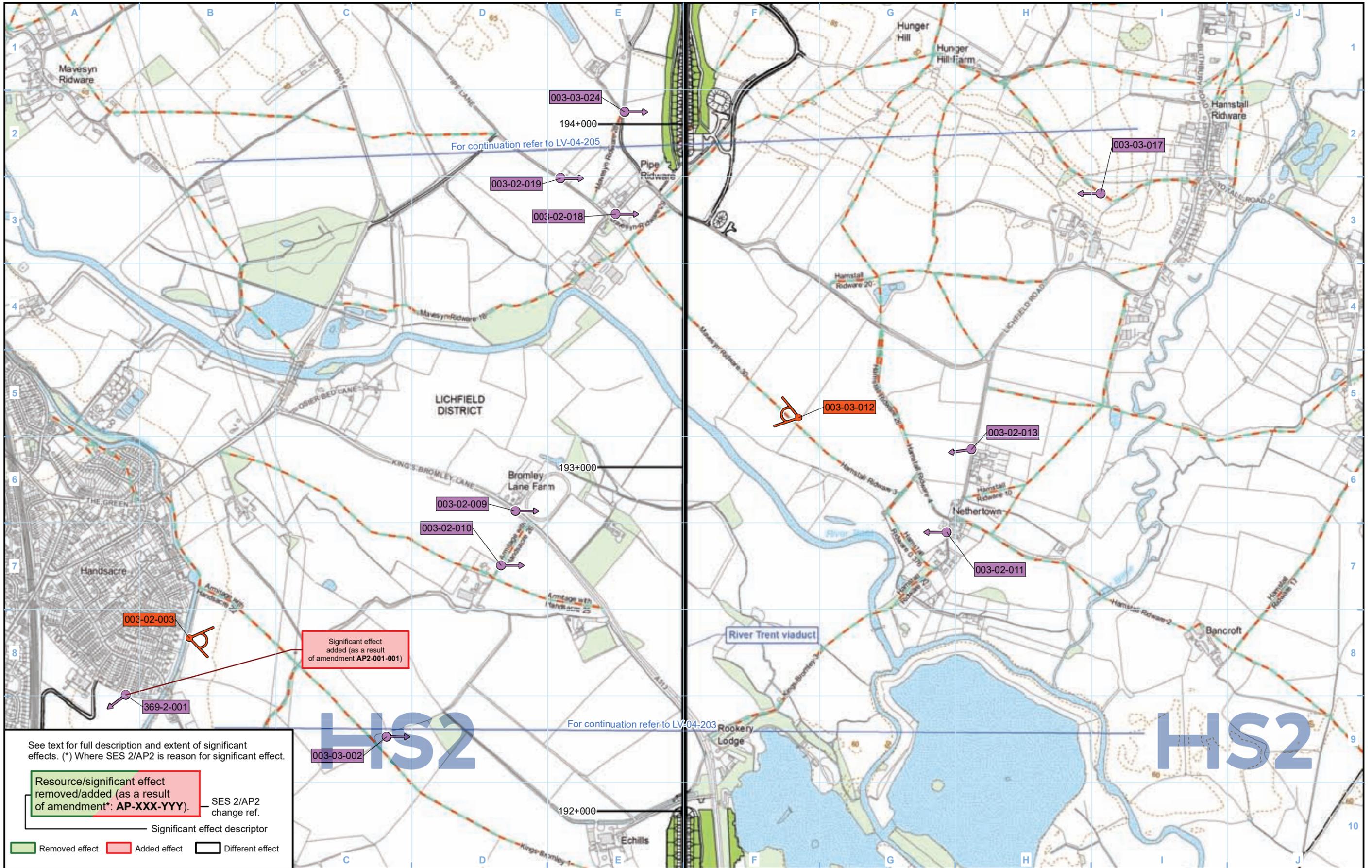
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Date: 07/06/17



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Resource/significant effect removed/added (as a result of amendment\*: AP-XXX-YYY). — SES 2/AP2 change ref.

— Significant effect descriptor

Removed effect Added effect Different effect

- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - County boundary
  - District/Borough boundary
  - Public Rights of Way (PRoW)
  - 5m contours
  - Water body
  - Existing woodland and tree belts
  - Proposed tree planting
  - Cannock Chase Area of Outstanding Natural Beauty (AONB)
  - Significantly affected viewpoint
  - Photomontage location
  - Significantly affected viewpoint number
  - Photomontage viewpoint number
  - Engineering earthworks:
    - Embankment
    - Cutting
  - Non engineering earthworks:
    - Embankment
    - Cutting

Map Number: LV-04-204

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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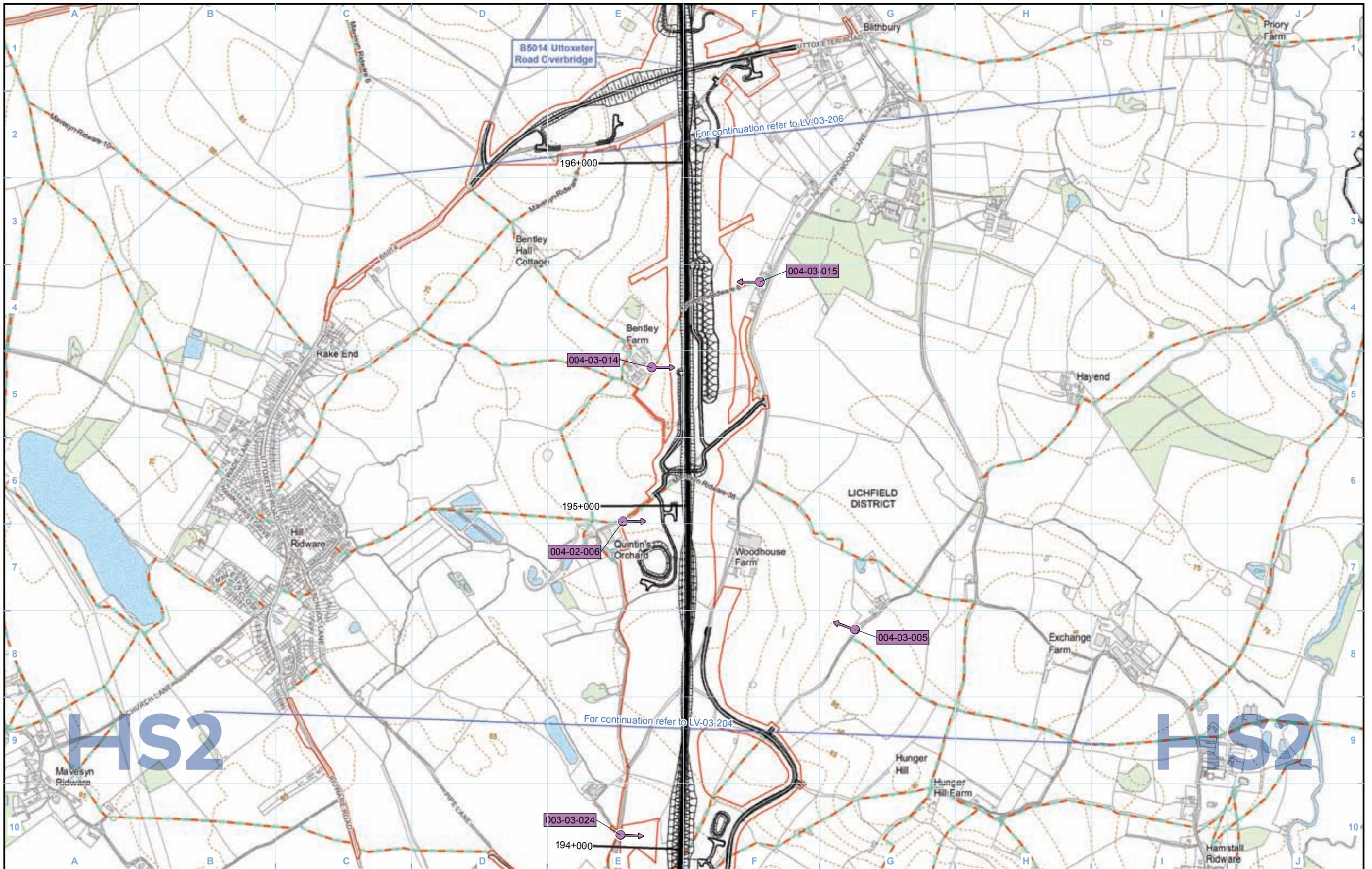
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**Legend**

	Route in tunnel		Public Rights of Way (PRoW)
	Route on surface		5m contours
	Depot, station, headhouse or portal building		Water body
	Land potentially required during construction		Existing woodland and tree belts
	Community area boundary		Construction compounds
	County boundary		Cannock Chase Area of Outstanding Natural Beauty (AONB)
	District/Borough boundary		

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-205
Map Name	Construction Phase Significantly Affected Viewpoints
Community Area 1: Fradley to Colton	

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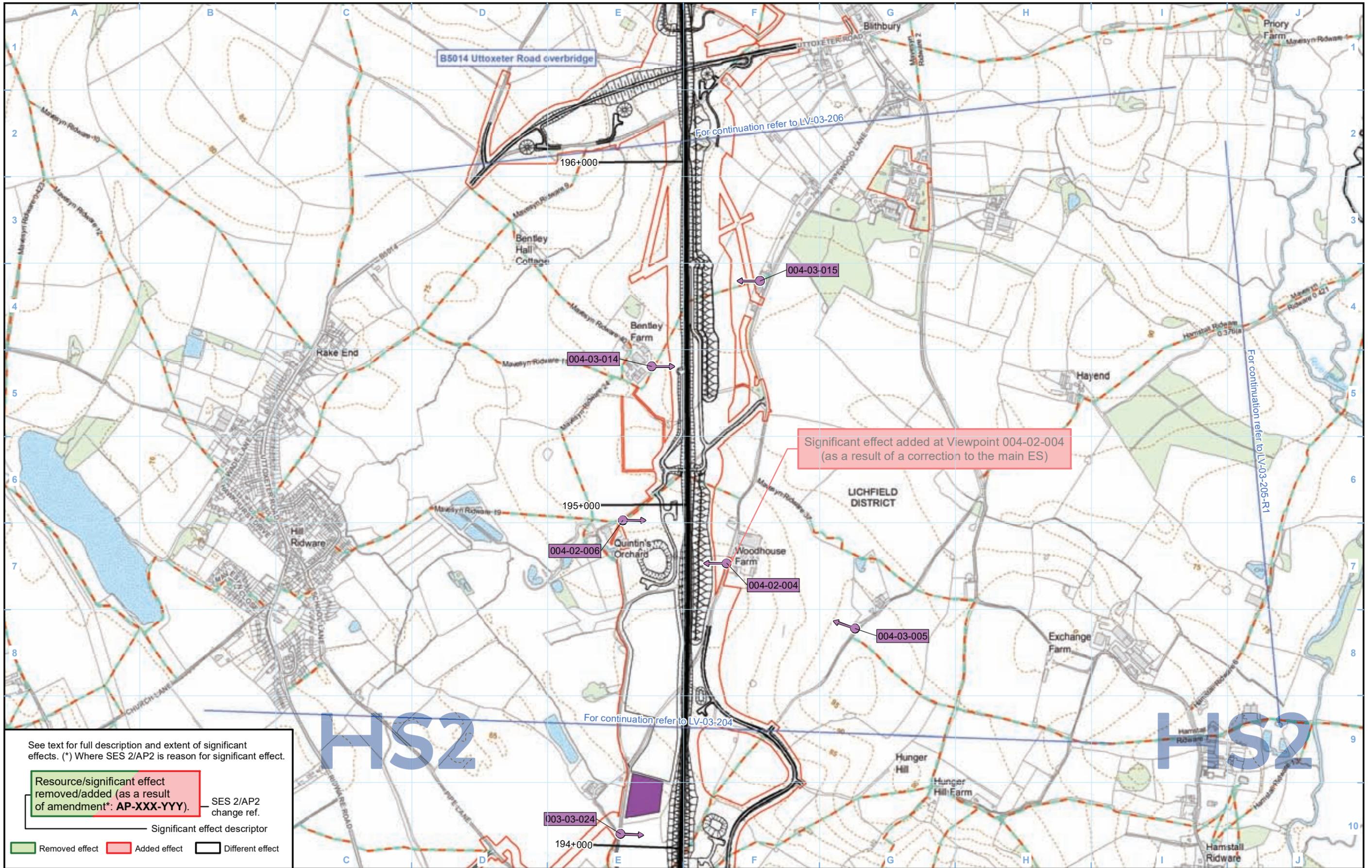
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Significant effect descriptor

Removed effect    Added effect    Different effect

**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Construction compounds
- Cannock Chase
- Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- 001-01-001 Significantly affected viewpoint number
- 001-01-001 Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-03-205

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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**Legend**

	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	County boundary
	District/Borough boundary

	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Proposed tree planting
	Cannock Chase Area of Outstanding Natural Beauty (AONB)

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-04-205
Map Name	Operational Phase Significantly Affected Viewpoints
Community Area 1: Fradley to Colton	

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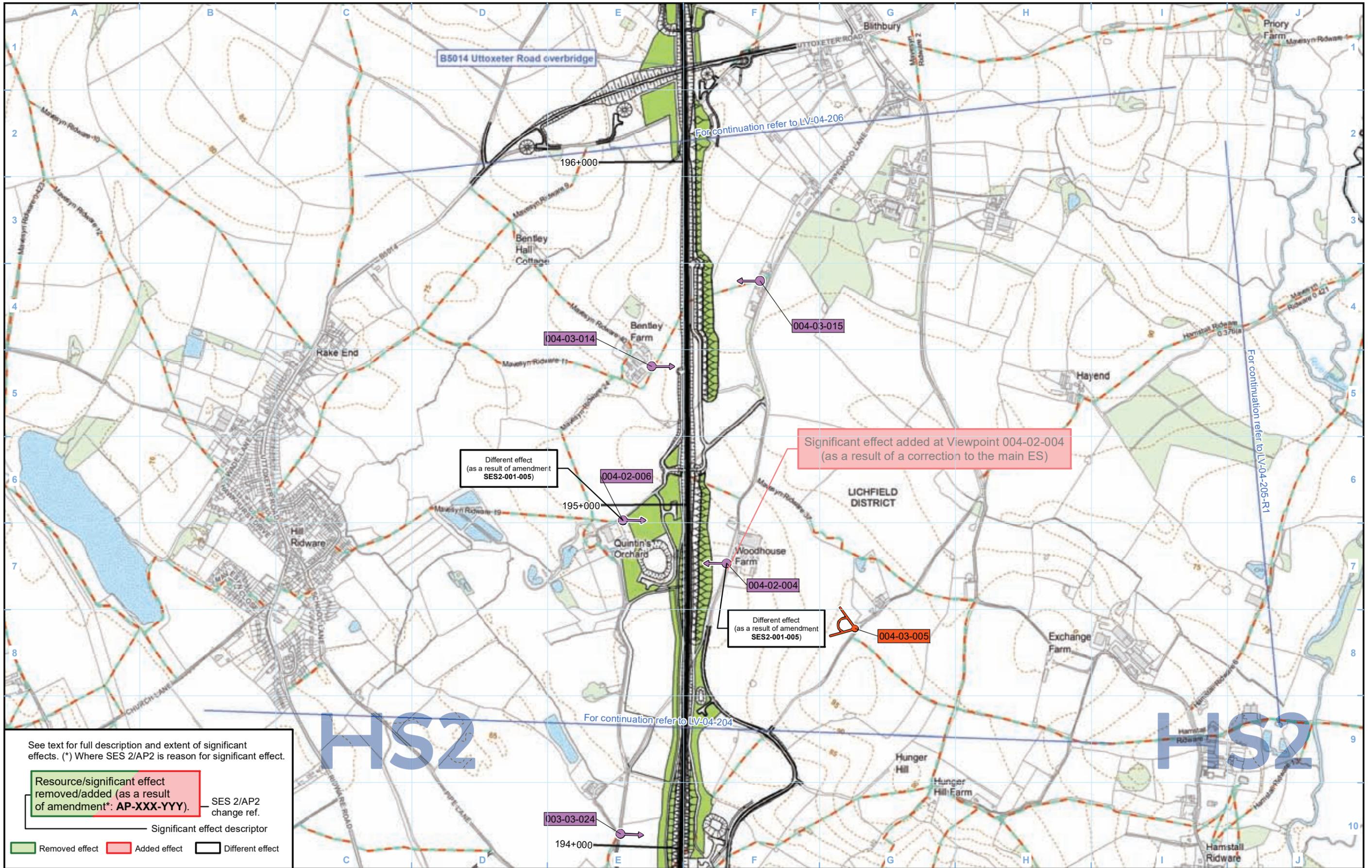
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Significant effect descriptor

Removed effect    Added effect    Different effect

**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Proposed tree planting
- Cannock Chase Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- 001-1-001 Significantly affected viewpoint number
- 001-1-001 Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-04-205

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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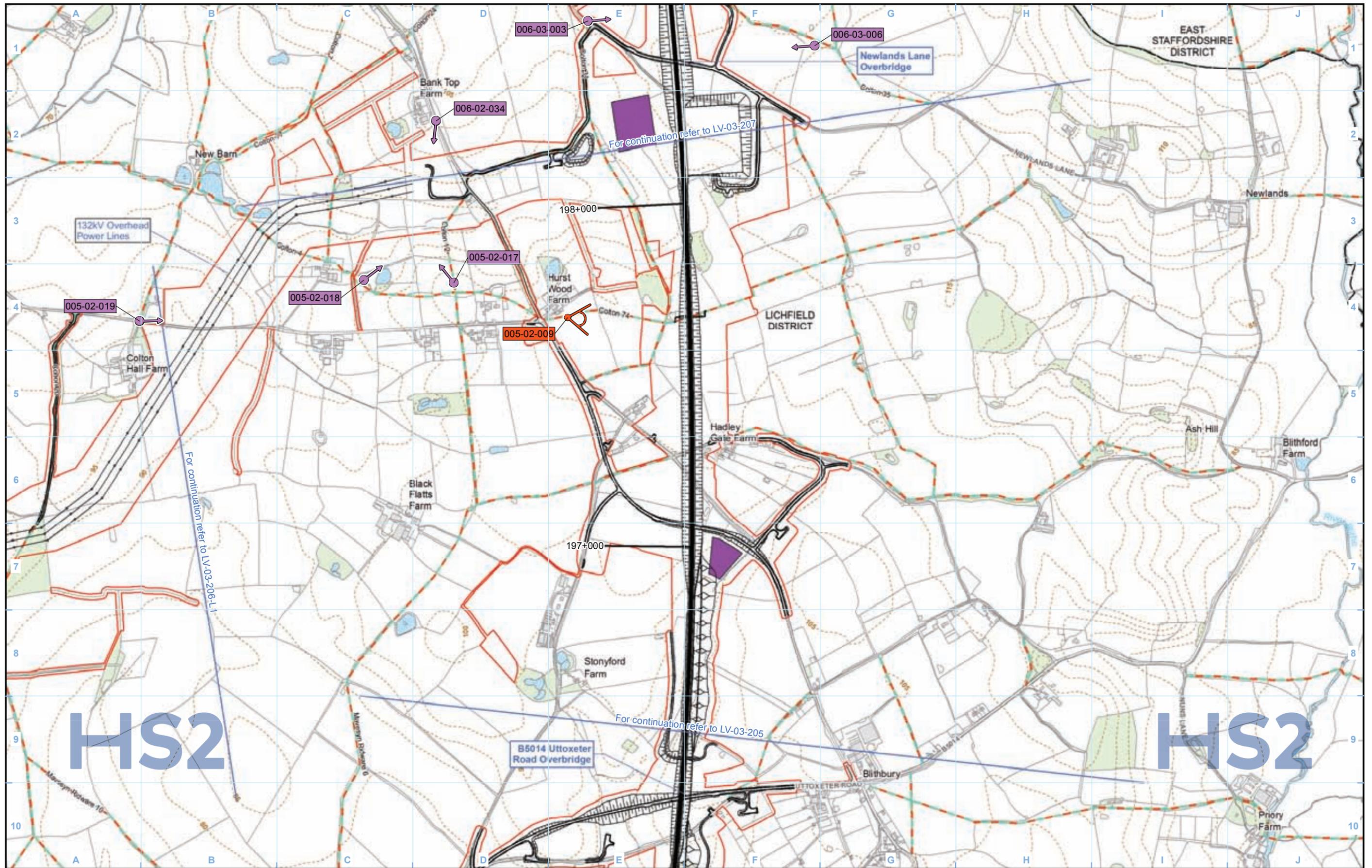
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Metres

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Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary
	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Construction compounds
	Cannock Chase Area of Outstanding Natural Beauty (AONB)
	Significantly affected viewpoint
	Photomontage location
	001-01-001 Significantly affected viewpoint number
	001-01-001 Photomontage viewpoint number
	Embankment
	Cutting
	Embankment
	Cutting

Map Number	LV-03-206
Map Name	Construction Phase Significantly Affected Viewpoints
Community Area 1: Fradley to Colton	

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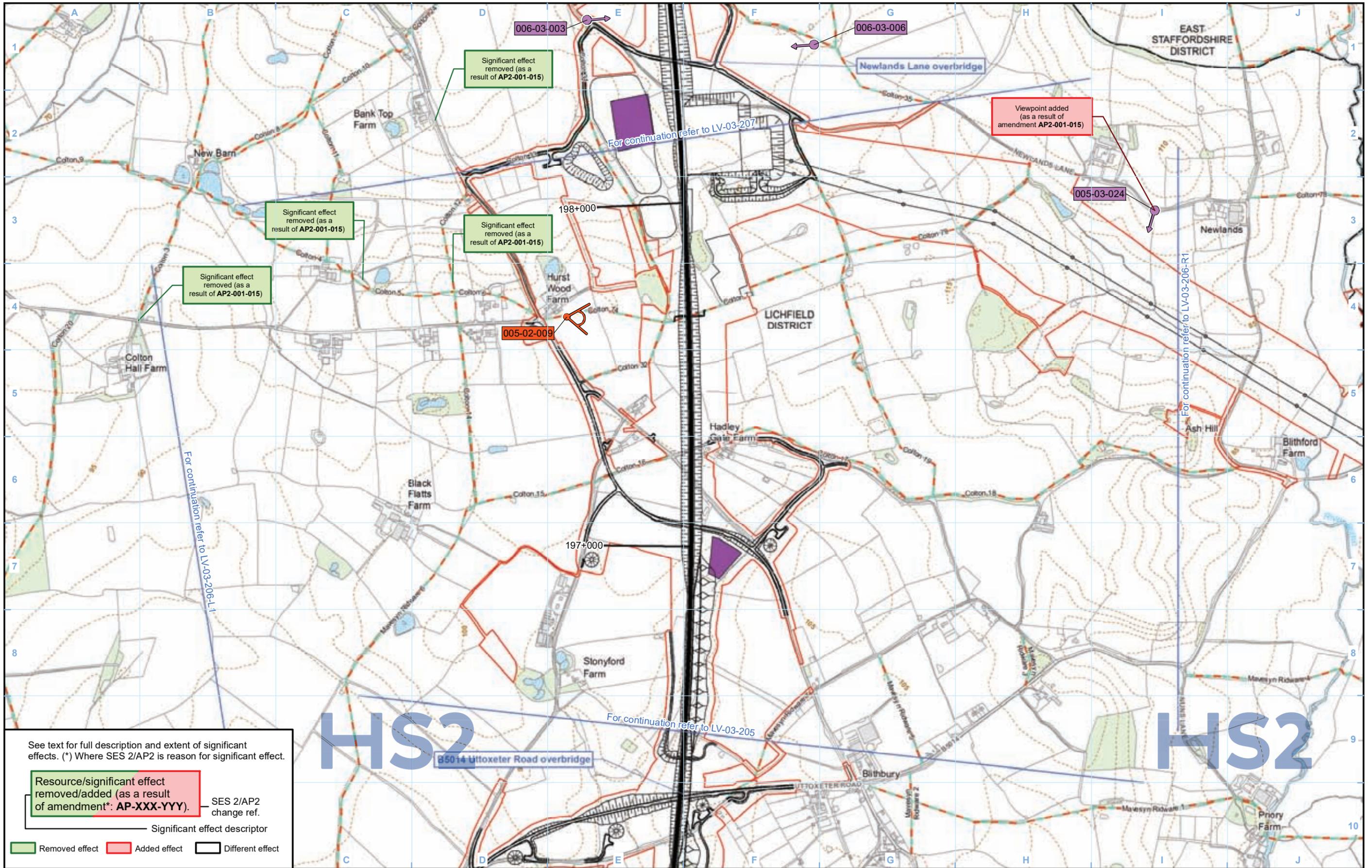
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— Significant effect descriptor

Removed effect    Added effect    Different effect

**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Construction compounds
- Cannock Chase
- Area of Outstanding Natural Beauty (AONB)

- Significantly affected viewpoint
- Photomontage location
- 001-01-001 Significantly affected viewpoint number
- 001-01-001 Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-03-206

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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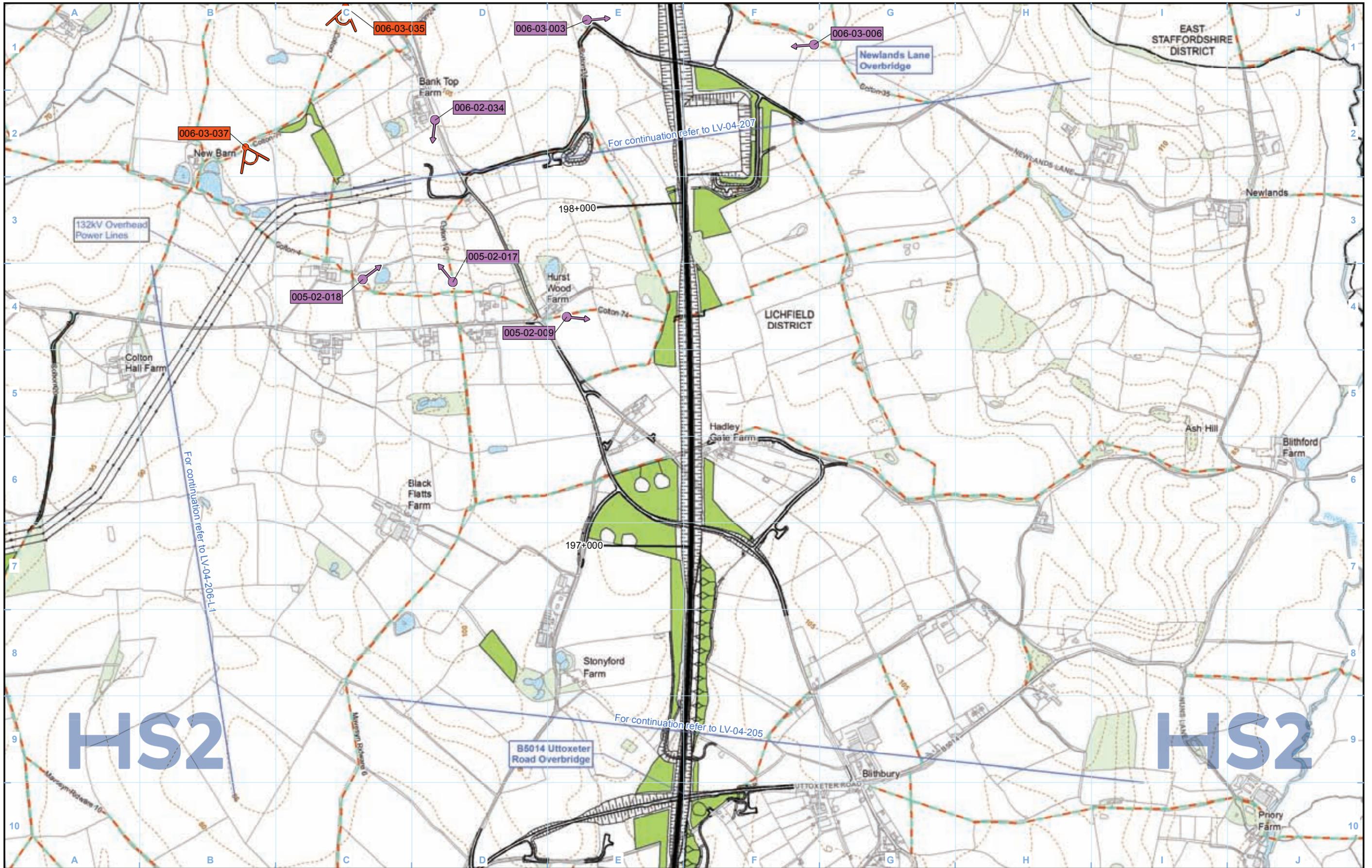
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Metres

Date: 11/01/19



**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint	<b>Engineering earthworks:</b>
Route on surface	5m contours	Photomontage location	Embankment
Depot, station, headhouse or portal building	Water body	Significantly affected viewpoint number	Cutting
Community area boundary	Existing woodland and tree belts	Photomontage viewpoint number	<b>Non engineering earthworks:</b>
County boundary	Proposed tree planting		Embankment
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)		Cutting

Map Number	LV-04-206
Map Name	Operational Phase Significantly Affected Viewpoints
Community Area 1: Fradley to Colton	

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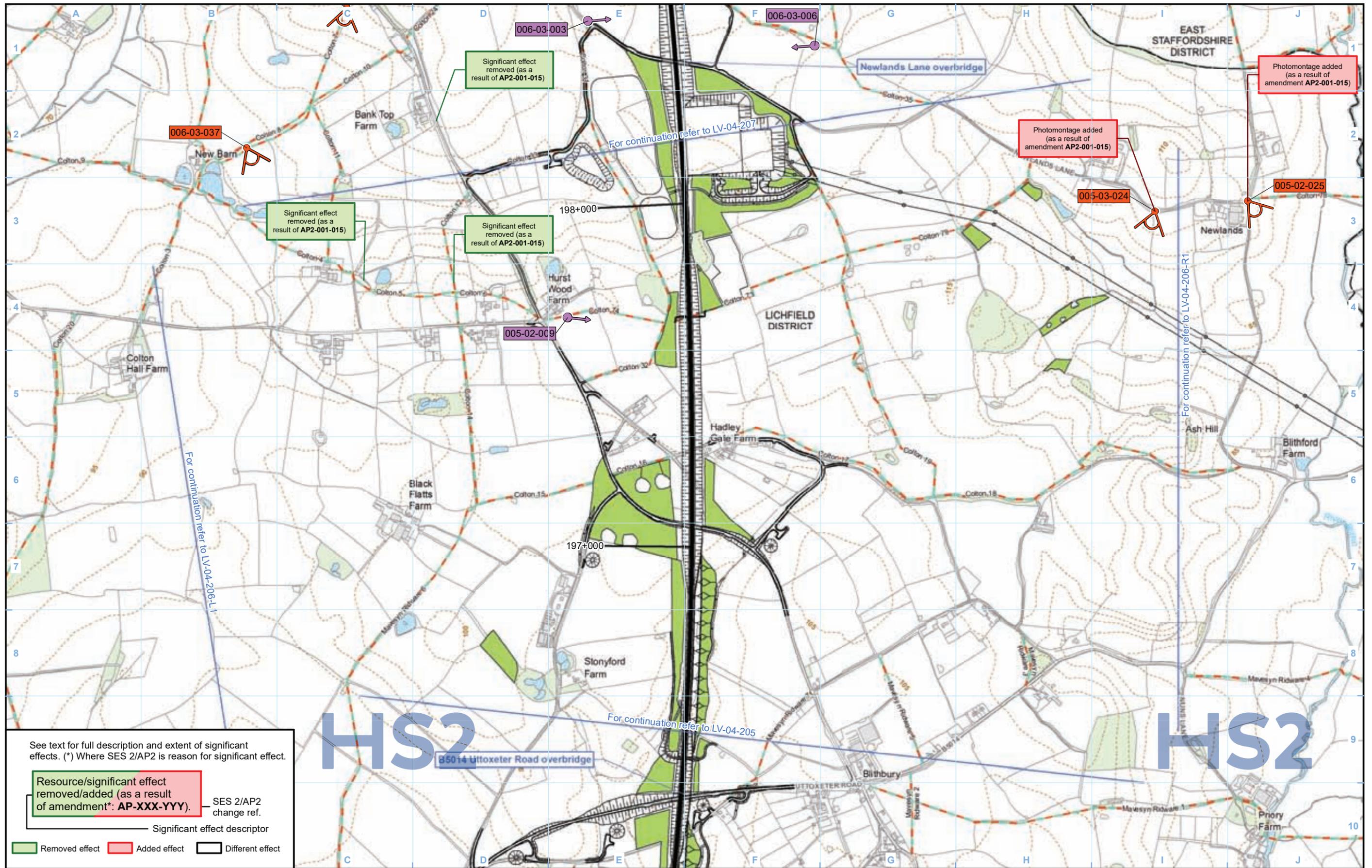
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0 100 200 300 400 Metres

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— Significant effect descriptor

Removed effect    Added effect    Different effect

**HS2**      **HS2**

**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Proposed tree planting
- Cannock Chase Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- Significantly affected viewpoint number
- Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-04-206

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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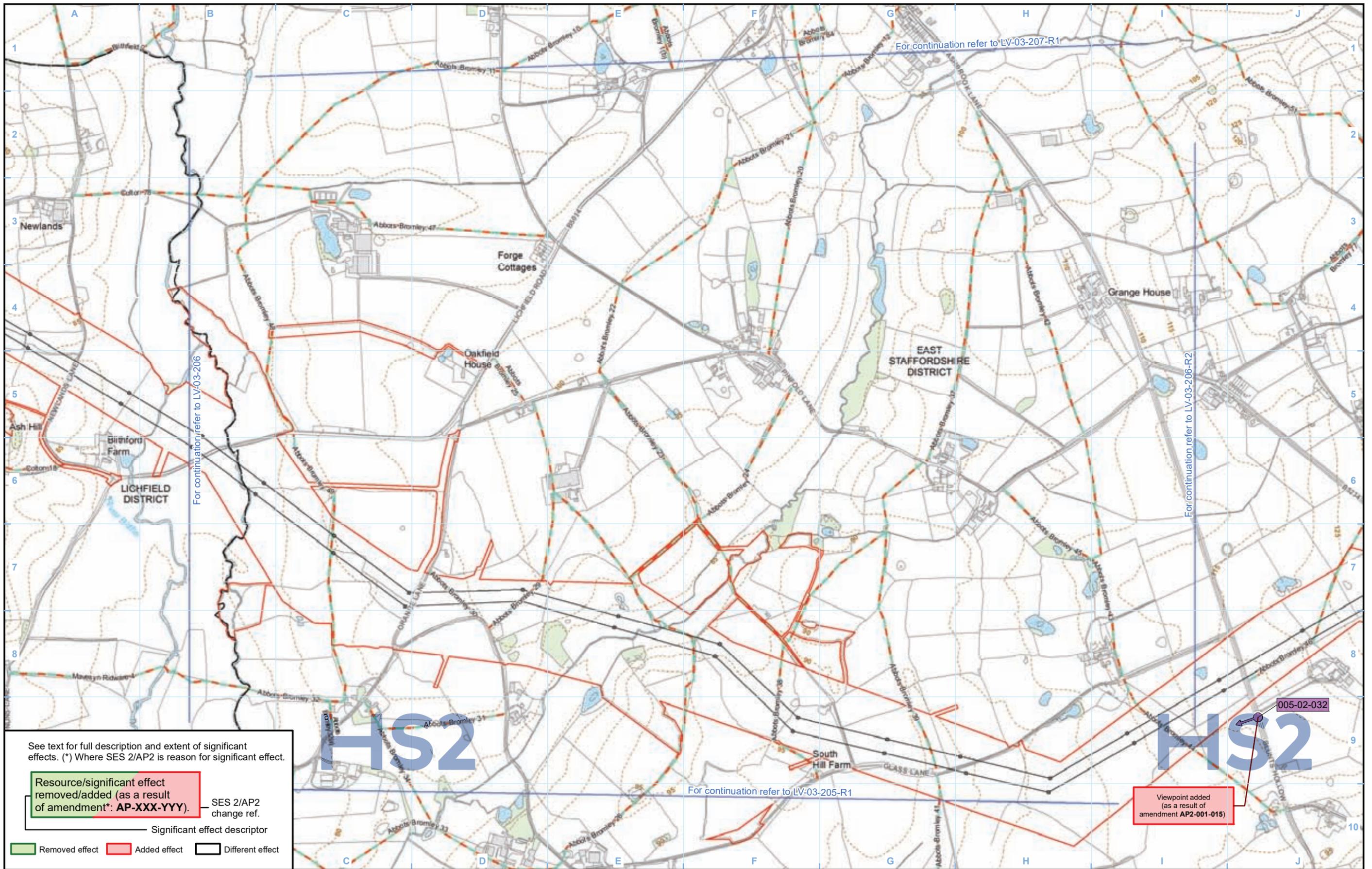
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Date: 11/01/19

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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
Significant effect descriptor	
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**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	<span style="background-color: #9932CC; border: 1px solid black; padding: 2px;">001-01-001</span> Significantly affected viewpoint number
Land potentially required during construction	Existing woodland and tree belts	<span style="background-color: #FF8C00; border: 1px solid black; padding: 2px;">001-01-001</span> Photomontage viewpoint number
Community area boundary	Construction compounds	
County boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)	
District/Borough boundary		

**Engineering earthworks:**

Embankment
Cutting

**Non engineering earthworks:**

Embankment
Cutting

Map Number	LV-03-206-R1
Map Name	Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES
	Community Area 1: Fradley to Colton

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Date: 11/01/19

Viewpoint added (as a result of amendment AP2-001-015)

005-02-032

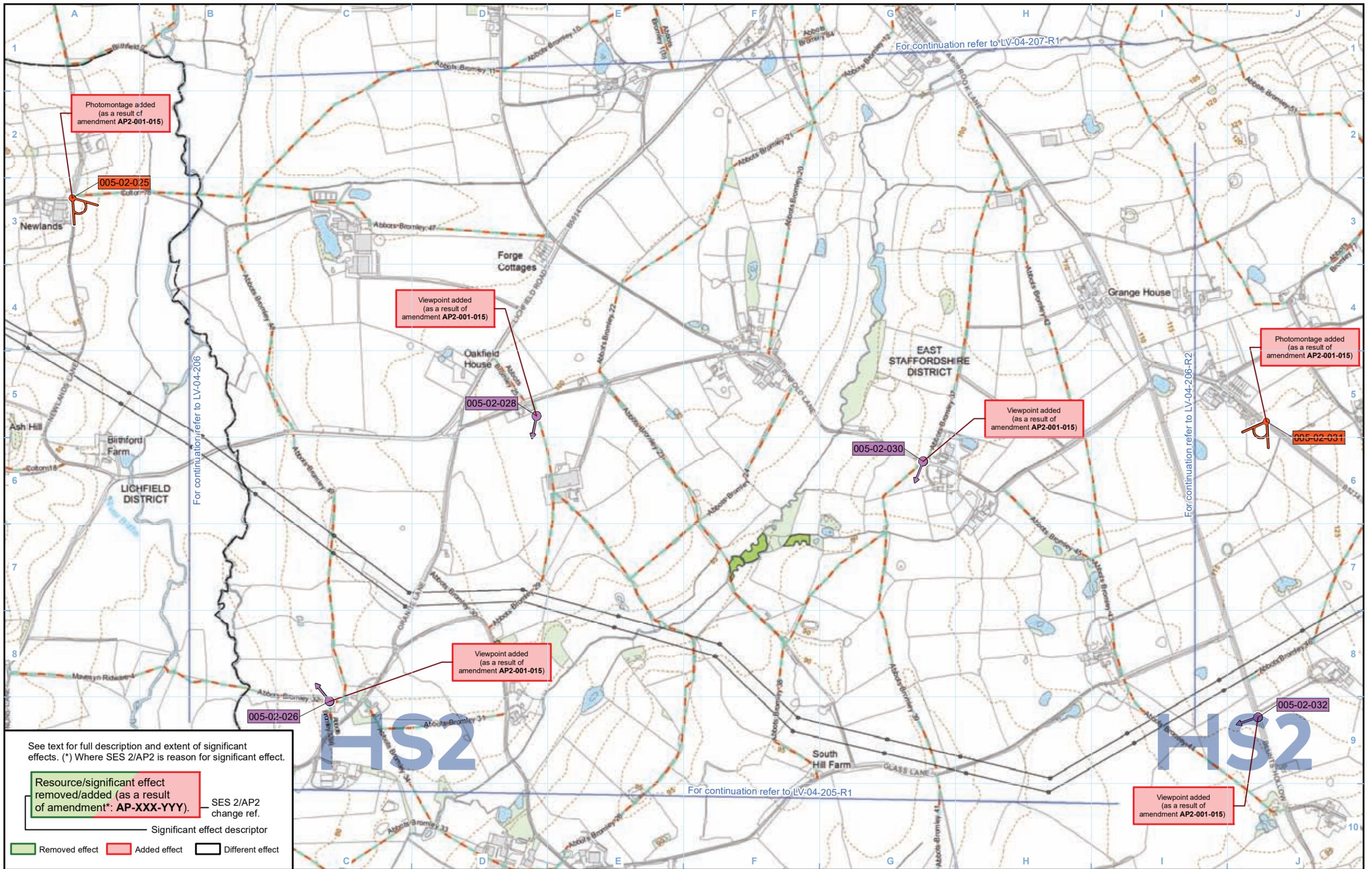
For continuation refer to LV-03-207-R1

For continuation refer to LV-03-206

For continuation refer to LV-03-206-R2

For continuation refer to LV-03-205-R1

No corresponding page in the main ES



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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
— Significant effect descriptor	
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<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Different effect	

**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint	Embankment
Route on surface	5m contours	Photomontage location	Cutting
Depot, station, headhouse or portal building	Water body	<span style="background-color: #9932CC; color: white; padding: 2px;">001-1-001</span> Significantly affected viewpoint number	Embankment
Community area boundary	Existing woodland and tree belts	<span style="background-color: #FF8C00; color: white; padding: 2px;">001-1-001</span> Photomontage viewpoint number	Cutting
County boundary	Proposed tree planting		
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)		

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-04-206-R1

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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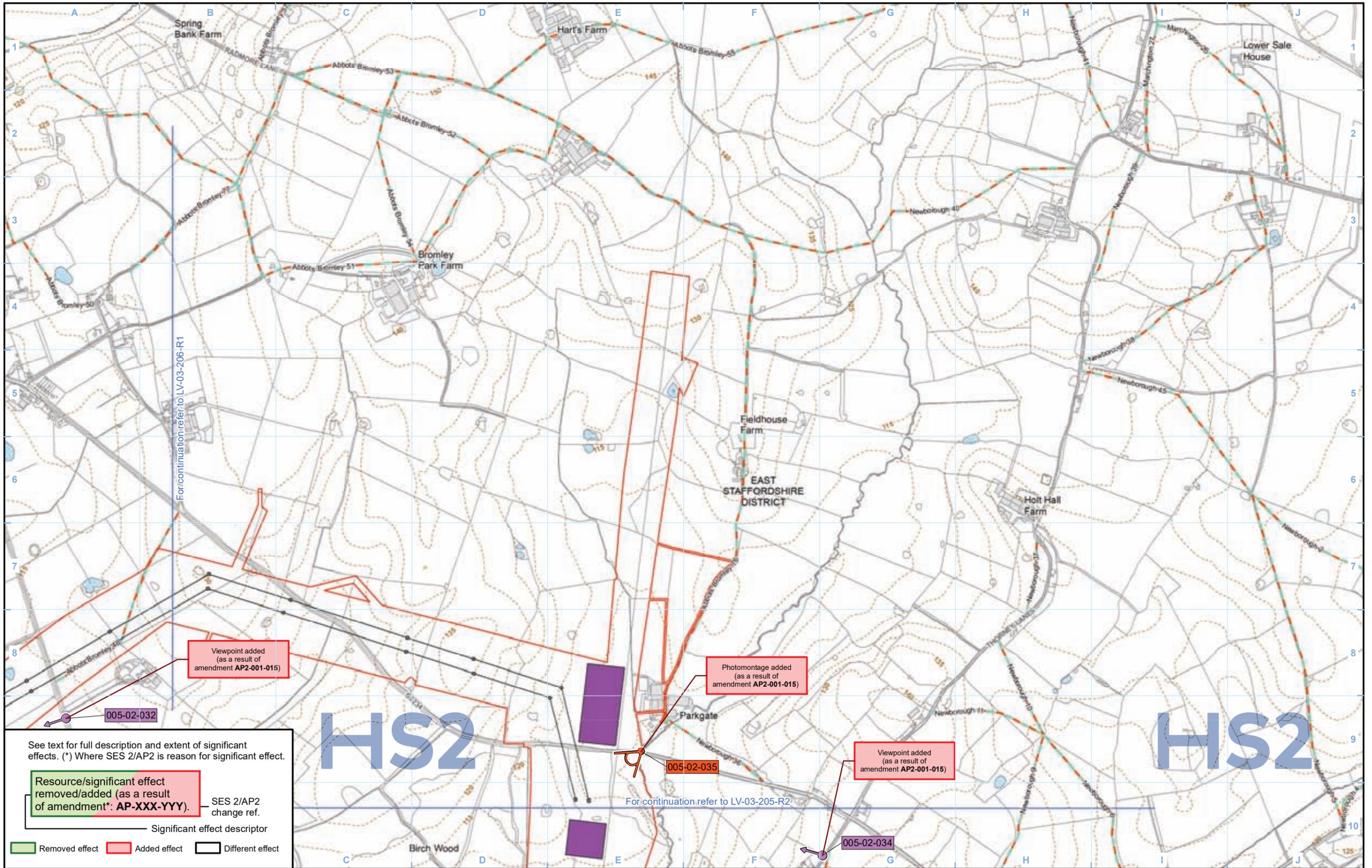
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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
— Significant effect descriptor	
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<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Different effect	

**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	<span style="background-color: #9932CC; border: 1px solid black; padding: 2px;">001-01-001</span> Significantly affected viewpoint number
Land potentially required during construction	Existing woodland and tree belts	<span style="background-color: #FF8C00; border: 1px solid black; padding: 2px;">001-01-001</span> Photomontage viewpoint number
Community area boundary	Construction compounds	
County boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)	
District/Borough boundary		

**Engineering earthworks:**

Embankment
Cutting

**Non engineering earthworks:**

Embankment
Cutting

Map Number: LV-03-206-R2

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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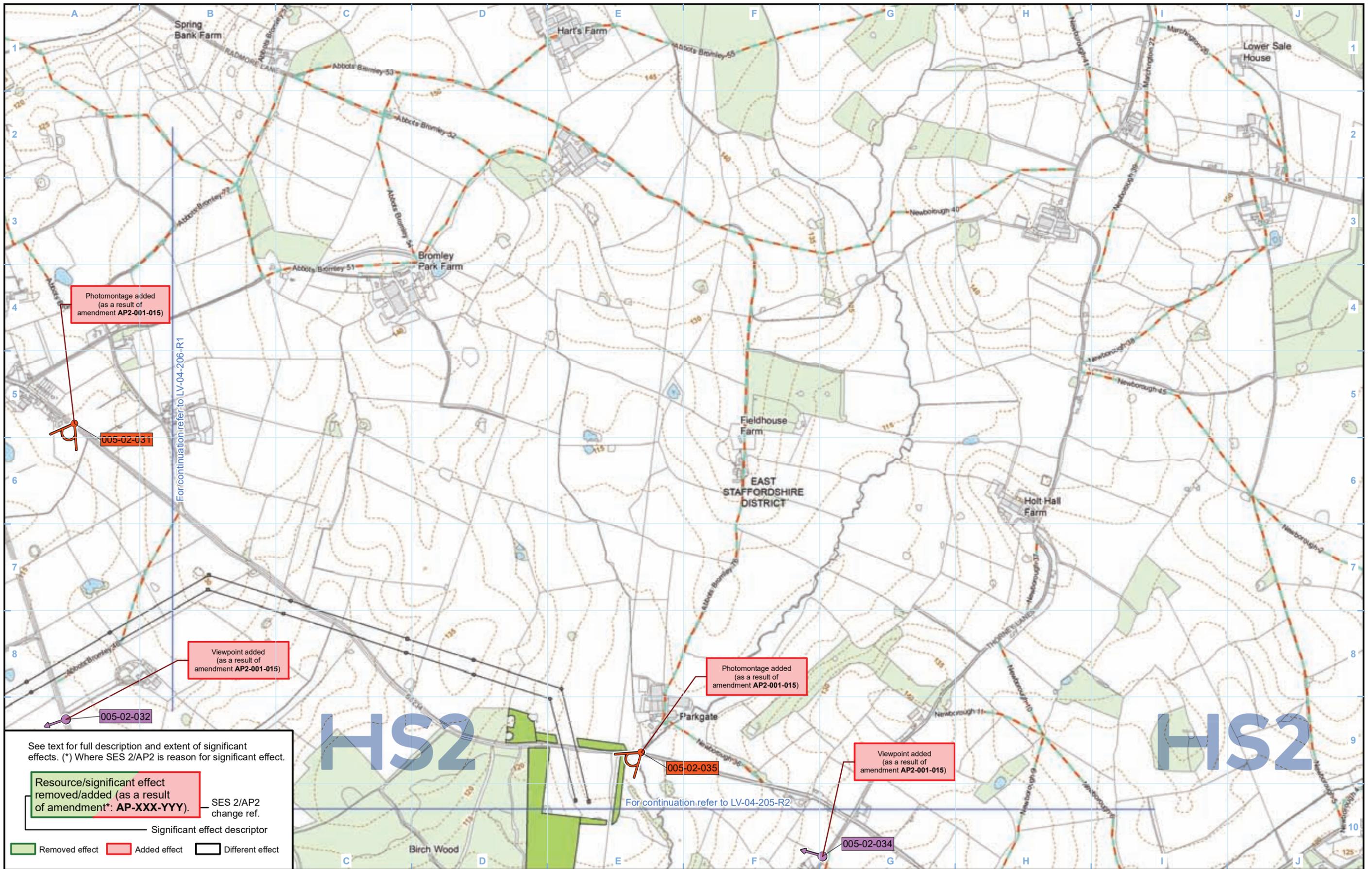
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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
— Significant effect descriptor	
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<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Different effect	

**Legend**

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	<span style="background-color: #9932CC; border: 1px solid black; padding: 2px;">001-1-001</span> Significantly affected viewpoint number
Community area boundary	Existing woodland and tree belts	<span style="background-color: #FF8C00; border: 1px solid black; padding: 2px;">001-1-001</span> Photomontage viewpoint number
County boundary	Proposed tree planting	
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)	

**Engineering earthworks:**

Embankment
Cutting

**Non engineering earthworks:**

Embankment
Cutting

Map Number: LV-04-206-R2

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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**Legend**

			<b>Engineering earthworks:</b>
			<b>Non engineering earthworks:</b>

Map Number: LV-04-207

Map Name: Operational Phase Significantly Affected Viewpoints

Community Area 1: Fradley to Colton

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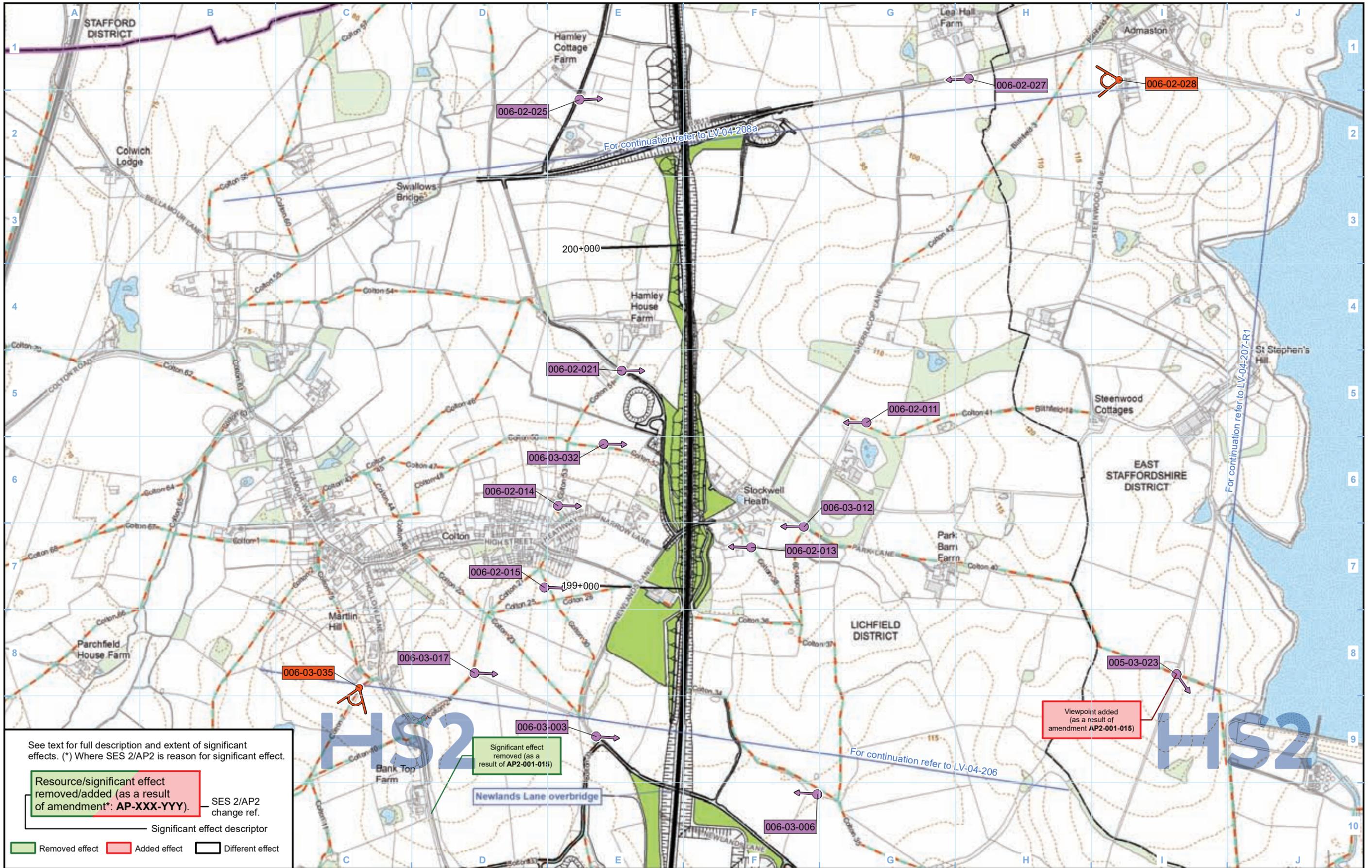
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Resource/significant effect removed/added (as a result of amendment\*: AP-XXX-YYY). — SES 2/AP2 change ref.

Significant effect descriptor

Removed effect    Added effect    Different effect

**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Proposed tree planting
- Cannock Chase Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- Significantly affected viewpoint number
- Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-04-207

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 1: Fradley to Colton

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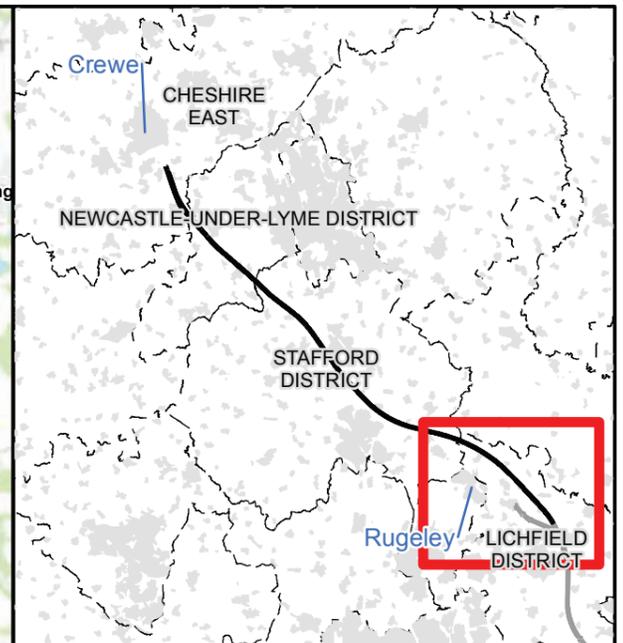
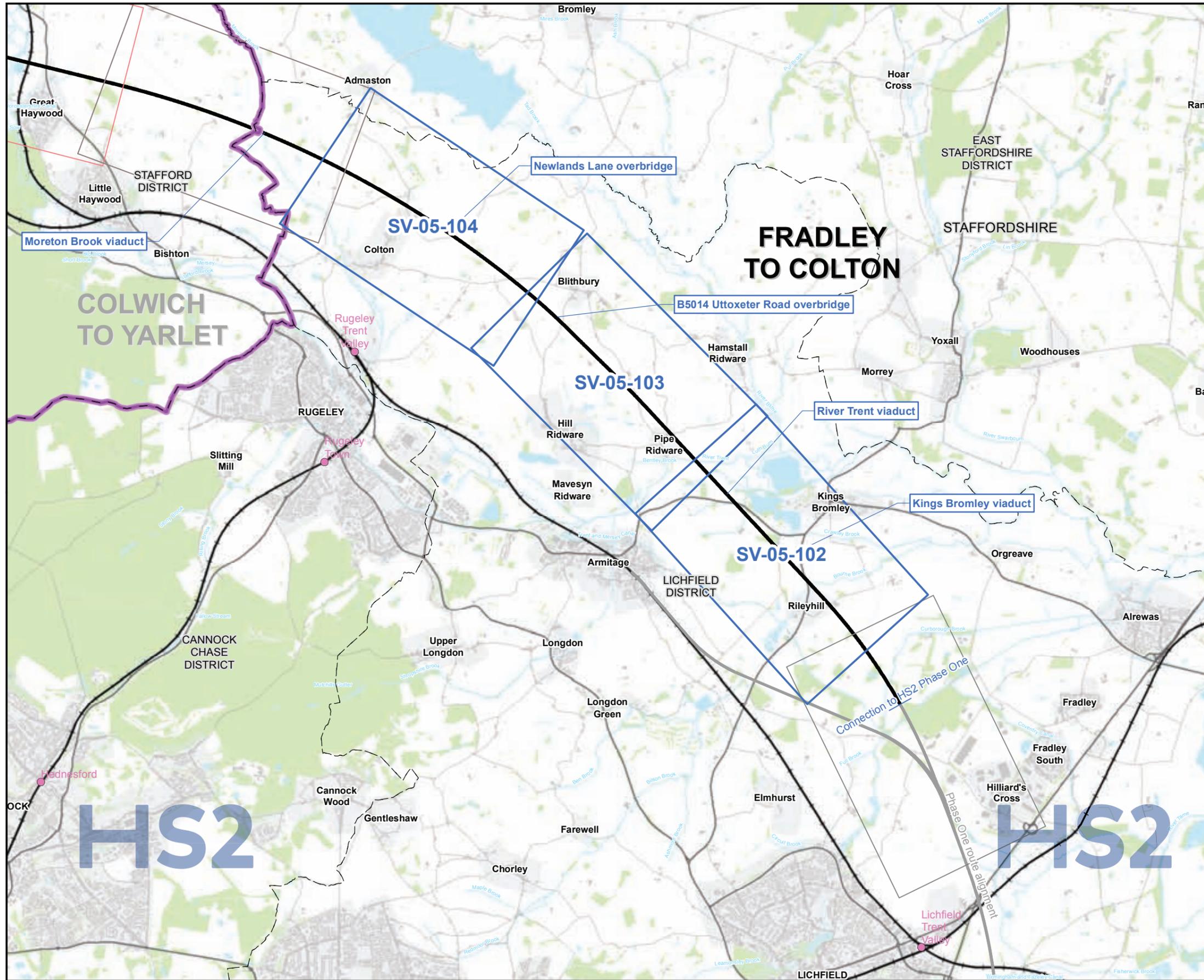
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High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and  
Additional Provision 2 Environmental Statement**

SV-05 - Operational Noise and Vibration Impacts and  
Likely Significant Effects

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**Map Series Information:**

SV-05 presents the direct operational noise impacts and likely significant effects of the scheme.

The SV-05 figure series necessarily contains a large amount of information relating to the operational noise and vibration assessment. It is designed to communicate visually the assessment process from the prediction of impacts to the determination of likely residual significant effects. The corresponding text is included in Vol2.

Key items on the figure series include:

- the Proposed Scheme (the proposed railway alignments and surrounding associated earthworks/roads);
- blue and green lines representing the wayside airborne noise mitigation measures included in the Proposed Scheme;
- the study areas, which indicate the areas within which direct operational sound and vibration impacts of the scheme have been quantitatively assessed;
- the calculated scheme direct impacts, displayed as colour-coded buildings, and symbols representing buildings that would potentially qualify for noise insulation;
- sound contours representing sound produced by the new railway (displayed in a simpler manner than on SV-01 in order not to obscure other features on the figure series); and
- labels indicating where the likely residual direct noise and/or vibration significant effects have been identified.

The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.

A more detailed explanation of each legend item included on the figures can be found in the data dictionary.

Note: Not all data layers in the legend are represented on every map.

**Main Map Legend**

	Route in tunnel		Map sheets included in this community area with amendment
	Route on surface		Map sheets included in this community area with no amendment
	Depot, station, headhouse or portal building		Map sheets not included in this community area
	Community area boundary		
	Existing railway station		
	County boundary		
	District/Borough boundary		

Map Number	SV-05-INDEX-CA1
Map Name	Index Map of: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES
	Community Area 1: Fradley to Colton

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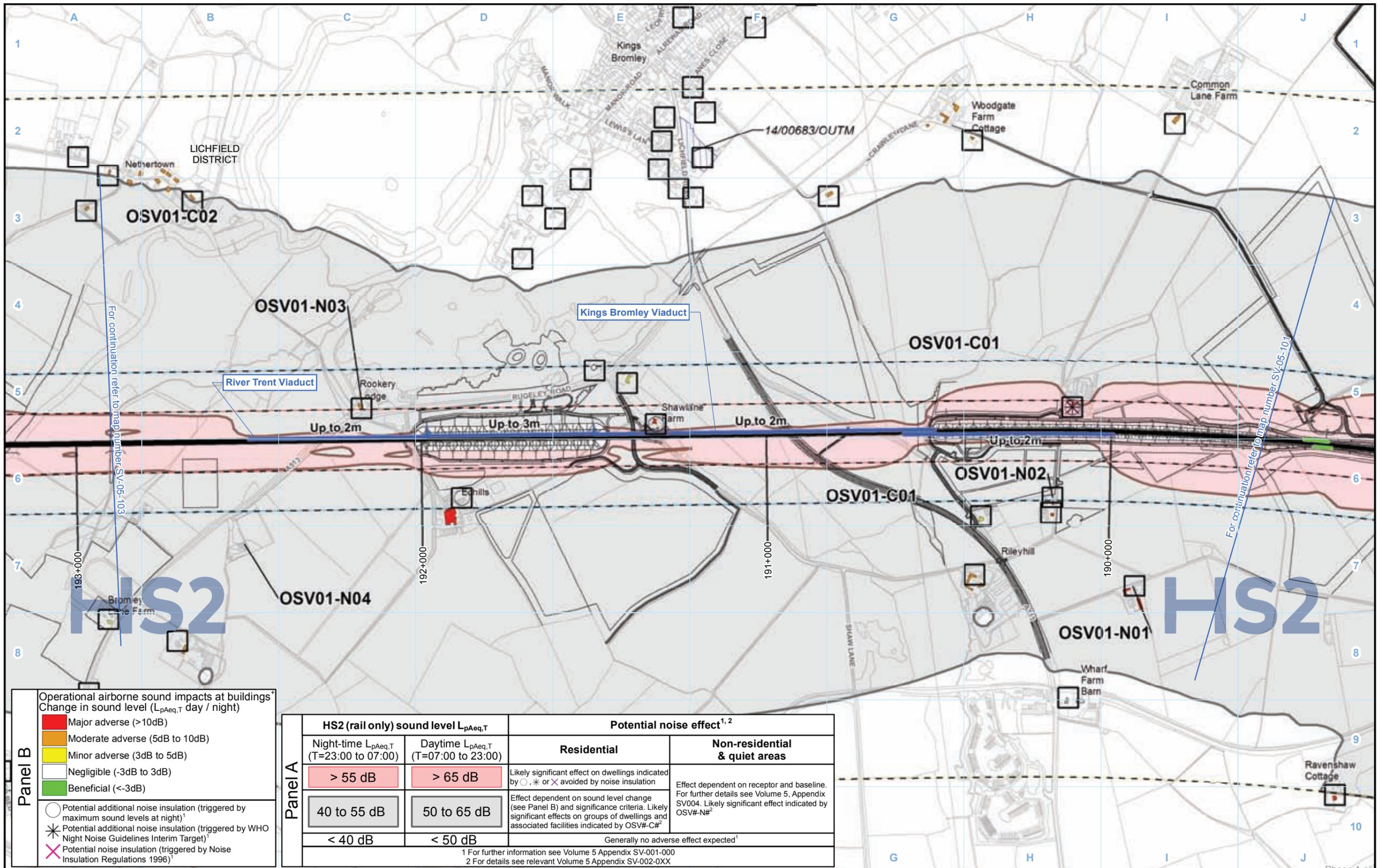
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**Panel B**

Operational airborne sound impacts at buildings\*  
Change in sound level ( $L_{pAeq,T}$  day / night)

- Major adverse (>10dB)
- Moderate adverse (5dB to 10dB)
- Minor adverse (3dB to 5dB)
- Negligible (-3dB to 3dB)
- Beneficial (<-3dB)

- Potential additional noise insulation (triggered by maximum sound levels at night)<sup>1</sup>
- Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)<sup>1</sup>
- Potential noise insulation (triggered by Noise Insulation Regulations 1996)<sup>1</sup>

**Panel A**

HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# <sup>2</sup>
40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	
< 40 dB	< 50 dB	Generally no adverse effect expected <sup>1</sup>	

<sup>1</sup> For further information see Volume 5 Appendix SV-001-000  
<sup>2</sup> For details see relevant Volume 5 Appendix SV-002-0XX

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

**Legend - Sound related features**

- Committed developments - SV Only
- Envisaged mitigation to avoid / reduce significant noise effects:
  - Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged measures further reducing noise effects:
  - Other environmental e.g. landscaping
  - Engineering e.g. cuttings
- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-102

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Area 1: Fradley to Colton

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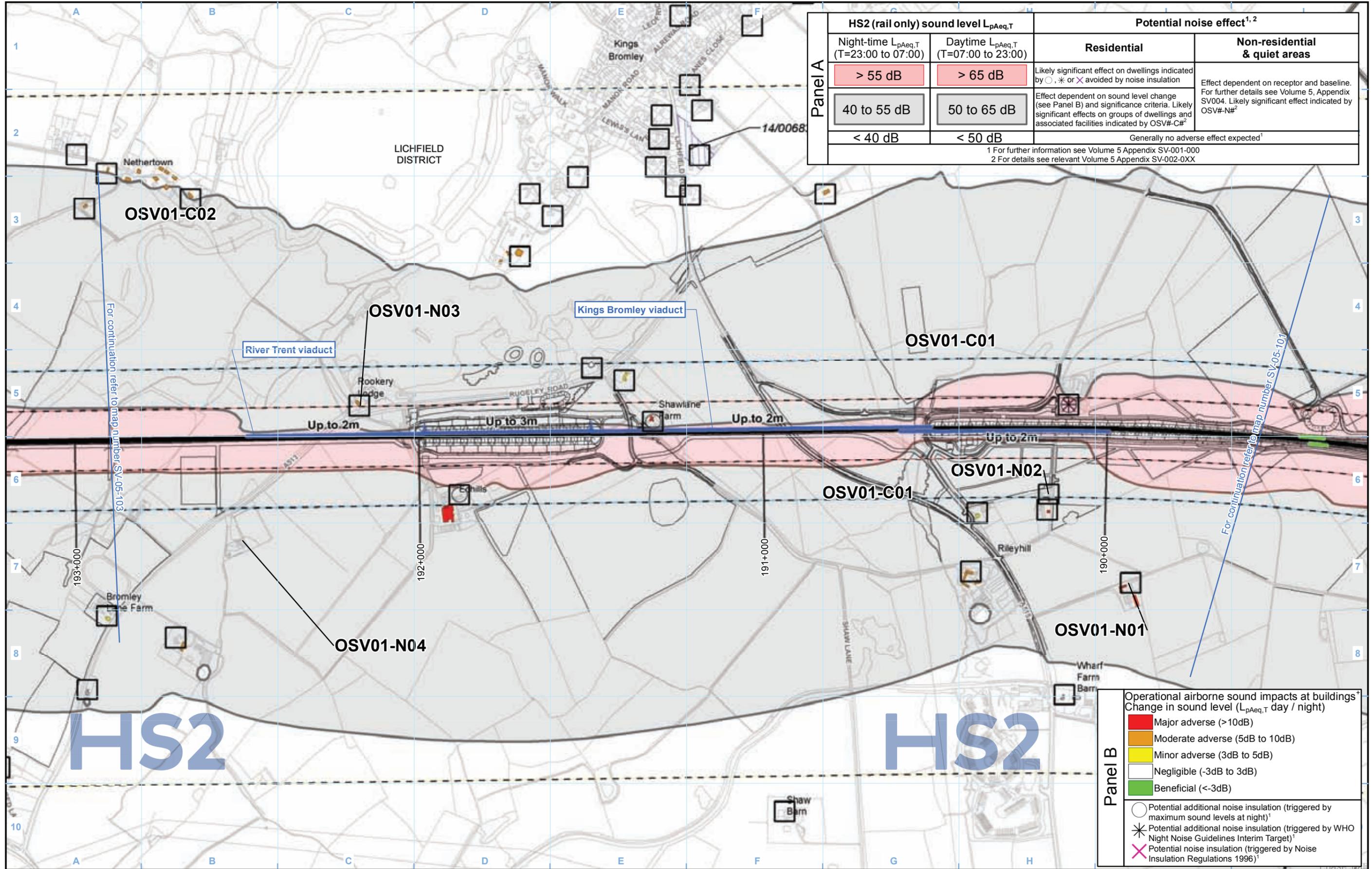
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Date: 07/06/17



Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N#*
40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>		
< 40 dB	< 50 dB	Generally no adverse effect expected <sup>1</sup>		

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX

Panel B	Operational airborne sound impacts at buildings* Change in sound level ( $L_{pAeq,T}$ day / night)	
	Major adverse (>10dB)	Minor adverse (3dB to 5dB)
	Moderate adverse (5dB to 10dB)	Negligible (-3dB to 3dB)
	Beneficial (<-3dB)	
○	Potential additional noise insulation (triggered by maximum sound levels at night) <sup>1</sup>	
*	Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target) <sup>1</sup>	
✕	Potential noise insulation (triggered by Noise Insulation Regulations 1996) <sup>1</sup>	

Legend - General features	
	Route in bored tunnel
	Route in cut and cover tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	County boundary
	District/Borough boundary

Legend - Sound related features	
	Committed developments - SV Only
	Envisaged mitigation to avoid / reduce significant noise effects:
	Landscaping and/or fence barriers*
	Engineering e.g. cuttings (green tunnels separately marked)
	Other environmental e.g. landscaping
	Engineering e.g. cuttings

Legend - Sound related features	
	1km Airborne sound study area
	Ground-borne sound & vibration study area (residential and non-residential)
	Ground-borne sound & vibration study area (highly sensitive non-residential)
	Ground-borne noise or vibration impact*
	$L_{pAFmax}$ exceeds 60dB façade**

Map Number: SV-05-102

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES

Community Area 1: Fradley to Colton

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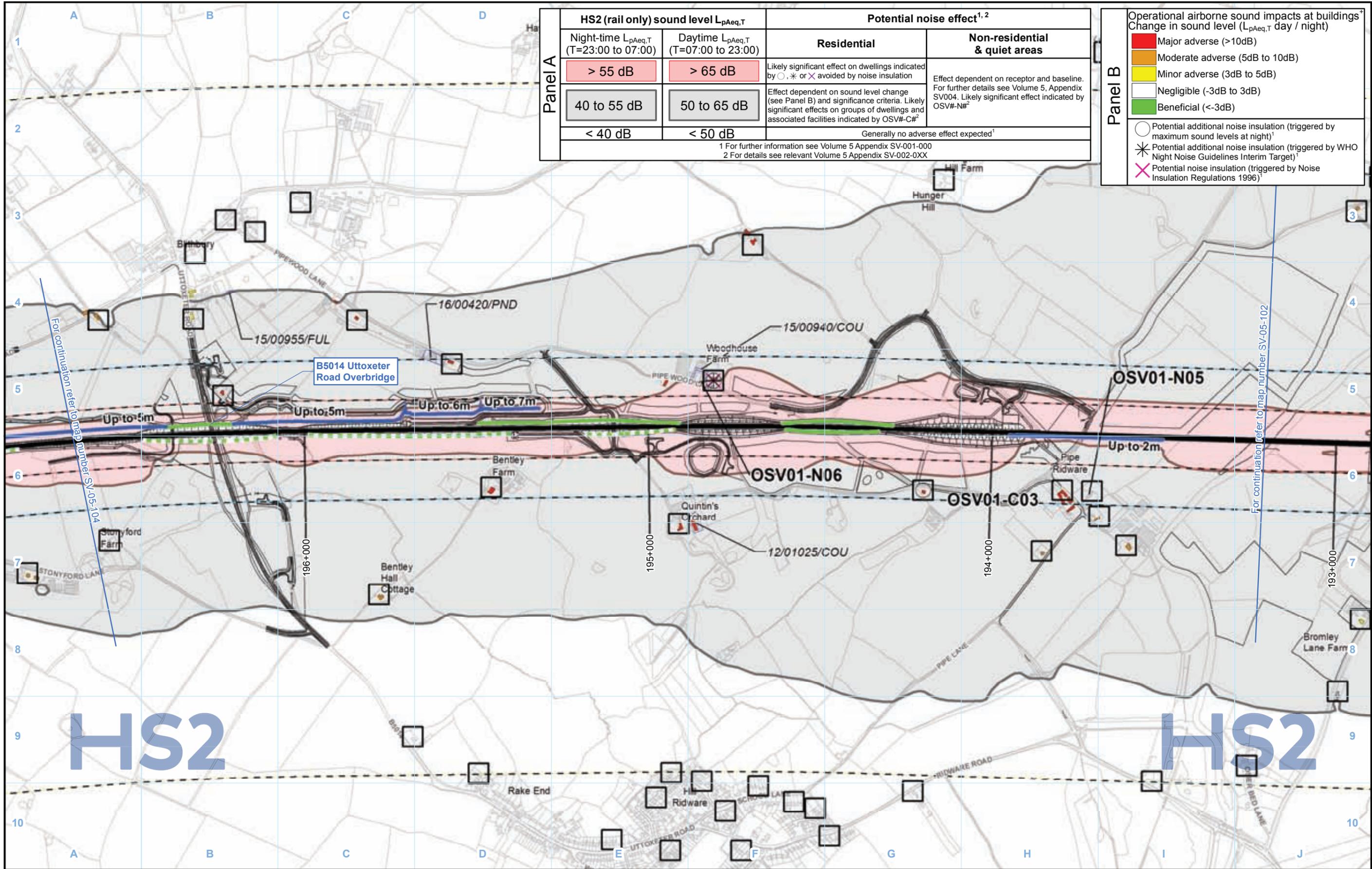
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Date: 06/12/18

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction



HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# <sup>2</sup>
40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	
< 40 dB	< 50 dB	Generally no adverse effect expected <sup>1</sup>	

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX

**Panel B**

Operational airborne sound impacts at buildings  
Change in sound level ( $L_{pAeq,T}$  day / night)

- Major adverse (>10dB)
- Moderate adverse (5dB to 10dB)
- Minor adverse (3dB to 5dB)
- Negligible (-3dB to 3dB)
- Beneficial (<-3dB)

- Potential additional noise insulation (triggered by maximum sound levels at night)<sup>1</sup>
- \* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)<sup>1</sup>
- ✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)<sup>1</sup>

# HS2

# HS2

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Legend - Sound related features**

Engineering earthworks: Non engineering earthworks:

- Embankment
- Cutting

Committed developments - SV Only

Envisaged mitigation to avoid / reduce significant noise effects:

- Landscaping and/or fence barriers\*
- Engineering e.g. cuttings (green tunnels separately marked)

Envisaged measures further reducing noise effects:

- Other environmental e.g. landscaping
- Engineering e.g. cuttings

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-103

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Area 1: Fradley to Colton

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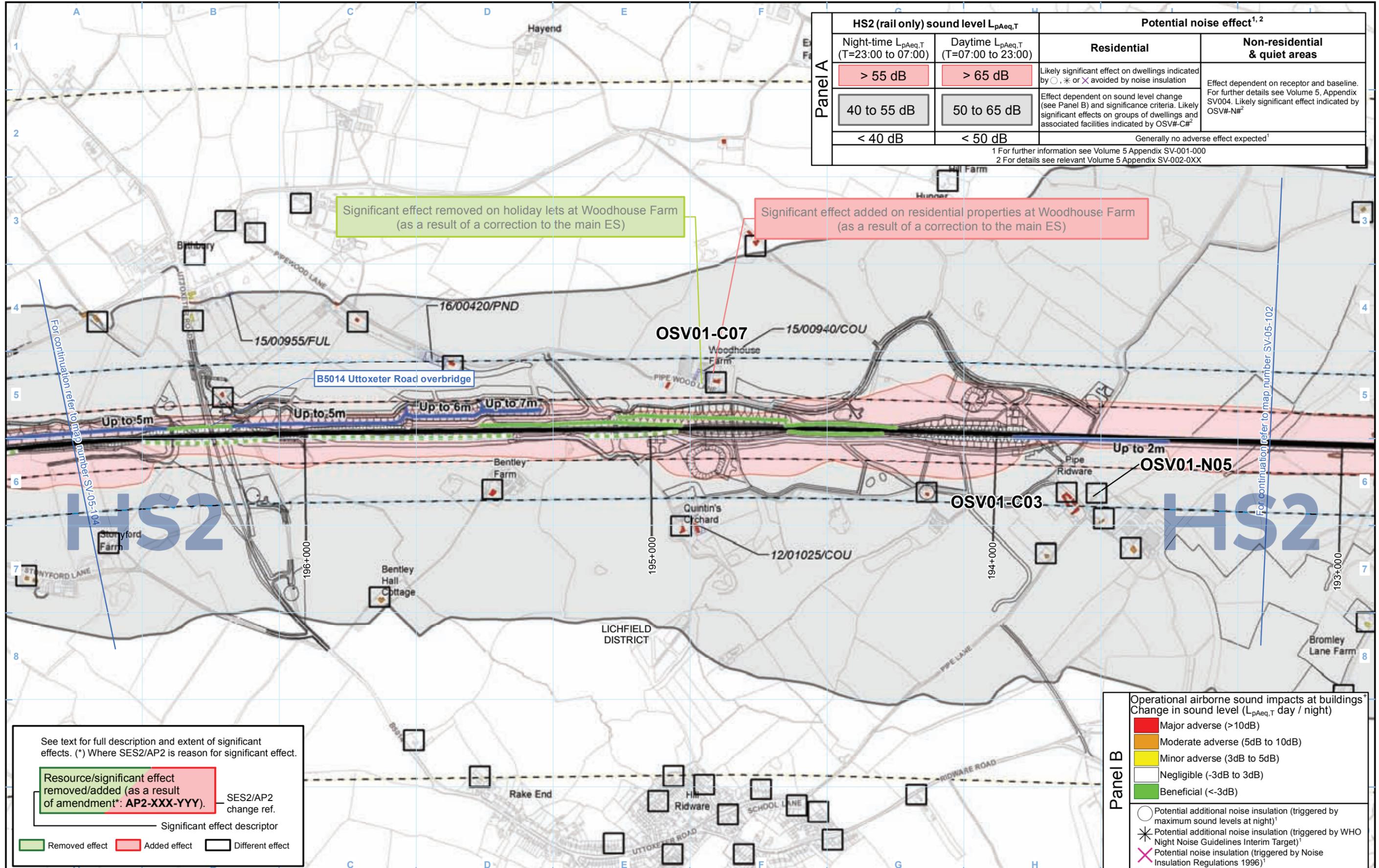
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Date: 07/06/17

Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N#*
	40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	
< 40 dB	< 50 dB	Generally no adverse effect expected <sup>1</sup>		

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX



See text for full description and extent of significant effects. (\*) Where SES2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment\*: AP2-XXX-YYY). SES2/AP2 change ref.

Significant effect descriptor

Removed effect Added effect Different effect

Operational airborne sound impacts at buildings\*  
Change in sound level ( $L_{pAeq,T}$  day / night)

- Major adverse (>10dB)
- Moderate adverse (5dB to 10dB)
- Minor adverse (3dB to 5dB)
- Negligible (-3dB to 3dB)
- Beneficial (<-3dB)

Potential additional noise insulation (triggered by maximum sound levels at night)<sup>1</sup>

Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)<sup>1</sup>

Potential noise insulation (triggered by Noise Insulation Regulations 1996)<sup>1</sup>

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

**Legend - Sound related features**

- Committed developments - SV Only
- Envisaged mitigation to avoid / reduce significant noise effects:
  - Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged measures further reducing noise effects:
  - Other environmental e.g. landscaping
  - Engineering e.g. cuttings
- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-103

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES

Community Area 1: Fradley to Colton

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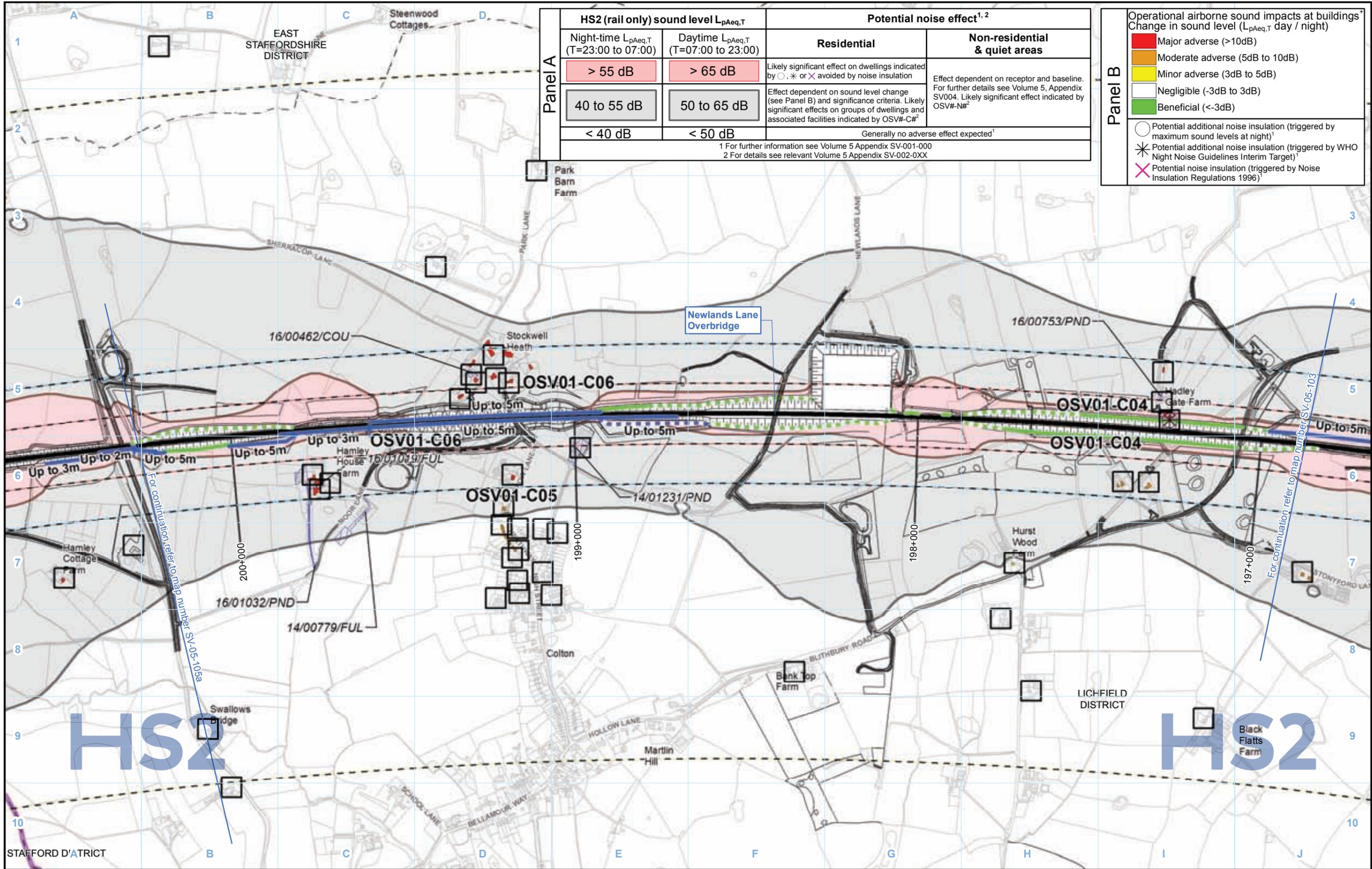
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HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# <sup>2</sup>
40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	
< 40 dB	< 50 dB	Generally no adverse effect expected <sup>1</sup>	

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX

Operational airborne sound impacts at buildings <sup>1</sup> Change in sound level ( $L_{pAeq,T}$ day / night)	
<span style="color:red">■</span>	Major adverse (>10dB)
<span style="color:orange">■</span>	Moderate adverse (5dB to 10dB)
<span style="color:yellow">■</span>	Minor adverse (3dB to 5dB)
<span style="color:white">■</span>	Negligible (-3dB to 3dB)
<span style="color:green">■</span>	Beneficial (<-3dB)

○ Potential additional noise insulation (triggered by maximum sound levels at night)<sup>1</sup>  
\* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)<sup>1</sup>  
✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)<sup>1</sup>

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Legend - Sound related features**

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax}$  + 2.5dB façade correction

**Legend - Sound related features**

Committed developments - SV Only

Envisaged mitigation to avoid / reduce significant noise effects:

- Landscaping and/or fence barriers\*
- Engineering e.g. cuttings (green tunnels separately marked)

Envisaged measures further reducing noise effects:

- Other environmental e.g. landscaping
- Engineering e.g. cuttings

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-104

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Area 1: Fradley to Colton

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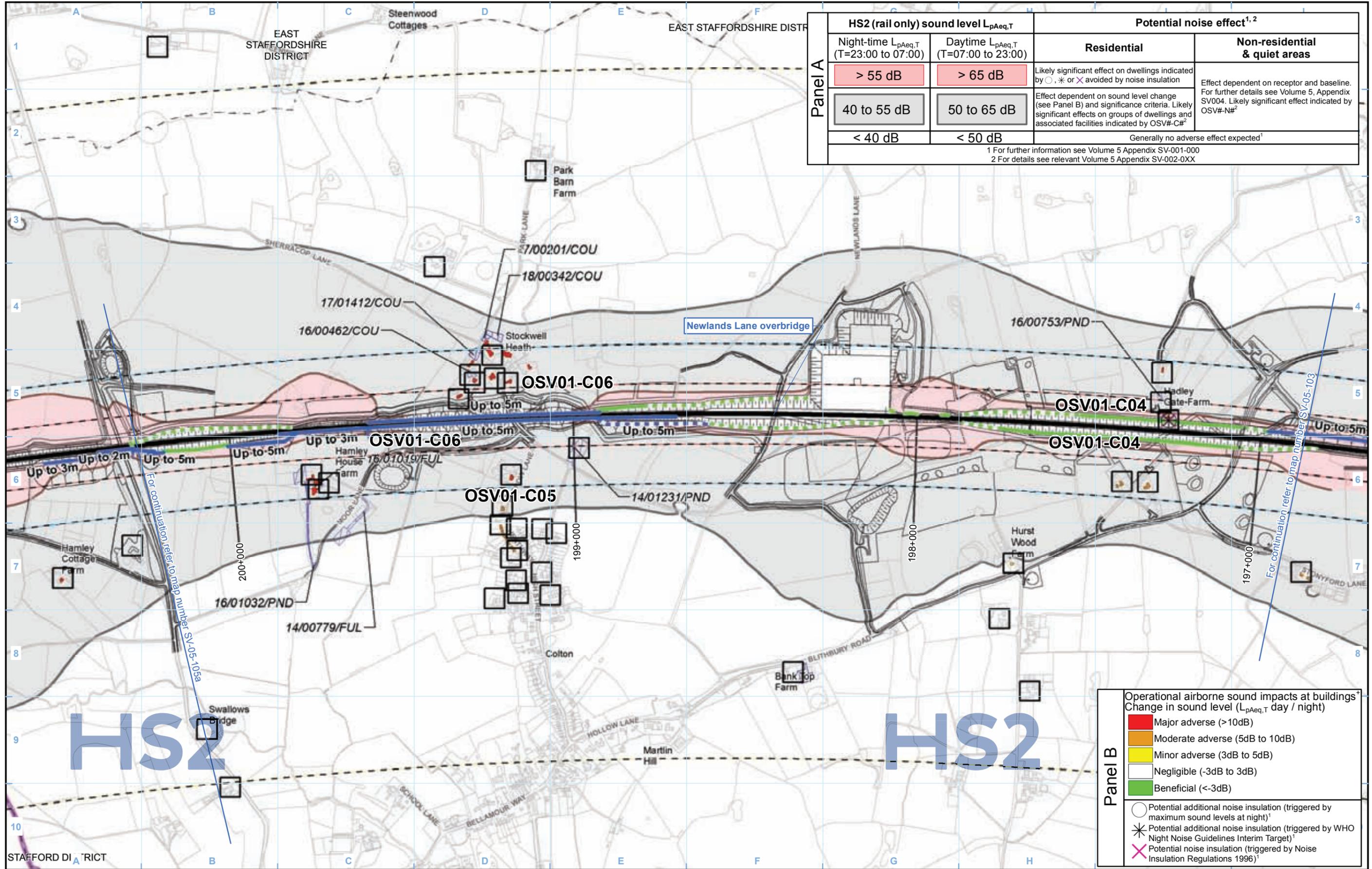
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Date: 07/06/17



Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N#*
	40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	
< 40 dB	< 50 dB	Generally no adverse effect expected <sup>1</sup>		
<sup>1</sup> For further information see Volume 5 Appendix SV-001-000 <sup>2</sup> For details see relevant Volume 5 Appendix SV-002-0XX				

Panel B	Operational airborne sound impacts at buildings* Change in sound level ( $L_{pAeq,T}$ day / night)				
	<span style="display:inline-block; width:15px; height:15px; background-color:red;"></span>	<span style="display:inline-block; width:15px; height:15px; background-color:orange;"></span>	<span style="display:inline-block; width:15px; height:15px; background-color:yellow;"></span>	<span style="display:inline-block; width:15px; height:15px; background-color:white; border:1px solid black;"></span>	<span style="display:inline-block; width:15px; height:15px; background-color:green;"></span>
	Major adverse (>10dB)	Moderate adverse (5dB to 10dB)	Minor adverse (3dB to 5dB)	Negligible (-3dB to 3dB)	Beneficial (<-3dB)
	○	*	✕		
	Potential additional noise insulation (triggered by maximum sound levels at night) <sup>1</sup> Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target) <sup>1</sup> Potential noise insulation (triggered by Noise Insulation Regulations 1996) <sup>1</sup>				

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Legend - Sound related features**

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

\* Residential buildings only  
 \* Labelled with total barrier height above rail level  
 \*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

**Legend - Sound related features**

- Committed developments - SV Only
- Envisaged mitigation to avoid / reduce significant noise effects:
  - Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged measures further reducing noise effects:
  - Other environmental e.g. landscaping
  - Engineering e.g. cuttings

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-104

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES

Community Area 1: Fradley to Colton

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