



Water Main Protection Strategy

Bowland Meadow, Chipping Lane, Longridge – Phase 2 & 3 Replan

BDW Trading Ltd (Trading as Barratt Homes Manchester)

Ref: H7533-BAH-XX-XX-RP-WR-321400

Revision	Date	Prepared By	Revision Notes
C01	11/01/2024	SPG	First Issue

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Objectives

The purpose of this Water Main Protection Strategy is to provide Barratt Manchester's response in order to discharge Planning condition 13 of 3/2021/1134

Condition 13 of 3/2021/1134 states:

No development shall commence (including any earthworks) until details of the means of ensuring the water main/s that is/are laid within the site boundary are protected from damage as a result of the development have been submitted to and approved by the Local Planning Authority in writing. The details shall include a survey of the exact location of the water main/s and outline the potential impacts on the water main/s from construction activities and the impacts post completion of the development and identify mitigation measures to protect and prevent any damage to the water mains both during construction and post completion of the development. The details shall include a pre and post construction condition survey. Any mitigation measures shall be implemented in full in accordance with the approved details.

Development Proposals

This document refers only to the Phase 2 replan area only covered under decision notice 3/2021/1134. The Phase 2 replan area is part of the much larger site Phase 2 & 3 Site. A plan showing the Phase 2 replan area is shown in Appendix A and indicated by the Red line Site boundary. Where this document refers to "Site Boundary" it refers to the Phase 2 replan boundary only covered under 3/2021/1134

Existing Water Mains

Existing Water main records are obtained prior to any developments proposals being drawn up. Appendix B shows the existing water main records received from United Utilities.

Appendix C shows the above water main record "tiles" combined into one drawing, with the Site Boundary overlaid and shown in Red.

As can be seen on the attached drawing in Appendix C, there are no Existing water mains in or close to the predevelopment site. No pre construction or post construction surveys are required.

Impact on Existing Water Mains

As stated there are no existing water mains in or within close proximity to the predevelopment site. As such the development is not expected to have any impact on existing water mains.

Proposed Water Mains

The only water mains within the site are the new proposed small diameter water mains (upto 110mm dia) being constructed to service the proposed residential dwellings. The proposed water main drawings are shown in Appendix D.

Protection of Proposed Water Mains

All on site works are carried out in accordance with the Group Occupational Safety, Health and Environmental Management System (SHE Management System). The SHE Management System is managed by the Group SHE team. Although not specifically reproduced within this document, the

following are a few of the mandatory environmental procedures, known as Barratt Group Standards (BGS). The BGS's relate to specific processes or work activities and are mandatory requirements to be implemented on all sites.

BGS 00 Group SHE Policies and Procedures

BGS 01 Pre-Commencement

BGS 05 Accident, Incident Reporting & Environmental Reporting

BGS 06 Monitoring, Reporting & Auditing of Safety, Health & Environmental Standards

BGS 07 Development, Induction & Safety, Health & Environmental Briefings (SHEBs)

BGS 27 Trees, Plants and Animals

BGS 28 Chemical Storage, Discharge and Spillage

BGS 29 Waste Management

BGS 31 Crisis Management Responses Plan

BGS 33 Asbestos

BGS 38 Excavating/Driving Piles/Digging

BGS 41 Development Security and Signage

In particular, BGS 38 applies to all work that involves the penetrating of the ground at or below surface level (Not just groundworks). This includes all excavations, trenchless techniques, sheet or driven piling and fencing. BGS 38 is shown in Appendix F.

All water mains are designed and positioned in accordance with the industry standard guidance written in "Volume 1 - NJUG Guidelines on The positioning and colour coding of underground utilities' Apparatus".

All water mains are installed by specialist multi utility contractors, in accordance with the guidance written in "Volume 5 - NJUG On-Site environmental good practice guidelines".

All water mains are located in hard surfaced highways and footways, and service verges, and at depth thus are afforded significant protection from construction related activities.

As-built records are provided to the site team upon completion of each phase of water main works. Evidence of As-built records are provided in Appendix E.

Summary

There are No existing water mains within or in close proximity to the site. Only proposed water mains are expected within the site. Existing Health & Safety standard practice and guidance by all contractors is sufficient to identify, protect and mitigate against any damage due to construction activities. As such the site and any existing or proposed water mains are at a low risk of damage due to construction activities.

End.

Appendix A

SCHEDULE OF ACCOMMODATION

Ref	Barratt Type	House Type	Sqft	No	Total Sqft	
AFFORDABLE TYPES						
STANDARD						
DNF	Denford	2 Bedroom affordable mews	624	19	11856	
BRN	Brandon	3 Bedroom affordable mews	706	25	17650	
ELDERLEY						
BED	Bedale	2 Bed LTH Bungalow	594	7	4158	
BEL	Belmont	2 Bed LTH House	731	8	5848	
AFFORDABLE TOTAL						
					59	39512
PRIVATE SALE TYPES						
ELDERLEY						
BED	Bedale	2 Bed LTH Bungalow	594	7	4158	
BEL	Belmont	2 Bed LTH House	731	8	5848	
STANDARD						
ELL	Ellerton	3 Bed semi-detached house	830	33	27390	
IMOR	Moresby	3 Bed dual aspect semi-detached house	854	25	21350	
KNS	Kingsville	3 bed townhouse	1072	21	22512	
LUT	Lutterworth	3 bed detached house	1001	5	5005	
ALD	Alderney	4 bed dual aspect detached house	1225	12	14700	
DMN	Dunby	3 bed detached house	890	8	7920	
WIN	Windermere	4 bed detached house	1073	19	20387	
THO	Thornton	4 bed detached house	1202	1	1202	
PRIVATE SALE TOTAL						
					139	129502
Total number of units and square footage					198	169104
Gross Site Area in Acres					26.11	
Total Undevelopable area in acres					14.15	
Net Site Area in Acres					11.96	
Density (units per acre)					17	
Density (units per hectare)					41	
Square foot / Acre					14,139	

DRAWING KEY

- (AF) AFFORDABLE DWELLINGS
- (EL) DWELLING FOR THE ELDERLY
- (T) PROPOSED TRIM TRAIL ITEM
- TREE/ HEDGE TO BE REMOVED
- TREE/ HEDGE TO BE RETAINED
- BLOCK PAVIORS (RED)
- PROPOSED INDICATIVE TREE PLANTING
- 1800mm TIMBER GATE
- FLOTS REQUIRING FALSE CHIMNEYS. SEE WORKING DRAWINGS FOR DETAILS.

Refer to engineers highway surfacing drawing for details of surfacing to adoptable areas

Rev	Description	Date	Drawn	Check'd
F	Updated plots 52/54 to suit the as built	01/09/23	GB	
E	Added chimney symbols to select plots to assist subcontractor	18/02/23	GB	
D	Widened drive of plot 96 to 5.5 metres.	18/01/23	GB	
C	Moved rear gate position of plot 121.	28/07/22	GB	
B	Add on collection points for plots 116, 137, 138, 150, 165, 141. Cycle storage added to plots within the plan area which do not have a garage.	08/02/22	GB	
A	Amended wall of plot 124, amended path for plot 123.	20/10/21	GB	

BARRATT HOMES MANCHESTER
 Barratt Homes Manchester
 (A division of BDW Trading Ltd)
 4 Bradley Road
 City Park
 Manchester
 M16 9HQ
 Tel: 0161 872 9161
 Fax: 0161 855 2828

CHIPPING LANE LONGRIDGE

PHASE 2 / 3 PLANNING LAYOUT

Design By	Date	Scale	Drawing Number	Rev
AA	05/10/18	Scale @ A2	459-PL06	F
AA		1:500		



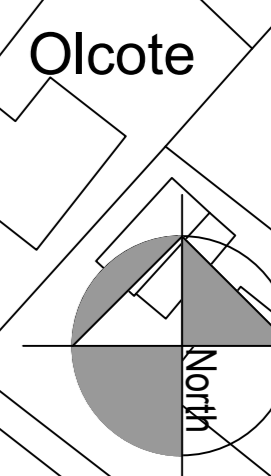
PHASE 1

LAND RETAINED IN AGRICULTURE

LAND RETAINED IN AGRICULTURE

Play Area

SCALE
Scale Bar



Appendix B



Legend

PIPE WORK

- | | | |
|---|---|---|
| Live | Proposed | Trunk Main - PressurisedMain |
| Raw Water Aqueduct - PressurisedMain | Raw Water Aqueduct - GravityMain | LDTM Raw Water Distribution - PressurisedMain |
| LDTM Raw Water Distribution - GravityMain | LDTM Treated Water Distribution - PressurisedMain | LDTM Treated Water Distribution - GravityMain |
| Private Pipe - LateralLine | Distribution Main - PressurisedMain | Comms Pipe - LateralLine |
| Concessionary Service - LateralLine | | |

ABANDONED PIPE

- | | | | | | | | |
|------------|--------------------|-----------------------------|---------------------------------|--------------|-------------------|------------|-----------------------|
| Trunk Main | Raw Water Aqueduct | LDTM Raw Water Distribution | LDTM Treated Water Distribution | Private Pipe | Distribution Main | Comms Pipe | Concessionary Service |
|------------|--------------------|-----------------------------|---------------------------------|--------------|-------------------|------------|-----------------------|

NODES/ FURNITURE

- | | | |
|-----------------------|------------------|---------------------------|
| Live | Proposed | End Cap |
| CC Valve | AC Valve | Air Valve |
| Sluice Valve | Non Return Valve | Pressure Management Valve |
| Change of Char | Anode | Chlorination Point |
| De Chlorination Point | Bore Hole | Inlet Point |
| Bulk Supply Point | Fire Hydrant | Hydrant |
| Private Fire Hydrant | Pump | Site Termination |
| Service Start | Service End | Process Meter |
| Stop Tap | Monitor Location | Strainer Point |
| Access Point | Hatch Box | IP Point |
| Route Marker | Sampling Station | Logger Box |

Property Types

- | | | |
|-----------------------|-------------------------|------------------|
| Live | Proposed | Condition Report |
| Pipe Bridges | Tunnels (non carrier) | Pumping Station |
| Water Treatment Works | Private Treatment Works | Valve House |
| Water Tower | Service Reservoir | Supply Reservoir |
| Abstraction Point | Domestic meter | Commercial meter |
| Telemetry Outstation | | |

Material Types

- | | |
|--------------------|-----------------|
| AC ASBESTOS CEMENT | OT OTHERS |
| CI CAST IRON | PB LEAD |
| CU COPPER | PV uPVC |
| CO CONCRETE | SI SPUN IRON |
| DI DUCTILE IRON | ST STEEL |
| GI GALVANISED IRON | UN UNKNOWN |
| GR GREY IRON | PE POLYETHYLENE |

Lining Types

- | | |
|-------------------|-----------------|
| CL CEMENT LINING | ERL EPOXY RESIN |
| TB TAR OR BITUMEN | |

Insertion Types

- | | |
|-------------------------|---------------|
| DD DIE DRAWN | MO MOLING |
| DR DIRECTIONAL DRILLING | PI PIPELINE |
| | SL SLIP LINED |

The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan private service pipes may be shown by a broken blue line. United Utilities will not accept any liability for any damage caused by the actual positions being different from those shown.

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OS Sheet No: SD6037NE

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Date: 10/11/2015



Legend

PIPE WORK

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| | | Raw Water Aqueduct - GravityMain |
| | | LDTM Raw Water Distribution - PressurisedMain |
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| | | LDTM Treated Water Distribution - GravityMain |
| | | Private Pipe - LateralLine |
| | | Distribution Main - PressurisedMain |
| | | Comms Pipe - LateralLine |
| | | Concessionary Service - LateralLine |

ABANDONED PIPE

- | | |
|--|---------------------------------|
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| | | Air Valve |
| | | Sluice Valve |
| | | Non Return Valve |
| | | Pressure Management Valve |
| | | Change of Char |
| | | Anode |
| | | Chlorination Point |
| | | De Chlorination Point |
| | | Bore Hole |
| | | Inlet Point |
| | | Bulk Supply Point |
| | | Fire Hydrant |
| | | Hydrant |
| | | Private Fire Hydrant |
| | | Pump |
| | | Site Termination |
| | | Service Start |
| | | Service End |
| | | Process Meter |
| | | Stop Tap |
| | | Monitor Location |
| | | Strainer Point |
| | | Access Point |
| | | Hatch Box |
| | | IP Point |
| | | Route Marker |
| | | Sampling Station |
| | | Logger Box |

Property Types

- | | | |
|-------------|-----------------|-------------------------|
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| | | Water Tower |
| | | Service Reservoir |
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| | | Abstraction Point |
| | | Domestic meter |
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| | | Telemetry Outstation |

Material Types

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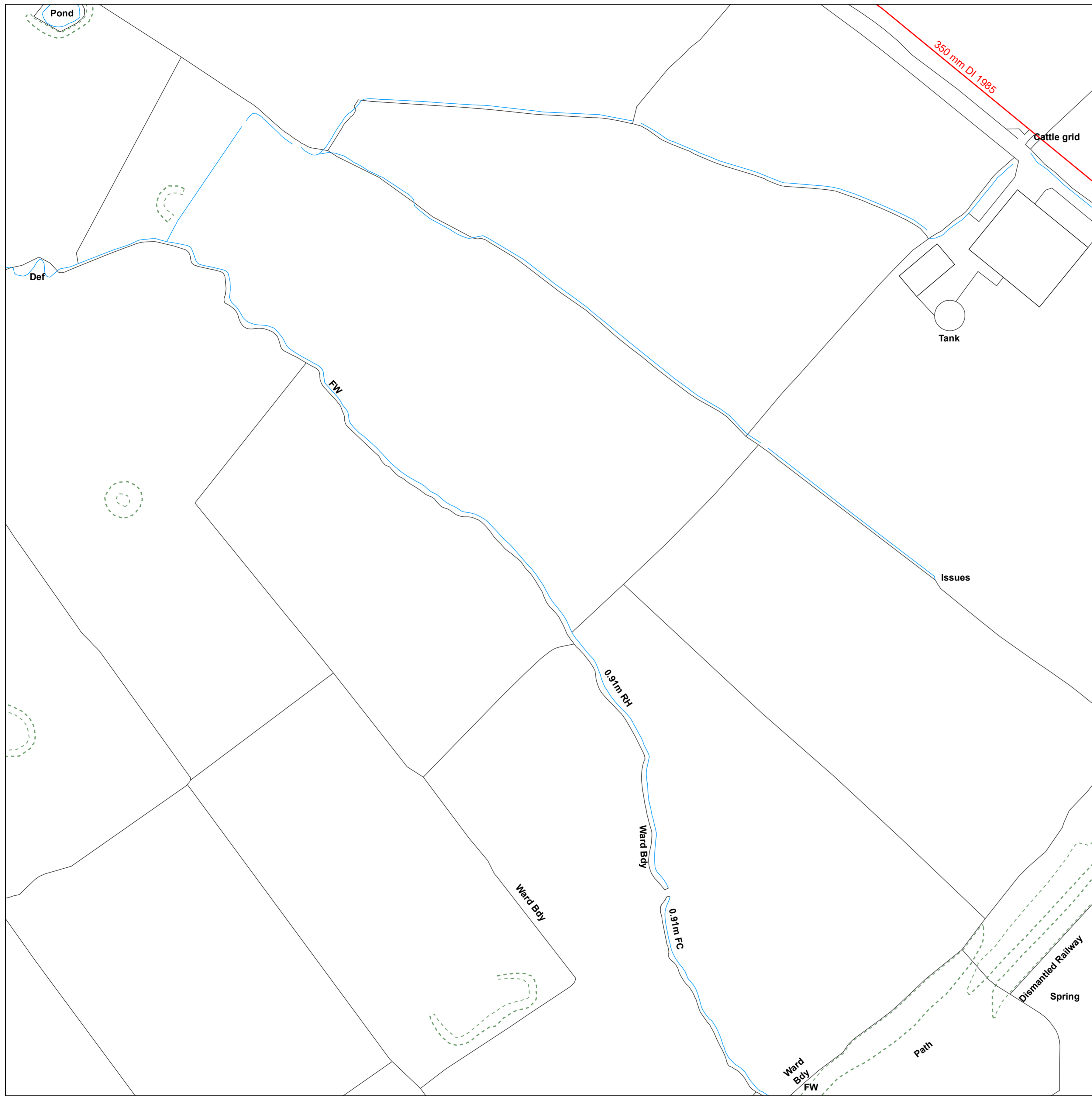
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WATER MAIN RECORDS



Legend

PIPE WORK

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| Private Fire Hydrant | Pump | Site Termination |
| Service Start | Service End | Process Meter |
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| Abstraction Point | Domestic meter | Commercial meter |
| Telemetry Outstation | | |

Material Types

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Lining Types

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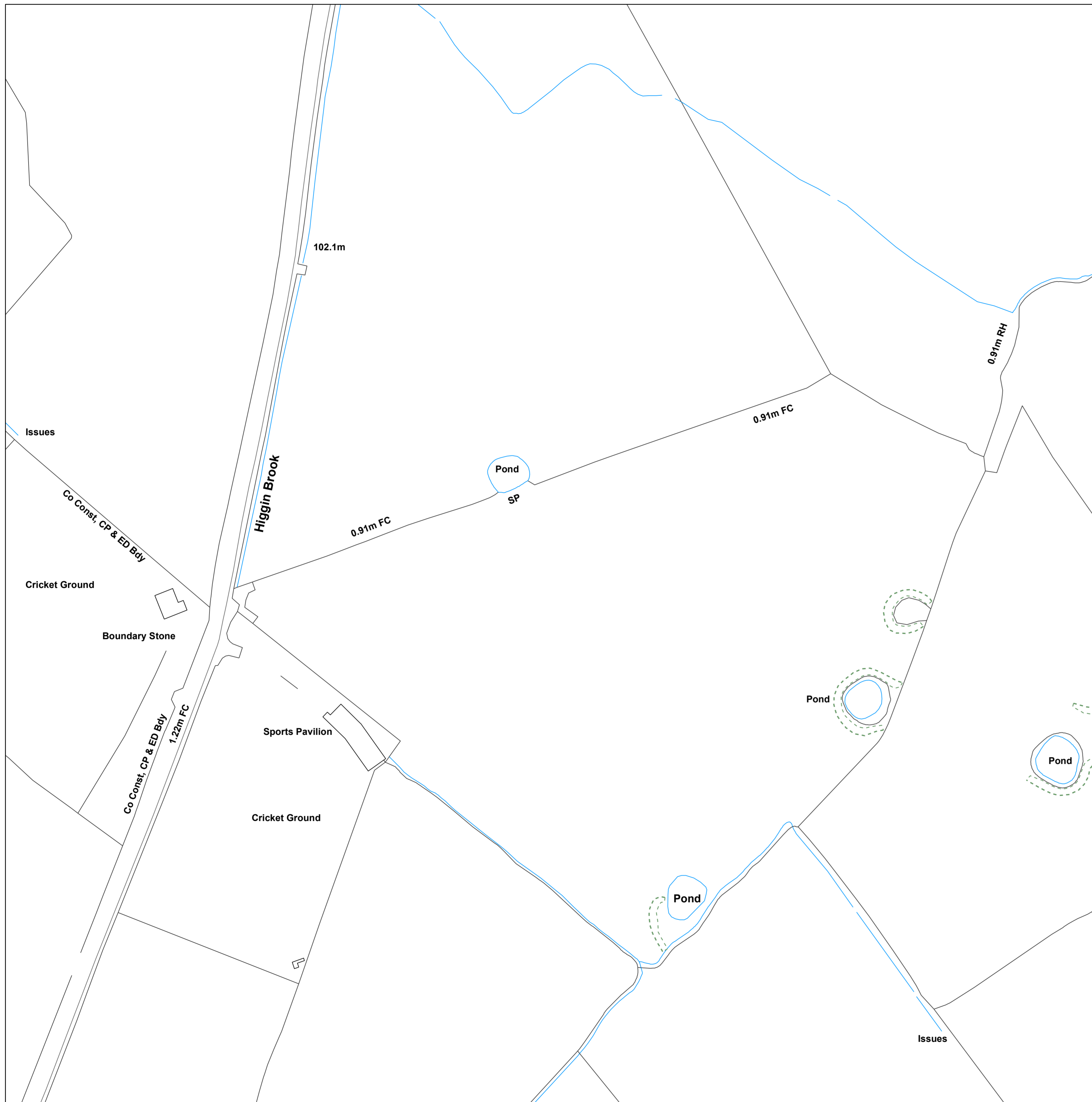
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WATER MAIN RECORDS



Legend

PIPE WORK

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ABANDONED PIPE

	Trunk Main
	Raw Water Aqueduct
	LDTM Raw Water Distribution
	LDTM Treated Water Distribution
	Private Pipe
	Distribution Main
	Comms Pipe
	Concessionary Service

NODES/ FURNITURE

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		End Cap
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		AC Valve
		Air Valve
		Sluice Valve
		Non Return Valve
		Pressure Management Valve
		Change of Char
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		Inlet Point
		Bulk Supply Point
		Fire Hydrant
		Hydrant
		Private Fire Hydrant
		Pump
		Site Termination
		Service Start
		Service End
		Process Meter
		Stop Tap
		Monitor Location
		Strainer Point
		Access Point
		Hatch Box
		IP Point
		Route Marker
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		Logger Box

Property Types

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		Water Treatment Works
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		Valve House
		Water Tower
		Service Reservoir
		Supply Reservoir
		Abstraction Point
		Domestic meter
		Commercial meter
		Telemetry Outstation

Material Types

AC	ASBESTOS CEMENT	OT	OTHERS
CI	CAST IRON	PB	LEAD
CU	COPPER	PV	uPVC
CO	CONCRETE	SI	SPUN IRON
DI	DUCTILE IRON	ST	STEEL
GI	GALVANISED IRON	UN	UNKNOWN
GR	GREY IRON	PE	POLYETHYLENE

Lining Types

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TB	TAR OR BITUMEN		

Insertion Types

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DR	DIRECTIONAL DRILLING	PI	PIPELINE
		SL	SLIP LINED

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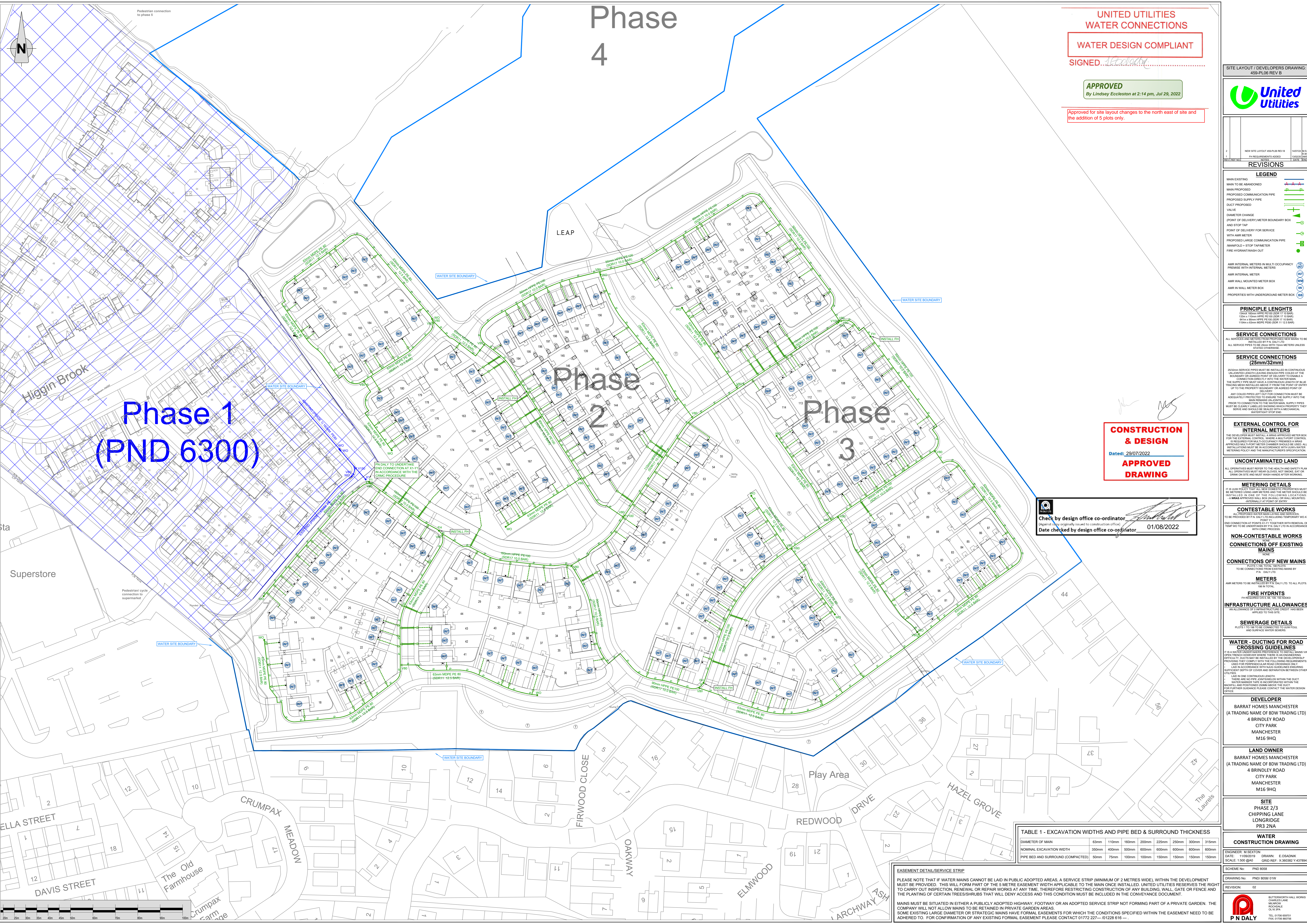
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WATER MAIN RECORDS

Appendix C

Appendix D



Phase 4

**UNITED UTILITIES
WATER CONNECTIONS**
WATER DESIGN COMPLIANT
 SIGNED *[Signature]*
APPROVED
 By Lindsey Eccleston at 2:14 pm, Jul 29, 2022

Approved for site layout changes to the north east of site and the addition of 5 plots only.

**Phase 1
(PND 6300)**

Phase 2

Phase 3

**CONSTRUCTION
& DESIGN**
 Dated: 29/07/2022
**APPROVED
DRAWING**

Check by design office co-ordinator *[Signature]*
 Date checked by design office co-ordinator 01/08/2022

SITE LAYOUT / DEVELOPERS DRAWING:
459-PL06 REV B



NO.	DESCRIPTION	DATE
1	NEW SITE LAYOUT 459-PL06 REV B	14/07/22
2	FOR REQUIREMENTS ABOVE	13/08/22

LEGEND

MAIN EXISTING	
MAIN TO BE ABANDONED	
MAIN PROPOSED	
PROPOSED COMMUNICATION PIPE	
PROPOSED SUPPLY PIPE	
DUCT PROPOSED	
VALVE	
DIAMETER CHANGE	
POINT OF DELIVERY (METER BOUNDARY BOX AND STOP TAP)	
POINT OF DELIVERY FOR SERVICE WITH ARM METER	
PROPOSED LARGE COMMUNICATION PIPE MANIFOLD + STOP TAP/METER	
FIRE HYDRANT/WASH OUT	
ARM INTERNAL METERS IN MULTI OCCUPANCY PREMISE WITH INTERNAL METERS	
ARM INTERNAL METER	
ARM WALL MOUNTED METER BOX	
ARM IN WALL METER BOX	
PROPERTIES WITH UNDERGROUND METER BOX	

PRINCIPLE LENGTHS

150mm HDPE PE100 (SDR11 12.5 BAR)	100m
135mm HDPE PE100 (SDR11 17 BAR)	100m
110mm HDPE PE100 (SDR11 22.5 BAR)	100m

SERVICE CONNECTIONS

ALL SERVICES TO BE INSTALLED BY P.N. DALY LTD. ALL SERVICE PIPES TO BE COVERED WITH 150mm METERS UNLESS STATED OTHERWISE.

SERVICE CONNECTIONS (25mm/32mm)

250mm SERVICE PIPES MUST BE INSTALLED IN CONTINUOUS UNINTERRUPTED LENGTH LEAVING ENOUGH PIPE COILED AT THE POINT OF ENTRY TO THE PROPERTY TO ENABLE A CONNECTION TO BE MADE TO THE MAIN. THE SUPPLY PIPES MUST HAVE A PROTECTIVE BLUE TRACED METEER INSTALLED ABOVE IT FROM THE POINT OF ENTRY UP TO THE PROPERTY BOUNDARY OR APPROVED POINT OF ENTRY. ANY COILED PIPES LEFT OUT FOR CONNECTION MUST BE ADEQUATELY PROTECTED TO THE WATER MAIN. SUPPLY PIPES MUST BE CLEARLY LABELLED WITH PROPERTY NUMBER THEY SERVE AND MUST BE SEALED WITH A MECHANICAL WATERSTOP STOP END.

EXTERNAL CONTROL FOR INTERNAL METERS

THE DEVELOPER MUST INSTALL A WRAS APPROVED METER BOX FOR THE EXTERNAL CONTROL. WRAS APPROVED METER BOXES MUST BE USED. ALL METERING POLICY AND THE MANUFACTURERS SPECIFICATION.

UNCONTAMINATED LAND

ALL OPERATIONS MUST REFER TO THE HEALTH AND SAFETY PLAN. ALL OPERATIONS MUST WEAR GLOVES, NOT SMOKE, EAT OR DRINK ON SITE AND MUST WASH HANDS AFTER WORKING.

METERING DETAILS

IF IN SLOW FLOW SITUATIONS METER MUST BE INSTALLED USING ARM METERS AND THE METER SHOULD BE INSTALLED IN ONE OF THE FOLLOWING LOCATIONS (A WRAS APPROVED METER CHAMBER SHOULD BE USED INTERNALLY AT POINT OF ENTRY).

CONTESTABLE WORKS

IF WORK PROPOSED WITHIN MAIN LAYERS AND SERVICES TO BE PROVIDED BY P.N. DALY LTD. INCLUDING TEMPORARY WORK AT END CONNECTION AT POINTS 20-11 TOGETHER WITH REMOVAL OF TROOP AND TO BE REINSTATED BY THE DEVELOPER IN ACCORDANCE WITH GRAC PROCESSES.

NON-CONTESTABLE WORKS

CONNECTIONS OFF EXISTING MAINS

CONNECTIONS OFF NEW MAINS

FLOORS 1-108 TOTAL 108 PLOTS TO BE CONNECTED FROM EXISTING MAINS BY P.N. DALY LTD.

METERS

ARM METERS TO BE INSTALLED BY P.N. DALY LTD. TO ALL PLOTS 108 IN TOTAL.

FIRE HYDRANTS

108 HYDRANTS TO BE PROVIDED.

INFRASTRUCTURE ALLOWANCES

AN ALLOWANCE OF INFRASTRUCTURE CREDIT HAS BEEN APPLIED TO THIS SITE.

SEWERAGE DETAILS

PLOTS 1 TO 108 TO BE CONNECTED TO 150mm FOGG AND SURFACE WATER SEWERS.

WATER - DUCTING FOR ROAD CROSSING GUIDELINES

IT IS A WRAS RECOMMENDED PRACTICE TO INSTALL MAINS VIA DIFFICULTY DUCTS MAY BE INSTALLED BY THE DEVELOPER PROVIDED THEY COMPLY WITH THE FOLLOWING REQUIREMENTS:
 * USED FOR PERPENDICULAR ROAD CROSSINGS ONLY.
 * Laid IN ACCORDANCE WITH ROAD CROSSING ENGINEERING STANDARDS.
 * SUFFICIENT DEPTH OF COVER AND SEPARATION BETWEEN OTHER UTILITIES.
 * Laid IN ONE CONTINUOUS LENGTH.
 * THERE ARE NO JOINTS/WELDS WITHIN THE DUCT.
 * WATER DAMPER TAP IS INCORPORATED WITHIN THE BACKSILL AND POSITIONED 200mm ABOVE THE DUCT.
 * FOR OTHERS GUIDANCE PLEASE CONTACT THE WATER DESIGN OFFICE.

DEVELOPER
 BARRAT HOMES MANCHESTER
 (A TRADING NAME OF BOW TRADING LTD)
 4 BRINDLEY ROAD
 CITY PARK
 MANCHESTER
 M16 9HQ

LAND OWNER
 BARRAT HOMES MANCHESTER
 (A TRADING NAME OF BOW TRADING LTD)
 4 BRINDLEY ROAD
 CITY PARK
 MANCHESTER
 M16 9HQ

SITE
 PHASE 2/3
 CHIPPING LANE
 LONGRIDGE
 PR3 2NA

WATER CONSTRUCTION DRAWING

ENGINEER: M SEXTON
 DATE: 11/08/2019 DRAWN: E OSADNIK
 SCALE: 1:500 GND: REF: X-36383 Y-43784

TABLE 1 - EXCAVATION WIDTHS AND PIPE BED & SURROUND THICKNESS

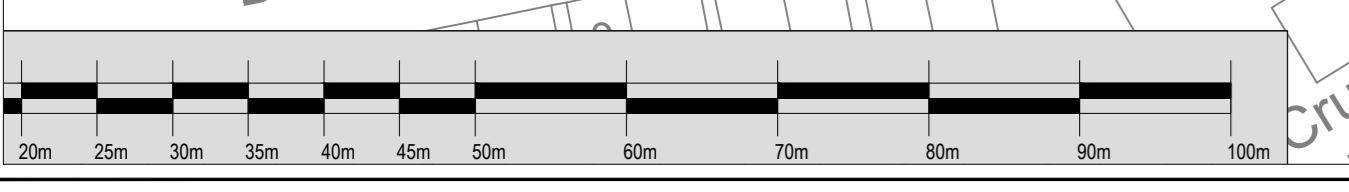
DIAMETER OF MAIN	63mm	110mm	160mm	200mm	225mm	250mm	300mm	315mm
NOMINAL EXCAVATION WIDTH	350mm	400mm	500mm	600mm	600mm	600mm	600mm	600mm
PIPE BED AND SURROUND (COMPACTED)	50mm	75mm	100mm	100mm	150mm	150mm	150mm	150mm

EASEMENT DETAIL/SERVICE STRIP

PLEASE NOTE THAT IF WATER MAINS CANNOT BE LAID IN PUBLIC ADOPTED AREAS, A SERVICE STRIP (MINIMUM OF 2 METRES WIDE), WITHIN THE DEVELOPMENT MUST BE PROVIDED. THIS WILL FORM PART OF THE 5 METRE EASEMENT WIDTH APPLICABLE TO THE MAIN ONCE INSTALLED. UNITED UTILITIES RESERVES THE RIGHT TO CARRY OUT INSPECTION, RENEWAL OR REPAIR WORKS AT ANY TIME. THEREFORE RESTRICTING CONSTRUCTION OF ANY BUILDING, WALL, GATE OR FENCE AND THE PLANTING OF CERTAIN TREES/SHRUBS THAT WILL DENY ACCESS AND THIS CONDITION MUST BE INCLUDED IN THE CONVEYANCE DOCUMENT.

MAINS MUST BE SITUATED IN EITHER A PUBLICLY ADOPTED HIGHWAY, FOOTWAY OR AN ADOPTED SERVICE STRIP NOT FORMING PART OF A PRIVATE GARDEN. THE COMPANY WILL NOT ALLOW MAINS TO BE RETAINED IN PRIVATE GARDEN AREAS.

SOME EXISTING LARGE DIAMETER OR STRATEGIC MAINS HAVE FORMAL EASEMENTS FOR WHICH THE CONDITIONS SPECIFIED WITHIN THE EASEMENT NEED TO BE ADHERED TO. FOR CONFIRMATION OF ANY EXISTING FORMAL EASEMENT PLEASE CONTACT 01772 2277 - 01225 816



Appendix E

AS LAID MAINS DATA			
LOCATION	AGENT	LAID BY	DATE
142-156	M. LILLIS	P. HAYHURST	08/05/23
118-137	M. LILLIS	A. REEVES	13/11/23
176-179	M. LILLIS	A. REEVES	21/11/23

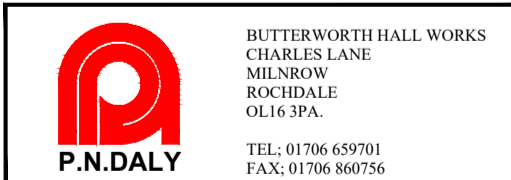


SITE LAYOUT DRAWING / DEVELOPERS DRAWING No: 459-PL06 REV B

DO NOT SCALE

DISCLAIMER NOTICE
 THE DEPTH AND POSITION OF ALL SERVICE / DISTRIBUTION EQUIPMENT INSTALLED BY P.N.DALYS LIMITED, WAS ACCURATE AS SHOWN AT THE TIME OF INSTALLATION. HOWEVER, THIRD PARTIES MAY HAVE ALTERED THE LEVELS AND OTHER REFERENCE DATA. THEREFORE, P.N.DALYS LIMITED ACCEPT NO RESPONSIBILITY FOR THE POSITION OF P.N.DALYS LIMITED INSTALLED EQUIPMENT, BEING DIFFERENT TO THAT SHOWN.

REV	NOTES	DATE	INS
1	CRMC CONNECTION @ PLOT 122	22/02/21	K.M.
2	MAINS LAID FROM PLOTS 2-15	15/03/21	K.M.
3	CRMC CONNECTION @ PLOT 227	05/21	K.M.
4	MAINS ADDED FROM PLOT 37 TO 41, 28 TO 36 & 33 TO 190	13/08/21	N.W.
5	CRMC CONNECTION @ PLOT 28	22/10/21	G.B.
6	MAINS LAID FROM PLOTS 68-75, 85-98, 99-76, 59-56	30/11/21	K.M.
7	MAINS LAID FROM PLOTS 59-105, 105-75, 81-97	28/01/22	G.B.
8	MAINS ADDED FROM PLOT 48 TO 105 & 152 TO 159	20/05/22	N.W.
9	CRMC CONNECTION @ PLOT 41	10/06/22	K.M.
10	CRMC CONNECTION @ PLOT 65	29/06/22	K.M.
11	NEW SITE LAYOUT 459-PL06 REV B	14/07/22	K.M.
12	MAINS ADDED FROM PLOT 166-180, 181 & 123-136	23/08/22	N.W.
13	MAINS ADDED FROM PLOT 167-171 (PH2) & 97-115 (PH3)	04/11/22	N.W.
14	BACK TO BACK WASHOUTS ADDED CLOSE TO PLOT 59	15/02/23	N.W.
15	CRMC'S @ PLOTS 48, 105, 194	15/02/23	K.M.
16	MAIN ADDED BETWEEN PLOTS 142-156	09/05/23	N.W.
17	CRMC'S @ PLOTS 97, 59, 156 & 142	29/06/23	K.M.
18	MAIN ADDED BETWEEN PLOTS 118-137	16/11/23	S.K.
19	MAIN ADDED BETWEEN PLOTS 176-179	21/11/23	S.K.
20	CRMC @ PLOT 118	07/12/23	K.M.

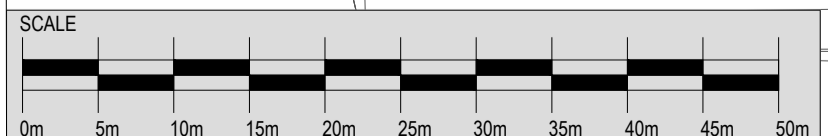


"AS LAID" DRAWING WATER

LOCATION: PHASE 2/3 CHIPPING LANE LONGRIDGE PR3 2NA

Drawn By: K.MCMYLOR
 Scale: 1:500 @ A1
 Date: 25/09/20
 Project No: PND 8058
 Drawing No: PND/8058/AL 01W
 Revision No: 20
 Issue Date: 07/12/23
 Grid Ref: E:360382 N:437894

NOTES: BARRATT



Appendix F

OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENTAL PROCESSES AND PROCEDURES MANUAL (PPM)

BARRATT GROUP STANDARD (BGS)

38 EXCAVATING/DRIVING PILES/DIGGING - June 2022



Version Control	Date
V1.00	June 2022

Approval and sign-off	Name	Confirmation & date
Sponsor	Steven Boyes, Chief Operating Officer	27.05.2022
Owner	Vince Coyle, Group Construction, and SHE Director	27.05.2022
Author	Vince Coyle, Group Construction, and SHE Director	27.05.2022



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2.	SHE Policy and Controls	5
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3.	Excavating/Driving Piles/Digging	6

1. Introduction and Scope

1.1 Introduction

Barratt Developments PLC (the Group) is fully committed to achieving high standards of health, safety and welfare, creating a safe working environment at all times.

This document sets out the Group's processes and procedures for Safety, Health and Environmental (SHE). It must be read in conjunction with the SHE policy document located on [DocuShare](#).

The SHE policy is denoted at the start of the section to which it relates by the exclamation mark symbol and text noting what must be complied with, for example:



The SHE Policy states:

The policy statement(s) are noted thus.

This policy provides the narrative as to 'what' must be complied with, within the business and the control around the policy refers to 'how' the policy is to be complied with through these procedures; the control elements are denoted by the tick symbol and text, for example:



The SHE Control states:

The control for the policy is noted thus.

Additionally, where the SHE PPM has a close relationship to other departmental policies and procedures, these are referenced by the warning symbol and text, for example:



The SHE Relationship states:

Reference should be made to the following procedure documents.

The Group Safety, Health & Environmental Director, Group Safety, Health & Environment (or Delegate of Authority where appropriate) is responsible for ensuring that all SHE team members have access to and comply with this information, providing:

- A reference point in the event of any query on policy or procedure
- A standard and consistent operating procedure across the Barratt Group
- An auditable trail of process to enable the Group to inspect the SHE operation and carry out checks on a Division's efficiency and compliance
- Best practice across the Group, by being subject to review and the adoption of regular updates to capture continuing improvements within the business.

It is vitally important that all members of the SHE department are fully conversant with these policies and procedures. The adoption of, compliance with and ongoing review of these policies and procedures will support the department in achieving its objectives.



By following these policies and procedures Divisions will be able to self-audit their processes, this will be backed-up by Group audits on a regular basis for compliance.

1.2 Scope of the SHE Barratt Groups Standards that must be followed

This document covers:

- Excavating, driving piles and digging.

2. SHE Policy and Controls

2.1 Table of Policy and Controls

The following table provides details of the SHE Policy statements and the Controls in place to ensure compliance. Additional hyperlinks are provided to sections within this document and to process flow charts for reference.

! Policy	✓ Controls	△ References
<p>Excavating / Driving Piles / Digging</p> <p>Prior to any work involving the breaking of the ground a survey must be undertaken using a cable avoidance tool (CAT) by a suitably trained person</p> <p>Work must be controlled by a Permit to dig / excavate / drive piles and a copy of the service drawing for the dig area must be available for review in the excavator, or be held by the operatives in the work area</p>	<p>Excavating / Driving Piles / Digging</p> <p>Statutory inspections /Examinations of excavations must be made by competent personnel and a record maintained by the subcontractor, which must be available on site. SHE form 50 can be used if required.</p>	<p>SHE Form 50</p>

3. Excavating/Driving Piles/Digging

The SHE Policy states:

Excavating/Driving Piles/Digging



- Prior to any work involving the breaking of the ground a survey must be undertaken using a cable avoidance tool (CAT) by a suitably trained person
- Work must be controlled by a Permit to dig / excavate / drive piles and a copy of the service drawing for the dig area must be available for review in the excavator, or be held by the operatives in the work area.

The SHE Control states:

Excavating/Driving Piles/Digging



- Statutory inspections /Examinations of excavations must be made by competent personnel and a record maintained by the subcontractor, which must be available on site. SHE form 50 can be used if required.

		Reference	Responsibility
1.0	This procedure applies to all work that involves the penetrating of the ground at or below surface level (Not just groundworks). This includes all excavations, trenchless techniques, sheet or driven piling and fencing.		
2.0	<p>A safe system of work must be in place for the work which involves but is not limited to:</p> <ul style="list-style-type: none"> • Correct use of accurate plans to aid the location of services • Use of cable avoidance tools by competent persons • Use of safe digging or drilling techniques • Detail the restrictions for use of plant, including tools and equipment for the work • Permit control documentation • Support of adjacent structures • Safe Means of access into an excavation • Preventing collapse by support or battering sides of excavation • Suitable barriers at ground level to prevent falls of persons and materials • Maintaining fresh air and suitable lighting where required • Contaminated Land • Consideration for the management of water ingress. 	SHE Form 14	Site Manager
3.0	Where applicable additional control measures must be introduced in order to manage confined spaces works.	BGS 09	Site Manager



		Reference	Responsibility
4.0	A geotechnical soil investigation survey must be completed in order to determine the physical properties of the soil, and to assess the potential for contamination.	Geotechnical Report SHE Form 04	Technical Director
5.0	Accurate services drawings must always be available on all sites, which are consulted prior to any work taking place. These must be updated when any new services are identified or installed. A register must be maintained of the latest service drawing	Service Drawings As Built Drawings	Technical Manager / Site Manager
6.0	Prior to any work involving the breaking of the ground a survey must be undertaken using a cable avoidance tool (CAT) by a suitably trained person and a copy of their training qualification must be held on site. A copy of the cable locating device 12 Monthly calibration must be available on site. Cables may not be detected if not there is no electrical draw, are pot-ended, or are low voltage cables and therefore radio detection mode may be required. Recorded CAT surveys must continue during the excavation works.	Contractor safe system of work Operating Instructions on radio detection	Site Manager
7.0	The position of any services must be clearly marked on the ground using waterproof spray paint or by erecting suitable signs.	SHE Form 44	Site Manager
8.0	Work must be controlled by a Permit to dig / excavate / drive piles and a copy of the service drawing for the dig area must be available for review in the excavator, or be held by the operatives in the work area.	Contractor Safe System of Work	Site Manager
9.0	The hierarchy of control to ensure safe digging for service connections on site is: <ul style="list-style-type: none"> • Services chambers created where practicable which can be easily accessed to allow plot connections etc to be made • Sand/gravel bags placed upon laid services to negate the need for digging in close proximity to the services for any final connections • Vacuum/suction extraction plant where ground conditions permit their use. Where practicable this plant must be used in close proximity to any high pressure or high power services • Where any of the above cannot be applied, safe digging techniques can be undertaken 	SHE Form 44 Safe System of Work	Site Manager
10.0	Where safe digging techniques are being applied the following must be followed:	SHE Form 44 Safe System of Work	Site Manager

		Reference	Responsibility
	<ul style="list-style-type: none"> When digging near cables, insulated hand tools i.e. spades and shovels with wooden or fibreglass handles must be used Mechanical excavator / power tools must not be used within 0.5m of any service (electric, gas, water or communication services). Road pins or metal stakes must not be driven into the ground in the vicinity of any service routes. Before using a mechanical excavator, trial holes must first be dug using hand tools, to confirm the depth and position of services. 		
11.0	Traffic routes must be maintained at a safe distance from the edge of the excavation, with suitable traffic management barriers erected where the risk assessment requires protection. Contractors are to provide the protection for their specific work activities	Traffic Management Plan	Site Manager
12.0	Where plant movements across the site have the potential to damage underground services then exclusion zones or grillage protection must be installed, in order to distribute the weight of the plant. Designated plant may also be considered as part of the traffic management control measures	Contractor safe system of work Site Plant Risk Assessment	Site Manager
13.0	An assessment of the support system required for the prevention of a collapse of the sides of an excavation must be provided by the sub-contractor.	SHE Form 14 BGS 18 SHE Form 05	Site Manager/ Temporary Works Coordinator
14.0	Suitable access must be provided to an excavation based on the assessment detailed in 13.0. No persons should enter an unprotected foundation excavation to remove small items of debris prior to pouring concrete		Site Manager
15.0	Barriers must be placed at ground level by the contractor in order to prevent the falls of persons, materials or plant into an excavation. These must be pedestrian crowd safety barriers which are a minimum of 1m high and are coloured red or white so that they are visible. Lengths of chain/bunting tape slung between posts or 1m high mesh (Netlon) supported by steel pins or timber stakes do not meet the requirement. <i>Note: Barriers can be removed in order to allow access for an excavator etc but must be replaced once the machine moves away from the dig area.</i>		Site Manager



		Reference	Responsibility
16.0	If pedestrian access is required across an excavation, proprietary platforms or rigid matting must be provided which incorporates suitable guardrails and crossing points.		Site Manager
17.0	For protection of excavations adjacent to public highways refer to New Roads and Street Works Act for guidance (NRSWA) requirements for public protection when undertaking road works.	New Roads and Street Works Act – Chapter 8	Site Manager
18.0	Stepping the sides of the excavation is an alternative to battering with the depth and width of the steps determined using the angle of repose guidance below, however the vertical distance must not exceed 1.0m.		Site Manager
19.0	The height of any foundation islands need to be considered and reduced where reasonably practicable. Any access on to the islands to work must be reviewed and safe access provided. No compressors or plant should be stored on the islands		Site Manager
20.0	Battered excavations need regular monitoring. When deciding on the angle of repose, see guidance below.		Site Manager
21.0	Ensure spoil heaps and material are at least 1.5 m from the edge of any excavation or further away when required by the depth of the trench and the angle of repose in order to prevent potential collapse of the trench. (No dumpers are permitted on to spoil heaps and warning signs erected if required)		Site Manager
22.0	If plant and equipment is used to tip back filling materials into trenches, stop blocks must be provided.		Site Manager / Contractor Supervisor
23.0	Where an excavation is considered a confined space then it must be subject to a Confined Spaces – Permit to Enter.	SHE Form 14 SHE Form 48	Site Manager
24.0	Statutory Inspections/Examinations must be made by competent personnel and a record maintained by the subcontractor, which must be available on site.	SHE Form 50	Site Manager/ Contractor Supervisor
25.0	Excavators are subject to the Provision and Use of Work Equipment and the Lifting Operations and Lifting Equipment Regulations. If an excavator is used as a crane, then a photographic record of the Lifting Equipment inspection certificate must be recorded electronically	BGS 34 SHE Form 55	Projects Director / Contracts Manager / Site Manager



		Reference	Responsibility
26.0	Any damage to a service must be isolated or an exclusion zone needs to be established. The utility/ service provider must be notified, and a record of the incident must be recorded.	Logincident	Site Manager
27.0	The Site Manager must advise the development Line Managers and SHE Manager immediately by telephone in order to initiate an investigation and to determine if the incident is reportable under the provision of Schedule 2 RIDDOR.	BGS 05	Site Manager

Guidance on Angles of Repose

Material	Dry Ground (degrees)	Wet Ground (degrees)
Gravel	30-40°	10-30°
Sand	30-35°	10-30°
Silt	20-40°	5-20°
Clay	20-45°	10-35°
Peat	10-45°	5-35°
Broken Rock	35°	45°
Top Soil	35-40°	45°

The SHE Relationship states:



Reference should be made to the following procedure documents.

[SHE Form 50](#)