

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

KANE DESIGN

JOB NUMBER:

1348

SOAKAWAY RESULTS

CLIENT

SG ESTATES

27 June 2017

AK

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For locations see drawing Sketch XXXX

8 m S.E. Old test+ parallel to lower line of existing road

SOAKAWAY REFERENCE TEST PIT TP1/ TEST 1 KANE DESIGN

DEPTH

Date

Tuesday 27 June 2017

TO

Weather:

Rain

TEST 1

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START 11.27am 0.90 1060

PIT SIZE (m)

11.59am 0.98 980

Length 1.80

12.59pm 1.02 940

Width 1.30

13.30pm 1.04 920

Average Depth 1.96

14.00pm 1.07 890

19.30pm 1.35 610 75%= 795

Wednesday 7.10am 1.66 300 25%= 265

END 8.20am 1.69 270

USE EFFECTIVE DEPTH

280.00 FALL 890-610

5.50 TIME DECIMAL

50.91 RATE / Hour

FALL REQUIRED TO 75% 95.000 mm

1.87 HOURS DECIMAL

ACTUAL TIME 15.87

Effective depth of soakaway (mm) = 1060

PIT AREA (m 2.34

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME 20.53 Hours / mins

INTERPOLATED

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	795	1165	15.87	4.42
V75	75%	265	1695	20.88	20.88
			Total hours		16.46
			(Decimal)		987.60

TIME TO FALL FROM 75% to 25% (mins)

530

(Decimal)

987.60

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 8.42 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

PIT AREA

FROM ABOVE

Depth 25%

Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

m2

mm

mm

m3

minutes

m2

2.34

795.00

265.00

1.240

987.60

8.42

2.49E-06

m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

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28 June 2017

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For locations see drawing Sketch XXXX

8 m S.E. Old test+ parallel to lower line of existing road

SOAKAWAY REFERENCE TEST PIT TP1/ TEST 2 KANE DESIGN

TEST 2

DEPTH

Date

Wednesday 28 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	8.25am	0.90	1060			PIT SIZE	(m)
	9.45am	0.96	1000	75%=	795	Length	1.80
	14.19pm	1.08	880	25%=	265	Width	1.30
	19.26pm	1.39	570			Average Depth	1.96
END	7.25am	1.86	100				

USE EFFECTIVE DEPTH

310.00 FALL 880- 570

5.11 TIME TO FALL (DECIMAL)

60.665 RATE / Hour

FALL REQUIRED TO 75% 85.00 mm

1.401 HOURS DECIMAL

REAL TIME 15.63 HOURS DECIMAL

Effective depth of soakaway (mm) = 1060

PIT AREA (m 2.34

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME 23.00 Hours / mins

INTERPOLATED

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	795	1165	15.63	7.21
V75	75%	265	1695	02.96	18.14
			Total hours		10.93
	TIME TO FALL FROM 75% to 25% (mins)	530	(Decimal)		655.80

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 8.42 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

FROM ABOVE

x PIT AREA

T

AP

f (Infiltration rate)

	m2	mm	mm	m3	minutes	m2		
	2.34	795.00	265.00	1.240	655.80	8.42	3.75E-06	m3/second

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8 m S.E. Old test+ parallel to lower line of existing road

SOAKAWAY REFERENCE TEST PIT TP1/ TEST 3 KANE DESIGN

TEST 3

DEPTH

Date

Thursday 29 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	8.00am	1.00	960			PIT SIZE	(m)
	9.00am	0.96	1000	75%=	720	Length	1.80
	15.00pm	1.22	740	25%=	240	Width	1.30
	19.00pm	1.50	460			Average Depth	1.96
END	8.00am	1.88	80				

USE EFFECTIVE DEPTH

380.00 FALL 740-460

13.00 TIME TO FALL (DECIMAL)

29.231 RATE / Hour

FALL REQUIRED TO 25% 220.00 mm

7.526 HOURS DECIMAL

REAL TIME 2.53 HOURS DECIMAL

Effective depth of soakaway (mm) = 960

PIT AREA (m 2.34

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME 24.00 Hours / mins

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	INTERPOLATED
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	TOTAL TIME TO FALL(hours)
V25	25%	720	1240	15.29	7.50
V75	75%	240	1720	02.53	18.52
			Total hours		11.02
	TIME TO FALL FROM 75% to 25% (mins)	480	(Decimal)		661.20

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 8.42 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

FROM ABOVE

PIT AREA Depth 25% Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

m2	mm	mm	m3	minutes	m2		
2.34	720.00	240.00	1.123	661.20	8.42	3.36E-06	m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

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For locations see drawing Sketch XXXX

rear centre, garden plot 18

SOAKAWAY REFERENCE TEST PIT TP2/ TEST 1 KANE DESIGN

TEST 1

DEPTH

Date

Tuesday 27 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	11.33am	0.80	1100			PIT SIZE	(m)
	12.00pm	0.85	1050			Length	1.48
	13.00pm	0.88	1020			Width	1.20
	14.07pm	0.93	970	75%=	825	Average Depth	1.90
	19.32pm	1.03	870	25%=	275		
END	8.11am	1.25	650				

TEST ABANDONED: 75% NO RESULT

USE EFFECTIVE DEPTH

	220.00	FALL 870-650	
	5.41	TIME TO FALL (DECIMAL)	
	40.665	RATE / Hour	20.47
FALL REQUIRED TO 25%	50.00	mm	11.55
	1.230	HOURS DECIMAL	8.92
REAL TIME	0.94	HOURS DECIMAL	

Effective depth of soakaway (mm) = 1100

PIT AREA (m 1.78

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

Hours / mins

INTERPOLATED

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	825	1075	20.47	8.92
V75	75%	275			
			Total hours		

TIME TO FALL FROM 75% to 25% (mins)

550

(Decimal)

0.00

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 6.87 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

PIT AREA

FROM ABOVE

Depth 25%

Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

m2

mm

mm

m3

minutes

m2

1.78

825.00

275.00

0.977

6.87

#DIV/0!

m3/second

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rear centre, garden plot 18

SOAKAWAY REFERENCE TEST PIT TP2/ TEST 2 KANE DESIGN

TEST 2

DEPTH

Date

Wednesday 28 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	8.37am	0.75	1150			PIT SIZE	(m)
	9.45am	0.78	1120	75%=	862.5	Length	1.48
	14.20pm	0.97	930	25%=	287.5	Width	1.20
	19.29pm	1.20	700			Average Depth	1.90
END	7.30am	1.86	40				

USE EFFECTIVE DEPTH

	660.00	FALL 700-40
	12.00	TIME TO FALL (DECIMAL)
	55.000	RATE / Hour
FALL REQUIRED TO 75%	412.50	mm
	7.500	HOURS DECIMAL
REAL TIME	3.00	HOURS DECIMAL

Effective depth of soakaway (mm) = 1150

PIT AREA (m 1.78

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME 23 Hours / mins

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	INTERPOLATED
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	862.5	1038	15.84	7.22
V75	75%	287.5	1613	03.00	18.38
			Total hours		11.16
	TIME TO FALL FROM 75% to 25% (mins)	575	(Decimal)		669.60

CALCULATION:

INFILTRATION RATE = f =

 $V = \text{Effective Storage Volume between 75\% and 25\% full}$ $T = \text{Time taken to drain above } X \text{ AP}$

where AP = 50% internal surface area, including base:

= 6.87 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

	FROM ABOVE						
	PIT AREA	Depth 25%	Depth 75%	x PIT AREA	T	AP	f (Infiltration rate)
	m2	mm	mm	m3	minutes	m2	
	1.78	862.50	287.50	1.021	669.60	6.87	3.70E-06 m3/second

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rear centre, garden plot 18

SOAKAWAY REFERENCE TEST PIT TP2/ TEST 3 KANE DESIGN

TEST 3

DEPTH

Date

Thursday 29 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	8.05am	0.90	1000			PIT SIZE	(m)
	9.05am	0.96	940	75%=	750	Length	1.48
	15.05pm	1.10	800	25%=	250	Width	1.20
	19.05pm	1.44	460			Average Depth	1.90
END	8.05am	1.88	20				

USE EFFECTIVE DEPTH

	440.00	FALL 700-40
	13.00	TIME TO FALL (DECIMAL)
	33.846	RATE / Hour
FALL REQUIRED TO 75%	210.00	mm
	6.205	HOURS DECIMAL
REAL TIME	1.30	HOURS DECIMAL

Effective depth of soakaway (mm) = 1000

PIT AREA (m 1.78

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME 24 Hours / mins

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	INTERPOLATED
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	750	1150	15.69	7.59
V75	75%	250	1650	01.30	17.20
			Total hours		9.61
	TIME TO FALL FROM 75% to 25% (mins)	500	(Decimal)		576.60

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 6.87 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

	FROM ABOVE						
	PIT AREA	Depth 25%	Depth 75%	x PIT AREA	T	AP	f (Infiltration rate)
	m2	mm	mm	m3	minutes	m2	
	1.78	750.00	250.00	0.888	576.60	6.87	3.74E-06 m3/second

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For locations see drawing Sketch XXXX

3m from existing HIGH END

SOAKAWAY REFERENCE TEST PIT TP3/ TEST 1 KANE DESIGN

DEPTH

Date

Tuesday 27 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	11.54am	0.75	1090	PIT SIZE	(m)
	12.08am	0.96	880	Length	2.00
	12.27pm	1.14	700	Width	0.90
	12.45pm	1.19	650	Average Depth	1.84
	13.52pm	1.40	440	75%=	817.5
	14.30pm	1.65	190	25%=	272.5

END

COMPLETE

USE EFFECTIVE DEPTH

	250.00	FALL 700-40
	0.63	TIME TO FALL (DECIMAL)
	396.825	RATE / Hour
FALL REQUIRED TO 75%	167.50	mm
	0.422	HOURS DECIMAL
REAL TIME	14.29	HOURS DECIMAL

Effective depth of soakaway (mm) = 1090

PIT AREA (m 1.80

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME Hours

INTERPOLATED

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
CALCULATED:		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	817.5	1023	12.24	0.50
V75	75%	272.5	1568	14.29	2.39
			Total hours		1.89
TIME TO FALL FROM 75% to 25% (mins)	545	(Decimal)			113.40

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 7.14 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

FROM ABOVE
PIT AREA **Depth 25%** **Depth 75%** **x PIT AREA** **T** **AP** **f (Infiltration rate)**

m2	mm	mm	m3	minutes	m2		
1.80	817.50	272.50	0.981	113.40	7.14	2.02E-05	m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

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3m from existing HIGH END

SOAKAWAY REFERENCE TEST PIT TP3/ TEST 2 KANE DESIGN

DEPTH

Date

Tuesday 27 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	14.30pm	0.70	1140
	14.38pm	0.90	940
	14.45pm	0.99	850
	15.00pm	1.11	730
	15.30pm	1.25	590
	16.00pm	1.45	390
	16.30pm	1.54	300
END	17.00pm	1.77	70

PIT SIZE (m)

Length 2.00

Width 0.90

Average Depth 1.84

75%= 855

25%= 285

COMPLETE

Effective depth of soakaway (mm) = 1140

PIT AREA (m 1.80

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

Hours

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	INTERPOLATED
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	TOTAL TIME TO FALL(hours)
V25	25%	855	990	12.24	0.25
V75	75%	285	1555	16.30	2.00
			Total hours		1.75
		TIME TO FALL FROM 75% to 25% (min	570	(Decimal)	105.00

CALCULATION:

INFILTRATION RATE = $f =$ $V = \text{Effective Storage Volume between 75\% and 25\% full}$ $T = \text{Time taken to drain above } X \text{ AP}$

where AP = 50% internal surface area, including base:

 $= 7.14 \text{ m}^2$

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

FROM ABOVE

PIT AREA Depth 25% Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

	m2	mm	mm	m3	minutes	m2		
	1.80	855.00	285.00	1.026	105.00	7.14	2.28E-05	m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

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3m from existing HIGH END

SOAKAWAY REFERENCE TEST PIT TP3/ TEST 3 KANE DESIGN

DEPTH

Date

Tuesday 27 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	17.30pm	0.85	990						
	17.45pm	0.90	940						
	18.00pm	1.00	840						
	18.15pm	1.11	730						
	18.30pm	1.20	640	75%=	742.5				
	19.00pm	1.37	470	25%=	247.5				
	19.30pm	1.50	340						
END	20.00pm	1.70	140						

PIT SIZE (m)

Length 2.00

Width 0.90

Average Depth 1.84

COMPLETE

Effective depth of soakaway (mm) = 990

PIT AREA (m 1.80

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

Hours

					INTERPOLATED
CALCULATED:	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	742.5	1098	18.22	0.72
V75	75%	247.5	1593	19.73	2.23
			Total hours		1.51
			(Decimal)		90.60

TIME TO FALL FROM 75% to 25% (min

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 7.14 m2

CALCULATED

SOAKAWAY	FROM ABOVE		V (V75-V25)		CALCULATED			
	PIT AREA	Depth 25%	Depth 75%	x PIT AREA	T	AP	f (Infiltration rate)	
	m2	mm	mm	m3	minutes	m2		
	1.80	742.50	247.50	0.891	90.60	7.14	2.30E-05	m3/second

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For locations see drawing Sketch XXXX

20.7m from TP2, 31.5m from TP1

SOAKAWAY REFERENCE TEST PIT TP4/ TEST 1 KANE DESIGN

TEST 1

DEPTH
TO

Date

Tuesday 27 June 2017

WATER(m

Weather:

Rain

TIME)

DEPTH OF WATER IN PIT(mm)

START	12.20am	0.54	1130			PIT SIZE	(m)
	13.02pm	0.64	1030			Length	2.00
	14.06pm	0.70	970			Width	0.60
	19.33pm	0.95	720	75%=	847.5	Average Depth	1.67
END	8.12am	1.05	620	25%=	282.5		

TEST ABANDONED: 75% NO RESULT

Effective depth of soakaway (mm) =

1130

PIT AREA (m 1.20

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

Hours

INTERPOLATED

CALCULATED:

FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
	DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	847.5	823	
V75	75%	282.5	1388	
		Total hours		0.00
		(Decimal)		0.00

TIME TO FALL FROM 75% to 25% (min

565

(Decimal)

0.00

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 5.54 m2

CALCULATED

SOAKAWAY

FROM ABOVE
PIT AREA Depth 25% Depth 75%

V (V75-V25)

CALCULATED

x PIT AREA

T

AP

f (Infiltration rate)

m2	mm	mm	m3	minutes	m2		
1.20	847.50	282.50	0.678	0.00	5.54	#DIV/0!	m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

KANE DESIGN

JOB NUMBER:

1348

SOAKAWAY RESULTS

CLIENT

SG ESTATES

28 June 2017

AK

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For locations see drawing Sketch XXXX

20.7m from TP2, 31.5m from TP1

SOAKAWAY REFERENCE TEST PIT TP4/ TEST 2 KANE DESIGN

TEST 2

DEPTH

Date

Wednesday 27 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START	8.30am	0.45	1220			PIT SIZE	(m)
	9.45am	0.55	1120	75%=	915	Length	2.00
	14.22pm	0.90	770	25%=	305	Width	0.60
	19.30pm	1.10	570			Average Depth	1.67
END	7.33am	1.52	150				

USE EFFECTIVE DEPTH

	420.00	FALL 570-150
	12.05	TIME TO FALL (DECIMAL)
	34.855	RATE / Hour
FALL REQUIRED TO 75%	265.00	mm
	7.603	HOURS DECIMAL
REAL TIME	3.10	HOURS DECIMAL

Effective depth of soakaway (mm) = 1220

PIT AREA (m 1.20

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

Hours

INTERPOLATED

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
CALCULATED:		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	915	755	12.45	4.25
V75	75%	305	1365	03.10	18.60
			Total hours		14.35
TIME TO FALL FROM 75% to 25% (min		610	(Decimal)		861.00

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 5.54 m2

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

FROM ABOVE

PIT AREA Depth 25% Depth 75%

x PIT AREA T

AP f (Infiltration rate)

m2	mm	mm	m3	minutes	m2		
1.20	915.00	305.00	0.732	861.00	5.54	2.56E-06	m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

KANE DESIGN

JOB NUMBER:

1348

SOAKAWAY RESULTS

CLIENT

SG ESTATES

29 June 2017

AK

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For locations see drawing Sketch XXXX

20.7m from TP2, 31.5m from TP1

SOAKAWAY REFERENCE TEST PIT TP4/ TEST 3 KANE DESIGN

TEST 3

DEPTH
TO

Date

Thursday 27 June 2017

WATER(m

Weather:

Rain

TIME)

DEPTH OF WATER IN PIT(mm)

START	8.30am	0.60	1070			PIT SIZE	(m)
	9.45am	0.69	980	75%=	802.5	Length	2.00
	14.30pm	1.03	640	25%=	267.5	Width	0.60
	19.35pm	1.25	420			Average Depth	1.67
END	7.40am	1.57	100				

USE EFFECTIVE DEPTH

	320.00	FALL 570-150
	12.08	TIME TO FALL (DECIMAL)
	26.490	RATE / Hour
FALL REQUIRED TO 75%	152.50	mm
	5.757	HOURS DECIMAL
REAL TIME	1.33	HOURS DECIMAL

Effective depth of soakaway (mm) = 1070

PIT AREA (m 1.20

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

Hours

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	INTERPOLATED
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	802.5	868	12.85	4.35
V75	75%	267.5	1403	01.33	16.84
			Total hours		12.49
			(Decimal)		749.40

TIME TO FALL FROM 75% to 25% (min

535

(Decimal)

749.40

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 5.54 m2

CALCULATED

SOAKAWAY

	FROM ABOVE			V (V75-V25)		CALCULATED	
	PIT AREA	Depth 25%	Depth 75%	x PIT AREA	T	AP	f (Infiltration rate)
	m2	mm	mm	m3	minutes	m2	
	1.20	802.50	267.50	0.642	749.40	5.54	2.58E-06 m3/second

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PIT AREA	Depth 25%	Depth 75%	x PIT AREA	T	AP	f (Infiltration rate)	
m2	mm	mm	m3	minutes	m2		
1.05	742.50	247.50	0.520	833.40	4.67	2.23E-06	m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

KANE DESIGN

JOB NUMBER:

1348

SOAKAWAY RESULTS

CLIENT

SG ESTATES

28 June 2017

AK

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For locations see drawing Sketch XXXX

Bottom corner near existing

SOAKAWAY REFERENCE TEST PIT TP5/ TEST 2 KANE DESIGN

TEST 3

DEPTH

Date

Wednesday 28 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START

8.40am

0.55

1120

PIT SIZE

(m)

9.45am

0.60

1070

75%=

840

Length

1.75

14.25am

0.90

770

25%=

280

Width

0.60

19.25pm

1.40

270

Average Depth 1.54

END

7.50am

1.50

170

USE EFFECTIVE DEPTH

300.00

FALL 1070-770

4.67

TIME TO FALL (DECIMAL)

64.240

RATE / Hour

4.88

FALL REQUIRED TO 25%

230.00

mm

3.580

HOURS DECIMAL

REAL TIME

13.33

HOURS DECIMAL

Effective depth of soakaway (mm) =

1120

PIT AREA (m 1.05

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

24

Hours

INTERPOLATED

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	840	700	13.33	4.88
V75	75%	280	1400	19.25	10.85
			Total hours		5.97
			(Decimal)		358.20

TIME TO FALL FROM 75% to 25% (min

560

(Decimal)

358.20

CALCULATION:

INFILTRATION RATE = f =

V = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 4.67 m2

CALCULATED

SOAKAWAY

FROM ABOVE

V (V75-V25)

CALCULATED

PIT AREA

Depth 25%

Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

m2

mm

mm

m3

minutes

m2

1.05

840.00

280.00

0.588

358.20

4.67

5.86E-06

m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

KANE DESIGN

JOB NUMBER:

1348

SOAKAWAY RESULTS

CLIENT

SG ESTATES

29 June 2017

AK

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For locations see drawing Sketch XXXX

Bottom corner near existing

SOAKAWAY REFERENCE TEST PIT TP5/ TEST 3 KANE DESIGN

TEST 3

DEPTH

Date

Thursday 29 June 2017

TO

Weather:

Rain

WATER(m

TIME)

DEPTH OF WATER IN PIT(mm)

START

8.40am

0.42

1250

PIT SIZE

(m)

9.40am

0.48

1190

75%=

937.5

Length

1.75

14.25am

0.77

900

25%=

312.5

Width

0.60

END

19.33pm

1.21

460

Average Depth

1.54

END

7.36am

1.60

70

USE EFFECTIVE DEPTH

390.00

FALL 510-210

12.05

TIME TO FALL (DECIMAL)

32.365

RATE / Hour

FALL REQUIRED TO 75%

147.50

mm

4.557

HOURS DECIMAL

REAL TIME

0.11

HOURS DECIMAL

Effective depth of soakaway (mm) =

1250

PIT AREA (m 1.05

Visual Site Inspection:

0-300mm

Topsoil

Approx depths.

to bottom

gravely / silt

TOTAL TIME

24

Hours

INTERPOLATED

CALCULATED:

	FALL	EFFECTIVE	ACTUAL	REAL TIME	TOTAL TIME TO
		DEPTH(mm)	DEPTH (mm)	AT FALL(hours)	FALL(hours)
V25	25%	937.5	603	13.45	5.09
V75	75%	312.5	1228	00.11	15.44
			Total hours		10.35
		TIME TO FALL FROM 75% to 25% (min	625	(Decimal)	621.00

CALCULATION:

INFILTRATION RATE = $f =$ $V = \text{Effective Storage Volume between 75\% and 25\% full}$ $T = \text{Time taken to drain above } X \text{ AP}$

where AP = 50% internal surface area, including base:

 $= 4.67 \text{ m}^2$

CALCULATED

V (V75-V25)

CALCULATED

SOAKAWAY

FROM ABOVE

PIT AREA

Depth 25%

Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

m2

mm

mm

m3

minutes

m2

1.05

937.50

312.50

0.656

621.00

4.67

3.77E-06

m3/second

PROPOSED DEVELOPMENT at PONT ADAM CRESCENT, RUABON, WREXHAM

KANE DESIGN

JOB NUMBER:

1348

SOAKAWAY RESULTS

CLIENT

SG ESTATES

29 June 2017

AK

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SUMMARY OF RESULTS

		m3/second
TEST PIT 1	TEST 1	2.49E-06
	TEST 2	3.75E-06
	TEST3	3.36E-06
TEST PIT 2	TEST 1	No result
	TEST 2	3.70E-06
	TEST3	3.74E-06
TEST PIT 3	TEST 1	2.02E-05
	TEST 2	2.28E-05
	TEST3	2.30E-05
TEST PIT 4	TEST 1	No result
	TEST 2	2.56E-06
	TEST3	2.58E-06
TEST PIT 5	TEST 1	2.23E-06
	TEST 2	5.86E-06
	TEST3	3.77E-06