

Project: 6369-Donaldson Vets Honley	Date: 04/09/2024		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: 6369-SW-Drainage_Network	Company Address: JPG Group 5 John Charles Way LS12 6QA		





SWMH-001

Type : Catchment Area

Area (m²)	335.527
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



SWMH-001(1)

Type : Catchment Area

Area (m²)	12.855
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

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SWMH-002

Type : Catchment Area

Area (m²)	295.124
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



SWMH-001(2)

Type : Catchment Area

Area (m²)	418.303
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

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SWMH-002(2)

Type : Catchment Area

Area (m²)	475.638
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



SWMH-008

Type : Catchment Area

Area (m²)	459.091
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

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SWMH-005

Type : Catchment Area

Area (m²)	277.876
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



SWMH-005(1)

Type : Catchment Area

Area (m²)	96.904
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

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SWMH-006

Type : Catchment Area

Area (m²)	33.47
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



SWMH-002(1)

Type : Catchment Area

Area (m²)	74.395
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.08

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

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SWMH-002(3)

Type : Catchment Area

Area (m²)	58.358
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Preliminary Sizing

Volumetric Runoff Coefficient	0.750
Percentage Impervious (%)	100
Time of Concentration (hrs)	0.08

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Project: 6369-Donaldson Vets Honley	Date: 04/09/2024		
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Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
002	Outlet	1.001	Free Discharge
006	Outlet	3.001	Free Discharge
PI-001	Outlet	2.002	Free Discharge
004	Outlet	2.001	Free Discharge
005	Outlet	3.000	Free Discharge
007	Outlet	3.002	Free Discharge
010-FCC	Outlet	1.002	Hydro-Brake®
	Invert Level (m)	105.990	
	Design Depth (m)	1.560	
	Design Flow (L/s)	3.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
	Unit Reference	SHE-0075-3000-1560-3000	
003	Outlet	2.000	Free Discharge
009	Outlet	3.003	Free Discharge
008	Outlet	4.000	Free Discharge
1.001 (SADDLE)	Outlet	1.001 (1)	Free Discharge
001	Outlet	1.000	Free Discharge

Project: 6369-Donaldson Vets Honley	Date: 04/09/2024		
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Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook -White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
2.001	4.500	Pipe	150.000		0.6	225	108.096	106.890
2.000	25.500	Pipe	150.000		0.6	225	107.910	107.060
1.002	12.000	Pipe	150.000		0.6	225	107.976	105.990
3.003	6.500	Pipe	144.444		0.6	225	107.895	106.760
3.000	22.000	Pipe	100.000		0.6	150	108.041	107.260
3.001	15.500	Pipe	100.000		0.6	150	108.225	107.040
4.000	20.000	Pipe	148.148		0.6	225	107.890	106.895
3.002	5.000	Pipe	100.000		0.6	150	107.973	106.885
1.001	25.467	Pipe	509.339		0.6	900	108.462	106.155
1.001 (1)	32.033	Pipe	492.816		0.6	900	108.323	106.105
2.002	4.000	Pipe	133.333		0.6	225	108.206	106.810
1.000	20.000	Pipe	500.000		0.6	900	108.195	106.195

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)
2.001	108.206	106.860	Clay Pipe SI	All	
2.000	108.096	106.890	Clay Pipe SI	All	
1.002	107.412	105.910	Clay Pipe SI	All	0.0
3.003	107.976	106.715	Clay Pipe SI	All	
3.000	108.225	107.040	Clay Pipe SI	All	
3.001	107.973	106.885	Clay Pipe SI	All	
4.000	107.895	106.760	Clay Pipe SI	All	
3.002	107.895	106.835	Clay Pipe SI	All	
1.001	108.323	106.105	Concrete Pipe SI	All	
1.001 (1)	107.976	106.040	Concrete Pipe SI	All	
2.002	108.323	106.780	Concrete Pipe SI	All	
1.000	108.462	106.155		All	

Project: 6369-Donaldson Vets Honley	Date: 04/09/2024		
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Report Details: Type: Network Design Criteria Storm Phase: 6369-SW-Drainage_Network	Company Address: JPG Group 5 John Charles Way LS12 6QA		



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (hrs)	0.083
Max. Travel Time (hrs)	0.50

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐
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Project: 6369-Donaldson Vets Honley	Date: 04/09/2024			
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Report Details: Type: Outfall Details Storm Phase: 6369-SW-Drainage_Network	Company Address: JPG Group 5 John Charles Way LS12 6QA			

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
100	Free Discharge		

Project: 6369-Donaldson Vets Honley	Date: 04/09/2024		
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Report Title: Rainfall Analysis Criteria	Company Address: JPG Group 5 John Charles Way LS12 6QA		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Prefill Manhole Sumps	☐
Perform No Discharge Analysis	☐

Rainfall	
1in100+45%	Type: FSR
Region	England And Wales
M5-60 (mm)	19.0
Ratio R	0.328
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	45.000

Storm Durations

Duration (hrs)	Run Time (hrs)
0.25	0.50
0.50	1.00
1.00	2.00
2.00	4.00
3.00	6.00
4.00	8.00
6.00	12.00
8.00	16.00
10.00	20.00
12.00	24.00
16.00	32.00
24.00	48.00
36.00	72.00
48.00	96.00
72.00	144.00
96.00	192.00
120.00	240.00
144.00	288.00
168.00	336.00

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Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (m²)	Max. Inflow (L/s)	Total Inflow Volume (m³)
SWMH-001	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	335.53	19.2	8.892
SWMH-001(1)	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	12.86	0.7	0.342
SWMH-002	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	295.12	16.9	7.818
SWMH-001(2)	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	418.30	24.0	11.088
SWMH-002(2)	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	475.64	27.2	12.603
SWMH-008	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	459.09	26.3	12.168
SWMH-005	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	277.88	15.9	7.365
SWMH-005(1)	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	96.90	5.5	2.568
SWMH-006	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	33.47	1.9	0.888
SWMH-002(1)	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	74.39	4.3	1.971
SWMH-002(3)	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	58.36	3.3	1.545

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Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
002	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	108.462	106.155	107.653	1.498	10.1	15.243	0.000	1.5	49.142	Surcharged
006	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	108.225	107.040	107.653	0.613	3.4	0.097	0.000	3.4	29.974	Surcharged
PI-001	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	108.206	106.810	107.653	0.843	15.3	0.134	0.000	15.3	131.453	Surcharged
004	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	108.096	106.890	107.653	0.763	15.3	0.863	0.000	15.3	131.454	Surcharged
005	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	108.041	107.260	107.653	0.393	0.2	0.062	0.000	0.1	0.461	Surcharged
007	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	107.973	106.885	107.653	0.768	3.8	0.122	0.000	3.8	32.126	Surcharged
010-FCC	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	107.976	105.990	107.653	1.663	8.0	9.520	0.000	3.0	109.984	Surcharged
003	lin100+45%: 100 years: +45 %: 0.25 hrs: Winter	107.910	107.060	107.670	0.610	43.9	0.689	0.000	40.2	20.335	Flood Risk
009	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	107.895	106.760	107.653	0.893	8.0	1.010	0.000	8.0	69.427	Flood Risk
008	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	107.890	106.895	107.653	0.758	0.5	0.857	0.000	0.1	1.246	Flood Risk
100	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	107.412	105.910	105.951	0.041	3.0	0.000	0.000	3.0	106.040	OK
1.001 (SADDLE)	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter		106.105	107.653	1.548	16.9			2.2	132.547	Surcharged
001	lin100+45%: 100 years: +45 %: 6.00 hrs: Winter	108.195	106.195	107.653	1.458	3.2	8.346	0.000	0.5	9.420	Surcharged

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Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.001	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	004	PI-001	108.096	107.490	0.225	44.251	2.2	2.11	89.3	Surcharged
2.000	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	003	004	107.910	107.670	0.225	20.335	1.0	0.95	40.2	Flood Risk
1.002	1in100+45%: 100 years: +45 %: 6.00 hrs: Winter	Pipe	010-FCC	100	107.976	107.653	0.041	106.040	0.6	0.07	3.0	Surcharged
3.003	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	009	010-FCC	107.895	106.973	0.193	22.979	1.2	0.99	42.8	OK
3.000	1in100+45%: 100 years: +45 %: 6.00 hrs: Winter	Pipe	005	006	108.041	107.653	0.150	0.000	0.0	0.01	0.1	Surcharged
3.001	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	006	007	108.225	107.282	0.150	9.933	1.1	1.08	19.1	Surcharged
4.000	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	008	009	107.890	106.970	0.144	0.000	0.0	0	0.2	OK
3.002	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	007	009	107.973	107.078	0.150	10.819	1.1	1.14	20.3	Surcharged
1.001	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	002	1.001 (SADDLE)	108.462	106.603	0.473	0.000	0.0	0	4.5	OK
1.001 (1)	1in100+45%: 100 years: +45 %: 0.25 hrs: Summer	Pipe	1.001 (SADDLE)	010-FCC	108.323	106.558	0.486	1.191	0.2	0.01	13.4	OK
2.002	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	PI-001	1.001 (SADDLE)	108.206	107.235	0.225	44.245	2.2	1.96	87.9	Surcharged
1.000	1in100+45%: 100 years: +45 %: 0.25 hrs: Winter	Pipe	001	002	108.195	106.604	0.429	0.000	0.0	0	2.3	OK