



# **Norwich Western Link**

## **Environmental Statement**

### **Chapter 12: Road Drainage and the Water Environment**

#### **Appendix 12.5: River Wensum Crossing - Groundwater Modelling Report**

##### **Sub Appendix A: Borehole Information**

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# 1 Introduction

- 1.1.1 This document contains a summary of the characteristics of the boreholes used as part of the River Wensum groundwater study presented in **Chapter 12: Road Drainage and the Water Environment Appendix 12.5: River Wensum Crossing – Groundwater Modelling Report**

**Table 1-1 Borehole Information**

Borehole ID	Easting	Northing	BH Type BGS or GI	Ground Level mAOD	Completion date	Total depth mbgl	Groundwater Level mbgl	Groundwater Level mAOD	Chalk Top Elevation mAOD	Screen from mbgl	Screen to mbgl	Screen Length m
TG11NE041	615030	315290	BGS	22.25	1947	24.38	7.62	14.63	19.20	Not Applicable	Not Applicable	Not Applicable
TG11NE074	615300	315170	BGS	31.39	1953	45.11	22.25	9.14	15.54	Not Applicable	Not Applicable	Not Applicable
TG11NE096	615114	315280	BGS	24.52	2006	20.50	15.50	9.02	21.12	Not Applicable	Not Applicable	Not Applicable
TG11NW014	612780	316740	BGS	11.00	1969	10.40	Not Applicable	Not Applicable	1.50	Not Applicable	Not Applicable	Not Applicable
TG11NW020	613950	315650	BGS	10.90	1969	10.00	Not Applicable	Not Applicable	1.90	Not Applicable	Not Applicable	Not Applicable
TG11NW025	614540	315450	BGS	20.80	1969	14.90	Not Applicable	Not Applicable	6.80	Not Applicable	Not Applicable	Not Applicable
TG11NW029	614020	315710	BGS	13.00	1985	33.53	5.10	7.90	4.47	16.00	33.53	17.53
TG11NW031	614400	316320	BGS	47.00	1980	56.00	36.00	11	17.00	Not Applicable	Not Applicable	Not Applicable
TG11NW047	614870	316170	BGS	39.62	N/A	61.00	Not Applicable	Not Applicable	15.24	Not Applicable	Not Applicable	Not Applicable
TG11NW053	613000	316750	BGS	13.72	1957	33.83	4.12	9.60	-3.65	28.5	33.83	5.33
TG11NW054	614080	317410	BGS	39.93	1954	45.11	26.21	13.72	6.71	39.78	45.11	5.33
TG11NW058	612520	315620	BGS	39.62	1941	54.90	30.48	9.14	Not Applicable	Not Applicable	Not Applicable	Not Applicable
TG11NW073	614400	317140	BGS	42.67	1959	45.72	21.33	21.34	10.67	38.56	45.72	7.16
TG11NW085	614900	316150	BGS	47.00	1985	53.30	27.50	19.50	20.48	38.71	53.3	14.59
TG11NW091	612980	317330	BGS	22.56	1949	45.72	11.13	11.43	12.19	30.48	45.72	15.24
TG11NW092	613740	317010	BGS	23.77	1951	36.58	11.88	11.89	-2.44	30.48	36.58	6.10
TG11NW099	614337	315519	BGS	22.10	2007	20.45	14.60	7.50	14.10	17.00	20.00	3.00
TG11NW100	614522	315459	BGS	20.94	2006	17.50	12.00	8.94	18.24	14.50	17.50	3.00
TG11NW101	614693	315419	BGS	16.29	2006	12.50	7.30	8.99	14.29	9.00	12.5	3.50
TG11SW021	614230	314120	BGS	11.60	1969	6.10	Not Applicable	Not Applicable	6.40	Not Applicable	Not Applicable	Not Applicable
TG11SW022	614180	313680	BGS	8.90	1969	4.80	Not Applicable	Not Applicable	3.00	Not Applicable	Not Applicable	Not Applicable
TG11SW049	614040	313780	BGS	10.06	1952	35.35	3.05	7.01	3.96	30.48	35.35	4.87
TG11SW060	614280	314280	BGS	24.38	1963	54.86	11.89	12.49	10.66	37.80	54.86	17.06

Borehole ID	Easting	Northing	BH Type BGS or GI	Ground Level mAOD	Completion date	Total depth mbgl	Groundwater Level mbgl	Groundwater Level mAOD	Chalk Top Elevation mAOD	Screen from mbgl	Screen to mbgl	Screen Length m
TG11SW130	613320	314350	BGS	17.00	1980	80.00	7.42	6.58	10.00	16.00	80.00	64.00
TG11SW157	614692	314915	BGS	9.95	2006	7.45	1.20	8.75	9.75	4.00	7.00	3.00
BH 010	612583	315078	GI1	24.64	15/10/2020	30.45	10.50	14.14	17.34	12.00	15.50	3.50
BH 012	613586	315277	GI1	13.38	15/10/2020	38.50	4.12	9.26	9.26	1.00	5.00	4.00
BH 013s	613666	315300	GI1	9.67	15/10/2020	40.45	0.85	8.82	7.17	Not Applicable	Not Applicable	Not Applicable
BH 013d	613666	315300	GI1	9.67	15/10/2020	40.45	0.00	9.67	7.17	Not Applicable	Not Applicable	Not Applicable
BH 014s	613704	315321	GI1	8.836	15/10/2020	40.00	0.00	8.983	2.04	0.40	2.00	1.60
BH 014d	613704	315321	GI1	8.836	15/10/2020	40.00	0.00	8.84	2.04	10.00	15.00	5.00
BH 015s	613784	315346	GI1	9.24	15/10/2020	40.35	0.23	9.01	-4.36	2.00	5.00	3.00
BH 015d	613784	315346	GI1	9.24	15/10/2020	40.35	0.23	9.01	-4.36	15.00	20.00	5.00
BH 016s	613882	315357	GI1	9.59	15/10/2020	40.45	0.61	8.98	-7.91	4.00	7.00	3.00
BH 016d	613882	315357	GI1	9.59	15/10/2020	40.45	0.69	8.90	-7.91	17.00	20.00	3.00
BH 019s	613950	315553	GI1	9.92	15/10/2020	40.45	0.60	9.32	1.42	2.00	8.50	6.50
BH 019d	613950	315553	GI1	9.92	15/10/2020	40.45	0.70	9.22	1.42	15.00	20.00	5.00
BH 020s	614120	315540	GI1	13.01	15/10/2020	39.90	3.49	9.52	4.51	2.00	5.00	3.00
BH 020d	614120	315540	GI1	13.01	15/10/2020	39.90	3.50	9.51	4.51	9.00	14.00	5.00
BH 021s	614213	315592	GI1	19.67	15/10/2020	40.00	Dry	Not Applicable	10.17	Not Applicable	Not Applicable	Not Applicable
BH 021d	614213	315592	GI1	19.67	15/10/2020	40.00	10.16	9.51	10.17	Not Applicable	Not Applicable	Not Applicable
BH 030	614435	315541	GI1	26.00	15/10/2020	20.50	Dry	Not Applicable	18.90	5.00	7.00	2.00
BH 031	614582	315472	GI1	21.19	15/10/2020	20.45	Dry	Not Applicable	16.99	2.00	4.00	2.00
BH210d	614094	315396	GI3	9.20	13/12/2022	60.00	0.41	8.79	4.10	50.00	55.00	5.00
BH210s	614094	315396	GI3	9.20	13/12/2022	60.00	0.77	8.43	4.10	1.00	2.00	1.00
BH221	613845	315259	GI3	8.89	13/12/2022	60.00	0.17	8.72	5.00	40.00	45.00	5.00
BH226	613708	315212.6 2	GI3	11.50	13/12/2022	57.00	2.69	8.81	3.50	4.00	8.00	4.00

Borehole ID	Easting	Northing	BH Type BGS or GI	Ground Level mAOD	Completion date	Total depth mbgl	Groundwater Level mbgl	Groundwater Level mAOD	Chalk Top Elevation mAOD	Screen from mbgl	Screen to mbgl	Screen Length m
BH231	613306	315140.6 7	GI5	25.08	13/12/2022	25.45	16.19	8.89	4.70	5.00	25.00	20.00
BH260	613308	315168	GI4	24.63	13/12/2022	60.00	15.79	8.84	3.70	14.50	19.50	5.00
BH233	613207	315215	GI3	29.67	13/12/2022	24.95	20.89	8.78	3.00	9.00	24.50	15.50
BH206	614180	315439	GI3	12.77	14/04/2022	60.32	2.65	10.12	7.00	2.50	6.50	4.00
WS06	614094	315605.1 7	GI2	13.05	14/04/2022	5.00	3.79	9.26	Not Applicable	3.50	5.00	2.50
WS05	614117	315489	GI2	12.06	14/04/2022	5.00	3.06	9.00	Not Applicable	0.50	3.50	3.00
WS07	614028	315523	GI2	10.16	14/04/2022	4.00	1.37	8.79	Not Applicable	0.50	2.00	1.50

The boreholes in the table were obtained from the following sources:

**BGS** - Mapapps2.bgs.ac.uk, (2023). GeoIndex - British Geological Survey [accessed May 2023]

**GI1** - Norfolk Partnership Laboratory, (2020). Particle Size Distribution tests. Project number PK1002D2. Completed between September 2019 and January 2020.

**GI2** - Leech, R., (2022). Factual Ground Investigation Report. Norwich Western Link. Document title: NCCT41793-HAG-VGT-FSC-RP-GI-0001

**GI3** - Leech, R., (2022). Factual Ground Investigation Report. Norwich Western Link. Document title: NCCT41973-HAG-VGT-FSC-RP-GI-0002

**GI4** - Leech, R., (2022). Factual Ground Investigation Report 'Woodland Campaign'. Document title: NCCT41973-HAG-VGT-FSC-RP-GI-0003

**GI5** - Millard, C., (2022). Alignment Refinement Tender Geotechnical Design Technical Note. Document title: NCCT41793-RAM-GEN-FSC-RP-CE-0091