

Gillian Meehan

From: Paul Farndale
Sent: 05 October 2017 14:17
To: Louise Bearcroft
Cc: 'richard.csmith@btconnect.com'
Subject: FW: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane
Attachments: Poly Attenuation Tank Sizing 4Lt 113 Westfield Lane T-MD-PR266059_JK_MD2 4ls.pdf; Scan_0002.pdf; Scan_0001.pdf; Scan.pdf

113 Westfield Lane 2017/91748

Hello Louise,

Please can you attach the above submissions so we have an official record of the submission. I appreciate a decision has been made but the above scheme details are sufficient for our drainage requirements.

If an official discharge of condition application is requirement please can you let the applicant know. The above will discharge any drainage condition.

Kind regards,

Paul Farndale
Principal Engineer
Flood Management & Drainage
Investment & Regeneration Service
Kirklees Council
01484 221000

From: Richard Smith [mailto:richard.csmith@btconnect.com]
Sent: 04 October 2017 11:18
To: Paul Farndale
Subject: RE: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane

Hi Paul

Please find attached details of proposed attenuation tank together the calculations based on using the Hydro-Brake Optimum Control Valve I can let you have a hard copy of my drawing if required.

Regards
Richard

From: Paul Farndale [<mailto:Paul.Farndale@kirklees.gov.uk>]

Sent: 04 October 2017 09:50

To: 'Richard Smith'

Subject: RE: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane

No, just the plan with the sized tank on and the connection will suffice for a development this size.

Regards,

Paul Farndale
Principal Engineer
Flood Management & Drainage
Investment & Regeneration Service
Kirklees Council
01484 221000

From: Richard Smith [<mailto:richard.csmith@btconnect.com>]

Sent: 03 October 2017 16:24

To: Paul Farndale

Cc: info@citydev.co.uk

Subject: RE: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane

Hi Paul

I have altered my plan do you still require a manufacturers detail I think the valve model is specified in the calculations I have sent you, I can ask the developer to ring Polypipe tomorrow and see if they can provide a detail if necessary.

Regards

From: Paul Farndale [<mailto:Paul.Farndale@kirklees.gov.uk>]

Sent: 03 October 2017 15:14

To: 'Richard Smith'

Subject: RE: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane

Thanks Richard.

Have you got the most up to date plan to go with this so I can give them in a package to John Ritchie to discharge the condition.

Kind regards,

Paul Farndale
Principal Engineer
Flood Management & Drainage
Investment & Regeneration Service
Kirklees Council
01484 221000

From: Richard Smith [<mailto:richard.csmith@btconnect.com>]

Sent: 28 September 2017 15:28

To: Paul Farndale

Subject: FW: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane

Hi Paul

Please find attached revised calculations for attenuation tank sizing using a Hydro-break optimum valve reducing the flow rate to 4lt/sec

This should provide a 30% improvement of the current discharge rate, I hope you find this acceptable if require any further information please do not hesitate to contact me.

Regards

Richard

From: info@citydev.co.uk [<mailto:info@citydev.co.uk>]

Sent: 28 September 2017 09:47

To: 'Richard Smith'

Subject: Polypipe Attenuation Tank Sizing Using Hydro Brake Optimum Design Head 113 Westfield Lane

Good Morning Jeff,

I have had a chance to review the requirements for the attenuation tank sizing and have conducted calculations using the MicroDrainage software using the parameters shown below:

30 years + 4l/s

Parameters Used

Contributing Area: 0.025ha

Discharge Rate: 4l/s

Storm Event Period: 1 in 30 years

Climate Change Factor: 30% (assumed)

Polypipe Proposal

Size of Structure: 1m x 2m x 0.8m

Volume: 1.6m³

Storage Volume: 1.52m³

Number of cells (PSM1A): 8 No. (based on appropriate loading conditions)

This gives a half drain time of 3 minutes, which is within the 24-hour limit stated within BRE Digest 365.

Flow Control Unit: Hydro Brake Optimum, Design Head: 0.8m, Design Flow: 4l/s

The MicroDrainage output is attached.

Let me know, if you have any further comments or questions.

Kind regards,

Justyna Kaczmarczyk

Technical Engineer



Polypipe Civils

Charnwood Business Park, North Road, Loughborough, LE11 1LE

Tel: +44 (0) 1509 615141

Fax: +44 (0) 1509 615242

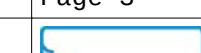
Email: Justyna.K@polypipe.com

Web: www.polypipe.com



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Polypipe Civils		Page 3
Charnwood Business Park Loughborough Leicestershire LE11 1LE	113 Westfield Lane, Wyke PR266059 1m x 2m x 0.8m	
Date 28/09/17 File T-MD-PR266059_JK_MD2 4L...	Designed by JK Checked by	
Micro Drainage		
Source Control 2016.1		

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.328	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.025

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)		From: To: (ha)	
0 4 0.008		4 8 0.008		8 12 0.008	

Polypipe Civils		Page 4
Charnwood Business Park Loughborough Leicestershire LE11 1LE	113 Westfield Lane, Wyke PR266059 1m x 2m x 0.8m	
Date 28/09/17 File T-MD-PR266059_JK_MD2 4L...	Designed by JK Checked by	
Micro Drainage	Source Control 2016.1	

Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 98.200 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	2.0	2.0	0.900	0.0	6.8
0.800	2.0	6.8			

Hydro-Brake Optimum® Outflow Control

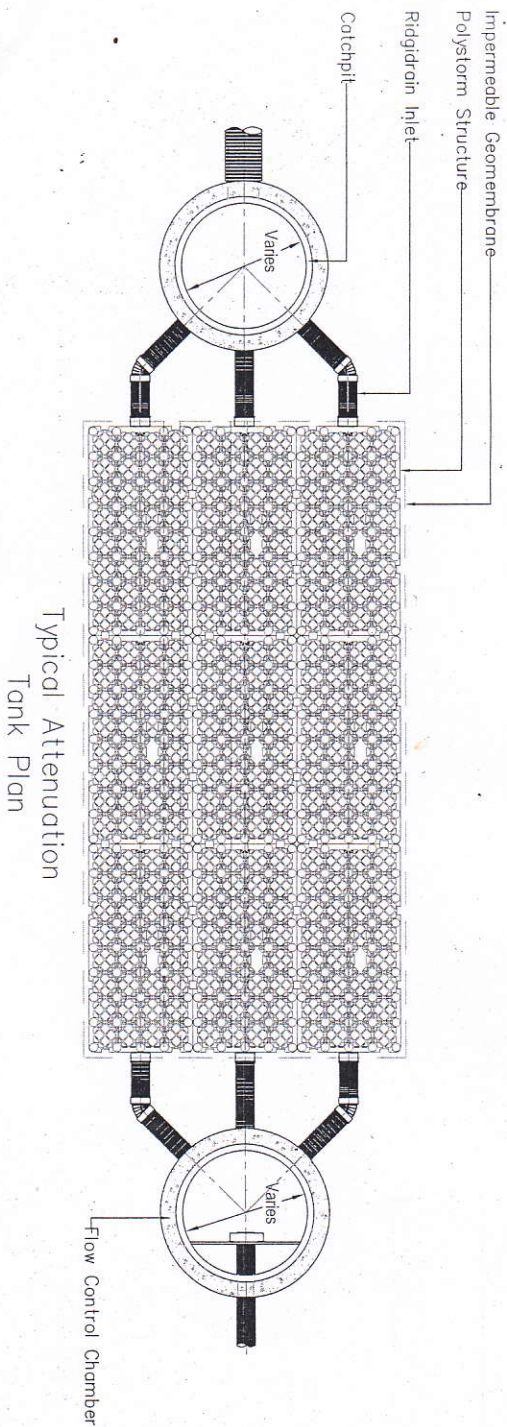
Unit Reference MD-SHE-0098-4000-0800-4000
Design Head (m) 0.800
Design Flow (l/s) 4.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 98
Invert Level (m) 98.200
Minimum Outlet Pipe Diameter (mm) 150
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	4.0
Flush-Flo™	0.238	4.0
Kick-Flo®	0.525	3.3
Mean Flow over Head Range	-	3.5

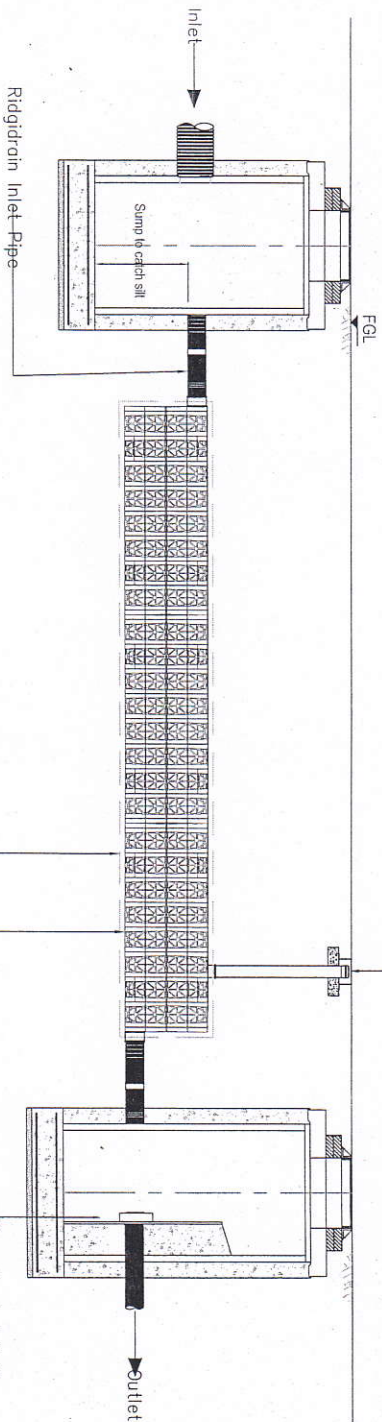
The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake Optimum® as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.2	1.200	4.8	3.000	7.4	7.000	11.1
0.200	4.0	1.400	5.2	3.500	8.0	7.500	11.4
0.300	4.0	1.600	5.5	4.000	8.5	8.000	11.8
0.400	3.8	1.800	5.8	4.500	9.0	8.500	12.1
0.500	3.5	2.000	6.1	5.000	9.4	9.000	12.5
0.600	3.5	2.200	6.4	5.500	9.9	9.500	12.8
0.800	4.0	2.400	6.7	6.000	10.3		
1.000	4.4	2.600	6.9	6.500	10.7		





Typical Attenuation
Tank Plan



Typical Attenuation
Tank Section

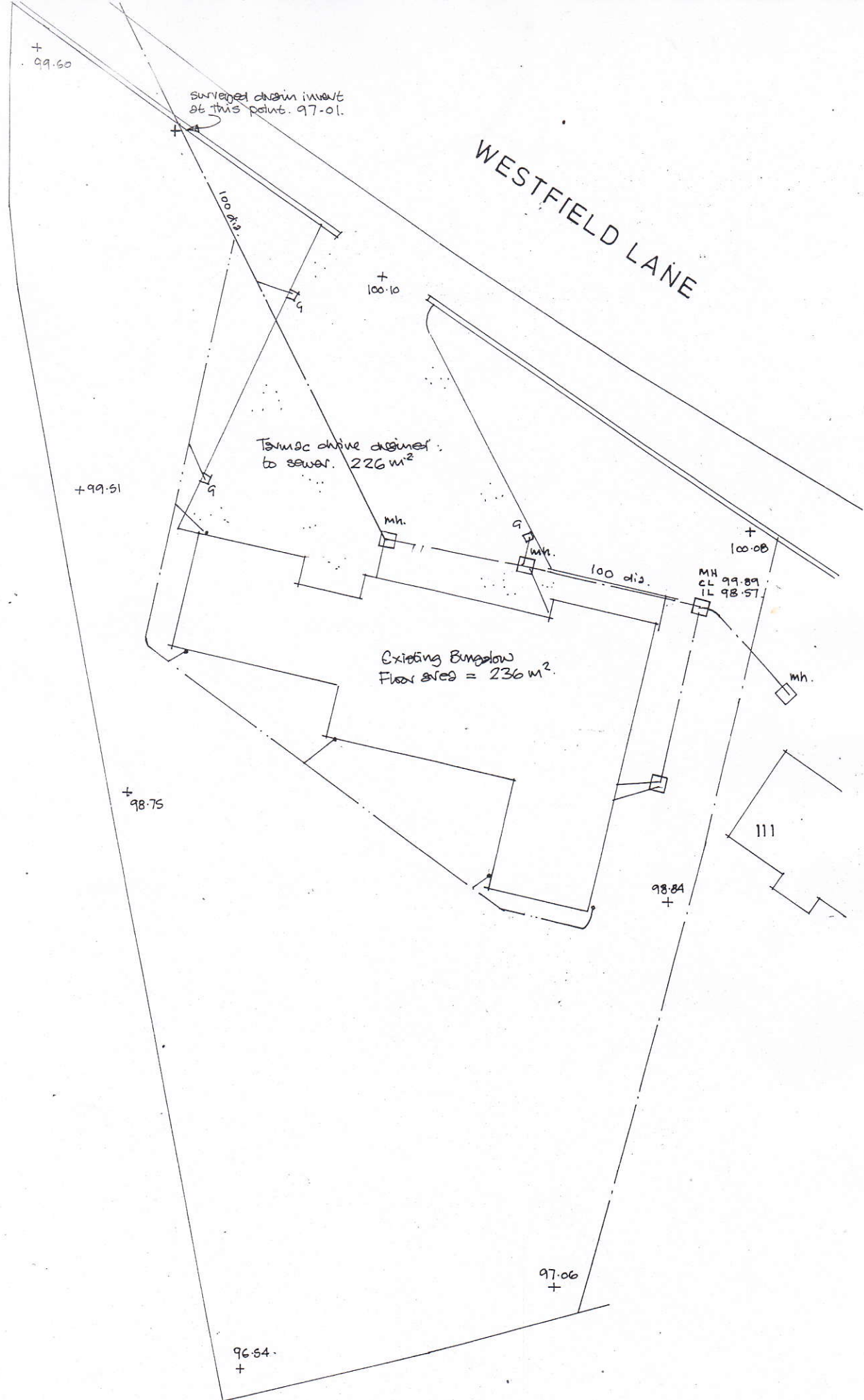
- NOTES - GENERAL**
1. This drawing details Polypipe Civils' proposed offering, reflecting our interpretation of the information provided.
 2. Polypipe bespoke Ridgidrain-XL chambers are complete pre-formed units.
 3. Polypipe products to be installed in accordance with Polypipe Civils recommendations (refer to Polypipe technical guidance for further information), giving due consideration to the requirements of the organisation who will take ultimate ownership of the installation.
 4. Site conditions may require specific installation requirements. The installer should verify that the proposed installation method is acceptable, giving due consideration to the requirements of the relevant approving and adopting authorities, before construction activities commence.
 5. Advice on any system requirements specific to the proposed Ridgidrain XL system should be sought from Polypipe Civils.

- NOTES**
1. Drawings should not be scaled, refer to figured dimensions only.
 2. All dimensions in millimetres, unless otherwise stated.
 3. All dimensions are nominal and may vary within manufacturing or construction tolerances.
 4. All site temporary and enabling works by others.
 5. This drawing is intended for guidance only. Confirmation of the information contained within this document should be sought from the consulting engineers before final design or construction activities commence.

REV	AMENDMENT	DATE

Polypipe Polypipe Civils Charnwood Business Park, North Road, Loughborough Leicestershire LE11 1LE Tel: 01509 618100 Fax: 01509 618215 www.polypipe-civils.co.uk info@polypipe-civils.co.uk		PROJECT TYPICAL ATTENUATION TANK LAYOUT	
STATUS PRELIMINARY		DATE 18/07/13	
DRAWN BY BP		SCALE NTS	
DRAWING NO. ***-***-***		REV. /	

The information in this document is of an illustrative nature and is supplied by Polypipe Civils without charge. This document does not form the whole or any part of a contract or approved contract with the user. The information within this document should not be solely relied upon to determine the suitability or installation requirements of our products for a proposed application and expected site conditions; expert advice should be sought in this respect. Final determination of the suitability of any information or material for the use contemplated and the manner of use is the sole responsibility of the user and the user must assume all risk and liability in connection therewith. Further information with respect to Polypipe Civils may be found at www.polypipe-civils.co.uk.



existing drainage layout 1:200