

F EASTERN WATERCOURSE TABULAR PREDICTIONS

Predicted peak state variables for Scenario A

System	Label	Stage (mAOD)	Flow (m ³ /s)	Velocity (m/s)	Froude
Main Drain	MainUUS_000	8.217	1.147	0.442	0.221
	MainUUS_001	8.146	1.147	0.649	0.558
	MainUUS_002	8.098	1.147	0.596	0.286
	M_001	7.522	1.147	0.826	0.361
	M_002	7.456	1.147	0.927	0.421
	M_003	6.980	1.147	0.609	0.240
	M_004	5.711	1.148	1.650	0.821
	M_005	4.233	1.022	0.661	0.346
	M_005us	4.221	1.026	0.629	0.427
	M_005ds	4.221	1.575	0.815	0.352
	M_006us	4.166	1.574	0.488	0.178
	M_006ds	4.166	1.881	0.564	0.203
	M_006	4.165	1.886	0.403	0.173
	M_007	4.125	1.988	0.675	0.268
	M_007_1	4.101	2.014	0.529	0.222
	M_007_2	4.085	2.047	0.351	0.185
	M_007_3	4.047	2.078	0.558	0.207
	M_007_4	4.013	1.983	0.406	0.182
	M_008	3.984	2.048	0.312	0.154
	M_009	3.976	1.494	0.282	0.127
	MainCulv_000	3.935	2.201	0.329	0.158
	MainCulv_003	3.943	0.911	0.118	0.070
	MainCulv_005	3.944	0.733	0.223	0.121
	MainCulv_012	3.549	0.733	0.383	0.186
	MainCulv_015	3.528	1.499	0.516	0.198
Eastern Watercourse (U/S of culverts)	DivE_US	3.534	1.594	0.477	0.321
	DivE_USIn1	3.511	2.335	0.396	0.208
	ED_0_001	3.489	2.334	0.415	0.279
	ED_0_001In1	3.462	2.338	0.454	0.308
	ED_0_002	3.432	2.340	0.511	0.258
	ED_0_002In1	3.404	2.334	0.450	0.216
	ED_0_003	3.380	2.338	0.419	0.239
	ED_0_003In1	3.355	2.336	0.433	0.265
	ED_0_004	3.326	2.336	0.449	0.347
	ED_0_004In1	3.294	2.345	0.503	0.256
	ED_0_005	3.259	2.333	0.568	0.266
	ED_0_005In1	3.232	2.342	0.473	0.229
	ED_0_006	3.211	2.328	0.402	0.271
	ED_0_006In1	3.192	2.330	0.378	0.217
	ED_0_007	3.176	2.329	0.355	0.160
	ED_0_007In1	3.159	2.320	0.374	0.170
	ED_0_008	3.141	2.321	0.392	0.238
	ED_0_008In1	3.123	2.322	0.399	0.240
	ED_0_009	3.105	2.307	0.411	0.262
	ED_0_009In1	3.088	2.310	0.402	0.217
	ED_0_010	3.071	2.296	0.396	0.260
ED_0_010In1	3.056	2.301	0.356	0.180	
ED_0_011	3.043	2.287	0.324	0.145	
ED_0_011In1	3.027	2.410	0.357	0.162	

System	Label	Stage (mAOD)	Flow (m ³ /s)	Velocity (m/s)	Froude
	ED_0_012	3.011	2.406	0.377	0.209
	ED_0_012In1	2.992	2.532	0.427	0.217
	ED_0_013	2.973	2.533	0.477	0.312
	ED_0_013DS	2.956	2.757	1.226	1.350
D/S of culverts	E_S03	2.529	1.324	0.805	0.378
	E_S03In1	2.379	1.324	0.792	0.386
	E_S03In2	2.233	1.324	0.770	0.389
	E_S03In3	2.103	1.324	0.721	0.370
	E_S04	2.000	1.324	0.632	0.317
	E_N03	2.561	1.289	0.784	0.343
	E_N03In1	2.469	1.289	0.882	0.412
	E_N03In2	2.384	1.082	0.858	0.443
	E_N03In3	2.393	0.111	0.153	0.119
	E_N04	2.000	0.149	0.784	0.787

Predicted peak stage for post-development scenarios (increase relative to Scenario A)

System	Label	Scenario A	Scenario B	Scenario C
Main Drain	MainUUS_000	8.217	8.217 (0.000)	8.217 (0.000)
	MainUUS_001	8.146	8.146 (0.000)	8.146 (0.000)
	MainUUS_002	8.098	8.098 (0.000)	8.098 (0.000)
	M_001	7.522	7.522 (0.000)	7.522 (0.000)
	M_002	7.456	7.456 (0.000)	7.456 (0.000)
	M_003	6.980	6.980 (0.000)	6.980 (0.000)
	M_004	5.711	5.712 (0.001)	5.712 (0.001)
	M_005	4.233	4.233 (0.000)	4.233 (0.000)
	M_005us	4.221	4.221 (0.000)	4.221 (0.000)
	M_005ds	4.221	4.221 (0.000)	4.221 (0.000)
	M_006us	4.166	4.166 (0.000)	4.166 (0.000)
	M_006ds	4.166	4.166 (0.000)	4.166 (0.000)
	M_006	4.165	4.165 (0.000)	4.165 (0.000)
	M_007	4.125	4.126 (0.001)	4.125 (0.000)
	M_007_1	4.101	4.102 (0.001)	4.101 (0.000)
	M_007_2	4.085	4.085 (0.000)	4.085 (0.000)
	M_007_3	4.047	4.047 (0.000)	4.047 (0.000)
	M_007_4	4.013	4.015 (0.002)	4.014 (0.001)
	M_008	3.984	3.986 (0.002)	3.984 (0.000)
	M_009	3.976	3.978 (0.002)	3.977 (0.001)
	MainCulv_000	3.935	3.938 (0.003)	3.936 (0.001)
	MainCulv_003	3.943	3.944 (0.001)	3.944 (0.001)
	MainCulv_005	3.944	3.944 (0.000)	3.944 (0.000)
	MainCulv_012	3.549	3.704 (0.155)	3.765 (0.216)
MainCulv_015	3.528	3.677 (0.149)	3.747 (0.219)	
Eastern Watercourse (U/S of culverts)	DivE_US	3.534	3.684 (0.150)	3.743 (0.209)
	DivE_USIn1	3.511	3.673 (0.162)	3.735 (0.224)
	ED_0_001	3.489	3.663 (0.174)	3.730 (0.241)
	ED_0_001In1	3.462	3.652 (0.190)	3.724 (0.262)
	ED_0_002	3.432	3.641 (0.209)	3.718 (0.286)
	ED_0_002In1	3.404	3.632 (0.228)	3.715 (0.311)
	ED_0_003	3.380	3.626 (0.246)	3.712 (0.332)
	ED_0_003In1	3.355	3.618 (0.263)	3.711 (0.356)
	ED_0_004	3.326	3.613 (0.287)	3.709 (0.383)
	ED_0_004In1	3.294	3.605 (0.311)	3.704 (0.410)
	ED_0_005	3.259	3.597 (0.338)	3.700 (0.441)

System	Label	Scenario A	Scenario B	Scenario C
	ED_0_005In1	3.232	3.593 (0.361)	3.697 (0.465)
	ED_0_006	3.211	3.589 (0.378)	3.696 (0.485)
	ED_0_006In1	3.192	3.586 (0.394)	3.696 (0.504)
	ED_0_007	3.176	3.583 (0.407)	3.695 (0.519)
	ED_0_007In1	3.159	3.580 (0.421)	3.693 (0.534)
	ED_0_008	3.141	3.577 (0.436)	3.690 (0.549)
	ED_0_008In1	3.123	3.575 (0.452)	3.689 (0.566)
	ED_0_009	3.105	3.572 (0.467)	3.689 (0.584)
	ED_0_009In1	3.088	3.570 (0.482)	3.689 (0.601)
	ED_0_010	3.071	3.568 (0.497)	3.688 (0.617)
	ED_0_010In1	3.056	3.566 (0.510)	3.687 (0.631)
	ED_0_011	3.043	3.565 (0.522)	3.685 (0.642)
	ED_0_011In1	3.027	3.563 (0.536)	3.685 (0.658)
	ED_0_012	3.011	3.561 (0.550)	3.685 (0.674)
	ED_0_012In1	2.992	3.559 (0.567)	3.684 (0.692)
	ED_0_013	2.973	3.557 (0.584)	3.682 (0.709)
	ED_0_013DS	2.956	3.554 (0.598)	3.679 (0.723)
D/S of culverts	E_S03	2.529	2.967 (0.438)	2.404 (-0.125)
	E_S03In1	2.379	2.959 (0.580)	2.260 (-0.119)
	E_S03In2	2.233	2.955 (0.722)	2.138 (-0.095)
	E_S03In3	2.103	2.952 (0.849)	2.051 (-0.052)
	E_S04	2.000	2.950 (0.950)	2.000 (0.000)
	E_N03	2.561	2.976 (0.415)	2.473 (-0.088)
	E_N03In1	2.469	2.969 (0.500)	2.418 (-0.051)
	E_N03In2	2.384	2.962 (0.578)	2.356 (-0.028)
	E_N03In3	2.393	2.956 (0.563)	2.363 (-0.030)
	E_N04	2.000	2.950 (0.950)	2.000 (0.000)

Predicted increase in stage upstream of the public road relative to equivalent pre-development scenario

System	Label	Scenario A	Scenario B	Scenario C
Main Drain (U/S of public road)	MainUUS_000	0.000	0.000	0.000
	MainUUS_001	0.000	0.000	0.000
	MainUUS_002	0.000	0.000	0.000
	M_001	0.000	0.000	0.000
	M_002	0.000	0.000	0.000
	M_003	0.000	0.000	0.000
	M_004	-0.001	0.000	0.000
	M_005	0.000	0.000	0.000
	M_005us	0.000	0.000	0.000
	M_005ds	0.000	0.000	0.000
	M_006us	0.001	0.000	0.000
	M_006ds	0.001	0.000	0.000
	M_006	0.001	0.001	0.001
	M_007	0.000	0.001	0.000
	M_007_1	0.001	0.002	0.001
	M_007_2	0.001	0.001	0.001
	M_007_3	0.002	0.002	0.002
	M_007_4	0.000	0.002	0.001
	M_008	0.000	0.002	0.000
	M_009	0.000	0.002	0.001
	MainCulv_000	-0.001	0.002	0.000
MainCulv_003	0.000	0.001	0.001	

MainCulv_005	0.000	0.000	0.000
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G WESTERN WATERCOURSE TABULAR PREDICTIONS

Predicted peak state variables for Scenario A

System	Label	Stage (mAOD)	Flow (m ³ /s)	Velocity (m/s)	Froude
Western Watercourse	C_001	2.878	0.197	0.180	0.173
	W_0_001	2.870	0.196	0.118	0.078
	W_0_002	2.864	0.196	0.120	0.080
	W_0_003	2.858	0.195	0.121	0.081
	W_0_004	2.852	0.195	0.123	0.083
	W_0_005	2.845	0.194	0.123	0.100
	W_0_006	2.838	0.193	0.128	0.090
	W_0_007	2.830	0.193	0.130	0.097
	W_0_008	2.822	0.193	0.133	0.101
	W_0_009	2.814	0.193	0.137	0.114
	W_0_010	2.804	0.192	0.142	0.124
	W_0_011	2.794	0.192	0.147	0.141
	W_0_012	2.782	0.192	0.153	0.166
	W_0_012ds	2.782	0.261	0.224	0.267
	W_0_013	2.769	0.261	0.133	0.091
	W_0_014	2.761	0.260	0.137	0.093
	W_0_015	2.752	0.260	0.140	0.094
	W_0_016	2.744	0.260	0.146	0.096
	W_0_017	2.734	0.260	0.150	0.096
	W_0_018	2.724	0.260	0.155	0.097
	W_0_019	2.714	0.260	0.130	0.115
	W_0_020	2.702	0.260	0.168	0.104
	W_0_021	2.689	0.260	0.176	0.110
	W_0_022	2.674	0.260	0.184	0.130
	W_0_022ds	2.674	0.308	0.217	0.138
	W_0_023	2.490	0.308	0.540	0.539
	Outlet_DS	2.400	0.308	0.032	0.019

Predicted peak state variables for Scenario B

System	Label	Stage (mAOD)	Flow (m ³ /s)	Velocity (m/s)	Froude
Western Watercourse	C_001	3.009	0.197	0.091	0.058
	W_0_001	3.007	0.197	0.071	0.044
	W_0_002	3.005	0.197	0.070	0.049
	W_0_003	3.003	0.196	0.072	0.045
	W_0_004	3.001	0.196	0.074	0.050
	W_0_005	2.999	0.196	0.067	0.052
	W_0_006	2.998	0.196	0.082	0.056
	W_0_007	2.996	0.195	0.088	0.060
	W_0_008	2.994	0.200	0.092	0.063
	W_0_009	2.991	0.213	0.099	0.068
	W_0_010	2.989	0.230	0.107	0.074
	W_0_011	2.987	0.253	0.119	0.082
	W_0_012	2.985	0.283	0.135	0.094
	W_0_012ds	2.985	0.284	0.136	0.095
	W_0_013	2.983	0.320	0.097	0.055
	W_0_014	2.981	0.376	0.114	0.065
	W_0_015	2.980	0.431	0.133	0.076
	W_0_016	2.979	0.480	0.146	0.091
	W_0_017	2.977	0.542	0.161	0.105
	W_0_018	2.976	0.666	0.199	0.135
	W_0_019	2.975	0.586	0.092	0.078
	W_0_020	2.974	0.264	0.071	0.038
	W_0_021	2.973	0.264	0.068	0.038
	W_0_022	2.971	0.264	0.086	0.041
W_0_022ds	2.971	0.312	0.102	0.049	
W_0_023	2.968	0.312	0.103	0.049	
Outlet_DS	2.950	0.312	0.032	0.019	


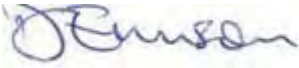

Haventus
Ardersier Port – Phase 2
162855 – Drainage Impact
Assessment
June 2025



FAIRHURST

CONTROL SHEET

CLIENT: Haventus
PROJECT TITLE: Ardersier Port – Phase 2
REPORT TITLE: Drainage Impact Assessment
PROJECT REFERENCE: 162855
DOCUMENT NUMBER: APP2-FHT-DR-XXX-RP-C-000001

Original Issue	Issue	Name	Signature	Date
	FINAL			
	Prepared by	A Hunte		13/06/2025
	Checked by	D Eunson		13/06/2025
Approved by	A Fleming		13/06/2025	

Revision Record	Rev.	Date	Status	Description	Signature	
	01	17/07/2025	FINAL	DIA updated following EnviroCentre review.	Prepared By	A Hunte
					Checked	D Eunson
					Approved	A Fleming
	02	30/07/2025	FINAL	Typical Drainage Construction Details in Appendix C updated. DIA updated following EnviroCentre review	Prepared By	A Hunte
					Checked	D Eunson
					Approved	A Fleming
	03	22/08/2025	FINAL	Clarity added to Flood Risk Section	Prepared By	A Hunte
					Checked	D Eunson
					Approved	A Fleming

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 - Appendix C - Drainage Layout and Typical Details
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1.0 INTRODUCTION

Fairhurst is undertaking engineering consultancy work on behalf of Haventus for the proposed second phase of the redevelopment of Ardersier Port.

This Drainage Impact Assessment presents the design methodology and outlines the proposed surface water and foul water drainage strategies for the planned extension of the existing yard. The extension area encompasses a section of woodland located to the south of the current fabrication yard, as well as an area of gorse situated to the east.

This document will consider appropriate drainage proposals in accordance with the guidance in the following documents:

- *Flood Risk Assessment and Drainage Impact: Highland Council 2013*
- *Planning Advice Note (PAN) 61: Planning and Sustainable Urban Drainage Systems, issued by the Scottish Executive Development Department, July 2001.*
- *Flood Risk Management (Scotland) Act 2009*
- *The SUDS Manual – (CIRIA C753)*
- *Sewers for Scotland 4th Edition*
- *The Water Environment (Controlled Activities) (Scotland) Regulations 2011*
- *Design Manual for Roads and Bridges*

This document has been produced for submission to support the application for the proposals and is to be reviewed by the following relevant statutory authorities (but not limited to):

- Highland Council Flood Risk Management Team
- The Scottish Environmental Protection Agency (SEPA)
- Scottish Water

2.0 CURRENT SITE AND PROPOSALS

The proposed development is located at national grid reference NH 81121 57729 approximately 15 miles east of Inverness and is accessed from the B9092 (Nairn Road) which runs from the B9006 in Ardersier eastwards to the A96. Refer to Appendix A for the location plan.

The site covers an area of approximately 150ha and is located on a former oil rig fabrication yard constructed on land reclaimed in the 1970s, an area of woodland and pheasantry to the south of the former fabrication yard, and an area of gorse to the east of the former fabrication yard.



Figure 1 Current Land-Use Plan

The proposed development shall consist of internal site access roads, plots for the port's clients, and marshalling areas for storage of off-shore wind turbine components. Refer to Appendix A for indicative site general arrangement. The area highlighted in yellow on Figure 1 has already been consented and shall not be detailed in this DIA. The yard extension areas highlighted in green, dark blue (woodland and pheasantry) and light blue (gorse area) are to become part of the port facility.

Access to the site shall be taken from the existing site access road and roundabout on the B9092. A secondary access for emergency service vehicles shall be constructed approximately 290m west of an existing Waste Water Pumping Station access on the U1038, which runs along the southern boundary of the site.

Historical mapping dating back to the 1830s indicates that both the woodland to the south and the gorse area to the east of the former fabrication yard have remained predominantly agricultural, with no significant urban development.

Currently all surface water run-off within the gorse area discharges to groundwater through infiltration; there is no formal surface water drainage systems in this area. The Pheasantry has a small soakaway for roof water, and a private septic tank for foul water only. The woodland area has several ditches which convey run-off to a main ditch along its perimeter which discharges either to groundwater or, via a twin culvert, to Whiteness Head.

There is an existing foul sewer which runs from 281432E ,857193N to an existing Waste Water Pumping Station at 281131E, 856720N constructed in advance of a proposed housing and leisure development on the former fabrication yard site, which did not progress past initial enabling works. The existing foul sewer and pumping station are outside the two development areas discussed in this DIA; however, the port's clients may require a connection to this foul sewer to service their welfare facilities.

3.0 SITE INVESTIGATION

An intrusive site investigation is currently being undertaken by Solmek Ltd to determine the existing ground conditions and engineering properties. Historical ground investigation for the first phase of the development, including infiltration testing to BRE 365, has been provided by the client for use in preliminary design.

A review of the historic ground investigation and interim results from the current ground investigation indicates the subsoils are predominantly SAND, and SAND and GRAVEL of varying densities. Interim borehole logs from Solmek Ltd show similar ground conditions within the Phase 2 boundary. Infiltration testing of the subsoils in Phase 1 resulted in an average infiltration rate of 5.3×10^{-5} m/s. Table 25.1 of the CIRIA SuDS Manual provides typical infiltration rates for different soil types. Based on the description of soils provided by Solmek Ltd in their interim borehole logs, an estimated infiltration rate of 5×10^{-5} m/s is to be used for the preliminary design of the infiltration devices throughout the site. Infiltration testing shall be undertaken as part of the detailed design to confirm the specific infiltration rates of the subsoils within the extension site boundary. Refer to Appendix D for existing ground investigation information.

4.0 PROPOSED SURFACE WATER DRAINAGE NETWORK

In line with current policy and best practice, foul and surface water are to be kept separate. Surface water run-off is to be collected and treated by a Sustainable Drainage System (SuDS). Refer to Appendix B for plan of areas showing the design return periods and Appendix C for drainage strategy layout and typical details.

Internal Site Roads and Yard Areas

Drainage to yard areas and internal site roads is to be designed in accordance with CD 531 - Reservoir pavements for drainage attenuation. All surface water run-off from internal site roads and client/ marshalling areas not adjacent to proposed buildings or other critical infrastructure is to be discharged into the water environment through infiltration devices sized to accommodate storm events up to 1 in 10 years (10% Annual Exceedance Probability (AEP)) plus 42% climate change allowance. There are no current proposals in the extension site master plan to construct buildings or additional critical infrastructure. Minor surface water ponding in these areas shall have no detrimental effect on the surrounding road network or operation of the plots/ marshalling areas until the long-term land-use determines otherwise.

The port's future clients will be responsible for developing suitable surface water drainage to suit development proposals for the areas that they lease.

Site Critical Infrastructure

Surface Water run-off from the proposed internal site road adjoining the public road (U1038) on the southern boundary is to be discharged into the water environment through infiltration devices sized to accommodate storm events up to 1 in 30 years (3.33%AEP) plus 42% climate change allowance in accordance with the Highland Council's Roads and Transport Guidelines for new Developments.

5.0 PROPOSED SUDS TREATMENT TO SURFACE WATER RUN-OFF

A groundwater risk screening assessment (Refer to Appendix E) has been undertaken based on the available ground information and site use in accordance with Chapter 26 of the CIRIA SuDS Manual. The risk screening has shown groundwater to be at low to medium risk; therefore, the Simple Index Approach (SIA) in the CIRIA SuDS Manual can be used for assessment of pollution hazard mitigation measures.

The majority of the site is to be used for industrial purposes and shall be subject to traffic from large heavy vehicles; however, the number of vehicle movements along the internal site access roads is considered to be low. In addition to the anticipated low traffic volumes, there are to be no refuelling or other activities associated with industrial sites on the internal site roads.

In accordance with the Simple Index Approach in CIRIA document C753 (The SuDS Manual), the risk posed by surface water run-off to the receiving environment is a function of the land use, the effectiveness of SuDS treatment components and the sensitivity of the receiving waterbody.

Determining the hazard posed by the land use activities at a site can be established by allocating pollution hazard indices for the proposed land use from Table 26.2 of The SuDS Manual, replicated in Table 1 below.

Land use	Pollution Hazard Level	Total Suspended Solids	Metals	Hydrocarbons
Low Traffic Roads (<300 vehicles per day)	Low	0.5	0.4	0.4
Commercial Yard/ Delivery Area	Medium	0.7	0.6	0.7

Table 1 Pollution Hazard Indices for Different Land Use Classifications

The mitigation indices of different SuDS components discharging to groundwater are indicated in Table 26.4 of the SuDS manual. To deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index (for each contaminant type) that equates to or exceeds the corresponding pollution hazard index specified in Table 1.

Treatment of surface water is to be provided by permeable pavements of unbound granular material.

Where the mitigation index of an individual component is insufficient on its own, two (or more) components can be used in series where required. A factor of 0.5 is then used to account for the reduced performance of the secondary (or tertiary) components associated with the already reduced inflow concentrates.

The mitigation indices for the treatment train are outlined in the following table.

Type of SUDS Component	TSS	Metals	Hydrocarbons
Permeable Pavement	0.7	0.6	0.7
Total	0.7	0.6	0.7

Table 2 Treatment Train 1 - Indicative SuDS Mitigation Indices for Discharge to Groundwater

A comparison between the hazard indices in Table 1 and the mitigation indices in Table 2 shows that the permeable pavement shall provide sufficient mitigation to suspended solids metals and hydrocarbons. The proposed development is to be upfilled with marine sand arising from dredging of the port navigation channel. There will be a minimum of 1m unsaturated soils between the underside of the permeable pavement and water table of to protect groundwater from contaminates per the recommendations in Chapter 13 of the SuDS Manual.

6.0 FLOOD RISK

Per section 4.0, the permeable pavement of the internal site roads is designed to accommodate storm events of 1 in 10 years (10% AEP) plus 42% climate change allowance. Sensitivity checks for storm events up to and including 1 in 200 years (0.5% AEP) plus 42% climate change allowance shows there is sufficient capacity to attenuate flows from these exceedance events within the permeable pavement.

The permeable pavement adjacent to the secondary access road to the U1038 is designed to accommodate storm events up to and including 1 in 30 years plus 42% climate change allowance. Sensitivity checks for storm events up to and including 1 in 200 years (0.5% AEP)

plus 42% climate change shows there is sufficient capacity to attenuate flows from these exceedance events within the permeable pavement.

The permeable pavement located within the yard area has been designed to manage surface water run-off from storm events with a return period of up to 1 in 10 years (10% AEP) plus 42% climate change allowance. This ensures effective drainage under typical rainfall conditions. Sensitivity checks for storm events up to and including 1 in 100 years (1% AEP) plus 42% climate change allowance in accordance with CG 501 – Design of Highway Drainage Systems, indicate that permeable pavements have sufficient capacity to attenuate run-off from exceedance events.

The permeable pavements are to be surfaced with Type 1 sub-base to clause 803 of the Specification for Highway Works. In addition to the permeable pavement, infiltration trenches will be installed at the low points within the yard/marshalling areas, as well as along the lower edge of the proposed roads. These trenches are designed to provide additional drainage capacity during extreme rainfall events and compensate for the potential reduction in permeability of the sub-base over time. Refer to Appendix E for design calculations

A detailed Flood Risk Assessment (FRA) has been undertaken and accompanies this DIA. FRA recommendations are used to inform final site levels and will, thereafter, be used to inform the level of site drainage elements within detailed design.

The proposed development of the site will result in in-filling of existing land drainage channels within the site, some of which receive flows from areas external to the site. Continuity of land drainage (to discharge to coastal waters) will be achieved by provision of 2 No. two-stage perimeter cut-off drains, which will divert incoming flows either eastwards or westwards around the southern boundary of the site platform. The design basis and flood risk management performance of these cut-off drains is presented and assessed within the accompanying Flood Risk Assessment.

7.0 FOUL DRAINAGE PROPOSALS

All on-site foul drainage is to remain private. Foul flow shall be conveyed to the existing Waste Water Pumping Station (WWPS) on the southern boundary of the site (Refer to Appendix F for Scottish Water GIS Excerpt). The existing WWPS was constructed circa 2005 to adoptable standards at the time of construction, but was never vested by Scottish Water. There is an existing \varnothing 250mm rising main from the WWPS to the Ardersier Waste Water Treatment Works, which has also remained unadopted by Scottish Water. Scottish Water has confirmed the WWPS and rising main has capacity for approximately 2000 domestic properties. The anticipated flow from the proposed development site is the equivalent to 600 domestic properties; therefore, the existing WWPS will have sufficient capacity to lift foul effluent from the proposed development site to the public sewer. A pre-development enquiry has been lodged with Scottish Water to confirm capacity within their existing infrastructure and a survey for the existing pumping station and rising main has been commissioned to confirm its condition. Any remediation works or upgrades required to the existing infrastructure shall be completed before any additional foul connections are made to the existing WWPS.

Internal site pumping stations are to be positioned throughout the site to lift effluent into the gravity foul sewer leading to the existing WWPS on the southern boundary. Refer to Appendix C for drainage strategy layout. The final positions of these are to be determined by Haventus' client's requirements.

8.0 CONSTRUCTION

The measures for controlling surface water run-off will be continually reviewed in line with each stage of construction and any influencing factors. Construction methodologies will be in line with the recommendations given in *CIRIA C532, Control of Water Pollution from Construction Sites*, and best practice. All works will be subject to a Construction Environmental Management Plan.

Surface water run-off is to be discharged to groundwater via direct infiltration. Stripping of topsoil and vegetation is to be limited wherever possible and undertaken immediately before the construction in that particular area. This is to minimise the risk of soil/ sediment being eroded and transported in run-off, and to aid natural absorption into the soils. Silt fences and temporary bunds are to be installed around open or exposed ground and stockpiles to minimise the risk of significant overland flow during heavy rainfall events.

9.0 FUTURE MAINTENANCE

All surface water and foul water drainage systems within the development are to remain private and be the maintenance responsibility of Haventus or their appointed factor. The Waste Water Pumping Station and rising main shall also be the maintenance responsibility of Haventus or their appointed factor until such time that the pumping station and rising main are adopted by Scottish Water.

All SuDS components shall be subject to regular inspections and maintenance in accordance with the recommendations given in the CIRIA SuDS Manual (Refer to Appendix G).