Drainage Design Report

Flow

v8.0

Copyright © 1988-2018 Causeway Software Solutions Limited

Network	Foul Network 1
Filename	X:\1362 - Joyce\5. Design\5.3 Flow\S104 DRAINAGE DESIGN .PFD
Username	Office2-PC\George
Report produced on	17/12/2018 16:41:58

Causeway Sales

Tel:	+44(0) 1628 552000
Fax:	+44(0) 1628 552001
Email:	marketing@causeway.com
Web:	www.causeway.com

Technical support web portal:

http://support.causeway.com

Frequency of use (kDU)	0.50
Flow per dwelling per day (l/day)	4000
Domestic Flow (l/s/ha)	0.0
Industrial Flow (l/s/ha)	0.0
Additional Flow (%)	0
Minimum Velocity (m/s)	0.75
Connection Type	Level Soffits
Minimum Backdrop Height (m)	1.000
Preferred Cover Depth (m)	1.200
Include Intermediate Ground	

Copyright © 1988-2018 Causeway Software Solutions Limited

Name	Area (ha)	Dwellings	Units	Add Inflow (l/s)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Width (mm)	Easting (m)	Northing (m)	Depth (m)	Notes
108		11			1.818	Manhole	Adoptable	1200		523783.780	309467.989	1.943	Auto-design is off
109		2			1.991	Manhole	Adoptable	1200		523788.159	309482.253	2.226	Auto-design is off
112		5			1.638	Manhole	Adoptable	1200		523740.010	309497.387	2.245	Auto-design is off
153		3			1.927	Manhole	Adoptable	1200		523708.787	309470.837	2.232	Auto-design is off
113		3			1.790	Manhole	Adoptable	1500		523714.733	309489.755	2.591	Auto-design is off
114		5			1.933	Manhole	Adoptable	1200		523695.476	309495.807	2.883	Auto-design is off
115		18			2.052	Manhole	Adoptable	1500		523677.325	309501.498	3.142	Auto-design is off
116					1.750	Manhole	Adoptable	1200		523651.038	309509.777	3.043	Auto-design is off
9					1.400	Manhole	Adoptable	1200		523626.976	309464.209	3.072	Auto-design is off

Copyright © 1988-2018 Causeway Software Solutions Limited

	Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	Con Offset (m)	Min DS IL (m)
	50.006	108	109	14.921	1.500	Colebrook-White	-0.125	-0.235	0.110	135.6	150	Circular_Default Sewer Type		
	50.007	109	112	50.471	1.500	Colebrook-White	-0.235	-0.607	0.372	135.7	150	Circular_Default Sewer Type		
?	50.008	112	113	26.404	1.500	Colebrook-White	-0.607	-0.801	0.194	136.1	150	Circular_Default Sewer Type		
?	66.007	153	113	19.830	1.500	Colebrook-White	-0.305	-0.801	0.496	40.0	150	Circular_Default Sewer Type		
?	50.009	113	114	20.186	1.500	Colebrook-White	-0.801	-0.950	0.149	135.5	150	Circular_Default Sewer Type		
?	50.010	114	115	19.022	1.500	Colebrook-White	-0.950	-1.090	0.140	135.9	150	Circular_Default Sewer Type		
?	50.011	115	116	27.560	1.500	Colebrook-White	-1.090	-1.293	0.203	135.8	150	Circular_Default Sewer Type		
?	50.012	116	9	51.531	1.500	Colebrook-White	-1.293	-1.672	0.379	136.0	150	Circular_Default Sewer Type		-1.672

Copyright © 1988-2018 Causeway Software Solutions Limited

	Name	US Node	DS Node	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)	Notes
	50.006	108	109	0.246	0.751	13.3	0.5	1.793	2.076	1.793	2.076	0.000	11	0.0	0.0	20	0.353	Auto-design is off
	50.007	109	112	0.263	0.751	13.3	0.6	2.076	2.095	1.762	2.095	0.000	13	0.0	0.0	22	0.373	Auto-design is off
?	50.008	112	113	0.294	0.750	13.3	0.8	2.095	2.441	2.095	2.441	0.000	18	0.0	0.0	25	0.410	Auto-design is off | Downstream Depth is more than twice the specified minimum
?	66.007	153	113	0.236	1.388	24.5	0.1	2.082	2.441	2.082	2.441	0.000	3	0.0	0.0	8	0.356	Auto-design is off | Downstream Depth is more than twice the specified minimum
?	50.009	113	114	0.318	0.752	13.3	1.1	2.441	2.733	2.441	2.733	0.000	24	0.0	0.0	30	0.452	Auto-design is off | Upstream Depth is more than twice the specified minimum | Downstream Depth is more than twice the specified minimum
?	50.010	114	115	0.339	0.751	13.3	1.3	2.733	2.992	2.733	2.992	0.000	29	0.0	0.0	33	0.478	Auto-design is off | Upstream Depth is more than twice the specified minimum | Downstream Depth is more than twice the specified minimum
?	50.011	115	116	0.398	0.751	13.3	2.2	2.992	2.893	2.893	3.034	0.000	47	0.0	0.0	41	0.552	Auto-design is off | Upstream Depth is more than twice the specified minimum | Downstream Depth is more than twice the specified minimum
?	50.012	116	9	0.398	0.750	13.3	2.2	2.893	2.922	2.833	2.999	0.000	47	0.0	0.0	41	0.552	Auto-design is off | Upstream Depth is more than twice the specified minimum | Downstream Depth is more than twice the specified minimum

Copyright © 1988-2018 Causeway Software Solutions Limited

Link Name	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)	US Node Name	Dia (mm)	Width (mm)	Node Type	MH Type	DS Node Name	Dia (mm)	Width (mm)	Node Type	MH Type
50.006	14.921	135.6	150	Circular_Default Sewer Type	1.818	-0.125	1.793	1.991	-0.235	2.076	108	1200		Manhole	Adoptable	109	1200		Manhole	Adoptable
50.007	50.471	135.7	150	Circular_Default Sewer Type	1.991	-0.235	2.076	1.638	-0.607	2.095	109	1200		Manhole	Adoptable	112	1200		Manhole	Adoptable
50.008	26.404	136.1	150	Circular_Default Sewer Type	1.638	-0.607	2.095	1.790	-0.801	2.441	112	1200		Manhole	Adoptable	113	1500		Manhole	Adoptable
66.007	19.830	40.0	150	Circular_Default Sewer Type	1.927	-0.305	2.082	1.790	-0.801	2.441	153	1200		Manhole	Adoptable	113	1500		Manhole	Adoptable
50.009	20.186	135.5	150	Circular_Default Sewer Type	1.790	-0.801	2.441	1.933	-0.950	2.733	113	1500		Manhole	Adoptable	114	1200		Manhole	Adoptable
50.010	19.022	135.9	150	Circular_Default Sewer Type	1.933	-0.950	2.733	2.052	-1.090	2.992	114	1200		Manhole	Adoptable	115	1500		Manhole	Adoptable
50.011	27.560	135.8	150	Circular_Default Sewer Type	2.052	-1.090	2.992	1.750	-1.293	2.893	115	1500		Manhole	Adoptable	116	1200		Manhole	Adoptable
50.012	51.531	136.0	150	Circular_Default Sewer Type	1.750	-1.293	2.893	1.400	-1.672	2.922	116	1200		Manhole	Adoptable	9	1200		Manhole	Adoptable

Copyright © 1988-2018 Causeway Software Solutions Limited

Node Name	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type		Link ID	IL (m)	Dia (mm)	Link Type
108	523783.780	309467.989	1.818	1.943	1200		Manhole	Adoptable					
									0	50.006	-0.125	150	Circular_Default Sewer Type
109	523788.159	309482.253	1.991	2.226	1200		Manhole	Adoptable	1	50.006	-0.235	150	Circular_Default Sewer Type
									0	50.007	-0.235	150	Circular_Default Sewer Type
112	523740.010	309497.387	1.638	2.245	1200		Manhole	Adoptable	1	50.007	-0.607	150	Circular_Default Sewer Type
									0	50.008	-0.607	150	Circular_Default Sewer Type
153	523708.787	309470.837	1.927	2.232	1200		Manhole	Adoptable					
									0	66.007	-0.305	150	Circular_Default Sewer Type
113	523714.733	309489.755	1.790	2.591	1500		Manhole	Adoptable	1	66.007	-0.801	150	Circular_Default Sewer Type
									2	50.008	-0.801	150	Circular_Default Sewer Type
									0	50.009	-0.801	150	Circular_Default Sewer Type
114	523695.476	309495.807	1.933	2.883	1200		Manhole	Adoptable	1	50.009	-0.950	150	Circular_Default Sewer Type
									0	50.010	-0.950	150	Circular_Default Sewer Type
115	523677.325	309501.498	2.052	3.142	1500		Manhole	Adoptable	1	50.010	-1.090	150	Circular_Default Sewer Type
									0	50.011	-1.090	150	Circular_Default Sewer Type
116	523651.038	309509.777	1.750	3.043	1200		Manhole	Adoptable	1	50.011	-1.293	150	Circular_Default Sewer Type
									0	50.012	-1.293	150	Circular_Default Sewer Type
9	523626.976	309464.209	1.400	3.072	1200		Manhole	Adoptable	1	50.012	-1.672	150	Circular_Default Sewer Type

Copyright © 1988-2018 Causeway Software Solutions Limited