

Record of Environmental Considerations (EA12)

Project engineer ← Sections to be completed by → **Conservation officer**

This form is to be used for:

- Flood Alleviation Works over £25k
- Drainage Improvement Works over £25k
- Asset Repair/Refurbishment Schemes over £100k
- All other works over £100k
- Smaller schemes where there is a need for more specialist advertising and consultants

Project Name: CO401607 Newry Stage one

Unit:

Project Sponsor/Engineer: Craig Rankin

Checklist:

FORM	Included within consultant docs Y/N	Initial	Date
EC 12 – environmental considerations	Y	HM	20/12/18
PO 12 – options report	Y	EMcG	15/1/19
WF 12 – work characteristics	Y	EMcG	15/1/19
SA12 – site assessment	Y	HM	21/12/18
EI 12 – environmental impacts	N	HM	21/01/19

Where an EIA is carried out for a scheme, the content of these forms should be contained within the EIA document. As such, there is no need to repeat the recording of this information, but simply to refer to the section within the EIA document. EC12 must be completed for ALL proposed schemes

Environmental Statement Recommendation	CEEQUAL proposal
NO	NO

Project Sponsor - Tommy O'Neill

Date – 06/09/2019

Environmental Manager –

Date – 06/02/19

DfI Environmental Manager

Step 1 Pre scheme Environmental Considerations EC 12
(to be filled in by Env Section and should form part of the pre feasibility study)

Project Name: Newry Stage 1 FAS

Watercourse Name: Downshire Stream (B2)		Comments
Current WFD Classification	/Moderate /	Moderate Ecological Potential (2009) classification.
Fisheries Interest – At site	N	Tributaries to the Newry river provide habitat which supports the salmon from Carlingford however downstream is heavily culverted and doesn't provide suitable migration habitat.
Fisheries Interest – receiving waters	Y	Carlingford Lough fisheries interest downstream.
Within Protected site – ASSI/Natura 2000	N	Not within N2000 site however tenuously hydrologically connected to Carlingford Lough Ramsar/SPA/ASSI, Carlingford shore SAC.
Within 3km of Natura 2000 site	N	All watercourses are hydrologically connected to Carlingford and so hydrologically connected to the Carlingford NA2000 sites.
Archaeological Interest	N	No listed buildings or assets on PRONI historical maps. Area has previously been excavated for various works and so unlikely to encounter underground assets.
Annex II Species	N	None noted on environmental walkover
Protected Species	Y	salmon and other potential species
Biodiversity Interest	Low	Stream is a fast flowing concrete channel with no instream vegetation which flows into a culvert travelling beneath the road; there are no vegetated banks for birds/insects. Downstream is an overgrown section of open channel which flows into a culverted system. Upstream the watercourse issues from field drains. There is no potential habitat for fish in this area.
Rivers Trust Catchment	N	No

Invasive Species	Y	Giant Hogweed located along the channel on the western side of Downshire road behind the carwash, downstream of the site.
Site Specific Interest	Birds	

Watercourse Name: Warrenpoint Rd Knox Peebles stream(D1)		Comments
Current WFD Classification	/Moderate /	Moderate Ecological Potential (2009) classification.
Fisheries Interest – At site	N	The watercourse is significantly overgrown with vegetation and does not currently provide suitable habitat for fish; the watercourse discharges to the newry river via a flap valve which prevents fish migrating.
Fisheries Interest – receiving waters	Y	The Newry rivers provide essential habitat which supports salmon; Inland Fisheries consultation will be required.
Within Protected site – ASSI/Natura 2000	N	Carlingford lough ASSI is adjacent to the outfall of the watercourse however the works are not in close proximity to the site.
Within 3km of Natura 2000 site	N	Knox pebbles stream discharges directly to Newry River and so is hydrologically connected to the Carlingford NA2000 sites @ c.5km.
Archaeological Interest	N	No listed buildings or assets on PRONI historical maps. Area has previously been excavated for development and so unlikely to encounter underground assets.
Annex II Species	Y/N	Possible – Linear nature of the stream and relatively low activity area- likely to be used by bats- some trees present along the banks which may provide roost habitat.
Protected Species	Y	Potentially bats
Biodiversity Interest	Med	Heavily vegetated channel with semi improved grass banks, scattered shrub and trees. Carlingford Lough ASSI approx 2km south and known breeding wader grounds to the east and the ASSI is habitat for overwintering birds and breeding terns.
Rivers Trust Catchment	N	No
Invasive Species	Y	Giant Hogweed located along the channel
Site Specific Interest	Birds, Bats	

Watercourse Name: Derrybeg River (G1)		Comments
Current WFD Classification	/Moderate /	Moderate Ecological Potential (2009) classification.
Fisheries Interest – At site	N	The Newry river and tribs. provide essential habitat which supports salmonids; good water quality may provide habitat for fish however unlikely to be present here due to downstream culverting restricting migration.
Fisheries Interest – receiving waters	Y	Tributaries to the Newry river provide essential habitat which supports salmon.
Within Protected site – ASSI/Natura 2000	N	Not within N2000 or ASSI site
Within 3km of Natura 2000 site	N	Tenuously hydrologically connected to Carlingford Lough Ramsar/SPA/ASSI, Carlingford shore SAC, East Coast Marine proposed SPA.
Archaeological Interest	N	No listed buildings or assets on PRONI historical maps. Area has previously been excavated for development and so unlikely to encounter underground assets.
Annex II Species	N	None noted during the environmental walkover
Protected Species	Y	salmon and other potential species
Biodiversity Interest	Low/Med	High intensity anthropogenic activity area and currently culverted downstream; unlikely to be of high interest however the agricultural lands which lie adjacent to the scheme location may provide habitat for birds/bats.
Rivers Trust Catchment	N	No
Invasive Species	N	None noted on the environmental walkover
Site Specific Interest	Potentially bats and salmonids	

Watercourse Name: Armagh Rd Drain & Derrybed River (G3 & H3)		Comments
Current WFD Classification	/Moderate /	Moderate Ecological Potential (2009) classification.
Fisheries Interest – At site	N	Some potential however unlikely as both down and upstream are culverted.
Fisheries Interest – receiving waters	Y	Carlingford Lough salmon interest
Within Protected site – ASSI/Natura 2000	N	Not within N2000 or ASSI site

Within 3km of Natura 2000 site	N	Tenuously hydrologically connected to Carlingford. Lough Ramsar/SPA/ASSI, Carlingford shore SAC, East Coast Marine proposed SPA.
Archaeological Interest	N	No listed buildings or assets on PRONI historical maps. Area has previously been excavated for development and so unlikely to encounter underground assets.
Annex II Species	N	None noted on environmental walkover, significant culverting; not suitable habitat
Protected Species	N	None noted during the environmental walkover. Unlikely due to the urban setting
Biodiversity Interest	Low/medium	High anthropogenic activity area and currently culverted watercourses are unlikely to be of high interest. H3 may provide commuting and foraging area for bats and scattered mature trees may provide habitat.
Rivers Trust Catchment	N	No
Invasive Species	Y	Giant Hogweed located at H3 inlet grill and Giant Hogweed at G3 along watercourse in the bus depot
Site Specific Interest	Invasives	

Watercourse Name: Armagh Rd Drain & Derrybed River (H1)		Comments
Current WFD Classification	/Moderate /	Moderate Ecological Potential (2009) classification.
Fisheries Interest – At site	N	Significantly overgrown channel, culverted extensively downstream and so no potential habitat.
Fisheries Interest – receiving waters	Y	Downstream lies the Newry river and tribs which support fish
Within Protected site – ASSI/Natura 2000	N	Not within N2000 site
Within 3km of Natura 2000 site	Y	Tenuously hydrologically connected to Carlingford Lough Ramsar/SPA/ASSI, Carlingford shore SAC, East Coast Marine proposed SPA.
Archaeological Interest	Y/N	No listed buildings or assets on PRONI historical maps. Area has previously been excavated for development and so unlikely to encounter underground assets.
Annex II Species	N	None noted
Protected Species	Y	salmon and other potential species

Biodiversity Interest	Low	High anthropogenic activity so unlikely however overgrown vegetation provides potential for bird habitat and badger
Rivers Trust Catchment	N	No
Invasive Species	N	None noted on walkover
Site Specific Interest	Site requires channel maintenance- birds & invasives	

Conservation Officer: [REDACTED] Date: 16/01/2019
DfI Environmental Officer – Gail Ritchie 05/09/2019

Notes:

- **WFD Classification** – Scheme should not lower status of watercourse.
- **Fisheries interest** – If yes working methods should include sediment / habitat management. Consultation with Inland Fisheries/Loughs Agency will be required.
- **Within Protected Site** – If yes then NIEA consult and assent required and / or Article 6 assessment.
- **Within 3km of Natura 2000 site** – If yes then Article 6 scoping required.
- **Archaeological Interest** – scheduled monument consent may be required. Consultation with Built Heritage will be required.
- **Annex II species** - If present or likely then working methods / design should take into account.
- **Protected Species** – a licence may be required for the movement of any such species.
- **Biodiversity Interest** – scheme should aim to protect high sites and improve medium / low sites. Scheme should also take cognisance of Local Biodiversity Action Plans. Opportunities to increase biodiversity value should be sought.
- **Site Specific Interest** – Should be taken into account in scheme design.
- **Rivers Trust catchment** – Should highlight the need to consult with local Rivers Trust
- **Invasive Species** – If present, an invasive species management plan will be required.

Step 2 **Options Report** **PO12**

(to be filled in by Project Engineer or by the consultant as part of the feasibility study)

Flood Risk Management should, in all considerations, be based on a catchment wide assessment. Options should consider the requirements of Water Framework Directive, and the potential for mutually beneficial measures.

Options should include sustainable flood management options, including those at distance from the site of the scheme. Options should also include potential solutions which employ a range of different measures and should include both structural and non-structural measures. This list is not definitive, and consideration of a mosaic of measures is encouraged.

Options	Pros and Cons
Do Nothing:	Cons

	potential flood risk of a 1 in 100 year event not mitigated against.
Proposals for 7No. sites include embankments, walls and culverts in line with the conclusions of the feasibility report undertaken by another consultant. Proposals to be progressed in line with the brief received from DFI Rivers. Summary of proposals/recommendations listed below:	Pros and cons discussed as part of the feasibility report undertaken and inherited as part of the brief to progress the works to the overall Newry Rivers and Tributaries stage 1 scheme. Report appended to this form.
B2 Floodwalls upstream of Downshire Rd D1 Floodwall/embankment A2 Warrenpoint Rd G1 Floodwall Chancellors Rd G3 Floodwall Upper Edward St H1 Embankment at Craigmore Rd H3 Armagh Rd Drain Culvert Cenotaph Wall - consider raising of existing wall	

Step 3

Selection of Preferred option.

Preferred Option:

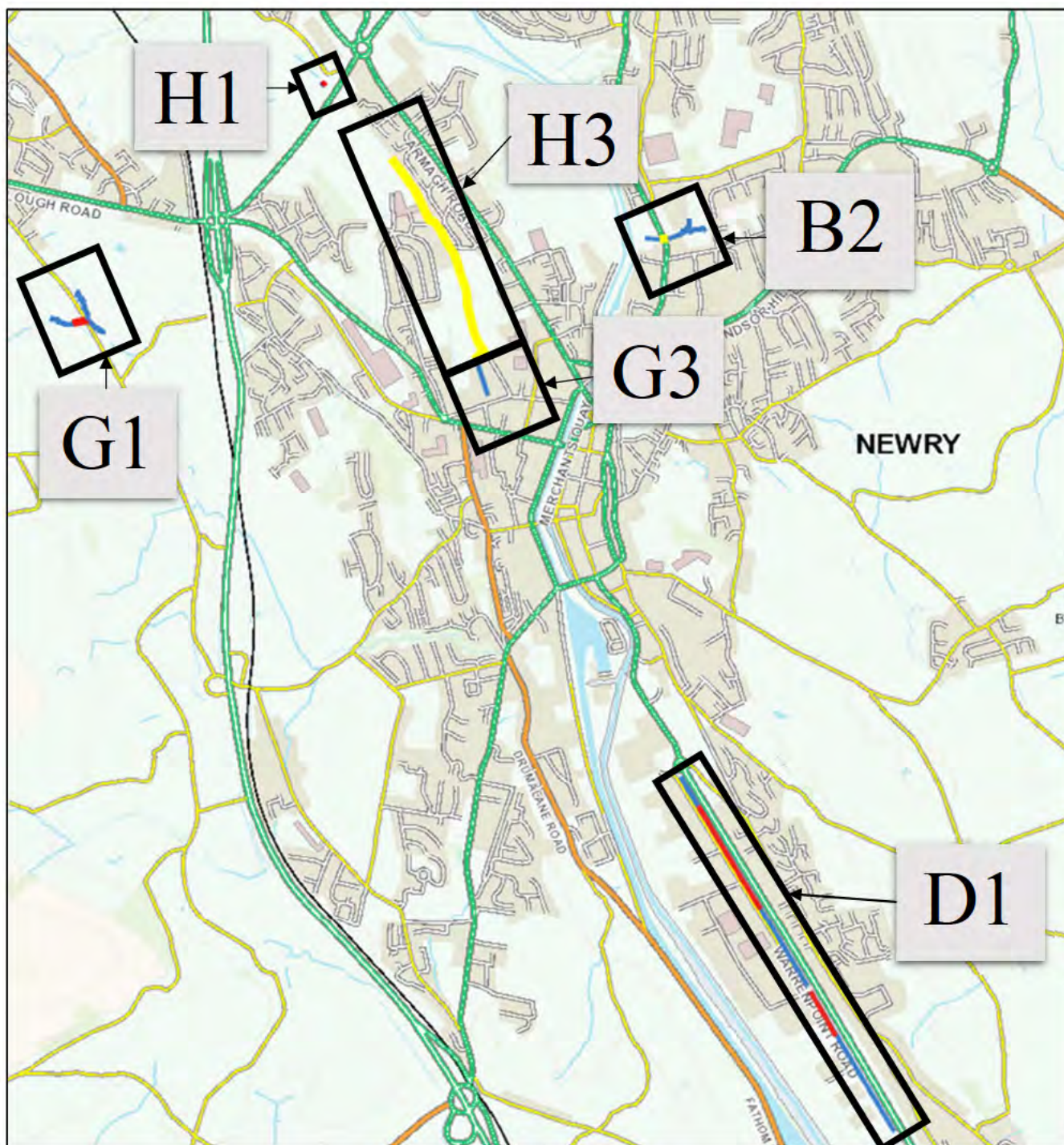
B2 Floodwalls upstream of Downshire Rd
D1 Floodwall/embankment A2 Warrenpoint Rd
G1 Floodwall Chancellors Rd
G3 Floodwall Upper Edward St
H1 Embankment at Craigmore Rd
H3 Armagh Rd Drain Culvert
Cenotaph Wall - consider raising of existing wall

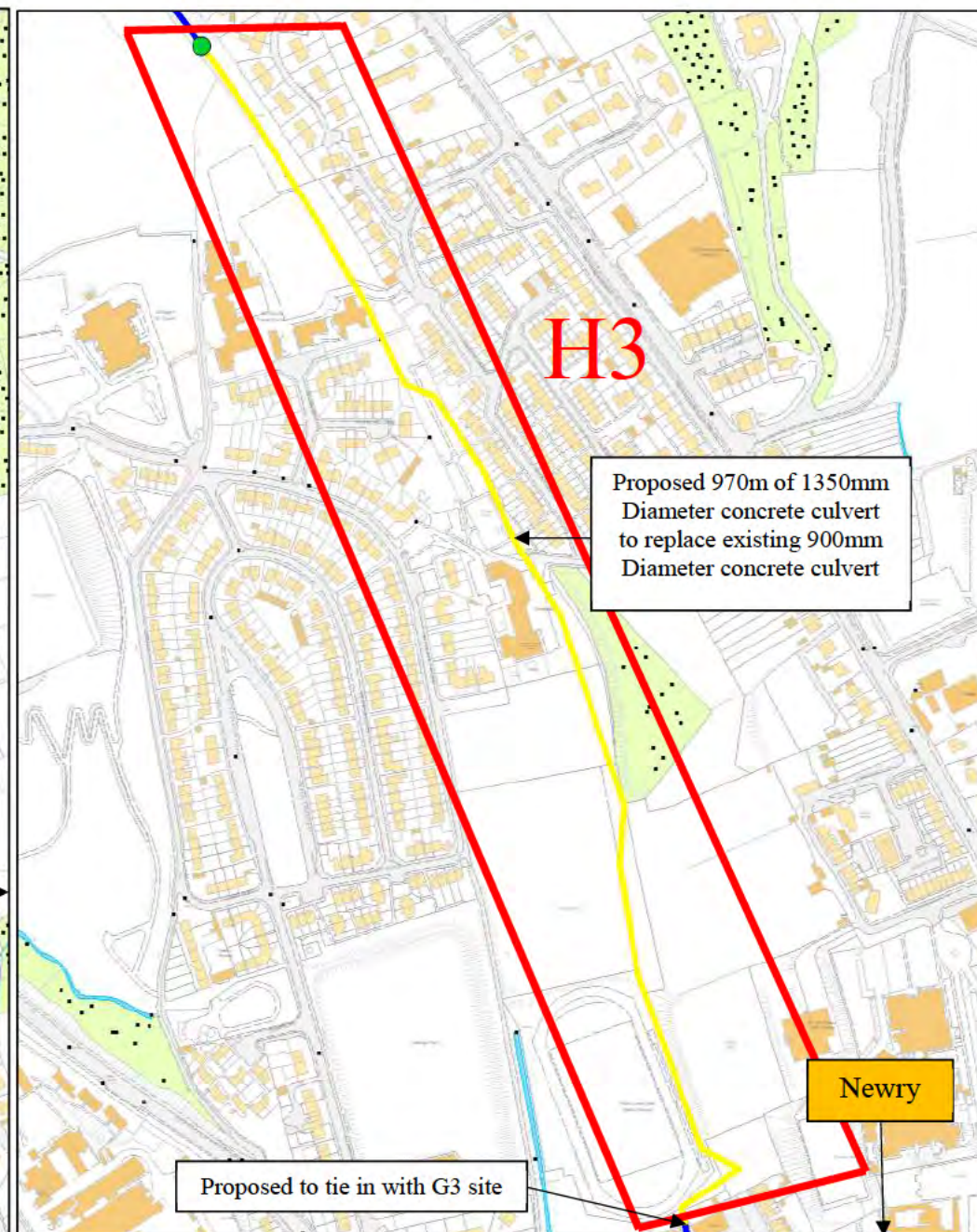
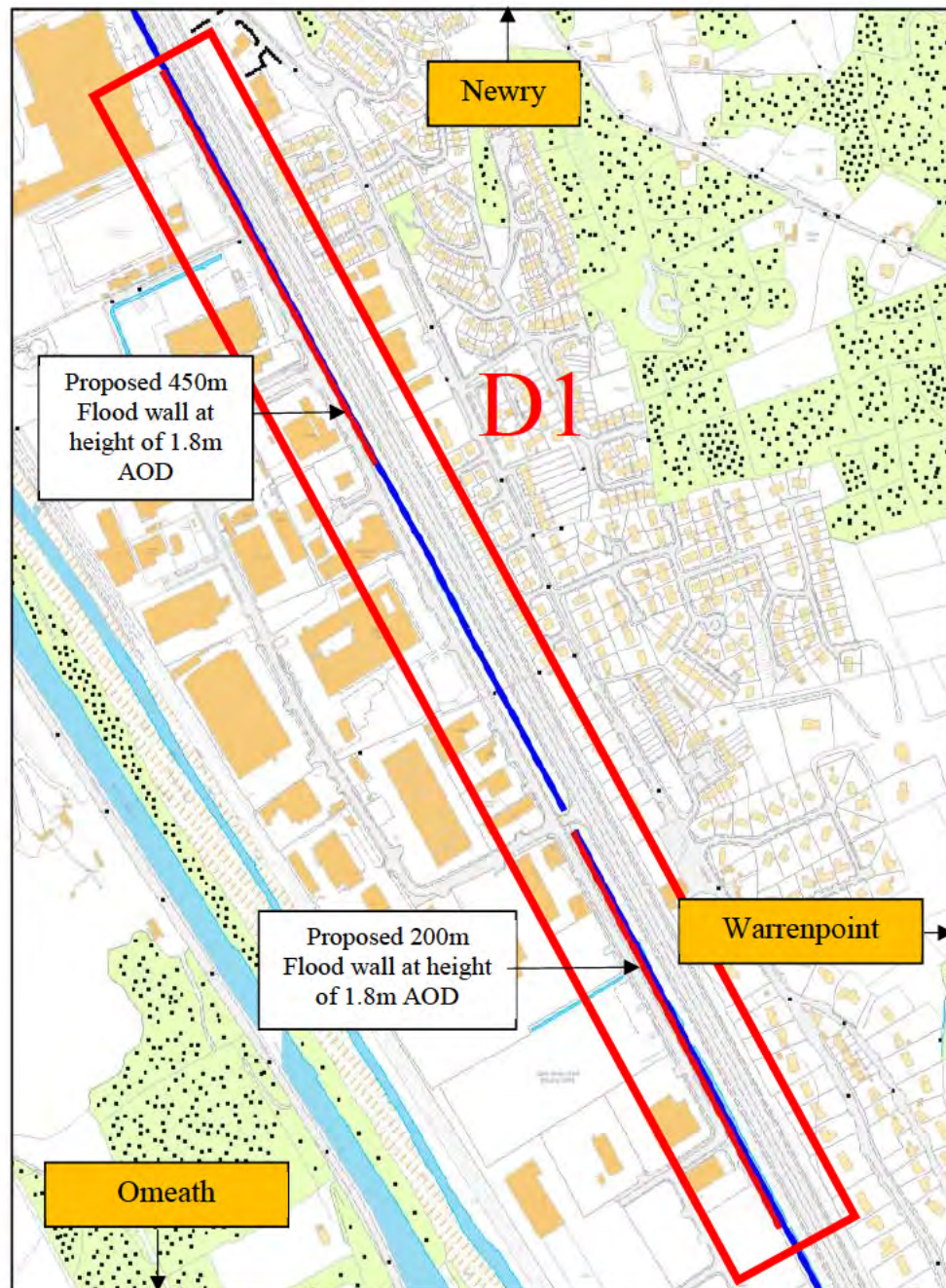
Reason for Selection:

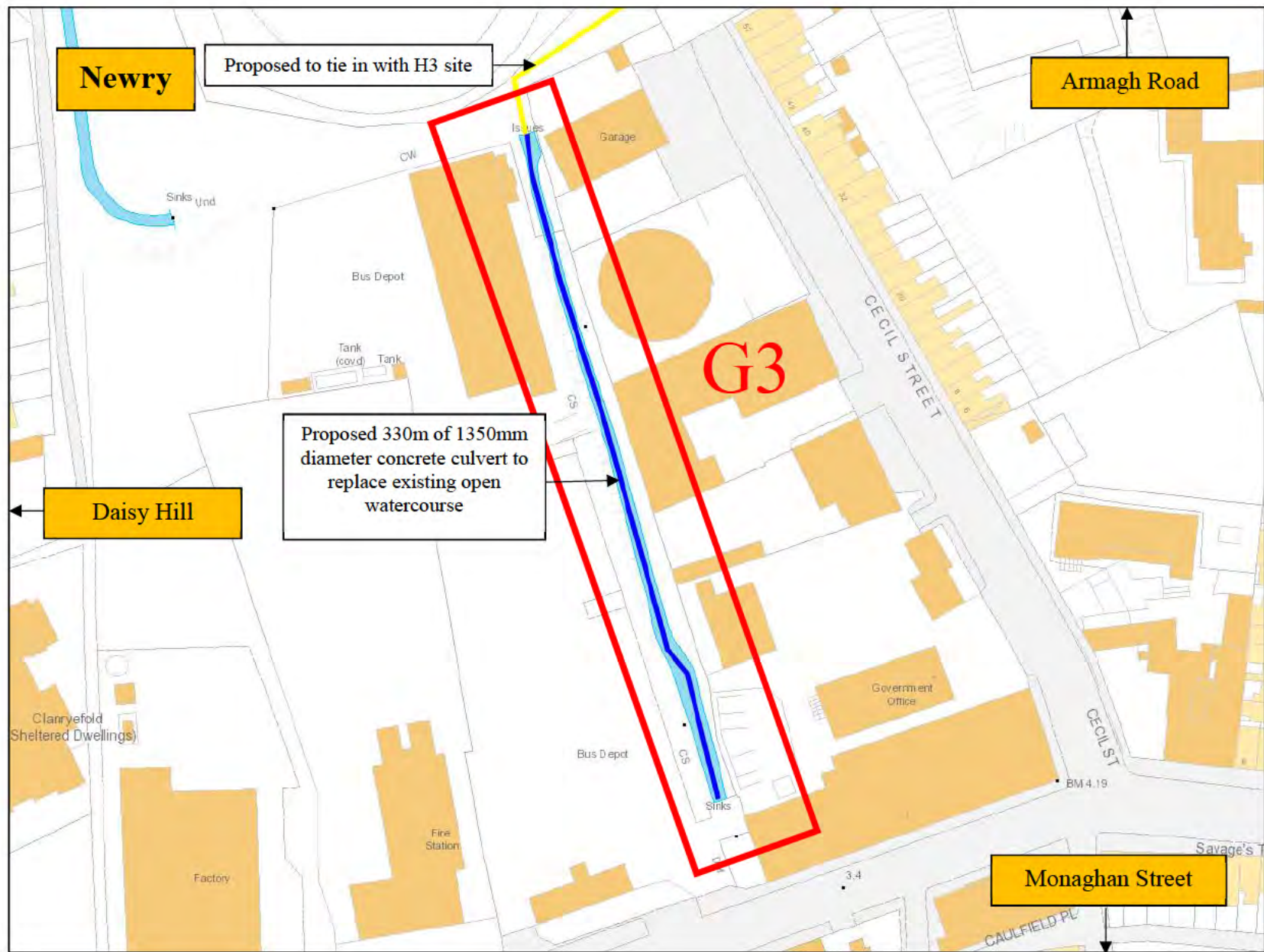
Recommendations given in previously commissioned feasibility study. Preferred options to be assessed for viability. Once satisfied that the recommendations form the most viable solution, detailed design is to be progressed in line with current industry standards.

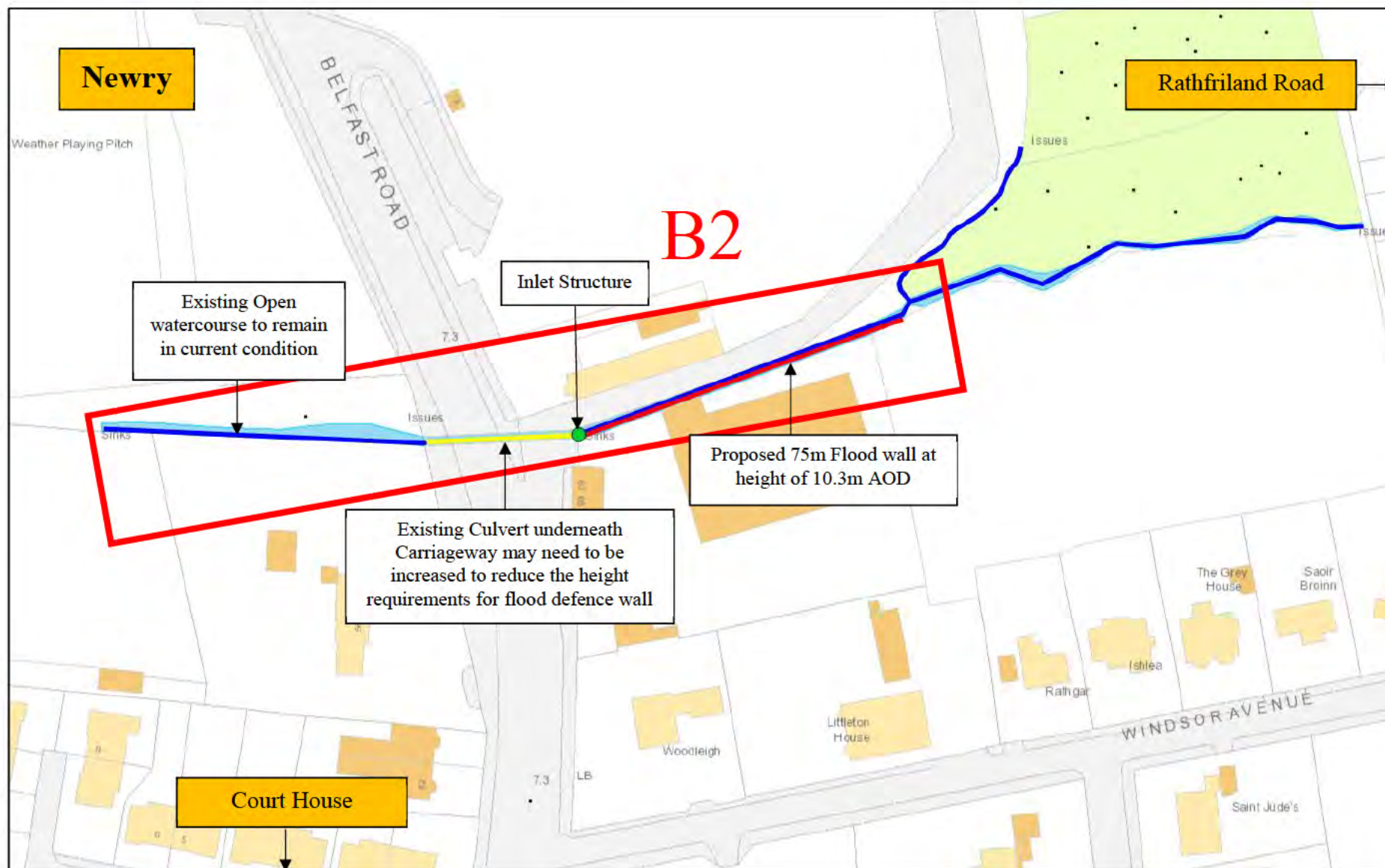
EIA recommended: at this stage, it is unlikely EIA will be required, however this will be reconsidered once final options are known for detailed design

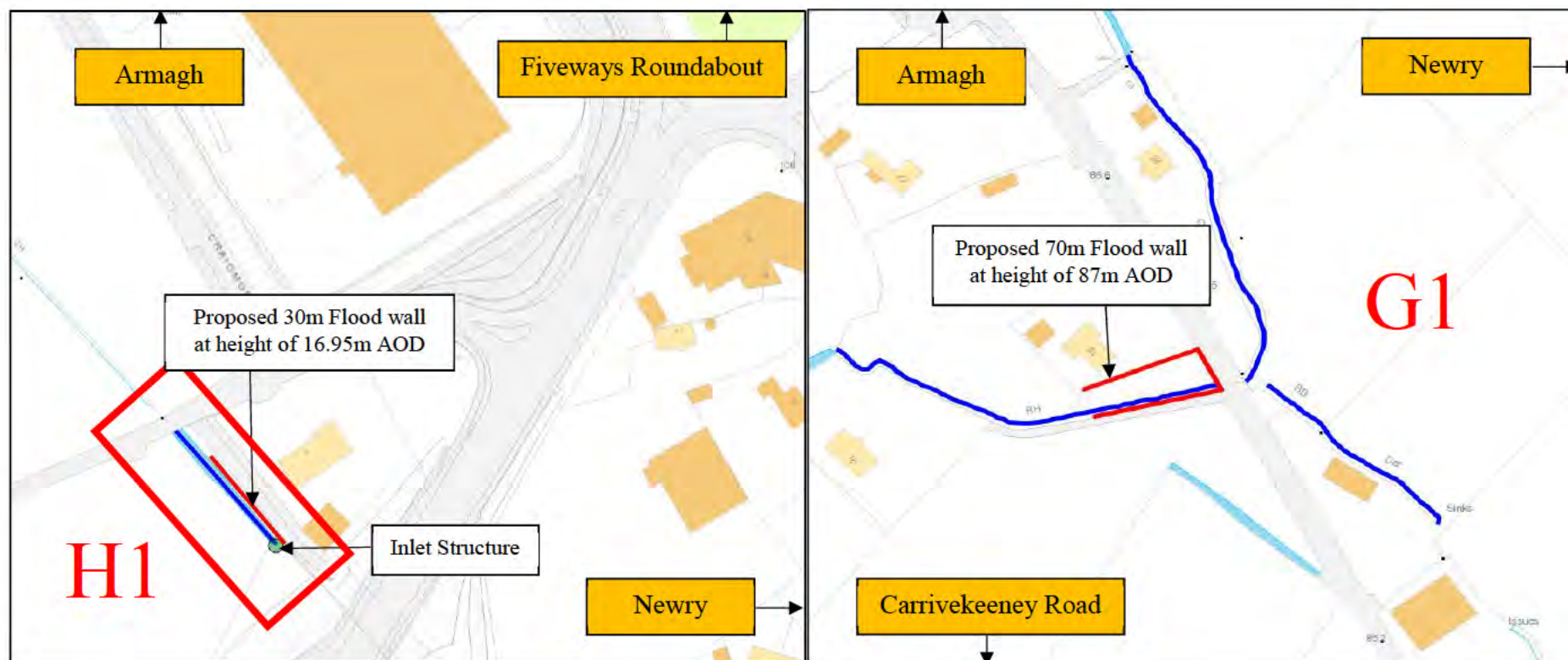
(See FAS scheme layout on next page.)











Project Engineer -



Date - 20/08/2019

Conservation Officer -



Date - 22/08/2019

DfI Environmental Officer

Gail Ritchie

Date - 05/09/2019

DfI Environmental Manager

Noel O'Neill

Date - 05/09/19

Step 4 Characteristics of Works (preferred option) WF12
(to be completed by Project Engineer in conjunction with Conservation Officer).

Physical characteristics of the works:

B2 – 75m of decoratively finished reinforced concrete wall – Upgrade of culvert running underneath carriageway to reduce the height requirements of wall

D1 – 450m & 200m lengths of flood wall/embankment – available space to aid determination of final design

G1 – 50m of floodwall, final design to be determined

G3 – 330m length of open watercourse to be upgraded with a 1350mm Diameter concrete culvert – to be tied in directly with H3 proposal

H1 – 30m of flood embankment

H3 - 970m length of concrete culvert upgrade to 1350mm diameter

Landuse requirements during construction and operation:

Temporary land use during construction works- will be reinstated upon completion.

Use of natural resources:

Raw materials etc will be sourced locally. Where possible excavated materials will be re-used onsite.

Waste production (expected residues and emissions): Stockpiles/excess spoil during construction; possible waste effluent from concrete washing etc. Materials will be reused onsite where possible to reduce waste.

Nuisances and pollutants:

Contaminated/sediment laden discharges during construction phase deteriorating local water quality and causing polluting discharges to the Designated Sites downstream of the works.

Technical difficulties or lack of knowledge requiring redress:

Lack of detailed design drawings- the assessment will be updated once design is confirmed.

Likely effects of works (direct/indirect; cumulative; secondary; short/medium/long term; positive/negative):

Direct, short term negative impacts on local water quality. Indirect cumulative, short term negative effects on Designated Sites downstream.

Direct long term positive impact on local flooding.

Project Engineer -



Date – 22/8/19

Interdisciplinary Meetings.

Attendees - [REDACTED]
[REDACTED]

Date - 15/01/2019

Attendees - Gail Richie, Niall Donaghy, Noel O'Neil, Andrew Hitchener, [REDACTED]
[REDACTED]

Date - 12/4/19

Step 5 Site assessment of works location
(to be completed by Environment Section)

SA 12

	B2	D1	H3 & G3	H1	G1
Existing landuse	Current watercourses				
Relative abundance, quality and regenerative capacity of natural resources (incl habitats) in the area.	Watercourse is a concrete channel no regeneration capability.	Vegetated channel- likely to regenerate	Loss of vegetation- regeneration likely	Vegetated channel- likely to regenerate	Relatively unvegetated channel likely to regenerate
Absorption capacity of the natural environment to include:					
• Wetlands	N/A				
• Coastal Zones	Transitional newry river is located adjacent to Knox pebbles stream (D1)				
• Mountain and forest	N/A				
• Designated sites	Carlingford Lough located >5km indirectly hydrologically south- not directly impacted. Large hydrological dispersion and dilution. The sites have been screened out as there is no likely effect on the site features as a result of the scheme.				

	B2	D1	H3 & G3	H1	G1
<ul style="list-style-type: none"> Damaged lands 	N/A				
<ul style="list-style-type: none"> Densely populated sites 	Dense urban setting	Industrial setting	Urban setting	Urban setting-sparse	Relatively rural setting
<ul style="list-style-type: none"> Lands of historical, cultural or archaeological value 	Unlikely archaeology interest.				

Conservation Officer – [REDACTED]

Date – 21/08/2019

DfI Rivers Environmental Officer – Gail Ritchie Date – 05/09/2019

Step 6 Environmental Impact Form EI 12
(to be completed by Environment Section). This can be omitted if a full EIA has been carried out.


This assesses the impact of the preferred option.

To include consideration of the following impact characteristics:

- Extent of the impact (include whether permanent or temporary)
- Short, medium and long term impacts.
- Probability of the impact.
- Direct and indirect impacts, and whether positive or negative.

The above should be considered at pre, during and post works.

Significant environmental effects and proposed mitigation measures		
Environmental Impacts (EA Regulations Schedule 12A)	Characteristics of Impact	Mitigation Measures
Human Beings	Impacts of works & finished scheme on private & public property / space	Pre-works surveys and appropriate consultation with property owners and statutory bodies; Traffic management will be installed where required.
	Visual impacts / aesthetics	Appropriate screening / fencing of works; choose finish materials carefully
	Disruption of services and essential access	Maintain essential access or provide additional routes
	Noise / dust / lighting issues during construction period	Minimise working outside normal hours (8am-6.30pm); Switch off machinery when not in use; use dust suppression measures when needed
Flora	Damage to habitat through works traffic; Loss of habitat through vegetation clearance	Work exclusion zones & dedicated access routes; Identify which vegetation needs to be removed and protect that which is to remain.
Fauna	Impacts from construction works on several species including: Birds- loss of habitat / nesting disturbance	Carry out vegetation removal outside bird nesting season (March-August); Contractor to produce pollution prevention plan highlighting methods to prevent sediment / pollution release into Newry River;
Water	Pollution risk from construction works via: Discharges, refuelling, washings, sediment release, de-watering etc.	Protect existing drainage channels by identifying surface drains & preventing site run off; No storage of fuel/materials on undefended floodplain; Use drip trays when refuelling / maintaining vehicles; Intercept wheel washings and treat before discharge; Contractor to produce a construction EMP, Pollution Prevention Plan and Incident response plan agreed with NIEA; maintain vegetated buffer zone between works and river channel and use silt fencing as an added measure.
Air	Impact possible from: dust Machinery emissions	Contractor to actively manage dust levels; Machinery to be adequately maintained and not left idling.
Interaction between any of the foregoing	Interaction of pollution / discharge impacts on water and fauna	Follow mitigation measures outlined above to reduce potential impacts.
Material Assets	Damage to property through direct impacts or vibration is unlikely considering the nature of the works	Contractor to manage onsite vibration when in close proximity to dwellings
Cultural Heritage	N/A	N/A

	Environmental Manager - Andrew Date - /8/19 DfI Rivers Environmental Manager – Noel O’Neill – 05/09/19	Conservation Officer -  Date - 21/08/2019 DfI Rivers Environmental Officer – 05/09/2019
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Pre works consultation requirements. (Include water quality considerations) –

Normal DfI Consultees list

Survey/monitoring requirements (this should include both pre and post work monitoring –

- Water quality monitoring both upstream and downstream of all sites pre, during and post construction to ensure no degradation of water quality or polluting discharges to receiving waters.

Sustainability of project (this should include partnership working options) –
N/A

Enhancement opportunities (mention should be made of links with other plans and measures such as WFD PoM and LBAPs) –

- Potential for channel maintenance to improve water quality and biodiversity potential.
- Potential for improvement through invasive species removal at sites

Is the project going forward for CEEQUAL Assessment? –

NO

Environmental Statement (ES) recommended –

NO

Environmental Statement (ES) undertaken – <i>NO</i>

Step 7. Administration

Administration Section – advertisement & display of scheme (Drainage Order).

Advertise ES decision (STET)	Date Advertised	Signature	Date forwarded to Project Manager
Journals used	1.	2.	3.

Handling of ES Responses (instigated by Project Engineer)

Actions	Dates
Interdisciplinary meeting (incl. Consultant)	
Meeting with respondents (if necessary)	
Agreed reply(s) to respondents issued	

Ecological Due Diligence - Bat and Bird checks
Warrenpoint Road
Newry
Co Down



WM Associates



22/06/2022

Ecological Due Diligence - Bat and Bird checks
Warrenpoint Road
Newry
Co Down

Contents:

BACKGROUND	2
SUMMARY REPORT	3
SITE DESCRIPTION AND MAP	4
SURVEY DETAILS	5
STAFF	5
SURVEY METHODOLOGY:	6
SURVEY FINDINGS	12
BIRDS	12
BATS	13
RECOMMENDATIONS	17
 APPENDIX 1 : BIRD REGISTRATIONS.....	 18
APPENDIX 2 : SITE PHOTOGRAPHS.....	19

Ecological Due Diligence - Bat and Bird checks
Warrenpoint Road
Newry
Co Down

Background

The ongoing flood alleviation scheme at Warrenpoint Road, Newry requires selective removal of a mix of mature and semi-mature trees and saplings on the south-west side of the channelized waterway immediately adjoining Ballinacraig Way. Given the planned timing for this work, WM Associates were appointed to undertake a survey for evidence of nesting birds prior to the start of any clearance of vegetation.

Survey was undertaken by [REDACTED] on behalf of WM Associates.

Legal and policy framework

Northern Irish legislation	
The Wildlife (Northern Ireland) Order 1985 and its amendments	<p>Sets out the protection which is afforded to wild animals and plants in Northern Ireland.</p> <p>Lists non-native species that it is illegal to release or to cause to grow in the wild.</p> <p>Protects all wild birds from unlawful killing or injury.</p> <p>It is an offence to intentionally or recklessly:</p> <ul style="list-style-type: none">• kill, injure or take any wild bird• take, damage, destroy or disturb a nest whilst it is being built or is in use• obstruct or prevent any wild bird from using its nest• take or destroy the egg of any wild bird• disturb any wild bird whilst it is in, on or near a nest containing eggs or young• disturb dependent young of such a bird. <p>The 2011 legislation affords protection for nests of all species listed on Schedule A1 throughout the year</p>
Wildlife and Natural Environment Act (Northern Ireland) 2011	<p>Makes it a legal duty of public bodies to conserve Biodiversity.</p> <p>Amends the Wildlife (NI) Order 1985 to protect a greater range of native species, and to proscribe a wider range of non-native invasive species, and increases protection of Areas of Special Scientific Interest.</p>

Further information from DAERA on Environmental Advice for Planning: Standing Advice Wild Birds can be found at <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/DAERA%20Wild%20Birds%20Template%20-%20Final%20February%202020.pdf>

Summary report

The assessment of land associated with the flood alleviation scheme at Warrenpoint Road, Newry was undertaken to determine if there was any evidence of birds nesting in the trees scheduled for clearance.

Site survey commenced at 07.00 on 14th June 2022. The survey extent and other requirements had already been confirmed.

A very limited number of birds were recorded (both in terms of species diversity and absolute numbers) reflecting the limited extent of nesting habitat. While the trees included a number of mature oak, the associated ground, field and scrub layers adjoining the tree line was poorly developed and/or had already been partially cleared. With limited cover present, groups such as the ground nesters were absent. Those present were associated with the pockets of dense vegetation on the Warrenpoint Road side of the waterway.

The oak trees did offer some nesting opportunities for hole-nesting species and a number of these were present. While no behaviours were recorded that clearly indicated the presence of actively nesting species, the presence of suitable micro-habitats, the inability to view all activity in the main canopies (due to limited survey positions and dense foliage), together with multiple occurrences of hole-nesting species (recorded by sightings but mainly by call/song) means that a precautionary approach is justified.

From the preliminary ground level roost assessment, a moderate potential for roosting bats was identified in a number of trees, representing a level of risk of illegally disturbing/destroying roosts and injuring/killing bats that is normally addressed by further more detailed bat survey.

It is therefore recommended that no further felling of trees takes place until the end of the breeding season i.e. until after the 31st August 2022, and that the felling of trees with a moderate bat roost potential are subject to further surveys to address the possibility of roosting bats.

If the project requires clearance before the 31st August, a further breeding bird survey could be undertaken, but with the same survey limitations noted above.

Site description and map

The survey area was confirmed in advance and reconfirmed on site with representative of AG Wilson.

The vegetation of interest was a series of mature and semi-mature trees and a few saplings. The full list of each tree species was recorded in the bat assessment document and included Oak (species not determined), Ash, Sycamore, Elm (species not determined) and Beech. Birch saplings were also present.

No shrub layer was present.

The field layer was very limited and open with limited units of Bramble, Broom and scattered young Willow (species not determined), Dog Rose and Cherry (species not determined). Scattered Oak, Birch, Hawthorn, Rowan and Beech seedlings/very young saplings were also present.

The ground layer was very disturbed and typically grass dominated but also included bare ground and areas of rubble/dumped soil.



The limits of the survey area were marked on a standard OSNI digital base map to be used for recording all bird activity.

Survey details

Staff

14/06/2022		
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Weather: Cloud: 5/8. Wind 2 – 3 southerly westerly. Precipitation: 0. Visibility excellent. Conditions were suitable for a survey of breeding birds.

Statement of Authority: Before leaving the Civil Service, ■ was senior ornithologist at NI Environment Agency, leading on Northern Ireland's statutory ornithological site designation programme (ASSI, SPA and Ramsar). He produced the conservation objectives and related documentations for the series of SPAs in Northern Ireland.

His work included assessment and evaluation of development proposals in relation to designated sites throughout Northern Ireland including HRA and related procedures.

■ has over 30 years of organising, co-ordinating and delivering ornithological and related terrestrial and marine habitat surveys including WeBS, BBS, breeding waders, raptors, WBBS, breeding seabirds and heronries (NI coordinator for BTO).

Statement of Objectivity: The data have been collected and presented impartially. Payment or other favour is not dependent upon any particular planning outcome, and there is no other vested or personal interest in any particular outcome, or any commercial products mentioned.

Survey methodology:

Nesting Birds

Survey methodology has been adapted from British Trust for Ornithology's Breeding Bird Survey (BBS)¹ and Breeding Bird Atlas Programmes². Bird registrations together with bird behaviour were used to inform the likelihood of breeding activities in the survey area.

¹<https://www.bto.org/our-science/projects/bbs>

²<https://www.bto.org/our-science/projects/birdatlas/about>

Virtually all of the survey records are either of singing/calling birds or birds occurring in habitat that would meet their breeding needs. This of itself does not prove breeding. The evidence used to support possible, probable and confirmed breeding (and to indicate non-breeding) is shown on the BTO code sheet which also provides codes for the species recorded.

The survey consisted of repeated walks along the areas scheduled for clearance, recording any bird species present together with details of behaviours to determine the likelihood of their breeding at the time of the survey. Any birds present were watched to determine if they were actively using any part of these areas in a manner suggestive of nesting.

As would be expected, many of the bird registrations were either by song/call. These would only place these registrations in the 'possibly breeding' category. It is of course likely that many of these records do relate to breeding birds and indeed the methodology as interpreted by the BTO would accept these as evidence of breeding. No behaviours were noted suggestive of either probably or confirmed breeding. However evidence noted below is suggestive of current breeding activity.

Usually evidence of nesting is obtained through observation of bird activity in areas likely to host nests. Such evidence would include birds displaying or showing agitated behaviour, birds carrying nesting material, repeated movement of birds (of the same species) to and from a particular location, observation of birds in that area carrying food or the sound/sight of nestlings.

Given the timing of the survey, the fact that trees were in full foliage, the size of the trees and the limited sight lines available (taking account of the waterway and traffic activity) meant that it was impossible to see all activity in the canopy crown. Only audible behaviours could be identified (song and calls) while activities such as carrying food, removal of faecal sacs etc. would be undetected.

See the section below on 'bird records and results'.

Roosting bats

Bat assessment was made as per BCT (2016) methodology, to determine presence of any habitat or micro-habitat suitable for bats.

A number of the trees are mature enough to have developed a combination of features which have the potential to be utilised by bats including holes and fissures.

Bat Roost Risk Categories

Risk Category	Description
0	<i>No potential to host roosting bats.</i> Trees without loose bark, fissures and rot holes, and not with dense mature Ivy cover. Generally young to semi-mature specimens.
1	<i>Unlikely to host roosting bats.</i> Trees without loose bark, fissures and rot holes, and not with dense mature Ivy cover, but the tree is of a size and age that climbing surveys may result in cracks or crevices being found which may have limited potential to host roosts.
2	<i>Moderate potential to host roosting bats.</i> Trees with e.g. loose bark, deep fissures or splits and rot holes, or with dense thick-stemmed Ivy likely to present potential at least for use by single bats.
3	<i>High potential for roosting bats.</i> Trees with multiple, highly suitable features capable of supporting larger roosts.
4	<i>Confirmed roost site or evidence of roost occupation.</i>

Potential roosting features (PRFs) of trees for bats

- Knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar
- Man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems
- Woodpecker holes
- Cracks/splits in stems or branches (both vertical and horizontal)
- Partially detached platey bark
- Cankers (caused by localized bark death) in which cavities have developed
- Other hollows or cavities, including butt-rots
- Compression forks with included bark forming potential cavities
- Crossing stems or branches with suitable space between for roosting
- Ivy stems with diameters in excess of 50 mm with suitable roosting space behind, or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk
- Bird and bat boxes on trees
- Other features that offer a place of shelter

Details of each tree are noted below together with photographs of features which may be used by bats. Trees were not tagged, but correspond to numbered images presented below:

Tree numbers (Imagery from Google Street View dated April 2022)









Survey Findings

Birds

Site survey commenced at 07.00 on 14th June 2022. The survey extent and other requirements had already been confirmed. The site was walked, accompanied by a representative of the contractors.

All bird records (registrations) and behaviour are shown on the annotated map below. As the focus was on evidence of breeding/nesting birds, birds flying over the site were not recorded.

It should be noted that locations for each bird record indicates their position at time of registration – this is not an indication of either nest locations (if the birds are breeding) or the full extent of their territories.

A very limited number of birds were recorded (both in terms of species diversity and absolute numbers) reflecting the limited extent and quality of nesting habitat. While the trees included a number of mature oak, the associated ground, field and scrub layers adjoining the tree line was poorly developed and/or had already been partially cleared. With limited cover present, groups such as ground nesters were absent. Those present were associated with the pockets of dense vegetation on the Warrenpoint Road side of the waterway.

The oak trees did offer some nesting opportunities for hole-nesting species and a number of these were present. While no behaviours were recorded that clearly indicated the presence of actively nesting species, the presence of suitable micro-habitats, the inability to view all activity in the main canopies (due to limited survey positions and dense foliage), together with multiple occurrences of hole-nesting species (some recorded by sightings but mainly by call/song) means that a precautionary approach is justified.

The likelihood of undetected current breeding birds (as of survey date) is highlighted by information that spent eggs had been noted the previous day (13th June). Their description matches that of either Blue or Great Tit (latter species was not recorded during the survey). The eggshells could not be relocated and had probably been scavenged. This does suggest recent hatching of, probably Blue Tit, in the area with the spent eggshells being discarded by the adult birds.



It is therefore recommended that no further felling of trees takes place until the end of the breeding season i.e. until after the 31st August 2022.




If the project requires clearance before that date, a further breeding bird survey could be undertaken, but with the same survey limitations noted above.


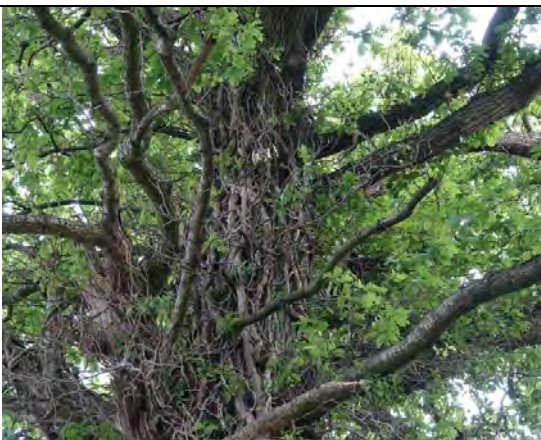

Recommendations are provided and include action to address the potential for breeding activity on site between the period of the survey and vegetation clearance being undertaken.




While undertaking the survey, the potential for bats was noted i.e. some of the trees had micro-habitats that could potentially be used by bats. After consultation it was agreed with W M Associates that notes and photographs would be compiled to assess trees using the Bat Conservation Trust (2016) methodology. This report has been forwarded to W M Associates.

Bats

Tree	Description	Comment	Photograph
1	Sycamore – ‘double trunk’ –ivy limited to trunk. No holes, fissures, loose bark etc.	Category 0	
2	Mature Oak – ivy limited to trunk. Some limited bough/branch removal but no obvious holes, fissures etc	Category 1	
3	Mature oak as 2 but potential holes present + fractured bough	Category 2	
4	Mature oak with potential holes present	Category 2	
5	Young ash	Category 0	

6	Mature Oak – ivy limited. No obvious holes, fissures etc	Category 0	
7	Mature Oak – ivy limited. Number of broken boughs with bat potential.	Category 2	
8	Mature oak with heavy ivy cover	Category 2	
9	Two young Birch saplings	Category 0	
10	Dead tree – ‘stag crown’ with heavy ivy cover	Category 2	
11	Elm with limited ivy but dense crown	Category 1	
			WIDE GAP TO NEXT TREE
12	Mature Oak – ivy limited. No obvious holes, fissures etc	Category 0	

			FORMER 'FOOT BRIDGE'
13	Oak as 12	Category 0	
14	Young sycamore	Category 0	
15	Oak with limited ivy but broken/cut bough	Category 1	
16	Semi-mature beech with no bat potential	Category 0	
17	Mature Oak – ivy limited. No obvious holes, fissures etc	Category 0	
18	Sycamore with regeneration from base. No bat potential	Category 0	
19	Oak with limited ivy – as with most trees, ivy has been cut towards base to kill higher growth. Dense network of dead ivy stems and some bark fissures apparent	Category 2	
20	Birch sapling	Category 0	
21	Mature oak with limited ivy – broken bough	Category 2	
			WIDE GAP TO NEXT TREE

22	Elm – heavy ivy cover – dense canopy area	Category 1	
23	Ash with advanced dieback. Broken boughs and potentially areas with rot	Category 2	
24	Oak with ivy cut back – broken bough etc.	Category 2	

Recommendations

1. Be certain that the tree removal is required in order to install the required sheet piles, and that trees closer to the canal could not be retained.
2. The survey does not rule out a risk of illegally disturbing/destroying bird nests. As a precautionary measure, based on the evidence above, no further felling of trees takes place until the end of the breeding season i.e. until after the 31st August 2022.
3. If the development planning requires clearance before that date, a further breeding bird survey could be undertaken, but with the same survey limitations noted.
4. In the event of nesting activity being identified in the course of site works, contact the surveyor or Northern Ireland Environment Agency Wildlife Team (<https://www.daera-ni.gov.uk/contacts/wildlife-team>) for advice.
5. Note the accepted period for bird nesting season is between 1st March and 31st August. If activities are carried out outside of those dates it avoids the risk of impacting nesting birds and the need for dedicated nest surveys.
6. The bat assessment highlighted the presence of a number of trees that would be classified as 'risk category 2 (Bat Roost Risk Categories after BS 8596 'Surveying for bats in trees and woodland'). Further work is required by a bat survey specialist to manage the legal risk of felling these trees.

Depending upon the timing if the re-scheduled felling this would involve either an emergence/return survey for each tree whereby an observer at dawn or dusk will check for bats returning, or emerging from roosts within the trees. Unless trees are close together a single observer will only be able to cover a single tree per survey.

An endoscope survey using climbing equipment or a cherry picker may be possible, and would be the only option after bats cease to be active around mid-October.

Although this is not for a planning application, it is recommended that the contractor who conducts the additional bat surveys is an NIEA approved bat worker.

7. Informative: The Newry Canal is a known site for Giant Hogweed (*Heracleum mantegazzianum*). None was noted on this section during the survey.

Appendix 1 : Bird registrations

Warrenpoint Road, Newry survey areas with bird registrations.

BTO species codes shown as are codes for recorded behaviours

Species code

B – Blackbird
 BC – Blackcap
 BT – Blue Tit
 GC – Goldcrest
 HS – House Sparrow
 MG – Magpie
 R – Robin
 SG – Starling
 WP – Woodpigeon
 WR – Wren

 Survey limits

Behaviour code

Possible breeding
 H – bird recorded in area with suitable nesting habitat
 S – Singing male present in suitable nesting habitat
 Probable breeding
 A – Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
 FP – Family party – clearly have bred but may not be from immediate area



Appendix 2 : Site Photographs

Series showing limited habitat adjoining trees. Denser and hence better quality habitat occurs on the opposite bank – to be left intact.





Habitats Regulations Screening Assessment

Newry Stage 1 Flood Alleviation Scheme

CO401607 / HRA Screening Revision 01

30/10/2020




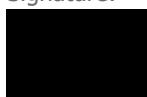





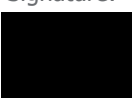




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Document Control Sheet

Project Name:	Newry Stage 1 Flood Alleviation Scheme
Project Number:	CO401607
Report Title:	Habitats Regulations Screening Assessment
Report Number:	HRA Screening

Issue Status/Amendment	Prepared	Reviewed	Approved
V00	Name:  Signature:  Date: 28/04/2020	Name:  Signature:  Date: 11/05/2020	Name:  Signature:  Date: 19/05/2020
V01 Amendments based on reduced scope of scheme – Sites G1 and G3 removed	Name:  Signature:  Date: 20/10/2020	Name:  Signature:  Date: 29/10/2020	Name:  Signature:  Date: 30/10/2020
	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:
	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:

Executive Summary

The Department for Infrastructure Rivers (DfI Rivers) are proposing a flood alleviation scheme in Newry, Co. Down in order to protect a number of properties from a Q100 fluvial flood event (1% Annual Exceedance Probability event).

The Newry stage 1 flood alleviation scheme consists of four locations which require either new flood defences, replacement culverts or upgrades to the current defences.

The four sites have a hydrological connection to Carlingford Lough as the watercourses eventually discharge into the lough. Carlingford Shore is a Special Area of Conservation (SAC), and Carlingford Lough is a Special Protection Area (SPA) and Ramsar site. Carlingford Shore SAC and Derryleckagh SAC are also within 10km of the scheme. Subsequently under the Habitats Regulations, a Habitats Regulations Screening Assessment is required for the scheme.

This screening assessment has determined that the flood alleviation works will have no likely significant effects on any Designated site, either alone or in combination with other projects within Newry.

Contents

Executive Summary.....	1
1. Introduction.....	3
1.1. Background.....	3
1.2. The Habitats Directive	3
1.3. The Habitats Regulations Assessment process	4
1.4. Guidance.....	4
2. Natura 2000 Sites	6
2.1. Introduction	6
2.2. Carlingford Lough SPA.....	6
2.3. Carlingford Lough Ramsar	7
2.4. Derryleckagh SAC	8
2.5. Carlingford Shore SAC.....	9
3. The Proposed Project	10
3.1. Overview	10
3.2. D1 Warrenpoint Road.....	10
3.3. H1 Craigmole Road.....	10
3.4. H3 Armagh Road Drain.....	10
3.5. B2 Downshire Road.....	10
4. Screening Assessment	11
4.1. Introduction	11
4.2. Carlingford Lough SPA.....	11
4.3. Carlingford Lough Ramsar	14
4.4. Derryleckagh SAC	17
4.5. Carlingford Shore SAC.....	18
4.6. In-Combination Effects	18
5. Summary and Conclusions	20
6. References	21
Figures.....	22
Appendix A: Scheme proposals	23

1. Introduction

1.1. Background

- 1.1.1 The Department for Infrastructure Rivers (DfI Rivers) are proposing a flood alleviation scheme in Newry city to protect properties at four sites from flooding from a Q100 fluvial flood event (1% Annual Exceedance Probability AEP event). The location of the sites is shown in Figure 1.
- 1.1.2 DfI Rivers, as the competent authority, are required to undertake a Habitats Regulations Assessment for the scheme if there is a possibility that the scheme may affect a Natura 2000 site. Amey are undertaking this screening assessment on behalf of DfI.
- 1.1.3 This Habitats Regulations Screening Assessment (HRA) considers the effects that the proposed scheme may have on Designated Sites.

1.2. The Habitats Directive

- 1.2.1 The European Commission Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive), is transposed in Northern Ireland by the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 and the Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2012.
- 1.2.2 The Habitats Directive provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of interest to the EU in a favourable condition.
- 1.2.3 Under Article 6 (3) of the Habitats Directive *'any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of the paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'*
- 1.2.4 Regulation 43 (1) of the Habitats Regulations (NI) requires that:
 - '(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for a plan or project which-*
 - a) is likely to have a significant effect on a European site in Northern Ireland (either alone or in combination with other plans or projects), and;*
 - b) is not directly connected with or necessary to the management of the site, shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives'*
- 1.2.5 This report will determine if the project has the potential to have significant effects on Natura 2000 sites with respect to the precautionary principle and the ruling of the Waddenzee case by the European Court of Justice C127/02 (Ref 1.1). The Waddenzee case clarified what *'likely to have a significant effect'* means and ruled that a project should undergo an appropriate assessment *'if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site'*.
- 1.2.6 Cases brought before the European Court of Justice (ECJ) have provided clarification on how to interpret *'likely significant effect'*. The primary case was the ECJ case C-127/02 Waddenzee cockle fishing. The ruling from ECJ defined significant as *'where plan or project has an effect on that site but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on that site'*, while likely was clarified as *'if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site'*. From this judgement, if significant effects cannot be excluded on the basis of objective information, then a plan or project should be considered to have a likely significant effect and taken through to appropriate assessment.

- 1.2.7 Subsequent rulings from the ECJ, such as *Sweetman v An Bord Pleanala*, have provided additional clarification on whether a particular effect should be regarded as an adverse effect on the integrity of a site. The ECJ ruling on this case on the effects of the loss of part of a priority habitat in an SAC states *'a plan or project not directly connected with or necessary to the management of a site will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the designation of the site in the list of SCIs, in accordance with the directive'*.
- 1.2.8 For effects on non-priority habitats, clarification was provided in the *Briels* judgement where the judgement extended this approach to non-priority habitats. In addition, the ruling states *'that in order for the integrity of a site as a natural habitat not to be adversely affected for the purposes of the second sentence of Article 6(3) of the Habitats Directive the site needs to be preserved at a favourable conservation status...'*.

1.3. The Habitats Regulations Assessment process

- 1.3.1 The European Commission document 'Methodological Guidance on the provision of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC' (Ref 1.2) recommends a four stage approach in carrying out a Habitats Regulations Assessment as follows.

Stage 1 Screening

- 1.3.2 Determines whether a plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect upon a Natura 2000 site. A significant effect is any effect that would undermine the conservation objectives for a European site.
- 1.3.3 If the screening process identifies effects to be significant, potentially significant or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2. The process should apply the precautionary principle to ascertain if significant effects are likely.

Stage 2 Appropriate Assessment

- 1.3.4 Considers the impact on the integrity of the Natura 2000 sites of the project or plan, either alone or in combination with other plans or projects with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, it assesses the potential mitigation for those impacts.

Stage 3 Assessment of Alternative Solutions

- 1.3.5 Examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 sites.

Stage 4 Assessment where no Alternative Solutions Exist and where Adverse Impacts Remain

- 1.3.6 Assesses compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the plan or project should proceed.

Summary

- 1.3.7 Each stage determines whether the next stage in the process is required. If, for example, it is concluded that at the end of Stage 1 there will be no significant effects on the Natura 2000 sites, there is no requirement to proceed to Stage 2.
- 1.3.8 The ruling by the ECJ on the *People Over Wind* judgement in April 2018 ruled that *'it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site'*. Following this judgement, therefore, this report will not include any mitigation measures that will be implemented as part of the project.

1.4. Guidance

- 1.4.1 The HRA has been completed using the following guidance:
- The European Commission's 'Managing Natura 2000 Sites (The Provisions of Article 6 of the Habitats Directive 92/43/EEC)';

- The Habitats Regulations Assessment Handbook (Ref 1.3).

2. Natura 2000 Sites

2.1. Introduction

- 2.1.1 The Habitats and Birds Directives implement the creation of a network of sites called Natura 2000 sites. These are Special Protection Areas (SPAs) under the Birds Directive for the protection of birds and their habitats, while Special Areas of Conservation (SACs) are created under the Habitats Directive. In the UK it is government policy that Wetlands of International Importance, Ramsar sites, are also considered in the Habitats Regulations process.
- 2.1.2 In order to determine which Natura 2000 sites have potential to be affected by a proposed project, the HRA Handbook recommends the use of zones of influences on a site by site basis. A zone of influence (ZoI) is defined as the area in which a proposed change has the potential to represent a risk of a significant effect on a European Site or one or more of its qualifying features. For this scheme the ZoI represents an area in which effects from the scheme are likely to be experienced due to a hydrological connection or areas used by birds beyond a SPA boundary. The Zone of Influence for this scheme was taken to be 10km, as it was considered that any sites beyond this would not be vulnerable to any potential effects from the scheme.
- 2.1.3 A desk top study was undertaken using the NIEA designated sites viewer (Ref 2.1) and the National Parks and Wildlife Service web viewer (Ref 2.2) to determine the presence of any Natura 2000 sites with a hydrological connection or other effect pathway to the Newry Stage 1 scheme extents. From this it was determined that the following sites have a hydrological connection via the Newry River (see **Figure 2**):
- Carlingford Lough SPA
 - Carlingford Lough Ramsar Site
- 2.1.4 Two other sites were identified within the Zone of Influence:
- Derryleckagh SAC
 - Carlingford Shore SAC

2.2. Carlingford Lough SPA

Site Description

- 2.2.1 Carlingford Lough SPA extends from Soldiers Point, south of Rostrevor to Killowen Point, close to where the lough meets the Irish Sea. The offshore islands at Blockhouse, Green Island and off Greencastle Point fall within the SPA boundary. Habitat is almost exclusively inter-tidal with the exception of the islands mentioned and coastal saltmarsh and wet grasslands in Mill Bay.
- 2.2.2 The SPA is currently limited to those areas regularly used by light-bellied brent geese together with the tern nesting sites (those islands both currently used, used in the past, with the potential for use or in close proximity to any of these). Roost sites occurring outside the extent of natural or semi-natural habitat have not been included. A public consultation was undertaken by DAERA in 2016 to extend the SPA boundary to include tern foraging areas in the marine environment adjoining the current boundary and an area off the south east County Down coast to north of Annalong to protect the foraging areas.
- 2.2.3 The tern nesting locations are known to be on Green Island and at Greencastle Point.

Qualifying Features

- 2.2.4 The SPA is designated for the following qualifying features;
- Sandwich tern breeding population (*Sterna sandvicensis*)
 - Common tern breeding population (*Sterna hirundo*)

- Light-bellied brent goose overwintering population (*Branta bernicla hrota*)

Conservation Objectives

2.2.5 The conservation objective for this site is to maintain each feature in a favourable condition. The feature objectives are:

- To maintain or enhance the population of the qualifying species
- Fledging success sufficient to maintain or enhance the population
- To maintain or enhance the range of habitats utilised by the qualifying species
- To ensure that the integrity of the site is maintained
- To ensure there is no significant disturbance of the species
- To ensure that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within the site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species.

Site pressures

2.2.6 The following are the main pressures on the site as detailed within the citation document;

- Aquaculture
- Beach sand and gravel extraction
- Boating activity (commercial & recreational)
- Coastal protection schemes
- Dredging
- Fishing
- Habitat quality (open water and inter-tidal)

2.3. Carlingford Lough Ramsar

Site Description

2.3.1 The site is entirely coincidental with the boundary of Carlingford Lough SPA. The Ramsar site includes all lands and intertidal areas seawards to the limits of territorial waters. Marine areas below mean tide are not included.

2.3.2 A number of normally sublittoral species occur here within the intertidal zone including the anemone (*Metridium senile*) (here at its only Northern Ireland intertidal location), featherstar (*Antedon bifida*), the starfish (*Solaster endeca*) and green sea-urchin (*Psammechinus miliaris*). This is the only example of this type of shore community in Northern Ireland outside Strangford Lough.

2.3.3 The botanical interest of this site is centred within the Mill Bay area and is related primarily to the saltmarsh vegetation located along the foreshore and to the localised but frequent beds of dwarf eelgrass (*Zostera noltei*) covering the intertidal mudflats. Large areas of saltmarsh are rare and under threat in Northern Ireland as most have been subjected to considerable grazing pressure or have disappeared either through natural erosion or as a result of commercial development. The Mill Bay area supports the largest remaining intact block of saltmarsh in Northern Ireland. The saltmarsh here exhibits an extremely clear and characteristic successional

zonation from open mudflats to upper brackish marsh, while displaying a classic pattern of drainage channels (creeks), pools (saltpans) and hummocks. The range of saltmarsh communities found within the zonation sequence is diverse, comprising lower and middle saltmarsh communities along channels and the coastal margin, and backed by extensive expanses of brackish marsh around the mouth of the White Water River.

Qualifying Features

- 2.3.4 The site supports internationally important breeding populations of sandwich tern.
- 2.3.5 The site also qualifies for supporting an important assemblage of vulnerable and endangered Irish Red Data Book bird species including breeding populations of common tern, roseate tern (*Sterna dougallii*) and Arctic tern (*Sterna paradisea*).
- 2.3.6 The site forms part of the cross-border Ramsar site; which qualifies for overwintering populations of light-bellied brent goose.
- 2.3.7 The extended cross-border site also supports the following nationally important wader species;
- oystercatcher (*Haematopus ostralegus*)
 - ringed plover (*Charadrius hiaticula*)
 - grey plover (*Pluvialis squatarola*)
 - dunlin (*Calidris alpina*); and
 - redshank (*Tringa totanus*)

Conservation Objectives

- 2.3.8 No specific conservation measures are published for this site however it is assumed that the objective is to maintain each feature in a favourable condition.

2.4. Derryleckagh SAC

Site Description

- 2.4.1 Derryleckagh SAC is located to the east of Newry and is a large lowland transitional valley mire occupying a valley floor and includes a small, base-rich hazel/oak woodland on the eastern valley slope. The mire is in a transitional stage between fen and bog and is characterised by its broad range of surface conditions, ranging from slightly base-rich to markedly acidic. These soil conditions are dependent upon the influence of the ground water on the surface peat layer and have a marked effect upon the plant communities present. The diversity of wetland habitats supports rich invertebrate communities, and notable numbers of wetland bird species. The integrity of the site is subject to pollution from surrounding agricultural practice and housing development.
- 2.4.2 The site is over 2km from the scheme (at the closest point) and does not have any hydrological connection to the scheme.

Qualifying Features

- 2.4.3 The SAC is designated for:
- transition mires and quaking bogs; and
 - old sessile oak woods with *Ilex* and *Blechnum* in the British Isles.

Conservation Objectives

- 2.4.4 To maintain (or restore where appropriate) the transition mires and quaking bogs and old sessile oak woods with *Ilex* and *Blechnum* in the British Isles to favourable condition.

2.5. Carlingford Shore SAC

Site Description

- 2.5.1 Carlingford Shore SAC stretches for approximately 15km along the shoreline to the low water mark (LWM) of Carlingford Lough, which is also the estuary of the Newry River. It is flanked by glacial moraines and mountains - the Mourne Mountains to the north and Carlingford Mountain to the south-west. The underlying rock within the SAC is mainly carboniferous limestone. This outcrops over sections of the SAC in the form of bedrock shore or reefs. Granite boulders are occasionally found. Intertidal mudflats and sand/gravel banks also occur.
- 2.5.2 The qualifying features for this site are coastal habitats which depend on shingle beaches for their formation. They are transient habitats but they are mostly found along the shoreline between Greenore and Cooley Point at the southern end of the lough (approximately 18km from the nearest proposed works at Greenbank).

Qualifying Features

- 2.5.3 Carlingford Shore SAC is designated for:
- Perennial vegetation of stony banks
 - Annual vegetation of drift lines

Conservation Objectives

- 2.5.4 The conservation objectives for the site are: to maintain the favourable conservation condition of the qualifying habitats.

3. The Proposed Project

3.1. Overview

- 3.1.1 AECOM were commissioned by DfI to conduct a feasibility report assessing the flood risk in Newry. They proposed a combination of options at the various at-risk locations to help alleviate the threat of flooding to Newry. These options have been investigated further and the detailed design completed by Amey. The flood alleviation proposals are described below. The proposed designs are included as Appendix A with site locations shown on Figure 1.

3.2. D1 Warrenpoint Road

- 3.2.1 The Knox Peebles stream floods in two locations impacting the adjacent industrial estate; this is due to sections of the current bank along the road being too low and the flood water over-spilling. The proposed solution is to construct flood walls along the two sections of bank where the overtopping occurs, containing the flow within the channel. The defences will be a mixture of a sheet piled flood wall and earth bunds with a retaining wall.

3.3. H1 Craigmore Road

- 3.3.1 Flooding occurs at this location, overtopping of both banks occurs here however the flow at the eastern bank impacts the adjacent property. The proposed solution here is to replace the grille and clean out the existing channel.

3.4. H3 Armagh Road Drain

- 3.4.1 The current culvert does not have sufficient capacity to cope with the flow rates experienced during flood conditions which is causing increased flooding upstream of the culvert. The proposed solution at this location is to upgrade the existing 900mm culvert to an increased 1350mm diameter pipe which will provide the capacity to cope with the increased flows. The existing grille will also be replaced.

3.5. B2 Downshire Road

- 3.5.1 Flooding occurs at this location due to the lack of capacity within the channel to convey flow. The option to alleviate the flooding here is to replace the existing channel with a u shaped channel and bring the walls of the channel up to the flood height to act as flood defences. The existing grille will be replaced.

4. Screening Assessment

4.1. Introduction

- 4.1.1 Each of the locations of the flood alleviation works was reviewed against the designated sites and its qualifying features to identify any potential impact pathways and likely significant effects. The screening assessment is summarised in the following tables.

4.2. Carlingford Lough SPA

Table 4.1 Screening for Carlingford Lough SPA

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
D1 Warrenpoint Rd	Sandwich tern Common tern Light-bellied brent goose	Potential for changes in water quality from sedimentation and pollution during construction of the flood wall on Knox Peebles Stream. Discharge of pollutants into Carlingford Lough. Disturbance to foraging/roosting birds from machinery, human disturbance.	There are no effect pathways once operational and there will be no change to the existing conditions within Carlingford Lough for nesting terns or foraging geese.	No. Construction – the works are located within an industrial area south of Newry. The works are located too far from the known nesting locations of the tern in the lough for disturbance to be an issue. There is potential for light-bellied brent geese to be found in the estuary habitats immediately south of the industrial estate. However, with the existing level of noise from the A2 and disturbance from traffic in the industrial estate, it is considered likely that any birds in the vicinity will be habituated to the existing level of disturbance. During construction, there may be temporary displacement of foraging birds, but this is not considered to have a likely significant effect on the SPA population. Any pollution entering Knox Peebles stream will

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
				<p>be diluted and dispersed before entering the lough, it is assessed that there will be no likely significant effect on water quality from the works.</p> <p>Operation – No LSE.</p>
H1 Craigmore Road		<p>Potential for changes in water quality from sedimentation and pollution during construction on watercourse. Discharge of pollutants into Carlingford Lough.</p> <p>Disturbance to foraging/roosting birds from machinery, human disturbance.</p>	No operational effect pathways.	<p>No.</p> <p>Construction - the site is adjacent to an industrial area at a residential property with agricultural lands (improved grassland) to the south; there is low potential for the area to be used by any of the qualifying features due to the lack of suitable habitat and existing level of disturbance from traffic noise and the residential property. The watercourse is a small open section of water and any pollution or sediments generated during the works will be diluted and dispersed before entering Carlingford Lough. Due to distance from the site, no likely significant effects are anticipated.</p> <p>Operation – no change to existing conditions in Carlingford Lough, no LSE.</p>

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
H3 Armagh Road Drain		<p>Potential for changes in water quality from sedimentation and pollution during construction on watercourse. Discharge of pollutants into Carlingford Lough.</p> <p>Disturbance to foraging/roosting birds from machinery, human disturbance.</p>	No effect pathways identified. Underground culvert replacement, so no pathway for contamination/pollution.	<p>No.</p> <p>Construction – any sediments or pollution entering the watercourse during the culvert replacement will be diluted and dispersed before reaching Carlingford Lough.</p> <p>Although the site is mostly greenfield, it is located on the outskirts of the city and is partially located in a residential area. Existing habitats are unsuitable for the qualifying bird species and baseline levels of disturbance would make it unlikely that these species would be found in this location.</p> <p>No LSE.</p> <p>Operation – No LSE.</p>
B2 Downshire Road		<p>Potential for changes in water quality from sedimentation and pollution during construction on watercourse. Discharge of pollutants into Carlingford Lough.</p> <p>Disturbance to foraging/roosting birds from machinery, human disturbance.</p>	No effect pathways identified.	<p>No.</p> <p>Construction – any sediments or pollution entering the watercourse during the culvert replacement will be diluted and dispersed before reaching Carlingford Lough.</p> <p>The site is located in an urban environment with no suitable habitat for the qualifying features.</p> <p>No LSE from disturbance or changes to water quality.</p>

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
				Operation – No LSE.

4.3. Carlingford Lough Ramsar

Table 4.2: Screening for Carlingford Lough Ramsar

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
D1 Warrenpoint Rd	Sandwich tern Common tern Roseate tern Arctic tern Light-bellied brent goose Oystercatcher Ringed plover Grey plover Dunlin Redshank	Potential for changes in water quality from sedimentation and pollution during construction of the flood wall on Knox Peebles Stream. Discharge of pollutants into Carlingford Lough. Disturbance to foraging/roosting birds from machinery, human disturbance.	There are no effect pathways once operational and there will be no change to the existing conditions within Carlingford Lough for qualifying features.	No. Construction – the works are located within an industrial area south of Newry. The works are located too far from the known nesting locations of the tern in the lough for disturbance to be an issue. There is potential for wading birds to be found in the estuary habitats immediately south of the industrial estate. However, with the existing level of noise from the A2 and disturbance from traffic in the industrial estate, it is considered likely that any birds in the vicinity will be habituated to the existing level of disturbance. During construction, there may be temporary displacement of foraging birds, but this is not considered to have a likely significant effect on the Ramsar populations.

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
				Any pollution entering Knox Peebles stream will be diluted and dispersed before entering the lough, it is assessed that there will be no likely significant effect on water quality from the works. Operation – No LSE.
H1 Craigmore Road		Potential for changes in water quality from sedimentation and pollution during construction on watercourse. Discharge of pollutants into Carlingford Lough. Disturbance to foraging/roosting birds from machinery, human disturbance.	No operational effect pathways.	No. Construction - the site is adjacent to an industrial area at a residential property with agricultural lands (improved grassland) to the south; there is low potential for the area to be used by any of the qualifying features due to the lack of suitable habitat and existing level of disturbance from traffic noise and the residential property. The watercourse is a small open section of water and any pollution or sediments generated during the works will be diluted and dispersed before entering Carlingford Lough. Due to distance from the site, no likely significant effects are anticipated. Operation – no change to existing conditions in Carlingford Lough, no LSE.

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
H3 Armagh Road Drain		<p>Potential for changes in water quality from sedimentation and pollution during construction on watercourse. Discharge of pollutants into Carlingford Lough.</p> <p>Disturbance to foraging/roosting birds from machinery, human disturbance.</p>	No effect pathways identified. Underground culvert replacement, so no pathway for contamination/pollution.	<p>No.</p> <p>Construction – any sediments or pollution entering the watercourse during the culvert replacement will be diluted and dispersed before reaching Carlingford Lough.</p> <p>Although the site is mostly greenfield, it is located on the outskirts of the city and partially located through a residential area. Existing habitats are unsuitable for the qualifying bird species and baseline levels of disturbance would make it unlikely that these species would be found in this location.</p> <p>No LSE.</p> <p>Operation – No LSE.</p>
B2 Downshire Road		<p>Potential for changes in water quality from sedimentation and pollution during construction on watercourse. Discharge of pollutants into Carlingford Lough.</p> <p>Disturbance to foraging/roosting birds from machinery, human disturbance.</p>	No effect pathways identified.	<p>No.</p> <p>Construction – any sediments or pollution entering the watercourse during the culvert replacement will be diluted and dispersed before reaching Carlingford Lough.</p> <p>The site is located in an urban environment with no suitable habitat for the qualifying features.</p> <p>No LSE from disturbance or changes to water quality.</p>

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
				Operation – No LSE.

4.4. Derryleckagh SAC

- 4.4.1 Due to the distance of the SAC from Newry, effects from all the flood alleviation sites will be the same. The site is not hydrologically connected to the sites in Newry, so will not be affected by any changes in water quality.
- 4.4.2 The only potential effect pathway between the scheme and the SAC is effects on the habitats from air quality changes. Air quality effects on sensitive habitats such as mires, bogs and oak woods result from traffic emissions and agricultural inputs affecting nutrient levels for flora, affecting species composition. Increased nitrogen can result in some nutrient loving plants outcompeting species who are adapted for low nutrient environments, resulting in reduced biodiversity.

Table 4.3: Screening assessment for Derryleckagh SAC

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
D1 Warrenpoint Rd H1 Craigmore Road H3 Armagh Road Drain B2 Downshire Road	Transition mires and quaking bogs Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	Changes in habitat composition due to nitrogen deposition from construction machinery emissions and dust from earthworks.	No effect pathways identified.	No. Effects from nitrogen deposition from traffic are concentrated within a zone of influence of 200m of a Natura 2000 site boundary. The flood alleviation works are located over 2km from the SAC and any temporary increase in emissions in Newry will be dispersed in the atmosphere and have negligible effect on Derryleckagh due to the distance from the works. No LSE. Operation – No LSE.

4.5. Carlingford Shore SAC

4.5.1 The majority of the flood alleviation sites are located in urban areas within Newry, some distance from Carlingford shore. The qualifying features for this site are coastal habitats, and the only flood alleviation site close to the shoreline is D1 Warrenpoint Road. Although the SAC boundary extends to the border it is considered that the area just south of Newry has no suitable terrestrial habitat to support these qualifying features. The habitats just south of Greenbank are estuarine, with grassed areas and salt marsh, in the vicinity of the existing sloping masonry on the industrial estate boundary. Shingle habitats that support perennial vegetation of stony banks and annual vegetation of drift lines depend on the hydrology and morphology of the coastal environment. The flood alleviation works will not impact on the overall hydrology or morphology of the Newry River, where it flows into Carlingford Lough.

4.5.2 It is considered that there are no effect pathways that would affect the qualifying features for this site.

Table 4.4: Screening for Carlingford Shore SAC

Flood alleviation site	Qualifying features	Construction impacts	Operational impacts	Likely Significant Effect (LSE)
D1 Warrenpoint Rd H1 Craigmore Road H3 Armagh Road Drain B2 Downshire Road	Perennial vegetation of stony banks. Annual vegetation of drift lines.	No effect pathways.	No effect pathways	No.

4.6. In-Combination Effects

Intra project effects

4.6.1 It is likely that the works will be phased with the individual sites being constructed sequentially. There is potential for more than one of the sites to be constructed together, increasing the risk of water pollution from sediment or pollutants. However, given the length of the hydrological flow path from the sites to Carlingford Lough, it is considered that there will be sufficient dilution and dispersion that there will be no likely significant effects on the water quality of the lough.

Inter project effects

4.6.2 A review of planning applications was undertaken on the planning portal for Newry, Mourne and Down District Council and Planning NI websites for proposed developments that may have potential to result in inter project effects with the flood alleviation works. Applications from 2018 to 2020 within a 10km radius of the proposed site locations were identified. Professional judgement was used to determine which projects may have potential for in-combination effects. Minor applications, such as change in use for a building, or a planning application for a single dwelling were discounted as these are small scale and not likely to result in significant effects on the environment. Substantial developments, such as developments of more than 50 dwellings or if applications were in the immediate vicinity of the one of the locations of the flood alleviation works were included. The following are considered in the assessment:

4.6.3 P/2013/0242/F – Lands at Watson Road/Doran's Hill Newry, including lands to the east of Watson Road. The application is for a proposed residential housing development of 200 no. units comprising 61 detached, 126 semi-detached, 13 townhouses (some with garages), improvements and widening of existing Watsons Road and Dorans Hill, introduction of new roundabout and distributor road, planting of acoustic barrier along

distributor road, proposed landscaping, open space, car parking, site and access works. The proposal was granted planning permission in September 2019.

- 4.6.4 This development will be phased and it is highly likely that the phasing of the some of the houses will coincide with the flood alleviation works. The closest site for the flood works to the proposed housing development is the works at Greenbank industrial estate, located approximately 1.3km south east. The proposed housing development has a hydrological link to the Newry River, as an undesignated watercourse runs along the northwest of the site boundary and there are field drains in the western part of the site.
- 4.6.5 As part of the planning application for the housing development, ecological surveys and desk studies were undertaken for an Ecological Impact Assessment by Corvus Consulting (available to view on the planning portal (Ref 4.1). The assessment incorporated a Habitats Regulations Assessment. The HRA identified potential effects on Carlingford Lough from changes in water quality due to runoff and sedimentation. The assessment however, concluded that the construction and operational phases of the development would not have a significant effect on Carlingford Lough, due to the implementation of a Construction Environmental Management Plan during construction and with the incorporation of SuDS as part of the development. It should be noted that this HRA was undertaken prior to the Sweetman case, so mitigation measures were included in the screening assessment.
- 4.6.6 There is potential that in-combination effects on water quality could arise from the construction of the housing development and the flood works. However, given the distance of the flow path between the developments and Carlingford Lough, it is assessed that there will be no likely significant in-combination effects.
- 4.6.7 There will be no operational in-combination effects as existing greenfield runoff rates will be the same as existing for the housing development, and the flood alleviation works will not affect the designated site.
- 4.6.8 LA07/2018/1612/F - Lands at Loughway Business Park approximately 50m east and south of Unit 9a Loughway Business Park Newry BT34 2TH. Erection of 1 No. storage and distribution warehouse with associated office, to include all site and access works. Permission granted March 2020.
- 4.6.9 This development is located within the Greenbank Industrial Estate, immediately north of the flood wall at the northern end of the Newry River estuary. It is located approximately 190m south of the proposed flood alleviation works at D1. There is no environmental or construction information on the planning portal relating to this development. There is potential for the construction of the warehouse to coincide with the flood alleviation works, resulting in impacts on water quality of the stream along Warrenpoint Road and the Newry River. However, given the distance of the flow path between the two proposals and Carlingford Lough, any pollutants or sediment washed downstream will be negligible. It is therefore assessed that there will be no likely significant effect on the lough from in-combination effects.
- 4.6.10 Operationally, there will be no change from existing, and there will be no likely significant in-combination effects.

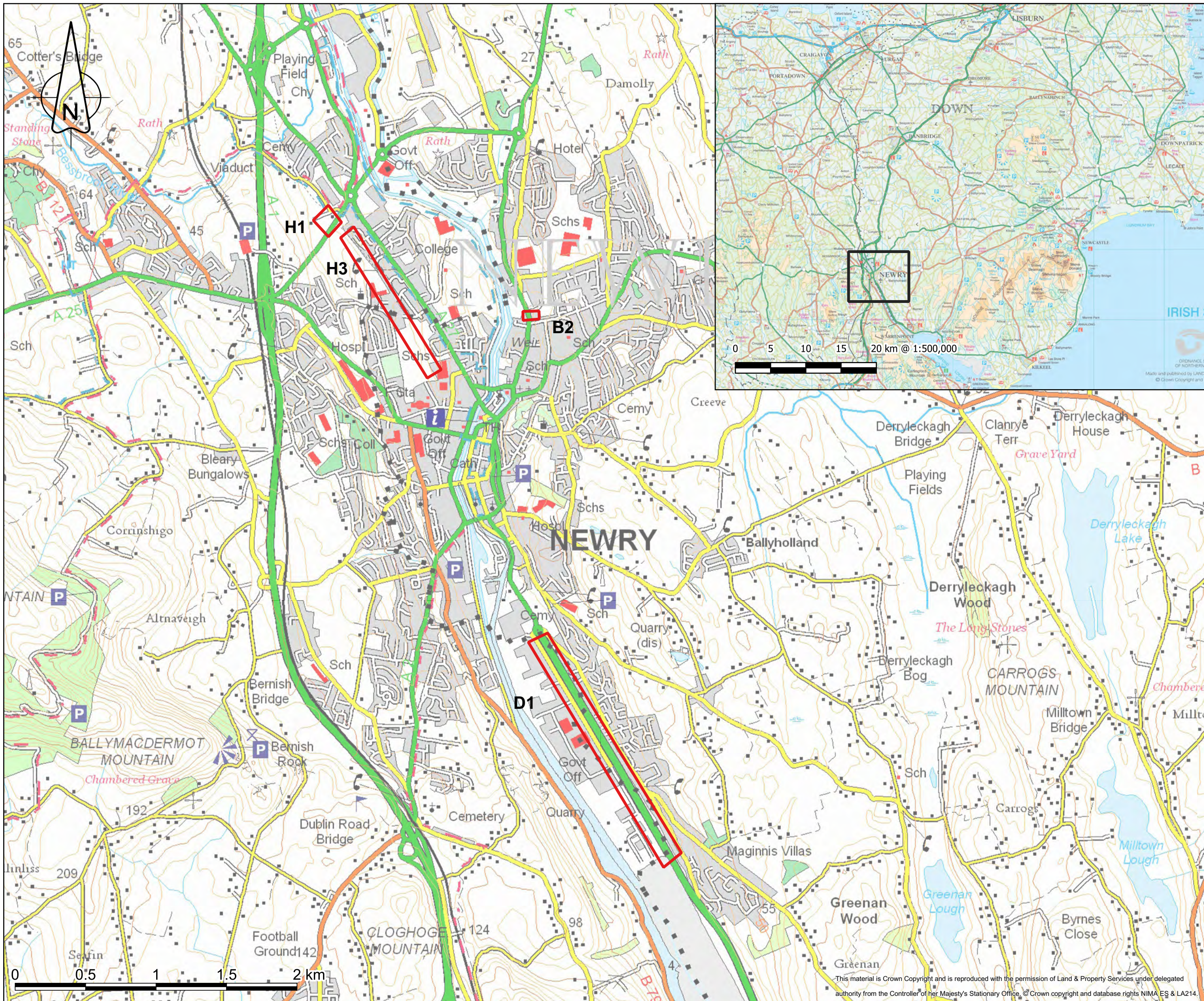
5. Summary and Conclusions

- 5.1.1 Flood alleviation works are proposed at four locations in Newry, consisting of flood walls, culvert upgrades or embankments.
- 5.1.2 This HRA screening report assessed the potential for the flood alleviation works to affect the qualifying features of Carlingford Lough SPA and Ramsar site. There is a hydrological connection between the flood locations and the lough via the Newry River.
- 5.1.3 The assessment has concluded that due to the length of the flow path between the location of the flood works and the boundary of the SPA/Ramsar site there would be no likely significant effects on the qualifying features or Natura 2000 sites, either during construction or operation.
- 5.1.4 No projects were identified that would result in in-combination effects.

6. References

- 1.1 European Court of Justice. Judgement of the Court in Case C-127/02 from the Raad van State (Netherlands), made by decision of 27 March 2002, registered at the Court on 8 April 2002, in the proceedings brought by Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse Vereniging tot Bescherming van Vogels against Staatssecretaris van Landbouw, Natuurbeheer en Visserij. Available to view at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62002CJ0127&from=EN>
- 1.2 European Commission. (2018) Managing Natura 2000 sites. The provisions of Article 6 of the 'Habitats Directive 92/43/EEC'.
- 1.3 DTA Publications. The Habitats Regulations Assessment Handbook. <https://www.dtapublications.co.uk/>
- 2.1 The Department for Agriculture, Environment and Rural Affairs. Natural Environment Map Viewer. Available to view at <https://www.daera-ni.gov.uk/services/natural-environment-map-viewer>
- 2.2 National Parks and Wildlife Service. Protected sites map viewer. Available to view at <http://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba>
- 4.1 Northern Ireland Planning Portal. Planning application reference P/2013/0242/F. Details available at: <http://epicpublic.planningni.gov.uk/publicaccess/applicationDetails.do?activeTab=externalDocuments&keyVal=MKBFX0SV30000>

Figures



Legend

Site Extents

Rev	Revision Details	Drwn	Chkd	Appd	Date:

Designed	Date: 06/05/2020
Drawn:	Date: 06/05/2020
Checked:	Date: 11/05/2020
Approved	Date: 12/05/2020

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Client :	
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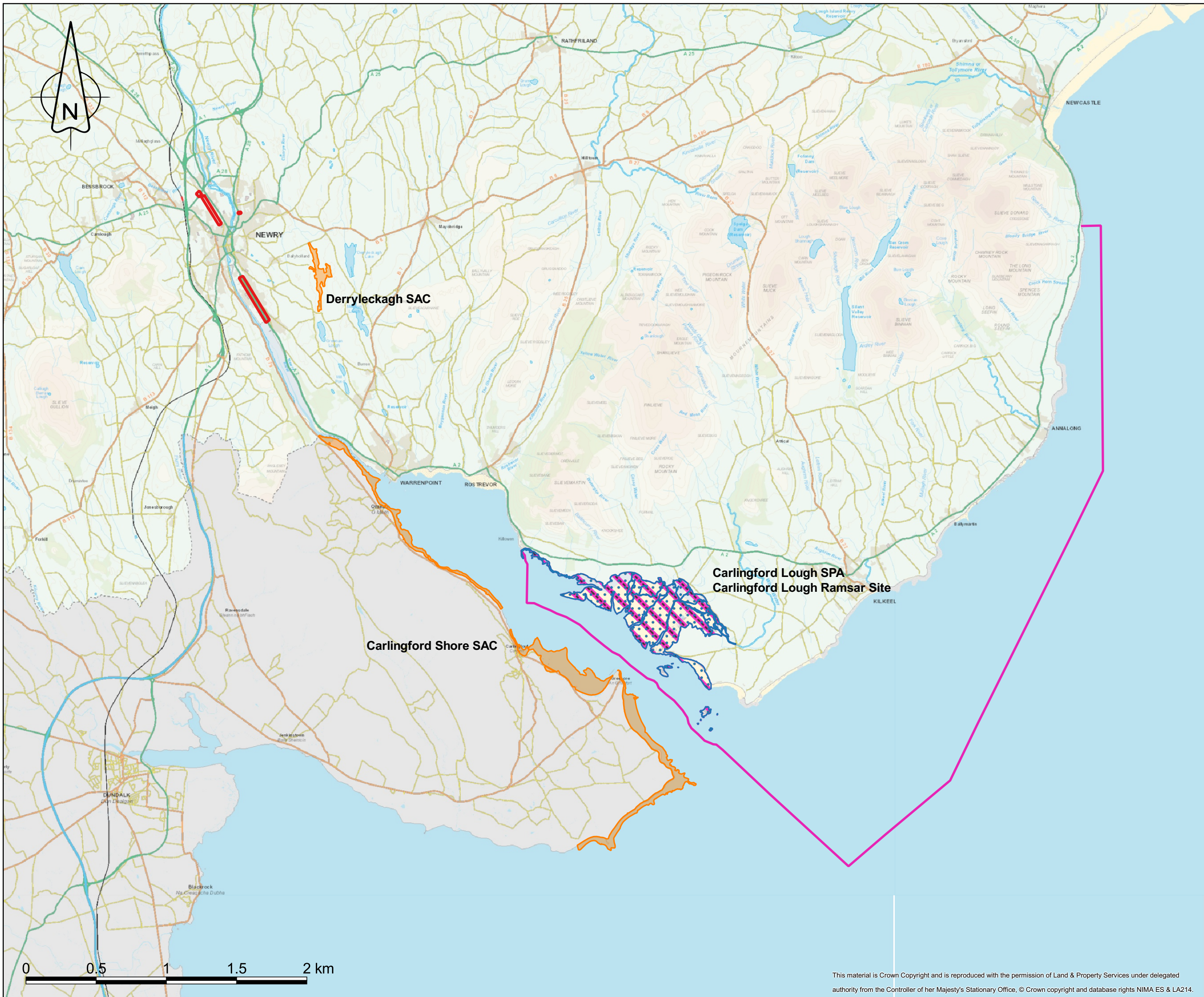
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Drawing Title :	Habitats Regulation Assessment Screening Scheme Location

Original Drg Size : A3	Scale : 1:25,000
Dimensions :	Page : 1 of 1

Drawing Status :	Suitability
Suitable for Stage Approval	S4

Figure No :	Figure 1
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Legend

- Site Extents
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Ramsar Site
- Proposed boundary extension to Carlingford Lough SPA

Rev	Revision Details	Drwn	Chkd	Appd	Date

Designed:	Date: 05/05/2020
Drawn:	Date: 05/05/2020
Checked:	Date: 11/05/2020
Approved:	Date: 12/05/2020

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Client : 
www.infrastructure-ni.gov.uk

Project Name :

Newry Stage 1 Flood Alleviation Scheme

Drawing Title :

Habitats Regulations Assessment Screening Designated Sites

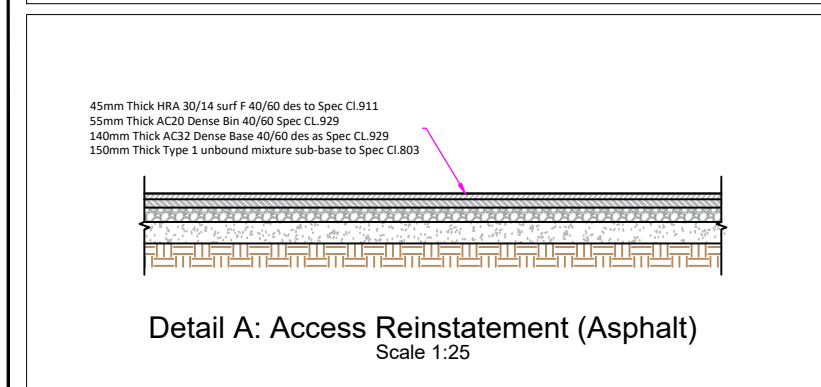
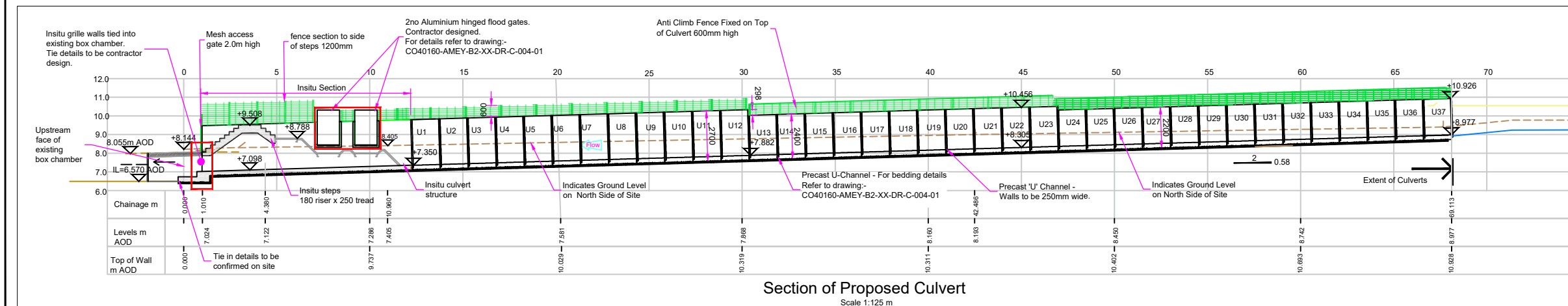
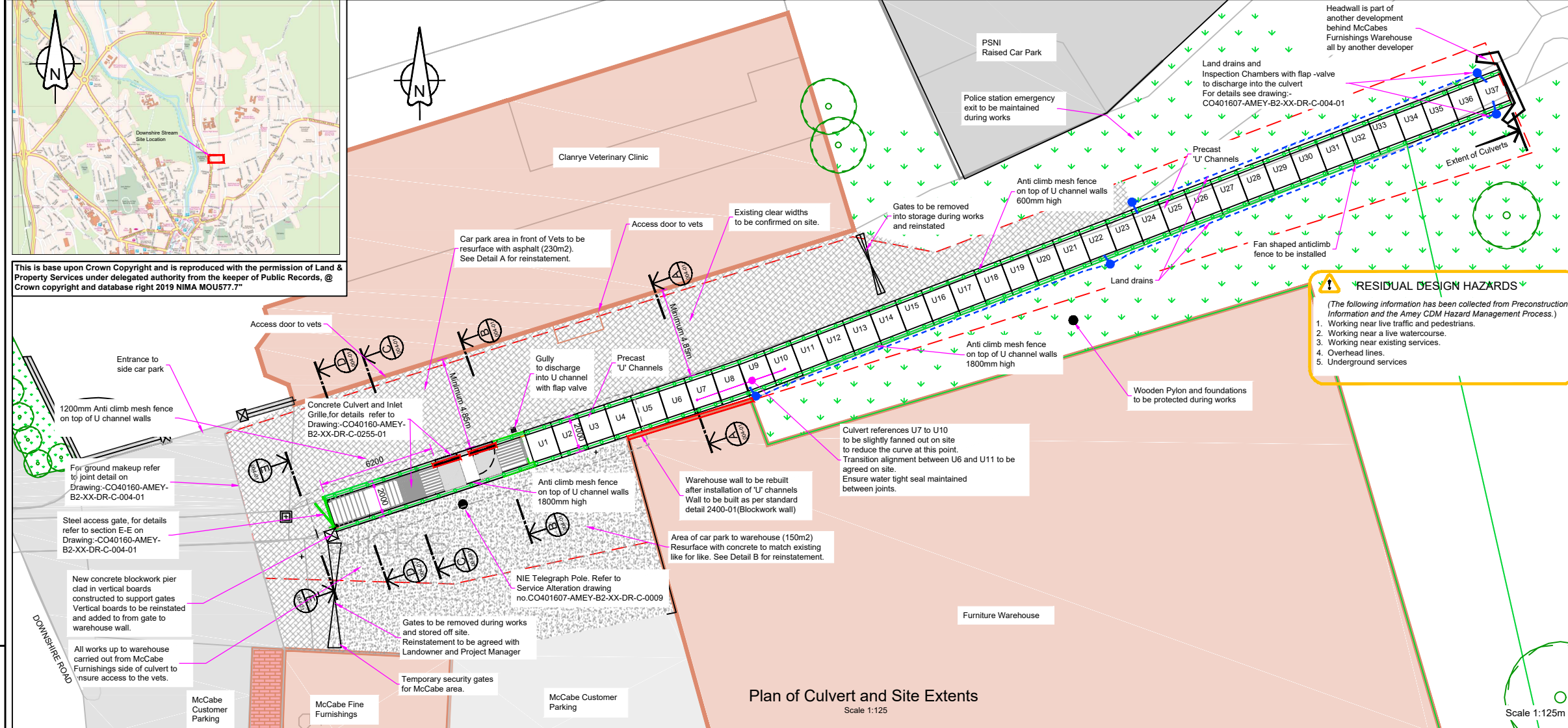
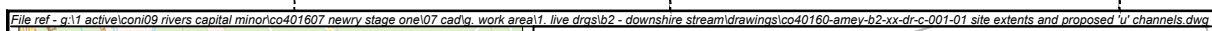
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Dimensions :	Page : 1 of 1

Drawing Status :
Suitable for Stage Approval

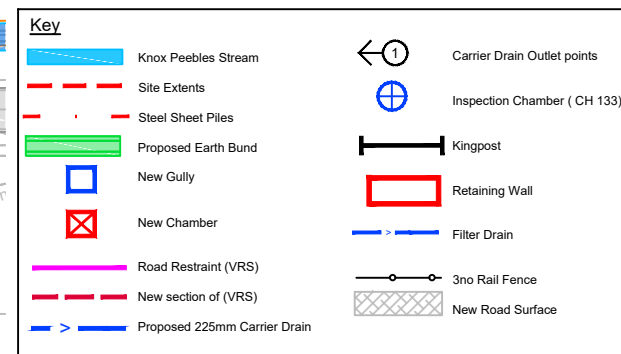
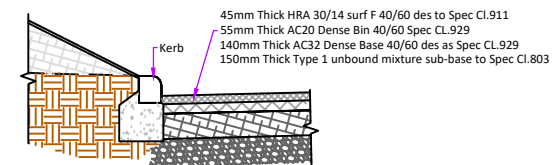
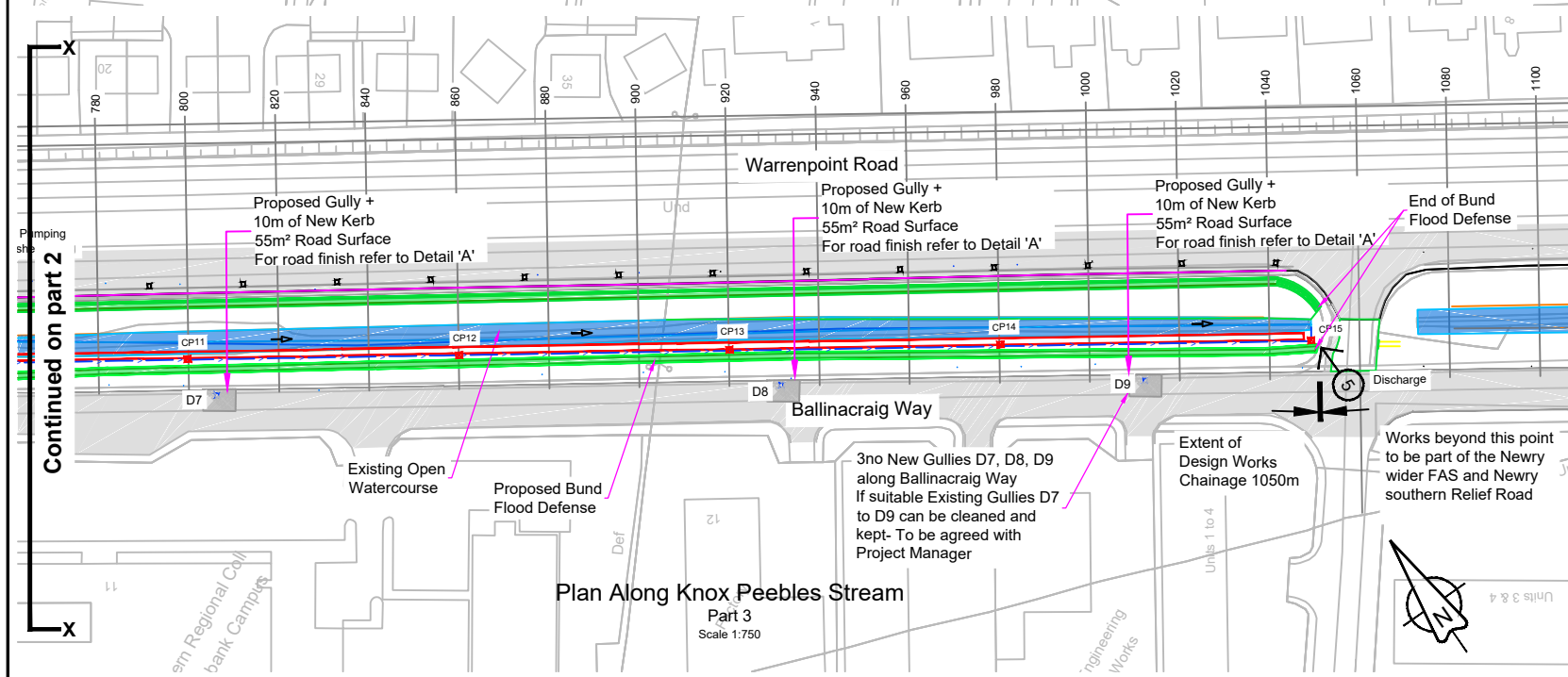
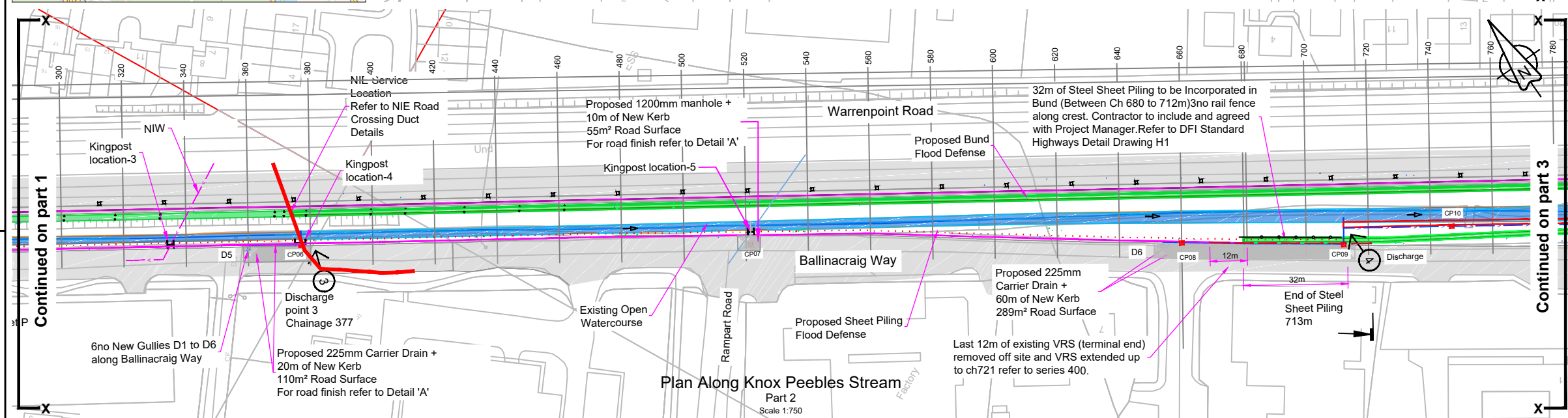
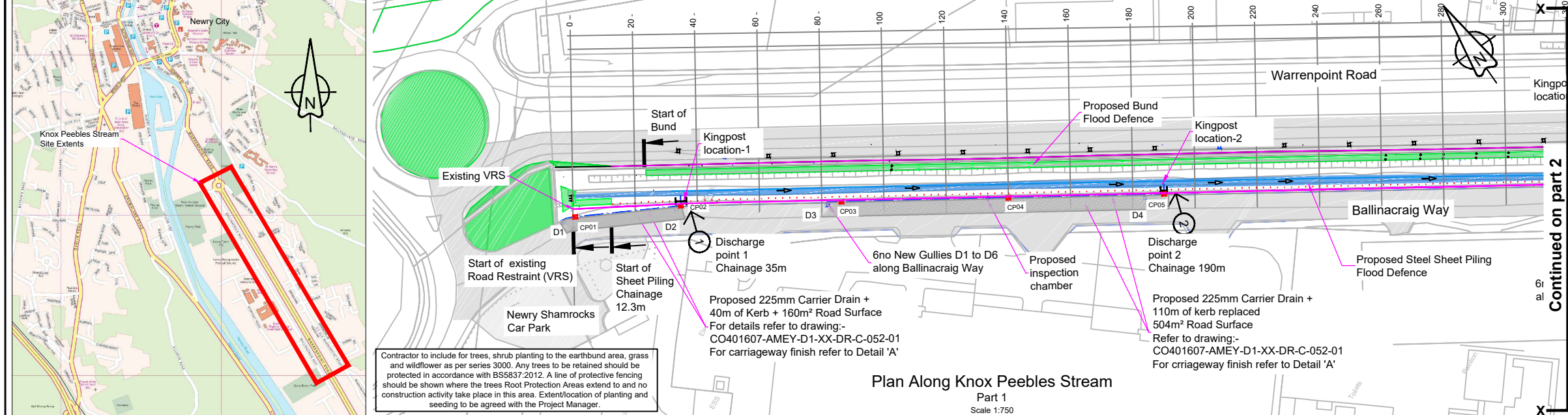
Suitability
S4

Figure No :
Figure 2

Appendix A: Scheme proposals



File ref - g:\11 active\con09 rivers capital minor\co401607 newry stage one\07 cad\g work area\1 live dros\01 knox peebles stream\drawings\co401607-amey-d1-xx-dr-c-001-01 site extents and general arrangement.dwg



- RESIDUAL DESIGN HAZARDS**
(The following information has been collected from Preconstruction Information and the Amey CDM Hazard Management Process.)
- Working near live traffic and pedestrians.
 - Working near a live watercourse.
 - Working near existing services.

- General Notes**
- The specification for the works is the specification for highway works published in volume 1 of the manual contract document for highway works (MCHW).
 - Setting out to be agreed on site with the contract administrator.
 - The Contractor may not encroach beyond the limits of the working area without the prior written approval of the landowner and the Project Manager.
 - It is the Contractor's responsibility for managing risk of the flooding during construction phase.
 - It will be the Contractor's responsibility to ensure that the spilling of sediment or other pollutants to the watercourse does not occur.
 - For details of the residual design hazards see pre-construction information.
 - This drawing should be read in conjunction with the following drawings:
 - CO401607-AMEY-D1-XX-DR-C-001-01 Site Extents + Proposals
 - CO401607-AMEY-D1-XX-DR-C-020-01 Site Clearance
 - CO401607-AMEY-D1-XX-DR-C-052-01 Drainage Details
 - CO401607-AMEY-D1-XX-DR-C-061 series Proposed Sections
 - CO401607-AMEY-D1-XX-DR-C-062 series Earthworks
 - CO401607-AMEY-D1-XX-DR-C-170 series Capping Beam R.C Details
 - CO401607-AMEY-D1-XX-DR-C-160 series Sheet Piling
 - CO401607-AMEY-D1-XX-DR-C-270-01 Proposed Service Alterations
 - Details are shown thus:
 - Drawing number
 - Blank if shown on this drawing
 - All proprietary products shall be installed in accordance with the manufacturer's recommendations.
 - All residential/private access routes to be maintained at all times, site specific requirements are in PCIP.
 - The Contractor is to reinstate all road markings, kerb lines, road studs, and any other existing road infrastructure as per existing.
 - Existing outfalls to the existing watercourse should be captured and discharged into the proposed culvert. At the outlet an appropriate flap valve should be fitted.
 - The Contractor is responsible for all traffic management.
 - Contractor is responsible for locating all services prior to commencement of works. The Contractor shall include in his price for undertaking sufficient trial holes to confirm the locations of all apparatus prior to undertaking any works. Where services are impacted by the works, the Contractor shall be responsible for the temporary support of these as required, all temporary supports shall be agreed with the service provider. Prior to commencement of any excavations the contractor shall provide, in accordance with his quality procedure, a permit to dig and trial pit drawings.
 - The Contractor will be responsible for site security. In accordance with Clause 302.1 and 303.1 (series 300) Temporary fencing will be provided to all properties where fencing / hedges / walls have been removed to provide the works. Contractor to allow for removal and reinstatement of all fencing / hedges / walls that they require to facilitate the works. No fencing / hedges / walls should be removed until agreed with the property owner.
 - The normal site hours are limited to between 0800-1800 Monday to Friday. If the Contractor wishes to work outside these hours he shall write to the Project Manager seeking his approval at least two weeks in advance.
 - Roads and footpaths to be kept clear of mud and debris.
 - Under no circumstances should any tracked excavator or any other tracked plant travel on a public road.
 - The Contractor must ensure protection to public roads, any damage must be re-instated as per existing at the Contractor's expense.
 - Any necessary trimming or felling of trees must be carried out by a specialist contractor (to the approval of the Project Manager) to be 3998:2010 in accordance with clause 3.10 of the specification.
 - The Contractor shall reinstate the site to a condition agreed with the riparian owner.
 - Temporary access roads to be removed on completion of the works and reinstated to original condition.
 - Contractor to liaise and agree methodologies with Project Manager and landowner before works commence.

Rev	Revision details	Drwn	Chkd	Appd	Date
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Designed:		Date:	02-09-2019
Drawn:		Date:	March 2020
Checked:		Date:	Oct 2020
Approved:		Date:	Oct 2020

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Client
Department For Infrastructure
Rivers HQ
49 Tullywigan Road
Loughry, Cookstown BT80 8SG

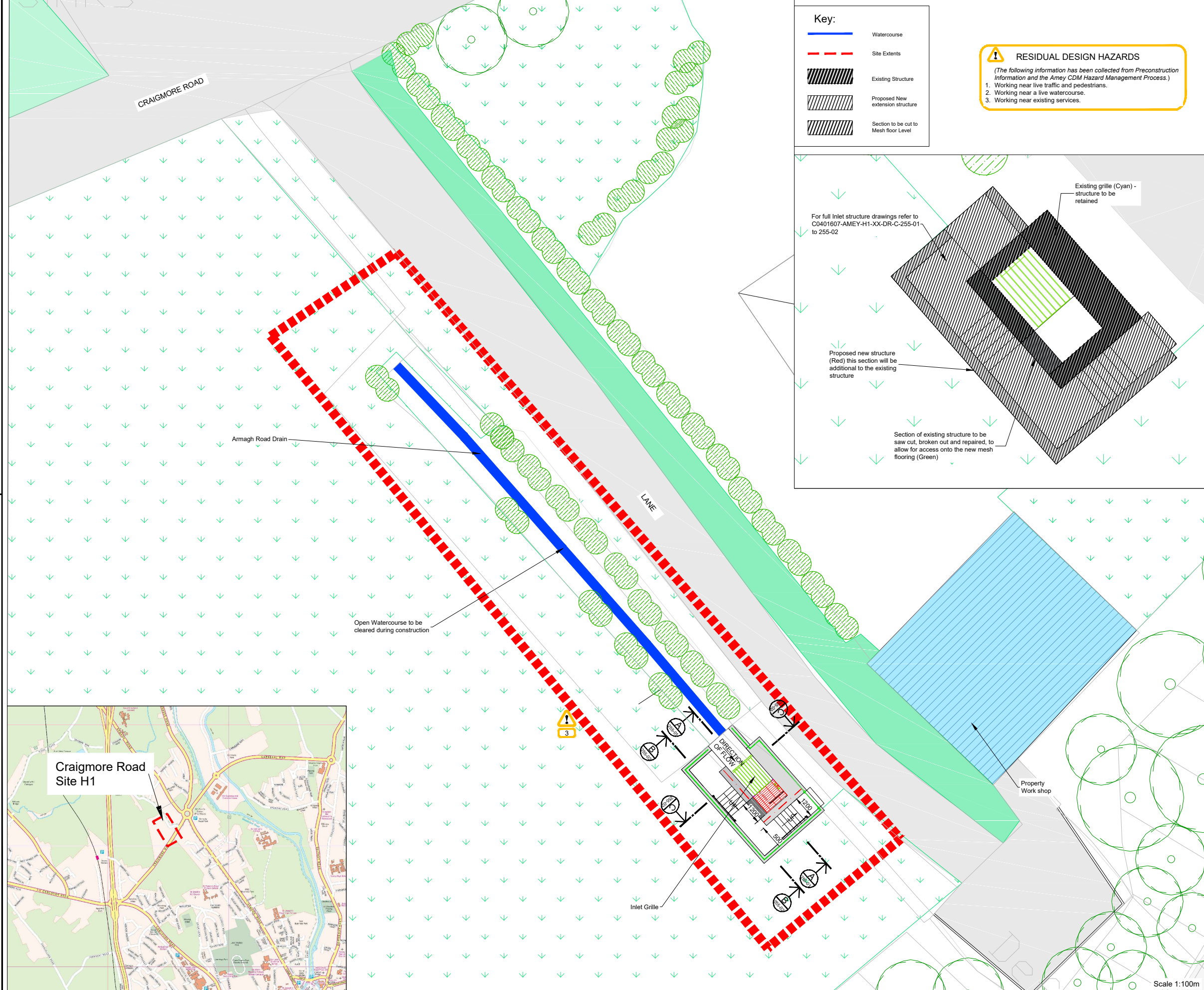
Project Name
Newry River and Tributaries FAS - Stage 1

Drawing Title
Site D1 - Knox Peebles Stream Site Extents and General Arrangement

Original Drawing Size : A1	Scale : As Shown
Dimensions : m	

Drawing Status Suitable For Tender	Suitability D2
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Drawing No CO401607-AMEY-D1-XX-DR-C-001-01	Rev P01
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General Notes

- The specification for the works is the specification for highway works published in volume 1 of the Manual Contract document for Highway Works (MCHW).
- Setting out to be agreed on site with the Project Manager.
- The Contractor may not encroach beyond the limits of the working area without the prior written approval of the landowner and the Project Manager.
- It is the contractors responsibility for managing risk of the flooding during construction phase.
- It will be the Contractor's responsibility to ensure that the spilling of sediment or other pollutants to the watercourse does not occur.
- For details of the residual design hazards see pre-construction information.
- This drawing should be read in conjunction with the following drawings:
 - CO401607 - AMEY-H1 -XX-DR-C- 001-01 Site extents
 - CO401607 - AMEY-H1 -XX-DR-C- 255-01 Inlet Grille Details
 - CO401607 - AMEY-H1 -XX-DR-C- 255-02 Inlet Grille Details
 - CO401607 - AMEY-H1 -XX-DR-C- 061-01 Existing Cross Sections
 - CO401607 - AMEY-H1 -XX-DR-C- 170-01 Reinforcement Details
 - CO401607 - AMEY-H1 -XX-DR-C- 170-02 Reinforcement Details
- Details are shown thus:
 - Reference Detail Drawing number - Blank if shown on this drawing
- All proprietary products shall be installed in accordance with the manufacturer's recommendations.
- The level of the existing culvert as indicated is based on available survey information. Level to be confirmed by contractor onsite prior to commencement of works.
- All residential/private access routes to be maintained at all times, site specific requirements are in Pre-Construction Information Pack.
- The Contractor is to reinstate all road markings, kerb lines, road studs, and any other existing road infrastructure as per existing.
- Existing outfalls to the existing watercourse should be captured and discharged into the proposed culvert. At the outlet an appropriate flap valve should be fitted.
- The Contractor is responsible for all traffic management.
- Contractor is responsible for locating all services prior to commencement of works. The Contractor shall include in his price for undertaking sufficient trial holes to confirm the locations of all apparatus prior to undertaking any works. Where services are impacted by the works, the Contractor shall be responsible for the temporary support of these as required, all temporary supports shall be agreed with the service provider. Prior to commencement of any excavations the contractor shall provide, in accordance with his quality procedure, a permit to dig and trial pit drawings.
- The Contractor will be responsible for site security. In accordance with Clause 302.1 and 303.1 (series 300) Temporary fencing will be provided to all properties where fencing / hedges / walls have been removed to provide the works. Contractor to allow for removal and reinstatement of all fencing / hedges / walls that they require to facilitate the works. No fencing / hedges / walls should be removed until agreed with the property owner.
- Roads and footpaths to be kept clear of mud and debris.
- Under no circumstances should any tracked excavator or any other tracked plant travel on a public road.
- The Contractor must ensure protection to public roads, any damage must be re-instated as per existing at the Contractor's expense.
- Any necessary trimming or felling of trees must be carried out by a specialist contractor (to the approval of the project manager) to be 3998:2010 in accordance with clause 3.10 of the specification.
- The Contractor shall reinstate the site to a condition agreed with the riparian owner.
- Temporary access roads to be removed on completion of the works and reinstated to original condition.
- Contractor to liaise and agree methodologies with Project Manager and landowner before works commence.

Rev	Revision details	Drwn	Chkd	Appd	Date
Designed:					Date: Mar 2020
Drawn:					Date: Mar 2020
Checked:					Date: Mar 2020
Approved:					Date: Oct 2020



Client
Department For Infrastructure
Rivers HQ
49 Tullywiggan Road, Loughry
Cookstown BT80 8SG

Project Name
Newry River and Tributaries FAS - Stage 1

Drawing Title
**Site H1 - Craigmores Road
General Layout □ Extents**

Original Drawing Size : A1
Dimensions : -

Scale : 1:100 / 50

Drawing Status
Suitable For Tender

Drawing No
CO401607-AMEY-H1-XX-DR-C-001-01

Suitability
D2

Rev
P01

Key

- Works Envelope
- Proposed Ø1350mm Culvert upgrade
- Proposed Manholes
- Fence

Grass
Direction of flow

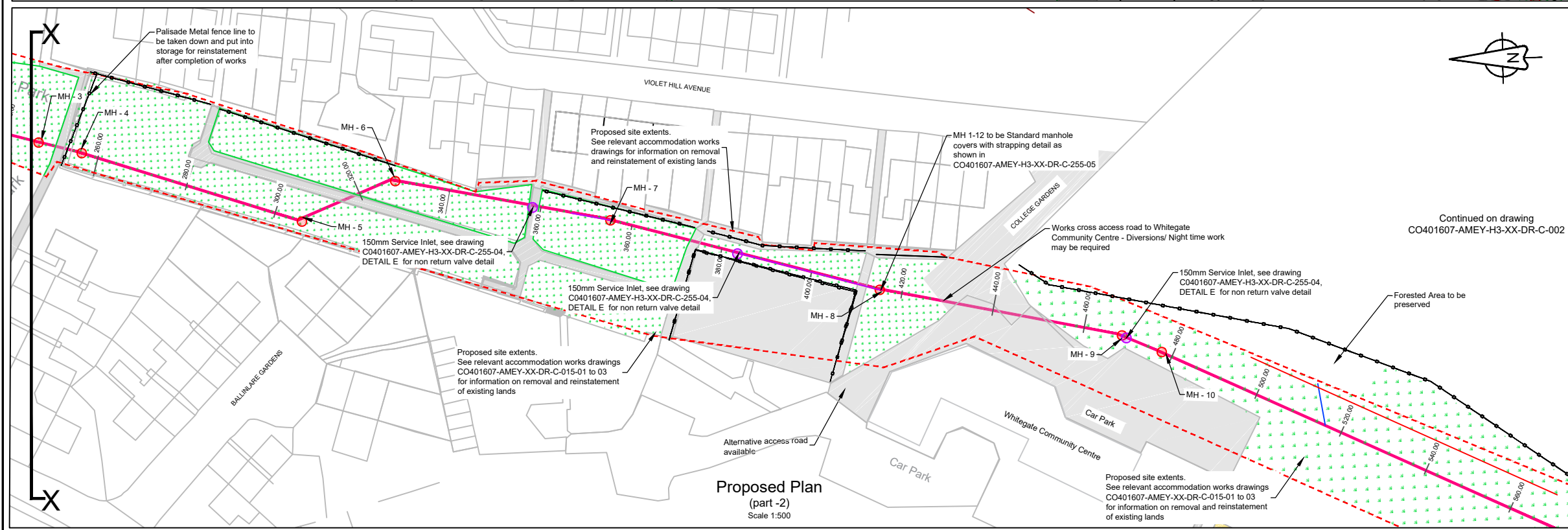
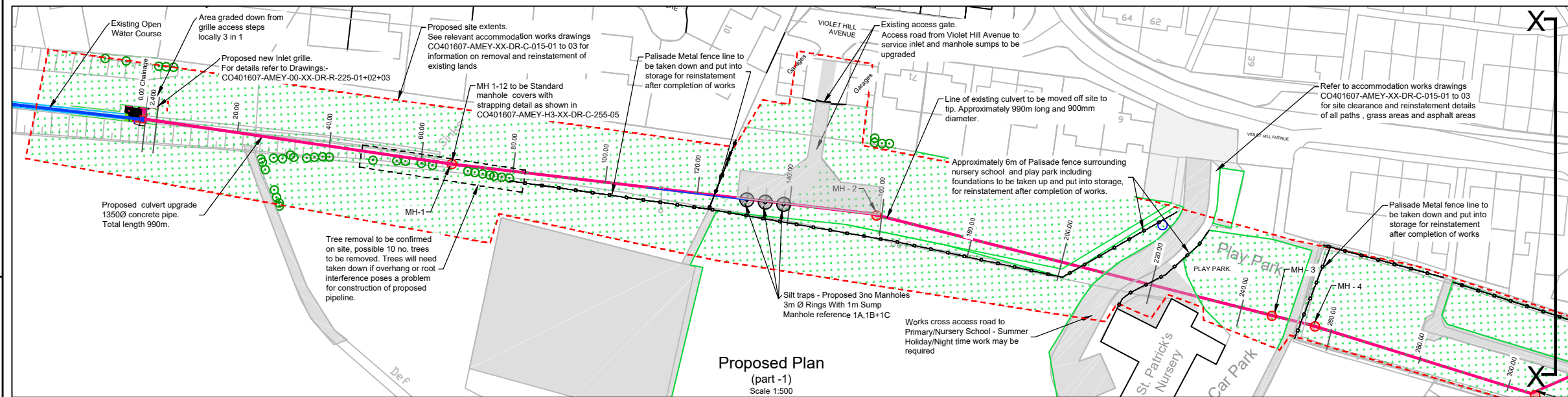
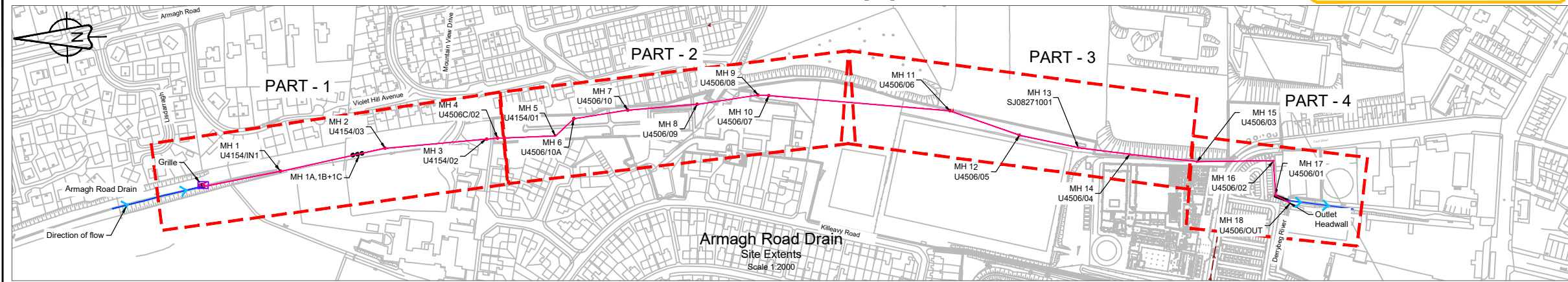
RESIDUAL DESIGN HAZARDS

(The following information has been collected from Preconstruction Information and the Arney CDM Hazard Management Process.)

- Working near live traffic and pedestrians.
- Working near a live watercourse.
- Working near existing services.

General Notes

- The specification for the works is the specification for highway works published in volume 1 of the manual contract document for highway works (mchw).
- Setting out to be agreed on site with the Contract Administrator.
- The Contractor may not encroach beyond the limits of the working area without the prior written approval of the landowner and the project manager.
- It is the Contractors responsibility for managing risk of the flooding during construction phase.
- It will be the Contractors responsibility to ensure that the spilling of sediment or other pollutants to the watercourse does not occur.
- For details of the residual design hazards see pre-construction information.
- This drawing should be read in conjunction with the following drawings:
 - CO401607-AMEY-H3-XX-DR-C-001 Series: Proposed Culvert Layout Details
 - CO401607-AMEY-H3-XX-DR-C-015 Series: Accommodation Works Details
 - CO401607-AMEY-H3-XX-DR-C-051 Series: Long Section Proposals
 - CO401607-AMEY-H3-XX-DR-C-052-01: Sealed Manhole Details
 - CO401607-AMEY-H3-XX-DR-C-060 Series: Anticipated Dig and Replace
 - CO401607-AMEY-H3-XX-DR-C-255 Series: Inlet Grille and Drainage Setings
 - CO401607-AMEY-H3-XX-DR-C-270-01: Proposed Service Alterations
- Details are shown thus -
 - Reference Detail
 - Drawing number
 - Blank if shown on this drawing
- All proprietary products shall be installed in accordance with the manufacturer's recommendations.
- The level of the existing culvert as indicated is based on available survey information. Level to be confirmed by contractor onsite prior to commencement of works.
- All residential/private access routes to be maintained at all times, site specific requirements are in PCIP.
- The contractor is to reinstate all road markings, kerb lines, road studs, and any other existing road infrastructure as per existing.
- Existing outfalls to the existing watercourse should be captured and discharged into the proposed culvert. At the outlet an appropriate non return valve should be fitted 50m refer to Non-Return Valve detail.
- The Contractor is responsible for all traffic management.
- Contractor is responsible for locating all services prior to commencement of works. The Contractor shall include in his price for undertaking sufficient trial holes to confirm the locations of all apparatus prior to undertaking any works. Where services are impacted by the works, the Contractor shall be responsible for the temporary support of these as required, all temporary supports shall be agreed with the service provider. Prior to commencement of any excavations the Contractor shall provide, in accordance with his quality procedure, a permit to dig and trial pit drawings. Refer to all existing service drawings as issued in site information pack.
- The Contractor will be responsible for site security. In accordance with Clause 302.1 and 303.1 (series 300) Temporary fencing will be provided to all properties where fencing / hedges / walls have been removed to provide the works. Contractor to allow for removal and reinstatement of all fencing / hedges / walls that they require to facilitate the works. No fencing / hedges / walls should be removed until agreed with the property owner.
- The normal site hours are limited to between 0800-1800 Monday to Friday. If the Contractor wishes to work outside these hours he shall write to the project manager seeking his approval at least two weeks in advance.
- Roads and footpaths to be kept clear of mud and debris.
- Under no circumstances should any tracked excavator or any other tracked plant travel on a public road.
- The Contractor must ensure protection to public roads, any damage must be re-instated as per existing at the contractors expense.
- Any necessary trimming or felling of trees must be carried out by a specialist contractor (to the approval of the project manager) to bs 3998:2010 in accordance with clause 3.10 of the specification.
- The Contractor shall reinstate the site to a condition agreed with the riparian owner.
- Temporary access roads to be removed on completion of the works and reinstated to original condition.
- Contractor to liaise and agree methodologies with PM and landowner before works commence.
- Refer to Specification for Highway Works, Series 600, Appendix 1/5 for details in relation to formation material, including details of validation testing requirements.
- All grass areas to be reinstated with 150mm topsoil and seeding



Rev	Revision details	Drwn	Chkd	Appd	Date
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Designed:	March 2020
Drawn:	March 2020
Checked:	July 2020
Approved:	Oct 2020



Client
Department For Infrastructure
Rivers HQ
49 Tullywiggan Road, Loughry
Cookstown BT80 8SG

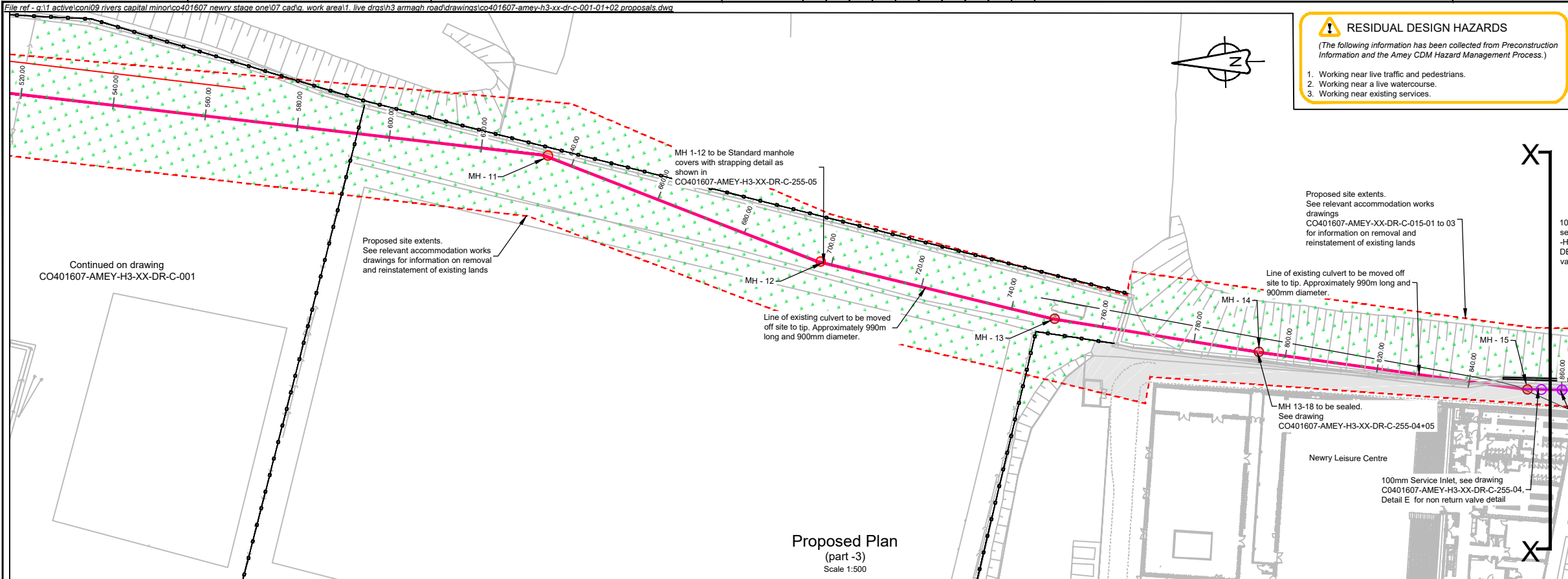
Project Name
Newry River and Tributaries FAS- Stage 1

Drawing Title
**Site H3 Armagh Road Drain
Proposed Culvert Layout
Details 1 of 2**

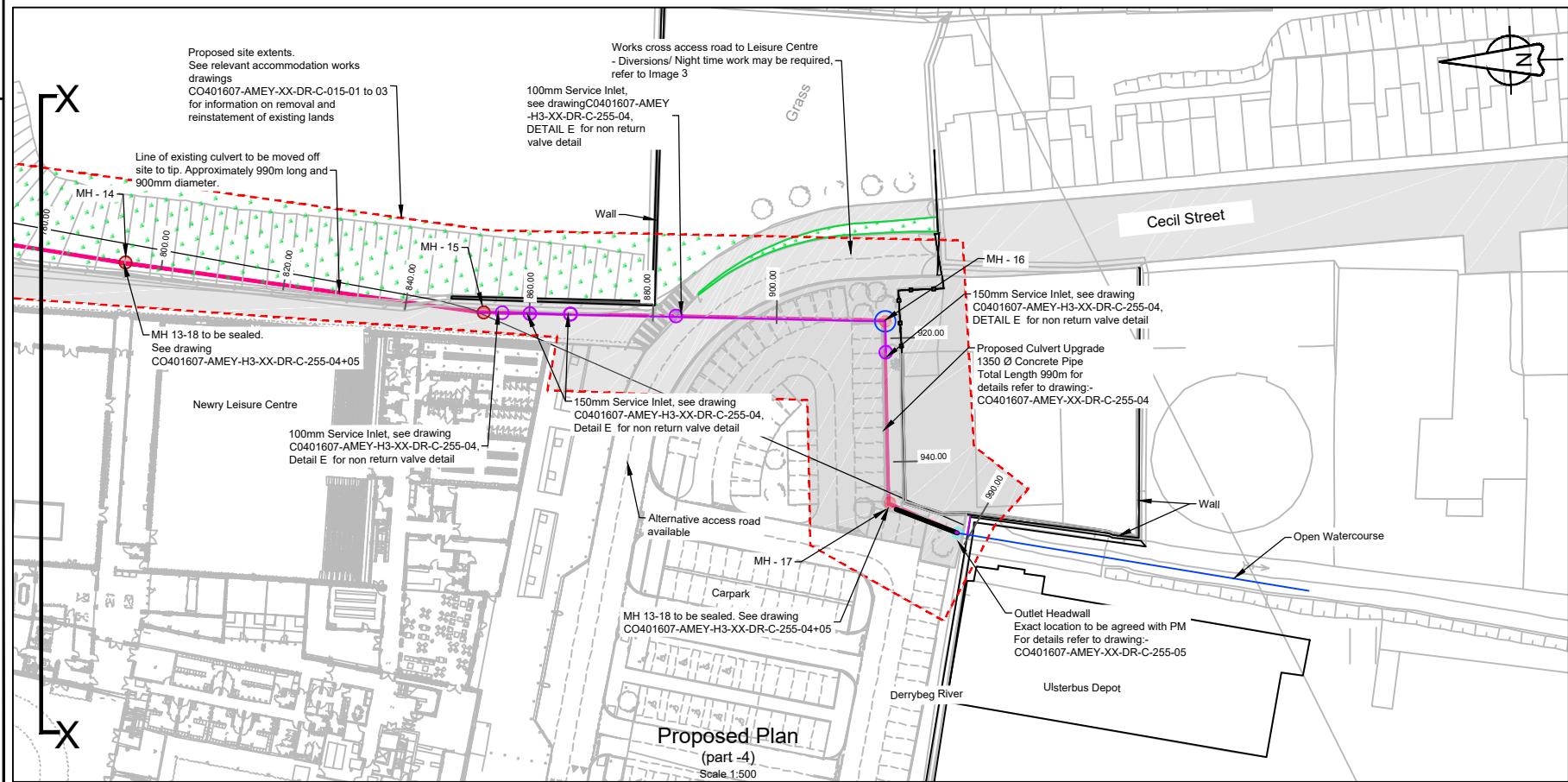
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Dimensions : m	
Drawing Status Suitable For Tender	Suitability D2
Drawing No CO401607-AMEY-H3-XX-DR-C-001-01	Rev P01

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0 100



Proposed Plan
(part -3)
Scale 1:500



Proposed Plan
(part -4)
Scale 1:500

RESIDUAL DESIGN HAZARDS

(The following information has been collected from Preconstruction Information and the Amey CDM Hazard Management Process.)

- Working near live traffic and pedestrians.
- Working near a live watercourse.
- Working near existing services.

Proposed site extents.
See relevant accommodation works drawings
CO401607-AMEY-XX-DR-C-015-01 to 03
for information on removal and reinstatement of existing lands

Line of existing culvert to be moved off site to tip. Approximately 990m long and 900mm diameter.

MH 13-18 to be sealed.
See drawing
CO401607-AMEY-H3-XX-DR-C-255-04+05

100mm Service Inlet, see drawing
CO401607-AMEY-H3-XX-DR-C-255-04,
Detail E for non return valve detail

Key

- Works Envelope
- Proposed Ø1350mm Culvert upgrade
- Proposed Manholes
- Post and wire fence
- Proposed Headwall
- Grass
- Service Inlet

General Notes

- The specification for the works is the specification for highway works published in Volume 1 of the manual contract document for highway works (mchw).
- Setting out to be agreed on site with the Contract Administrator.
- The Contractor may not encroach beyond the limits of the working area without the prior written approval of the landowner and the project manager.
- It is the Contractor's responsibility for managing risk of the flooding during construction phase.
- It will be the Contractor's responsibility to ensure that the spilling of sediment or other pollutants to the watercourse does not occur.
- For details of the residual design hazards see pre-construction information.
- This drawing should be read in conjunction with the following drawings:
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 - CO401607-AMEY-H3-XX-DR-C-052-01: Sealed Manhole Details
 - CO401607-AMEY-H3-XX-DR-C-060 Series: Anticipated Dig and Replace
 - CO401607-AMEY-H3-XX-DR-C-255 Series: Inlet Grille and Drainage Sections
 - CO401607-AMEY-H3-XX-DR-C-270-01: Proposed Service Alterations
- Details are shown thus-
 - Reference Detail: Drawing number shown on this drawing
 - Blank: Blank shown on this drawing
- All proprietary products shall be installed in accordance with the manufacturer's recommendations.
- The level of the existing culvert as indicated is based on available survey information. Level to be confirmed by contractor onsite prior to commencement of works.
- All residential/private access routes to be maintained at all times, site specific requirements are in PCIP.
- The Contractor is to reinstate all road markings, kerb lines, road studs, and any other existing road infrastructure as per existing.
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- The Contractor will be responsible for site security. In accordance with Clause 302.1 and 303.1 (series 300) Temporary fencing will be provided to all properties where fencing / hedges / walls have been removed to provide the works. Contractor to allow for removal and reinstatement of all fencing / hedges / walls that they require to facilitate the works. No fencing / hedges / walls should be removed until agreed with the property owner.
- The normal site hours are limited to between 0800-1800 Monday to Friday. If the Contractor wishes to work outside these hours he shall write to the Project Manager seeking his approval at least two weeks in advance.
- Roads and footpaths to be kept clear of mud and debris.
- Under no circumstances should any tracked excavator or any other tracked plant travel on a public road.
- The Contractor must ensure protection to public roads, any damage must be re-instated as per existing at the contractors expense.
- Any necessary trimming or felling of trees must be carried out by a specialist contractor (to the approval of the project manager) to bs 3998:2010 in accordance with clause 3.10 of the specification.
- The Contractor shall reinstate the site to a condition agreed with the riparian owner.
- Temporary access roads to be removed on completion of the works and reinstated to original condition.
- Contractor to liaise and agree methodologies with PM and landowner before works commence.
- Refer to Specification for Highway Works, Series 600, Appendix 1/5 for details in relation to formation material, including details of validation testing requirements.
- All grass areas to be reinstated with 150mm topsoil and seeding

Rev	Revision details	Drwn	Chkd	Appd	Date
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Designed:		Date:	March 2020
Drawn:		Date:	March 2020
Checked:		Date:	July 2020
Approved:		Date:	Oct 2020

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Client
Department For Infrastructure
Rivers HQ
49 Tullywiggan Road
Loughry, Cookstown BT80 8SG

Project Name
**Newry River and Tributaries FAS-
Stage 1**

Drawing Title
**H3 Site -Armagh Road
Proposed Culvert Layout
2 of 2**

Original Drawing Size : A1	Scale : 1:200 /50/20
Dimensions : m	

Drawing Status Suitable For Tender	Suitability D2
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Drawing No CO401607-AMEY-H3-XX-DR-C-001-02	Rev P01
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ARBORICULTURAL IMPACT STATEMENT

FOR

FLOOD ALLEVIATION WORKS AT KNOX PEBBLES STREAM, NEWRY

MAY 2022

COMMISSIONED BY

RSK

[REDACTED]



ARBORICULTURAL IMPACT STATEMENT

On trees growing in the grounds of
Flood Alleviation Knox Peebles Stream, Newry

For

RSK

Terms of reference

This statement was commissioned to identify the likely, foreseeable impacts of the proposed re-development of the above site on existing trees.

Proposed site plan referred to in this impact statement

Newry Flood Alleviation Scheme Stage 1. Site D1 – Knox Peebles Stream
Site Extents and General Arrangements

Produced by

AMEY Consulting

Details available

Site Plan indicating position and Tree Protection Zones of existing trees, as well as the footprints of the existing and proposed buildings. No details on underground services, proposed level changes, elevations or the positions of proposed windows were available.

Statement produced on

10th May 2022

Impact Statement carried out and report compiled by

██
Telephone ██████████, Fax ██████████, Mobile ██████████,
Email ██████████.

ARBORICULTURAL IMPACT STATEMENT FOR THE PROPOSED RE-
DEVELOPMENT OF LANDS AT KNOX PEEBLES STREAM, NEWRY
JUNE 2011

Knox Peebles Stream is a minor, canalised waterway that separates the Greenbank Industrial Estate from the A2 Warrenpoint Road. It has a wooded eastern bank and still retains a few scattered mature trees on its western bank. Most of these mature trees are now about one hundred and sixty years old and seem to form part of the landscaping of an old railway line that once occupied these lands. It is understood that, as part of the preparations for coastal flooding, a flood alleviation barrier is being constructed along the western bank of this stream. It is further understood that these works will include the construction of a stone retaining wall along the existing stream bank and a mix of driven sheet piles and an earthen bank, constructed close to the kerb on Ballinacraig Way.

Trees 3, 4, 8, 13, 18, 21, 24, 25 & 27 should be removed to ensure site safety, regardless of any proposed construction works. Given the extent of the works being considered, none of the remaining trees growing on the eastern bank of the stream can be retained. If, upon consideration, it is deemed appropriate to replace these trees and to maintain a link to the earlier landscaping of these lands, a single row of extra heavy oak trees may be planted about 2.0m from the crest of the earthen bund. To match the traditional pattern of such lines of trees in rural Ireland, these should be planted 10m (half a Chain or 11 yards) apart, in a neat, straight line.

[REDACTED]

HEALTH AND SAFETY

Working with trees is a hazardous occupation. It is important that competent tree surgery contractors are employed to carry out tree works. These contractors should carry all relevant insurance cover and should comply with the recommendations outlined below.

Notwithstanding the following recommendations, all tree surgeons and accompanying staff should comply with all the requirements contained in the Health and Safety at Work (NI) Order 1978 and all subsequent legislation made thereunder.

Staff qualifications, experience and training

Only skilled operatives should be employed for tree work identified as appropriate in the attached tree condition report sheets. These skilled operatives should have a proven expertise and experience in the areas of work specified and should hold all relevant certificates of competence.

Operatives using chain saws to fell trees must have National Proficiency Test Council certificate of competence Units CS 30, 31*, 32*, 33* (* whichever is appropriate for the size of tree being felled) if they are working from the ground and, in addition, Units CS 38, 39, 40 & 41 if they are climbing.

All operatives undertaking work near underground or over-head electric cables must have attended a Northern Ireland Electricity Safety Awareness course. They must comply with the guidelines laid down in AFAG Safety Guide 804: Electricity at work; Forestry and Arboriculture. Where there is a risk of a climber, equipment or parts of a tree touching or coming close to overhead cables, the advice of Northern Ireland Electricity must be sought, and adhered to, before work commences.

Work wear

All operatives should wear the appropriate safety clothing for the task being performed as specified in the relevant safety codes. Where operatives are employed on tree work near public roads, or when the available lighting is poor, they should wear high visibility 'florescent' jackets or waistcoats

Tools and Equipment

Tree surgeons should use such tools and equipment deemed suitable to complete the specified task. All bladed tools should be sharp and in a serviceable condition. All plant and machinery operated by the tree surgeon should be tested and certified to comply with all current legislation. All vehicles should be taxed and roadworthy. Machinery and vehicles should carry operational fire extinguishing equipment to the standards required by insurers.

All machinery should be used in accordance with the manufacturers' instructions. These machines should carry warning notices as specified by the relevant AFAG safety guide.

Climbing equipment for tree work is subject to the Provision and Use of Work equipment regulations (NI) 1998 (PUWER), the Lifting Operations and Lifting Equipment Regulations (NI) 1998 (LOLER) and is also subject to the Personal Protective Equipment at Work regulations (NI) 1992 (PPE Regs). Operatives using climbing equipment should be familiar with, and comply with, these and all other relevant regulations.

First aid

All chain saw operatives should have a current First Aid Certificate. No chain saw operative should be left working on site without an additional first aider present. These operatives should be familiar with AFAG Safety Guide 802: Emergency Planning and First Aid.

All operatives should have immediate access to a first aid kit conforming to SI 1981 No 917 and FSC 34, and, in addition, carry a personal first aid kit which includes a large sterile wound dressing.

Site organisation

Tree surgeons should ensure that a team of at least three people carry out all tree climbing, pruning and tree felling operations. When undertaking tree climbing work, one of the grounds staff must be competent to perform aerial rescue and be conversant with AFAG Safety Guide 401: Aerial Tree Rescue. In addition, one of the ground staff must be made responsible for ensuring that there is no trespass into the working zone when tree pruning, or felling operations are taking place. Adequate staff should be available during tree work operations to ensure that no un-authorised persons or livestock enter the working area.

Tree surgeons should provide and constantly maintain all necessary warning and direction notices, cones and barriers when carrying out tree works that are adjacent to a road or footpath used by the public. These should conform to the recommendations and directions given in;

- Chapter 8 of the Traffic Signs Manual 1993, published by DRD
- Section 174 of the NI orders of the Highways Act
- Section 65 & 142 of the New Roads and Street Works Act
- Safety at Street Works and Road Works code of practice 1993
- Any other relevant legislation

Where tree works are to be carried out over or adjacent to, public roads, the contractor should arrange the work to avoid traffic congestion and public inconvenience. They should make arrangements with the Police Service of Northern Ireland and the Department for Regional Development Roads Service as may be found necessary.

Where tree works are to be carried out over, or adjacent to, railway lines, the contractor shall liaise with Translink, informing them of the tree works to be carried out and complying with any requests made by Translink or its agents in relation to timing of operations, safety, staffing levels and competence or any other reasonable request.

KEY TO SURVEY SHEETS

TITLE	DESCRIPTION
Tag No	The identification number of the tree, as indicated on site by a metal identification tag attached to the tree and defined with the prefixes; 'T' (tree), 'G' (group of trees) ' S ' (shrubs), ' H ' (hedge) and 'W' (area of wood)
Species	The common English name of the tree, as used by Alan Mitchell in 'A field Guide to the trees of Britain and Northern Europe' (Collins, London, 1974)
Height	The height of the tree, given in metres
Stem Diameter	The diameter of the tree trunk, measured at approximately 1.3 metres above ground level and given in centimetres
Crown spread	The radial crown spread of the tree for each of the four cardinal points, given in metres
Crown clearance	The height above ground to the first significance foliage, given in metres
Age	The life-cycle age of the tree, described as Y = young (vigorous growth, non-flowering), YM = young-mature (vigorous growth, some flowering, maturing crown), AM = almost mature (vigorous growth; mature crown), M = mature (slowing growth, full crown, flowering) and OM = over-mature (Little growth, heavy flowering, thinning crown or dieback)
Crown form	A general description of the tree as seen on site, including distinguishing features
Condition	The condition of the tree, as assessed by a visual inspection on site and described as Good (near perfect form and condition), Fair (normal form, sometimes requiring remedial works), Poor (significant weakness or rot, requiring substantial remedial works or felling) Dying (a tree within a year or two of death) and Dead (dead standing tree or stump)
Defect	The presence of weakness, rot or infection within the tree. This supports the recommendations given for appropriate tree works
Obstacle	The presence of a manmade structure that is, in some way, being affected or obstructed by the tree
Action	An outline tree management plan identifying the level and type of tree works that would be appropriate to ensure that the site remains safe and that the tree develops in a safe and satisfactory manner
ULE	The remaining useful life expectancy on the tree, based on age, condition and the likely presence of significant diseases
Priority	An assessment of the priority of recommended tree works, based on the likelihood of tree failure and described as urgent (immediate action is required, often entailing control of access until work is completed), High (work to be completed within the existing budget year; and before expected autumn or winter storms), Medium (work to be included in the next budget year) and routine (non-urgent tree work)
Target	The use made of the land on which the tree would fall, if it suffered a root plate failure, given as High (Road or Building) Medium (path or lawn) and Low unmanaged or farm land)

ARBORICULTURAL TERMS

The following interpretation of the terms used in the attached tree survey report sheets should be adopted when fulfilling their recommendations.

Crown clean

The removal of broken, diseased, dying or dead branches or snags that are either over 50 mm in diameter or are more than 200 mm in length.

Remove ivy

The cutting of ivy stems at their point of entry into the soil, taking care not to damage the tree. All branches, stalks and creepers of both alive and dead ivy should be removed from the crown of the tree.

Trim or remove branch stumps

The cutting of all branch stumps or snags back to just outside the branch collar and branch bark ridge.

Remove swing / tree hut / sign etc.

The removal of structures within the crown or attached to the tree, including nails or other fastenings.

Trim / tidy / remove epicormics

The removal of all soft growth or epicormics growing from the trunk of the tree, up to a height of 2.4 m.

Crown lift to above eye level / over footpath.

The removal of all soft growth, including epicormics and all lateral branches, up to a height of 2.4 m above ground level. When lifting the crown, upright laterals may be retained.

Crown lift over carriage / driveway etc

The removal of all lateral branches and soft growth that are overhanging, or within 1.0 m of, a road or lane, up to a height of 5.1 m.

Trim back from building

The removal of all lateral branches and soft growth growing within 2.0 m from the wall and from within at least 3.0 m from a window and above the roof of a building.

Clear overhead cables

The removal of all branch growth from within, or likely to come within, 1.0 m from overhead telephone cables.

Where overhead electric cables are encountered, the tree surgeon must liaise with engineers from Northern Ireland Electricity and must conform to their recommendations and advice. All staff undertaking work near underground or overhead electric cables should have attended a Northern Ireland Electricity Safety Awareness course and must comply with the guidelines laid down in AFAG Safety Guide 804: Electricity at work; Forestry and Arboriculture.

Reduce / remove competing leaders

The trimming back or removal of all but one dominant, upright stem in a way that creates an apical crown angle of less than 90°. Competing stems should be trimmed well back to a side branch showing strong horizontal growth patterns or should be removed to just above the branch collar and branch bark ridge.

Reduce end weight

The reduction of the crown of a tree by trimming back the branch tips by the described amount. Branch tips should be trimmed back to a suitable lateral twig or branch (in strict accordance with the recommendations contained in BS3998:2010, Tree Work, in a way that maintains the general crown characteristics of the tree and its species. In all cases, no branch, limb or trunk greater than 100mm diameter shall be cut in the process of reducing end weight.

Re-form Crown

The carrying out of such trimming and branch removal as is necessary to create (or recreate) a tree crown architecture capable of supporting additional tree growth and that complies with the normal crown form for that species. In all cases, no branch, limb or trunk greater than 100mm diameter shall be cut in the process of reducing end weight.

Topping, Re-Pollarding, Re-Coppicing

The removal of all growth back to the required height. In most circumstances, it will not be possible to trim back to a suitable lateral branch and, because of this; cuts should be cleanly executed and should produce a sloping surface that will not collect water.

Prune as per Belfast Street Tree

The complete pruning of a tree, which is a combination of crown reduction, crown lifting and crown thinning in a way that preserves the characteristics of the tree and its species. All growth removed during pruning must be taken back to an appropriately sized lateral branch, twin or bud to leave an acceptable crown form. In all cases, no branch, limb or trunk greater than 100mm diameter shall be cut in the process of reducing end weight.

Retrenchment Pruning

The phased reduction of the crown of veteran and old pollarded trees, removing or reducing end weight in the upper crown and spreading branches to emulate the natural decline of tree crowns with age. In most circumstances, it will not be possible to trim back to a suitable lateral branch and, because of this; cuts should be cleanly executed and should produce a sloping surface that will not collect water.

Fell

The complete felling of a tree in a safe manner, leaving a smoothly surfaced stump that is cut as close to ground level as is possible

Any other terms used

If he is any doubt, the tree surgeon should contact Dr Philip Blackstock on 02825 821202 or 07767 393075 for clarification of these or any other terms used in the attached tree survey report sheets.

Statement of truth

I [REDACTED] confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

Signed:

[REDACTED]

Date:

10th May 2022

QUALIFICATIONS

National Diploma of Horticulture (R.H.S) Inter.

Diploma in Industrial Management

M.Sc. in Environmental Management (A Field Survey of Unmanaged Roadside Cuttings in South Antrim)

D.Phil. in Forestry (Broad-Leaved Tree and Shrub Invasion of Conifer Plantations in Ireland)

Professional member of the Arboricultural Association

Registered Forestry Consultant with the Irish Forest Service

EMPLOYMENT

1996 to present

Arboricultural and Woodland Consultant

Duties include carrying out tree and vegetation surveys and providing tree and woodland management plans, completing reports and liaising with clients, providing court appearances etc. for public and private clients.

ARBORICULTURAL AND FORESTRY EXPERIENCE AND EXPERTISE

I have carried out surveys and produced reports on the health, condition, amenity value and landscape value of more than 250,000 trees since 1983. Since 1996 I have been fully employed as an Arboricultural and Forestry Consultant. Clients have now included most of the Local Authorities, Health Trusts and Government Departments within Northern Ireland. Private clients have included Solicitors, Architects and Developers. I have also lectured, to foundation degree level, on arboriculture and forestry.

I have provided expert opinion (including Court appearances) for many clients involved in litigation or in planning appeals since 1996. Topics covered by these opinions have included the predictability of failure in trees, amenity and financial evaluation of damage to trees, evidence of subsidence caused by trees, evidence of unsafe tree surgery practices leading to injury, and tree related evidence in boundary and planning disputes.

I have maintained a research interest in the effects of environmental influences on tree and shrub regeneration in Ireland and on the development of woody biodiversity in recently planted woods. I have also a research interest in the distribution of and environmental influences on deciduous tree diseases, tree stability and in the incidence of dangerous roadside trees.

[REDACTED]

ECOLOGICAL SURVEY FOR BATS MEMO REPORT

Warren Point Road, Newry



NI2598 Warren Point Road -
Ecology
Ecological Survey for Bats
F01
08/09/2022

REPORT

This report was prepared by RPS Ireland Ltd (NI) ('RPS') within the terms of its engagement and in direct response to a scope of services. This report is strictly limited to the purpose and the facts and matters stated in it and does not apply directly or indirectly and must not be used for any other application, purpose, use or matter. In preparing the report, RPS may have relied upon information provided to it at the time by other parties. RPS accepts no responsibility as to the accuracy or completeness of information provided by those parties at the time of preparing the report. The report does not take into account any changes in information that may have occurred since the publication of the report. If the information relied upon is subsequently determined to be false, inaccurate or incomplete then it is possible that the observations and conclusions expressed in the report may have changed. RPS does not warrant the contents of this report and shall not assume any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report howsoever. No part of this report, its attachments or appendices may be reproduced by any process without the written consent of RPS. All enquiries should be directed to RPS.

Prepared by:

RPS Ireland Ltd (NI)


Senior Ecologist




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Contents

1	INTRODUCTION.....	3
1.1	Introduction.....	3
1.2	Ecological Survey for Bats	3
1.3	Legislation	3
2	METHODOLOGY.....	4
2.1	Statement of Authority.....	4
2.2	Tree Climbing PRF Inspection Survey	4
3	RESULTS.....	6
3.1	Tree Climbing PRF Inspection Survey	6
4	CONCLUSION	8
5	REFERENCES.....	9

1 INTRODUCTION

1.1 Introduction

The ongoing flood alleviation scheme at Warrenpoint Road, Newry requires selective removal of a mix of mature and semi-mature trees and saplings on the south-west side of the channelized waterway immediately adjoining Ballinacraig Way. RPS was commissioned by AG Wilson Ltd to undertake a Tree Climbing Potential Roost Feature (PRF) Inspection Survey of trees identified by WM Associates NI (WM Associates 2022) as having potential suitability for roosting bats.

WM Associates NI highlighted the requirement for a Tree Climbing PRF Inspection Survey of a number of trees classified as having suitability for roosting bats in accordance with the Bat Conservation Trust (BCT) Good Practice Guidelines (Collins 2016).

A Tree Climbing PRF Inspection Survey was carried out under license by two suitably qualified ecologists on 23rd August and 1st September 2022, the results of which are presented within this report.

1.2 Ecological Survey for Bats

The aim of the report is to provide a description of the bat survey methods used; to provide the detailed results of bat surveys; and to provide an interpretation of the results.

1.3 Legislation

All species of bats are European Protected Species (EPS) listed on Schedule 2 of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as Amended). Under the Regulations it is illegal to deliberately capture, injure or kill a EPS; deliberately disturb a EPS while it is occupying a structure or place it uses for shelter or protection; or deliberately disturb a EPS in such a way as is likely to affect its local distribution or abundance; impair its ability to survive, breed, reproduce or care for its young; impair its ability to hibernate or migrate; or deliberately obstruct access to or damage or destroy a resting or breeding site.

2 METHODOLOGY

2.1 Statement of Authority

The surveyor and author, [REDACTED], is an Ecologist with RPS and holds a BSc (Hons) in Marine Science, a MSc in Ecological Management and Conservation Biology with over seven years of experience in conservation and over six years in ecological consultancy. [REDACTED] has in-house training in bat ecology and bat survey; specialist training in sound analysis and species identification, mitigation and compensation with BatAbility Courses & Tuition; has attended a course on the Bat Tree Habitat Key Tree-Roost and Woodland Bat Survey; and has been awarded Lantra Accredited CS38 Basic Tree Climbing and Aerial Rescue. [REDACTED] is a protected species licence holder, a former member of the Northern Ireland Bat Group (NIBG) and volunteer bat rescuer with bat handling experience. [REDACTED] is also an associate member of CIEEM.

The assistant surveyor [REDACTED] is an Ecologist with RPS and holds a BSc (Hons) in Environmental Biology with over three years of experience in environmental and ecological consultancy. [REDACTED] has experience in undertaking both bat activity and bat emergence/re-entry surveys for small- and large-scale development and infrastructure projects. He has been awarded Lantra Accredited CS38 Basic Tree Climbing and Aerial Rescue and is a NIEA protected species licence holder.

The information prepared and provided is true and accurate at the time of issue of this report and has been prepared and provided in accordance with the CIEEM Code of Professional Conduct (CIEEM 2019).

We confirm that the professional judgement expressed herein is the true and bona fide opinion of our professional ecologists.

2.2 Tree Climbing PRF Inspection Survey

A PRF Inspection Survey of trees was carried out by two surveyors under licence using tree-climbing equipment, ladders, a torch and an endoscope (Rigid model CA-350) on the on 23rd August and 1st September 2022.

The aim of the survey was to allow closer inspection of trees with PRFs identified during a ground level Preliminary Roost Assessment (PRA) of trees.

Bats rely on the presence of disease and decay; damage; and associations in trees to provide suitable roosting habitat. These three forms of PRFs result in the development of a variety of different features that can provide preferred roost sites for bat species.

- Disease and decay PRFs include woodpecker holes, squirrel holes, knot holes, pruning cuts, tear outs, wounds, cankers, compression forks and butt rots.
- Damage PRFs include lightning strikes, hazard beams, subsidence cracks, shearing cracks, transverse snaps, welds, lifting bark, desiccation fissures and frost cracks.
- Association PRFs include fluting and ivy with stem diameters in excess of 50 mm (Andrews 2018 and Collins 2016).

The PRF Inspection survey aims to look for evidence of bats including live or dead bats, droppings, staining, odour and/or other physical characteristics and where necessary to reclassify PRFs in accordance with Collins (2016). Upon discussions with NIEA Wildlife Licencing Team, it was concluded that if no bats were

found within PRFs, they could be made unsuitable for bat occupation (carefully blocked up). This was to ensure that no bats were potentially present in trees during the tree felling operations.

3 RESULTS

3.1 Tree Climbing PRF Inspection Survey

RPS carried out a PRF Inspection Survey of trees. **No bats or evidence of bat roosting was recorded.** Trees classified as having Negligible bat roosting suitability by WM Associates NI are not included in the table below unless PRFs were recorded on the day of PRF Inspection Survey.

Tree Ref No.	WM Associates PRA	RPS Tree Climbing PRF Inspection /PRA
2	Low	Negligible – no suitable cavities present
3	Moderate	Moderate – No bats or evidence of bats recorded. Feature made unsuitable for potential bat entry.
4	Moderate	Negligible – no suitable cavities present
6	Negligible	Moderate – two knot holes and wound PRF recorded from ground level. Tree climbed and inspected. Wound PRF negligible. No bats or evidence of bats recorded. Two knothole PRFs made unsuitable for potential bat entry.
7	Moderate	Negligible – no suitable cavities present
8	Moderate	Moderate – No bats or evidence of bats recorded. Feature made unsuitable for potential bat entry.
10	Moderate	Low – ivy clad tree. No features recorded; however, it is not possible to search thoroughly due to the presence of dense ivy. This tree has been marked with a vertical pink line indicating that it is to be felled in a sensitive manor and left in situ for 24-48 hours to allow any potentially concealed roosting bats to emerge.
11	Low	Low – ivy clad tree. No features recorded; however, it is not possible to search thoroughly due to the presence of dense ivy. This tree has been marked with a vertical pink line indicating that it is to be felled in a sensitive manor and left in situ for 24-48 hours to allow any potentially concealed roosting bats to emerge.
15	Low	Negligible – Hazard beam feature approx. 12m on limb has insufficient cavity to support a roosting bat.

19	Moderate	Negligible – no suitable cavities present
21	Moderate	Moderate – No bats or evidence of bats recorded. Feature made unsuitable for potential bat entry.
22	Low	Low – ivy clad tree. No features recorded; however, it is not possible to search thoroughly due to the presence of dense ivy. This tree has been marked with a vertical pink line indicating that it is to be felled in a sensitive manor and left in situ for 24-48 hours to allow any potentially concealed roosting bats to emerge.
23	Moderate	Negligible – no suitable cavities present
24	Moderate	Moderate – No bats or evidence of bats recorded. Features made unsuitable for potential bat entry.

4 CONCLUSION

No bats or evidence of bat roosting was recorded. All potential roosting features were made unsuitable to ensure that no bats are potentially present during felling operations. All trees with negligible bat roosting suitability (including trees which are no longer suitable for potential bat roosting have been marked with a pink circle to indicate that they have no potential to support roosting bats and can be felled.

The ivy clad trees (see table above) have been marked with a vertical pink line indicating that they are to be felled in a sensitive manner and left in situ for 24-48 hours to allow any potentially concealed roosting bats to emerge.

If bats are found during felling operations, the works will immediately stop, and advice will be sought from the NIEA Wildlife Licencing Team.

5 REFERENCES

Andrews, H (2018) *Bat Roosts in Trees A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*, Pelagic Publishing, Exeter, ISBN 978-1-78427-161-9

CIEEM (2017) *Guidelines for Ecological Report Writing*, Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn), The Bat Conservation Trust, London.