A5 Western Transport Corridor

FRA Report 3 Addendum A

Drainage Impact Assessment Report

A5 Western Transport Corridor

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1 A5 WTC Drainage Impact Assessment

1.1 Introduction

Planning Policy Statement 15 (PPS 15) – Planning and Flood Risk: Annex D: Assessing Flood Risk and Drainage Impact states that a Drainage Impact Assessment should be included as part of the Flood Risk Assessment. The drainage assessment considers the flood risk associated with pluvial flooding in a proposed development. In the case of the A5 WTC this relates to the surface water runoff associated with the Dual Carriageway and proposed link roads, as well as existing adjacent overland flow.

This document identifies the measures included within the Proposed Scheme to provide safe removal of surface water runoff from the carriageway and mitigate the risk of potential flooding caused by the Dual Carriageway.

1.2 Highway Drainage

A positive road drainage system incorporating features of Sustainable Drainage Systems (SuDS) was incorporated into the design at the earliest stages in the development of the A5 WTC Dual Carriageway. Design proposals for all culverts, outfalls and watercourse diversions based on the detailed discussions to date with Rivers Agency will be submitted for approval in accordance with Schedule 6 of the Drainage Order (Northern Ireland) 1973, at a later stage in the project.

Carrier drains will transfer flows generated from specific Dual Carriageway drainage catchments to attenuation and retention ponds. The incorporation of ponds controls (slows down) the rate of flow and provides water treatment to restrict pollution discharge to the receiving watercourses.

Attenuation ponds have been designed in accordance with The SUDS Manual (2015) (CIRIA C753) to accept all flows generated by a particular road catchment, with a controlled discharge to a suitable receiving watercourse based on detailed discussions with Rivers Agency and assessment of the Greenfield Run Off (GFRO) – the equivalent flow that would have been generated prior to the construction of the dual carriageway.

Replacement of permeable agricultural land which provides infiltration of rain water and overland flow towards an adjacent watercourse, with an impermeable road surface that channels run-off flows to a receiving watercourse can pose an increased risk to flooding of the receiving watercourse as the surface run-off would be transferred to the watercourse in a shorter time period than the existing scenario.

The incorporation of ponds is specifically proposed to avoid this increased risk by ensuring controlled discharge rates and maintaining GFRO to the receiving

watercourses where appropriate. GFRO is not applied at larger watercourses, for example the Foyle; the ponds in these circumstances being primarily for water quality treatment purposes.

Discharge to an adjacent suitable watercourse is via appropriate outfall structures designed in accordance with DMRB HA 107/04 – "Culvert and Outfall Details". At locations where the proposed drainage infrastructure discharges below the water level in the receiving watercourse, particularly where there is a tidal influence, an approved non-return valve will be incorporated to eliminate the potential for backup of flows. The design proposals ensure sufficient hydraulic head in the drainage infrastructure is provided to discharge flows to receiving watercourses during periods of high water levels.

Discharges at outfall locations have been discussed extensively with Rivers Agency throughout the design process for A5 WTC. Agreement in Principle (AIP) has been granted for these during the design stages. Where there have been slight amendments due to minor changes arising from landowner discussions and previous PI recommendations, the outfall locations have retained discharges to the same watercourses and the same principles applied in assessing the impacts. A detailed breakdown of the outfall locations for both the main alignment and connecting side roads is provided in the following sections.

The design proposals include outfalls for both the main A5 WTC carriageway as well as new link roads and upgrades to existing roads to access the proposed infrastructure. A revised submission for AIP for all outfalls will be refined and developed to include any design changes potentially arising post Public Inquiry in 2016.

1.2.1 Section 1 Highway Drainage

Section 1 has a total of 32 mainline outfalls. The Proposed Scheme includes attenuation features such as ponds to reduce the outflows to equivalent GFRO values, as outlined in the table below. In accordance with consultation with Rivers Agency, the watercourse capacity has not been calculated for larger watercourses (e.g. Foyle River) where the impact of the proposed runoff is determined to be negligible in comparison to the existing flows within the watercourse.

As discussed above, the majority of these outfalls have been granted AIP previously. However at specific locations additional outfalls have been included to allow for design amendments, for example S1 OF 02.1B incorporated to improve Water Quality discharge.

Table 1.2.1-1- Section 1 Proposed Outfalls

OF Ref	Receiving Watercourse	Q1 Flow (l/s)	Watercourse Capacity (l/s)	Proposed Scheme Attenuated Discharge (l/s)	Previous AIP Discharge Rate (l/s)
S1 OF 01.1*	Foyle River	N/A - Foyle	N/A - Foyle	5.09	132
S1 OF 02.1A*	Foyle River	N/A - Foyle	N/A - Foyle	8.44	212
S1 OF 02.1B	Foyle River	N/A - Foyle	N/A - Foyle	3.41	N/A
S1 OF 25*	Foyle River	N/A - Foyle	N/A - Foyle	25.06	84
S1 OF 40*	Gortin Hall Drain	1352	4421	29.04	510
S1 OF 26*	Blackstone Burn	1065	32972	27.93	613
S1 OF 05.1*	UD_04	376	3039	49.05	949
S1 OF 07.1*	UD_05	482	5842	17.17	282
S1 OF 10.1*	UD_07	1027	1776	35.62	65
S1 OF 8*	UD_07	1027	1776	23.54	28
S1 OF 11*	Burndennet	50495	N/A Burndennet	22.03	429
S1 OF 12*	Burndennet	50495	N/A Burndennet	7.50	118
S1 OF 13*	Burndennet	50495	N/A Burndennet	14.44	434
S1 OF 42*	FD_02	23	504	24.53	418
S1 OF 15*	Ballymagorry Burn	12388	N/A Glenmornan	17.02	479
S1 OF 16*	Ballymagorry Burn	12388	N/A Glenmornan	17.87	472
S1 OF 17*	Ballymagorry Burn	249	3688	14.22	17
S1 OF 27*	Ballymagorry Burn	249	9975	38.34	16
S1 OF 27A	Ballymagory Burn	249	2579	9.45	N/A
S1 OF 29.1*	Ballymagorry Burn	249	2579	14.74	23
S1 OF 39	Strabane Glen	N/A	N/A	14.53	N/A
S1 OF 31*	Roundhill Drain	142	5971	12.12	18
S1 OF 32*	FD_13.b	142	5971	4.72	142
S1 OF 33*	Nancy Burn	945	17275	16.21	314
S1 OF 34*	Nancy Burn	945	17275	21.15	145
S1 OF 36*	River Finn	N/A Finn	N/A Finn	21.59	245
S1 OF 37*	River Finn	N/A Finn	N/A Finn	6.59	183
S1 OF 41	River Finn	N/A Finn	N/A Finn	10.99	N/A
S1 OF 22.2*	River Finn	N/A Finn	N/A Finn	29.97	697
S1 OF 38*	River Finn	777	14359	12.42	269
S1 OF 23.1*	Flushtown	777	14359	24.02	744
S1 OF 24.1*	Flushtown	1663	2815	62.44	50

**Note: Denotes previous AIP*

1.2.2 Section 2 Highway Drainage

There are 30 proposed outfall locations for the Proposed Scheme in Section 2, of which all have been granted AIP previously. GFRO rates are retained where appropriate through the use of attenuation/retention features.

Table 1.2.2-1- Section 1 Proposed Outfalls

OF Ref	Receiving Watercourse	Q1 Flow (l/s)	Watercourse Capacity (l/s)	Proposed Scheme Attenuated Discharge (l/s)	Previous AIP Discharge Rate (l/s)
S2 OF: 01*	UD_13.1	155	11208	24.27	29
S2 OF: 02*	UD_15	3192	5865	36.33	682
S2 OF: 03*	UD_17	609	3139	25.15	475
S2 OF: 04*	UD_19	1304	3841	35.93	658
S2 OF: 05*	Derg	223980	275200	41.36	835
S2 OF: 06*	Derg	223980	275200	48.27	729
S2 OF: 08*	UD_20	11098	3465	33.91	39
S2 OF: 09*	Scotts Mill Layde	477	2844	28.66	580
S2 OF: 10*	UD_22	504	4610	29.73	664
S2 OF: 33*	UD_23	384	1749	11.66	256
S2 OF: 34*	UD_24.1	440	789	15.16	19
S2 OF: 11*	UD_26	2281	14549	39.78	845 (747)
S2 OF: 13*	UD_33 WC Diversion	469	4330	19.16	390 (417)
S2 OF: 35*	UD_34	203	11974	19.3	46
S2 OF: 39*	UD_35	310	14318	27.15	462
S2 OF: 18*	UD_37.1	37	801	22.41	32
S2 OF: 19*	UD_41 WC Diversion	990	4720	36.62	726
S2 OF: 21*	Tully Drain	1417	1898	44.51	54 (24)
S2 OF: 22*	Tully Drain WC Diversion	1417	1898	23.94	154
S2 OF: 23*	Fairywater	52062	96743	23.24	405 (108)
S2 OF: 41*	Fairywater	52062	96743	17.12	308
S2 OF: 24*	Aghnamoyle Drain	1513	2532	6.643	20
S2 OF: 25*	Aghnamoyle Drain	1513	2532	56.95	68
S2 OF: 27*	Fireagh Lough Drain	1563	2332	11.59	226
S2 OF: 29*	Fireagh Lough Drain WC Diversion	1135	4895	39.92	51
S2 OF 37*	UD_56.1	339	2087	15.89	297

Table 1.2.2-1- Section 1 Proposed Outfalls

OF Ref	Receiving Watercourse	Q1 Flow (l/s)	Watercourse Capacity (l/s)	Proposed Scheme Attenuated Discharge (l/s)	Previous AIP Discharge Rate (l/s)
S2 OF: 38*	Loughmuck WC Diversion	559	1756	17.95	304
S2 OF: 30*	Drumragh (Extension)	105500	102733	13.48	354
S2 OF: 31*	Drumragh (Extension)	105500	102733	11.93	284
S2 OF: 32*	Freughmore Drain	1421	1998	37.64	38

**Note: Denotes previous AIP*

1.2.3 Section 3 Highway Drainage

A further 29 outfall locations have been included in Section 3 of the Proposed Scheme. As with outfalls in previous sections, the discharge rate includes for Proposed Scheme attenuation/retention features. One additional outfall location has been included within Section 3.

Table 1.2.3-1- Section 1 Proposed Outfalls

OF Ref	Receiving Watercourse	Q1 Flow (l/s)	Watercourse Capacity (l/s)	Proposed Scheme Attenuated Discharge (l/s)	Previous AIP Discharge Rate (l/s)
S3 OF 21*	UD_58	758	1916	41.19	755
S3 OF 2*	Ranelly Drain	2450	2196	27.106	27.2
S3 OF 22*	Ranelly Drain	2246	1778	34.644	34.64
S3 OF 3*	Ranelly Drain	1423	1420	27.213	23
S3 OF 4*	UD_60.1	370	2242	20.775	403
S3 OF 5	Letfern	2423	5389	41.575	N/A
S3 OF 6*	UD_65.1	540	4083	38.506	47
S3 OF 23*	UD_67	277	1294	6.116	115
S3 OF 7*	Routing Burn Ext	7769	19579	20.475	405
S3 OF 24*	UD_69.1	2684	3176	36.242	44.66
S3 OF 8*	UD_71.1	1860	5312	17.908	333
S3 OF 9*	UD_110.3	107	2915	50.066	946
S3 OF 10*	UD_110	98	1792	21.356	419
S3 OF 11*	UD_78.2	2220	6072	70.448	1416
S3 OF 12*	UD_124	31	799	68.205	68
S3 OF 13*	UD_81.2	515	3044	59.846	1436
S3 OF 33*	Ballygawley River	15063	1637	3.5	65
S3 OF 28*	Ballygawley River	15063	1637	22.889	320

Table 1.2.3-1- Section 1 Proposed Outfalls

OF Ref	Receiving Watercourse	Q1 Flow (l/s)	Watercourse Capacity (l/s)	Proposed Scheme Attenuated Discharge (l/s)	Previous AIP Discharge Rate (l/s)
S3 OF 29*	Ballygawley River	15063	36530	4.315	106
S3 OF 14*	UD_83.3	158	3672	14.934	304
S3 OF 25*	UD-117	311	3088	29.117	585
S3 OF 15*	Tullyvar	1560	10067	30.695	675
S3 OF 16*	UD_89.2	175	2799	95.4458	1759
S3 OF 31*	UD_92.1	633	2076	16.986	297
S3 OF 27*	UD_92.1	663	2076	10.962	570
S3 OF 32*	UD_93.D	3599	845	19.779	346
S3 OF 18*	Lisadavil	3599	3793	15.381	39.13
S3 OF 19*	Lisadavil	3892	9056	18.91	498
S3 OF 20*	Blackwater	72870	TBC	7.439	189

**Note: Denotes previous AIP*

1.3 Side Road Drainage

Where side roads require modification and link roads are developed to provide access to A5 WTC, existing discharge locations have been maintained. Drainage infrastructure associated with the existing side roads is retained where possible in the design; drainage modifications are largely within/incorporating previously paved areas.

As with the main carriageway drainage the majority of proposed outfall locations have previously been consented AIP.

1.3.1 Section 1 Side Road Drainage

In Section 1 there are a total of 24 outfall locations for the side roads associated with the Proposed Scheme. The design at a number of locations will develop further subsequent to obtaining AIP and these will be collated for re-submission for Rivers Agency after the outcomes of Public Inquiry have been determined.

Table 1.3.1-1- Receiving Watercourses for Side Road Outfalls – Section 1

Side Road Outfall Reference	Receiving Watercourse
Victoria Road 1.1*	Newbuildings Stream
Victoria Road 2.1	Foyle River
Dunnalong Road .1*	UD_04
Dunnalong Road 2	UD_04

Table 1.3.1-1- Receiving Watercourses for Side Road Outfalls – Section 1

Side Road Outfall Reference	Receiving Watercourse
Meenagh Road 1	UD_105
Meenagh Road 2	UD_04
Cloghboy Road *	UD_05.1
Tamnabready Road	UD_05.1
Bready Cut Accommodation*	Bready Stream
Donagheady Road 2	Bready Stream
Drumenny Road*	Burndennet
Moss Road	Ballydonaghy Drain
Spruce Road 1	FD_18
Lifford Road*	Mourne
Park Road	Park Road Drain
Park Road 3	Park Road Drain
Great Northern Link*	Mourne
Urney Road 2	River Finn
Strahans Road 1.1	UD_11
Knockroe Road .1*	Flushtown
Orchard Road .1	Flushtown
Melmount Road 2.1*	UD_12
Melmount Road 3	UD_12
Melmount Road 4	UD_12

**Note: Denotes previous AIP*

1.3.2 Section 2 Side Road Drainage

Section 2 has a larger number of outfalls associated with side road drainage, where 62 locations are identified. The majority these have previously been consented AIP. A revised AIP submission will be developed to include any design changes potentially arising post Public Inquiry in 2016.

Table 1.3.2-2- Receiving Watercourses for Side Road Outfalls – Section 2

Side Road Outfall Reference	Receiving Watercourse
S2 OFS: PRIMROSE PARK 1*	Cutting toe drainage into section 1
S2 OFS: PRIMROSE PARK 2*	Connects into existing drainage infrastructure
S2 OFS: BELLSPARK ROAD 1.1*	UD_13.1
S2 OFS: BELLSPARK ROAD 2.2*	UD_13.1
S2 OFS: BELLSPARK ROAD 3	Cutting toe drainage into section 1

Table 1.3.2-2- Receiving Watercourses for Side Road Outfalls – Section 2

Side Road Outfall Reference	Receiving Watercourse
S2 OFS: GARDEN ROAD	Connects into existing drainage infrastructure
S2 OFS: SEEIN ROAD 1*	UD_15.4
S2 OFS: SEEIN ROAD 2.1*	UD_15
S2 OFS: CONCESS ROAD*	UD_16
S2 OFS: FYFIN ROAD	Connects into existing drainage infrastructure
S2 OFS: STONE ROAD 1*	UD_19
S2 OFS: STONE ROAD 2.1*	UD_19
S2 OFS: URBALREAGH ROAD 0.1*	UD_19.3
S2 OFS: DERG ROAD 1*	Derg
S2 OFS: DERG ROAD 2.1	Connects into existing drainage infrastructure
S2 OFS: DEERPARK ROAD 1*	Derg
S2 OFS: DEERPARK ROAD 2*	Derg
S2 OFS: MAGHERCOLTON ROAD*	UD_20
S2 OFS: DRUMLEGAGH ROAD 1.1*	UD_20.01
S2 OFS: DRUMLEGAGH ROAD 2.1*	UD_20
S2 OFS: BARONSCOURT ROAD 1*	UD_20.01
S2 OFS: BARONSCOURT ROAD 2*	Scott Mill Layde
S2 OFS: OLDCASTLE ROAD 1*	UD_21
S2 OFS: OLDCASTLE ROAD 2.1*	UD_21
S2 OFS: GLEN ROAD 1*	UD_22
S2 OFS: GLEN ROAD 2.2*	UD_22
S2 OFS: GLEN ROAD 3*	UD_22
S2 OFS: CASTLETOWN ROAD 1*	UD_22
S2 OFS: CASTLETOWN ROAD 2*	UD_23.2
S2 OFS: GRANGE ROAD 0.1*	UD_23
S2 OFS: WEST ROAD 1.1*	UD_24.1
S2 OFS: JOES LANE 1*	UD_27
S2 OFS: JOES LANE 2	Connects into existing drainage infrastructure
S2 OFS: GORDANS LANE	Connects into existing drainage infrastructure
S2 OFS: KILLINURE ROAD 1.2*	UD_35.1
S2 OFS: KILLINURE ROAD 2*	UD_35.1
S2 OFS: CASTLETOWN ROAD 1A 0.2*	UD_37.1
S2 OFS: DUNTEIGE ROAD 1*	UD_41
S2 OFS: DUNTEIGE ROAD 2.2*	UD_40A
S2 OFS: RASH ROAD 1.1*	UD_44.3
S2 OFS: RASH ROAD 2*	UD_45
S2 OFS: RASH ROAD 3*	UD_45

Table 1.3.2-2- Receiving Watercourses for Side Road Outfalls – Section 2

Side Road Outfall Reference	Receiving Watercourse
S2 OFS: DRUMLEGAGH ROAD*	Tully Drain
S2 OFS: BELTANY ROAD 1.1*	Tully Drain
S2 OFS: BELTANY ROAD 2.1*	Tully Drain
S2 OFS: BUNYNUBBER LANE 0.1*	Fairywater
S2 OFS :GILLYGOOLY ROAD 1.2*	Aghnamoyle Drain
S2 OFS :GILLYGOOLY ROAD 2*	Connects into existing infrastructure
S2 OFS: AGHNAMOYLE ROAD 1.1*	UD_49.b
S2 OFS: TAMLAGHT ROAD 1.1*	UD_52
S2 OFS: TAMLAGHT ROAD 2*	Connects inti existing drainage infrastructure
S2 OFS; BROOKMOUNT ROAD 1*	Fireagh Lough Drain
S2 OFS: CLANABOGAN ROAD 1*	Fireagh Lough Drain WC Diversion
S2 OFS: CLANABOGAN ROAD 2*	Fireagh Lough Drain
S2 OFS: LOUGHMUCK ROAD*	UD_55
S2 OFS: BEAGH ROAD 1.1*	Loughmuck WC Diversion
S2 OFS: BEAGH ROAD 2*	Loughmuck WC Diversion
S2 OFS: BALLYNAHATTY ROAD 1*	Drumragh (Extension)
S2 OFS: BALLYNAHATTY ROAD 2*	Loughmuck WC Diversion
S2 OFS: BLACKFORT ROAD 1*	UD_57.01
S2 OFS: BLACKFORT ROAD 2*	Freughmore Drain
S2 OFS: DRUMRAGH ROAD 0.1*	Freughmore Drain

**Note: Denotes previous AIP*

1.3.3 Section 3 Side Road Drainage

Section 3 of A5 WTC also includes 62 outfall locations, of which the majority have been consented AIP. Those not included within previous AIP submission have retained discharges to the same receiving system and the same principles have been applied in the assessment.

Table 1.3.3-3- Receiving Watercourses for Side Road Outfalls – Section 3

Side Road Outfall Reference	Receiving Watercourse
S3 OFS Seskinore Road 1*	Drumragh River
S3 OFS Seskinore Road 2*	UD_57.2
S3 OFS Doogary Road 1*	UD_58
S3 OFS Doogary Road 2*	UD_108
S3 OFS Drumconnelly Road 2*	Ranelly Drain
S3 OFS Drumconnelly Road 1*	UD_113
S3 OFS Drumconnelly Road 3*	Existing Road Drainage
S3 OFS Tullyrush Road Lane 1*	Ranelly Drain
S3 OFS Tullyrush Road Lane 2*	Ranelly Drain
S3 OFS Rarone Road 1*	UD_60
S3 OFS Rarone Road 2*	UD_60.1
S3 OFS Rarone Road 3*	UD_60.2
S3 OFS Rarone Road 4*	UD_60
S3 OFS Drumconnelly Road 4*	UD_61
S3 OFS Moylagh Road 1*	UD_60
S3 OFS Moylagh Road 2*	UD_61.2
S3 OFS Greenmount Road*	UD_67.1
S3 OFS Greenmount Road 2	UD_67A
S3 OFS Greenmount Road Lane*	UD_67.2
S3 OFS Routingburn Road Lane 1*	Routing Burn Ext.
S3 OFS Routingburn Road Lane 2*	Routing Burn Ext.
S3 OFS Springhill Road*	UD_71
S3 OFS Tullanafoile Road 2*	UD_110.3
S3 OFS Tullanafoile Road 1*	UD_110
S3 OFS Tycanny Road 2*	UD_111
S3 OFS Tycanny Road 3*	UD_75.3
S3 OFS Tycanny Road 4	UD_78.3
S3 OFS Tycanny Road 1*	UD_78.3
S3 OFS Rarogan Road*	UD_78.1
S3 OFS Newtownsaville Road Lane 1*	UD_79.1
S3 OFS Glenhoy Road 2*	UD_80.1

Table 1.3.3-3- Receiving Watercourses for Side Road Outfalls – Section 3

Side Road Outfall Reference	Receiving Watercourse
S3 OFS Glenhoy Road 3*	UD_80.2
S3 OFS Bloomhill Lane*	UD_123
S3 OFS Sess Road Lane 1*	Roughan
S3 OFS Sess Road Lane 2*	Roughan
S3 OFS Ballynasaggart Road 1*	UD_118
S3 OFS Ballynasaggart Road 2*	UD_118
S3 OFS Sess Road*	UD_81.2
S3 OFS Feddan Road*	UD_115
S3 OFS Ballynanny Road 1*	UD_125
S3 OFS Ballynanny Road 2*	UD_126
S3 OFS Ballynany Road 4	Existing Ballynany Road drainage
S3 OFS Annaghilla Road 2.1	UD_83.1
S3 OFS Ballynany Road 3*	UD_83.3
S3 OFS Tullywinney Road*	UD_83.3
S3 OFS Lisginny Road Lane*	UD_85.1
S3 OFS Lisginny Road 1*	Tullvar
S3 OFS Lisginny Road 2*	UD_101
S3 OFS Old Chapel Road 3*	UD_86.2
S3 OFS Old Chapel Road 1*	UD_87.2
S3 OFS Old Chapel Road 2*	UD_89.6
S3 OFS Tullyvar Road 2*	UD_114.1
S3 OFS Loughans Road Lane*	UD_89.5
S3 OFS Tullyvar Road*	UD_89
S3 OFS Carnteel Road Lane 1*	UD_91.2
S3 OFS Carnteel Road 3*	UD_91
S3 OFS Carnteel Road 1*	UD_91
S3 OFS Carnteel Road 2*	UD_91.3
S3 OFS Rehaghy Road*	UD_92.1
S3 OFS Rehaghy Road 2	UD_92.1
S3 OFS Lettice Street Lane*	UD_95
S3 OFS Monaghan Road*	Blackwater

**Note: Denotes previous AIP*

1.4 Pre-Earthworks Drainage (PED)

PED would be provided by means of interceptor ditches and/or filter drains at the top of cutting slopes and at the toe of embankment slopes to intercept sheet flows from adjacent natural catchments in advance of the embankment/cutting slope construction in accordance with the recommendations in DMRB Volume 4, Part 2, "HA 106/04 – Drainage of Run-off from Natural Catchments". PED would also intercept existing field drainage networks where the Proposed Scheme severs these networks. PED would be sized to accept flows from the contributing natural catchment and installed at a longitudinal gradient to discharge to a suitable receiving watercourse via an outfall structure. The use of PED to intercept flows from embankment slopes prevents flooding of adjacent lands.

It would be necessary to provide drainage pipe work (Cross Drains) to transfer flows from one side of the carriageway to the other due to topographical constraints, to avoid ponding/localised flooding due to trapped sags and to provide a suitable outfall to receiving watercourses.

The Proposed Scheme retains drainage runoff within existing catchments at the majority of locations. Where this has been restricted due to the road alignment and natural topography, the intercepted flow is diverted to an appropriate watercourse in an adjacent catchment determined to have sufficient capacity. The adoption of in-channel flow attenuation will be applied to remove the potential for increased flood risk where this is identified through discussions with Rivers Agency during Detailed Design. The design of PED will be further refined following minor amendments post Public Inquiry and final proposals submitted to Rivers Agency for approval in accordance with Schedule 6 of the Drainage Order (Northern Ireland) 1973, at a later stage in the project.