

DRAINAGE CONDITION DISCHARGE

Document Reference. 1-21529-CCL-OS-001

Revision. 0

Planning Application No	135936/FO/2023
Site Location	Bignor Street Park Heywood Park Manchester.
Description	Erection of part single, part two storey building to form purpose-built primary school (Class F.1) with associated open space, access, landscaping, boundary treatment and other infrastructure works.
Applicant Name	Department for Education

Planning Application	FULL
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Drainage comments.

Following our review of the submitted Drainage Strategy, prepared by Clancy Consulting, Ref: 1-21529-CCL-OS-00-RP-0001 Rev B, dated 5.1.23, Although the proposed drainage methodology is acceptable in principle, we have not received further information as mentioned with the report with regards to infiltration testing which would need to be submitted, we also request to see detailed drainage plan with levels information for further assessment prior to planning being granted.

Should planning permission be granted without resolution of all drainage concerns, we request the following condition is attached to any subsequent Decision Notice:

The drainage scheme must include:

- i. An investigation of the hierarchy of drainage options in the National Planning Practice Guidance (or any subsequent amendment thereof). This investigation shall include evidence of an assessment of ground conditions, the potential for infiltration of surface water in accordance with BRE365.
- ii. A restricted rate of discharge of surface water agreed with the local planning authority (if it is agreed that infiltration is discounted by the investigations).
- iii. Levels of the proposed drainage systems including proposed ground and finished floor levels in AOD.
- iv. Incorporate mitigation measures to manage the risk of sewer surcharge where applicable; and.
- v. Foul and surface water shall drain on separate systems.

The approved scheme shall also be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (Mark 2015) or any subsequent replacement national standards.

Prior to occupation of the proposed development, the drainage schemes shall be completed in accordance with the approved details and retained thereafter for the lifetime of the development.

Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution.

CCL Response

Conditions – Conditions to be satisfied prior to occupation.

- i. An investigation of the hierarchy of drainage options in the National Planning Practice Guidance (or any subsequent amendment thereof). This investigation shall include evidence of an assessment of ground conditions, the potential for infiltration of surface water in accordance with BRE365.

Infiltration testing in accordance with BRE 365 has been carried out as part of the Ground Investigation works.

3 x tests locations were carried out with varying results.

SA01 (-1.75703E-06m/s)

SA02 (2.64237E-05m/s)

SA03 (-1.35483E-07m/s)

See Exploratory hole location plan and BRE 365 testing results appended to the back of this report.

Based on SA1 (10-6) and SA2 (10-5), both in similar locations to the proposed suitable attenuation tank location, suggest infiltration is potential. Location SA03 suggest infiltration is not feasible.

Albeit infiltration was shown to be potential at SA01 and SA02, other aspects such as ground water should be considered. Ground water levels have been recorded in location BH1 at circa 2.8-3.3m below ground level. Based on this data, and the optimum position of the drainage system storage, the required 1m clearance cannot be achieved from the underside of the drainage system to the existing ground water level. The drainage system depth is circa 2.7m below ground level.

Alternative locations have been considered where ground water levels are deeper, however this is at the higher end of the site and considered not a feasible location for a soakaway. In order to convey surface water flows to this location, the drainage system would have to be installed deeper (due to working against the topography of the land), therefore the required 1m clearance cannot be achieved from the underside of the drainage system to the existing ground water level, in this location (northern part of the site).

See below ground water monitoring results taken from the Phase 2 Site Investigation Report (10/2204/002 Rev. 00).

Table 2 – Groundwater Level Data

Monitoring Well ID	Well Screen Depth (m bgl)	Strata	Depth to Water (m bgl)						
			Fieldwork	23/01/23	07/02/23	21/02/23			
BH1	3.00 to 9.00	Glaciofluvial Sheet Deposits	6.20	3.30	3.10	2.80			
BH2	2.00 to 12.00		10.60	4.20	4.25	4.12			
WS1	0.50 to 1.50	Made Ground	DRY	DRY	DRY	DRY			
WS2	1.00 to 2.00	Glaciofluvial Sheet Deposits	DRY	DRY	DRY	DRY			

On this basis, discharging surface water to ground via infiltration has been considered not feasible.

There are no watercourses or surface water public sewers within the vicinity of the site, therefore the next available location for surface water discharge is to the existing combined water public sewer located in Heywood Street to the east of the site. This has been agreed pre planning with United Utilities subject to

acceptance of infiltration being ruled out.

- ii. A restricted rate of discharge of surface water agreed with the local planning authority (if it is agreed that infiltration is discounted by the investigations).

The current proposed discharge rate is proposed to be restricted to 5 l/s for all storms up to and including 1 in 100 year plus climate change and urban creep, as per the Drainage Strategy submitted for planning. We await LLFA response on their acceptance.

- iii. Levels of the proposed drainage systems including proposed ground and finished floor levels in AOD.

Levels of the proposed drainage system can be found on the Drainage Drawing appended to the back of this document, including ground levels and FFL.

- iv. Incorporate mitigation measures to manage the risk of sewer surcharge where applicable.

Restricting flows into the public sewer to 5 l/s will provide mitigation to the risk of sewer surcharge.

- v. Foul and surface water shall drain on separate systems.

Foul and surface water drainage is proposed on separate systems as per the Drainage Strategy submitted for planning.

CCL Documents/Drawings Included

- Exploratory Hole Location Plan and BRE Testing results.
- Drainage Strategy Layout.
- United Utilities comments.

Exploratory Hole Location Plan and BRE Testing results.



- Key
-  Cable Percussion Borehole
 -  Window Sampler Borehole
 -  TRL Dynamic Cone Penetrometer Test (CBR)
 -  Machine Excavated Trial Pit
 -  Machine Excavated Trial Pit + Soakaway Location

A	JAN 2023	Original Drawing	SP	CHK.	APP.
Rev	Date	Description	By	Check	App.

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Client	Conlon Construction Ltd		
Project	Olive Primary School. Manchester		
Office	Manchester		
Discipline	GeoEnvironmental		
Title	Exploratory Hole Location Plan		
Drawn	SP	Date	Nov 2022
Checked		Scale @ A3	NTS
Approved		Status	LIVE



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Job number	Drawing number	Revision
10/2204	002	A

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TEL: 0161 613 6000
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Site Name	Job Number	Date
Olive School	10/2204	Jan-23
Calculations For	Calcs By	Checked By
SA01	SP	SHP

Soil Infiltration Rate Calculations

Width of trial pit;	ltrial =	0.70	m
Length of trial pit;	btrial =	2.10	m
Depth of trial pit	dpit =	2.60	m
Depth of trial pit (below invert);	dtrial =	1.14	m

Free volume (if fill used);	Vtrial =	100	%	1.00	Decimal
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		Water Remaining		Water Depth BGL	
Depth of water at start of test	dstart =	1.120	m	1.480	m
Depth of water at end of test	dend =	1.260	m	1.340	m
Total water height	dtest = (dstart-dend) =	-0.140			

		Water Remaining		Water Depth BGL	
75% depth of pit;	d75 = (dtrial X 0.75) =	0.855	m	1.745	m
50% depth of pit;	d50 = (dtrial X 0.50) =	0.570	m	2.030	m
25% depth of pit;	d25 = (dtrial X 0.25) =	0.285	m	2.315	m

Test Incomplete - Failed to Drain to 25%

Indication of Soil Infiltration Rate (NOT TO BRE Digest 365)

Base area	baria = (ltrial X btrial) =	1.47	m ²
Storage volume from start test to end test	Vtest = (baria X dtest) X Vtrial =	-0.2058	m ³
Average wetted area	waria = (((ltrial X 2) + (btrial X 2)) X (dstart-dtest / 2)) + baria =	8.134	m ²
Duration of test	T =	240	mins
Soil infiltration rate;	f = ((Vtest / waria) / T) / 60 =	-1.75703E-06	m/s



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Site Name

Olive School

Calculations For

SA02

Job Number

10/2204

Calcs By

SP

Date

Jan-23

Checked By

SHP

Soil Infiltration Rate Calculations

Width of trial pit;	lttrial =	1.20	m
Length of trial pit;	btrial =	2.70	m
Depth of trial pit	dpit =	2.50	m
Depth of trial pit (below invert);	dttrial =	0.85	m

Free volume (if fill used);	Vtrial =	40	%	0.40	Decimal
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		Water Remaining		Water Depth BGL	
Depth of water at start of test	dstart =	1.000	m	1.500	m
Depth of water at end of test	dend =	0.090	m	2.410	m
Total water hight	dtest = (dstart-dend) =	0.910		m	

		Water Remaining		Water Depth BGL	
75% depth of pit;	d75 = (dttrial X 0.75) =	0.638	m	1.863	m
50% depth of pit;	d50 = (dttrial X 0.50) =	0.425	m	2.075	m
25% depth of pit;	d25 = (dttrial X 0.25) =	0.213	m	2.288	m

Test Complete BRE 365 Compliant

Test 1 - time to fall from 75% depth to 25% depth;	T1 =	37	mins	2220	sec
Test 2 - time to fall from 75% depth to 25% depth;	T2 =	38	mins	2280	sec
Test 3 - time to fall from 75% depth to 25% depth;	T3 =	53	mins	3180	sec
Longest time to fall from 75% depth to 25% depth;	tlg = max(T1, T2, T3) =	53	mins	3180	sec

Storage volume from 75% to 25% depth;	Vp75_25 = (lttrial X btrial X (d75 - d25)) X Vtrial =	0.551	m3
Internal surface area to 50% depth;	ap50 = ((lttrial X btrial) + (lttrial + btrial) X 2 X d50) =	6.555	m2
Surface area of soakaway to 50% storage depth;	As50 = 2 X (lttrial + btrial) X dttrial / 2 =	3.315	m2

Soil infiltration rate;	f = Vp75_25 / (ap50 X tlg) =	2.64237E-05		m/s	
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Site Name	Job Number	Date
Olive School	10/2204	Jan-23
Calculations For	Calcs By	Checked By
SA03	SP	SHP

Soil Infiltration Rate Calculations

Width of trial pit;	ltrial =	0.70	m
Length of trial pit;	btrial =	2.60	m
Depth of trial pit	dpit =	2.20	m
Depth of trial pit (below invert);	dtrial =	1.00	m

Free volume (if fill used);	Vtrial =	100	%	1.00	Decimal
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		Water Remaining		Water Depth BGL	
Depth of water at start of test	dstart =	0.850	m	1.350	m
Depth of water at end of test	dend =	0.860	m	1.340	m
Total water height	dtest = (dstart-dend) =	-0.010			

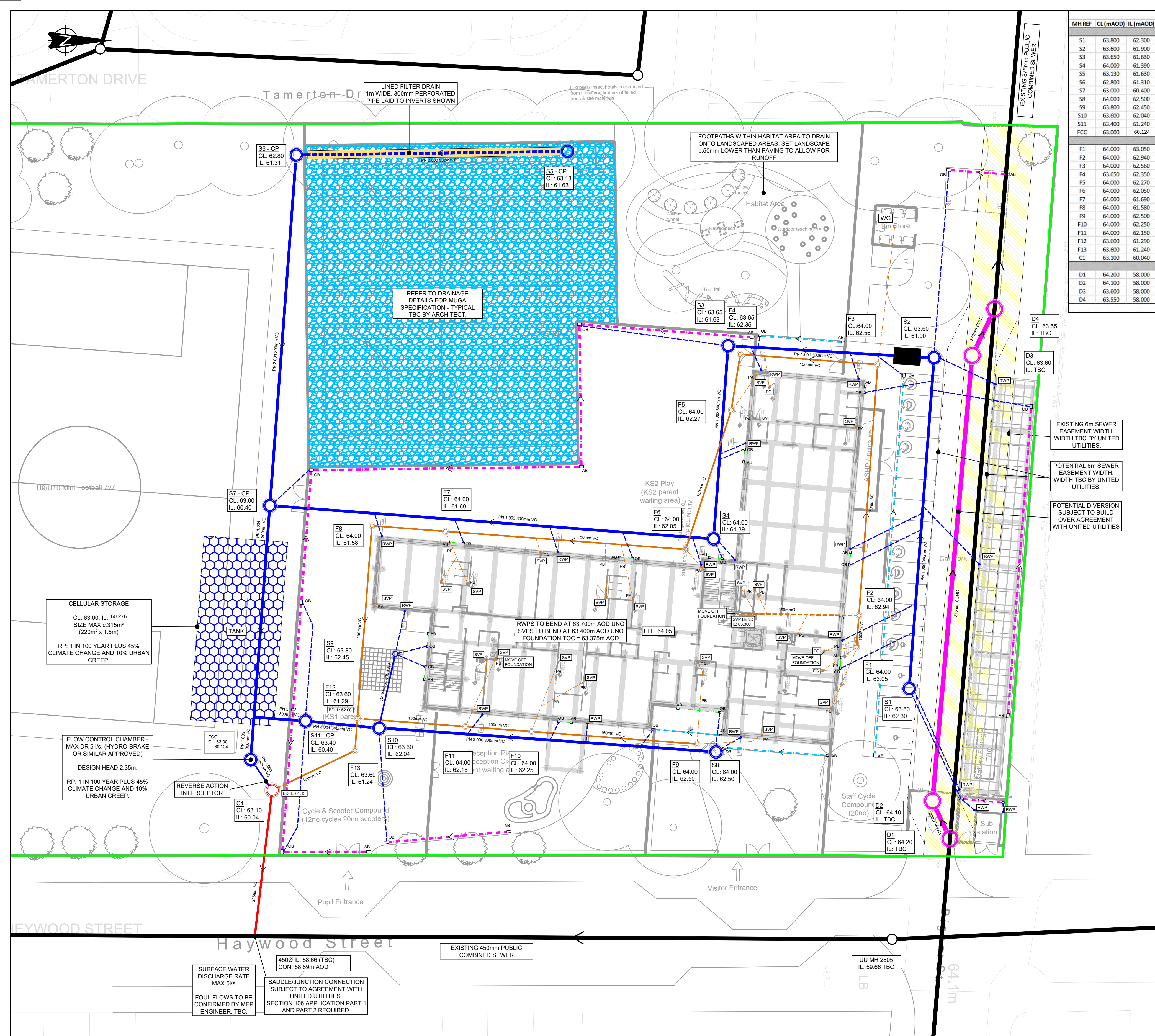
		Water Remaining		Water Depth BGL	
75% depth of pit;	d75 = (dtrial X 0.75) =	0.750	m	1.450	m
50% depth of pit;	d50 = (dtrial X 0.50) =	0.500	m	1.700	m
25% depth of pit;	d25 = (dtrial X 0.25) =	0.250	m	1.950	m

Test Incomplete - Failed to Drain to 25%

Indication of Soil Infiltration Rate (NOT TO BRE Digest 365)

Base area	baria = (ltrial X btrial) =	1.82	m ²
Storage volume from start test to end test	Vtest = (baria X dtest) X Vtrial =	-0.0182	m ³
Average wetted area	waria = (((ltrial X 2) + (btrial X 2)) X (dstart-dtest / 2)) + baria =	7.463	m ²
Duration of test	T =	300	mins
Soil infiltration rate;	f = ((Vtest / waria) / T) / 60 =	-1.35483E-07	m/s

Drainage Strategy Layout



MANHOLE SCHEDULE															
MH REF	CL (mAOD)	IL (mAOD)	DEPTH TO SOFFIT (m)	D5 PIPE DIA (m)	MH DIA (mm)	MH TYPE	COVER SIZE (mm)	COVER CLASS	RECESSED	RESTRICTED ACCESS	BACK DROP	COMMENTS	EASTING	NORTHING	
SURFACE WATER															
S1	63.800	62.300	1.20	0.300	1500	PCC	1200X600	D400	TBC BY ARCHITECT	N	N		TBC AT S75	TBC AT S75	
S2	63.600	61.900	1.40	0.300	1500	PCC	1200X600	D400	TBC BY ARCHITECT	N	N		TBC AT S75	TBC AT S75	
S3	63.650	61.630	1.72	0.300	1200	PCC	600X600	D400	TBC BY ARCHITECT	N	N		TBC AT S75	TBC AT S75	
S4	64.000	61.390	2.31	0.300	1200	PCC	600X600	D400	TBC BY ARCHITECT	N	N		TBC AT S75	TBC AT S75	
S5	63.130	61.630	1.20	0.300	1500	PCC	1200X600	C250	TBC BY ARCHITECT	N	N	CATCHPIT TYPE	TBC AT S75	TBC AT S75	
S6	62.800	61.310	1.19	0.300	1500	PCC	1200X600	C250	TBC BY ARCHITECT	N	N	CATCHPIT TYPE	TBC AT S75	TBC AT S75	
S7	63.000	60.400	2.30	0.300	1200	PCC	600X600	C250	TBC BY ARCHITECT	N	N	CATCHPIT TYPE	TBC AT S75	TBC AT S75	
S8	64.000	62.500	1.20	0.300	1500	PCC	1200X600	D400	TBC BY ARCHITECT	N	N		TBC AT S75	TBC AT S75	
S9	63.800	62.450	1.20	0.150	600	PPIC	600X600	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
S10	63.600	62.040	1.26	0.300	1500	PCC	1200X600	C250	TBC BY ARCHITECT	N	N		TBC AT S75	TBC AT S75	
S11	63.400	61.240	1.86	0.300	1200	PCC	600X600	C250	TBC BY ARCHITECT	N	N	CATCHPIT TYPE	TBC AT S75	TBC AT S75	
FCC	63.000	60.124	2.42	0.300	1200	PCC	600X600	C250	TBC BY ARCHITECT	N	N	FLOW CONTROL CHAMBER	TBC AT S75	TBC AT S75	
FOUL & COMBINED WATER															
F1	64.000	63.050	0.80	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	N	N	NON ENTRY	TBC AT S75	TBC AT S75	
F2	64.000	62.940	0.91	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	N	N	NON ENTRY	TBC AT S75	TBC AT S75	
F3	64.000	62.560	1.29	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F4	63.650	62.350	1.15	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F5	64.000	62.270	1.58	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F6	64.000	62.050	1.80	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F7	64.000	61.690	2.16	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F8	64.000	61.580	2.27	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F9	64.000	62.500	1.35	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F10	64.000	62.250	1.60	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F11	64.000	62.150	1.70	0.15	450	PPIC	450X450	D400	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
F12	63.600	61.290	2.16	0.15	450	PPIC	450X450	C250	TBC BY ARCHITECT	Y	Y	NON ENTRY	TBC AT S75	TBC AT S75	
F13	63.600	61.240	2.21	0.15	450	PPIC	450X450	C250	TBC BY ARCHITECT	Y	N	NON ENTRY	TBC AT S75	TBC AT S75	
C1	63.100	60.040	2.84	0.225	1200	PCC	600X600	C250	TBC BY ARCHITECT	N	Y		TBC AT S75	TBC AT S75	
POTENTIAL DIVERTED COMBINED SEWER															
D1	64.200	58.000	5.83	0.375	1500	PCC	600X600	D400	TBC BY ARCHITECT	N	N/A	IL TBC	TBC AT S75	TBC AT S75	
D2	64.100	58.000	5.72	0.375	1500	PCC	600X600	D400	TBC BY ARCHITECT	N	N/A	IL TBC	TBC AT S75	TBC AT S75	
D3	63.600	58.000	5.23	0.375	1500	PCC	600X600	D400	TBC BY ARCHITECT	N	N/A	IL TBC	TBC AT S75	TBC AT S75	
D4	63.550	58.000	5.18	0.375	1500	PCC	600X600	D400	TBC BY ARCHITECT	N	N/A	IL TBC	TBC AT S75	TBC AT S75	
NON ENTRY - REDUCER CAP REQUIRED AND FITTED TO SHAFT, PPIC - POLYPROPYLENE INSPECTION CHAMBER, CP - CATCH PIT TYPE, PCC - PRECAST CONCRETE.															

- GENERAL NOTES:
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
 - ALL ADAPTABLE DRAINAGE WORKS INCLUDING WORKS TO EXISTING PUBLIC SEWERS TO BE UNDERTAKEN IN ACCORDANCE WITH 'SEWERS FOR ADOPTION 7th EDITION' AND 'CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION' AND CONSTRUCTED TO THE RELEVANT STATUTORY UNDERTAKERS DETAILS.
 - ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH 'CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION', BS EN 752 2017 DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS AND THE BUILDING REGULATIONS APPROVED DOCUMENT H.
 - DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
 - DESIGN BASED ON TOPOGRAPHICAL SURVEY AND INFORMATION AVAILABLE AT THE TIME OF THE DESIGN.
 - OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
 - ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
 - COVER LEVELS, GULLY POSITIONS, AND BUILDINGS LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT / LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
 - ALL BELOW SLAB DRAINAGE CONNECTIONS SHOWN TO THE PENETRATION POSITIONS ARE INDICATIVE ONLY. REFER TO DIMENSIONED LOCATIONS AND DIAMETERS ON ARCHITECT'S GROUND FLOOR SETTING-OUT PLANS.
 - ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.
 - ALL ACCESS FITTINGS, STACKS, RWP'S AND GULLIES TO BE ROODABLE. ALL TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
 - LARGE ACCESS FITTING REQUIRED ABOVE GROUND WHERE GREATER THAN 12M UP TO 22M TO A JUNCTION. SMALL ACCESS FITTING REQUIRED UP TO 12M TO A JUNCTION.
 - ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND ROODABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
 - WHERE NO W/C'S ARE CONNECTED UPSTREAM, UNDERSLAB FW DRAINAGE TO BE LAID AT 1:40 MIN. AFTER THE CONNECTION OF AT LEAST 100 WC, A MIN. FALL OF 1:80 APPLIES.
 - ALL CONNECTIONS FROM POP-UPS TO BE LAID AT A CONSTANT GRADIENT TO JUNCTION / INSPECTION CHAMBER / MANHOLE UNLESS NOTED OTHERWISE. ANY ISSUES RELATING TO CLASHES WITH FOUNDATIONS ARE TO BE FORWARDED TO THE ENGINEER, ALLOWING SUFFICIENT TIME FOR AN ALTERNATIVE SOLUTION TO BE PROPOSED.
 - INVERT LEVELS AT MANHOLES / INSPECTION CHAMBERS TO BE USED TO SET OUT PIPEWORK. PIPE GRADIENTS ARE SHOWN INDICATIVELY ONLY.
 - ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
 - ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
 - 100mm to 300mm DIA TO BE VITRIFIED CLAY.
 - 375mm DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
 - AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
 - SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
 - THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
 - ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE SOFFITS LEVEL UNLESS OTHERWISE NOTED.
 - ALL ADAPTABLE DRAINAGE PIPES WILL REQUIRE A MINIMUM OF 1200mm COVER, IN ACCORDANCE WITH SEWERAGE UNDERTAKERS REQUIREMENTS. WHERE THIS IS NOT ACHIEVED, IT WILL BE NECESSARY TO AGREE THE BED AND SURROUND DETAIL.
 - ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 800mm IN NON TRAFFICKED AREAS AND LESS THAN 1200mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z), COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
 - WHERE DRAINAGE PIPES ARE LESS THAN 300mm BELOW THE UNDERSIDE OF THE GROUND FLOOR SLAB, CONCRETE ENCASEMENT IS REQUIRED (CLASS Z), COMPRESSIBLE JOINTS ARE TO BE PROVIDED AT EVERY PIPE JOINT WITHIN THE CONCRETE.
 - WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS S BEDDING IS ACCEPTABLE.
 - SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
 - WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.
 - ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
 - UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:

- DRAWINGS BASED ON THE FOLLOWING INFORMATION
- TOPOGRAPHICAL SURVEY AND GPR REF 22.03.0001
 - UNITED UTILITIES SEWER RECORDS
 - SITE LAYOUT - FS0766-BSA-XX-XX-0-A-2004
 - ROOF LAYOUT - 22-037-BSA-XX-02-0-A-2030 P01
 - POP UP SETTING OUT - 22-037-BSA-XX-00-0-A-2012 P01
 - FOUNDATIONS - 1-21529-CC-ALL-Z-M3-S-001

DISCHARGE OF SURFACE WATER VIA INFILTRATION HAS BEEN DEEMED NOT FEASIBLE DUE TO HIGH GROUND WATER. GROUND WATER RECORDED AT 3m BGL. UNABLE TO ARCHIVE 1m CLEARANCE FROM BASE OF DRAINAGE SYSTEM TO GROUND WATER.

DRAINAGE DESIGN SUBJECT TO APPROVAL FROM THE LEAD LOCAL FLOOD AUTHORITY AND UNITED UTILITIES.

Rev	Date	Description	CD	DS	DS
T01	22.02.23	TENDER			

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Client	CONLON CONSTRUCTION LTD				
Project	OLIVE PRIMARY SCHOOL MANCHESTER				
Office	ALTRINCHAM				
Discipline	CIVIL AND STRUCTURAL				
Title	DRAINAGE LAYOUT				
Scale @ A1	1:250	Status	TENDER		



Job Number	Originator	Building/Zone	Level
FS0766	CCL	XX	XX
Type	Discipline	Drawing No.	Revision
DR	C	500	T01

KEY:

- DEVELOPMENT BOUNDARY
- EXISTING PUBLIC COMBINED SEWER
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED COMBINED WATER DRAINAGE
- PROPOSED PERMEABLE MUGA
- PROPOSED CELLULAR STORAGE
- PROPOSED LINED FILTER DRAIN WITH PERFORATED PIPE
- PROPOSED FULL RETENTION INTERCEPTOR, LARGEST NSF5020 OR SIMILAR APPROVED

PROPOSED LINEAR CHANNEL, GATIC OR SIMILAR APPROVED, 300mm TBC BY SELECTED MANUFACTURER. ACCESS AND OUTLET BOXES REQUIRED TO EACH END. OUTLET PIPE SIZED TO SUIT.

PROPOSED LINEAR CHANNEL, GATIC OR SIMILAR APPROVED, 150mm TBC BY SELECTED MANUFACTURER. ACCESS AND OUTLET BOXES REQUIRED TO EACH END. OUTLET PIPE SIZED TO SUIT.

PROPOSED LINEAR CHANNEL, GATIC OR SIMILAR APPROVED, 75mm TBC BY SELECTED MANUFACTURER. ACCESS AND OUTLET BOXES REQUIRED TO EACH END. OUTLET PIPE SIZED TO SUIT.

PROPOSED RAIN WATER PIPE AND 100mm CONNECTION. UNO.

PROPOSED SOIL VENT PIPE AND 100mm CONNECTION. UNO.

PROPOSED WASH DOWN GULLY AND 150mm CONNECTION.

PROPOSED FLOOR GULLY AND 100mm CONNECTION. ARCHITECT TO SPECIFY.

PASS ABOVE, PASS BELOW OR PASS THROUGH FOUNDATION

PROPOSED BACKDROP AND HIGH LEVEL INVERT

POTENTIAL PUBLIC SEWER DIVERSION. MAY REQUIRE A S165 APPLICATION TO BE SUBMITTED SUBJECT TO BUILD OVER PROPOSALS ACCEPTED.

PROPOSED FOUNDATIONS. SEE CCL FOUNDATION DRAWINGS FOR DETAILS.

Birmingham 0121 220 7600, Glasgow 0141 615 6000, Newcastle 0191 221 0102, Norwich 01603 335 000, Plymouth 01752 23370, Reading 0118 941 9088, Manchester 0161 615 6000, Newcastle 0191 221 0102, London 020 3077 0070

United Utilities Comments

Manchester City Council
By email

Your ref: 135936/FO/2023
Our ref: DC/23/473
Date: 01-MAR-23

Dear Planning Team

Location: Bignor Street Park Heywood Park Manchester.

Proposal : Erection of part single, part two storey building to form purpose-built primary school (Class F.1) with associated open space, access, landscaping, boundary treatment and other infrastructure works

United Utilities wish to make the following comments regarding the proposal detailed above.

DRAINAGE

Following our review of the submitted Drainage Strategy, prepared by Clancy Consulting, Ref: 1-21529-CCL-OS-00-RP-0001 Rev B, Dated 5.1.23, Although the proposed drainage methodology is acceptable in principle we have not received further information as mentioned with the report with regards to infiltration testing which would need to be submitted, we also request to see detailed drainage plan with levels information for further assessment prior to planning being granted.

Should planning permission be granted without resolution of all drainage concerns, we request the following condition is attached to any subsequent Decision Notice:

CONDITION

Prior to the commencement of development, details of a sustainable surface water drainage scheme and a foul water drainage scheme shall be submitted to and approved in writing by the Local Planning Authority. The drainage schemes must include:

- (i) An investigation of the hierarchy of drainage options in the National Planning Practice Guidance (or any subsequent amendment thereof). This investigation shall include evidence of an assessment of ground conditions and the potential for infiltration of surface water in accordance with BRE365;***

- (ii) A restricted rate of discharge of surface water agreed with the local planning authority (if it is agreed that infiltration is discounted by the investigations);*
- (iii) Levels of the proposed drainage systems including proposed ground and finished floor levels in AOD;*
- (iv) Incorporate mitigation measures to manage the risk of sewer surcharge where applicable; and*
- (v) Foul and surface water shall drain on separate systems.*

The approved schemes shall also be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards.

Prior to occupation of the proposed development, the drainage schemes shall be completed in accordance with the approved details and retained thereafter for the lifetime of the development.

Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution.

The applicant can discuss any of the above with Developer Engineer, **Shoaib Tauqeer**, by email at wastewaterdeveloperservices@uuplc.co.uk.

Please note, United Utilities is not responsible for advising on rates of discharge to the local watercourse system. This is a matter for discussion with the Lead Local Flood Authority and / or the Environment Agency (if the watercourse is classified as main river).

If the applicant intends to offer wastewater assets forward for adoption by United Utilities, their proposed detailed design will be subject to a technical appraisal by our Developer Services team and must meet the requirements outlined in 'Sewerage Sector Guidance Appendix C – Design and Construction Guidance v2-2' dated 29 June 2022 or any subsequent iteration. This is important as drainage design can be a key determining factor of site levels and layout.

Acceptance of a drainage strategy does not infer that a detailed drainage design will meet the requirements for a successful adoption application. We strongly recommend that no construction commences until the detailed drainage design, has been assessed and accepted in writing by United Utilities. Any work carried out prior to the technical assessment being approved is done entirely at the developer's own risk and could be subject to change.

Management and Maintenance of Sustainable Drainage Systems

Without effective management and maintenance, sustainable drainage systems can fail or become ineffective. We believe we have a duty to advise the Local Planning Authority of this potential risk to ensure the longevity of the surface water drainage system and the service it provides to people. We also wish to minimise the risk of a sustainable drainage system having a detrimental impact on the public sewer network should the two systems interact. We therefore recommend the Local Planning Authority include a condition in any subsequent Decision Notice

regarding a management and maintenance regime for any sustainable drainage system that is included as part of the proposed development. The following may be a useful example.

Prior to occupation of the development a sustainable drainage management and maintenance plan for the lifetime of the development shall be submitted to the local planning authority and agreed in writing. The sustainable drainage management and maintenance plan shall include as a minimum:

- a. Arrangements for adoption by an appropriate public body or statutory undertaker, or, management and maintenance by a resident's management company; and*
- b. Arrangements for inspection and ongoing maintenance of all elements of the sustainable drainage system to secure the operation of the surface water drainage scheme throughout its lifetime.*

The development shall subsequently be completed, maintained and managed in accordance with the approved plan.

Reason: To ensure that management arrangements are in place for the sustainable drainage system in order to manage the risk of flooding and pollution during the lifetime of the development.

Please note United Utilities cannot provide comment on the management and maintenance of an asset that is owned by a third party management and maintenance company and we would not be involved in the discharge of the management and maintenance condition in these circumstances.

UNITED UTILITIES PROPERTY, ASSETS AND INFRASTRUCTURE

Where United Utilities' assets cross the proposed red line boundary, developers must contact our Developer Services team prior to commencing any works on site, including trial holes, groundworks or demolition. Please see 'Contacts' section below.

Water pipelines

United Utilities will not allow building over or in close proximity to a water main.

Wastewater pipelines

United Utilities will not allow a new building to be erected over or in close proximity to a public sewer or any other wastewater pipeline. This will only be reviewed in exceptional circumstances.

Nb. Proposals to extend domestic properties either above, or in close proximity to a public sewer will be reviewed on a case by case basis by either by a building control professional or following a direct application to United Utilities (see our website for further details).

Important information regarding water and wastewater pipelines and apparatus

It is the applicant's responsibility to investigate and demonstrate the exact relationship between United Utilities' assets and the proposed development.

A number of providers offer a paid for mapping service, including United Utilities (see 'Contacts' section below). The position of the underground apparatus shown on water and wastewater asset maps is approximate only and is given in accordance with the best information currently available. Therefore, we strongly recommend the applicant, or any future developer, does not rely solely on the asset maps to inform decisions relating to the detail of their site and instead investigates the precise location of any underground pipelines and apparatus. United Utilities Water will not accept liability for any loss or damage caused by the actual position of our assets and infrastructure being different from those shown on asset maps.

Developer's should investigate the existence and the precise location of water and wastewater pipelines as soon as possible as this could significantly impact the preferred site layout and/or diversion of the asset(s) may be required. Unless there is specific provision within the title of the property or an associated easement, any necessary disconnection or diversion of assets to accommodate development, will be at the applicant/developer's expense. In some circumstances, usually related to the size and nature of the assets impacted by proposals, developers may discover the cost of diversion is prohibitive in the context of their development scheme.

Any agreement to divert our underground assets will be subject to a diversion application, made directly to United Utilities. This is a separate matter to the determination of a planning application. We will not guarantee, or infer acceptance of, a proposed diversion through the planning process (where diversion is indicated on submitted plans). In the event that an application to divert or abandon underground assets is submitted to United Utilities and subsequently rejected (either before or after the determination of a planning application), applicants should be aware that they may need to amend their proposed layout to accommodate United Utilities' assets.

Where United Utilities' assets exist, the level of cover to United Utilities pipelines and apparatus must not be compromised either during or after construction and there should be no additional load bearing capacity on pipelines without prior agreement from United Utilities. This would include sustainable drainage features, earth movement and the transport and position of construction equipment and vehicles.

Any construction activities in the vicinity of United Utilities' assets, including any assets or infrastructure that may be located outside the applicant's red line boundary, must comply with national building and construction standards and where applicable, our 'Standard Conditions for Works Adjacent to Pipelines', a copy of which is available on our website. The applicant, and/or any subsequent developer should note that our 'Standard Conditions' guidance applies to any design and construction activities in close proximity to water pipelines and apparatus that are no longer in service, as well as pipelines and apparatus that are currently operational.

It is the applicant's responsibility to ensure that United Utilities' required access is provided within any proposed layout and that our infrastructure is appropriately protected. The developer would be liable for the cost of any damage to United Utilities' assets resulting from their activity.

WATER AND WASTEWATER SERVICES

If the applicant intends to receive water and/or wastewater services from United Utilities they should visit our website or contact the Developer Services team for advice at the earliest opportunity. This includes seeking confirmation of the required metering arrangements for the proposed development. See 'Contacts' Section below.

If the proposed development site benefits from existing water and wastewater connections, the applicant should not assume that the connection(s) will be suitable for the new proposal or that any existing metering arrangements will suffice. In addition, if reinforcement of the water network is required to meet potential demand, this could be a significant project and the design and construction period should be accounted for.

In some circumstances we may require a compulsory meter is fitted. For detailed guidance on whether the development will require a compulsory meter please visit <https://www.unitedutilities.com/my-account/your-bill/our-household-charges-20212022/> and go to section 7.7 for compulsory metering.

To promote sustainable development United Utilities offers a reduction in infrastructure charges for applicant's delivering water efficient homes and draining surface water sustainably (criteria applies). For further information, we strongly recommend the applicant visits our website when considering any water or wastewater design <https://www.unitedutilities.com/builders-developers/your-development/planning/building-sustainable-homes/>

Business customers can find additional information on our sustainable drainage incentive scheme at <https://www.unitedutilities.com/Business-services/retailers/incentive-schemes/>

To avoid any unnecessary costs and delays being incurred by the applicant or any subsequent developer, we strongly recommend the applicant seeks advice regarding water and wastewater services, and metering arrangements, at the earliest opportunity. Please see 'Contacts' Section below.

CONTACTS

Website

For detailed guidance on water and wastewater services, including application forms and the opportunity to talk to the Developer Services team using the '**Live Chat**' function, please visit:

<http://www.unitedutilities.com/builders-developers.aspx>

Email

For advice on water and wastewater services or to discuss proposals near to pipelines, email the Developer Services team as follows:

Water mains and water supply, including metering - DeveloperServicesWater@uuplc.co.uk

Public sewers and drainage - WastewaterDeveloperServices@uuplc.co.uk

Telephone - 0345 072 6067

Property Searches (for asset maps):

A number of providers offer a paid for mapping service including United Utilities. For more information, or to purchase a sewer and water plan from United Utilities, please visit <https://www.unitedutilities.com/property-searches/>

Water and sewer records can be viewed for free at our Warrington Head Office by calling 0370 751 0101. Appointments must be made in advance. Public sewer records can be viewed at local authority offices. Arrangements should be made directly with the local authority.

We request that a copy of this letter is made available to the applicant.

Yours faithfully

The Planning, Landscape and Ecology Team