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Department for Infrastructure
An Roinn Bonneagair
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A5 WTC
Western Transport Corridor

ENVIRONMENTAL STATEMENT
NON-TECHNICAL SUMMARY

PROPOSED SCHEME
February 2016

REVISION B - MARCH 2019

SCHEDULE OF CHANGES

The following schedule provides details of the pages where the NTS has been changed since the April 2016 Rev A document.

The reader should note that the inclusion of additional pages has resulted in pages being renumbered as indicated.

Page No	Description	April 2016 NTS Page No
All pages	Renumbered and Rev B added.	
Front Cover	Logos, date and Rev updated.	Front Cover
3	Context - New Section; and Revised text box at bottom of page.	New
4	Introduction – edits to 2nd paragraph.	2
5	EIA and the ES – edits to second paragraph; and Background – revised first paragraph.	3
6	Background – new and revised text throughout section; and Consultation – new sentence added at end of section.	4
9	Existing Environment – Text added regarding unauthorised quarrying at Urbalreagh.	7
11	Proposed Scheme – 1st paragraph – text added.	8
13	Construction – Dates for phasing amended.	11
15	Mapping – page numbers changed for all maps.	13
24	Map 09 – box and text box added regarding unauthorised quarrying location.	22
39	Map 24 – circle and text for cultural heritage added.	37
46	Environmental Impacts, Mitigation and Significant Impacts – Consultee list updated.	44
47	Cultural Heritage – numbers of sites affected amended; and new bullet added.	45
48	Cultural Heritage – numbers of sites affected amended.	46
49	Landscape Effects – Minor text amendment.	47
50	Landscape Effects – new paragraph added.	48
52	Noise and Vibration - numbers of receptors affected amended.	50
56	Road Drainage and the Water Environment – new bullet added.	54
57	Cumulative Effects – section reworded and added to.	55
58	Construction Management – minor change to text for clarity.	55
59	Notes – title of section added.	New
Back Cover	Minor text additions regarding ESA2019; consultation dates; deposit locations; document number added.	56

CONTEXT

This Non-Technical Summary has been updated and re-issued to support the publication of an Environmental Statement Addendum, March 2019 (ESA 2019).

The ESA 2019 reflects that time has passed and captures change that has occurred in both the existing environment and also the project delivery process. The focus, as listed below, has been to identify any aspect of the process which has the potential to result in change to the previously assessed impacts of the A5 Western Transport Corridor (Proposed Scheme), as reported in the published Environmental Statement 2016 (ES 2016):

- Changes to the phased construction timetable;
- Changes to baseline conditions (including the impacts as a result of unauthorised quarrying in the townland of Urbalreagh);
- Changes in legislation and guidelines used in the assessment process; and in addition
- Assessing the interactions and cumulative effects.

The ES 2016 was published under the 2011 EIA Directive. The 2014 EIA Directive is clear that where a screening, scoping or ES is submitted prior to the time limit for transposition (16th May 2017), the related provisions of the 2011 EIA Directive (2011/92/EU) should apply.

As ESA 2019 is an extension of ES 2016 it also falls within the transitional arrangements of the 2014 EIA Directive (2014/52/EU).

The NTS has been re-issued to accompany the Environmental Statement Addendum 2019. It should be noted that the content of the main ES volumes (ES 2016) has not changed.

INTRODUCTION

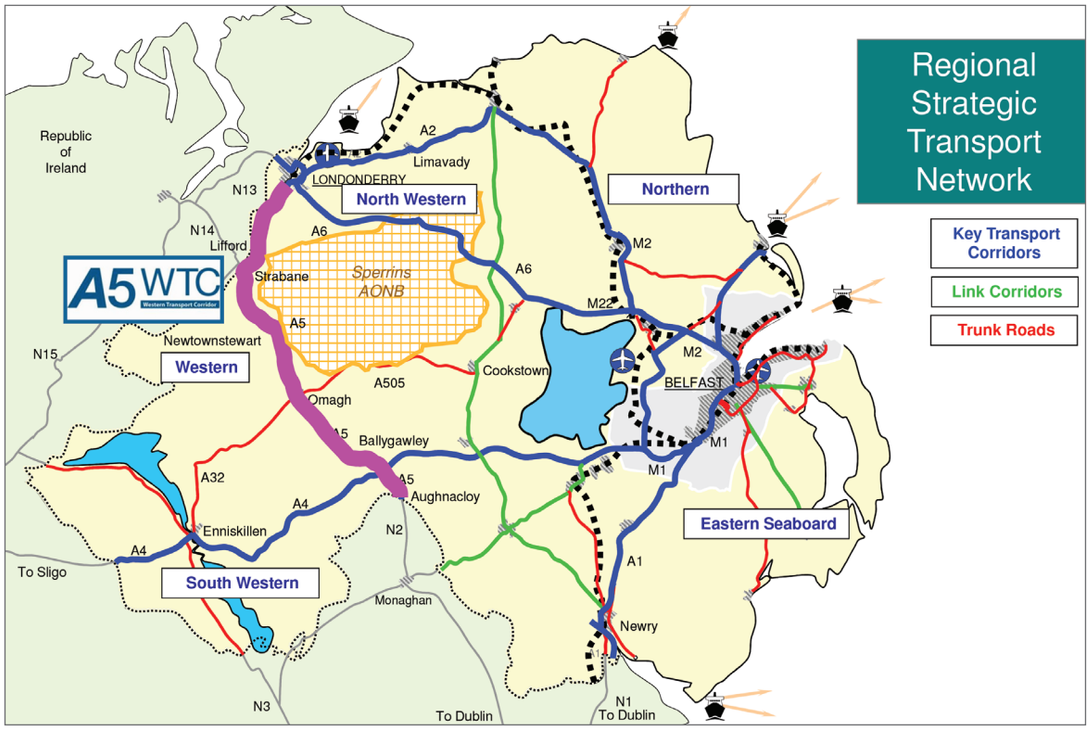
"Ensuring a Sustainable Transport Future – A New Approach to Regional Transportation" launched in April 2012 complements the Regional Development Strategy 2035 and aims to achieve the transport vision of having a modern, sustainable, safe transportation system. The document has twelve strategic objectives the first of which is to improve connectivity within the region and it recognises the need to complete the work identified in the Regional Strategic Transport Network Plan and Strategic Roads Improvement Programme.

The A5 Western Transport Corridor (A5WTC), is one of five key transport corridors making up the strategic road network across Northern Ireland. The Department for Infrastructure (DfI) Roads is promoting the dualling of the A5 Western Transport Corridor (A5WTC) as part of its improvement programme. The Proposed Scheme would significantly improve safety and journey times along this route and, in addition to improving the links between the urban centres in the west of the province, provide a strategic link with international gateways. At the border with the Republic of Ireland (ROI) it will connect with the N2 route which the Irish Government is currently promoting.

Subject to consent, the Proposed Scheme would involve the construction of 85kms of predominantly dual carriageway running between Newbuildings and the border with ROI immediately south of Aughnacloy. It would improve strategic links between the urban centres of Londonderry, Strabane, Omagh, and Aughnacloy and links to international gateways. It would be crossed by three key routes, the A4 Key Transport Corridor (Belfast - Enniskillen – Sligo), the A32 Trunk Road (Enniskillen – Omagh) and the A38/N14 Lifford/Strabane cross border link road; the latter being upgraded as a separate project with a new crossing of the River Finn and planned to be constructed at the same time as the Strabane section of the A5WTC. In Londonderry it would also link to the A6 Key Transport Corridor (Londonderry - Belfast) and the A2 Key Transport Corridor (Londonderry – Limavady). The termination of the proposed dual carriageway at Junction 2 allows for any future new link to the A6. In Omagh the A5WTC would link to the A505 Trunk Road (Omagh - Cookstown) via the existing A5 and the proposed Junction 13 (South of Omagh).

The key objectives of the Proposed Scheme are:

- to improve road safety;
- to improve the road network in the west of the Province and North/South links;
- to reduce journey travel times;
- to provide improved overtaking opportunities for motorists; and
- to develop the final proposals in light of safety, economics, environmental, integration and accessibility considerations.



ENVIRONMENTAL IMPACT ASSESSMENT AND THE ENVIRONMENTAL STATEMENT

The Proposed Scheme constitutes Environmental Impact Assessment (EIA) development. It is accordingly subject to the requirements of the EIA Directive 2011/92/EU and Part V of The Roads (Northern Ireland) Order 1993 as substituted by the Roads (Environmental Impact Assessment) Regulations (Northern Ireland) 1999 and amended by The Roads (Environmental Impact Assessment) Regulations (Northern Ireland) 2007.

Under the Regulations, the Department, as promoter of the project is required to produce an Environmental Statement (ES) reporting the findings of studies and assessments which have been undertaken to investigate to what extent, if any, the implementation of the Proposed Scheme would be likely to have a significant effect or significant effects on the environment. An ES was prepared and published in February 2016 (ES 2016) and supporting Non-Technical Summary (NTS Rev A April 2016). A NTS is a required part of an ES under Annex IV of the Regulations. It outlines the information contained in the ES 2016 in accordance with the Regulations. The NTS has been updated to Rev B to support the publication of the ESA in March 2019.

The information provided in the ES is open to comment from any interested party including members of the public. The information must be taken into account by the decision maker in advance of any decision regarding development consent along with any representations relating to the ES and environmental information other parties submit for consideration.

BACKGROUND

The scheme has been submitted for determination twice before, in 2010 and 2016, and in both cases Environmental Statements (ES 2010 and ES 2016) were prepared, consulted on and considered

at Public Inquiry. The environmental information provided in both ES 2010 and ES 2016 was found to be robust in scope and content such that it enabled decisions to be made in relation to proceeding with the scheme in 2012 and 2017 respectively.

The Proposed Scheme, which formed the focus of the A5WTC ES 2016 was substantially similar to the scheme proposed in 2010. Notwithstanding the similarity and robustness of the environmental information provided in the A5WTC ES 2010, there were a number of factors which resulted in a need for the preparation of a new project specific ES for the Proposed Scheme:

- Time had elapsed since the completion of baseline studies and surveys which informed the assessments reported in the A5WTC ES 2010 such that it was concluded that further studies and surveys should be undertaken for many of the likely effects which were previously identified and remain pertinent to the Proposed Scheme;
- It was recognised that the intention to now phase construction and opening of sections of the Proposed Scheme, could result in differing environmental effects to those associated with the presence and use of the fully completed scheme;
- There had been modifications to assessment and design standards for strategic road schemes since publication of the Statutory Orders and ES for the scheme proposed in 2010; and
- Notwithstanding the similarity between the scheme previously proposed in 2010 and the currently Proposed Scheme, there were a number of changes arising from recommendations made by the Inspectors following the Public Inquiries for that scheme in 2011 which have required modifications to the Proposed Scheme.

In November 2017 the Department published the Notice of Intention to Proceed and this was subsequently challenged. Taking into account recent High Court decisions and new legislation Northern Ireland (Executive Formation and Exercise of Functions) Act 2018, the Department decided not to defend the challenge and on 16th November 2018 the Orders were quashed. The Department is currently preparing updated documentation to allow a fresh decision to be taken which includes the ESA 2019.

Since the publication of the ES 2016 there have been some developments in the environmental baseline and the Proposed Scheme that may influence the previous conclusions and as such the ESA 2019 and this accompanying NTS have been prepared. The ESA 2019 has tested for the following which could result in a change to the previously assessed impacts of the Proposed Scheme, as reported in the ES 2016:

- Material changes in the design or timing of the Proposed Scheme (i.e. changes to Proposed Scheme construction phasing);
- New and revised standards, guidelines and legislative requirements; and
- Changes to baseline conditions (including the impacts as a result of unauthorised quarrying in the townland of Urbalreagh).
- A more detailed assessment of the interactions and cumulative effects.

CONSULTATION

Consultation has been undertaken through a series of public exhibitions and consultation events in Ballygawley, Omagh, Strabane and Londonderry over the period 2008 to 2010 for the A5WTC 2010 ES, and through additional landowner consultations in 2013 - 2014. Information has also been made available to the public through a

dedicated project website and a free-phone hotline for telephone enquiries. Specific consultations have also been carried out with landowners and affected parties as well as regulators and statutory consultees in government departments and local councils. Feedback from these sources has informed the appraisal and route selection process and also the current design of the Proposed Scheme and mitigation. A further four Public Exhibitions were held in March 2016 to inform interested parties of the draft Statutory Orders and new Environmental Statement. Further consultation was carried out in 2019 during the preparation of the ESA.

ALTERNATIVES CONSIDERED

Alternative alignments have been considered at three stages during the planning, design and assessment of the Proposed Scheme. These involved:

- evaluation of a preliminary study area to identify potential broad corridors and establish a preferred corridor;
- evaluation and comparison of route options within the preferred corridor leading to the identification of a preferred route; and
- consideration of discrete lengths of the preferred route and, where appropriate, refinement of the preferred route, leading to the establishment of the alignment which has been adopted for the Proposed Scheme.

Establishment of the preferred corridor involved consideration of three alternatives; one focused on the existing A5, one to the west of the existing road and one to the east of the existing road. A combination of engineering, economic, traffic-related and environmental criteria were taken into account including:

- areas of very high and steep ground and extensive peat;
- requirements for extensive property demolition;
- connectivity with other parts of the national network and with ROI;
- accessibility to the principal settlements along the corridors;
- overall length and cost;
- the presence of European and Nationally designated sites and features of nature conservation interest, cultural heritage value and landscape value; and
- the location and extent of floodplains.

The preliminary evaluation concluded that none of the three alternatives would provide an appropriate solution and that corridors using sections of each, would need to be considered.

Identification of the preferred route involved examination of the preferred corridor in more detail and comparison of route options within three sections of the corridor between Newbuildings, Strabane, Omagh and Aughnacloy. Evaluation of the options was based on engineering and environmental constraints. This led to the identification of four route options for each of the three sections. The preferred route was then selected having regard for the key criteria of safety; economics; environment; integration; and accessibility.

Between Newbuildings and Strabane the principal considerations leading to the preferred route in this section were the avoidance of potential impacts on settlements and areas of high ground to the east, sensitive areas to the west of Bready and McKean's Moss Area of Special Scientific Interest (ASSI) and providing better connectivity to Strabane and ROI.

Between Strabane and Omagh the principal considerations leading to the preferred

route were the location of the Sperrins Area of Outstanding Natural Beauty (AONB), the presence of sites of cultural heritage value including a Franciscan Friary and Graveyard and Harry Avery's Castle, Grange Wood ASSI, the River Foyle and Tributaries Special Area of Conservation (SAC) and ASSI and Owenkillew River SAC and ASSI, Tully Bog SAC and ASSI and potential community severance at Mountjoy.

Between Omagh and Aughnacloy the principal considerations leading to the preferred route were; connectivity to Omagh, the A4 and the A28, strategic connectivity to Fintona and Beragh, avoidance of large areas of peat and avoidance of The Thistle (a Registered Park, Garden and Demesne).

Refinement of the preferred route and identification of the alignment adopted for the Proposed Scheme involved consideration of a number of alternatives taking on board more detailed information. This included environmental survey data, ground investigation data, drainage surveys and flood modelling as well as feedback from landowners and the general public.

EXISTING ENVIRONMENT

Between Newbuildings and Strabane the Proposed Scheme would be located within the wide valley of the River Foyle. The valley floor is framed by the prominent profile of the Sperrin Mountains to the east. The Burn Dennet and Glenmornan River flow east to west through foothills which form the transition from the mountains to the valley floor.

Settlements include Newbuildings, Magheramason, Bready, Cloughcor, Ballymagorry and Strabane.

Recognised ecological and nature conservation interest include:

- the River Foyle and Tributaries Special Area

Drumlin landscape

of Conservation (SAC) and Area of Special Scientific Interest (ASSI);

- the River Finn SAC; and
- McKean's Moss ASSI.

Historic buildings and sites of archaeological interest include the Strabane Canal and Castletown House, a Grade B1 listed building.

The Proposed Scheme corridor between Strabane and Omagh would initially be located within the moderately incised valley of the Mourne River. It would then enter the more deeply incised valley of the Strule River south of Newtownstewart before emerging to cross the broad floodplain of the Fairy Water and an area of elevated drumlins west and south-west of Omagh. The main watercourses are the Mourne River, Strule River, River Derg, Owenkillew River and Fairy Water.

Travelling north to south settlements of note include Sion Mills and Glebe, Victoria Bridge, Newtownstewart, Mountjoy and Omagh. Recognised ecological and nature conservation interests include:

- The River Foyle and Tributaries Special Area of Conservation (SAC) and Area of Special Scientific Interest (ASSI);
- Grange Wood ASSI;
- Owenkillew River SAC and ASSI; and
- Tully Bog SAC and ASSI.

Sites, buildings and features of cultural heritage interest include; industrial heritage at Sion Mills, Harry Avery's Castle located west of Newtownstewart and Beltany Tomb.

Unauthorised quarrying activity at Urbalreagh along the line of the proposed A5WTC has resulted in changes to the environment. Whilst the subject of planning control and enforcement, the ESA 2019 has considered the potential effects on the environment in the assessments.

One other notable feature in the landscape comprises a windfarm located near to the elongated crest of Bessy Bell, a prominent

Strule River

landform which extends south of Newtownstewart and defines the western valley side of the Strule River.

South of Omagh the Proposed Scheme corridor continues through a drumlin-defined landscape. There is then a marked change in landscape character as the rolling dip slope of the Brougher ridgeline is encountered. The corridor rises onto and crosses the Brougher Ridge west of Tycanny Hill and then descends towards the Clogher Valley. The crossing of the A4 marks a transition as the influence of the Brougher Ridge is left behind and the rounded, wooded hills of Favour Royal Forest emerge. The main watercourses are the Drumragh River, Routing Burn, Ballygawley Water and River Blackwater.

Settlements of note include Moylagh, Newtownsaville, and Aughnacloy. Sites, buildings and features of cultural heritage interest include Errigal Keerogue Graveyard located south of Tycanny Hill, Lisdoart Rath and the "Thistle"; an early 18th century design laid out in a series of extensive ditches and planted banks located west of Aughnacloy.

THE PROPOSED SCHEME

The Proposed Scheme would start at Newbuildings and run for some 85km south to the border with the ROI close to the village of Aughnacloy. The initial 1.2km section would be a 2+1 single carriageway. The most southerly 1.2km section south of Aughnacloy would be a single carriageway road. The remaining part of the route would be a two-lane dual carriageway.

There would be a roundabout on the existing A5 north of Newbuildings (Junction 1) and a second roundabout with a link to the existing A5 at the end of the initial wide single carriageway section south of the settlement (Junction 2). As the dual carriageway runs south towards Strabane there would be a grade-separated junction at Ballymagorry (Junction 3). Bridges either over or under the new road would enable established movements, along most of the existing local roads it crosses, to be maintained. There would be a substantial cutting on the west facing slopes of Gortmonly Hill at Bready, open-span bridges carrying the dual carriageway over the Burn Dennet and Glenmornan River and long sections of embankment on the approaches to both bridges and from Junction 3 to Strabane where the dual carriageway would be located on the eastern margins of the River Foyle floodplain. The alignment between the Burn Dennet and Glenmornan River would pass to the east of McKean's Moss ASSI.

At Strabane the Proposed Scheme would skirt the western edge of the urban area. There would be junctions west (Junctions 4 - 6), south-west (Junction 7) and south (Junction 8) of the town. Junctions 4-6 comprise a composite grade-separated arrangement which allows for all movements using land on both sides of the Mourne River at each end of a new open-span bridge over the river which is part of the River Foyle and Tributaries SAC and ASSI. Junction 7 would be a large roundabout and would include a spur to provide for a future link crossing the River Finn to the N14 in ROI. The link does not from part of the Proposed Scheme but is planned to be constructed and opened to traffic at the same time. Junction 8 would be a compact grade-separated junction with a link to the existing A5 north of Sion Mills. The alignment between Junctions 6 and 7 would run alongside the River Finn SAC and require the demolition of Castletown House.

South of Junction 8 the Proposed Scheme would pass between Sion Mills and

Glebe following an alignment west of the existing road on the lower western slopes enclosing the Mourne Valley traversing an area of unauthorised quarrying north of the River Derg. There would be new compact grade-separated junctions west of Victoria Bridge (Junction 9) and north-west of Newtownstewart (Junction 10) and an open-span bridge over the River Derg, part of the River Foyle and Tributaries SAC and ASSI. The dual carriageway would follow an alignment to the west of, and above, Newtownstewart passing close to Harry Avery's Castle, a State Care Monument, before descending into the Strule Valley and running above, and to the west of, the existing A5 towards Omagh. Through the valley it would pass west of Grange Wood ASSI and Beltany Tomb, a Scheduled Monument.

Emerging from the enclosed Strule Valley the Proposed Scheme would enter the wide Fairy Water valley, passing west of Mountjoy and approaching a new grade-separated junction (Junction 11). The junction would be located north-west of Omagh close to Tully Bog SAC and ASSI. The Proposed Scheme would cross over the Fairy Water via a new open-span bridge and the extensive river floodplain on embankment. It would then curve west and south around Omagh with access to Omagh being catered for via a grade-separated junction with the A32 west of the town (Junction 12) and a grade-separated junction at the B83 Seskinore Road with a link to the existing A5 to the south (Junction 13). There would be an open-span bridge over the Drumragh River.

South of Omagh, the Proposed Scheme would continue west of the existing A5 passing east of Seskinore and onto a compact grade-separated junction at Moylagh (Junction 14). An open-span bridge would carry the dual carriageway over the Routing Burn. It would run east of, and close to, Newtownsaville and then curve to the east as it skirts the lower south-facing slopes of Tycanny Hill requiring the establishment of a deep cutting in the locally prominent hill. It would then descend the scarp slope of the Brougher Ridge and pass west of and below Errigal Keerogue Churchyard, a State Care Monument.

Computer generated view of the proposed new junction at Ballymagorry, looking north east.

Upon descending the ridge it would enter the Clogher Valley and follow an easterly alignment to a new roundabout where the proposed Scheme and existing A4 Annaghilla Road would cross some 1.5km west of Ballygawley (Junction 15). An existing 1km single carriageway section of the A4 between Junction 15 and an existing roundabout located south-west of Ballygawley would be upgraded to a dual carriageway. Two open-span bridges would be introduced, one where the upgraded section of the A4 crosses Ballygawley Water and one south of Junction 15 where the A5WTC dual carriageway also crosses the watercourse.

South of Ballygawley Water the Proposed Scheme would enter a section of cutting below Lisdoart Rath and continue to a new grade-separated junction north of Aughnacloy (Junction 16). Beyond the junction it would follow a broad sweep to the east and tie into a new roundabout where it crosses the A28 Caledon Road (Junction 17) south east of the town. The final section of the Proposed Scheme would be a single carriageway road that would tie into the existing A5 at Moy Bridge, immediately north of the border with ROI.

Structures

There would be 39 bridges carrying existing roads over the Proposed Scheme, 14 carrying the Proposed Scheme over existing roads and 10 carrying the Proposed Scheme over watercourses. Those over watercourses would be open-span structures where they cross the channel of each watercourse, thus avoiding the need for intermediate piers within the river channel.

29 large diameter pipes and box culverts through embankments enable flood flows to pass through at defined locations where the dual carriageway crosses specific floodplains.

139 culverts provide for the continuation of existing watercourses which would otherwise be severed by the Proposed Scheme. These would comprise a combination of piped and box culverts.

Flood Compensatory Storage Areas

The proposals include areas of land which would compensate for the loss of floodplain capacity where the dual carriageway and its associated junctions and side roads would be located within existing floodplains. The flood compensatory storage areas would be re-contoured to allow flood waters to flow in a controlled manner and at similar water levels to those prior to the dual carriageway construction.

Compensatory storage would not be provided along the Foyle floodplain where the flooding mechanism is dominated by the floodplain's ability to convey flow in response to tidal and fluvial movements. Mitigation along this floodplain includes large connectivity structures and minimisation of the dual carriageway footprint as far as is reasonably practicable.

Watercourse Diversions

One hundred and seven sections of existing watercourse would be diverted where the dual carriageway and associated junctions and side roads sever them or diversion has been proposed to avoid the need for otherwise overly long culverts.

Deposition Areas

There would be 29 areas of land which would be acquired for the purpose of depositing surplus material arising from excavated areas as provided for in the Roads (Northern Ireland) Order 1993. The land would be reinstated to an agreed

standard for future use, the intention being that it should be returned to the existing landowner or other parties should the existing owner not wish to take the land back.

Drainage

Drainage proposals provide for the discharge of all road related run-off to existing watercourses. They include Sustainable Drainage Systems (SuDS) design measures involving a combination of concrete lined channels, swales and grassed channels within the roadside verge or central reserve. In most instances, wet retention ponds and/or dry detention ponds would be introduced prior to discharge via the proposed outfalls.

Lighting

Road lighting would be limited to proposed junctions and their approach sections of the road network.

Landscape Proposals and Environmental Mitigation

Landscape proposals comprise a combination of landscape earthworks and ground modelling, planting of woodland, scrub, groups of trees, hedgerows, various grassland types and marginal and aquatic habitats and screen fencing. The objective has been to integrate the dual carriageway and its traffic within the differing landscapes associated with the Proposed Scheme and to introduce appropriate mitigation measures where sensitive visual receptors would potentially be subject to high levels of visual impact.

Other environmental mitigation includes:

- environmental barriers in the form of 2m-high acoustic fencing to reduce traffic-related noise at 9 locations along the Proposed Scheme corridor;
- low-noise surfacing on the main carriageways;
- mammal underpasses, mammal ledges in culverts and mammal fencing to direct movements towards underpasses and culverts with ledges;
- artificial roosts for bats and bat boxes;
- provision of artificial badger setts and otter holts subject to pre-construction surveys;
- use of natural substrate, boulders and planting to reflect existing channel profiles; and characteristics where diverted sections of watercourse are required.

Construction

It is anticipated the Proposed Scheme would be constructed in four phases depending upon the availability of funding:

- Phase 1A: Construction from junctions 1-3 (Newbuildings – Strabane North).
- Phase 1B: Construction from junctions 13-15 (Omagh South – Ballygawley).
- Phase 2: Construction from junctions 3-13 (Strabane North – Omagh South).
- Phase 3: Construction from junction 15-17 (Ballygawley – Aughnacloy) to the border.

For the purposes of assessment the timing of construction of these phases is:

- Phase 1A: - (2019-2022);
- Phase 1B: - (2020-2023);
- Phase 2: - (2023-2025); and
- Phase 3: - (2026-2028)

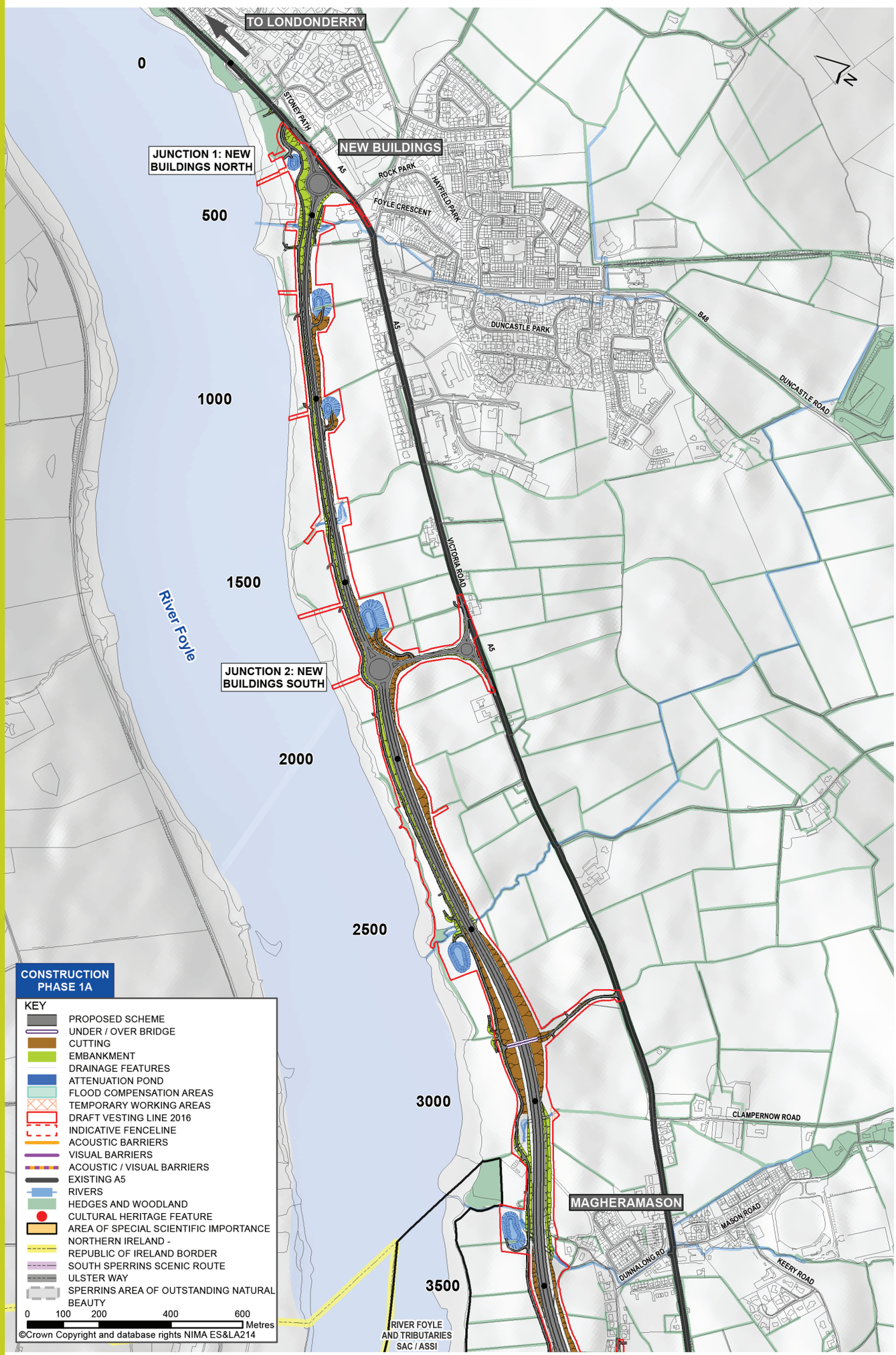
Areas which would be subject to higher levels of construction activity and longer term activity, such that there would be potential for higher orders of environmental impact, include proposed junctions, large earthworks, bridges and site compounds.

- The Proposed Scheme would involve: substantial earthworks, particularly where there would be a requirement for significant sections of cutting and embankment, particularly across areas of poor ground; piling for foundations at a number of the bridges; sheet piling where installation of piers is to be undertaken on the banks of watercourses; installation of in-situ and precast concrete structures; construction-related and permanent drainage; laying of the road pavement; lighting at junctions and landscape and environmental works.
- Where construction activity such as piling could have a high order of impact on properties, businesses and buildings, those who would be potentially affected would be advised of the nature of the works, the measures being adopted to manage the impacts and the anticipated duration of the works prior to working starting.
- Where practicable, excavated material would be deposited along the route in areas of proposed fill and within the deposition areas. Should there be a requirement for temporary stockpiling of materials they would be stored away from sensitive locations such as marshy areas, watercourses, flood areas, or close to property, where dust during dry periods could be disruptive to local residents.
- Where import and export of materials is required, haulage routes would be subject to agreement under the required project Traffic Management Plan.
- Working hours for normal site activities would typically be from 7:00am to 7:00pm Monday to Friday and from 7:00am to 4:30pm on Saturday. Working hours would reduce through the winter season and would typically be from 8.00am to 5.00pm Monday to Friday. During the earthworks season (April to October) the working hours would typically be 7.00am to 9.00pm Monday to Friday and from 7:00am to 4:30pm on Saturday. There would be no normal working on Sundays or bank holidays.

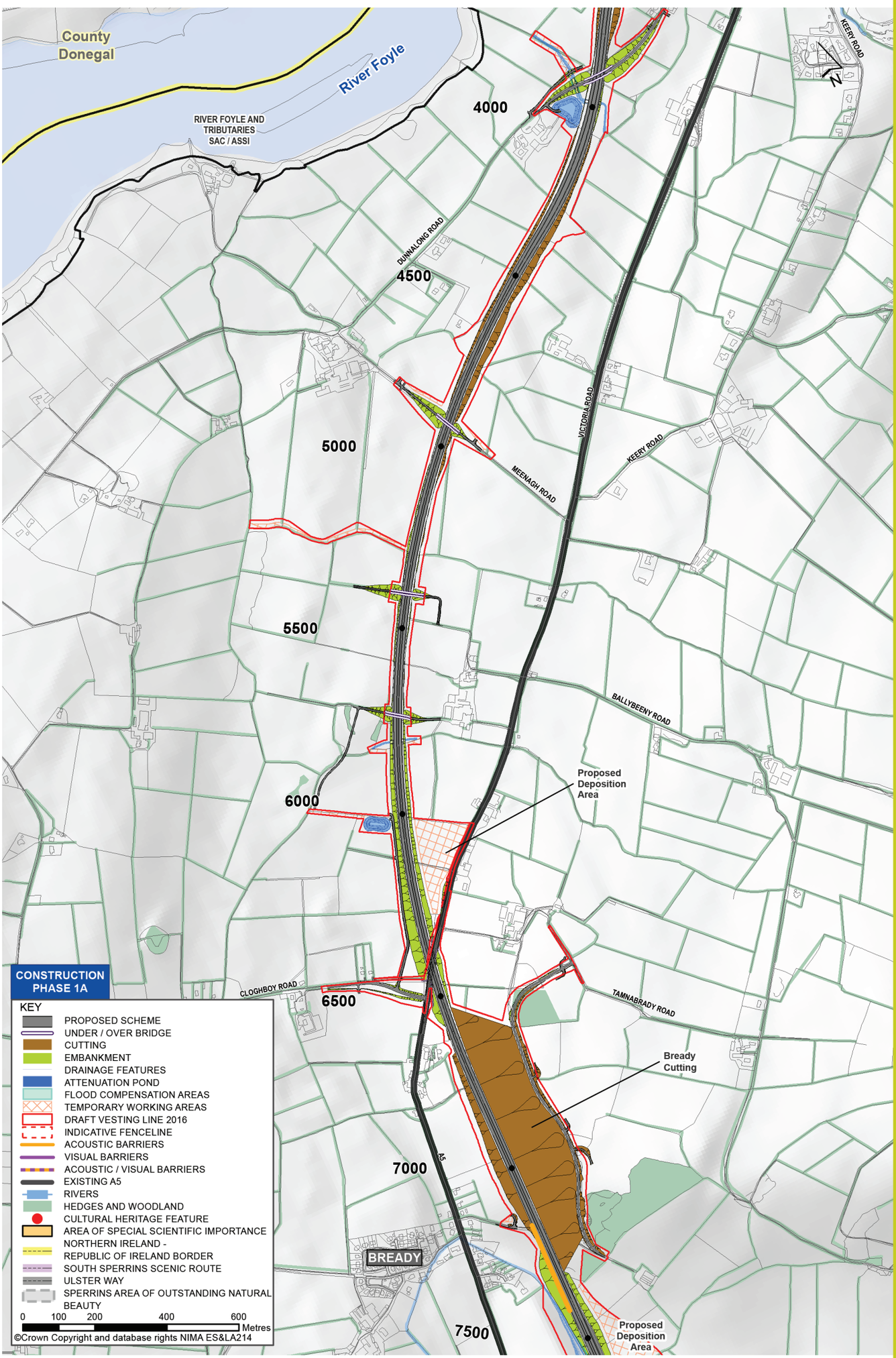
Computer generated view of the Proposed Scheme looking East from Glenhoy Road Overbridge

MAPPING

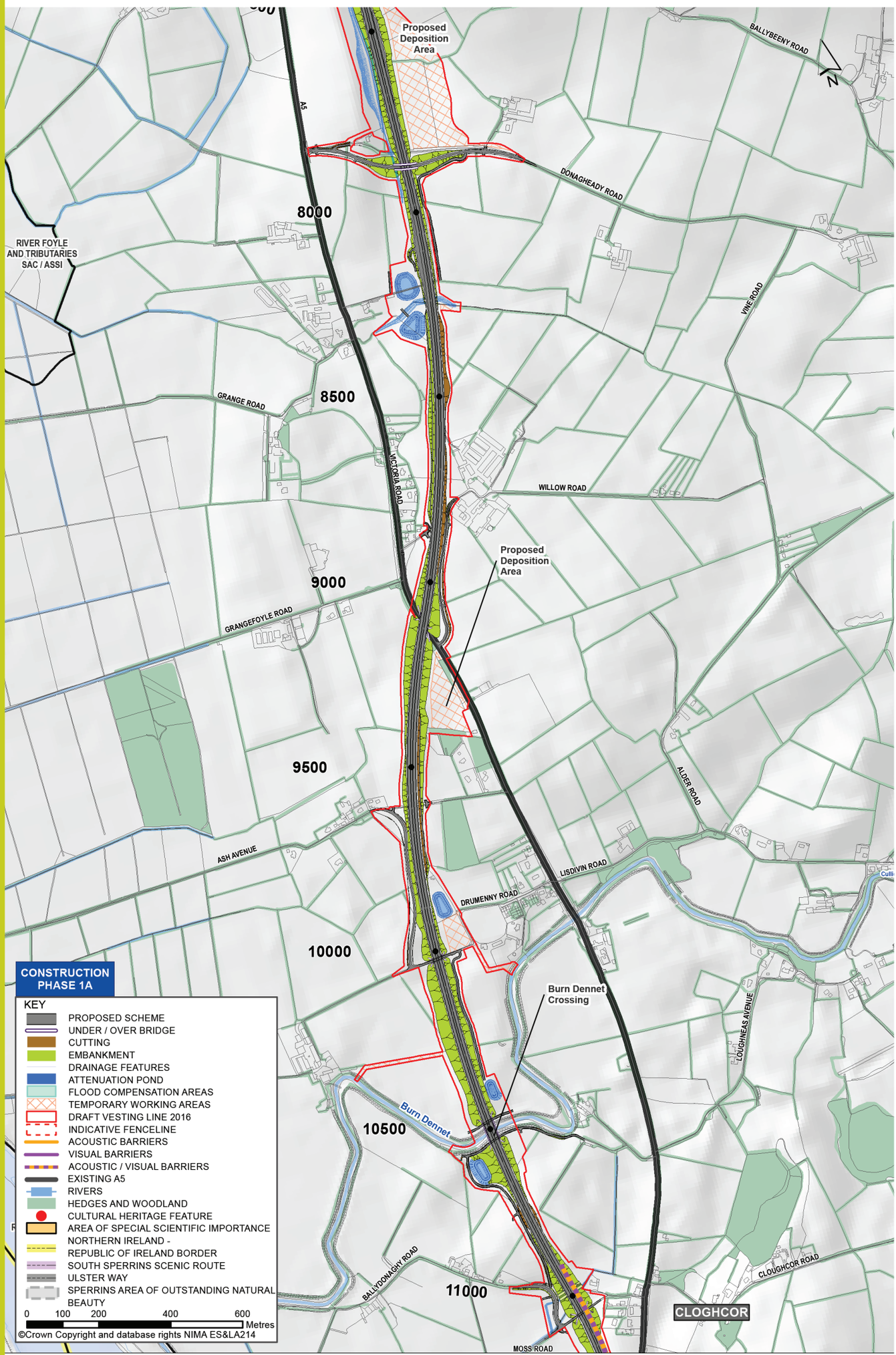
The total scheme length is 85km. Each section has an independent chainage system, which allowed for variations in length as the section designs developed. Hence the end chainage of 93km in Section 3 reflects the total scheme length of 85km plus the gaps in the chainage between the sections.



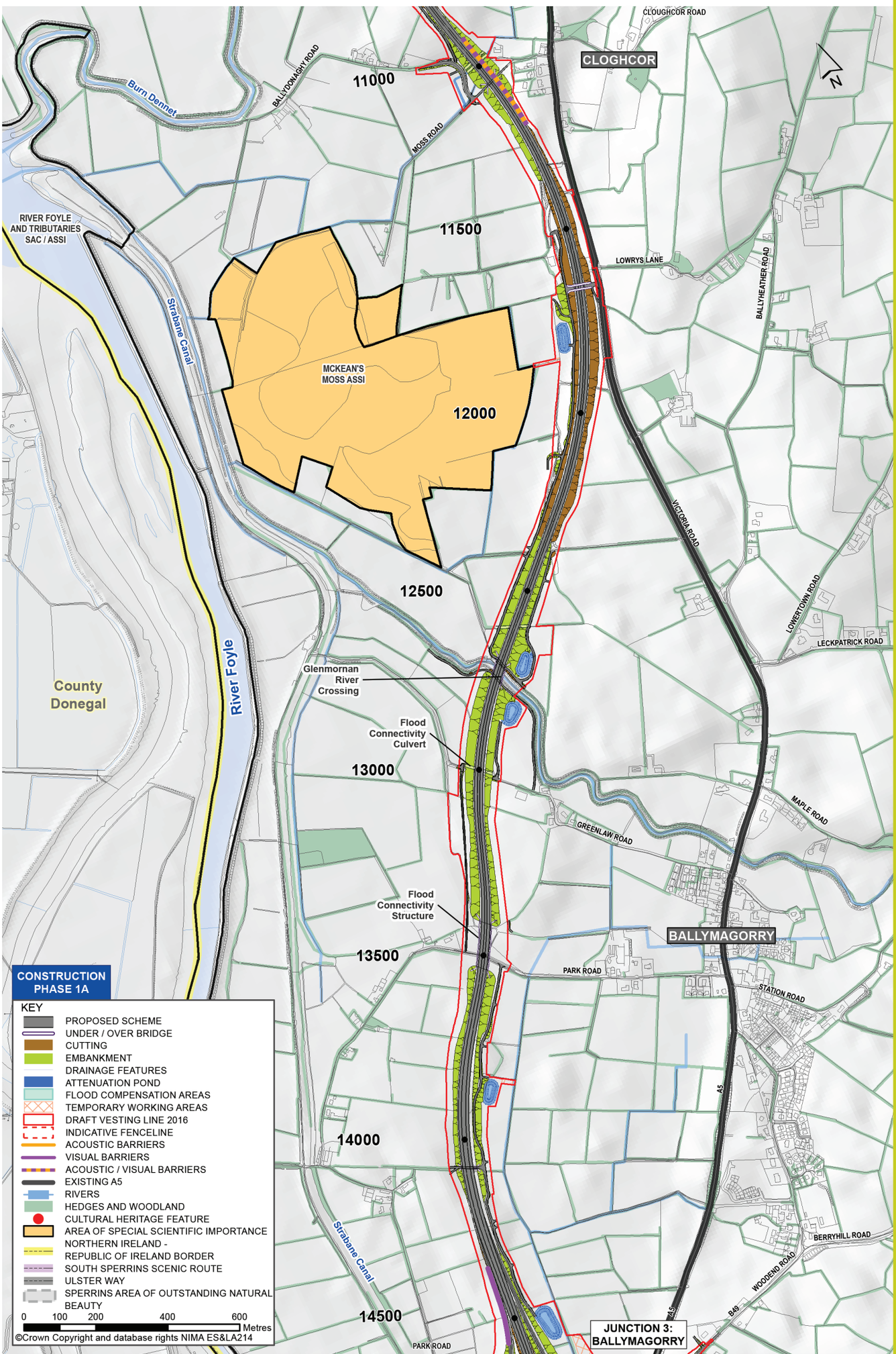
MAP 01: 0km to 3.5km



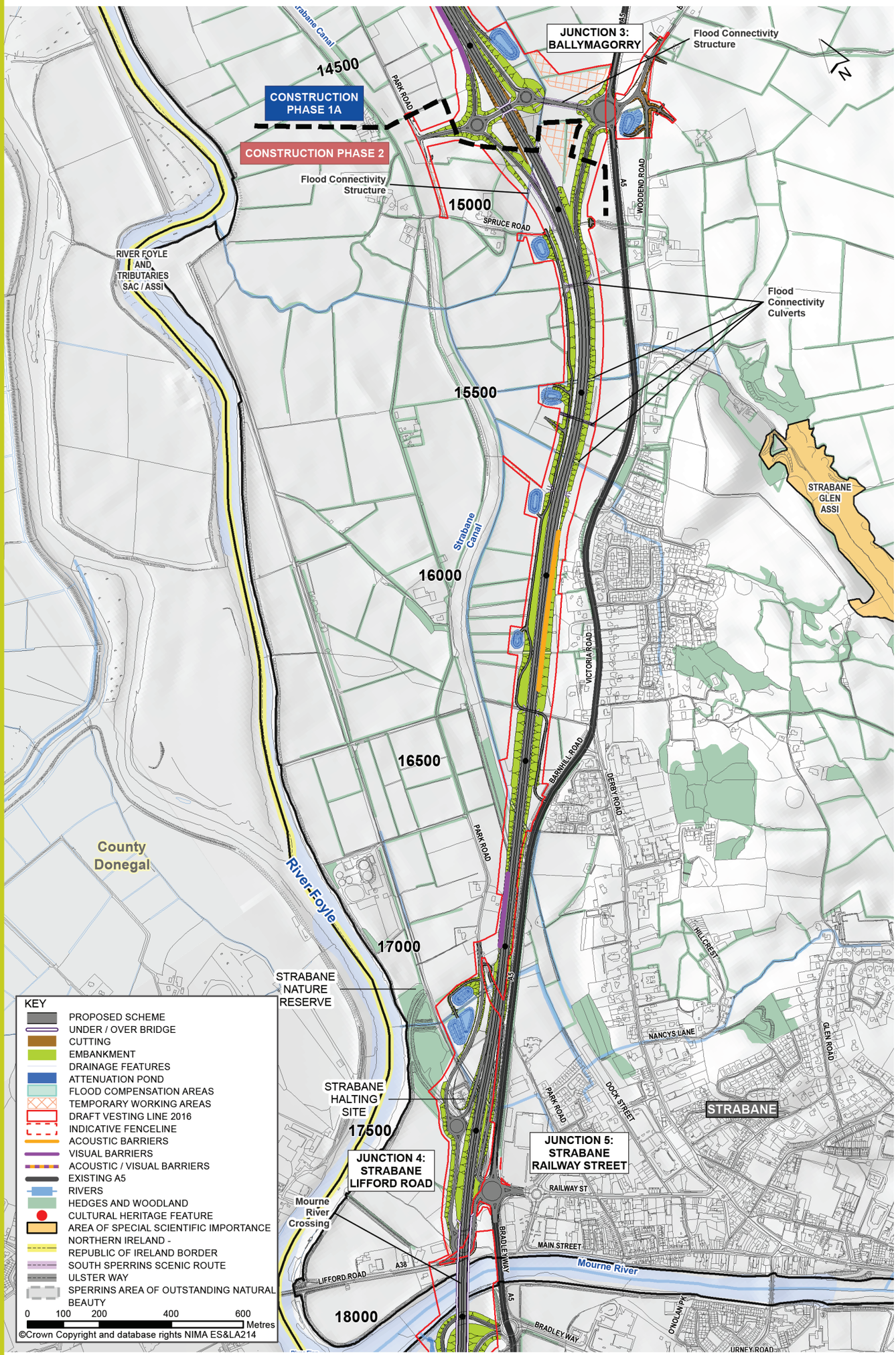
MAP 02: 3.5km to 7.5km



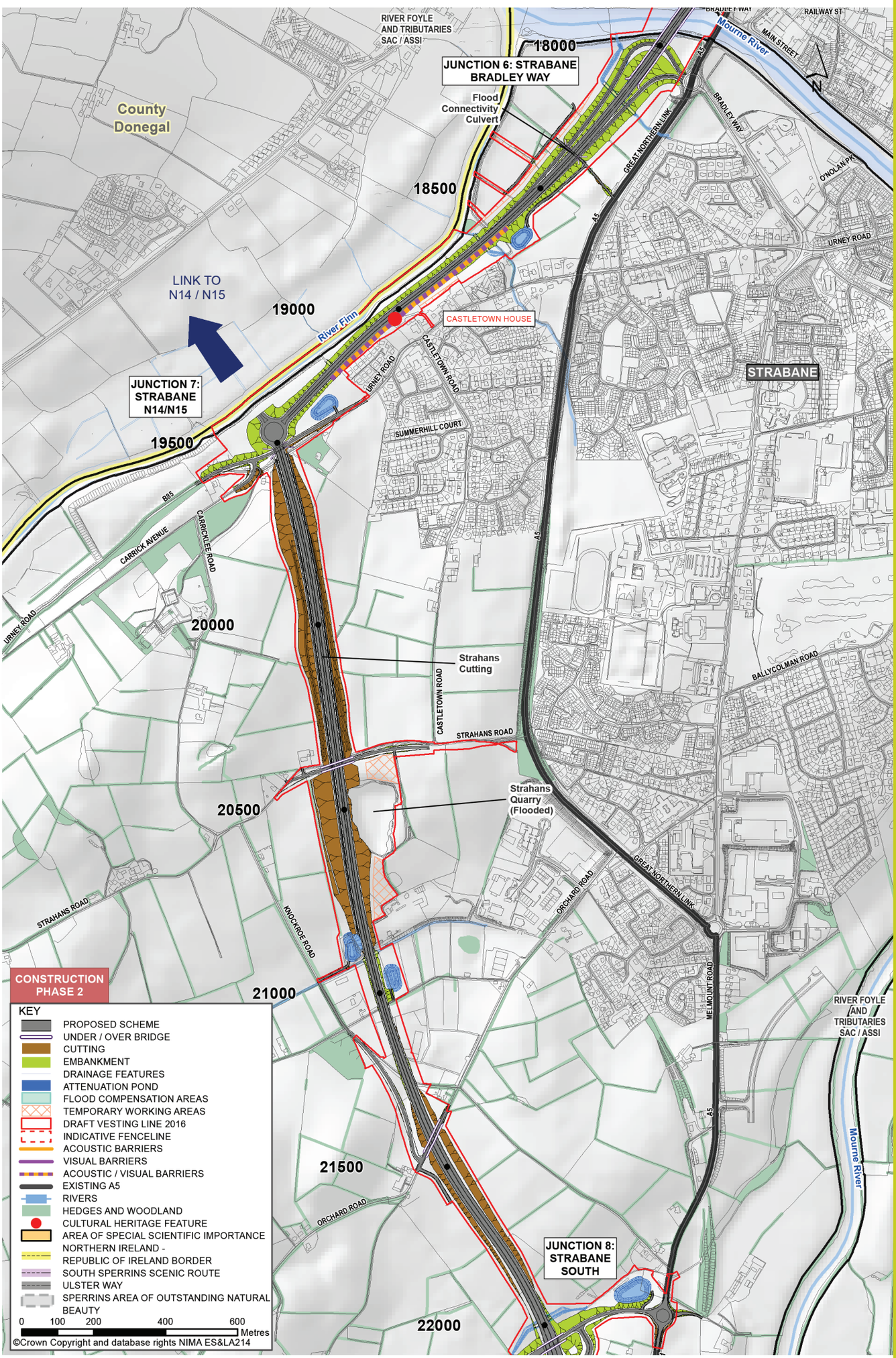
MAP 03: 7.5km to 11km



MAP 04: 11km to14.5km



MAP 05: 14.5km to 18km


RIVER FOYLE AND TRIBUTARIES SAC / ASSI
18000
JUNCTION 6: STRABANE BRADLEY WAY
Flood Connectivity Culvert
County Donegal
18500
LINK TO N14 / N15
19000
River Finn
CASTLETOWN HOUSE
JUNCTION 7: STRABANE N14/N15
19500
STRABANE
Mourne River
RAILWAY ST
MAIN STREET
BRADLEY WAY
GREAT NORTHERN LINK
O'NOLAN PK
URNEY ROAD
CASTLETOWN ROAD
SUMMERHILL COURT
A5
B85
CARRICK AVENUE
CARRICKLEE ROAD
20000
Strahans Cutting
BALLYCOLMAN ROAD
STRAHANS ROAD
20500
Strahans Quarry (Flooded)
ORCHARD ROAD
KNOCKROE ROAD
21000
MELMOUNT ROAD
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
21500
JUNCTION 8: STRABANE SOUTH
22000
CONSTRUCTION PHASE 2
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND - REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL BEAUTY
0 100 200 400 600
Metres
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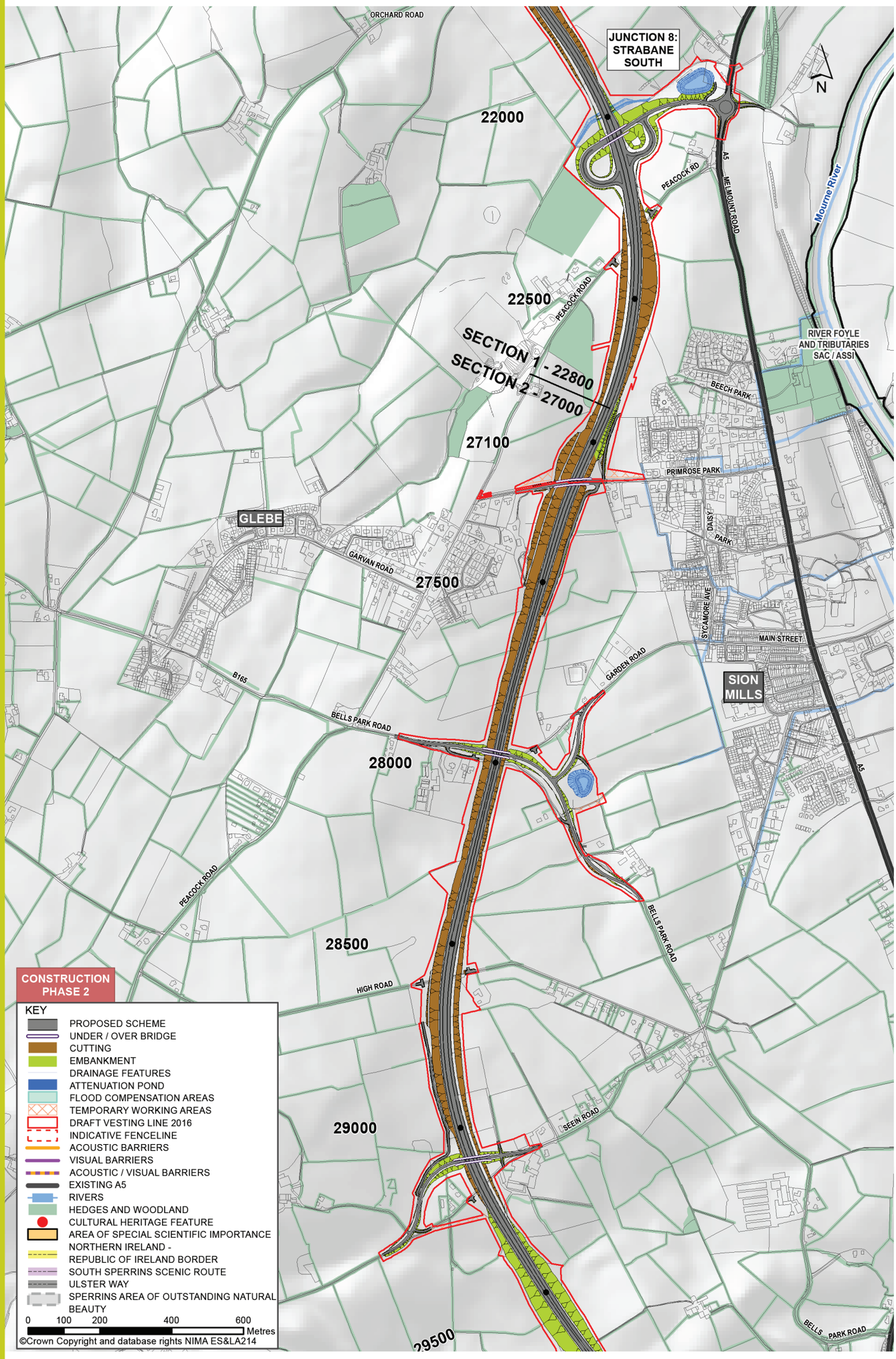
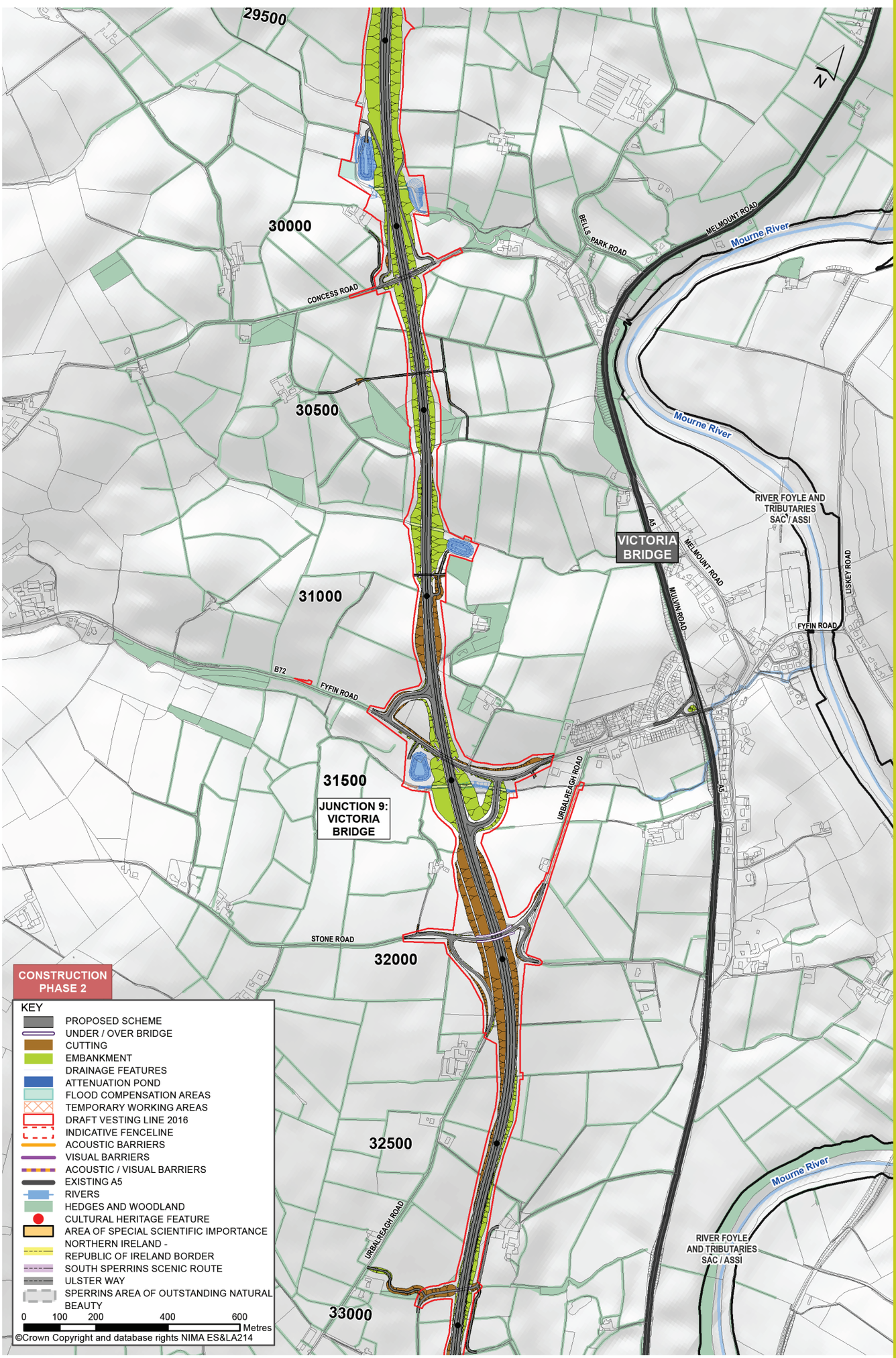


MAP 07: 22 - 22.8km & 27 - 29.5km


29500
30000
30500
31000
31500
32000
32500
33000
N
CONCESS ROAD
BELLS PARK ROAD
MELMOUNT ROAD
Mourne River
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
VICTORIA BRIDGE
A5
MULVIN ROAD
LISKEY ROAD
FYFIN ROAD
B72
JUNCTION 9: VICTORIA BRIDGE
URBALREAGH ROAD
STONE ROAD
CONSTRUCTION PHASE 2
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND - REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL BEAUTY
0 100 200 400 600
Metres
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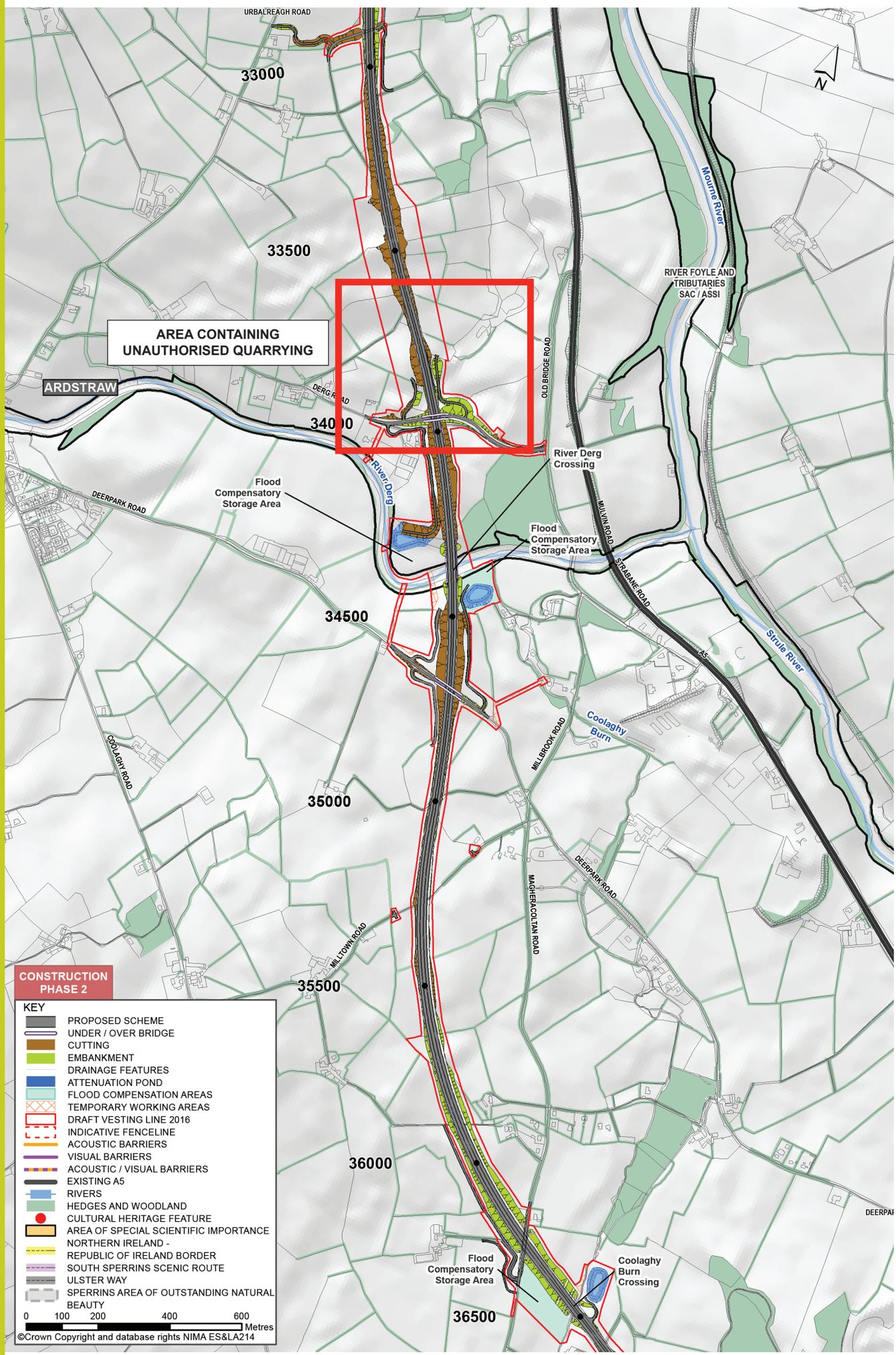
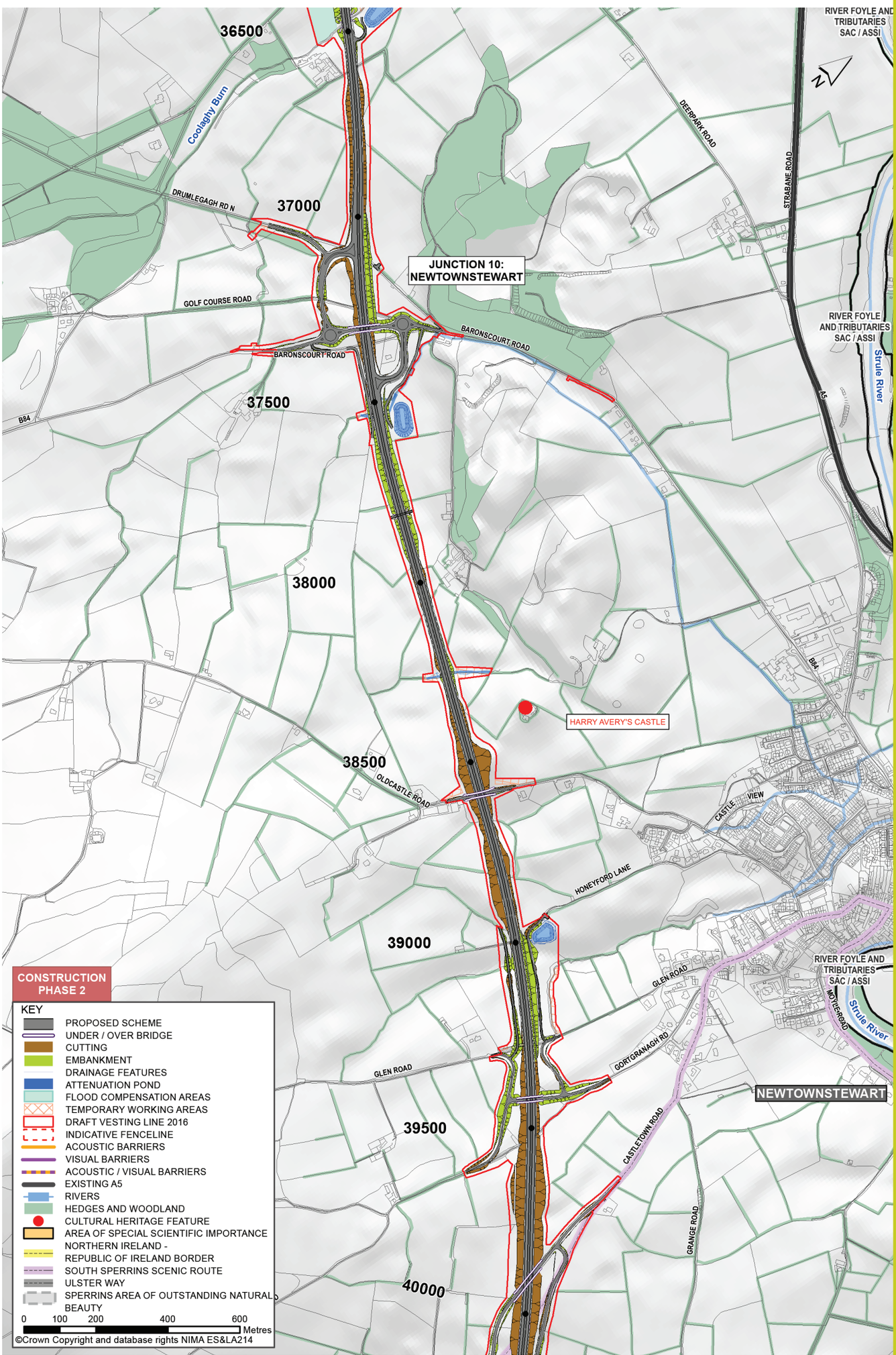


MAP 09: 33km to 36.5km


36500
37000
37500
38000
38500
39000
39500
40000
JUNCTION 10:
NEWTOWNSTEWART
Coolaghy Burn
DRUMLEGAGH RD N
GOLF COURSE ROAD
BARONSCOURT ROAD
BARONSCOURT ROAD
B84
DEERPARK ROAD
STRABANE ROAD
A5
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
Strule River
HARRY AVERY'S CASTLE
OLDCASTLE ROAD
CASTLE VIEW
HONEYFORD LANE
B84
GLEN ROAD
GLEN ROAD
GORTGRANAGH RD
MOYHERROAD
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
Strule River
NEWTOWNSTEWART
CASTLETOWN ROAD
GRANGE ROAD
CONSTRUCTION PHASE 2
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND -
REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL BEAUTY
0 100 200 400 600
Metres
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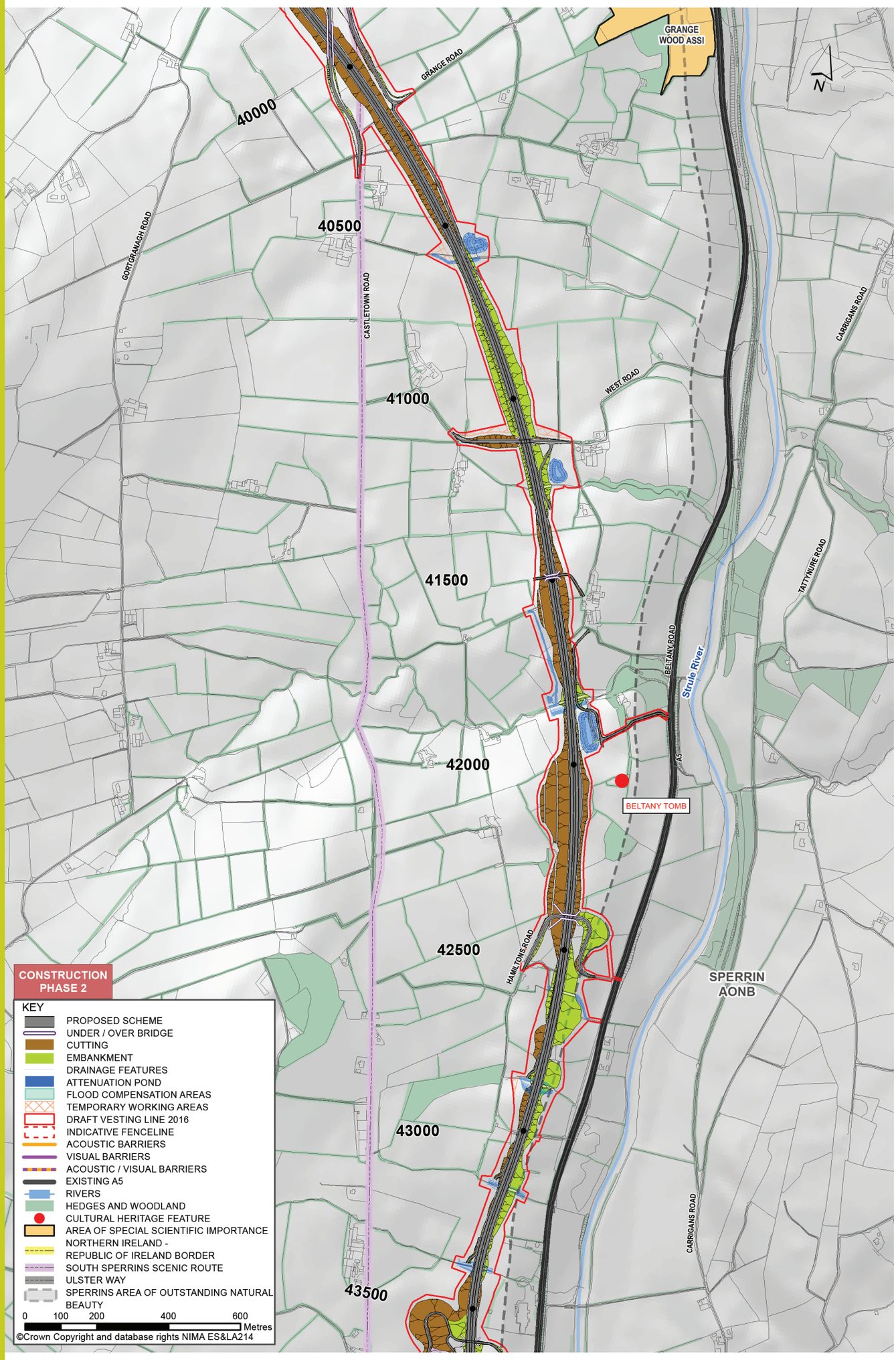
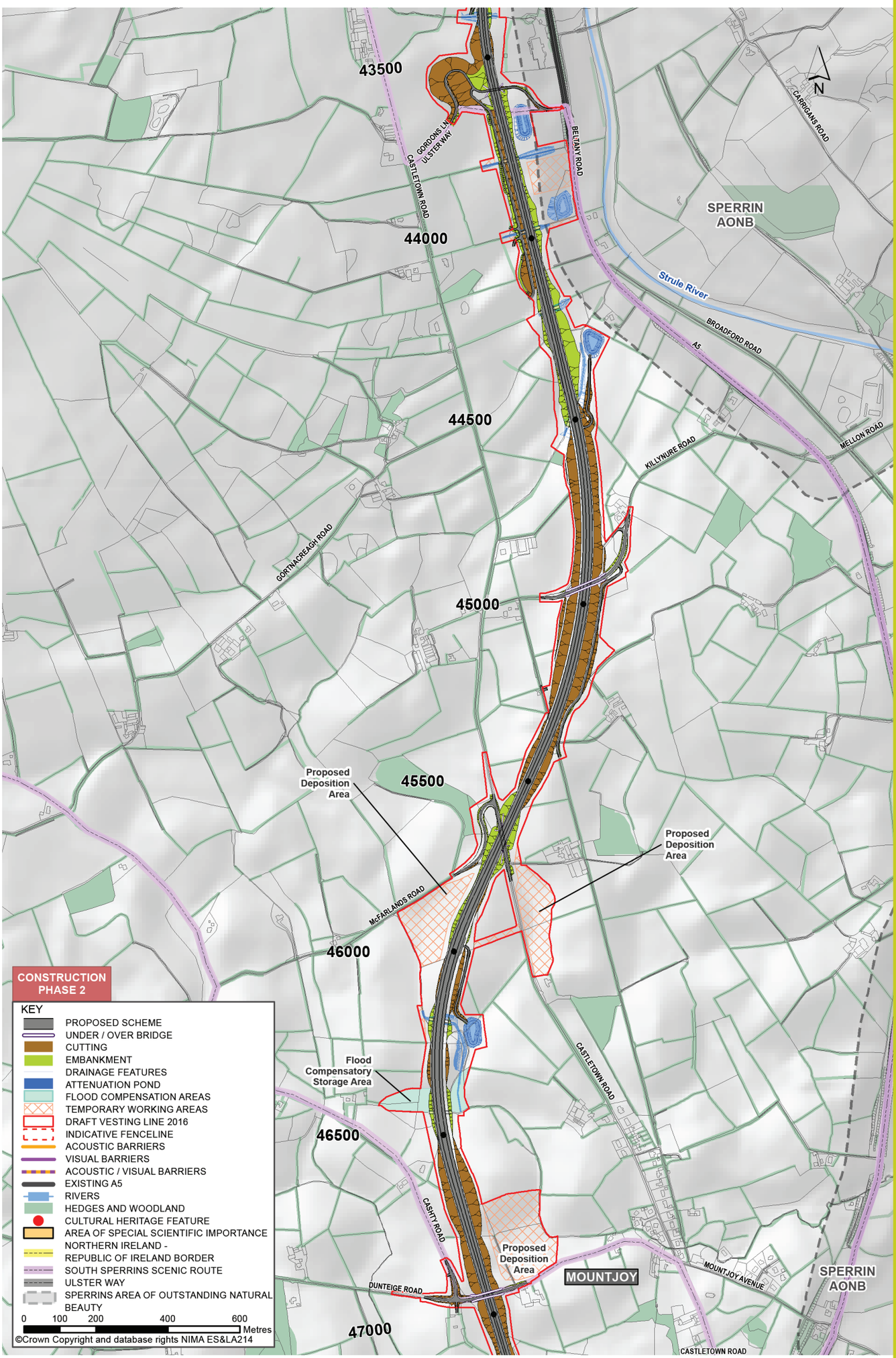
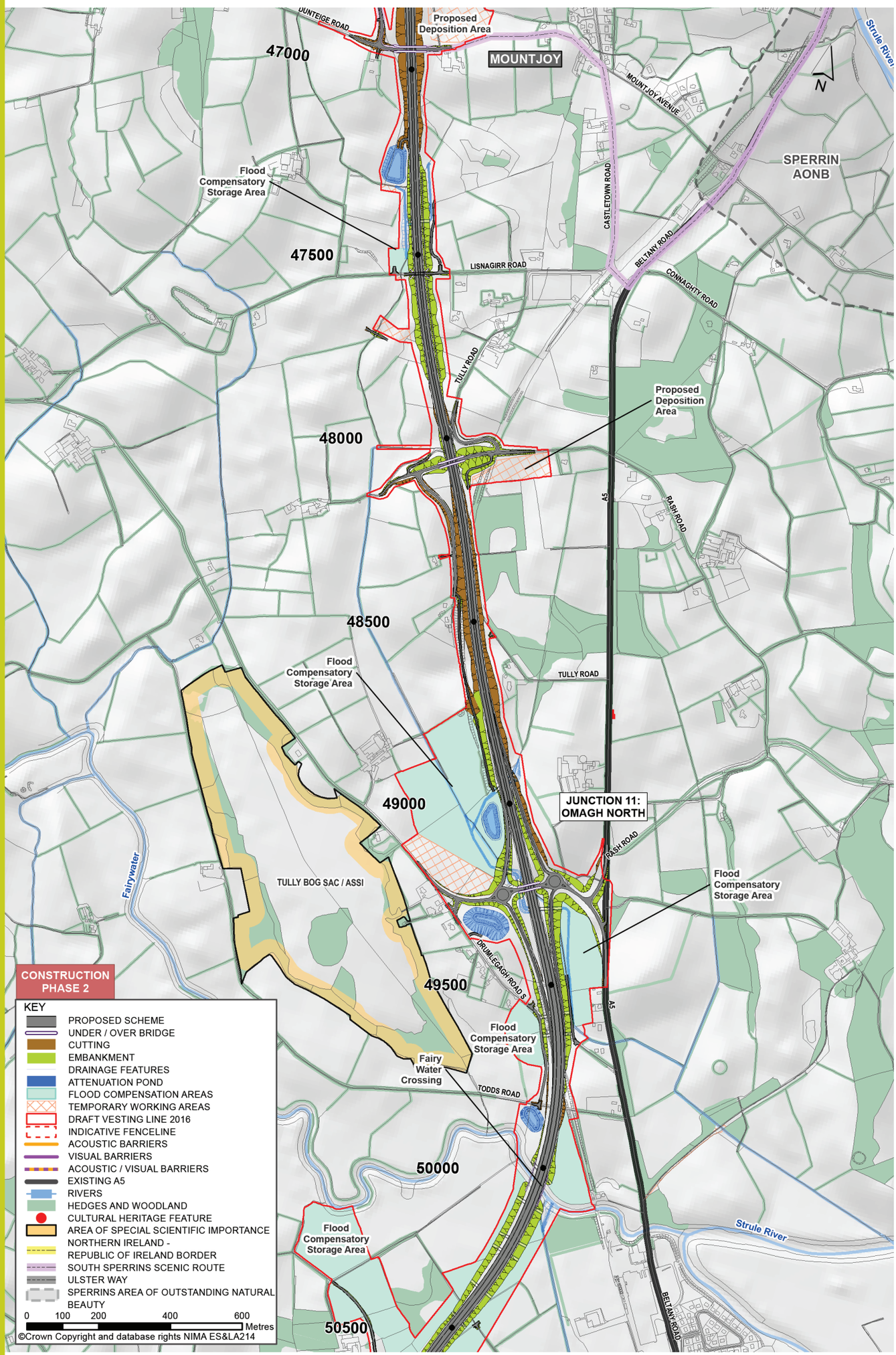


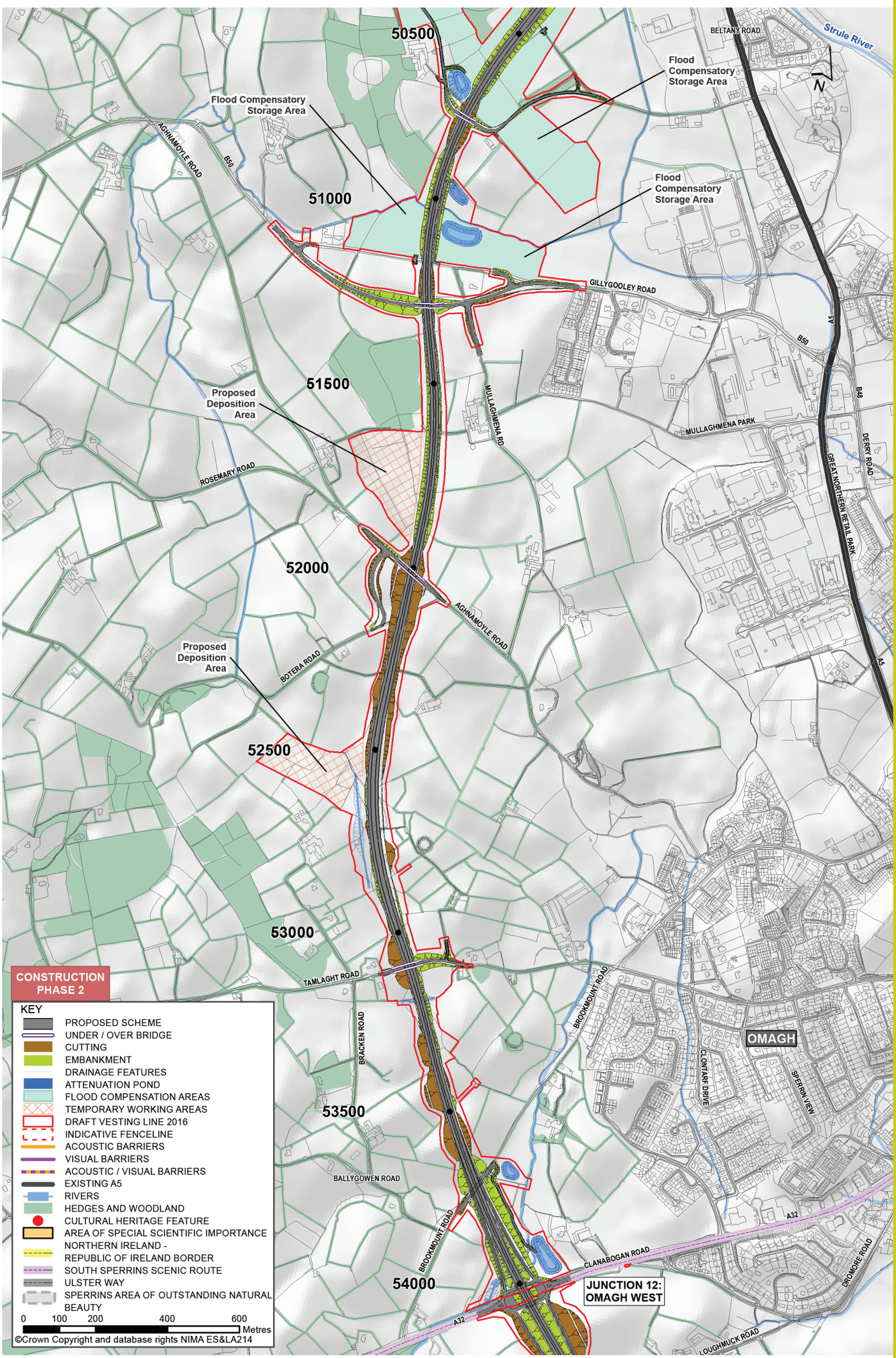
MAP 11: 40km to 43.5km



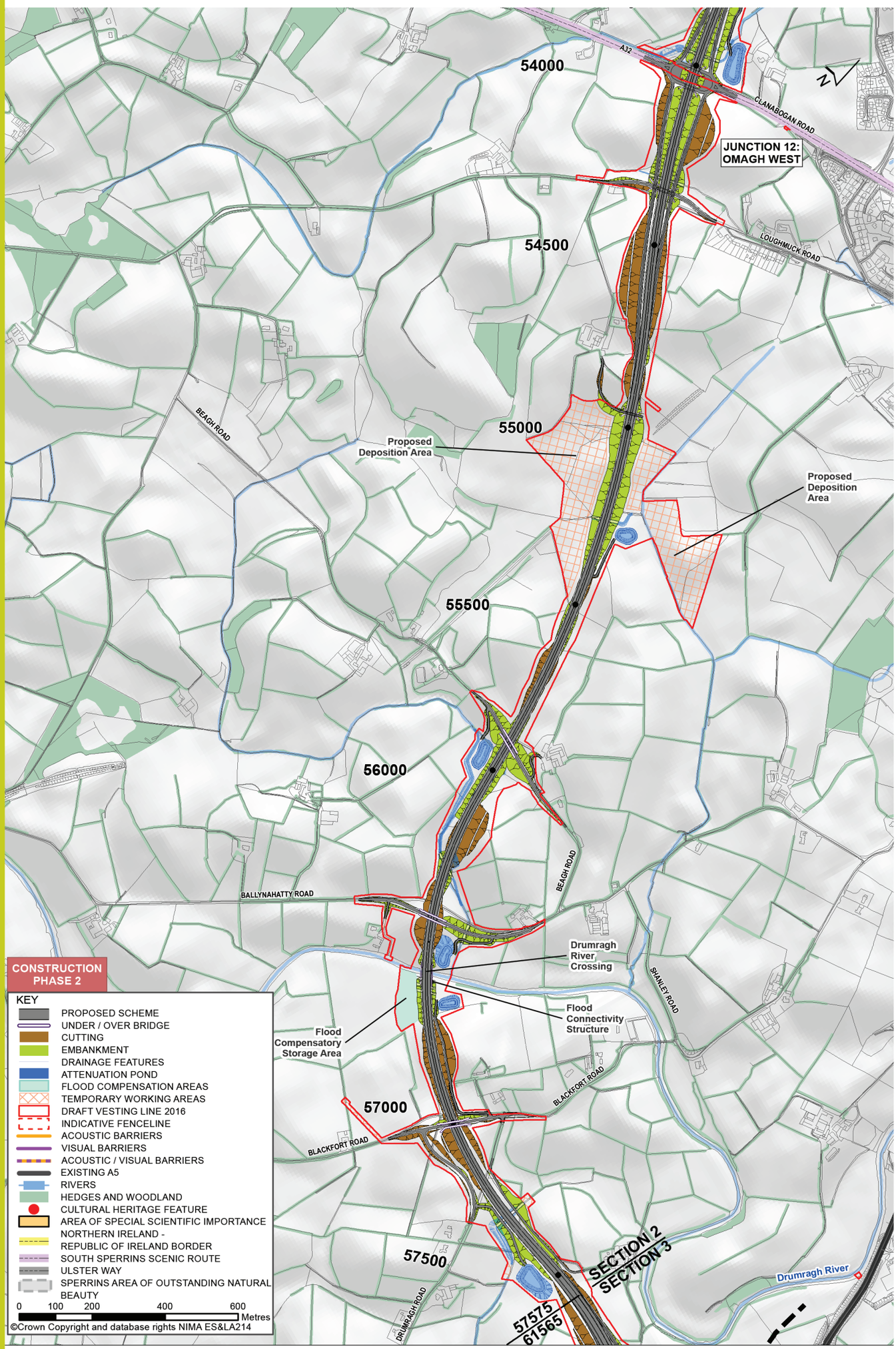
MAP 12: 43.5km to 47km



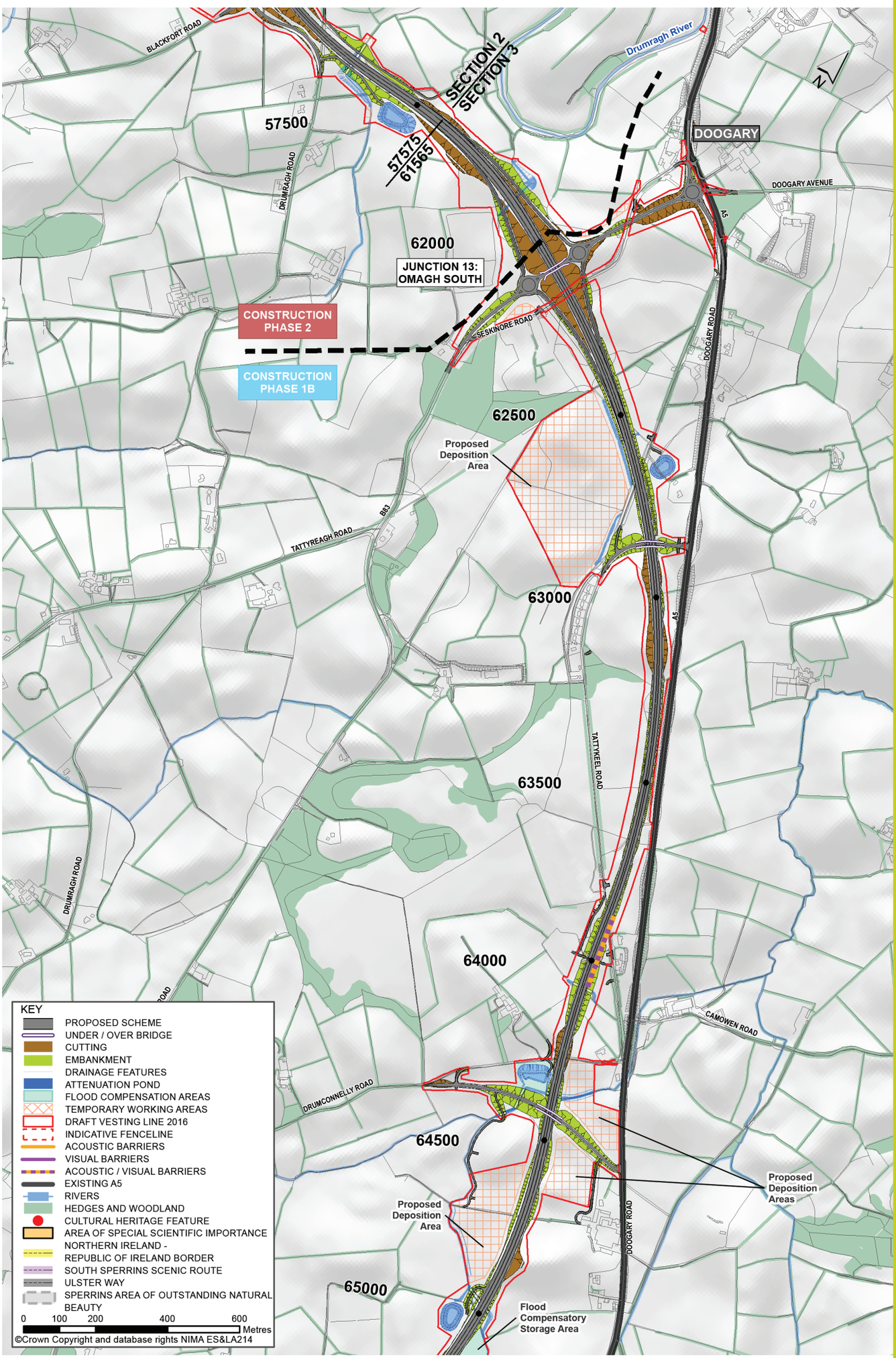
MAP 13: 47km to 50.5km



MAP 14: 50.5km to 54km



MAP 15: 54km to 57.6km


BLACKFORT ROAD
Drumragh River
SECTION 2
SECTION 3
57500
57575
61565
DRUMRAGH ROAD
DOOGARY
DOOGARY AVENUE
A5
62000
JUNCTION 13:
OMAGH SOUTH
CONSTRUCTION
PHASE 2
CONSTRUCTION
PHASE 1B
SESKINORE ROAD
DOOGARY ROAD
62500
Proposed
Deposition
Area
B83
TATTYREAGH ROAD
63000
TATTYKEEL ROAD
63500
DRUMRAGH ROAD
64000
CAMOWEN ROAD
DRUMCONNELLY ROAD
64500
Proposed
Deposition
Areas
Proposed
Deposition
Area
65000
Flood
Compensatory
Storage Area
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND -
REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL
BEAUTY
0 100 200 400 600
Metres
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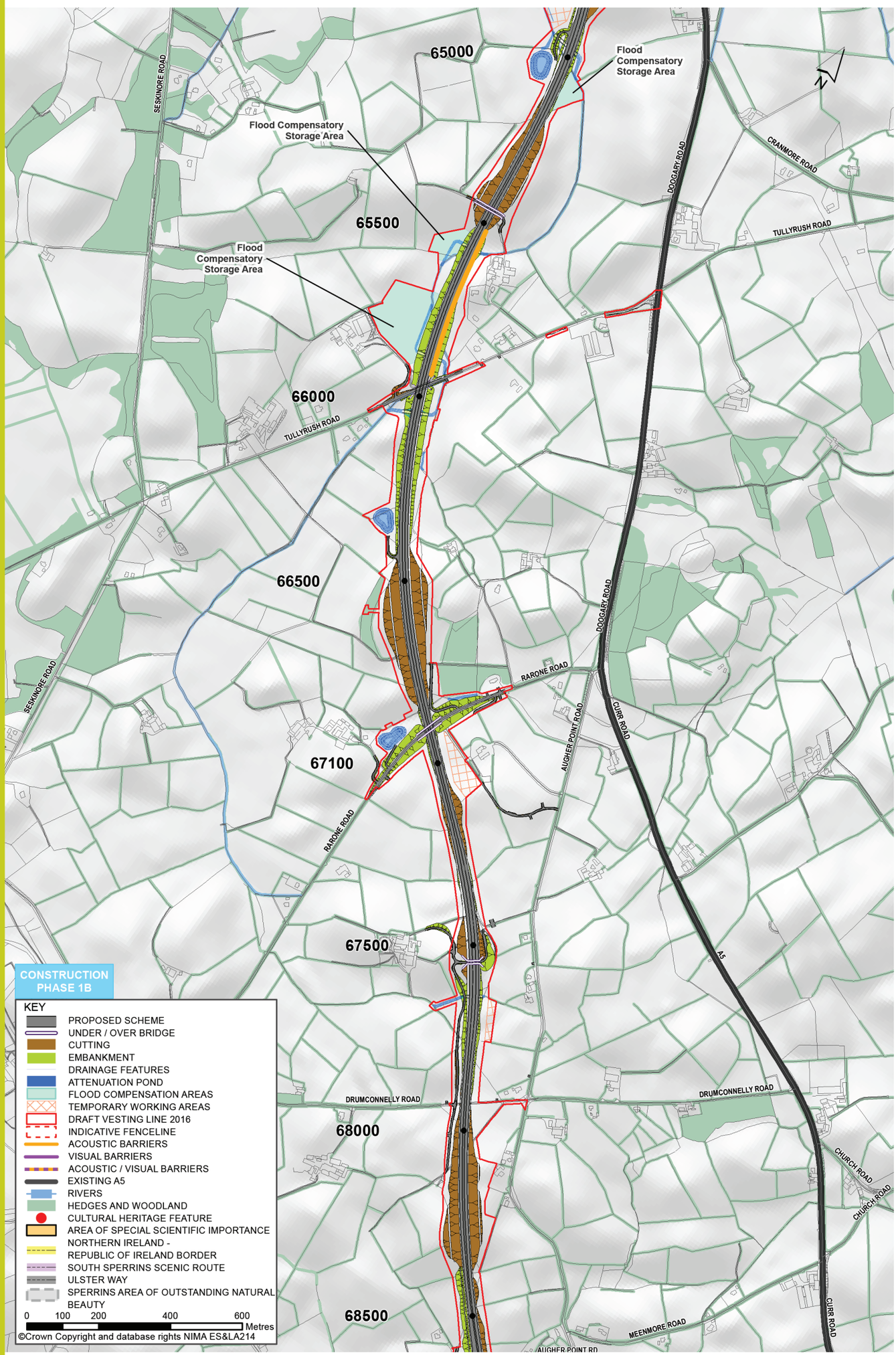
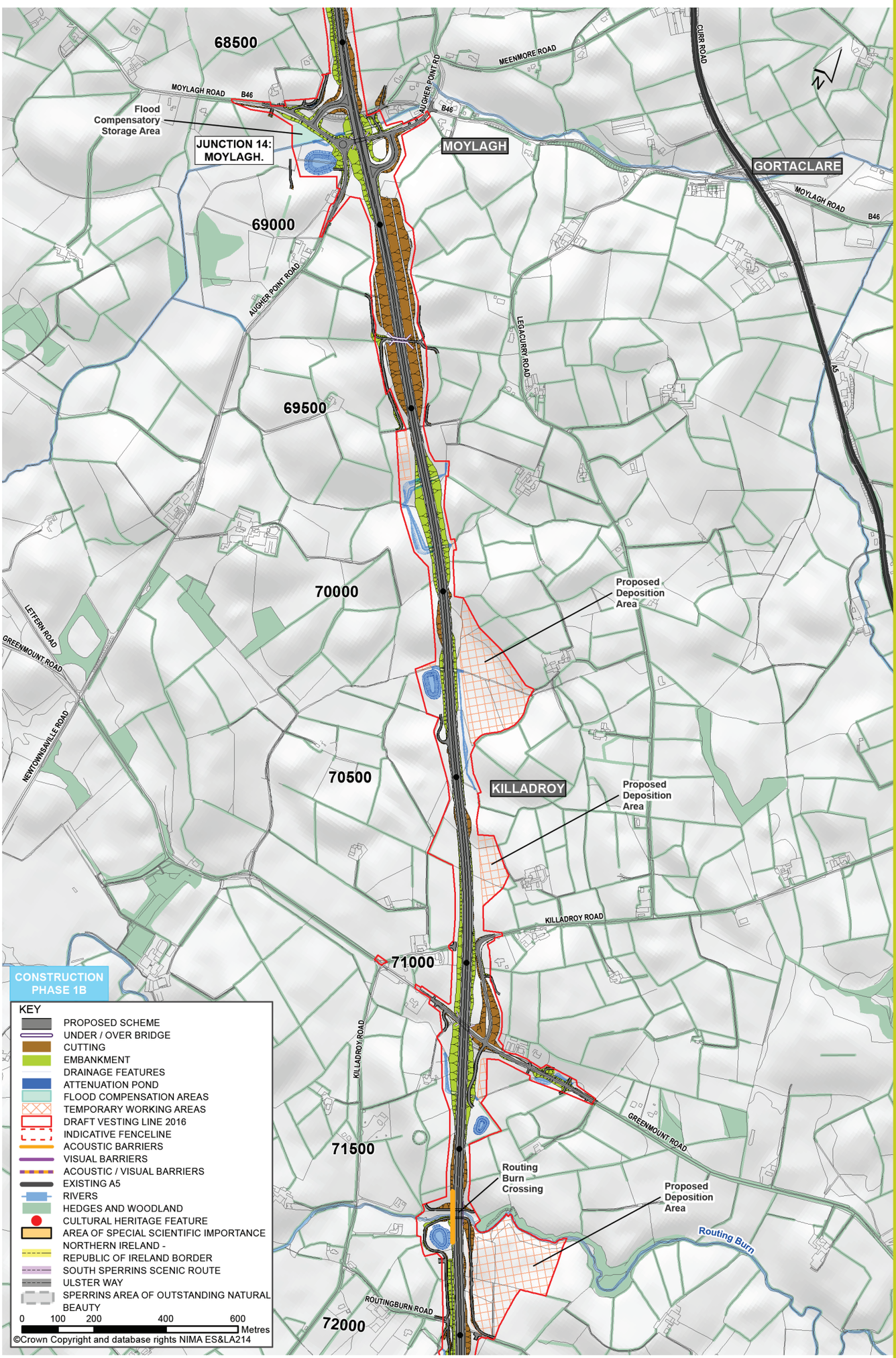
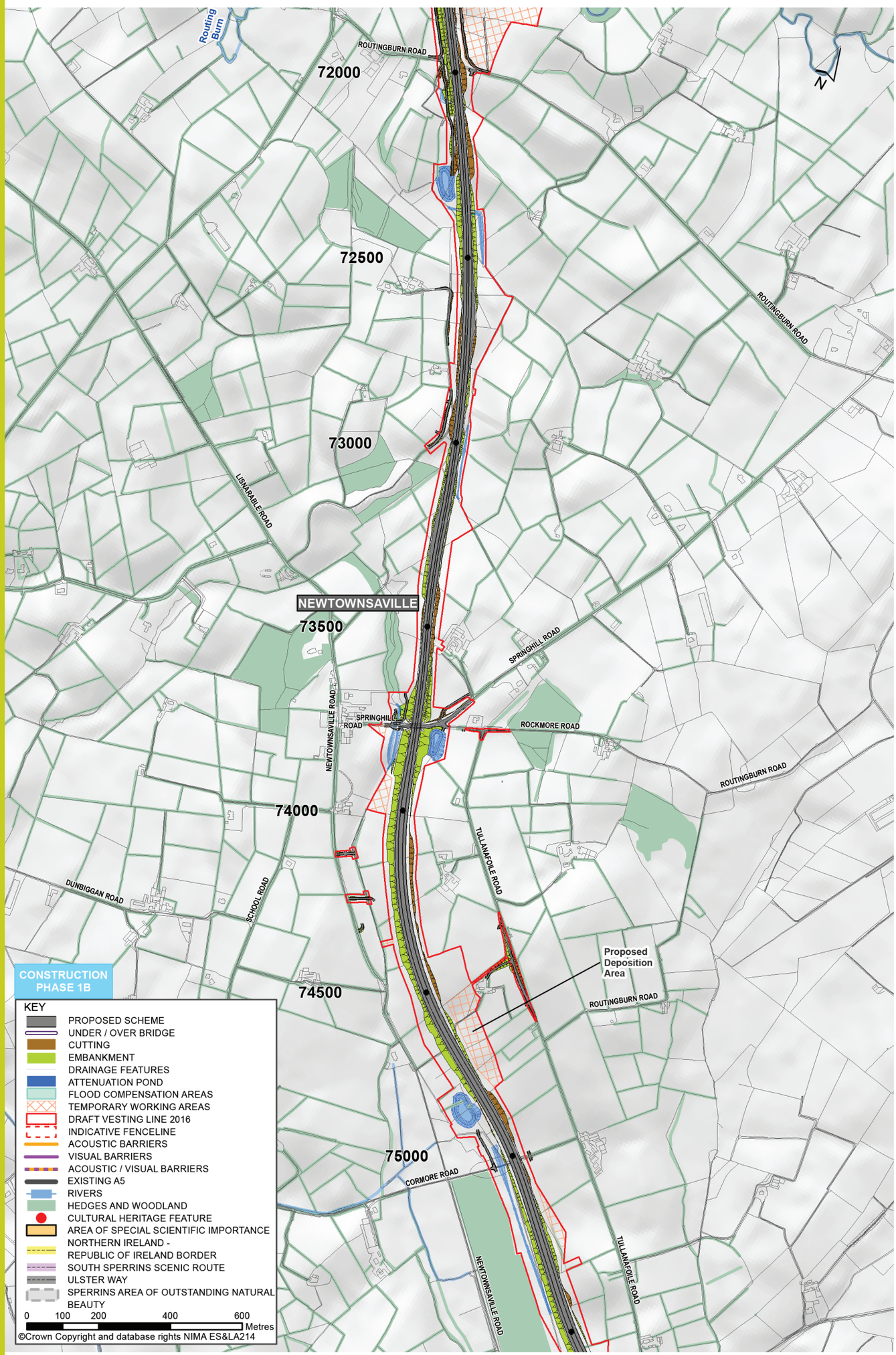


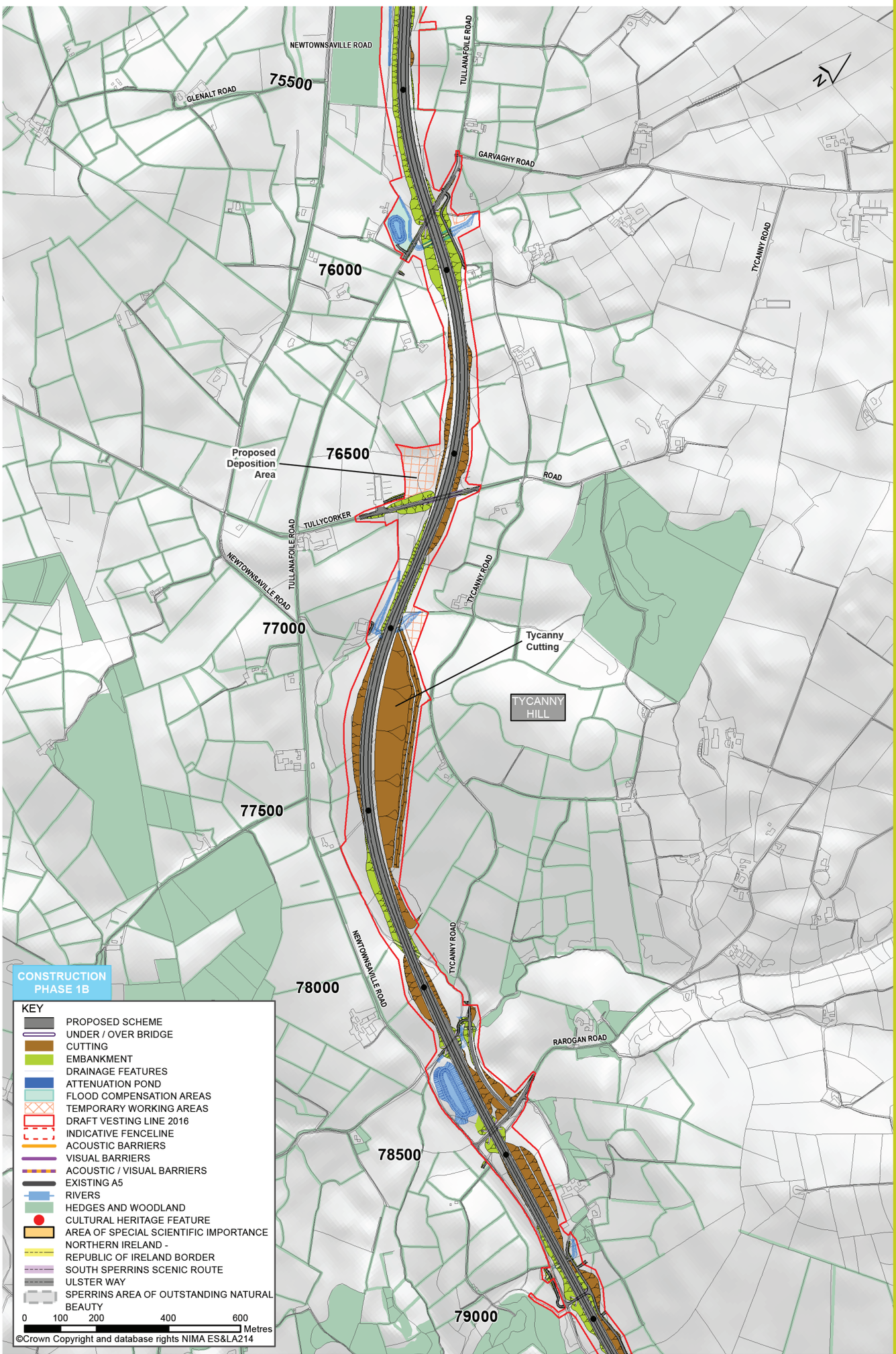
MAP 17: 65km to 68.5km



MAP 18: 68.5km to 72km



MAP 19: 72km to 75.5km


NEWTOWNSAVILLE ROAD
GLENALT ROAD
75500
TULLANAFOILE ROAD
GARVAGHY ROAD
TYCANNY ROAD
76000
Proposed Deposition Area
76500
ROAD
TULLYCORKER
TULLANAFOILE ROAD
NEWTOWNSAVILLE ROAD
TYCANNY ROAD
77000
Tycanny Cutting
TYCANNY HILL
77500
NEWTOWNSAVILLE ROAD
TYCANNY ROAD
78000
RAROGAN ROAD
78500
79000
CONSTRUCTION PHASE 1B
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND - REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL BEAUTY
0 100 200 400 600
Metres
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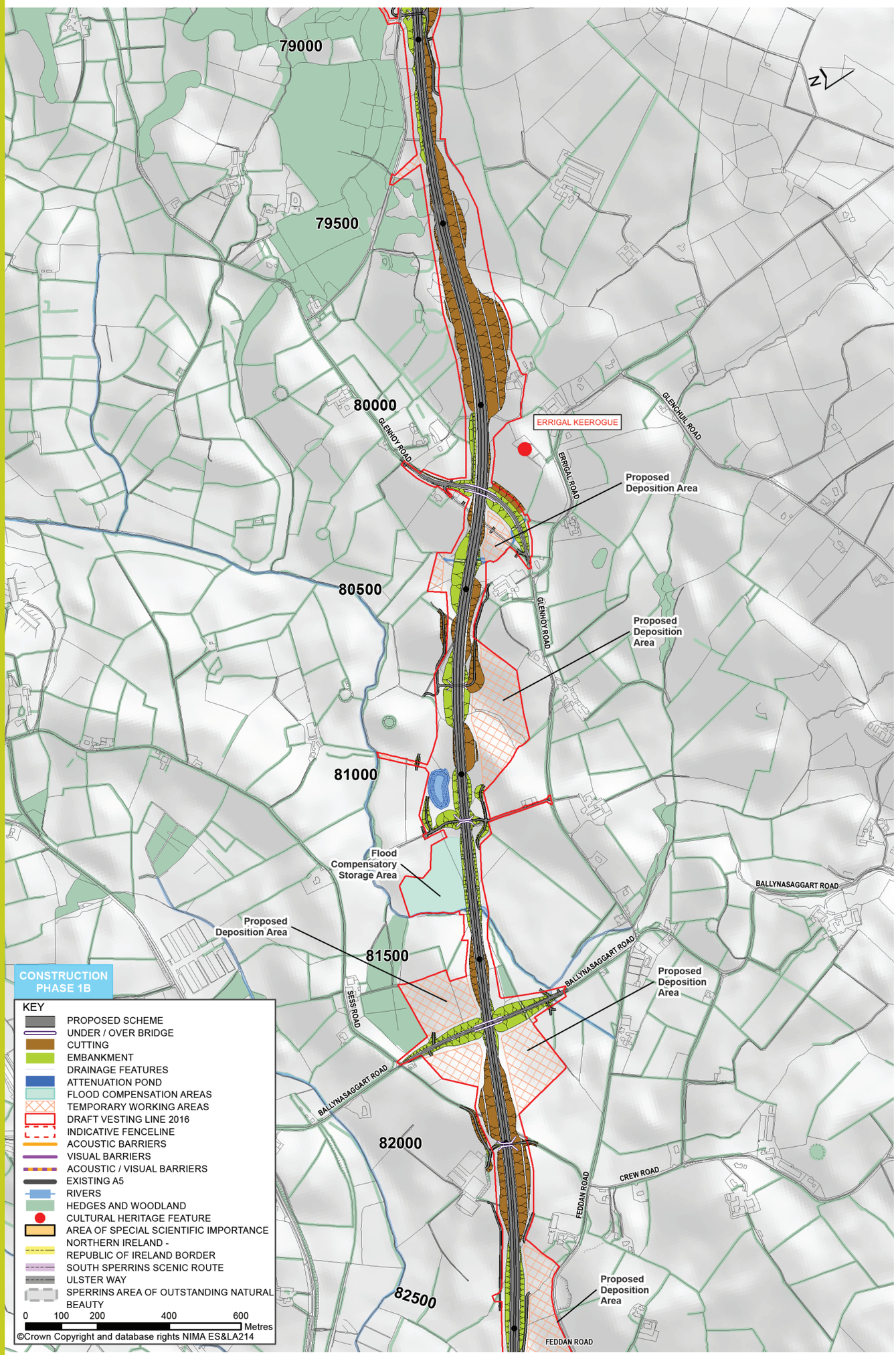
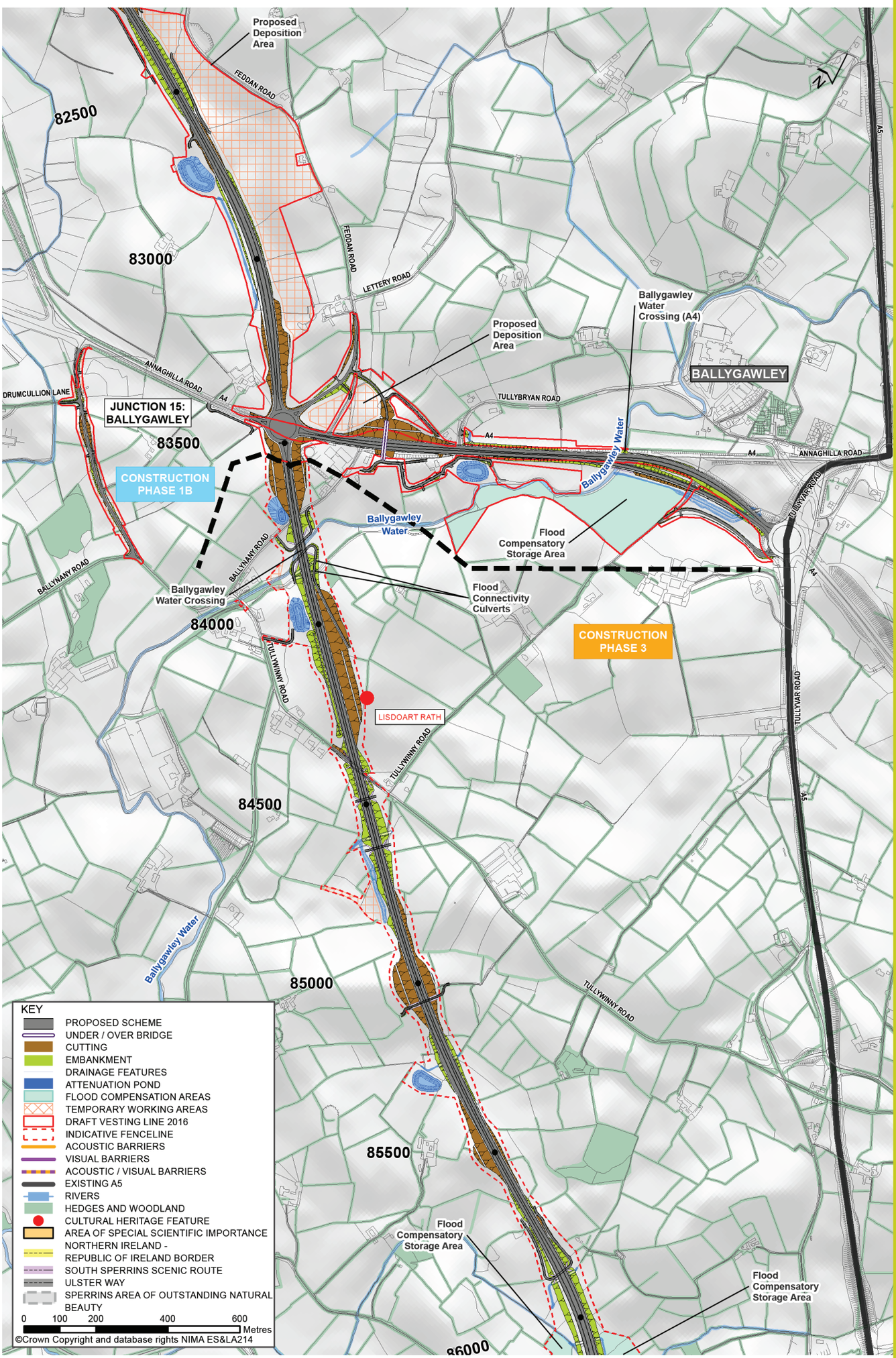


MAP 21: 79km to 82.5km


Proposed Deposition Area
FEDDAN ROAD
82500
83000
FEDDAN ROAD
LETTERY ROAD
Ballygawley Water Crossing (A4)
Proposed Deposition Area
BALLYGAWLEY
ANNAGHILLA ROAD
DRUMCULLION LANE
A4
JUNCTION 15: BALLYGAWLEY
TULLYBRYAN ROAD
83500
CONSTRUCTION PHASE 1B
Ballygawley Water
A4
ANNAGHILLA ROAD
TULLYVAR ROAD
Ballygawley Water
Flood Compensatory Storage Area
BALLYNANY ROAD
BALLYNANY ROAD
Ballygawley Water Crossing
Flood Connectivity Culverts
84000
CONSTRUCTION PHASE 3
A4
TULLYWINNY ROAD
LISDOART RATH
TULLYWINNY ROAD
TULLYVAR ROAD
A5
84500
Ballygawley Water
85000
TULLYWINNY ROAD
85500
Flood Compensatory Storage Area
Flood Compensatory Storage Area
86000
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND - REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL BEAUTY
0 100 200 400 600 Metres
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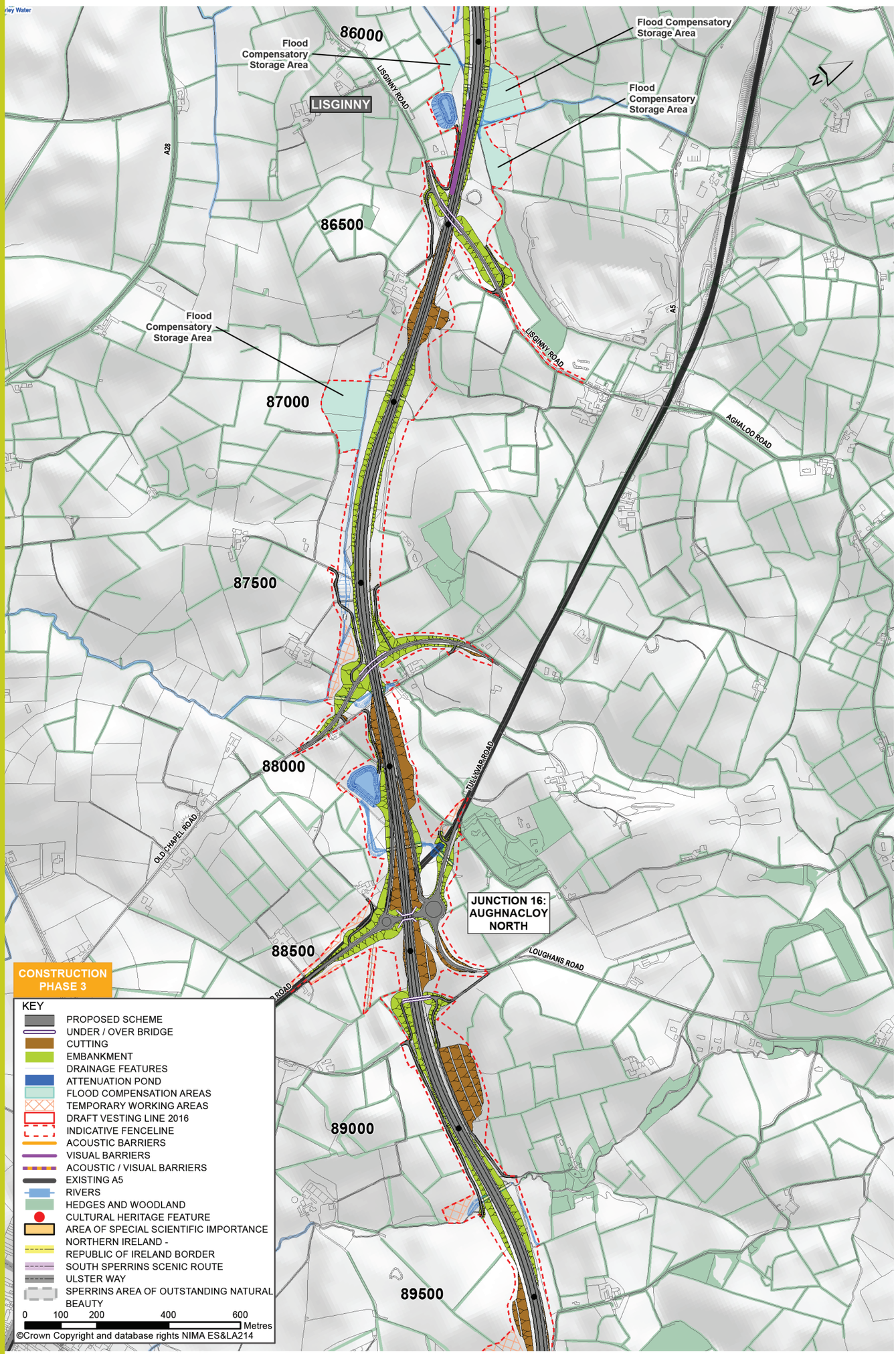
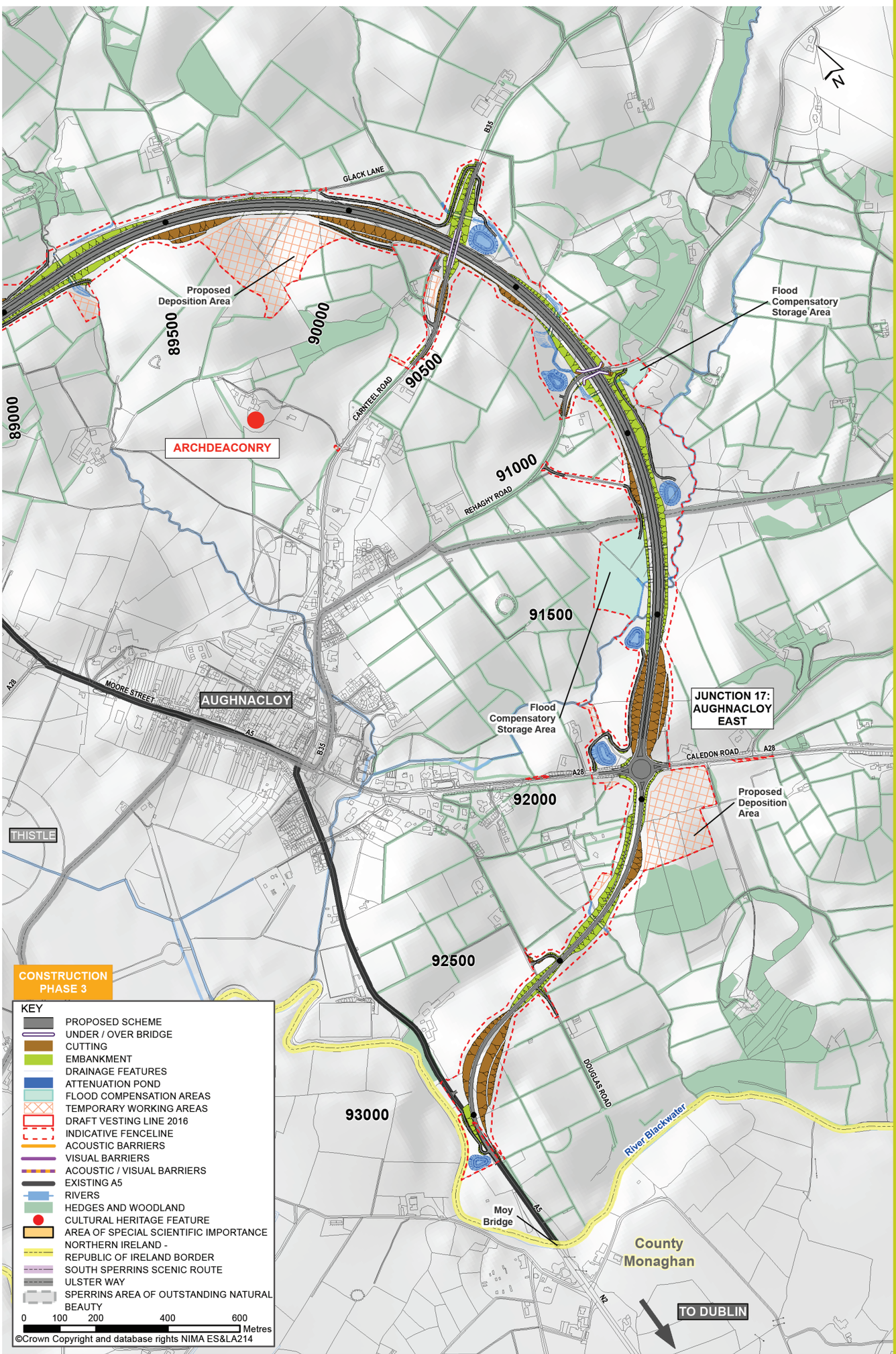


MAP 23: 86km to 89.5km


N
GLACK LANE
B35
Proposed
Deposition Area
89500
90000
90500
89000
CARNTEEL ROAD
ARCHDEACONRY
Flood
Compensatory
Storage Area
91000
REHAGHY ROAD
91500
JUNCTION 17:
AUGHNACLOY
EAST
A28
MOORE STREET
AUGHNACLOY
A5
B35
Flood
Compensatory
Storage Area
CALEDON ROAD
A28
92000
Proposed
Deposition
Area
THISTLE
92500
DOUGLAS ROAD
River Blackwater
93000
Moy
Bridge
A5
County
Monaghan
N2
TO DUBLIN
CONSTRUCTION
PHASE 3
KEY
PROPOSED SCHEME
UNDER / OVER BRIDGE
CUTTING
EMBANKMENT
DRAINAGE FEATURES
ATTENUATION POND
FLOOD COMPENSATION AREAS
TEMPORARY WORKING AREAS
DRAFT VESTING LINE 2016
INDICATIVE FENCELINE
ACOUSTIC BARRIERS
VISUAL BARRIERS
ACOUSTIC / VISUAL BARRIERS
EXISTING A5
RIVERS
HEDGES AND WOODLAND
CULTURAL HERITAGE FEATURE
AREA OF SPECIAL SCIENTIFIC IMPORTANCE
NORTHERN IRELAND -
REPUBLIC OF IRELAND BORDER
SOUTH SPERRINS SCENIC ROUTE
ULSTER WAY
SPERRINS AREA OF OUTSTANDING NATURAL
BEAUTY
0 100 200 400 600
Metres
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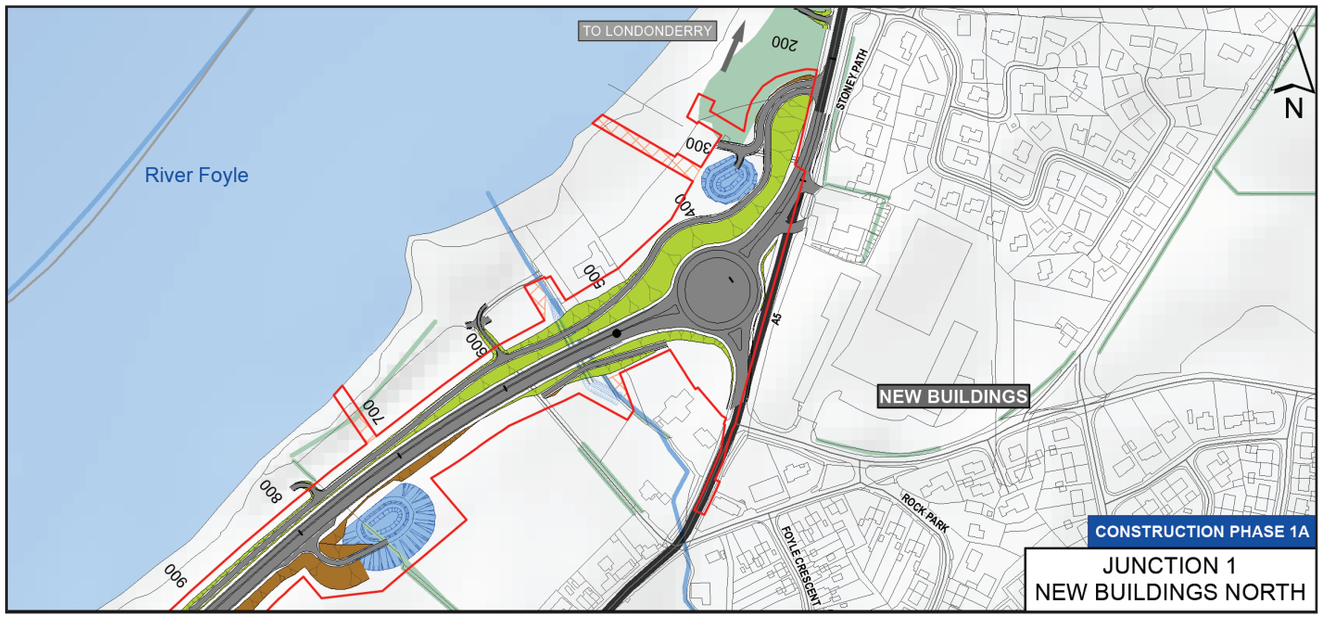
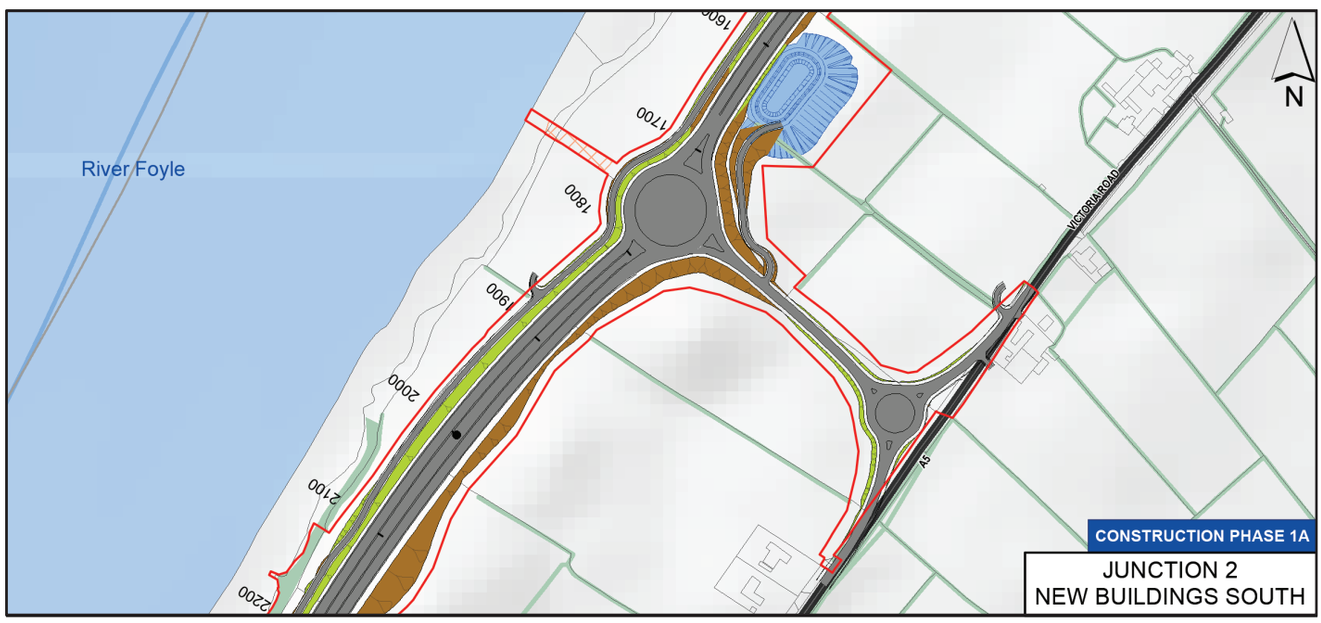
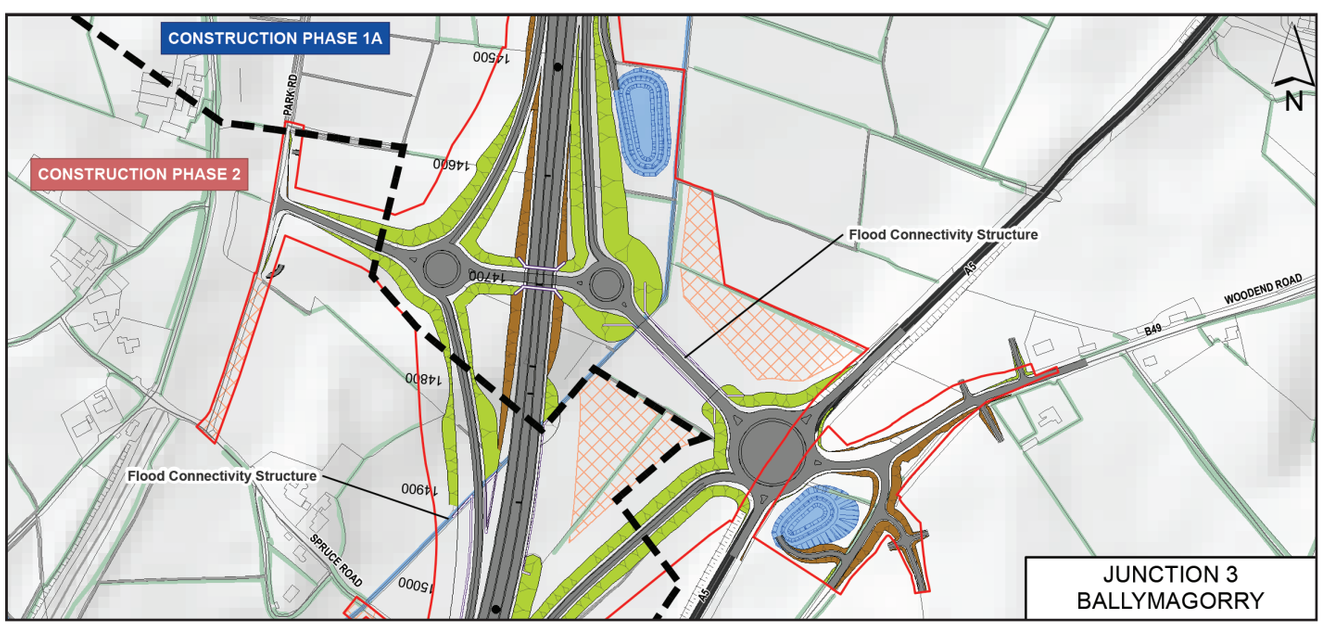
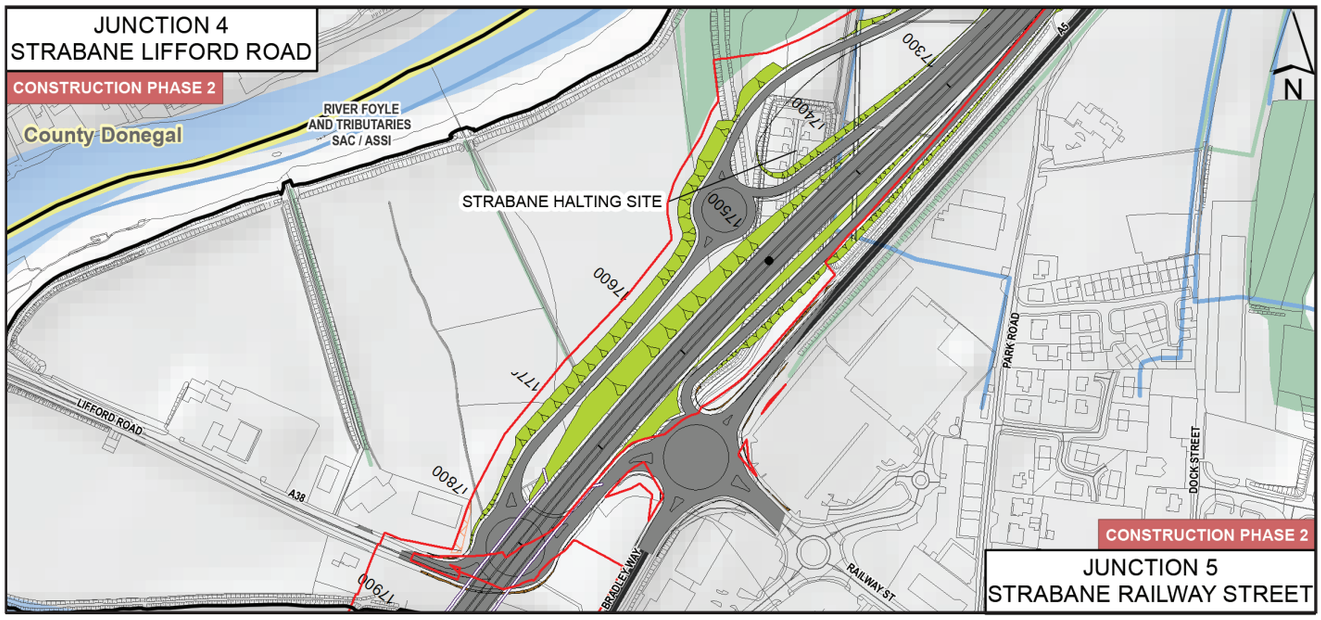
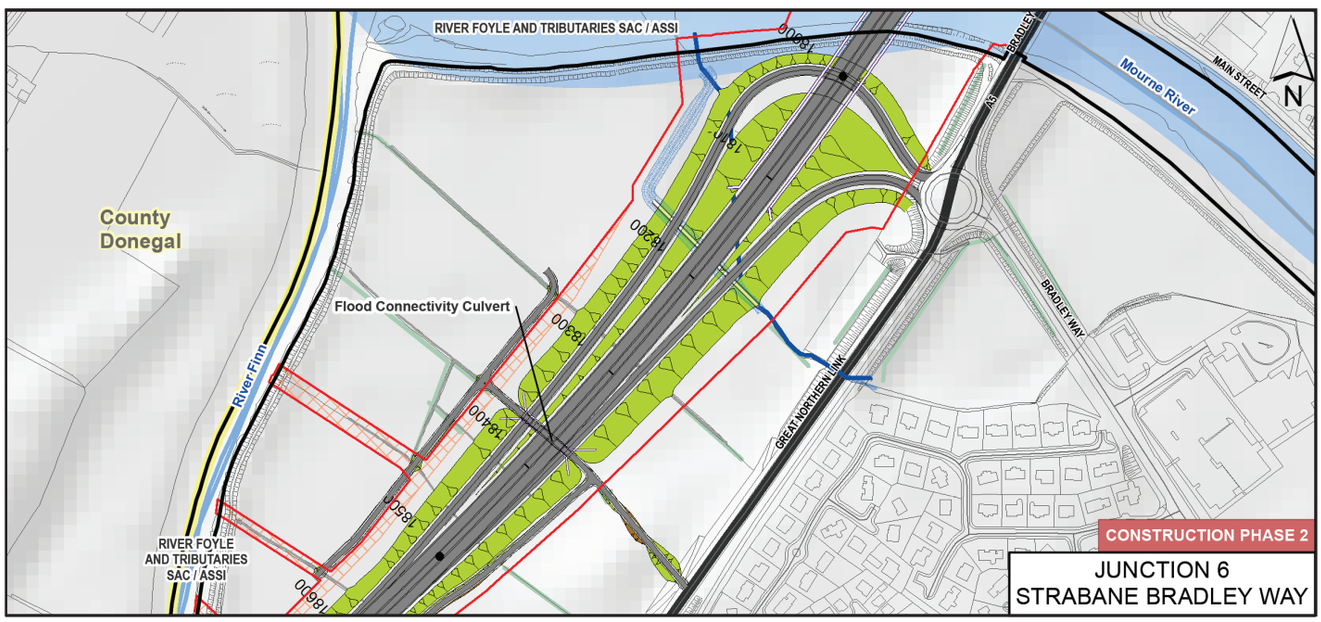
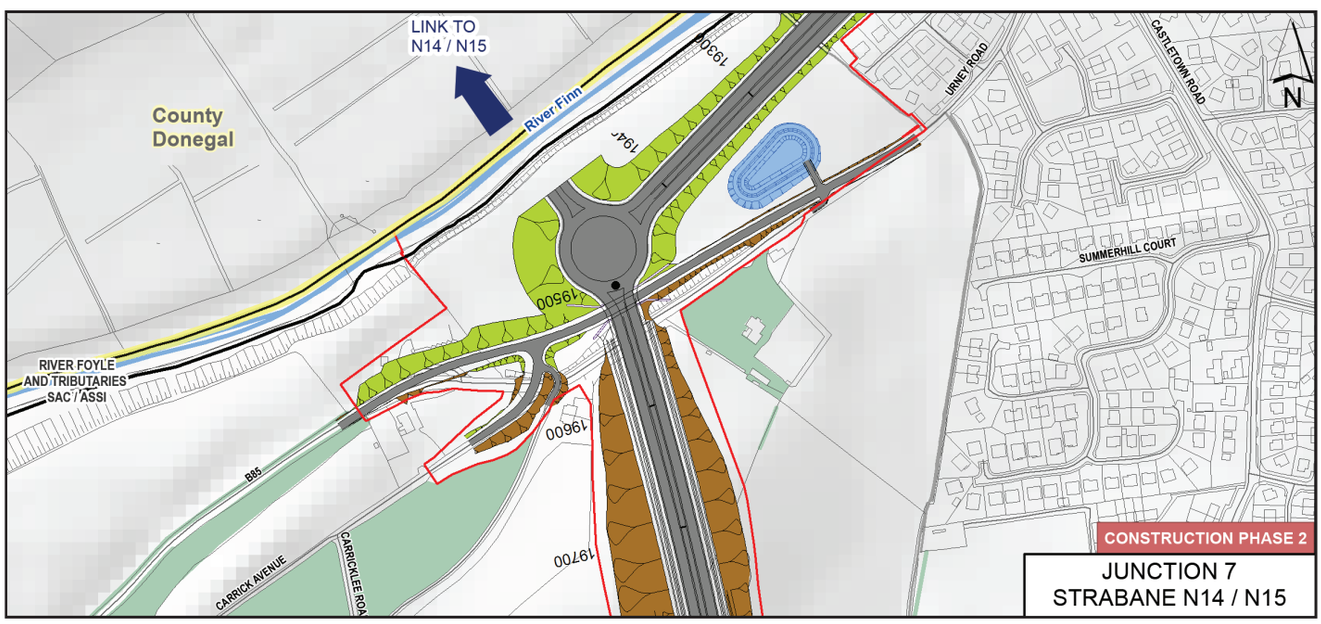

TO LONDONDERRY
River Foyle
STONEY PATH
A5
NEW BUILDINGS
ROCK PARK
FOYLE CRESCENT
CONSTRUCTION PHASE 1A
JUNCTION 1
NEW BUILDINGS NORTH
N


River Foyle
VICTORIA ROAD
A5
CONSTRUCTION PHASE 1A
JUNCTION 2
NEW BUILDINGS SOUTH
N

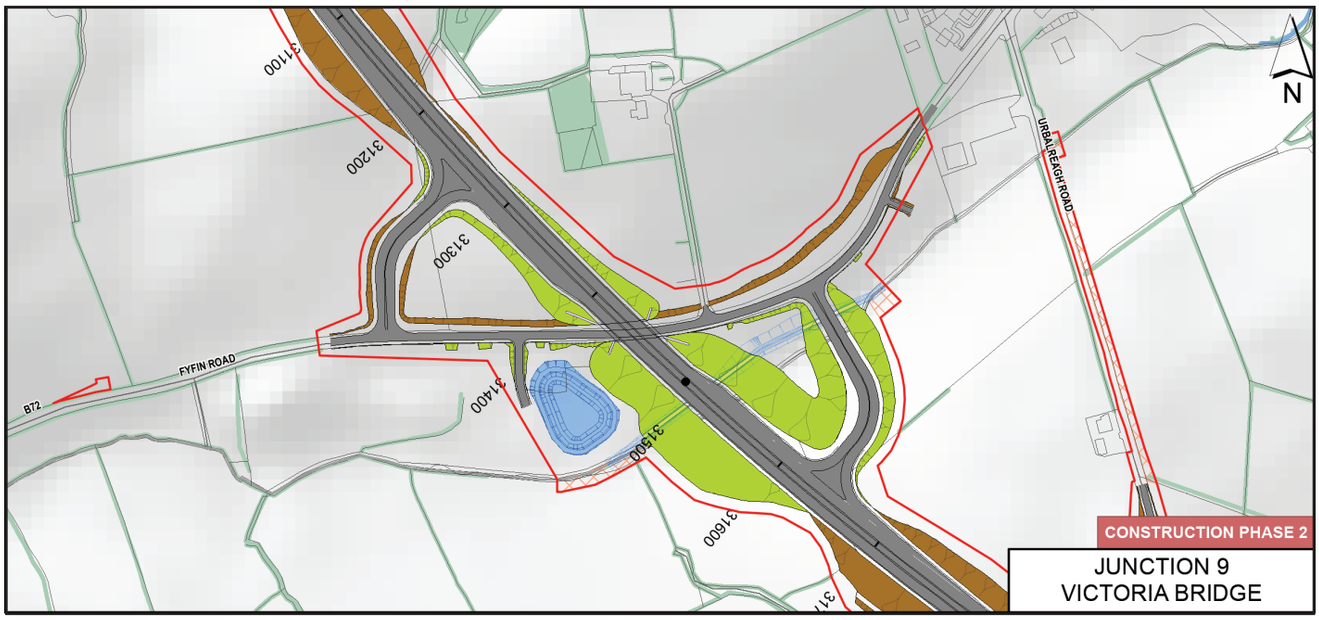

CONSTRUCTION PHASE 1A
CONSTRUCTION PHASE 2
PARK RD
Flood Connectivity Structure
Flood Connectivity Structure
A5
WOODEND ROAD
B49
SPRUCE ROAD
JUNCTION 3
BALLYMAGORRY
N

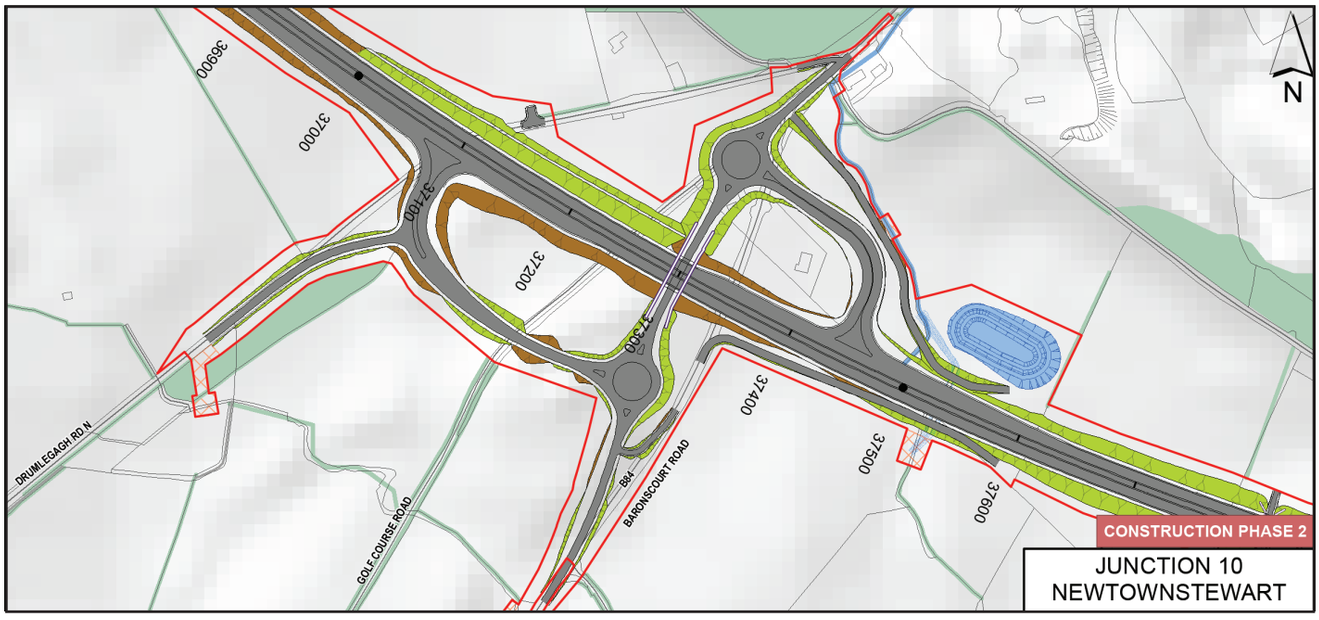

JUNCTION 4
STRABANE LIFFORD ROAD
CONSTRUCTION PHASE 2
County Donegal
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
STRABANE HALTING SITE
LIFFORD ROAD
A38
BRADLEY WAY
RAILWAY ST
PARK ROAD
DOCK STREET
A5
N
CONSTRUCTION PHASE 2
JUNCTION 5
STRABANE RAILWAY STREET

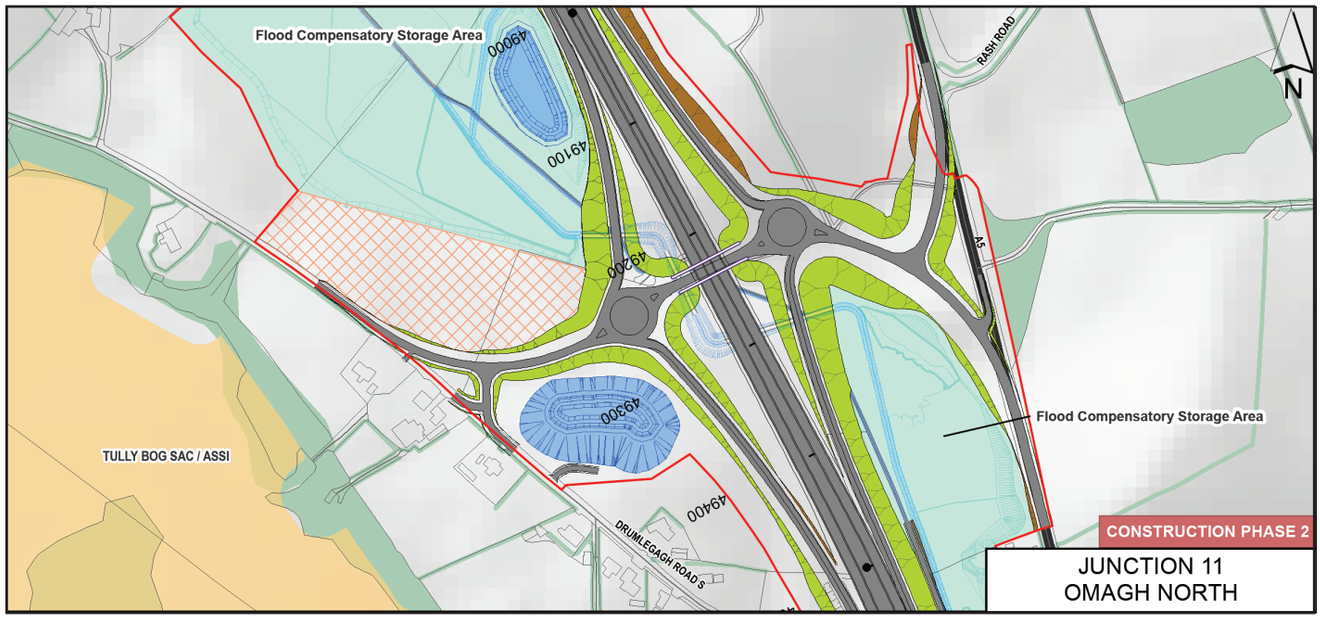

RIVER FOYLE AND TRIBUTARIES SAC / ASSI
County Donegal
Flood Connectivity Culvert
River Finn
Mourne River
MAIN STREET
BRADLEY WAY
GREAT NORTHERN LINK
A5
N
CONSTRUCTION PHASE 2
JUNCTION 6
STRABANE BRADLEY WAY

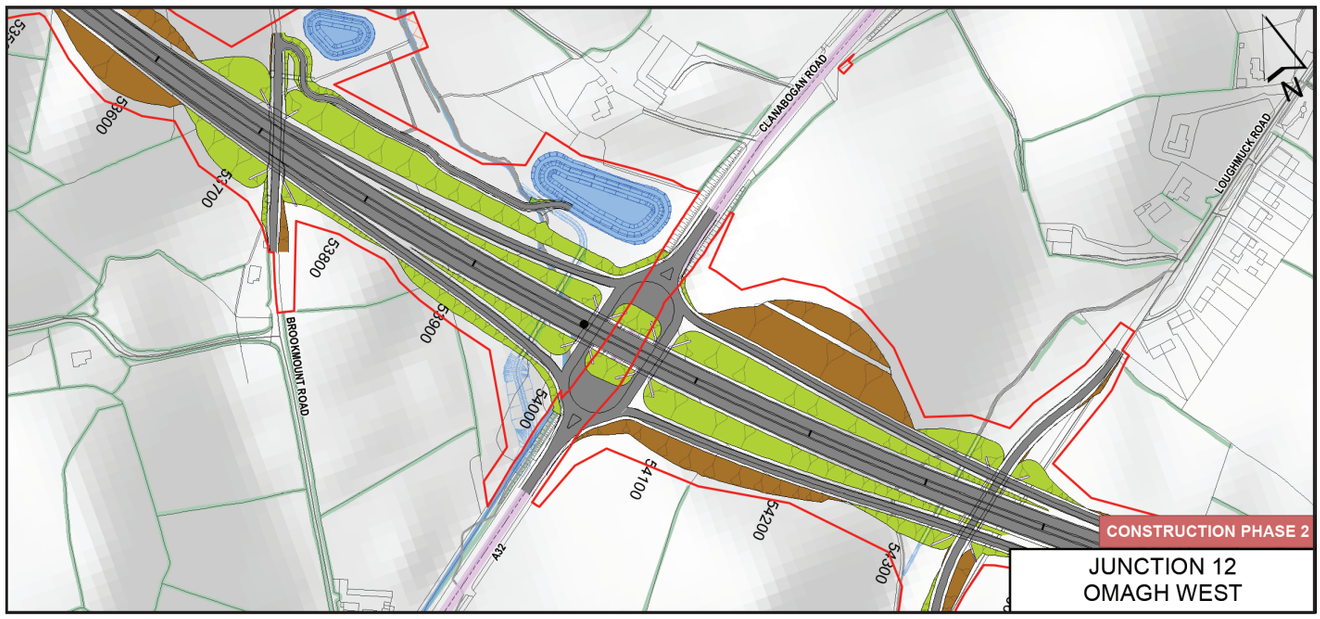

LINK TO
N14 / N15
County Donegal
River Finn
URNEY ROAD
CASTLETOWN ROAD
SUMMERHILL COURT
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
B95
CARRICK AVENUE
CARRICKLEE ROAD
N
CONSTRUCTION PHASE 2
JUNCTION 7
STRABANE N14 / N15

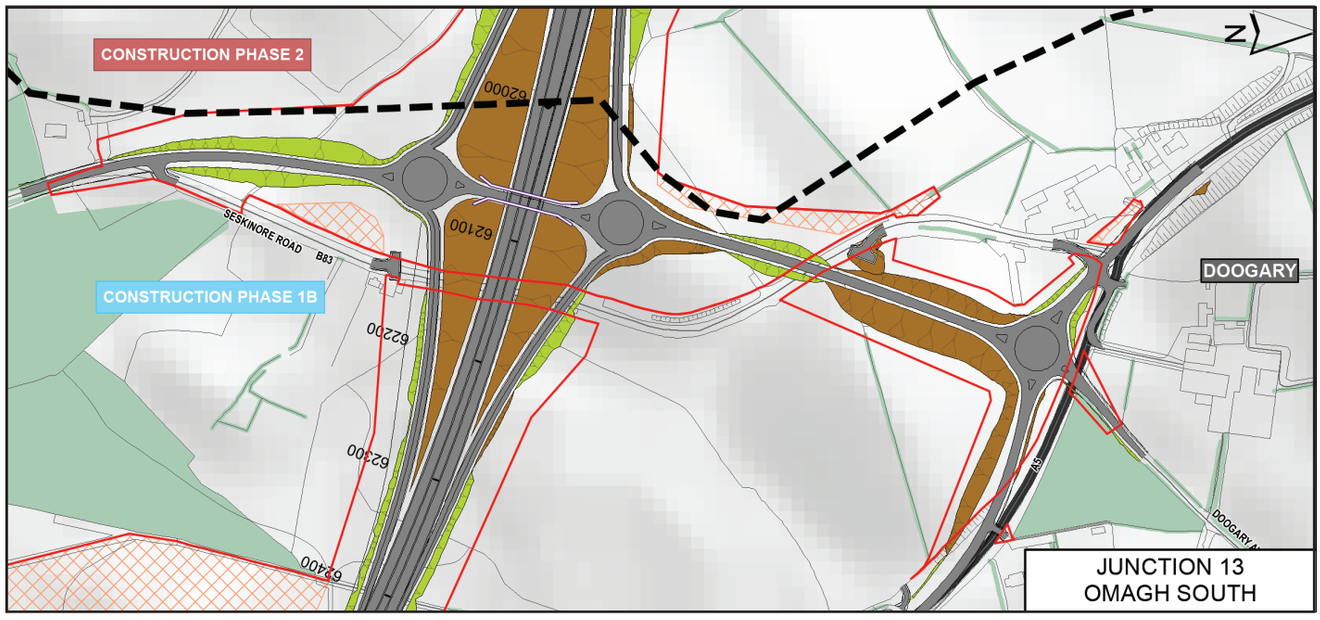

21800
21900
22000
22100
22200
22300
A5
PEACOCK RD
MELMOUNT ROAD
RIVER FOYLE AND TRIBUTARIES SAC / ASSI
Mourne River
N
CONSTRUCTION PHASE 2
JUNCTION 8
STRABANE SOUTH

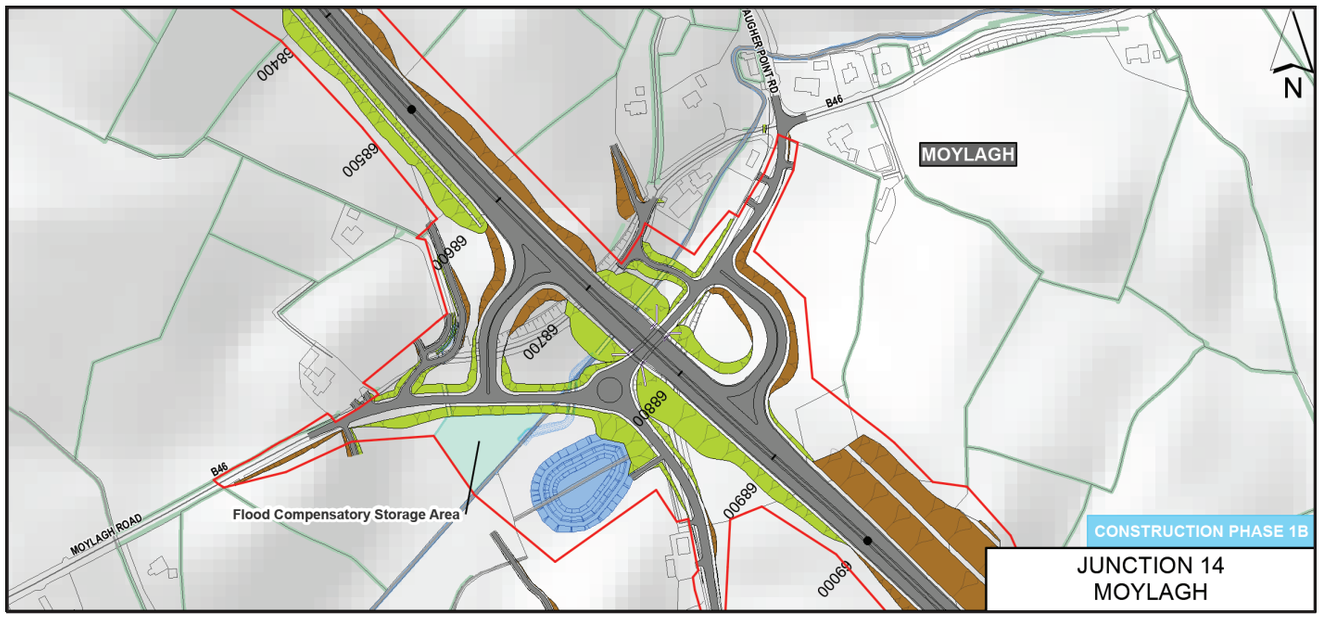

3100
3120
3130
3140
3150
3160
FYFIN ROAD
B72
URBALREAGH ROAD
N
CONSTRUCTION PHASE 2
JUNCTION 9
VICTORIA BRIDGE

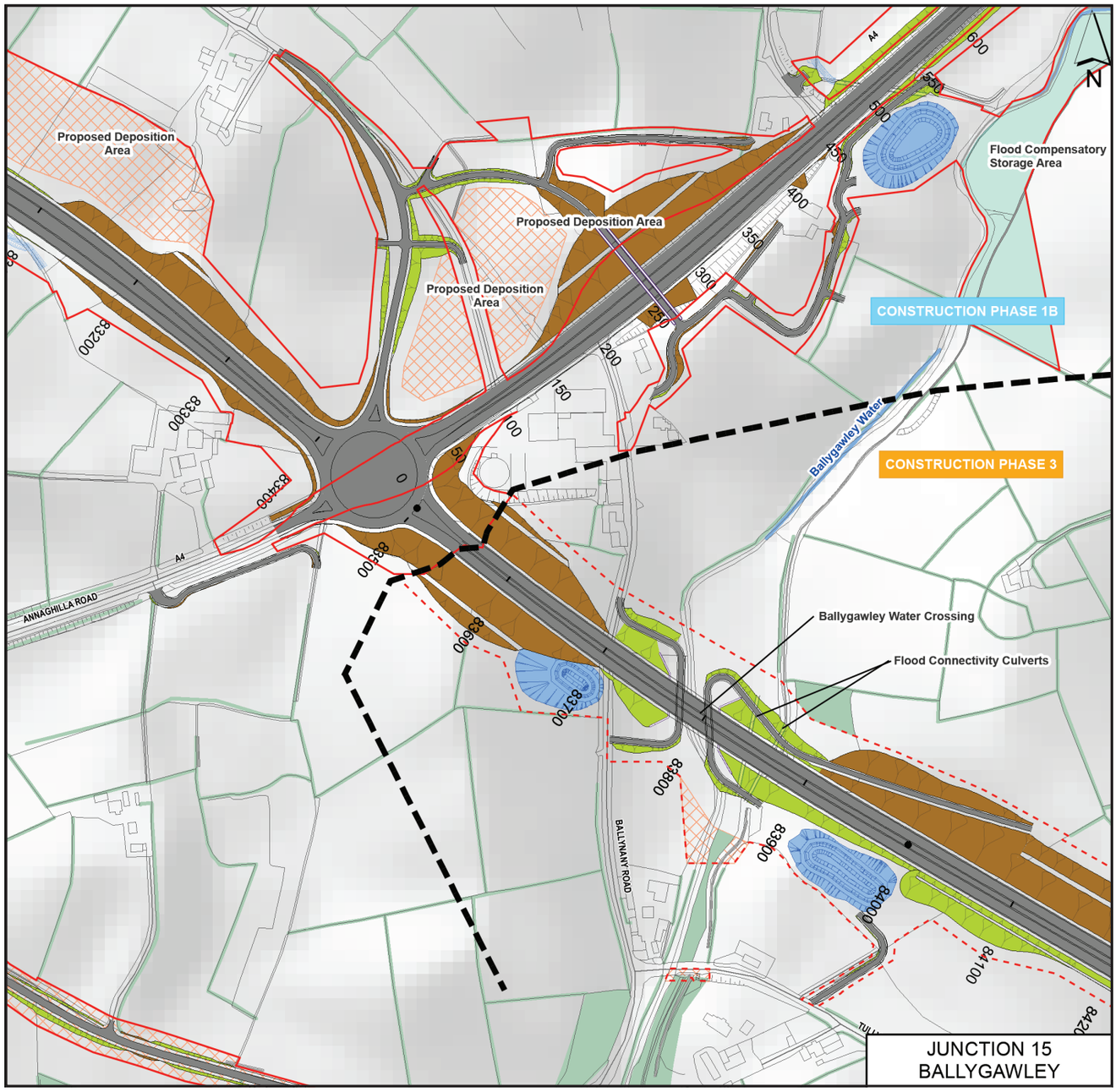

36900
37000
37100
37200
37300
37400
37500
37600
DRUMLEGAGH RD N
GOLF COURSE ROAD
B84
BARONSCOURT ROAD
N
CONSTRUCTION PHASE 2
JUNCTION 10
NEWTOWNSTEWART

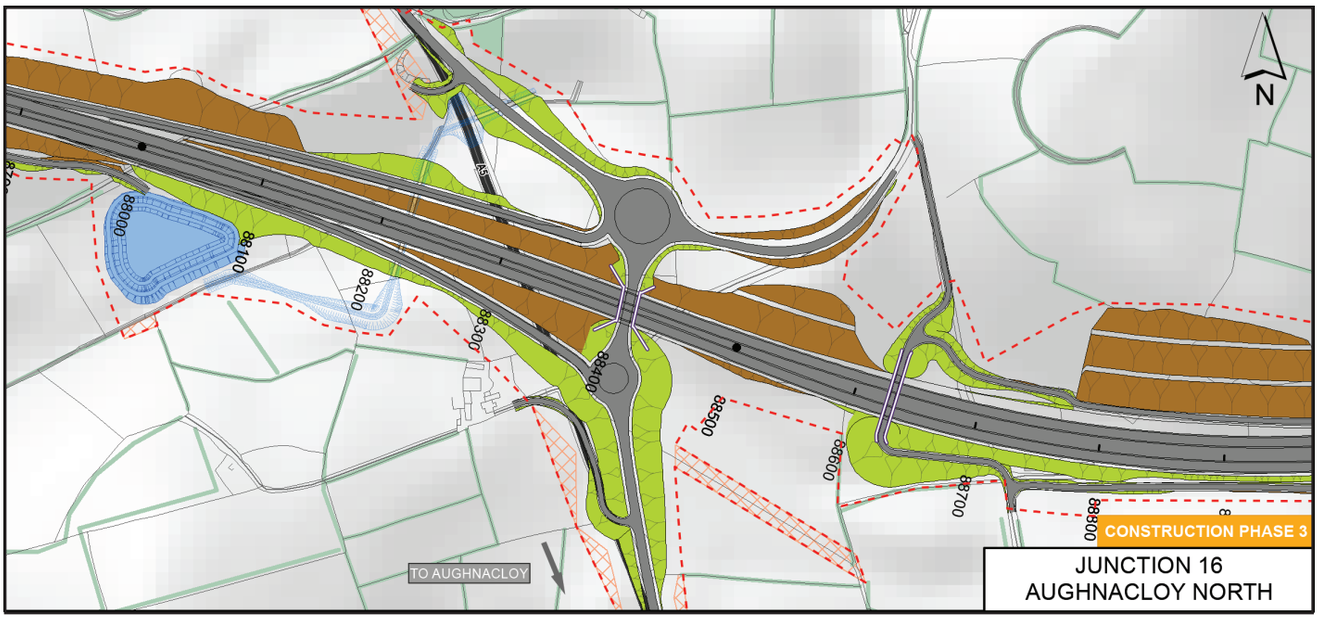

Flood Compensatory Storage Area
49000
49100
49200
49300
49400
RASH ROAD
A5
N
Flood Compensatory Storage Area
TULLY BOG SAC / ASSI
DRUMLEGAGH ROAD S
CONSTRUCTION PHASE 2
JUNCTION 11
OMAGH NORTH


53600
53700
53800
53900
54000
54100
54200
54300
CLANABOGAN ROAD
LOUGHMUCK ROAD
BROOKMOUNT ROAD
A32
N
CONSTRUCTION PHASE 2
JUNCTION 12
OMAGH WEST


CONSTRUCTION PHASE 2
CONSTRUCTION PHASE 1B
62000
62100
62200
62300
62400
SESKINORE ROAD
B83
DOOGARY
A5
N
JUNCTION 13
OMAGH SOUTH


MOYLAGH
B46
AUGHER POINT RD
MOYLAGH ROAD
Flood Compensatory Storage Area
CONSTRUCTION PHASE 1B
JUNCTION 14
MOYLAGH


Proposed Deposition Area
Proposed Deposition Area
Proposed Deposition Area
Flood Compensatory Storage Area
CONSTRUCTION PHASE 1B
CONSTRUCTION PHASE 3
Ballygawley Water
Ballygawley Water Crossing
Flood Connectivity Culverts
A4
ANNAGHILLA ROAD
BALLYNANY ROAD
JUNCTION 15
BALLYGAWLEY



KEY

- PROPOSED SCHEME
- UNDER / OVER BRIDGE
- CUTTING
- EMBANKMENT
- DRAINAGE FEATURES
- ATTENUATION POND
- FLOOD COMPENSATION AREAS
- TEMPORARY WORKING AREAS
- VESTING LINE
- INDICATIVE LAND TAKE BOUNDARY
- EXISTING A5
- RIVERS
- HEDGES AND WOODLAND
- CULTURAL HERITAGE FEATURE
- SOUTH SPERRINS SCENIC ROUTE
- NORTHERN IRELAND - REPUBLIC OF IRELAND BORDER

0 50 100 200 Meters

ENVIRONMENTAL IMPACTS, MITIGATION AND SIGNIFICANT EFFECTS

Identification of the impacts and likely significant effects on the environment associated with the Proposed Scheme and of the studies and assessments which have been undertaken to investigate them has been informed by the guidance provided in Volume 11 of the Design Manual for Roads and Bridges (DMRB) which specifically addresses environmental assessment.

The guidance in Volume 11 identifies impacts and effects which can be anticipated where a major road scheme is being introduced into the environment. The guidance has been used to enable the assessment team to establish which of these impacts and effects could potentially occur and the specific nature of them for the Proposed Scheme. They are detailed in the Environmental Statement along with the information which has been relied on as the assessments have been undertaken, the methods of assessment which have been used and the findings relative to significance. A summary of the assessments which have been undertaken, the findings relative to significance and the design and mitigation measures which have been included in the proposals in light of the findings is provided on the following pages.

Information relating to existing environmental resources and their status has been obtained from a variety of sources. These include Northern Ireland Environment Agency (NIEA), Loughs Agency, DEARA (including NIEA, LA, DFC), Royal Society for the Protection of Birds, Ulster Wildlife Trust, Woodland Trust and local authorities. A complete schedule of information sources and consultees is provided in Appendix 3A of Volume 3 of the ES. Information has also been obtained from landowners and members of the public at consultation meetings and project exhibitions. Site surveys have also been undertaken to establish and or verify the presence and status of resources such as habitat types, fauna, archaeological sites and features, watercourses and farms.

Air Quality

The assessments have been focused on likely impacts and effects relative to local air quality, regional emissions and construction.

Modelling of potential emissions has followed current guidance and information provided by Defra etc. and has utilized ADMS Roads software to calculate concentration values.

The local air quality assessments have demonstrated that more people would benefit from reduced concentrations of key pollutants (nitrogen dioxide and particulates) rather than have increases in concentrations, as a result of changes in traffic flows and characteristics should the Proposed Scheme be implemented. The reduction would be the result of the diversion of strategic traffic from the existing A5 to the new A5WTC. ***It has been concluded the effect would be beneficial and would not constitute a significant effect on the environment***.

The regional emissions assessment has demonstrated that emissions of nitrogen oxides, hydrocarbons and particulate matter associated with changes in regional traffic flows and characteristics (i.e. vehicle speed) as a result of implementation of the Proposed Scheme would increase but not be significant.

The regional emissions assessment for carbon dioxide has demonstrated that emissions associated with changes in regional traffic flows and characteristics as a result of implementation of the Proposed Scheme would result in the greatest increase. ***It has been concluded this would constitute a significant effect on the environment***.

The assessment of impacts associated with construction-generated dust has demonstrated that with proposed mitigation measures focused on the control and suppression of dust, the Proposed Scheme would not have a significant effect on the environment.

The assessment of impacts associated with emissions (nitrogen dioxide and particulates) arising from construction-related traffic using existing roads would result in temporary increases in concentrations of both pollutants but not of an order or duration which would constitute a significant effect on the environment.

Cultural Heritage

The assessments have been focused on likely impacts and effects relative to archaeological resources, built heritage and historic landscapes[1] .

The assessment of archaeological resources has indicated the Proposed Scheme would have an impact on 72 sites and features identified during the studies of documents and records and the site-based investigations undertaken to date. It has been concluded the impact on 61 of these would be neutral or slight adverse, the impact on 8 would be moderate adverse and the impact on 3 would be large adverse.

Six of the 8 which would be subject to moderate adverse impact are Scheduled Monuments. Two of the 3 which would be subject to large adverse impact are State Care Monuments, The impact on the two State Care Monuments would be on the setting of both sites, Harry Avery's Castle and Errigal Keerogue Graveyard. The third site which would be subject to large adverse impact was identified during site investigations in 2013 and comprises an enclosure and burnt mound of low cultural heritage value.

Mitigation relative to sites and features of archaeological interest includes:

- the design of roadside earthworks and planting to reduce the impact on the setting of 17 sites and features including Harry Avery's Castle and Errigal Keerogue;
- full site excavation and recording of 7 sites evaluated during trial trenching undertaken in 2013;
- targeted metal detector surveys of the areas of the two battle sites that are due to be impacted upon by the scheme, in agreement with the Historic Environment Division (Department for Communities)
- excavation and recording subject to Scheduled Monument Consent at Lisdoart Rath;
- further trial trenching along sections of the Proposed Scheme corridor not previously subject to trenching and excavation in 2013.The trenching will be undertaken in accordance with the recently adopted evaluation methodology recommended by NIEA to establish the potential presence of as yet unknown interests and focusing on identified archaeological features and

1. Archaeological remains comprise those materials created or modified by past human activities. This includes a wide range of visible and buried artefacts, field monuments, structures and landscape features. Built heritage comprises architectural, designed or other structures with a significant historic value, such as listed buildings. Historic landscapes comprise those where there is clear evidence of the past and its significance in shaping the present landscape.

2. DEM 156/15, Management of Archaeological Investigations on Major Road Improvement Schemes'

areas of archaeological potential. Should there be evidence of archaeological remains, further investigations will be undertaken subject to the NIEA evaluation methodology[2].

It has been concluded the impacts on the setting of Harry Avery's Castle and Errigal Keerogue Graveyard would constitute significant effects on the environment.

The assessment of built heritage resources has indicated the Proposed Scheme would have an impact on 26 sites identified during the studies of documents and records and the site-based investigations undertaken to date. It has been concluded the impact on 23 of these would be neutral or slight and adverse, the impact on 2 would be moderate and adverse and the impact on 1 would be large and adverse. The 1 resource which would be subject to a large adverse impact is Castletown House, a grade B1 listed building located on the western fringe of Strabane, which would be demolished to accommodate the Proposed Scheme.

Mitigation relative to buildings and structures of built heritage interest include:

- the use of planting to screen and reduce the impact of the Proposed Scheme on the setting of 9 buildings and structures;
- recording of buildings and structures for 10 of the interests identified prior to demolition during construction; and
- recording prior to the demolition of Castletown House subject to Listed Building Consent.

It has been concluded the demolition of Castletown House would constitute a significant effect on the environment.

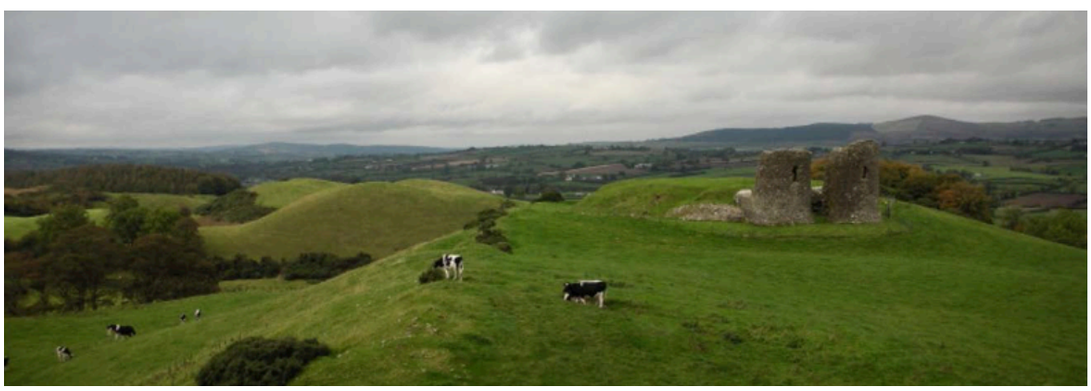
The assessment of historic landscapes identified five historic landscape types along and in the vicinity of the Proposed Scheme corridor; enclosed land, settlements, communications and industry, woodland and parks and recreation. The first two were classified as being of medium cultural heritage value and the remaining three as being of low cultural heritage value. It has been concluded the introduction of the Proposed Scheme into the existing pattern of historic landscapes would not constitute a significant effect on the environment.

Landscape Effects

The assessments have been focused on likely impacts and effects relative to landscape character and the visual context along and in the vicinity of the Proposed Scheme corridor.

The assessment of landscape character has indicated that character associated with 65% of the Proposed Scheme corridor would be subject to neutral or slight adverse impact, 28% to moderate adverse

View towards Harry Avery's Castle looking north west



impact and 7% to large adverse impact. There would be three localised parts of the Proposed Scheme corridor which would be subject to a large adverse effect allowing for proposed mitigation measures:

- the southern margin of the River Finn, to the west of Strabane;
- Deerpark in the vicinity of Harry Avery's Castle; and
- the Brougher Ridge landscape between Tycanny Hill and Errigal.

Mitigation measures focused on reducing impacts on landscape throughout the length of the Proposed Scheme include adjustment of the vertical profile for the proposed road, mounding and grading of roadside earthworks to integrate and partially screen the road, planting to complement existing woodland, scrub and hedgerows and replace that which would be removed to accommodate the road.

Mitigation measures specific to the margin of the River Finn west of Strabane comprise the introduction of tree and scrub planting along the roadside margins to reduce the impact of the road and its traffic.

Mitigation measures specific to Deerpark in the vicinity of Harry Avery's Castle comprise:

- alignment of the road to the south of Harry Avery's Castle in deep cutting to avoid a change in the backdrop to the view of the castle when viewed from within the valley below Newtownstewart. Localised steepening of the cutting slope would ensure the characteristic hill profile of the castle's setting is retained;
- targeted planting of the cutting slopes to the south of Harry Avery's Castle, to establish a foil of planting in the modified view of the castle from the western slopes of Bessy Bell and the Baronscourt Road; and
- planting of hedgerows and individual groupings of trees to compensate for loss of existing field boundaries.

Mitigation measures specific to the Brougher Ridge landscape comprise:

- grading out of the lower cutting slopes at Tycanny Hill to reduce the extent of visible exposed rock cutting;
- extensive and dense woodland planting between Tycanny Hill and Birneys Hill to contain the impact of the dual carriageway and integrate the roadside landscape with mature areas of woodland along the stream course that flows between the two hills;
- planting of small areas of severed land to tie in with the local vegetation pattern and to further mask the presence of the dual carriageway;
- extensive and dense woodland and scrub planting on the upper slopes and crest of the Errigal cutting slopes to soften the break in profile below the churchyard, also to provide a foil to views west whilst maintaining the existing widespread vistas from this culturally important site; and
- planting of hedgerows to reduce severance of field patterns and introduction of hedgerow trees.

It has been concluded the effects in the three locations which would be subject to large adverse impact would constitute a significant effect on the environment.

The ES 2016 assessment of impacts on views experienced from sensitive receptors (residential property and other relevant public locations) has identified 4072 receptors of which 77 would be subject to slight beneficial impact, 3552 to neutral or slight adverse impact, 285 to moderate adverse impact and 158 to large adverse impact. Those subject to large adverse impact are distributed throughout the Proposed Scheme corridor.

Mitigation reflects that described in relation to landscape character with the addition of screen planting which has been provided to address impacts on individual properties and groups of properties.

The ES 2016 process identified in the order of 160 properties (approved development) which would experience impacts in the order of moderate to large adverse. The 2019 ESA process has identified 16 additional properties (approved developments) which would be subject to impacts of either moderate or large adverse.

It has been concluded the identified visual impacts individually and collectively would not constitute a significant effect on the environment.

Ecology and Nature Conservation

The assessments have been focused on likely impacts and effects relative to designated sites, habitats and fauna associated with the Proposed Scheme corridor and surrounding areas.

The assessments have investigated impacts and likely effects on 3 Special Protection Areas (SPAs), 4 Special Areas of Conservation (SACs) 3 of which are also ASSIs, 4 other ASSIs and 1 Local Nature Reserve.

It has been concluded that with proposed mitigation in place, impacts and effects for all of the designated sites would not constitute a significant effect on the environment individually or in combination.

Proposed mitigation measures relating to designated sites include:

- use of open-span bridges to avoid a need for construction within the watercourses which form the focus of 3 of the SACs;
- measures described below under 'Road Drainage and the Water Environment' focused on release of sediments and pollutants during construction, road-related drainage and accidental spillage in the vicinity of the river-based designations;
- measures described below relating to salmon and otter, both are important species in the context of the river-based designations; and
- control of the generation and dispersal of dust in the vicinity of designated sites.

The assessments have investigated impacts and likely effects on river habitats and on woodland and scrub, grassland and marsh, bog, ponds, hedgerows and veteran trees and bryophytes.

The River Foyle

Traffic on the existing A5

Taking into account the nature and extent of habitat loss, potential for deterioration in habitat quality and mitigation measures focused on the protection of retained habitats and habitat creation, it has been concluded that impacts and effects relative to all but one habitat type would not constitute a significant effect on the environment.

The exception comprises the loss of long-established ancient woodland at Mulvin Park and Routing Burn which it has been concluded would constitute a significant effect on the environment.

The assessments have investigated likely impacts and effects on fish, salmon and trout in particular, and on otter, bats, red squirrel, pine marten, badger, Irish hare, deer, breeding birds, wintering birds and smooth newt. A wide range of mitigation measures focused on the conservation and protection of these species is detailed in the ES. Examples of these include:

- use of a soft-start method for all locations where piling would be undertaken in the immediate vicinity of watercourses used by salmon and trout;
- use of oversized box culverts along watercourses identified as being of importance to salmon and related species;
- provision of resting areas for salmon upstream and downstream of proposed culverts;
- avoidance of steps in gradients through culverts and along diverted watercourses;
- location of compounds and storage of materials a minimum of 50m away from watercourses;
- installation of suitable fencing to exclude otters from works areas near watercourses where use by the species has been established;
- construction of artificial holts for otter and setts for badger;
- use of mammal underpasses and mammal fencing to discourage movement across the dual carriageway;
- restrictions on night working in sensitive locations;
- provision of a bat house and bat boxes to compensate the loss of existing roosts; and
- provision of tree and scrub planting and grassland re-creation to mitigate the loss of foraging habitats.

Taking into account the nature and extent of loss of habitat which supports fauna, severance of established ecological corridors used by fauna, potential for deterioration in habitat quality and proposed mitigation measures, it has been concluded that impacts and effects relative to all but one species would not constitute a significant effect on the environment.

The exception is the effect on established populations of barn owl. Whilst there was no evidence of their presence found during the site surveys, the species is known to be active throughout parts of the Proposed Scheme corridor. It has been concluded that impacts on barn owl would constitute a significant effect on the environment.

Geology and Soils

The assessments have been focused on likely impacts and effects on sites designated for their geological value and the risk to people and nature conservation and aquatic interests where existing contaminated sites could be disturbed during construction.

It has been established that construction and future use of the Proposed Scheme would not have an impact on any areas designated for their geological value.

A small number of contaminated sites and land have been identified. These would

be subject to a risk assessment by the contractors to determine whether the associated risk is acceptable and no further action is required. If treatment is thought to be necessary, further testing would be undertaken to allow method statements to be prepared detailing handling, removal and disposal measures to ensure that site staff and the public are not exposed to risk.

Noise and Vibration

The assessments have been focused on likely impacts and effects associated with traffic-related noise and vibration once the Proposed Scheme is open to use, and construction-related plant and traffic noise in the vicinity of working areas and along haulage routes and roads which would be used to import or remove materials and waste from the site.

Modelling of potential noise levels has followed current guidance and used the NoiseMap Server edition software which utilizes the Calculation of Road Traffic Noise (CRTN) procedure.

The assessment of traffic-related noise once the Proposed Scheme is open to use has demonstrated that, taking mitigation into account, there would be 652 and 1620 receptors subject to major and moderate long-term increases in traffic-related noise. These would be distributed throughout a substantial proportion of the Proposed Scheme corridor.

Proposed mitigation provides for environmental barriers in the form of 2m-high acoustic fencing to reduce traffic-related noise at 9 locations along the Proposed Scheme corridor and the use of low-noise surfacing on the main carriageways.

In light of the number and order of predicted increases allowing for mitigation and the distribution throughout the Proposed Scheme corridor it has been concluded this would constitute a significant effect on the environment.

The assessments of construction related noise and construction traffic noise have both established that impacts would be of relatively short duration in any one location during the intended three-year phases of construction and that the predicted impacts would not constitute a significant effect on the environment.

A wide range of mitigation measures is detailed in the ES. Examples of these include:

- use of temporary acoustic barriers where appropriate;
- location of static noisy plant as far away from noise sensitive receptors as is feasible for the particular activity;
- ensuring that equipment and plant is properly maintained; and
- ensuring that plant and machinery is turned off when not in use.

The assessments relative to vibration during construction and following opening of the Proposed Scheme to use have demonstrated these impacts would not constitute a significant effect on the environment.

Effects on All Travellers

The assessments have been focused on likely impacts and effects on journeys undertaken by pedestrians, cyclists and equestrians and users of local roads either for recreation or to access facilities used by communities; and associated with driver stress relative to the existing A5 and the Proposed Scheme.

Access along the Ulster Way at Beltany and existing long-distance cycle routes and public rights of way (PRoW) would be maintained via bridges either beneath or over the proposed dual carriageway. There would also be no discernible impact on users of existing Scenic Driving Routes. Whilst the proposed design allows for continued access along local roads which would be crossed by the Proposed Scheme the assessment has identified 9 locations where alternative routes would increase journey length and driving time. The increased journey length would range from 40m to 2.1km.

It has been concluded that none of the impacts associated with the Ulster Way, long-distance cycle routes, PRoW, Scenic Driving Routes and local roads would constitute a significant effect on the environment.

The assessment focused on driver stress has indicated that levels would remain moderate to high for most sections of the existing A5, whereas levels for the Proposed Scheme would be low other than at Newbuildings where it would be moderate. It has been concluded that driver stress would not constitute a significant effect on the environment.

Community and Private Assets

The assessments have been focused on likely impacts and effects associated with private land take, demolition of private property, agricultural land quality, farms, land used by the community and development land.

The assessment relative to private property has established that 8 private dwellings would need to be demolished, land would be taken from a further 41 residential properties and a halting site used by the travelling community would need to be discontinued. The Proposed Scheme would also affect 7 commercial and industrial facilities with impacts ranging from slight to moderate adverse.

It has been concluded the loss of 8 residential properties and the halting site

Existing provision for Non-motorised users

would constitute a significant effect on the environment.

The assessment of agricultural land capability has demonstrated that 698ha of higher grade agricultural land, which is represented by Grade 2 and 3A land, would be required for construction of the Proposed Scheme. It has been concluded the loss of this land would not constitute a significant effect on the environment.

The assessment of farms has demonstrated that, allowing for mitigation, the Proposed Scheme would have a substantial impact on 59 farms, a moderate impact on 70 and a slight impact on 185. Subject to viability, measures have been included for alternative access where the Proposed Scheme would sever existing fields or access to parts of a farm. Existing farm infrastructure such as water supply and drainage networks would also be accommodated as far as practicable as would access and existing infrastructure during construction. Such works would be agreed with individual farm owners prior to the start of construction.

Taking into account the number of farms that would be subject to substantial and moderate impact, it has been concluded these impacts would constitute a significant effect on the environment.

The assessments of land used by the community and development land have shown the Proposed Scheme would have an impact on Strabane Nature Reserve, a local rugby club and a waste management facility. They have also shown that 15 residential development sites which have planning approval would no longer be able to proceed. It has been concluded these impacts would not constitute a significant effect on the environment.

Road Drainage and the Water Environment

The assessments have investigated likely impacts and effects on surface waters, groundwater, and flood risk.

The assessments for surface waters have been focused on:

- potential pollution of watercourses as a result of construction activities;
- potential pollution where the drainage proposals for the Proposed Scheme discharge routine runoff to watercourses;
- potential pollution of watercourses as a result of accidental spillage once the road is open to use;
- impacts associated with changes in surface water flow associated with the introduction of road surface drainage, location of proposed bridges, culverts, watercourse diversions and drainage outfalls; and
- alterations to availability of surface water abstractions.

Newtownstewart Bridge looking towards Bessy Bell

A wide range of mitigation measures addressing potential pollution of watercourses during construction have been identified. Examples of these include:

- agreement of method statements with NIEA prior to commencement of works;
- identification of defined working zones and areas which are to be excluded from access for construction purposes within method statements;
- secure storage of fuels and potentially hazardous construction materials and refuelling and lubrication of construction vehicles and plant at dedicated hard standing areas;
- regular monitoring of construction plant to check for oil or fuel leaks;
- collection of wash down from aggregate stockpiles and collection of waste fuels and other fluid contaminants in leak-proof containers, prior to removal to an approved recycling facility;
- installation of construction-related drainage before substantial earthworks commence; and
- treatment of sediment-laden runoff prior to discharge.

Measures addressing potential pollution associated with the discharge of road drainage to watercourses provide for a SuDS based sustainable drainage system including the use of swales, grassed channels, wet retention ponds, and dry detention ponds.

Mitigation measures addressing potential pollution of watercourses as a result of accidental spillage provide for the isolation of the drainage network from the relevant receiving watercourse, following a spillage incident, capture of pollutants within the proposed sustainable drainage system and the installation of pollution control valves in the drainage network.

Mitigation measures addressing likely impacts and effects associated with changes in surface water flow include the use of open-span structures on larger watercourses, sizing and setting of culverts to maintain existing channel widths and gradients; and installation of erosion protection at bridges, culverts and drainage outfalls.

Mitigation addressing the risk of there being an impact on existing surface water abstractions, none of which are located within the land required for implementation of the Proposed Scheme, provides for monitoring of the abstraction sites.

Taking the proposed mitigation measures into account, it has been concluded likely impacts and effects relative to potential impacts on surface water would not constitute a significant effect on the environment.

The assessments for groundwater have been focused on likely impacts and effects associated with:

- potential pollution of groundwater and local aquifers as a result of construction activities, such as earthworks or spillage and leakage associated with construction plant and site storage areas;
- potential pollution of groundwater due to infiltration of soluble contaminants within routine runoff and accidental spillage once the road is open to use;
- changes in groundwater level and flow characteristics, during construction and once the road is open to use; and
- changes to availability of supply, during construction and once the road is open to use where there are local groundwater abstractions.

Mitigation measures addressing potential pollution of groundwater during construction and as a result of infiltration of pollutants associated with road drainage and accidental spillage reflect those described for surface water.

Where groundwater abstraction points are located within the land required for implementation of the Proposed Scheme they would be decommissioned and, where practicable, an alternative supply would be installed and commissioned prior to the commencement of construction in the area.

Taking the proposed mitigation measures into account, it has been concluded likely impacts and effects relative to potential impacts on groundwater would not constitute a significant effect on the environment.

The assessments for flood risk have been focused on likely impacts and effects associated with:

- potential increase in upstream water level caused by any restriction in flow;
- potential loss of floodplain storage due to obstruction caused by road infrastructure in the floodplain locations with potential increased flood risk;
- potential changes as a result of revised climate change predictions; and
- potential impediment of water flow caused by road infrastructure crossing existing drainage channels, causing potential blockage and altering local catchment area boundaries.

Bridge at Old Bridge Road east of Ardstraw

Mitigation measures identified include; appropriately sized culverts, clear span structures, appropriately designed watercourse diversions, connectivity structures to maintain floodplain conveyance where floodplains are bisected by the road alignment and compensatory storage where there is material volumetric floodplain encroachment. Taking the proposed mitigation measures into account, it has been concluded likely impacts and effects relative to flood risk would not constitute a significant effect on the environment.

Cumulative Effects

The assessment considers two types of cumulative impact:

Cumulative impacts from a single project (the combined action of different environmental topic-specific impacts) upon a single resource/receptor; and

Cumulative impacts from different projects in combination with the project being assessed (the combined action of a number of different projects, cumulatively with the project being assessed, on a single resource/receptor. This can include multiple impacts of the same or similar type from a number of different projects upon the same receptor/resource).

The assessment of cumulative impacts from a single project, the Proposed Scheme, identified a number of groups of human receptors which may experience cumulative construction and / or operational effects across two or more environmental aspects (air quality, noise and vibration, land take and visual effects). There are potential transboundary effects in the area around Strabane.

The Foyle Valley

The assessment of cumulative impacts from different projects identified a number of developments/projects which could have cumulative effects on the same resource / receptor, in addition to those which have been identified for the Proposed Scheme in its own right.

It is concluded that the construction and operation of the Proposed Scheme in combination with any of these other developments will not lead to overall significant cumulative effects, including transboundary effects.

Construction Environmental Management

Mitigation of construction related impacts will be addressed through the required adoption and implementation by each contractor of a Construction Environmental Management Plan (CEMP) and a Silt Management Plan. These two documents will incorporate those construction-related mitigation measures which have been identified in the ES 2016 and which are summarised in Chapter 18 – Schedule of Environmental Commitments. There will be a requirement for each contractor to agree and incorporate detailed, enforceable measures aimed at reducing construction related impacts and to monitor through internal and independent auditing, the deployment and effectiveness of the measures.

NOTES

A5 WTC
Western Transport Corridor

ENVIRONMENTAL STATEMENT
NON-TECHNICAL SUMMARY

A full copy of the Environmental Statement 2016 and Environmental Statement Addendum 2019 have been deposited at each of the locations indicated below and will be available for inspection, free of charge, until **17th May 2019** during normal opening hours and available on the A5WTC website (www.a5wtc.com).

DfI Roads Western Division
County Hall
Drumragh Avenue
Omagh
BT79 7AF

DfI Roads Headquarters
Room 2-13
Clarence Court
10-18 Adelaide Street
Belfast
BT2 8GB

Fermanagh and Omagh District Council
The Grange
Mountjoy Road
Omagh
BT79 7BL

Derry City & Strabane District Council
98 Strand Road
Londonderry
BT48 7NN

Mid Ulster District Council
Circular Road
Dungannon
BT71 6DT

Strabane Library
1 Railway Street
Strabane
BT82 8EF

Derry City & Strabane District Council
47 Derry Road
Strabane
BT82 8DY

In addition, the Environmental Reports may also be inspected during the same period at the offices of
Monaghan County Council, Roads Office, MTEK II Office, Armagh Road, Monaghan, Co. Monaghan and
Donegal County Council, Public Services Centre, Drumlonagher, Donegal Town, Co. Donegal.

Hard copies of the Non-Technical Summary and electronic copies of the whole ESA 2019 (CD) are available free of charge from: The Department for Infrastructure, Western Division, County Hall, Drumragh Avenue, Omagh, BT79 7AF; email: dfiroads.western@infrastructure-ni.gov.uk

Expressions of support, representations or opinions should be made in writing to the Divisional Manager, The Department for Infrastructure, Western Division, County Hall, Drumragh Avenue, Omagh, BT79 7AF or by email to dfiroads.western@infrastructure-ni.gov.uk and will be accepted up to **17th May 2019**. This document is available in a range of formats; please contact us with any requirements at The Department for Infrastructure, Western Division, County Hall, Drumragh Avenue, Omagh, BT79 7AF.

RSP 19/002