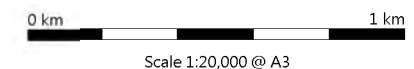


Key

- Site boundary
- 2km study area



Scale 1:20,000 @ A3

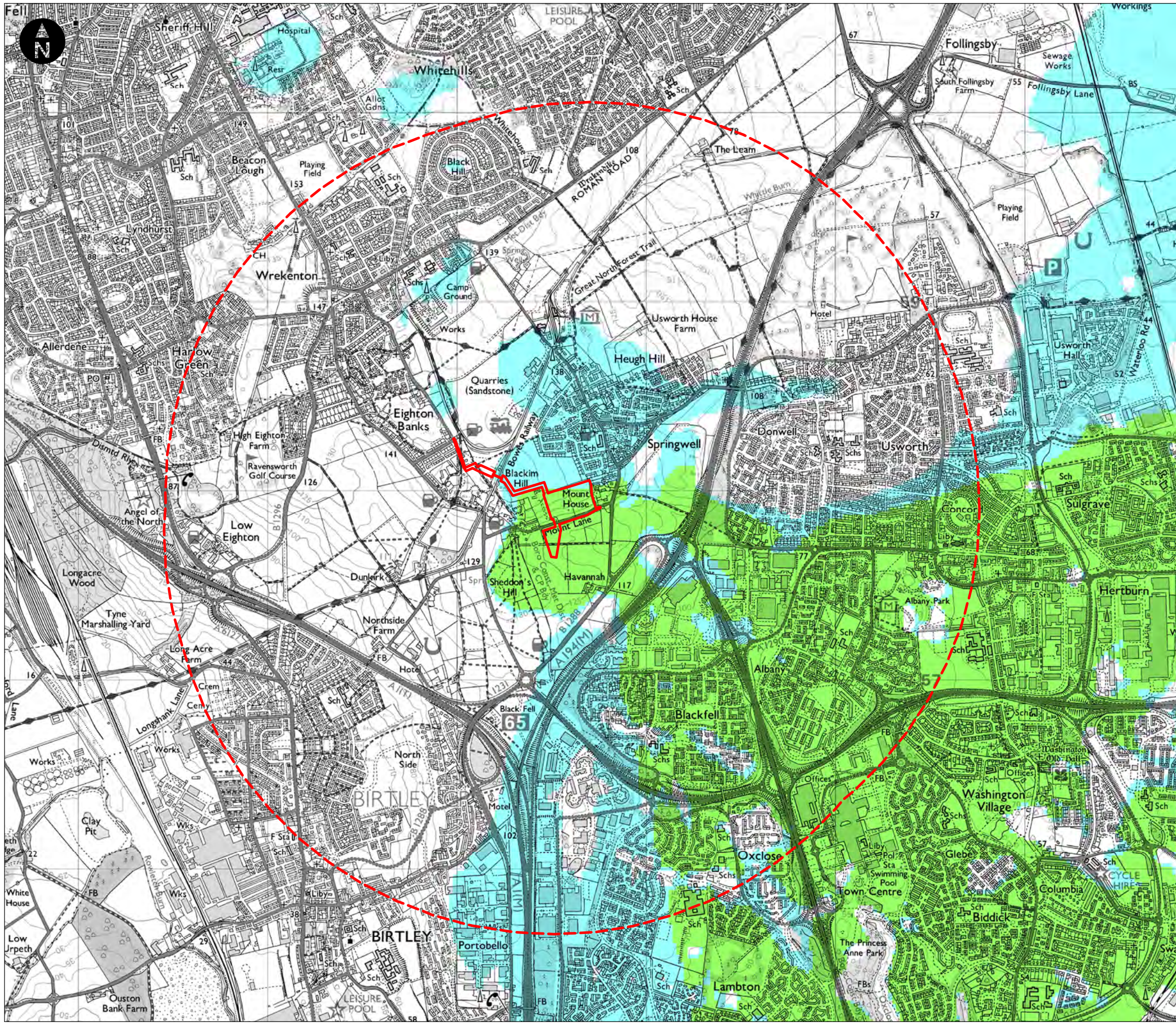
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Springwell Service Reservoir
Environmental Statement

Figure H.1
LVIA study area

April 2019





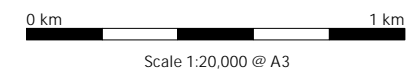
Key

- Site boundary
- 2km study area

Zones of Theoretical Visibility

- Existing and proposed scenarios may be visible
- Proposed scenario only may be visible

- Notes:
1. The ZTV does not take into account the screening effects of buildings or vegetation.
 2. ZTV viewer height above ground = 2m.
 3. The ZTV has been run using "OS Terrain 50" DTM topographic height data.
 4. Basis for the proposed scenario is illustrated using the most elevated points of the proposed landform to model the ZTV.



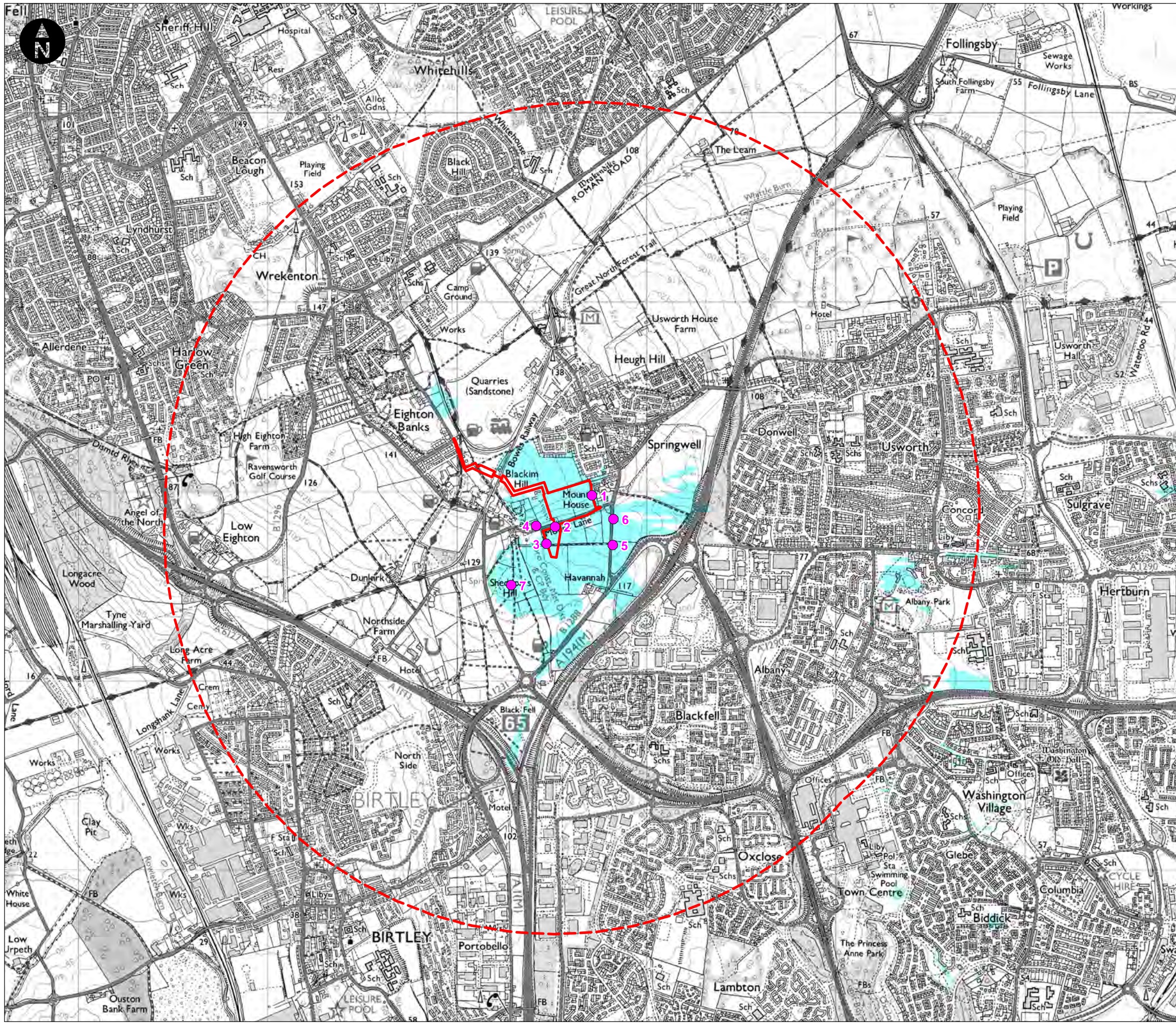
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Springwell Service Reservoir
Environmental Statement

Figure H.2
Comparative Zone of Theoretical
Visibility for the existing and
proposed scenarios

April 2019





Key

- Site boundary
- 2km study area

Zone of Theoretical Visibility

- Proposed scenario may be visible

Notes:

1. Structures or vegetation exclusion zones have been generated utilising OS Vectormap District boundary data.
2. Screening effects of structures have been modelled using a representative height of 7.5m, vegetation has been modelled at a representative height of 10m.
3. ZTV viewer height above ground = 2m.
4. The ZTV has been run using "OS Terrain 50" DTM topographic height data.
5. Basis for the proposed scenario is illustrated using the most elevated points of the proposed landform to model the ZTV.

● Viewpoint locations

1. Broom Court.
2. Mount Lane.
3. PRoW to the south of Mount Lane.
4. Mount Lonnen.
5. B1288 adjacent to the eastern end of a PRoW.
6. B1288 at Stable Block.
7. PRoW at Sheddon's Hill.

0 km 1 km

Scale 1:20,000 @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.3
Zone of Theoretical Visibility
for the proposed scenario
including screening



Viewpoint 1a: Existing 90° view from Broom Court Looking Southwest



Viewpoint 1a: Proposed 90° view from Broom Court Looking Southwest Year 1

Viewpoint Parameters

Grid reference:	428712, 557980
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	78 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:07



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.4i
Viewpoint 1a:
Photomontage from Broom Court Looking Southwest Year 1

April 2019



Q:\Projects\38525 Innovate UK Drainage-Transport Study\Photomontage Work\Indd\38525-Gos27b_VP1a_southwest_year15.indd Originator: Tristan Stephens



Viewpoint 1a: Existing 90° view from Broom Court looking southwest



Viewpoint 1a: Proposed 90° view from Broom Court looking southwest Year 15

Viewpoint Parameters

Grid reference:	428712, 557980
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	78 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:07



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.4ii
Viewpoint 1a:
Photomontage from Broom Court Looking
Southwest Year 15

April 2019





Viewpoint 1b: Existing 90° view from Broom Court looking northwest



Viewpoint 1b: Proposed 90° view from Broom Court looking northwest Year 1

Viewpoint Parameters

Grid reference:	428712, 557980
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	78 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:07



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.5i
Viewpoint 1b:
Photomontage from Broom Court Looking
Northwest Year 1

April 2019





Viewpoint 1b: Existing 90° view from Broom Court looking northwest



Viewpoint 1b: Proposed 90° view from Broom Court looking northwest Year 15

Viewpoint Parameters

Grid reference:	428712, 557980
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	78 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:07



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir Environmental Statement

**Figure H.5ii
Viewpoint 1b:
Photomontage from Broom Court Looking
Northwest Year 15**

April 2019



Viewpoint Parameters

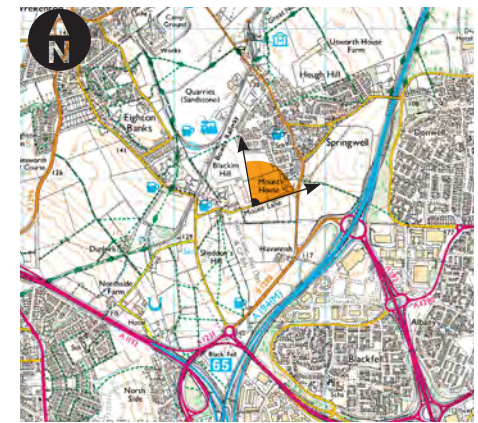
Grid reference:	428517, 557815
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	70 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:50



Viewpoint 2: Existing 90° view from Mount Lane



Viewpoint 2: Proposed 90° view from Mount Lane Year 1



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.6i
Viewpoint 2:
Photomontage from Mount Lane
Year 1

April 2019





Viewpoint 2: Existing 90° view from Mount Lane



Viewpoint 2: Proposed 90° view from Mount Lane Year 15

Viewpoint Parameters

Grid reference:	428517, 557815
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	70 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:50



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.6ii
Viewpoint 2:
Photomontage from Mount Lane
Year 15

April 2019





Viewpoint 3: Existing 90° view from PRoW to the South of Mount Lane



Viewpoint 3: Proposed 90° view from PRoW to the South of Mount Lane Year 1

Viewpoint Parameters

Grid reference:	428471, 557724
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	170 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 16:27



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.7i
Viewpoint 3:
Photomontage from PRoW to the south
of Mount Lane Year 1

April 2019





Viewpoint 3: Existing 90° view from PRoW to the south of Mount Lane



Viewpoint 3: Proposed 90° view from PRoW to the south of Mount Lane Year 15

Viewpoint Parameters

Grid reference:	428471, 557724
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	170 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 16:27



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.7ii
Viewpoint 3:
Photomontage from PRoW to the south
of Mount Lane Year 15

April 2019





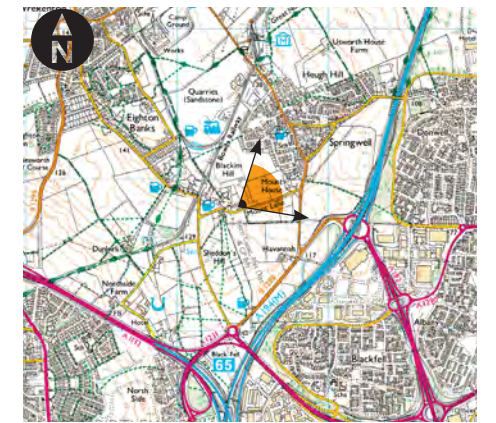
Viewpoint 4: Existing 90° view from Mount Lonnen



Viewpoint 4: Proposed 90° view from Mount Lonnen Year 1

Viewpoint Parameters

Grid reference:	428417, 557820
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	130 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 14:02



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.8i
Viewpoint 4:
Photomontage from Mount Lonnen
Year 1

April 2019





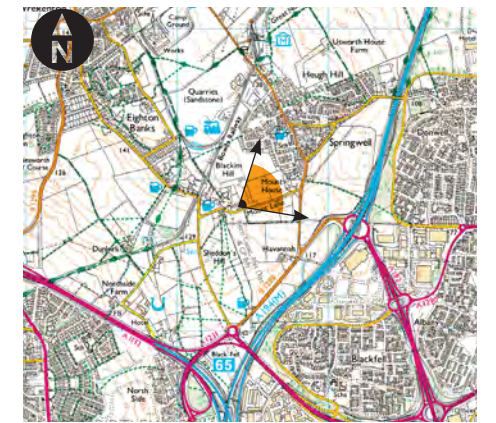
Viewpoint 4: Existing 90° view from Mount Lonnen



Viewpoint 4: Proposed 90° view from Mount Lonnen Year 15

Viewpoint Parameters

Grid reference:	428417, 557820
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	130 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 14:02



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.8ii
Viewpoint 4:
Photomontage from Mount Lonnen
Year 15

April 2019





Viewpoint 6: Existing 90° view from B1288 adjacent PRoW



Viewpoint 6: Proposed 90° view from B1288 adjacent PRoW Year 1

Viewpoint Parameters

Grid reference:	428821, 557718
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	266 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:28



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.9i
Viewpoint 5:
Photomontage from B1288 adjacent to
the eastern end of a PRoW Year 1

April 2019



Viewpoint Parameters

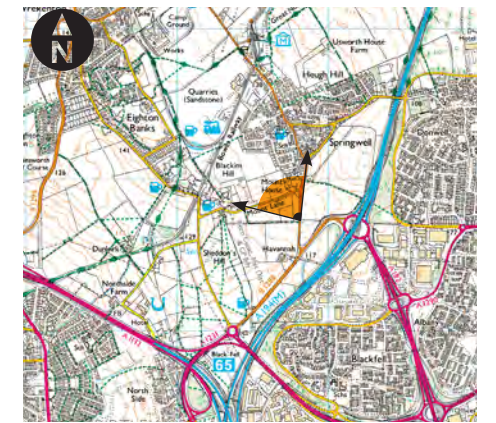
Grid reference:	428821, 557718
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	266 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 13:28



Viewpoint 6: Existing 90° view from B1288 adjacent PRoW



Viewpoint 6: Proposed 90° view from B1288 adjacent PRoW Year 15



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.9ii
Viewpoint 5:
Photomontage from B1288 adjacent to
the eastern end of a PRoW Year 15

April 2019





Viewpoint 6: Existing 90° view from B1288 at Stable Block

Viewpoint Parameters Viewpoint 6

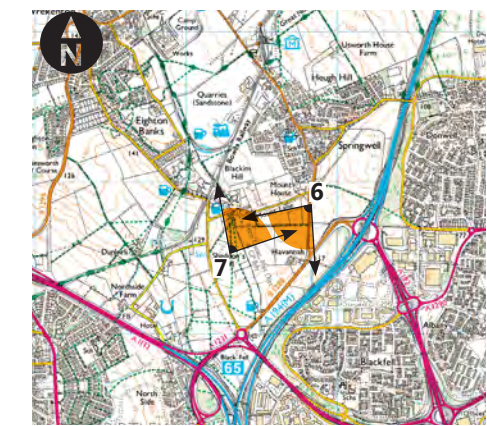
Grid reference:	428284, 557506
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	204 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 14:15

Viewpoint Parameters Viewpoint 7

Grid reference:	428825, 557854
Horizontal field of view:	90° (cylindrical projection)
Nearest distance to reservoir landform highpoint:	561 m
Principal distance:	400mm
Paper size	420mm x 297mm (A3)
Camera :	Canon EOS 5D MarkII
Lens:	Canon EF 50mm f/1.4 USM
Camera Height:	1.6m AGL
Date and time:	22/10/2018 12:50



Viewpoint 7: Existing 90° view from PRoW at Sheddons Hill



0 km 1.5 km

Scale @ A3

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Springwell Service Reservoir
Environmental Statement

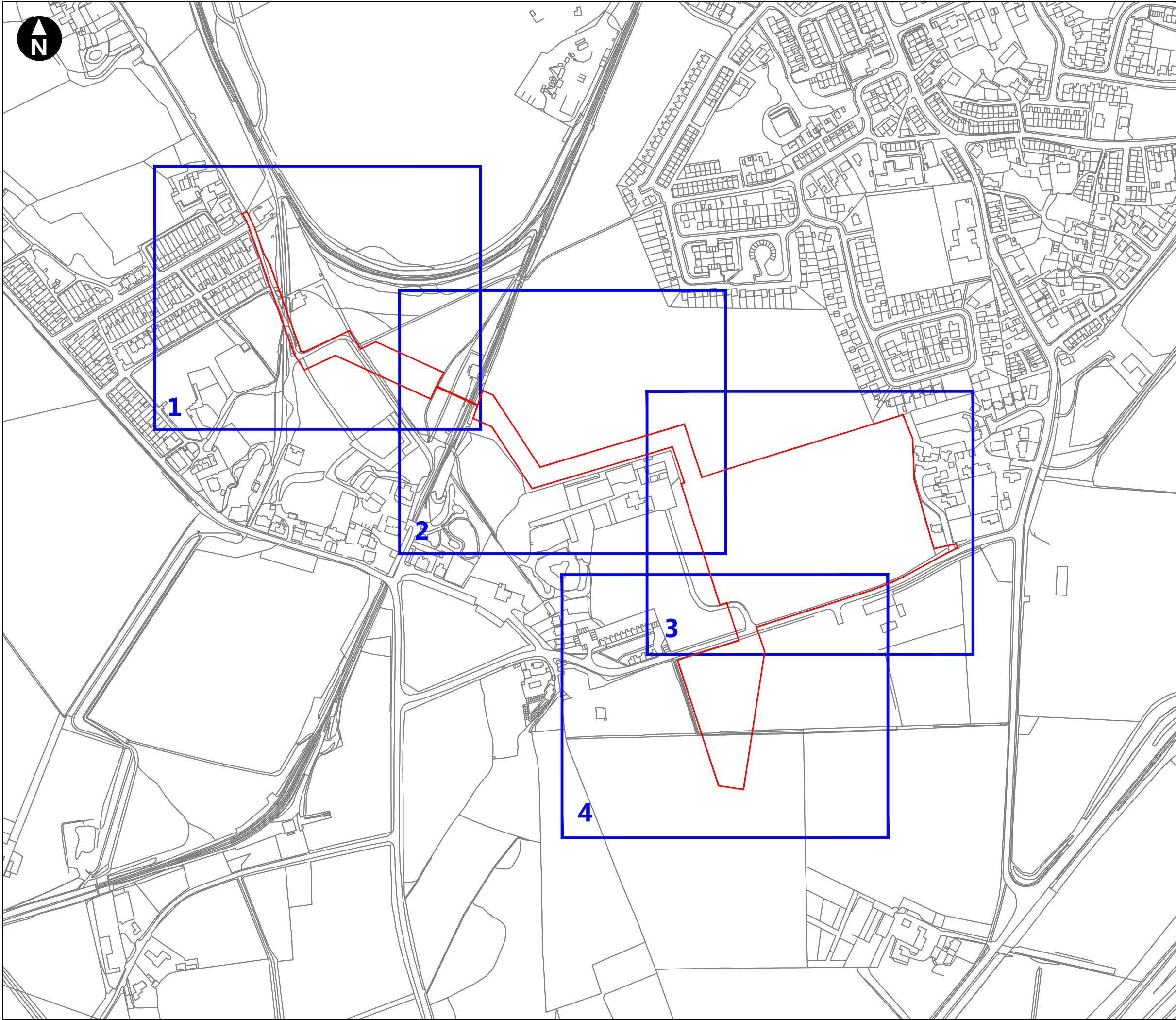
Figure H.10
Viewpoint 6:
From B1288 at Stable Block
and
Viewpoint 7:
From PRoW at Sheddons Hill

April 2019





Key
 Site boundary



0 m  200 m
Scale 1:4,000 @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.11i
Vegetation removal and retention plan



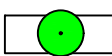



April 2018




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- Key
-  Site boundary
 -  Existing defunct hedgerow
 -  Individual shrubs/trees to be retained
 -  Public Right of Way
 -  Major existing contour
 -  Minor existing contour



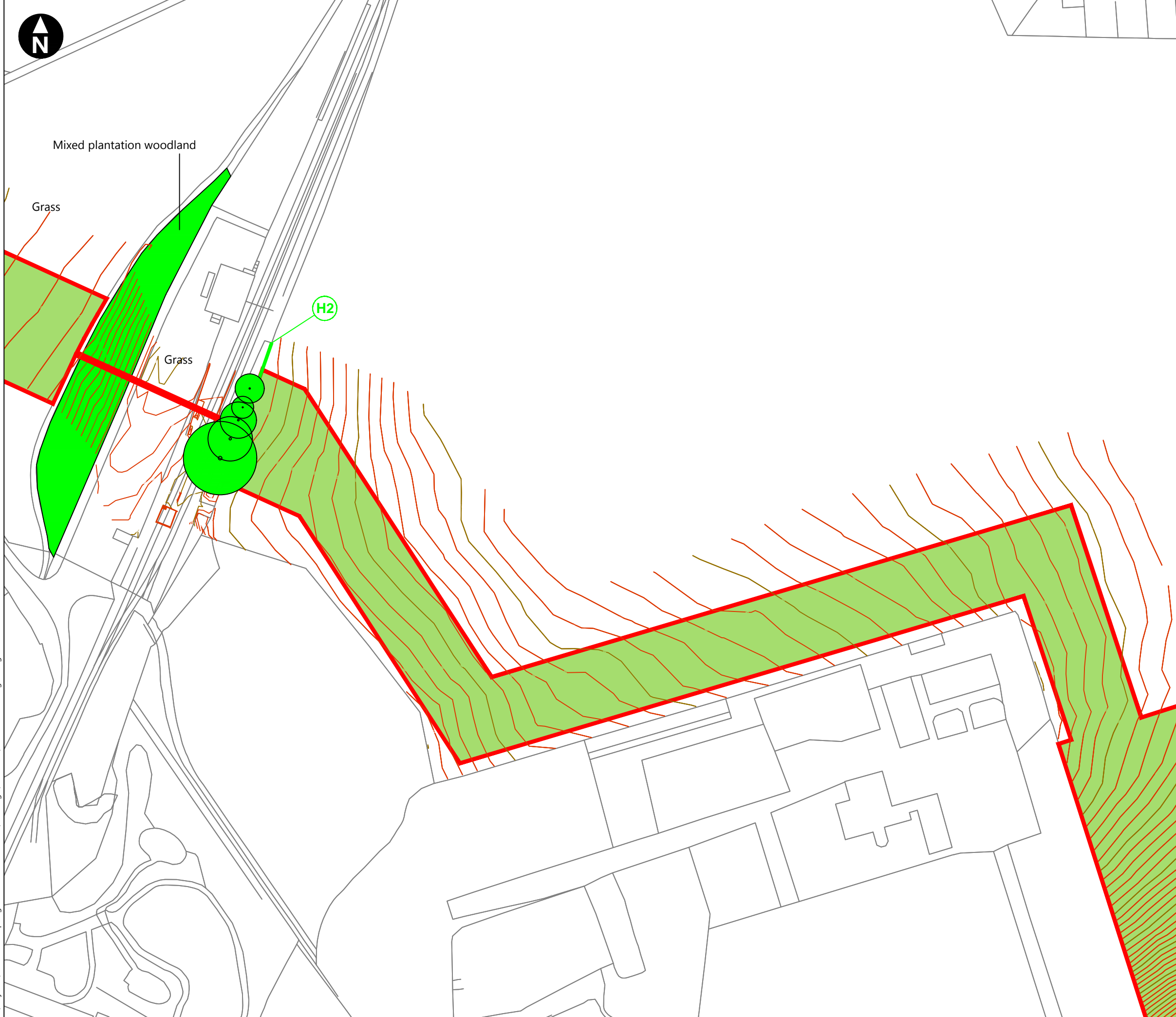
Scale 1:1000 @ A3
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Springwell Service Reservoir
 Environmental Statement

Figure H.11ii
Vegetation removal and retention plan

April 2018





- Key
- Site boundary
 - Existing defunct hedgerow
 - Grassland
 - Individual shrubs/trees to be retained
 - Major existing contour
 - Minor existing contour



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Springwell Service Reservoir
Environmental Statement

Figure H.11iii
Vegetation removal and retention plan

April 2018



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- Key
- Site boundary
 - Existing defunct hedgerow
 - Existing intact hedgerow
 - Section of hedgerow to be removed
 - Grassland
 - Individual shrubs/trees to be retained
 - Major existing contour
 - Minor existing contour



Scale 1:1000 @ A3
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Springwell Service Reservoir
 Environmental Statement

Figure H.11iv
Vegetation removal and retention plan

April 2018



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- Key
- Site boundary
 - Existing defunct hedgerow
 - Existing intact hedgerow
 - Section of hedgerow to be removed
 - Grassland
 - Individual shrubs/trees to be retained
 - Public Right of Way
 - Major existing contour
 - Minor existing contour

0 m 50 m
Scale 1:1000 @ A3

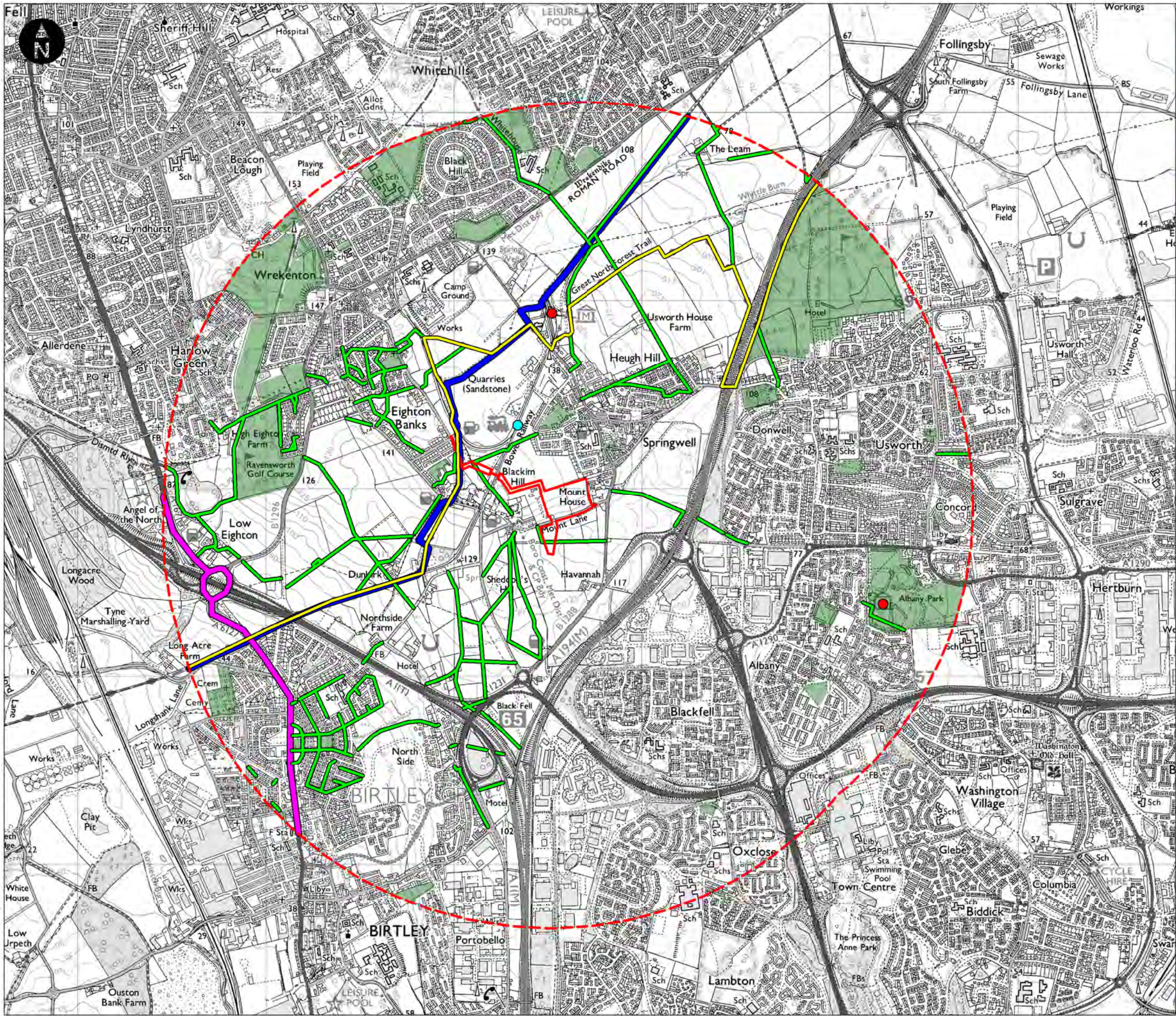
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Springwell Service Reservoir
Environmental Statement

Figure H.11v
Vegetation removal and retention plan

April 2018





- Key
- Site boundary
 - 2km study area
 - Great North Forest Trail
 - National Cycle Route 725
 - Regional Cycle Route 11
 - Public Right of Way
 - Greenspace
 - Museum
 - BOWES Railway

0 km 1 km

Scale 1:20,000 @ A3

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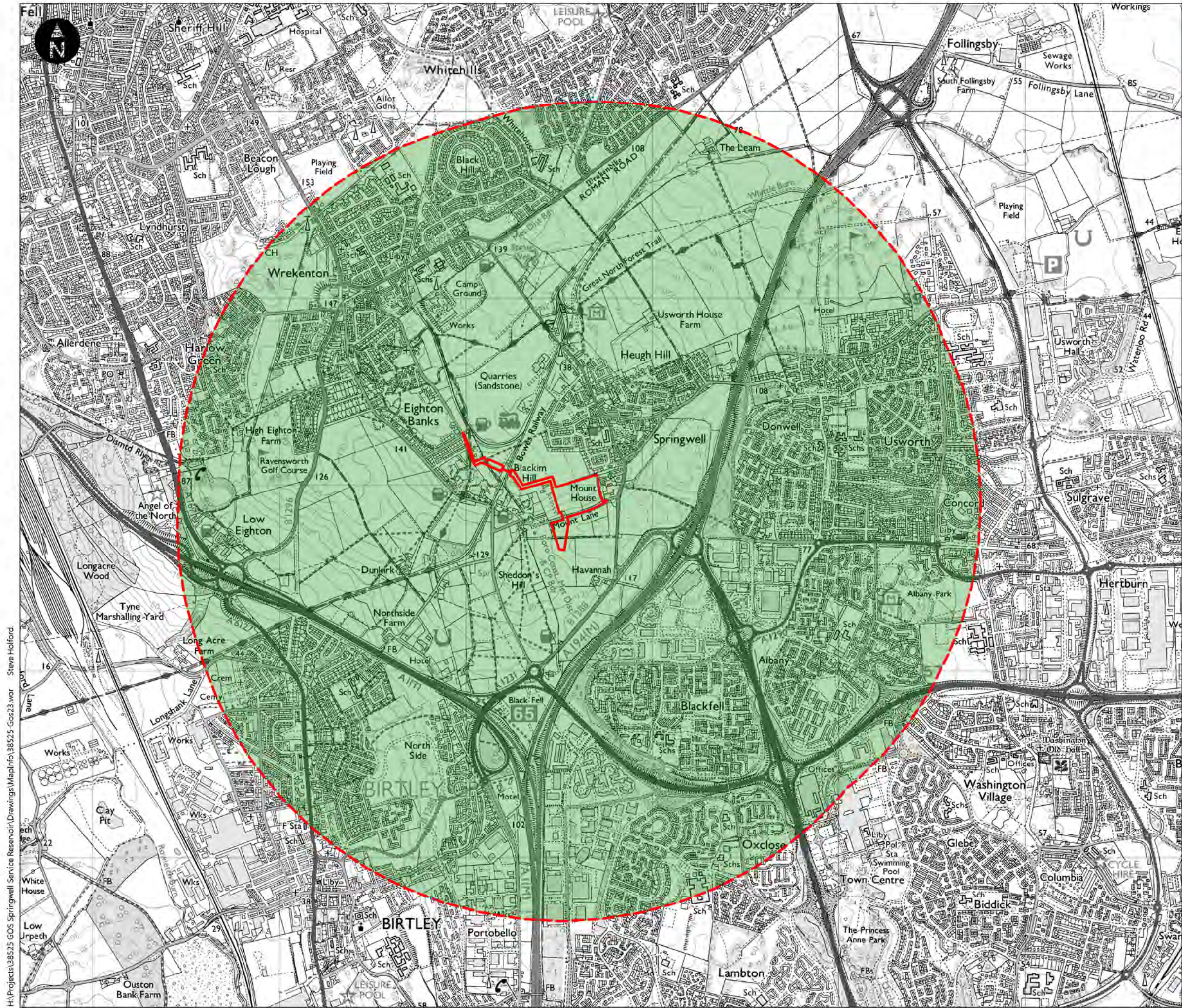
Springwell Service Reservoir
Environmental Statement

Figure H.12
Recreational routes
and tourist destinations

April 2019



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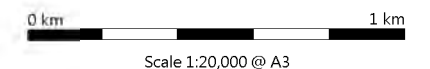


Key

- Site boundary
- 2km study area

National Character Areas

- 14 - Tyne and Wear Lowlands



Scale 1:20,000 @ A3

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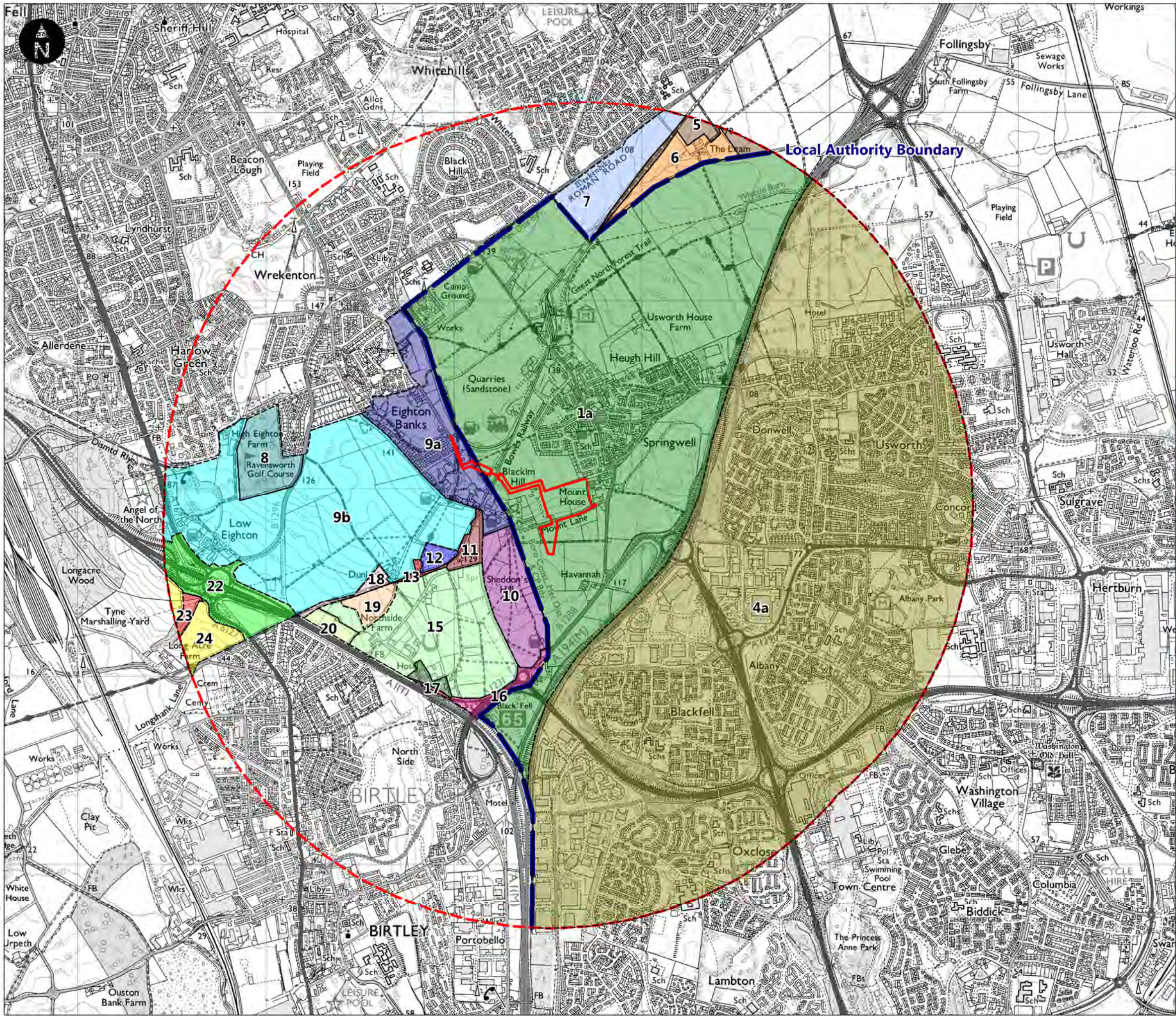
Springwell Service Reservoir
Environmental Statement

Figure H.13
National Character Areas

April 2019



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Key

- Site boundary
- 2km study area

Sunderland Landscape Character Types

- 1a - Coalfield Ridge
- 4a - Urban New Town

Gateshead Landscape Character Types

- 5 - Rolling Arable Farmland
- 6 - Shallow Valley Farmland
- 7 - Residential Edge Pasture
- 8 - Rolling Amenity
- 9a - Pastoral Urban Fringe
- 9b - Rolling Farmland
- 10 - Rolling Improved Pasture
- 11 - Pasture Farmland
- 12 - Vegetated Plateau
- 13 - Disused Railway Line
- 15 - Undulating Pasture
- 16 - Verge Grassland
- 17 - Undulating Pastoral Farmland
- 18 - Rolling Farmland
- 19 - Arable Farmland
- 20 - Small Area of Grazing Land
- 22 - A1(T) Corridor
- 23 - Steep Sided Valley with Mature Woodland
- 24 - Gently Undulating Mixed Use Area

0 km 1 km
Scale 1:20,000 @ A3






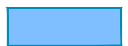
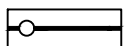
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Springwell Service Reservoir
Environmental Statement

Figure H.14
Landscape Character Types

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- Key
-  Site boundary
 -  Native trees
 -  Native woodland
 -  Hedgerow trees
 -  Hedgerow reinstatement
 -  SUDS
 -  Fence



PROPOSED TWIN
COMPARTMENT RESERVOIR
81m x 61.25m x 7m DEEP

Ditch / swale

Swale / habitat creation

MOUNT LANE

MOUNT LODGE

0 m  50 m

Scale 1:1,000 @ A3

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Springwell Service Reservoir
Environmental Statement

Figure H.15
Landscape mitigation proposals

November 2018



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