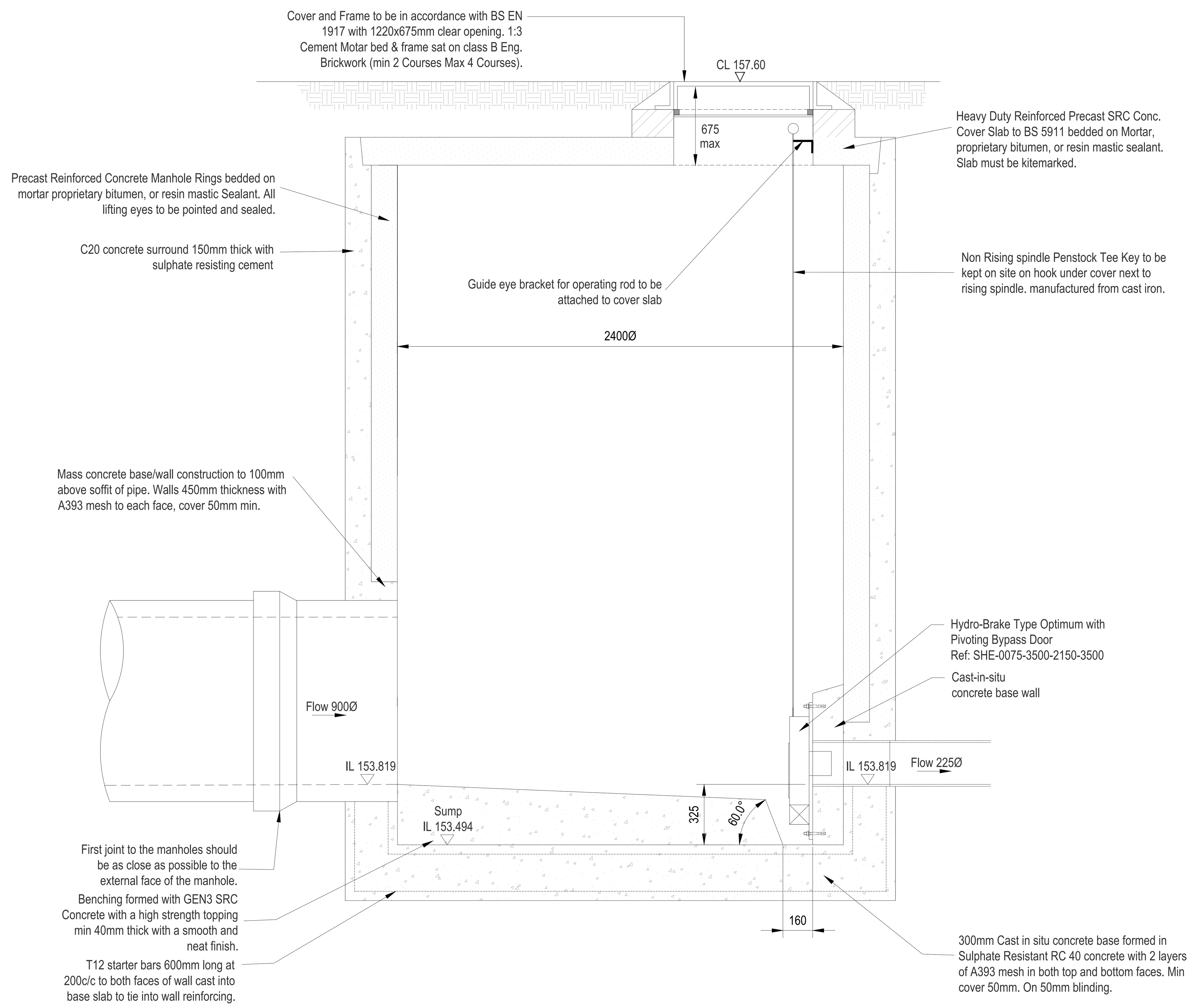
1 | 2 | 3 | 4 | 5

D

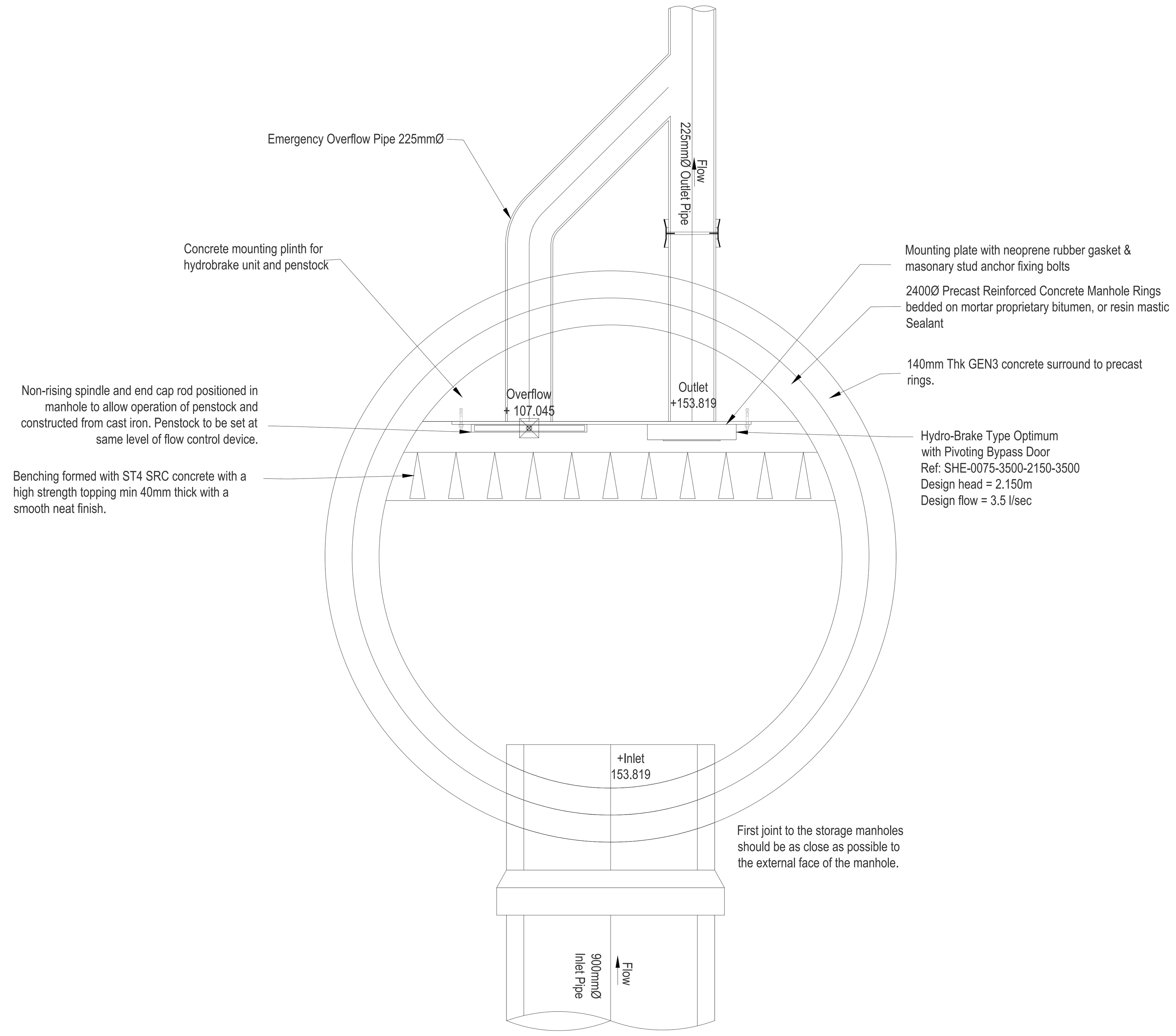
C

B

A



S0 HYDROBRAKE MANHOLE DETAIL



HYDROBRAKE MANHOLE S0
Scale @ 1:20

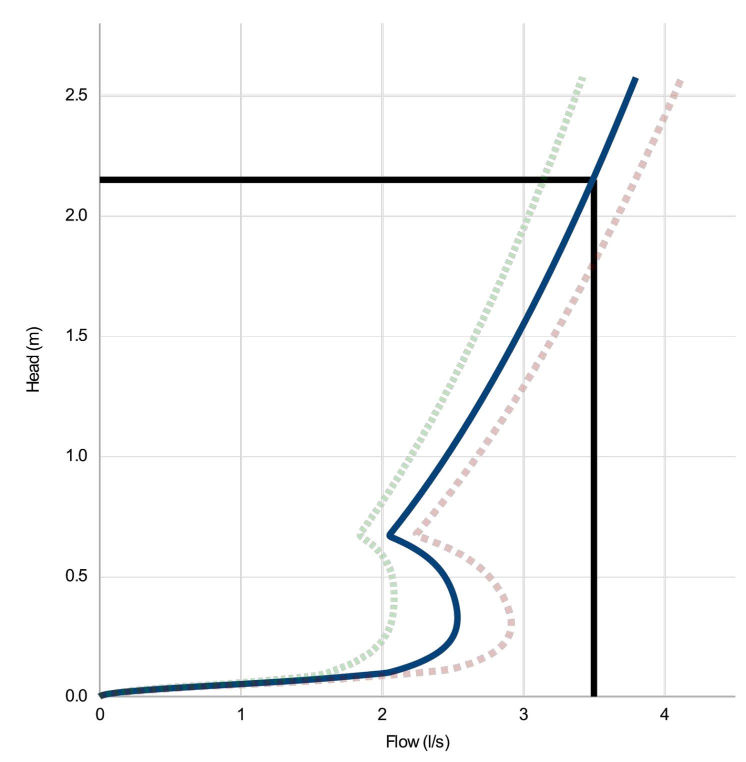
Technical Specification

Control Point	Original Setting Head (m)	Original Setting Flow (l/s)	Minimum Setting Head (m)	Minimum Setting Flow (l/s)	Maximum Setting Head (m)	Maximum Setting Flow (l/s)
Primary Design	2.150	3.500	2.150	3.142	2.150	3.793
Flush-Flo™	0.328	2.533	0.411	2.087	0.302	2.914
Kick-Flo®	0.667	2.044	0.669	1.834	0.670	2.233
Mean Flow		2.639		2.326		2.904

BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE No 08/4596

wrc approved PT/503/0422 Valid: 01/04/2022 - 31/03/2027

hydro-int.com/patents



Head (m)	Flow (l/s)
0.000	0.000
0.074	1.572
0.148	2.289
0.222	2.470
0.297	2.529
0.371	2.527
0.445	2.491
0.519	2.420
0.593	2.288
0.667	2.053
0.741	2.144
0.816	2.238
0.890	2.329
0.964	2.415
1.038	2.498
1.112	2.578
1.186	2.655
1.260	2.730
1.334	2.802
1.409	2.873
1.483	2.941
1.557	3.008
1.631	3.073
1.705	3.137
1.779	3.199
1.853	3.260
1.928	3.319
2.002	3.378
2.076	3.435
2.150	3.491

DESIGN ADVICE

The head/flow characteristics of this SHE-0075-3500-2150-3500 Hydro-Brake® Optimum Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.

!

The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.

Hydro International A CRH COMPANY

DATE	28/07/2025 16:40
Site	Highmoor Lane, Cleckheaton
DESIGNER	James Foster
Ref	BC0942

SHE-0075-3500-2150-3500

Hydro-Brake® Optimum

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Colour Disclaimer
This drawing has been documented in colour. This drawing is required to be printed in colour. Failure to do so may result in loss of information. Black and white printing may be used if specific black and white documents have been obtained from Stantec.

Drainage Notes
1. Refer to Proposed Drainage Layout Drawing "BC0942-STA-XX-XX-DR-C-1000" for Drainage Notes

HEALTH & SAFETY
1. CONTRACTOR SHOULD BE AWARE OF GENERAL CONSTRUCTION RISKS TO PREVENT SLIPS, TRIPS AND FALLS AND TAKE NECESSARY PRECAUTIONS WITHOUT SPECIAL INSTRUCTION.
ROADS & DRAINAGE
2. CONTRACTOR TO PROVIDE TRENCH SUPPORTS AS APPROPRIATE AND ENSURE THAT PLANT REMAINS A SAFE DISTANCE FROM TRENCHES PRIOR TO INSTALLING DRAINAGE
3. THE TIME THAT EXCAVATIONS ARE OPEN ON SITE SHOULD BE KEPT TO A MINIMUM AND ALL TRENCHES SHOULD BE SURROUNDED BY A BARRIER.
4. CONNECTIONS TO EXISTING SEWERS TO BE MADE BY YORKSHIRE WATER APPROVED CONTRACTOR ONLY.
5. CONTRACTOR TO MAKE OPERATIVES AWARE OF ASSOCIATED DANGERS TO HEALTH SUCH AS LEPTOSPIROSIS (WEILS DISEASE) AND RECOMMENDED PRECAUTIONS. ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING TO BE PROVIDED AS REQUIRED.
6. UNFINISHED MANHOLES MUST BE COVERED WITH LOAD BEARING MATERIALS AND SURROUNDED WITH BARRIER.
PIPES & CABLES
7. SERVICE RECORDS TO BE REFERRED TO PRIOR TO WORK COMMENCING. CONTRACTOR TO PROCEED WITH CAUTION AND SERVICES TO BE LOCATED BY HAND DIG AND PROTECTED ACCORDINGLY.
EXCAVATION/FILL
8. CONTRACTOR TO ENSURE RELEVANT MEASURES ARE TAKEN TO KEEP PLANT AND PEOPLE A SAFE DISTANCE FROM STEEP SLOPES DURING THE WORKS.
9. CONTRACTOR TO ENSURE THAT PROCEDURES ARE IN PLACE TO KEEP PEOPLE A SAFE DISTANCE FROM WORKING PLANT WHERE NECESSARY.
10. CONTRACTOR TO REFER TO GROUND INVESTIGATION REPORT FOR CONTAMINATION TESTS AND TO PROVIDE ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING AS REQUIRED.

UPVC PIPES TO BE CERTIFIED TO WIS 4-35-01 and BSEN13476

CLAY PIPE STRENGTH REQUIREMENTS
100mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
150mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
225mm DIA. MINIMUM CRUSHING STRENGTH = 45kN/m
300mm DIA. MINIMUM CRUSHING STRENGTH = 72kN/m

CONCRETE PIPE TO EN 1916/BS5911-1:202
STRENGTH REQUIREMENTS
ALL CONCRETE PIPES SHOULD BE CLASS 120 (TO EN 1916/BS5911-1 2002)

YORKSHIRE WATER REF
X-X-XXX-XXX

Rev	Description	By	Appd	Date
P01	INITIAL ISSUE	HP	JF	04.08.2025

Issued/Revision

Dwn.	Dsgn.	Chkd.	DD.MM.YYYY
HP	JF	JF	04.08.2025

Issue Status

S2 - FOR INFORMATION

This document is suitable only for the purpose noted above. Use of this document for any other purpose is not permitted.

Client/Project Logo

thirteen
Managing and building homes

Client/Project
THIRTEEN GROUP

HIGHMOOR LANE, CLECKHEATON

Title
Manhole S0 Hydrobrake Details

Project No. 39134

A1 Scale 1:20

Revision P01

Drawing No. BC0942-STA-XX-XX-D-C-1011