Design and Access Statement

Planning application for a hand car wash and valeting centre in the car park of Tesco Shoreham

26 Jan 2017

Waves™

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Overview

Waves Consultancy Ltd proposes installing a dedicated wash and valeting area, operating from 9 car parking spaces, as shown on pages 3-6.

Waves Consultancy Ltd has identified a business opportunity within the car park of Tesco, Holmbush Centre Upper Shoreham Rd Shoreham-by-sea West Sussex BN43 6TD, and having gained consent from the car park owners, we are applying for planning permission to provide an efficient and compliant car wash operation.

Design: Our proposal involves the erection of a canopy and the stationing of an office. The proposal is functional in its design and we do not believe it will be visually obtrusive due to it's very limited size and height.

Transportation: The proposed location has been selected after consideration was given to the provision of services (water, power and drainage) and a position that would minimise any impact on the customers wishing to visit the Store.

The proposed layout is positioned to permit safe access across the car park for customers who can use the designated pedestrian walkways for access to the Store. We believe that the car park will have adequate capacity for this proposal, even at the busiest time of the year. We do not believe the proposed car wash will affect the egress/ingress routes of the car park and we do not think there will be any impact on local transport.

Retail Issues: Waves believes that the introduction of the car wash will create new and sustainable economic growth in the area; it will have a positive impact on local employment creating an estimated four full-time and four part-time jobs. The car wash will also provide increased consumer choice with the addition of the service.

The service will operate from nine car parking spaces; we believe that the proposed use is ancillary to the retail use of the site. It is likely that the facility will be used in association with any trip to the supermarket rather than resulting in a purpose built trip; on our existing hand car wash sites (on average) approximately 89% of our customer base use the store or PFS, therefore we believe there will be no significant increase in traffic or car park usage associated with the car wash - please see transport assessment appendix 1.

Although the car wash operates from nine parking spaces, we can wash and valet 5-6 vehicles at any one time, therefore the net loss of spaces is only 3-4.

The design allows for both ambulant and disabled customers to either remain in their vehicle whilst it is washed (following which they will then park their car closer to the Store to go shopping) or they can leave the vehicle with the operatives and collect upon completing their visit to the Store.

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Residential Amenity: We do not believe that there will be a material increase in noise and disturbance from the site because of the proposed use of the site as a supermarket. The proposed hours of operation reflect the standard operating hours of a retail outlet.

All equipment used on our car wash will emit very low levels of noise and the jet washes are housed within the office to minimise any noise. Please see also attached noise survey showing the readings from the proposed equipment.

If there are any specific concerns relating to local residential dwellings then we can commission a site specific noise survey but this can take 3-4 weeks to produce (subject to weather conditions).

Environmental Compliance: Every care is taken with the installation of a Waves car wash to ensure that the site is fully compliant with the EA's PPG13 guidelines. The wet wash area is built to a very high specification and we will install an impermeable concrete wash pad with centralised drain, silt trap and interceptor – please see page 4 for more information.

The car wash operation will be environmentally friendly. A water-recycling unit will be provided within the office, recycling oil free wash-water and saving up to 85% of fresh water (please see page 4). We will only use biodegradable detergents on our car wash.





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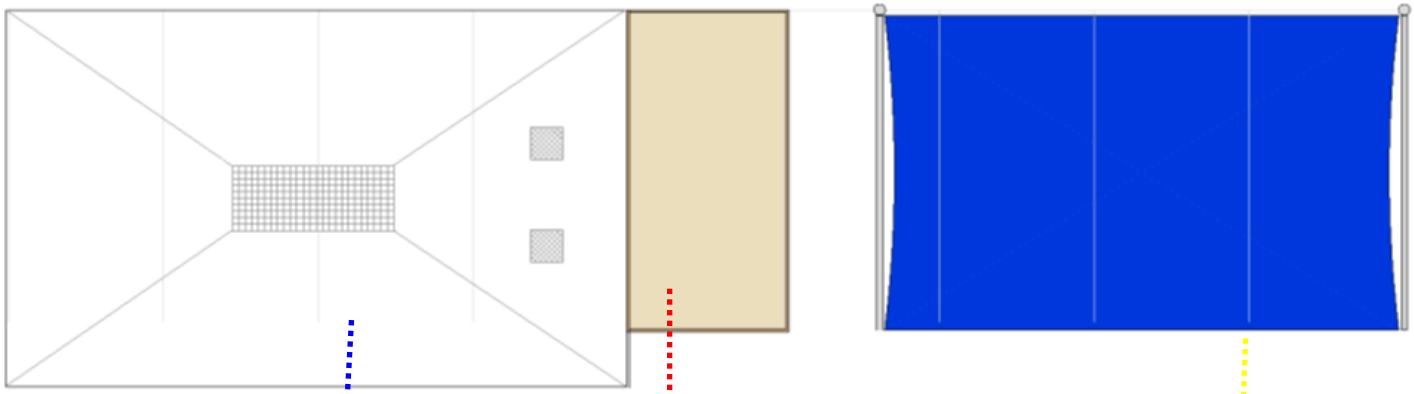
Operational layout

Waves proposes operating from 9 car park spaces as per the layout below (for location within the car park please refer to drawing proposedsite plan):

Waves Consultancy Ltd proposes installing a dedicated wash and valeting area as shown below.

- Waves will install a concrete wash pad complete with EA compliant drainage and a **water recycling unit** (p.4)
- The site **portable office** is of metal construction (p.5)
- The **canopy** is a cantilever design, with a pre constraint PVC cover (p.6)
- The **jet wash** and **vacuum** specifications are designed to keep noise levels to a minimum
- The **signage** designs and specifications are detailed on p. 11-13



Proposed **wet wash** area (4 car park spaces) with centralised drain within the wash pad to channel water to recycling unit

Proposed location for **customer reception area & recycling unit** (1 car park space)

Proposed **dry valeting** area (4 car park spaces) with cantilevered canopy cover

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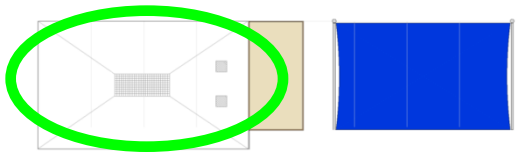
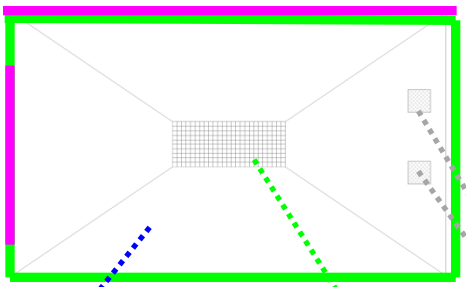
Wet wash area with concrete wash pad

Proposed works to wet wash



Screening approx. 2m high will be installed to protect customers from spray outside wet area. Screening will be dibond with a steel frame (please see picture below). The screening will be branded to advertise the car wash.





Waves will install a water source to the wet area

Installation of an impermeable concrete wash pad and drainage in the wet area so that waste water will be channelled to a centralised drain with silt trap

Water passes from the silt trap through a two stage interceptor before being filtered to the recycling system in the cabin

Water recycling unit and concrete wash pad

The Waves car wash operation will be an environmentally friendly operation. Waves proposes the installation of a (Working Water) recycling unit within the operating area (recycling system will be housed within the cabin) – please see Appendix 4.

Every care is taken with the installation of a Waves car wash to ensure that the site is fully compliant with the EA's PPG13 guidelines. The wet wash area is built to a very high specification and we install a concrete wash pad with centralised drain, silt trap and interceptor.

The concrete wash pad covers four car parking bays and is divided into four areas to give the bow tie effect. The wash pad is slightly larger than the work area and is graded to ensure that all run off and spray is captured and directed into the silt trap located centrally.

We also install a 2000 litre two (chamber) interceptor and silt separator to ensure that trade effluent discharge is minimal. The concrete is impermeable and water cannot get into the surface water or groundwater system; only into our drainage system which is connected to the foul sewer. The collection tank will be sludge gulped as required by a licensed contractor and the waste disposed of as per EA guidelines.

We can operate a closed loop system however the treated water must be emptied and refreshed regularly to prevent stagnation – hence the requirement for a connection to the foul sewer. Please see Appendix 5 for further information on our drainage installation.

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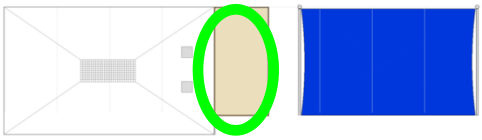
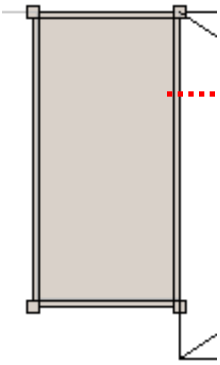
Cabin design

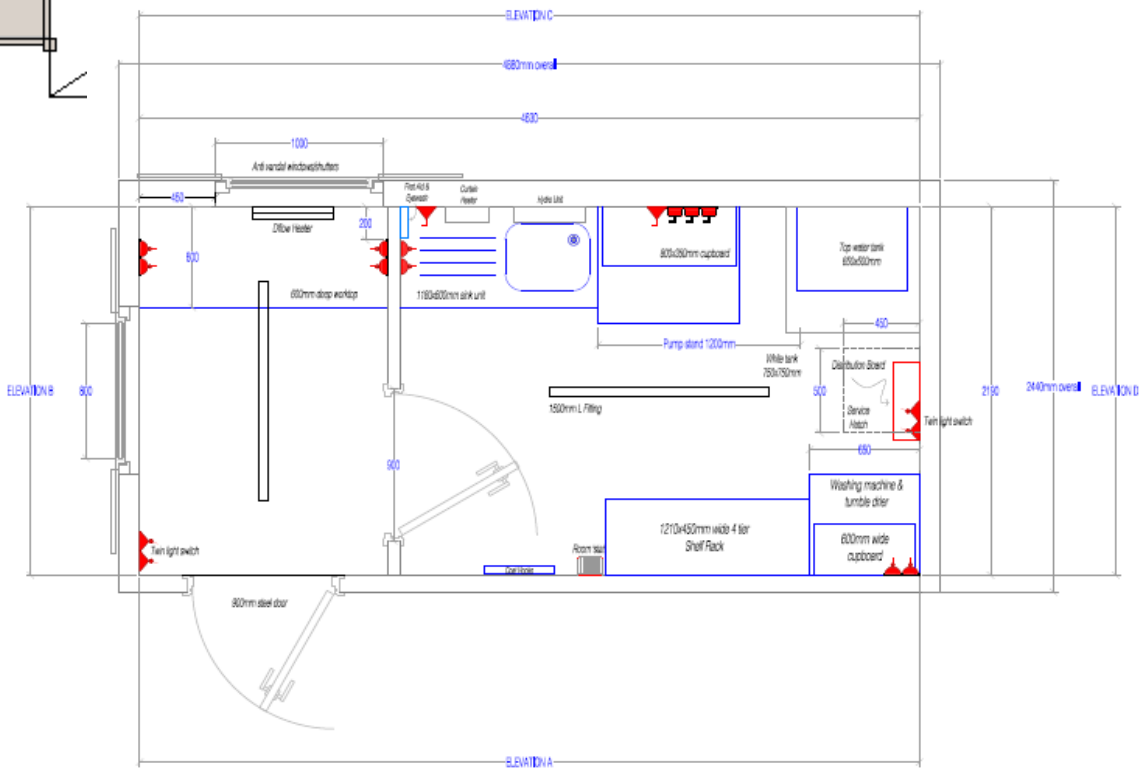
Proposed cabin design







Steel office (16' x 8') unit, painted RAL10-B-19 Metal Satin Finish "Mushroom" and clad with larch timber around the top (up to 1m high) example as shown right. Partitioned internally with one side a customer reception and the other side for storage of detergents and to house the green recycling plant. Jet washes will also be housed within the cabin to minimise noise outside



GENERAL WORKS

- Power to reception
- Water source to reception
- Signage to include mandatory health & safety, car wash menu and adverts for the service
- 2 x 150 watt polycarbonate floodlights installed on the cabin roof and 1 x 150 watt polycarbonate floodlight installed on the top of a pole at the end of the screens (Please see appendix 3 for further details).

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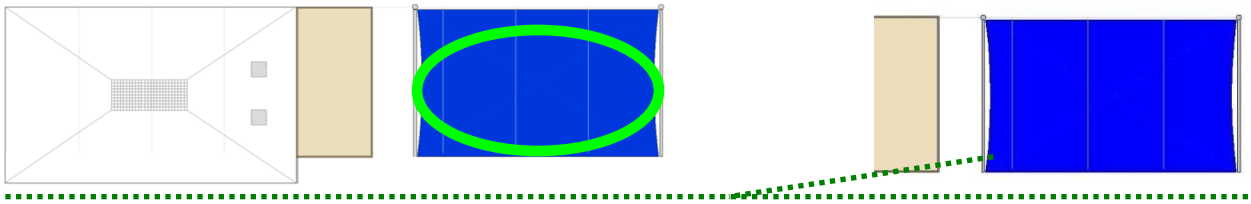
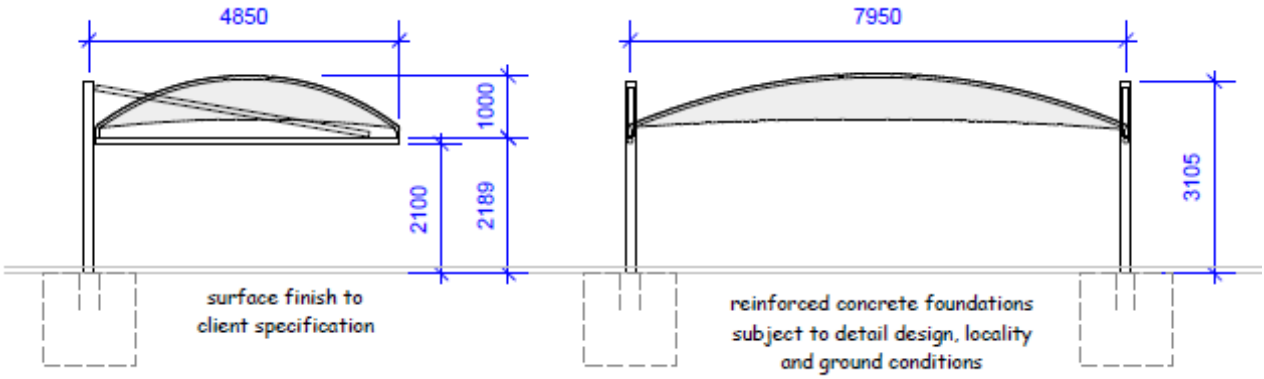
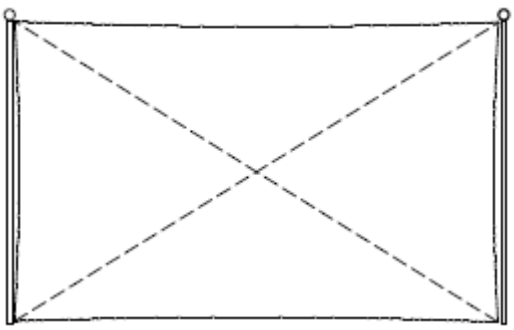
Dry valeting area and canopy

Proposed works to dry valeting area



Installation of a two legged cantilevered canopy (blue PVC) over the dry valeting area, covering approximately four car park spaces, as per the detailed specification below. 4 x150 watt polycarbonate floodlights installed under the canopy skin directed over the dry area (for details of the lighting, please see appendix 3)





Tensile Characteristics of Fabric	
Base Fabric	Polyester HT1100 DTex
Coating	PVC
Finish	Biface
Fire Rating	M2 NFP 92.503/DIN 4102 B1/BS 5438
Colour Reference	5007 - Silver/Grey



All units on
168mm dia. Galvanised Steel Support Posts
&
89mm dia. Galvanised Steel horizontal side/inclined brace members
&
60mm dia. Galvanised Steel Roof Arches

Connection plates and bolts to manufacturer's details

carapax

© Waves Consultancy Ltd

Signage

Waves has applied for advertisement consent. Designs and specifications are below; for location within the operating area please refer to drawing proposed signage

Fascia sign 1 **Landscape menu below window**

975mm wide x 450mm high – 5mm dibond





Fascia sign 2 & 3 **Welcome sign**

1500mm wide x 280mm high – 5mm dibond

Welcome.

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Signage

Fascia sign 4 **Opening hours**

1830mm wide x 900mm high – 5mm dibond





Fascia sign 5 **Menu sign on cabin door**

650mm wide x 1000mm high – 5mm dibond



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Signage

Free standing signs 1, 5, 6, 10

Screen sign - Design 1

1800mm wide x 2000mm high – Dibond panel

Free standing signs 3, 8

Screen sign - Design 2

1800mm wide x 2000mm high – Dibond panel

Free standing signs 2, 7

Screen sign - Design 3

1800mm wide x 2000mm high – Dibond panel

Free standing signs 4, 9

Screen sign - Design 4

1800mm wide x 2000mm high – Dibond panel

Free standing signs 11

Screen sign - Design 5

1800mm wide x 2000mm high – Acrylic transparent panel

Free standing signs 12

Screen sign - Design 6

1800mm wide x 2000mm high – Acrylic transparent panel

Free standing signs

Screen sign - Design 7

1800mm wide x 2000mm high – Acrylic transparent panel

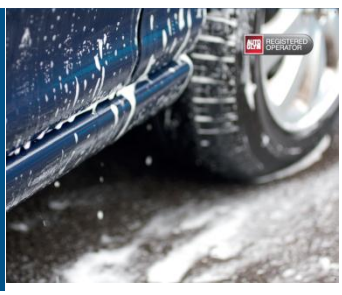
Free standing signs

Screen sign - Design 8

1800mm wide x 2000mm high – Acrylic transparent panel



Design 1



Design 2



Design 3



Design 4



Design 5



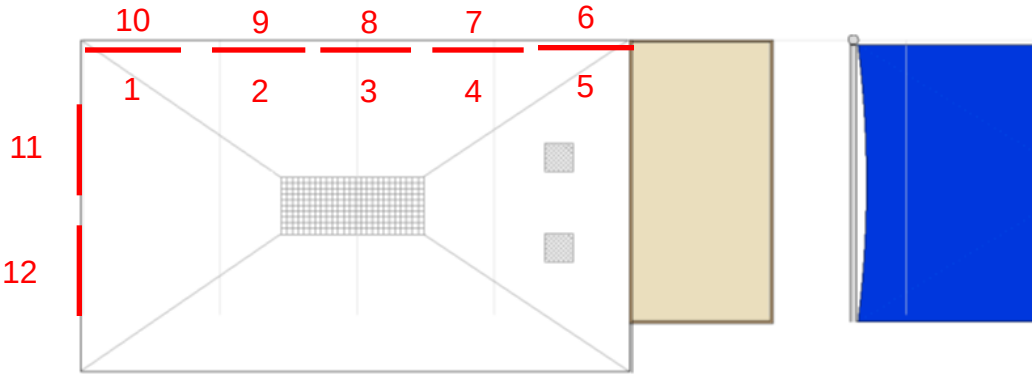
Design 6



Design 7



Design 8



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Appendices

Appendix 1 Transport Assessment

Appendix 2 Flood Risk Assessment (Flood Zone 2 or 3)

Appendix 3 Lighting Specification

Appendix 4 Recycling System

Appendix 5 New Build Specification

Appendix 6 Emergency Spill Kit Instructions

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Appendix 1 – Transport Assessment

Transport Assessment

Waves Consultancy Limited commissioned an independent research company (Basis Research) to carry out a customer survey on users and non-users of the hand car wash. The aim was to understand the impact of the hand car wash on vehicle movements to and from the Tesco car park and the impact on congestion levels within the car park.

Basis interviewed c.500 users of the hand car washes and c.500 non-users across 10 different sites. They structured the questions to investigate the shopping patterns of the users of the hand car wash and their reasons for visiting the site.

- **FINDING ONE**: The Basis data demonstrates that the majority of car wash users are primary shoppers at that Tesco Store and 90% of users have a ClubCard (compared to 93% of non-users).
- **FINDING TWO:** We have included data from 13 of our existing hand car wash sites to show that an average Waves car wash washes 146 cars per week, with the busiest washing 192 cars on the average week.
- **FINDING THREE:** The Basis research goes on to show that only 11% of car wash customers come to site solely to use the car wash and that 89% use either the Store or the Petrol Filling Station or both – showing that for the majority of customers, the car wash use is ancillary to using the existing Tesco businesses.

SUMMARY: Based on the data shown on the next two pages, we can conclude that on an average site, if only 11% of our 146 customers solely use the hand car wash, then we create just 16 additional vehicle movements to the car park per week, over and above the standard Tesco usage.

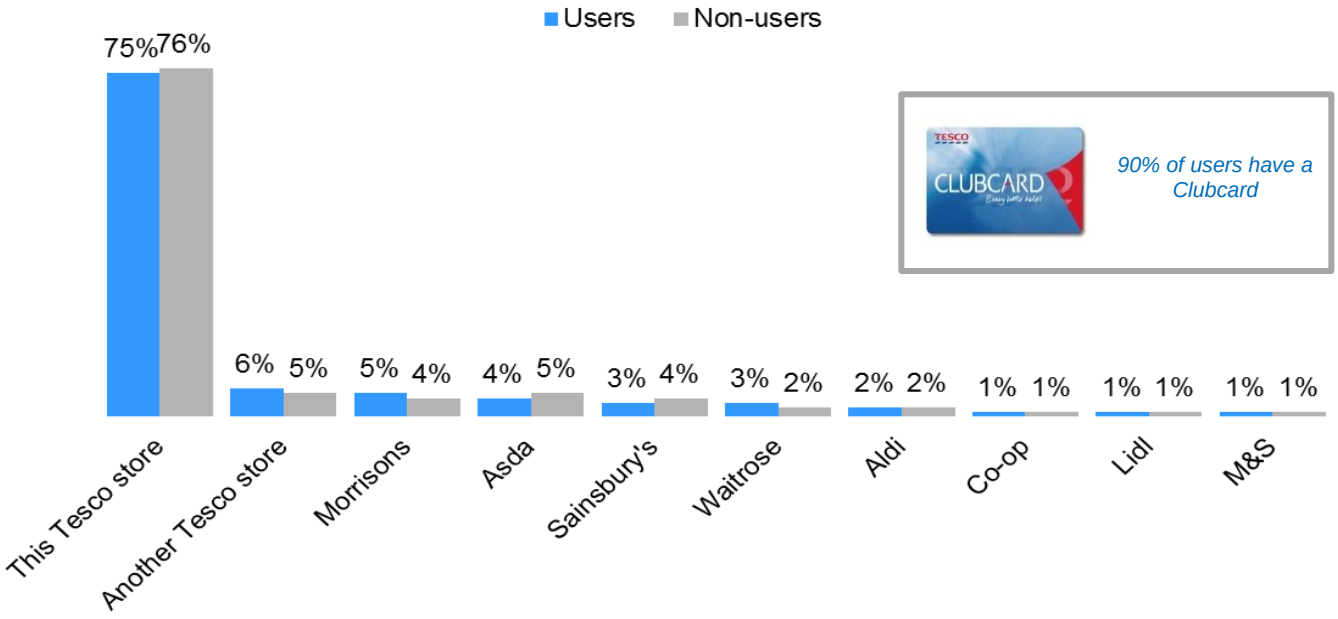
In addition to this, we operate a 'wash-while-you-shop' model and are fully insured to drive all customer vehicles. We do not allow our customers to form queues in the car park and customers waiting for the car wash would be directed into parking bays by operators until the work area was free.

Therefore, we believe that the impact on vehicle movements to and from the car park is negligible and the impact on the movement of traffic around the car park is not significantly altered by the installation of a Waves hand car wash.

Transport Assessment Data

FINDING ONE: THE MAJORITY OF OUR CUSTOMERS ARE PRE-EXISTING TESCO SHOPPERS

Questioning revealed that the majority of customers that use a Waves hand car wash are a primary shopper at the Tesco store where they had their car washed and almost all users are ClubCard holders.



- QD3. Which one store do you use to buy most of your food and grocery shopping?
- Base: all respondents – Users (502). Non (215)

FINDING TWO: WE HAVE 146 CAR WASH CUSTOMERS ON AN AVERAGE WEEK

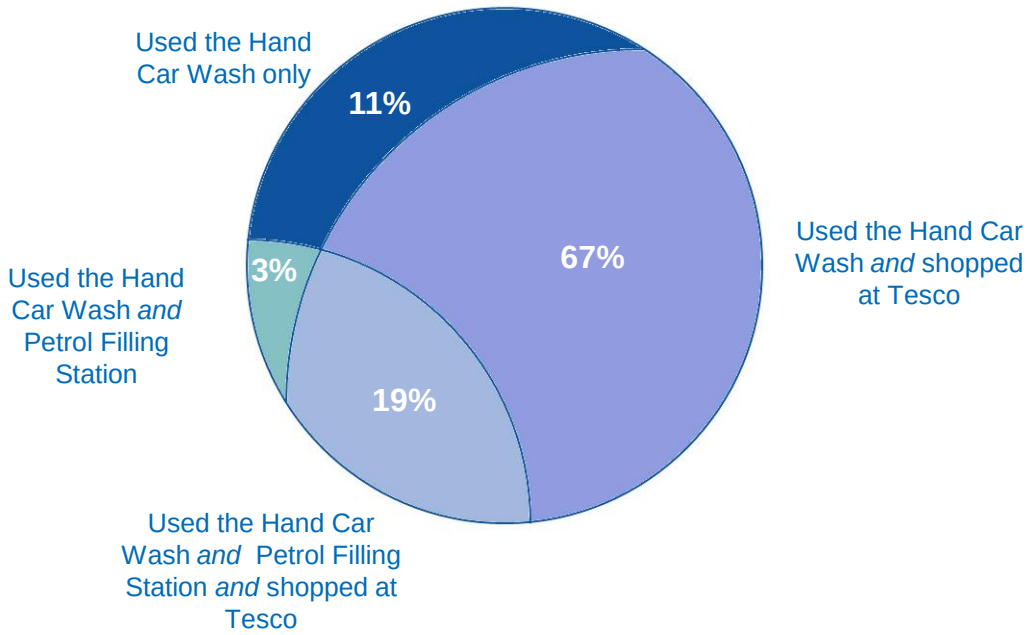
We have taken data from 13 of our sites over a six month period showing how many cars each site washes each week to get an average weekly wash total. We have taken a cross section of car washes in terms of location and size of the car park. From this data (supplied by our franchisees), the busiest site shown below washes an average of 192 cars per week and the smallest an average of 96 with the overall average throughput of the Waves hand car washes shown below of 146 cars per week.

Classification	County	Spaces	February				March				April				May					June				July				Average
Extra	Middlesex	587	159	211	238	210	171	136	129	207	230	125	127	127	178	117	136	148	151	218	134	147	197	246	254	261	177	177
Extra	Gwynedd	590	137	166	173	322	207	185	153	307	358	179	113	166	179	99	149	162	133	202	157	139	139	194	204	221	208	186
Extra	Dorset	535	89	104	115	133	88	81	94	103	85	107	99	89	77	73	61	99	88	126	65	122	111	130	165	153	134	104
Superstore	Essex	240	86	91	102	87	65	57	94	264	391	269	212	220	233	136	127	131	168	220	151	105	165	190	229	255	129	167
Superstore	N. Yorkshire	401	109	100	118	119	76	82	89	99	123	82	85	93	97	76	67	91	90	106	95	90	91	101	115	112	97	96
Extra	W. Yorkshire	531	67	73	90	103	84	89	34	117	130	107	65	87	109	89	86	94	83	105	106	117	98	130	134	132	136	99
Extra	Tyne & Wear	998	117	123	98	169	84	158	77	131	150	146	119	84	116	103	81	74	81	116	92	92	82	104	124	107	129	110
Extra	Greater London	484	99	91	109	135	88	80	77	136	131	95	124	114	96	100	93	126	118	122	106	109	142	158	135	136	110	113
Extra	Greater London	632	174	115	165	89	90	96	60	132	102	97	93	107	144	97	98	83	92	130	85	94	172	194	182	181	183	122
Superstore	Gloucestershire	234	121	101	112	173	103	74	39	96	180	72	118	119	98	56	89	109	96	167	107	107	146	208	222	247	145	124
Superstore	Norfolk	533	264	344	306	332	223	230	155	257	292	267	223	264	229	208	200	168	230	211	188	198	262	250	263	243	216	241
Extra	Hertfordshire	1006	172	155	206	168	183	172	142	210	303	214	226	229	240	171	163	233	189	218	135	131	158	153	218	257	143	192
Extra	N. Wales	677	128	185	180	299	138	172	72	143	286	147	141	103	110	87	102	144	129	190	106	165	151	294	231	184	178	163
																												146

Transport Assessment Data

FINDING THREE: ONLY 11% OF OUR CUTOMERS VISIT THE CAR PARK SOLELY TO USE THE CAR WASH

We believe that the survey shows a very minimal impact on the congestion of the Tesco sites. The survey found that overall that only 11% of customers that attend a Tesco site go solely for the use of the hand car wash as shown below.



- Q4B. Did you use, or plan to use, any of the following today? Hand car wash only / hand car wash and shopped at Tesco / Hand car wash and Petrol Filling Station / Hand car wash and Petrol Filling Station and shopped at Tesco
- Base: all users (n=502)

Appendix 2 – Flood Risk Assessment (Flood Zone 2 or 3)

Flood Risk Assessment – Hand Car Wash Development in Flood Zone 2 or 3

Following consultation with Gemma Harrison (Flood & Coastal Risk Management Officer, Environment Agency) regarding a previous, identical application, she has advised that given the size of the development (approx. 105m2), a flood risk assessment of approximately one page would be adequate, including the plan for the disposal of the polluted water in preparation of a flood at the site to prevent pollution, and the emergency plan for closure during a flood event.

Flood Risk Assessment for the Proposed Hand Car Wash

It is considered that the flood risk for the hand car wash is low because there is only one small property proposed and this is not residential. If there is a flood risk warning, the car wash will be prepared as follows:

Cabin

The EA advised that here are no restrictions with regards to floor levels for the proposed office and store however we will raise the cabin slightly so that it is above the flood level. We will implement some basic resistance and resilience measures as follows:

- When the doors and windows are closed on the cabin, water cannot get into the cabin, except by coming up through the floor
- When building the car wash, we will use triple core armoured cabling for all connections to the cabin so that there is no danger of damage from any flooding
- We install shelving into our cabins that we can remove any items from the floor and put them on the shelves as required if we know there is a flood imminent
- All electrical sockets, fuse boxes, controls and wiring will be above flood level

Concrete wash pad

Every care is taken with the installation of a Waves car wash to ensure that the site is fully compliant with the EA's PPG13 guidelines. The wet wash area is built to a very high specification and we will install an impermeable concrete wash pad with centralised drain, silt trap and interceptor – please see page 4 of the design and access statement for more information.
The concrete is impermeable and water cannot get into the surface water or groundwater system; only into our drainage system which is connected to the foul sewer. The collection tank will be sludge gulped as required by a licensed contractor and the waste disposed of as per EA guidelines.

We can operate a closed loop system however the treated water must be emptied and refreshed regularly to prevent stagnation – hence the requirement for a connection to the foul sewer.
If there is a flood risk warning then we would ensure the connection is opened to the foul sewer, this would ensure that water would flow freely through our drainage system and into the foul sewer to ensure that there was no back up of polluted water from the interceptors – this could only happen if we were operating the closed loop system.

The operator will be made fully aware of this FRA and we will have a copy on site at all times.

Appendix 3 – Lighting Specification

Proposed lighting for hand car wash

NVC Flood Lights Specification

TAMPA (TA)





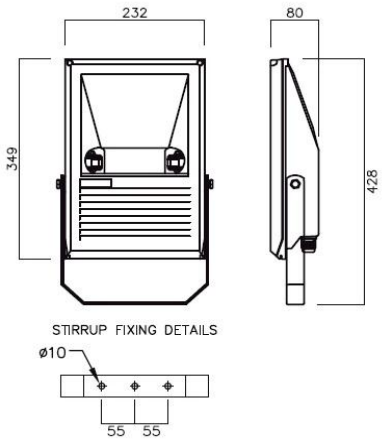
Available in 3 colours

IP65 slim aluminium diecast asymmetric floodlights for 70W & 150W metal halide lamps.

APPLICATIONS
- Signage
- Fascias

SPECIFICATION
- 70W & 150W Metal Halide double ended lamp
- Supplied complete with European brand colour 740 lamp
- Asymmetric distribution

CONSTRUCTION
- Aluminium diecast body and cover
- Available in a choice of 3 light textured colours:
  - Matt grey
  - Matt white
  - Matt black
- Hinged single-piece cover retained on stainless steel screws
- Polished aluminium reflector with dimpled finish
- Weight:
  - 70W 3.35Kg
  - 150W 4.35Kg
- Windage = 0.08m²



ORDER CODE	DESCRIPTION
NTA70HQI-DE/740	TAMPA 70W MH GREY SLIM ALU FLOOD + LAMP
NTA150HQI-DE/740	TAMPA 150W MH GREY SLIM ALU FLOOD + LAMP
NTA70HQI-DE/WH/740	TAMPA 70W MH WHITE SLIM ALU FLOOD + LAMP
NTA150HQI-DE/WH/740	TAMPA 150W MH WHITE SLIM ALU FLOOD + LAMP
NTA70HQI-DE/BK/740	TAMPA 70W MH BLACK SLIM ALU FLOOD + LAMP
NTA150HQI-DE/BK/740	TAMPA 150W MH BLACK SLIM ALU FLOOD + LAMP

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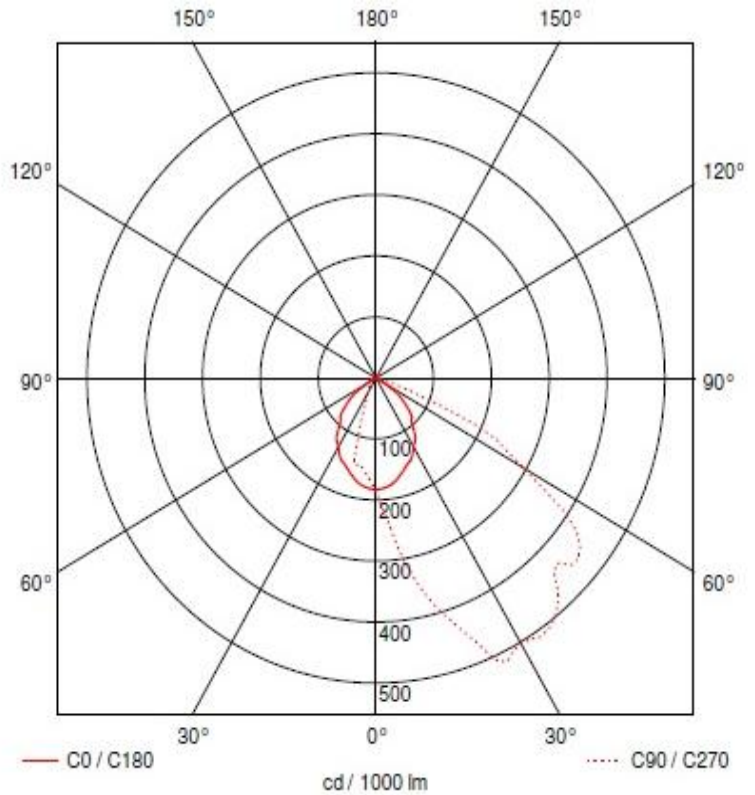
Proposed lighting for hand car wash

NVC Lighting Ltd - NTA70HQIDE – Luminaire Data

Luminaire data

NVC Lighting Ltd, NTA70HQI-DE-740 (NTA70HQI-DE-740).
LDC



	C0	C90	C180
0°	183	183	183
5°	180	234	180
10°	175	314	175
15°	164	383	164
20°	154	441	154
25°	146	513	146
30°	131	503	131
35°	119	510	119
40°	97	489	97
45°	87	438	87
50°	67	458	67
55°	46	415	46
60°	17	295	17
65°	10	214	10
70°	6	71	6
75°	3	7	3
80°	3	2	3
85°	2	1	2
90°	0	0	0
	cd / 1000 lm		

Luminaire data

Luminaires efficiency	:	70.1% (A40) ⇓ 100.0% ⇑ 0.0%
Control gear	:	
System power	:	78 W
Length	:	230 mm
Width	:	350 mm
Height	:	85 mm

Equipped with

Number of	:	1
Designation	:	70w
Power	:	0 W
Colour	:	
Luminous flux	:	5500 lm

Manufacturer	: NVC Lighting Ltd	Efficiency factor	: 70.1% (A40)
Order number	: NTA70HQI-DE-740	Light distribution	: asymmetric
Luminaire name	: NTA70HQI-DE-740	Beam Angle	: – C0 62.1° C90 – C180 – C270
Equipment	: 1 x 70w ARC70/UVC/TD/742 0 W / 5		
Dimensions	: L 230 mm x W 350 mm x H 85 mm		
File name	: NTA70HQI-DE-740.ldt		

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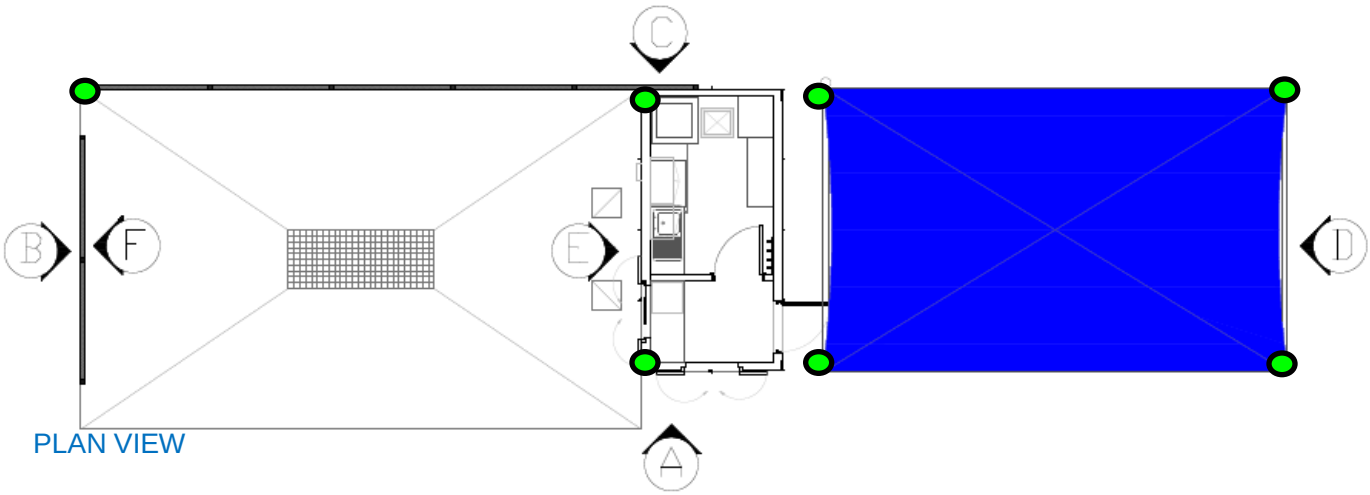
Plan showing floodlight locations



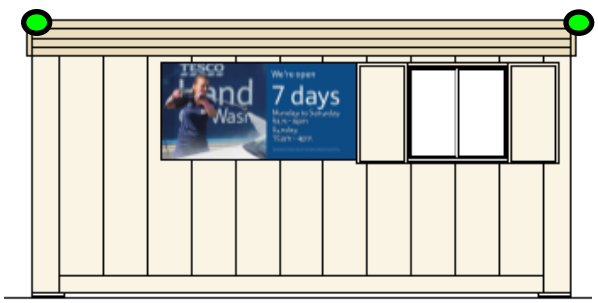
ELEVATION A



PLAN VIEW



CABIN FRONT VIEW A



ELEVATION E

Floodlight position

Waves will install 7 x 150 watt polycarbonate floodlights – two on the roof of the cabin and one on a pole above the screens, there are also four underneath the canopy skin. All lights are marked on the plan by a green box.

The cabin floodlights sit directly on top of the cladding and the elevation is 2105mm from the ground to the base of the spotlight. The floodlights on the screening pole sits 3000mm from the ground to the base.

The floodlights are approximately 200mm x 200mm square.

All floodlights are directed down over the work area and are not illuminated when the site is closed.

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Appendix 4 – Recycling System

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Recycling system safety notes

Safety Notes

General

Please read this manual carefully before attempting any maintenance work on your reclaim system

This manual should remain accessible to all operators.

Please consider local legal requirements which may apply to this equipment.

The plant room area should be well lit to allow safe servicing of the equipment.

SAFETY !

Always isolate the mains power, mains water and the compressed air supply before carrying out any maintenance work or opening the reclaim control cabinet.

Never leave an open interceptor chamber unattended. Barrier off the area and use suitable PPE and safety equipment.

When handling chemicals appropriate safety wear should be worn.

Recycled water is not suitable for drinking and may cause damage to health if consumed.

Always release water pressure in the filter vessels prior to removing the filter bungs.

Maintenance

To ensure that the equipment functions reliably and safely it is essential that it is properly maintained (see maintenance service schedule).

Repair work should only be carried out by trained personnel or a customer service engineer.

Always use original replacement parts or alternatives recommended by the equipment supplier.

Don't forget to recharge the sump tank with water after gulping sediment. This is important in order for the Reclaim to function correctly.

Chemical use

Don't use chemicals other than those recommended by the manufacturer for cleaning the wash bay area, otherwise this could contaminate the water.

Before bay cleaning commences please contact customer services for further advice.

Don't use any form of salt to de-ice the wash bay as this gets washed into the system and will cause water problems.

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Recycling system specification

System Specification

Typical recycling performance	**%**	**95**
Connection load:	Amp/V/Hz	4/415/50
Electrical rating:	kW	1.0
Breaker Size:	Amp	6
Max wash water production:	l/hr	2000
Pipework material:		ABS Class E
Fittings material:		ABS, PVC, Brass
Submersible pump rating:	kW	0.78
Submersible pump load:	Amp	3.5
Noise level	dB(A)	<55
Typical overall dimensions W x D x H:	m	1.0 x 1.0 x 1.5
Approx total weight (dry):	kg	40
Approx total weight (wet):	kg	120
Housing requirements:		Weather protection & Frost protection

System Limitations:

Reclaim compatible chemicals only (neutral pH, low foam).
Max service interval: 6 weeks.

System Description

All the effluent from car washing is drained into a below ground interceptor.

In the interceptor heavy solids settle out and any free oils are held back by the tanks internal baffle arrangement.

A submersible pump draws water on demand from the final chamber of the interceptor to a water holding tank in the plant room via a bag filter.
The bag filter removes particles down to 25 micron to protect the pressure washers.
The submersible pump is controlled by an integral float switch and a float switch in the water storage tank.

To prevent bacterial problems, the system is fitted with a biocide dosing system and aeration as standard.

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Recycling system equipment & operation

GRUNDFOS **INSTRUCTIONS**

Unilift CC 5, CC 7, CC 9

Installation and operating instructions

GB D F I E P GR NL S FIN DK
PL RU H CZ SK TR



BE > THINK > INNOVATE >

GRUNDFOS

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Unilift CC 5, CC 7, CC 9

Installation and operating instructions	6	GB
Montage- und Betriebsanleitung	13	D
Notice d'installation et de fonctionnement	22	F
Istruzioni di installazione e funzionamento	30	I
Instrucciones de instalación y funcionamiento	38	E
Instruções de instalação e funcionamento	46	P
Οδηγίες εγκατάστασης και λειτουργίας	54	GR
Installatie- en bedieningsinstructies	62	NL
Monterings- och driftsinstruktion	69	S
Asennus- ja käyttöohjeet	75	FIN
Monterings- og driftsinstruktion	81	DK
Instrukcja montażu i eksploatacji	87	PL
Руководство по монтажу и эксплуатации	95	RU
Szerelési és üzemeltetési utasítás	104	H
Montážní a provozní návod	111	CZ
Návod na montáž a prevádzku	119	SK
Montaj ve kullanım kılavuzu	128	TR

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Original installation and operating instructions.

CONTENTS

GB

		Page
1.	**Symbols used in this document**	6
2.	**Unilift CC 5, CC 7 and CC 9 pumps**	6
3.	**Applications**	6
4.	**Identification**	7
5.	**Functions**	7
6.	**Operating conditions**	7
7.	**Installation**	7
7.1	Installation dimensions	7
7.2	Pump location	8
7.3	Connection of discharge pipe	8
7.4	Adjustment of cable length for float switch	8
7.5	Electrical connection	8
8.	**Operation**	9
8.1	Self-venting	9
8.2	Manual operation	9
8.3	Automatic operation	9
8.4	Pumping to low water level	9
8.5	Thermal protection	9
9.	**Maintenance**	10
9.1	Cleaning the pump	10
10.	**Technical data**	10
10.1	Electrical data	10
10.2	Sound power level	10
10.3	Dimensions	10
11.	**Fault finding chart**	11
12.	**Service**	12
13.	**Disposal**	12

Warning

Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

Warning

The use of this product requires experience with and knowledge of the product.
Persons with reduced physical, sensory or mental capabilities must not use this product, unless they are under supervision or have been instructed in the use of the product by a person responsible for their safety.
Children must not use or play with this product.

1. Symbols used in this document

Warning

If these safety instructions are not observed, it may result in personal injury!

Caution *If these safety instructions are not observed, it may result in malfunction or damage to the equipment!*

Note *Notes or instructions that make the job easier and ensure safe operation.*

2. Unilift CC 5, CC 7 and CC 9 pumps

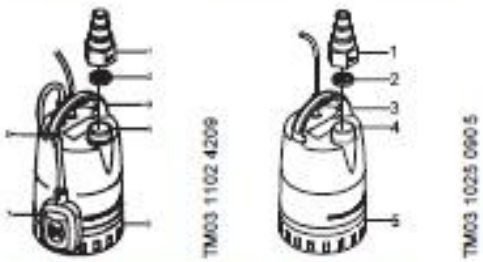

Fig. 1 Pump with and without float switch

1. Adapter
2. Non-return valve
3. Handle
4. Discharge port
5. Suction strainer
6. Clamp
7. Float switch.

3. Applications

Grundfos Unilift CC 5, CC 7 and CC 9 pumps are single-stage submersible pumps designed for pumping rainwater and grey wastewater, e.g. from

- washing machines, baths, sinks, etc. from low-lying parts of buildings up to sewer level
- cellars or buildings prone to flooding
- draining wells
- wells for surface water with inlets from roof gutters, pits, tunnels, etc.
- swimming pools, ponds or fountains.

The pump is suitable for both stationary and portable use.

Warning

The pump must not be used in or at swimming pools, garden ponds, etc. if there are persons in the water.

The pump is **not** suitable for

- liquids containing long fibres
- inflammable liquids (oil, petrol, etc.)
- aggressive liquids.

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4. Identification

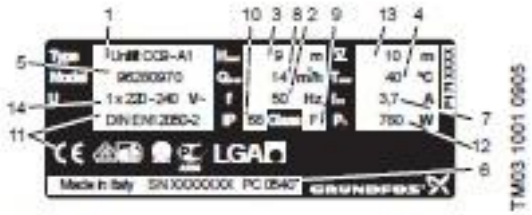

Fig. 2 Example of nameplate for Unilift CC 9

Pos.	Description	Pos.	Description
1	Pump type	8	Max. flow rate
2	Frequency	9	Motor insulation class
3	Max. head	10	Enclosure class
4	Max. liquid temperature during continuous operation	11	Approvals
5	Product number	12	Motor input power
6	Production code	13	Max. installation depth
7	Full-load current	14	Supply voltage

5. Functions

Pump with float switch

- Automatic start/stop.
- Pumping to low water level without suction strainer, with the pump in forced operation.

Pump without float switch

- Manual external start/stop.
- Pumping to low water level without suction strainer. See section *8.4.*

Unilift CC pumps incorporate a vent valve. See section *8.1.*

6. Operating conditions

Liquid temperature

0 °C to +40 °C.

At intervals of at least 30 minutes, the pump is allowed, however, to run at maximum +70 °C for periods not exceeding 2 minutes.

Storage temperature

–10 °C to +50 °C.

Installation depth

Maximum 10 metres below water surface.

7. Installation

Caution

The pump must not be installed hanging from the electric cable or the discharge pipe.

Do not lift or lower the pump by means of the electric cable.

GB

7.1 Installation dimensions

7.1.1 Pump with float switch

If the pump is installed in a well, the minimum dimensions of the well should be as shown in fig. 3 and the table to ensure free movability of the float switch.

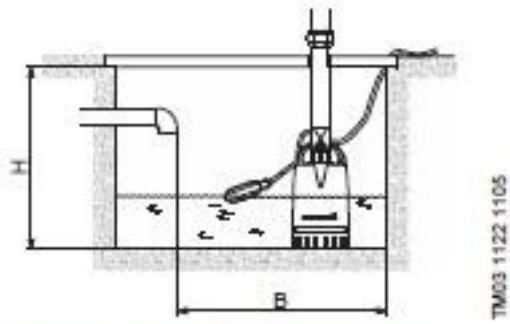

Fig. 3 Minimum installation dimensions

Minimum installation dimensions

Pump type	Height (H) [mm]	Width (B) [mm]
Unilift CC 5 Unilift CC 7	520	400
Unilift CC 9	570	500

7.1.2 Pump without float switch

The space required corresponds to the physical dimensions of the pump. See page 137.

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GB

7.2 Pump location

The pump can be used in the vertical position and in the tilted or horizontal position with the discharge port as the highest point of the pump. During operation, the suction strainer must be covered by the pumped liquid.

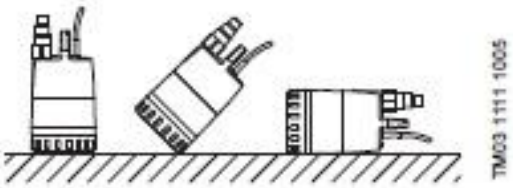

Fig. 4 Pump positions

Position the pump so that the suction strainer is free of silt, mud or similar materials. This can be ensured by placing the pump on bricks, an iron plate, etc.

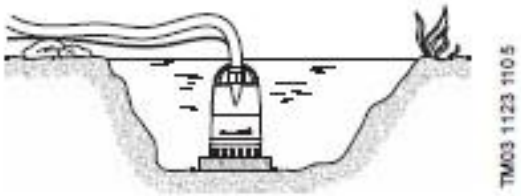

Fig. 5 Pump mounted on a plate

7.3 Connection of discharge pipe

The discharge pipe can be connected directly to the pump discharge port or by means of the adapter.

To prevent backflow through the pump when it stops, the supplied non-return valve can be fitted in the adapter. The non-return valve is fixed when the adapter is fitted to the pump discharge port.



Fig. 6 Adapter and non-return valve (position and function)

The adapter enables the connection of a pipe or hose matching 3/4", 1" and 1 1/4" external pipe thread (G). Cut off the adapter so that it matches the discharge pipe diameter. If a system gasket is used between the discharge pipe and the adapter, the cut-off adapter must have an even and smooth surface.

The approval according to DIN EN 12 056-4 stipulates that the pipe from the fixed installation must be connected directly to the pump discharge port. If the supplied adapter is to be used, the 3/4" and 1" sockets must be cut off.

7.4 Adjustment of cable length for float switch

The difference in level between start and stop can be adjusted by changing the free cable length between the float switch and the pump handle.

- An increased free cable length results in fewer starts/stops and a large difference in level.
- A reduced free cable length results in more starts/stops and a small difference in level.

In order that the float switch can start and stop the pump, the free cable length must be min. 100 mm and max. 200 mm.

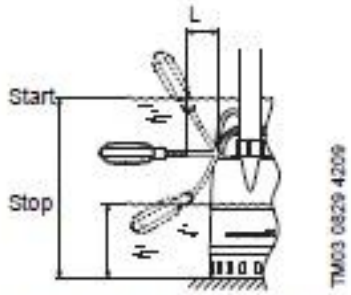

Fig. 7 Start/stop levels at min. and max. cable lengths

Pump type	Cable length (L) min. 100 mm		Cable length (L) max. 200 mm	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
Unilift CC 5	350	115	400	55
Unilift CC 7	350	115	400	55
Unilift CC 9	385	150	435	90

7.5 Electrical connection

Supply voltage: 1 x 220-240 V, 50 Hz.

The electrical connection must be carried out in accordance with local regulations.

Check that the mains voltage and frequency correspond to the values stated on the pump nameplate.

Warning

As a precaution, the pump must be connected to a socket with earth connection.
It is recommended to fit the permanent installation with an earth leakage circuit breaker (ELCB) with a tripping current < 30 mA.

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8. Operation

8.1 Self-venting

A vent valve is built into the pump handle. The valve allows air to escape from the pump in case the free air flow through the discharge pipe is blocked. Once the pump is vented, the valve normally closes.

If the pump sucks air or water with a high air content, the valve may leak a mixture of air and water. This is no fault but a natural consequence of the opening and closing of the valve.

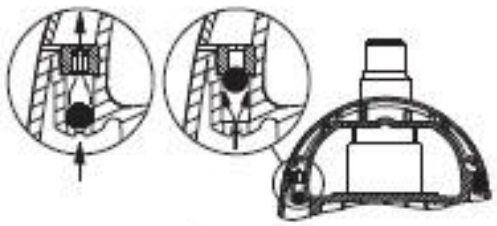

Fig. 8 Self-venting

8.2 Manual operation

The pump is started and stopped by an external switch.

To eliminate the risk of dry running, the water level should be checked regularly during operation. This can for instance be done by an external level controller.

In order that the pump can self-prime when started, the water level must be at least 25 mm.

When the pump sucks water, it can pump down to 20 mm water level.

For pumping to low level, see section *8.4*.

8.3 Automatic operation

During automatic operation, the pump with float switch will start and stop, depending on the water level and the float switch cable length.

Forced operation of pump with float switch

If the pump is used to drain water levels below the stop level of the float switch, the float switch can be kept in a higher position by fixing it to the discharge pipe.

During forced operation, the water level should be checked regularly to prevent dry running.

8.4 Pumping to low water level

When the suction strainer has been removed, the pump can pump down to 3 mm.

Remove the suction strainer by inserting a screwdriver between the pump sleeve and the suction strainer and turning it.



Fig. 9 Removal of suction strainer

These conditions must be fulfilled:

- The pump must be placed on an even, horizontal surface.
- The water must not contain particles which may block the pump inlet.
- Minimum water level when the pump is started: 5 mm.

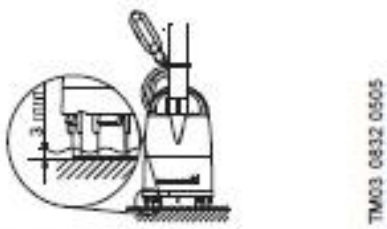

Fig. 10 Low water level

8.5 Thermal protection

If the pump is running without water, or if it is otherwise overloaded, the built-in thermal switch will cut out.

When the motor has cooled to normal temperature, it restarts automatically.

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9. Maintenance

Under normal operating conditions, the pump is maintenance-free.

If the pump has been used for liquids other than clean water, it should be flushed through with clean water immediately after use.

9.1 Cleaning the pump

Warning

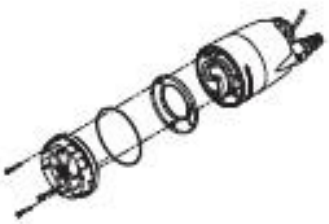
Before starting work on the pump, make sure that the power supply to the pump has been switched off and that it cannot be accidentally switched on.

Cleaning the suction strainer

1. Switch off the power supply to the pump.
2. Drain the pump.
3. Loosen the suction strainer by inserting a screwdriver between the pump sleeve and the strainer and turning it. See fig. 9.
4. Clean and refit the suction strainer.

Cleaning the impeller

1. Switch off the power supply to the pump.
2. Loosen the suction strainer by inserting a screwdriver between the pump sleeve and the strainer and turning it. See fig. 9.
3. Remove the bottom part. See fig. 11.



TM03 1112 1005

Fig. 11 Removal of bottom part

4. Remove and clean the diaphragm.
5. Flush the pump with clean water to remove possible impurities between the motor and the pump sleeve. Clean the impeller.
6. Check that the impeller can rotate freely.
7. Assemble the pump in reverse order of dismantling.

10. Technical data

Pump performance

Pump type	Unilift CC 5	Unilift CC 7	Unilift CC 9
Max. head [m]	5	7	9
Max. flow rate [m^3/h]	6	10	14

Maximum particle size

∅10 mm.

Enclosure class

IP68.

Insulation class

- Unilift CC 5 and Unilift CC 7: F.
- Unilift CC 9: B.

Thermal protection

Cutting out at a winding temperature of

- Unilift CC 5 and Unilift CC 7: +160 °C.
- Unilift CC 9: +140 °C.

Maximum permissible dry-running time

24 hours.

10.1 Electrical data

Pump type	Unilift CC 5	Unilift CC 7	Unilift CC 9
Voltage [V]	220-240	220-240	220-240
Current, $I_{1/1}$ [A]	1.2	1.8	3.5
Power, P_1 [W]	250	360	780
Power factor, cos $\varphi_{1/1}$	0.90	0.98	0.94
Cable type	H05RN-F 3G0.75	H07RN-F 3G1	H07RN-F 3G1

10.2 Sound power level

Airborne noise emitted by pump: ≤ 70 dB(A).

10.3 Dimensions

See page 137.

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11. Fault finding chart



Warning

Before starting work on the pump, make sure that the power supply to the pump has been switched off and that it cannot be accidentally switched on.

GB

Fault	Cause	Remedy
1. The pump does not run.	a) power supply switched off.	Switch on the power supply.
	b) Fuses in installation blown.	Replace defective fuses.
	c) The pump thermal switch has tripped out. See section *8.5.* (See also point 2.)	The thermal switch restarts the pump when the motor has cooled to normal temperature.
2. The pump stops after short time of operation (thermal switch tripped out).	a) The pumped liquid temperature is higher than that stated in section *6.* The motor is overheated.	The pump starts automatically after sufficient cooling.
	b) Pump partly blocked by impurities or blocked.	Clean the pump. See section *9.1.*
	c) Water level too low when the pump is started. The pump cannot self-prime. See sections *8.1* and *8.4.*	Move the pump to a position with higher water level or add water until the pump starts sucking.
3. The pump runs but gives insufficient water.	a) Pump partly blocked by impurities.	Clean the pump. See section *9.1.*
	b) Discharge pipe/hose partly blocked by impurities. The hose may be sharply bent.	Check and clean the non-return valve, if fitted.
	c) Impeller, bottom part or diaphragm defective.	Replace defective parts. See section *12.*
4. The pump runs but gives no water.	a) Pump blocked by impurities.	Clean the pump. See section *9.1.*
	b) Non-return valve in discharge pipe/ hose blocked in closed position or blocked by impurities. The hose may be sharply bent.	Check the non-return valve. Clean or replace the valve, if necessary.
	c) Pumps with float switch: The pump does not stop because the free cable length of the float switch is too long.	Reduce the free cable length. See section *7.4.*
5. The pump leaks at the handle (no fault).	a) Pump sucks air or water with a high air content. See section *8.1.*	The pump is not damaged. Move the pump to a place where the water level is higher.

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12. Service

It is possible to replace these parts:

Service kit	Type	Part number
Impeller	CC 5	96578967
	CC 7	96578968
	CC 9	96578969
Non-return valve		96578978
Adapter for discharge port		96578979
Suction strainer		96578990

The parts can be ordered from your pump supplier.

If other pump components are damaged or defective, contact your pump supplier.

Note

The cable and the float switch must be replaced by an authorised Grundfos service workshop.

13. Disposal

This product or parts of it must be disposed of in an environmentally sound way:

1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.

Subject to alterations.

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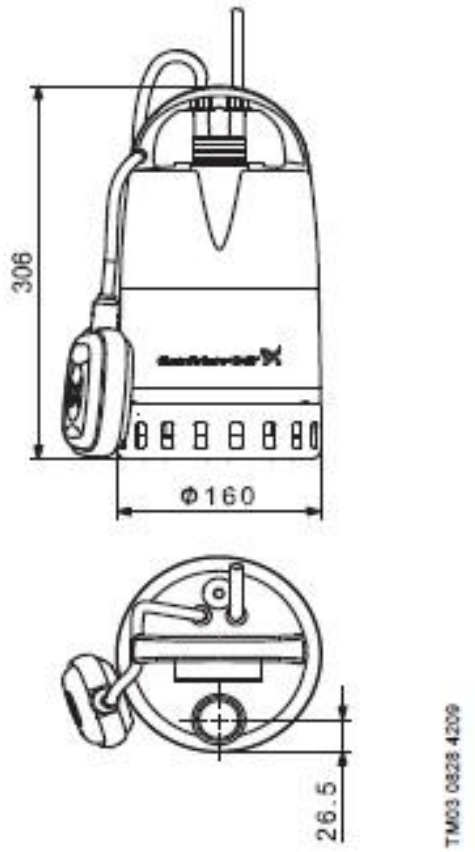
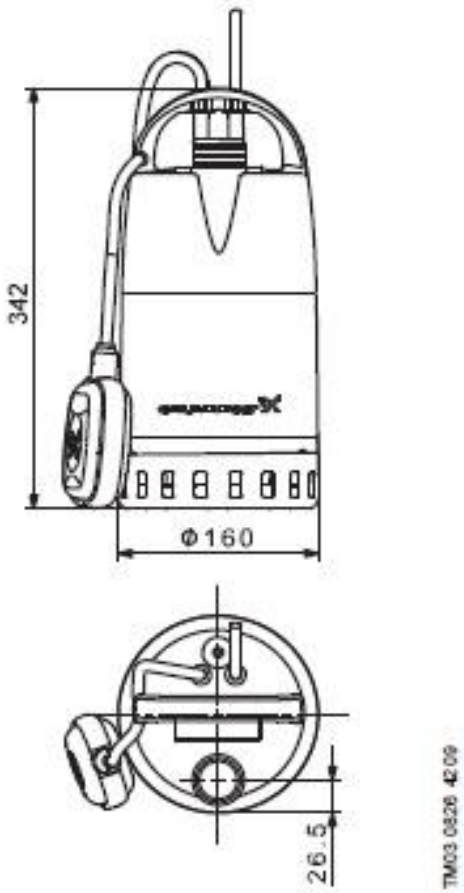
Dimensions

CC 5, CC 7



CC 9



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DRAWING No.	PAGE No.	DESCRIPTION	REV
01 OF 03	84 000 98	DOCUMENTATION SHEET	A
02 OF 03	84 000 982	PANEL GENERAL ARRANGEMENT	A
03 OF 03	84 000 983	CONTROL CIRCUIT	A

Cable Colour	Function
Brown	Phase 1
Black	Phase 2
Grey	Phase 3
Orange	DC control circuit (24VDC+)
White	DC control circuit (0VDC-)
Red	AC control circuit (+ & -)
Violet	AC or DC circuits wired from an external power source that may remain live when the main panel isolator is off.
Green/Yellow	Earth continuity conductor
Light Blue	Power neutral (e.g. 230VAC neutral)

Note: Minimum Cable sizes (Unless Stated)
Brown, Black & Grey – 0.75mm² Unfused
Brown, Black & Grey – 0.5mm² Fused
Light Blue – 0.75mm² Unfused
Light Blue – 0.5mm² Fused
Others – 0.50mm²
Green/Yellow Electrical Earth – 1.5mm²

(Star Washers to be used on all bonding Connections)

RCDs Should be Tested Monthly

TITLE	REV	DESCRIPTION	APPROVED	DATE
Bag Filter Reclaim WIRING DIAGRAM	A	FIRST ISSUE		–

workingwater
Unit H - 2 Little Moor Lane
Loughborough
Leicestershire LE11 1SF
t/f: 01509 237 486
e: info@workingwater.ltd.uk
www.workingwater.ltd.uk

DRAWN BY	DATE	SCALE	CHECKED	REVISION
S.E.B.	30/11/11	N/A	-	A

3 RD ANGLE | ORIGINAL SIZE A3 | DRAWING No. 84 000 98 | PAGE 1 of 3

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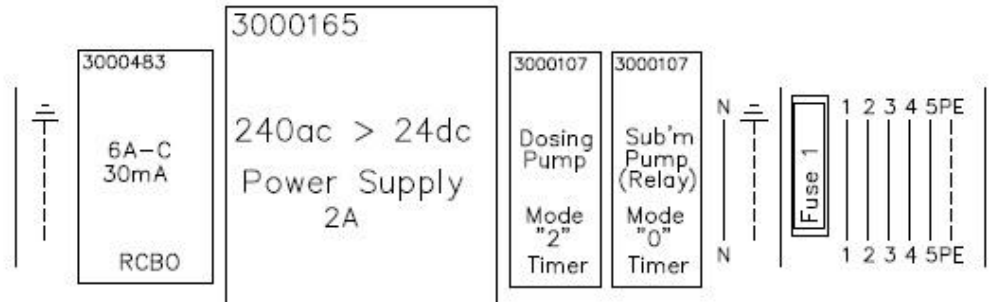

TITLE	REV	DESCRIPTION	APPROVED	DATE
Bag Filter Reclaim WIRING DIAGRAM	A	FIRST ISSUE		–

workingwater

Unit H – J Little Moor Lane
Loughborough
Leicestershire LE11 1SF
t/f: 01509 237 466
e: info@workingwater.ltd.uk
www.workingwater.ltd.uk

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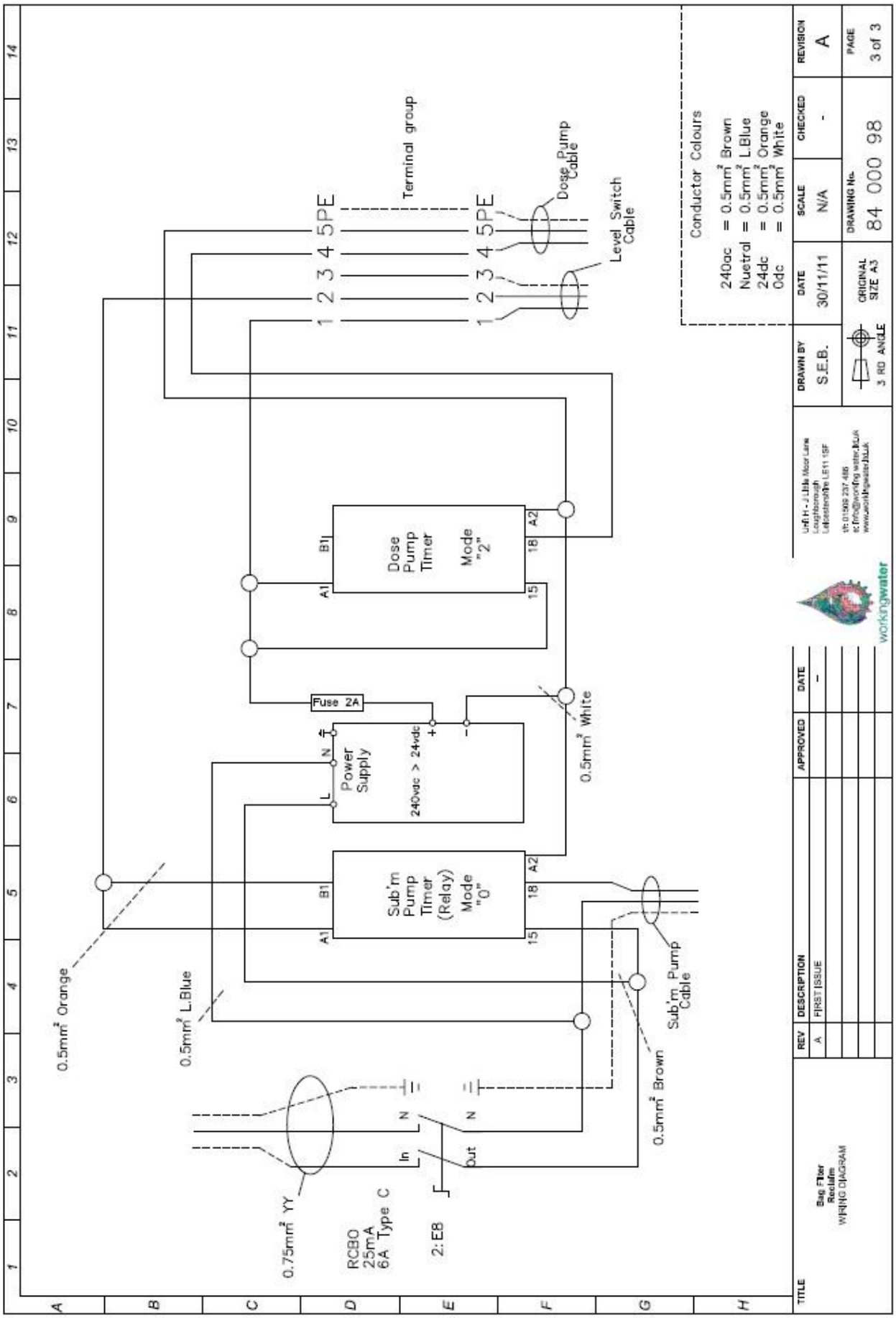

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Safety data sheet

SAFETY DATA SHEET

Biocide Odour Control

1. IDENTIFICATION OF THE SUBSTANCE & THE COMPANY

PRODUCT NAME: **Biocide Odour Control**

SUPPLIER:

Wilcomatic Ltd
Unit 5 Commerce Park
19 Commerce Way
Croydon
CR0 4YL

Tel: 0208 649 5761

2. COMPOSITION / INFORMATION ON INGREDIENTS

An aqueous blend of Quaternary Ammonium Compounds, Sodium Salt of Nitrilo Acetic Acid, Nonionic Detergent and Dye.

3. HEALTH HAZARD DATA

Irritant to eyes and skin. Harmful if swallowed.

4. FIRST AID MEASURES

First Aid – Eyes: Flush with copious amounts of water.
First Aid – Skin: Wash with soap and water.
First Aid – Ingestion: In the unlikely event of accidental ingestion, seek medical aid immediately. Do not give anything by mouth to an unconscious person.
First Aid – Inhalation: N/A

5. FIRE FIGHTING MEASURES

Non Flammable

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6. ACCIDENTAL RELEASE MEASURES

Cover with sand, earth or granules, pick up and hold for waste disposal. Small spills, wash away with water.

7. HANDLING & STORAGE

Closed containers above 5°C. Keep away from food, drinks and animal feedstuffs.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Respiratory protection:	N/A
Ventilation:	N/A
Protective gloves:	Wear gloves (PVC/ Rubber)
Eye Protection:	Wear goggles
Occupational exposure limit:	-

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @ 20°C	Liquid
Colour	Green
Odour	Low odour
Flash Point	Non flammable
Solubility	Water soluble
Specific gravity @ 20°C	1.000 +/- 0.01

10. STABILITY & REACTIVITY

Decomposition Products	Thermal decomposition may produce harmful gas.
Stability & Reactivity	Stable at ambient temperatures. Avoid contact with anionic surfactants, soaps and oxidising agents.

11. TOXICOLOGICAL INFORMATION

Eyes:	Irritant
Skin:	Irritant
Inhalation:	N/A
Ingestion:	Harmful

12. ECOLOGICAL INFORMATION

Biodegradable.

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13. DISPOSAL CONSIDERATIONS

As per current rules of local authority.

14. TRANSPORT INFORMATION

Not dangerous for transport.

15. REGULATORY INFORMATION

EEC Labelling and Classification

R Phrase(s)	R22 – Harmful if swallowed
S Phrase(s)	S2 – Keep out of reach of children S24/25 – Avoid contact with eyes or skin S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 – If in contact with skin, wash immediately with plenty of soap and water. S36 – Wear suitable protective clothing
Hazard Symbol	Xn

16. OTHER INFORMATION

This data sheet was prepared in accordance with directive 91/155/EEC and regulation 6 of the chemicals (Hazard Information and Packaging) Regulations 1993 (CHIP). The information this sheet contains does not constitute on its own users own assessment of workplace risks as required by other heath and safety legislation, e.g. COSHH. Occupational exposure standards were taken from the 1994 edition of EH40 (UK HSE).

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Appendix 5 – New Build Specification

New build specification

Drainage works for a standard 9-bay hand car wash with cabin, canopy and water recycling system

INTERCEPTOR

1) The contractor shall allow for the supply of the 2000 litre two (chamber) interceptor and silt separator and installed to installation details contained in Data Sheet, which is supplied with the unit.

2) The invert of the separator inlet shall be such so as to ensure a fall of not less than 1.6% (1/60) from the discharge invert of the silt trap discharge point.

3) The separator shall be seated and surrounded in suitable concrete as detailed in accordance with the supplied data sheet.

4) The contractor shall allow for the supply and installation of 2no 600 x 600 38T Heavy duty Manhole Covers and heavy-duty frames.

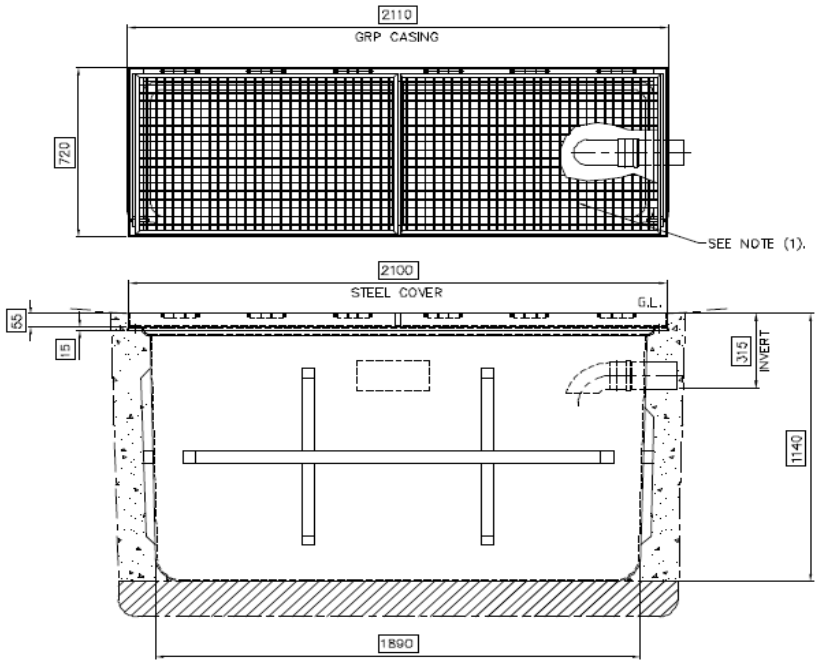
5) The separator access chambers should be linked by a 150mm duct between each chamber and each chamber should have a 150mm duct running back to the main service chamber that is located under the rear of the cabin.

6) The frames shall be seated on formed foundations and necessary engineering brickwork and shall be pointed in all exposed areas. Care shall be taken so as not to allow any load from traffic onto the interceptor.

SILT TRAP

1) The contractors shall supply and install a hinged lid silt trap. This should be installed in the centre of the wet area. The top of the silt trap should be 50mm lower than the lowest point of the wash area and installed to manufacturers specifications. The silt trap shall be installed as per the detail shown on the general arrangement drawing.

2) The silt trap shall be connected to the separator by a 100mm drainage pipe laid to falls of not less than 1:60. If a gully is needed it shall be connected to the separator by a 100mm drainage pipe laid to falls of not less than 1:50.



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CONCRETE PAD

1) The size of the concrete wash bay pad should be four bays wide and between 6.5 metres deep from front of kerb-line and a thickness of 200mm.

2) This should be divided into four areas to give the bow tie effect, with the silt trap located centrally (subject to site survey).

3) The slabs should have two layers of reinforcement mesh (a142 mesh). The minimum concrete quality C35 WRA. This should have a brush finish with 100mm trowelling around the outside of each section. (See below)



PATHWAY

1) A concrete walkway is to be installed along the back of the car wash area; this shall be 9 car park bays long by 1000mm deep by 160mm thick. This should have a brush finish and 100mm trowelling around the outside edge.

2) A 300 x 300 access chamber and lid is to be placed at the far side of the wet area concrete walkway. This should be fed by 100mm duct running back to the service manhole that is underneath the cabin.

FOUL DISCHARGE SERVICE SUPPLY

1) The contractor shall supply and install in 100mm ducts as shown on the drawing in 32mm MDPE BLACK pipe as a discharge main from the interceptor discharge pump There should be NO joints to the pipe apart from in the manholes or service rooms the connections should only be compression and NOT push fit with pipe inserts used.

2) The discharge pipe shall terminate within the identified foul manhole. The pipe shall where possible be benched onto the existing benching so as to ensure the directional flow is with the fall of existing sewer. In the event that this is not possible (e.g. deep manholes) the pipe shall be secured to the side of the manhole so as to direct the flow vertically down on the opposite side of any entry point.

3) The discharge pipe shall be connected to the supplied pump by a galvanised chain and fixed to the wall of chamber by an eye type anchor bolt within the interceptor so as to allow easy removal of the pump should it be required. This should be by the use of cam lever couplings – see diagrams below

4) All pumps that are required will be supplied by Gilmore Consultancy.

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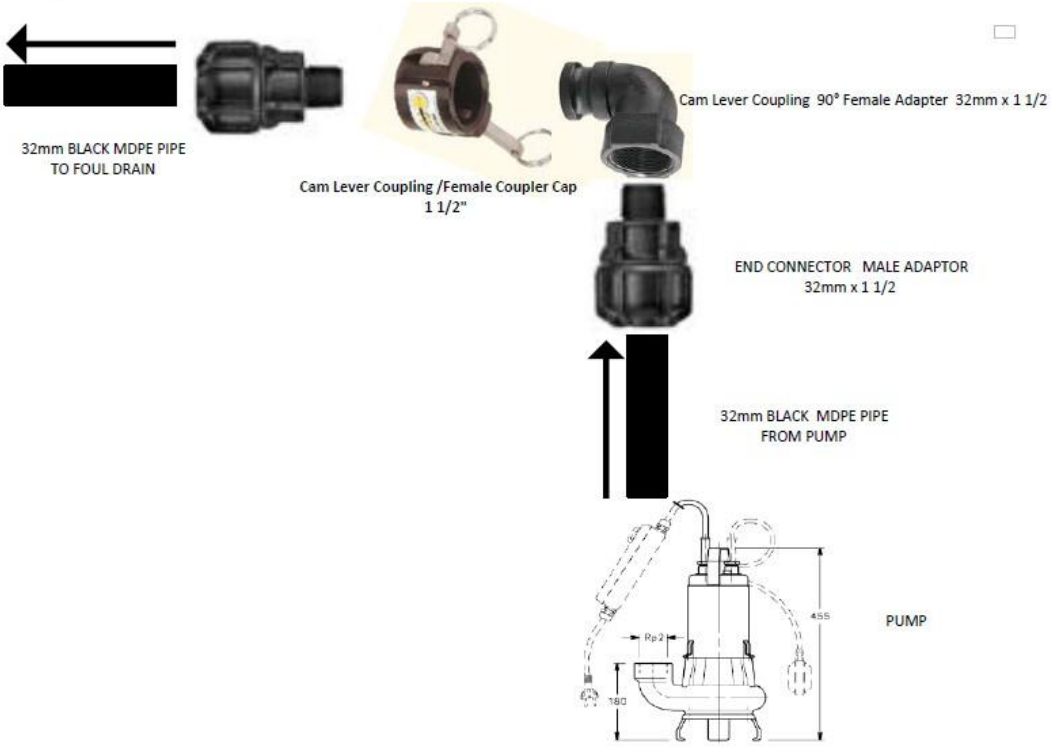

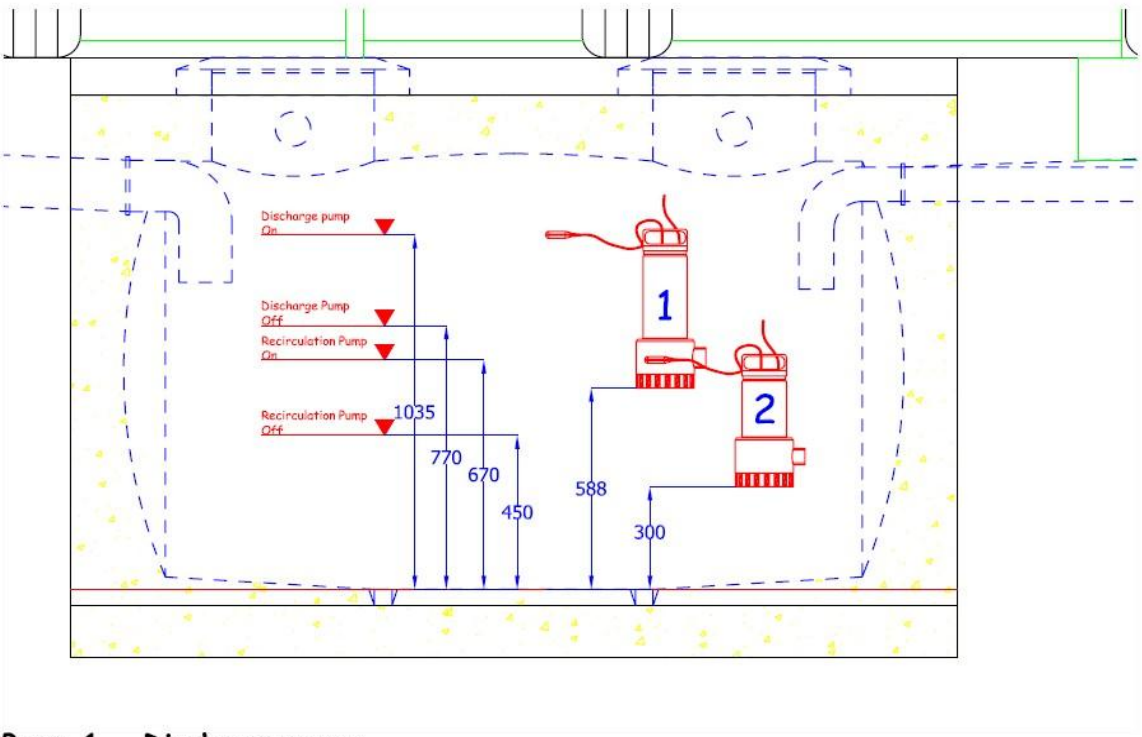

Pump 1 - Discharge pump

Lowara Domo 7VX 220/240V single phase 0.55 KW complete with "Vertex" Impeller to pump entrained solids.

Connection - 1½ " BSP female thread connected to a 50mm Black MDPE pipe. Note - ensure suitable coupling is installed witin the discharge line to allow complete removal of pump if required.

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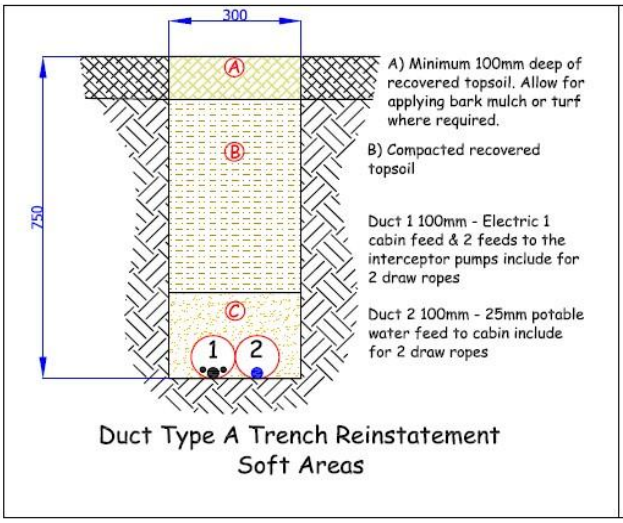
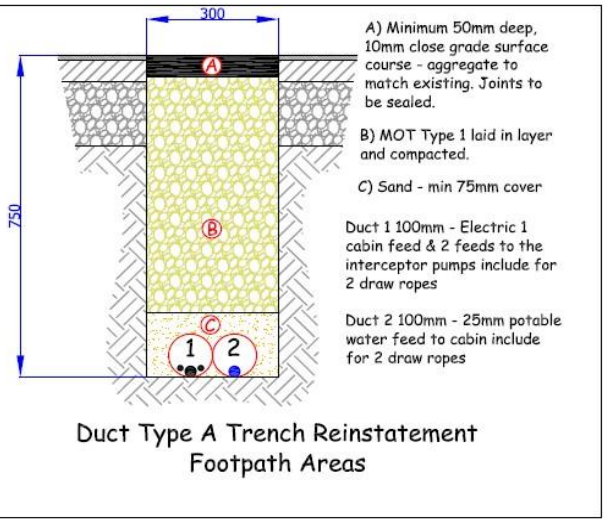
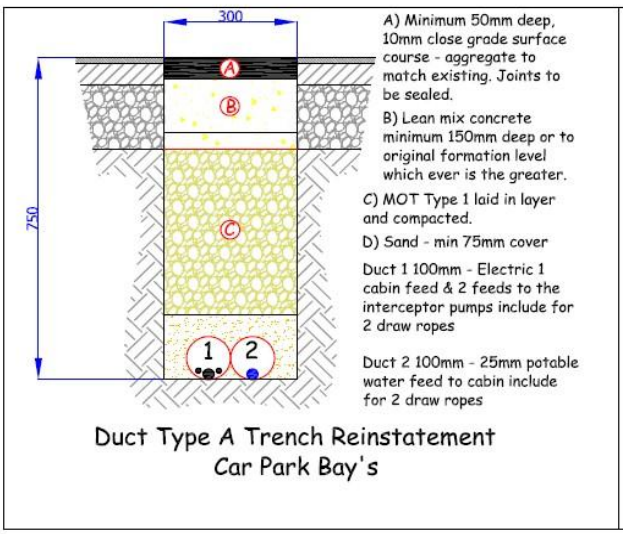
Trench Type A
From Duct Chamber to Cabin



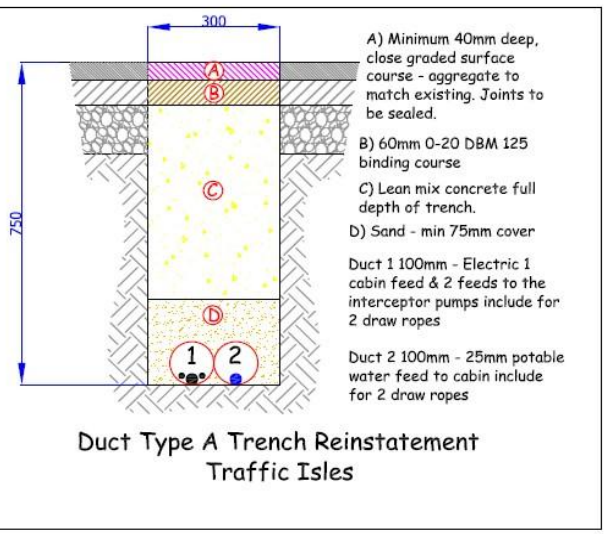
Duct Type A Trench Reinstatement
Soft Areas



Duct Type A Trench Reinstatement
Footpath Areas



Duct Type A Trench Reinstatement
Car Park Bay's



Duct Type A Trench Reinstatement
Traffic Isles

Service Ducting

The service ducting manholes should be no more than 50m apart.

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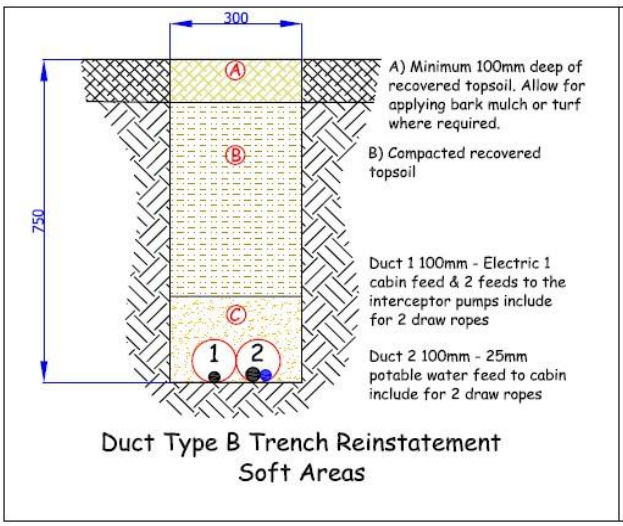
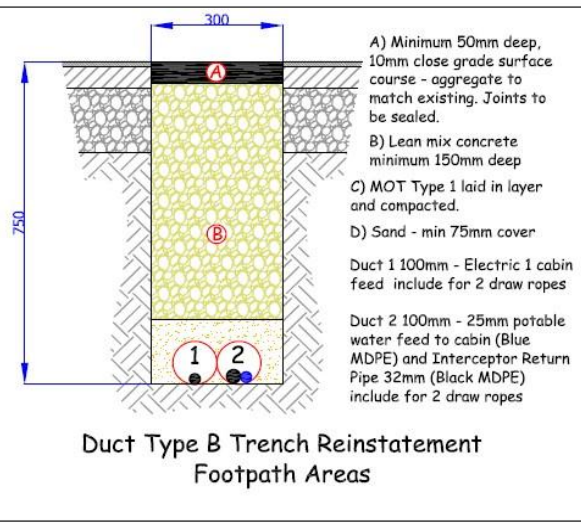
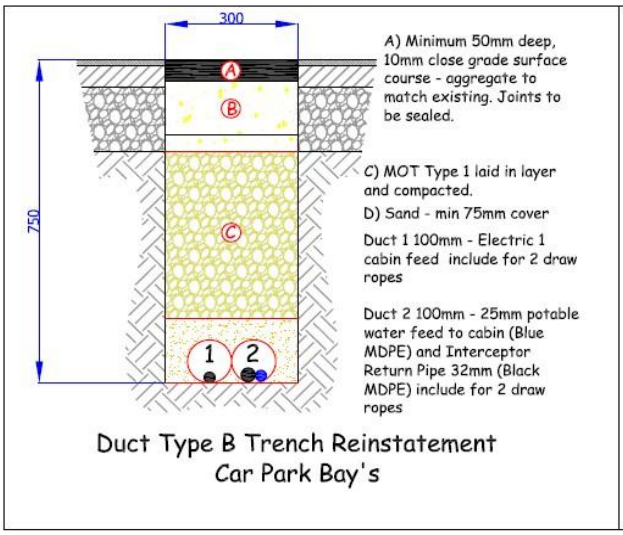
Trench Type B
From Store to Duct Chamber



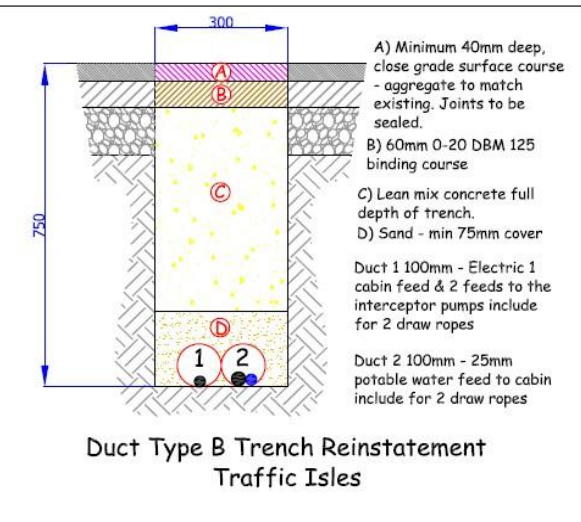
Duct Type B Trench Reinstatement
Soft Areas



Duct Type B Trench Reinstatement
Footpath Areas



Duct Type B Trench Reinstatement
Car Park Bay's



Duct Type B Trench Reinstatement
Traffic Isles

Service Ducting

The service ducting manholes should be no more than 50m apart.

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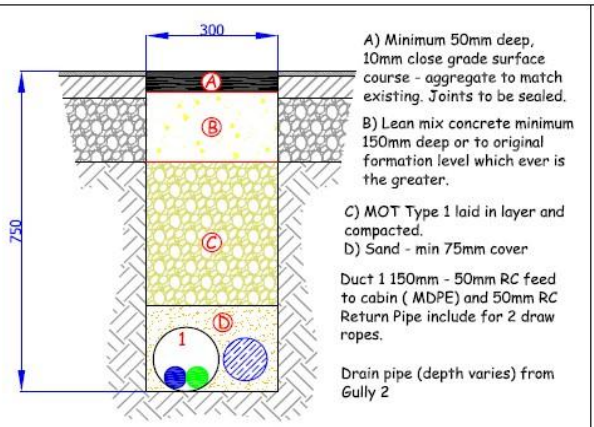
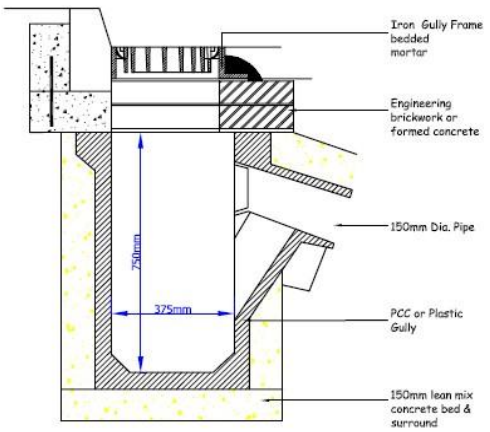
Trench Type C
From Cabin to Interceptor



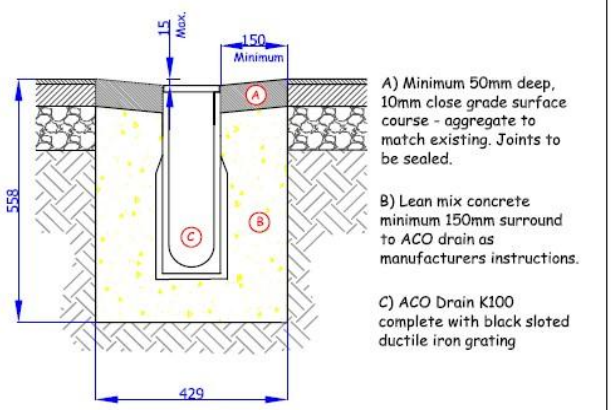
Duct Type C Trench Reinstatement
Car Park Bay's

Gully typical details

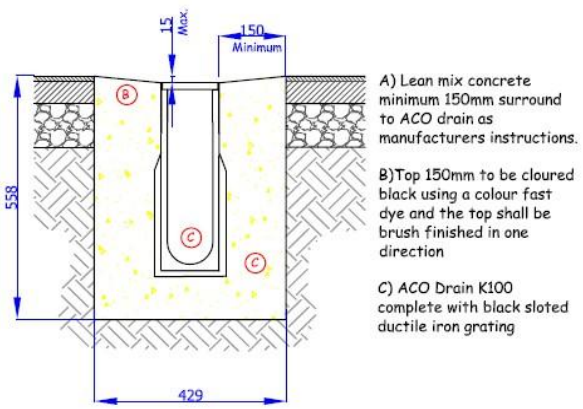


Gully Details

Typical Details of ACO installations



ACO drains with Tarmac Reinstatement



ACO drains with Concrete Reinstatement

Service Ducting

The service ducting manholes should be no more than 50m apart.

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Appendix 6 – Spill Kit Instructions

Emergency Spill Kit Instructions

An Emergency Spill Kit is supplied with each new Waves Car Wash and is used if an accidental spillage of chemicals or detergents occur

Instructions:

ALWAYS WEAR GOGGLES, GLOVES and OVERALLS when handling any chemicals

(Detergents and chemicals may only be mixed in the bunded wash area)

Any spillage in the bunded area must immediately be washed and brushed into the Aco drains with copious amounts of fresh water.

If an accidental spillage occurs outside the bunded area then immediately adopt the following procedure:

1. Immediately sprinkle the enclosed granules onto the spilt liquid
2. Allow the granules to absorb the spilt liquid
3. Sweep up the contaminated granules and place into the sack provided in this kit
4. Wash the contaminated area with a mop and bucket. The waste from this bucket must be placed into the FOUL drain and the mop and bucket well rinsed into the foul drain
5. The bag of contaminated granules must be labeled with contents and be removed to the local council tip and given in to the tip supervisor, informing him of the contents. The COSHH sheets in the back of the Waves Business Manual will prescribe disposal methods
6. Review your RISK ASSESMENT NOTICE and procedures to avoid future spills
7. Replace used granules as soon as possible (can be obtained from Head Office Tel: 020 8877 3884)

CONTENTS: Absorbent granules, latex gloves, goggles, disposal bags

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If you require any further information, please do not hesitate to contact us:

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