Overview of the

E/One Grinder Pump System

Approved Semi-Positive Displacement Wastewater Pump for installation at:

Sterling Park Subdivision

Prebbleton

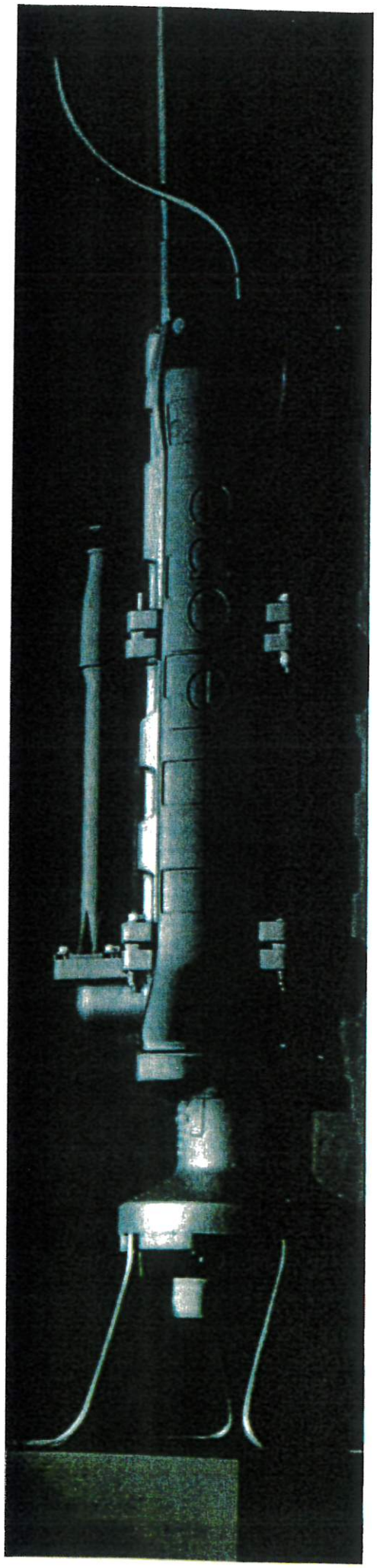
Supplied by – Ecoflow Ltd

2/15 Anchorage Road

Hornby, Christchurch 8042

03 349 2506

www.ecoflow.co.nz



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e|one SEWER SYSTEMS

ECOFLOW LTD
15 Anchorage Road
Hornby, Christchurch
Ph: +64 3 349 2506
Email: info@ecoflow.co.nz
Web: www.ecoflow.co.nz

E/One Wastewater Grinder Pump System

Project - Sterling Park Subdivision

Attn: Section Owners

Ecoflow Limited is the New Zealand distributor of Environment One (E/One) Pressure Wastewater Collection System. Ecoflow is pleased to offer the E/One Simplex grinder pump system for your new section.

The wastewater network for your new section has been designed to work specifically with the E/One pump systems. The pump is a semi-positive displacement pump that will handle the variation of network pressure which occurs when several pumps in the development are operating simultaneously.

Ecoflow is New Zealand's premier pressure sewer solutions provider. With more than 12,000 systems installed nationwide, Ecoflow is the first choice for councils, consultants, homebuilders and home owners. In the Canterbury region we have supplied over 3000 systems and a full service and support centre in Hornby, Christchurch.

E/One Corporation developed the Pressurised Sewer concept in the late 1960's and have since led the industry that has evolved for more than four decades. E/One have more than **600,000** grinder pumps in service in over **42 countries**, many having been in operation for over 40 years.

Included you will find more information on the E/One pump system as well as the installation guide.

Special Pricing for Sterling Park Section Owners

Ecoflow is offering a discounted project price for the E/One system if supplied directly to the section owners.

The current system price is $6550 +GST and if we supply directly to you the system price is $5805 +GST. See details below

Pricing for the supply, commissioning and documentation of the E/One System			
Item	**Description**	**Qty**	**Amount**
ECOF0027	**Simplex Complete System**	**1**	$5,805.00
	Each system contains the following:		
	EOne 0.75kW Submersible Grinder Pump	1	Incl.
	Sentry Protect Plus Alarm Panel with 10m supply cable	1	incl.
	Simplex Polyethylene Tank – model 2010iP with 600mm lid	1	incl.
	Commissioning & Documentation	1	incl.
		Sub-total	**$5,805.00**
		GST	$870.75
		Total inc GST	**$6,675.75**

Notes: Longer pump cables are available in 15m, 22m or 30m lengths and additional cost apply. Pricing is valid until 31 December 2019.

Installation by Others – Installation is not included in this quotation. Ecoflow will provide full installation instruction for the drainlayer and electrical contractor when you are building your new home.

Product Availability
Lead time is normally 1-2 weeks. Pricing is based on collection for our Christchurch warehouse.

Installation
Ecoflow can arrange for one of our certified E/One installation contractor to supply you with a price to install the complete system. Once installed, Ecoflow will personally test and commission the pump system free of charge.

Note: Supply power connection to house panel **must use a dedicated 20A D-Curve circuit breaker**

Service
Ecoflow has a team of technicians and service agents who are trained and certified to provide servicing for E/One grinder pumps. In the event of an alarm, call our 24/7 toll free support number 0508 528 3725 and our technicians are ready to assist if required.

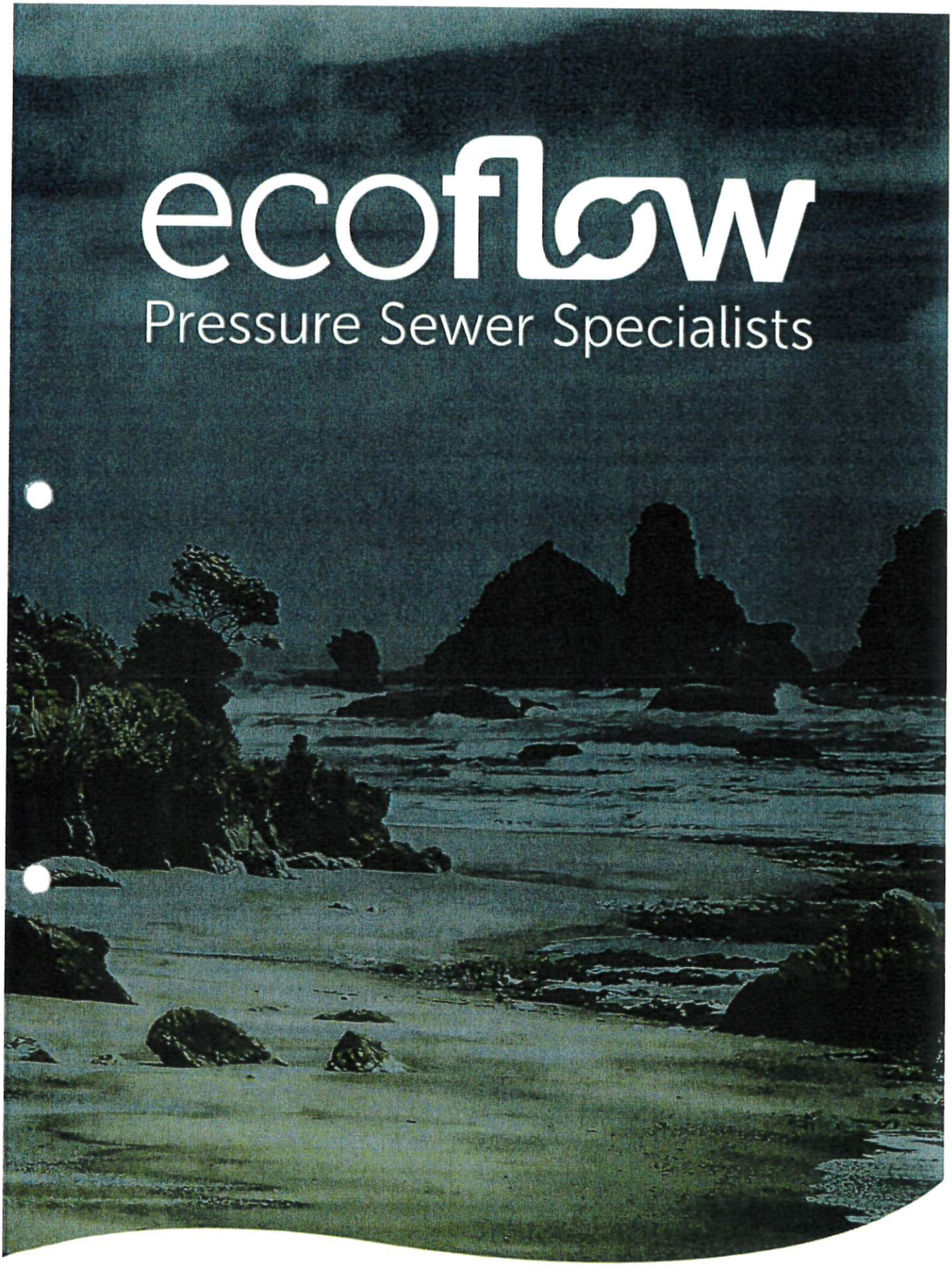
Warranty
Equipment manufactured by Environment One Corporation (Pumps, Panels and Tanks) come complete with a 24 month warranty.

Please do not hesitate to contact us should you require any additional information on the equipment.

Best regards,

Loren Madden
Business Development Manager
Ecoflow – Christchurch 03 349 2506
027 284 1119

eone SEWER SYSTEMS



e|one
SEWER SYSTEMS

OVER 10,000 INSTALLATIONS NATIONWIDE

ABOUT ECOFLOW

Ecoflow is New Zealand's largest pressurised sewer supplier. Founded in 2007 by two wastewater engineers, with their goal to become New Zealand's leading pressurised sewer system specialist.

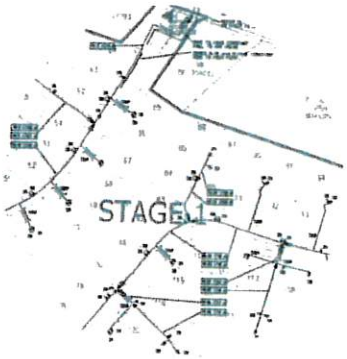
We are proud distributors of the Environment One (E/One) system, E/One are world leaders in low pressure sewer systems having over 600,000 grinder pumps operating globally in 42 countries.

Ecoflow have installed over 10,000 E/One pressure sewer systems throughout New Zealand in both council projects as well as green-field subdivisions.

Our success is simple, we are the most knowledgeable in our field using market leading equipment. We are focused on building strong relationships with our clients offering exceptional service and support.

WHY COUNCILS AND DEVELOPERS ARE CHOOSING E/ONE PRESSURE SEWER SYSTEMS

- Better for New Zealand's environment
- Minimal impact on councils existing sewer networks
- Ideal alternative to deep gravity sewer mains
- More resilient to seismic activity – earth quakes.
- Eliminates large public sewer pump stations



ecoflow
Pressure Sewer Specialists

RESPONSIBLE FOR 95% OF NZ'S PRESSURE SEWER SYSTEMS

E/ONE QUALITY

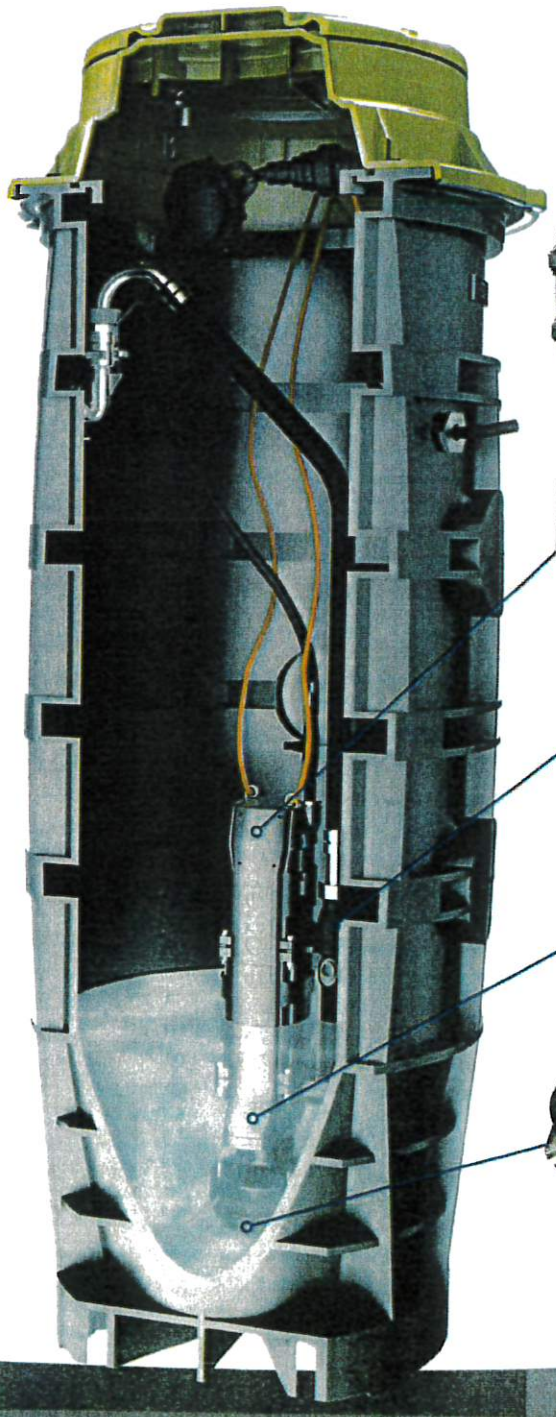
For over 50 years the E/One name is synonymous with reliable, maintenance free grinder pump systems, designed with longevity in mind. Before a product is released it is subjected to meticulous performance tests. The heavy duty cast iron grinder pump is ANSI/NFS 46 Certified. It's an industrial grade pump for residential use. E/One's tank is manufactured in New Zealand and is designed and certified to AS/NZS1546 specifications. It features an integrated stainless steel ball valve with pressure relief.

SERVICE CAPABILITIES

Ecoflow is known for offering end-to-end service. We have close relationships with architects, housing companies, builders, plumbers, drain layers and electricians to achieve a superior level of customer service.

SERVICES INCLUDE:

- Network Design
- Project Management
- Supply of Quality E/One Equipment
- On-Site Delivery
- On-site Installation Training – Approved Drain layers
- Pump Installation and Commissioning
- Supply of Warranty/Consent Documentation
- On-going 24/7 Service



E/ONE ALARM PANEL

To maximise reliability and convenience, the E/One installation includes an IP65 weather proof alarm panel which also protects the pump from low voltage, running dry, and over pressure situations.

PRESSURE SWITCH HOUSING

Pressure switches in the head of the pump for starting and stopping are similar to washing machine controls, eliminating the need for float switches which commonly fail due to fats, hair and rags.

INTEGRATED VALVES

The integral non-return valve protects against system back pressure and the anti-siphon valve facilitates downhill pumping applications.

PROGRESSING CAVITY PUMP

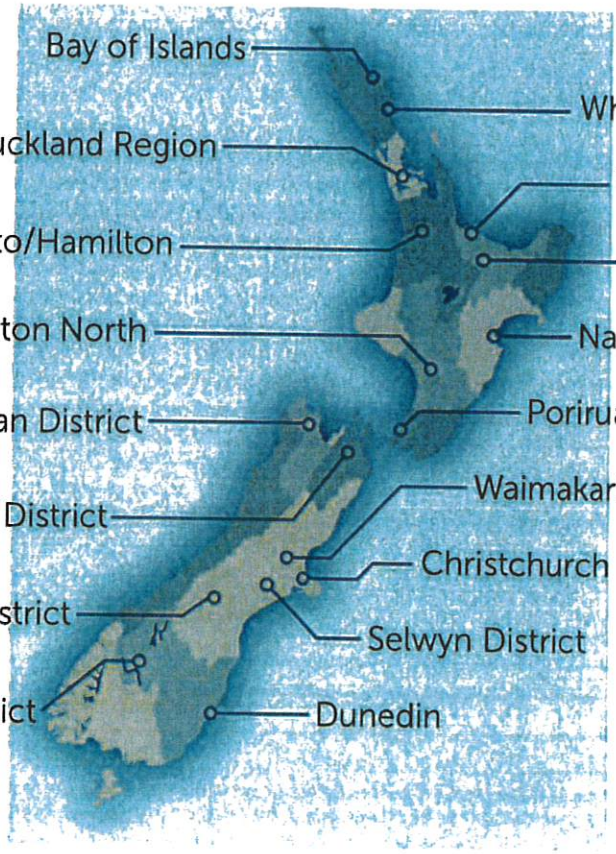
This deceptively simple design produces a nearly constant flow under a wide range of continuously varying conditions.

GRINDER WHEEL AND SHREDDER RING

Hardened forged alloy steel cutter bars and teeth create a shearing action coupled with the high torque pump to help eliminate blockages.

- Environmentally friendly
- No preventative maintenance
- Unobtrusive, low profile installation
- Extremely low noise and odour levels
- 24 Hour emergency storage capacity
- Low power consumption $20 to $30 per annum

NEW ZEALAND'S LEADER IN PRESSURE SEWER



10,000 NEW ZEALAND INSTALLATIONS

2 YEAR WARRANTY

24 SEVEN SERVICE LINE

ecoflow
Pressure Sewer Specialists

AUCKLAND (HEAD OFFICE)
16 Piermark Drive, Albany, Auckland
PO Box 300 249, Albany, Auckland 0752
Phone: 09 447 1793

CHRISTCHURCH
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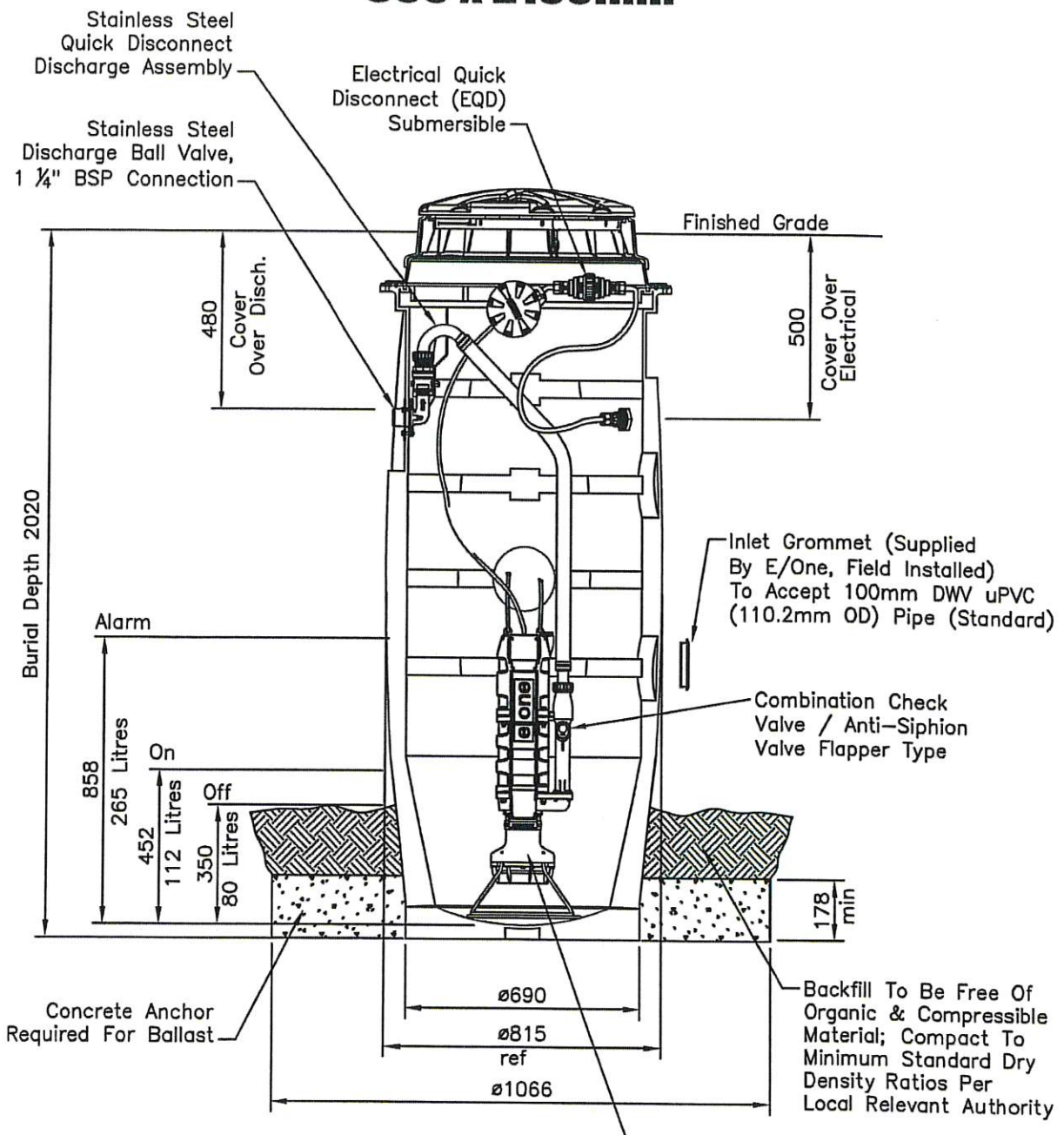
24/hr Service: 0508 528 3725

MODEL 2010iP
800 x 2100mm



SPECIFICATIONS **2010iP - 800 x 2000**

	Diameter (mm)	Height (mm)	Weight (kg)	Total Capacity (l)	Capacity Above Alarm (l)	Ballast (m3)	Inlet Pipe Size (mm)
BASIN	800	2100	74	720	455	SEE DWG	100

	Pump (s)	Dimensions (mm)	Weight (kg)	Nominal Pump Rate @ 0m TDH (lps)	Nominal Pump Rate @ 20m TDH (lps)	Nominal Pump Rate @ 42m TDH (lps)	Discharge Dia (mm)
PUMP	Simplex (1)	330 X 800	47	.75	.53	.47	32

	Voltage (VAC)	Phase	Cycle (Hz)	Supply Cable (m)	Alarm Panel
ELECTRICAL	240	Single	50	As Specified	Simplex (1)

ecoflow
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AUCKLAND – (Head Office)
16b Piermark Drive, North Harbour
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P.O Box 300-248, Albany, Auckland
Ph (09)447-1793 Fax (09) 447-3901

CHRISTCHURCH
15 Anchorage Road, Hornby
Hornby, Christchurch
Ph (03)349-2506

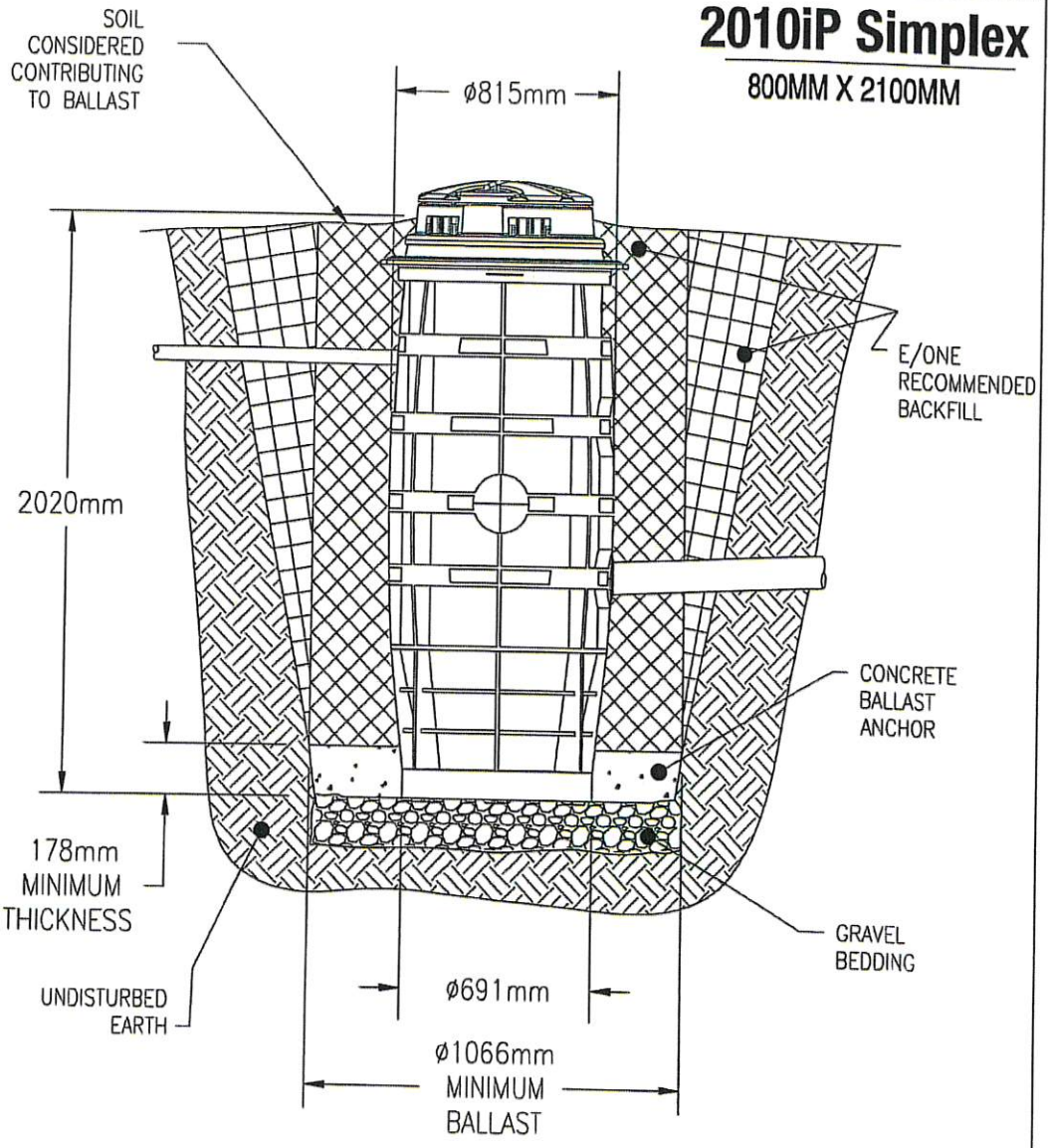
2010iP Simplex

800x2100IP

e/one SEWER SYSTEMS

2010iP Simplex

800MM X 2100MM



PD	SZ	7/11/07	-	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one

SEWER SYSTEMS

2010iP Simplex BALLAST INFORMATION
(800 x 2100mm)

www.ecoflow.co.nz

e|one SEWER SYSTEMS

Drainage Connection Instructions

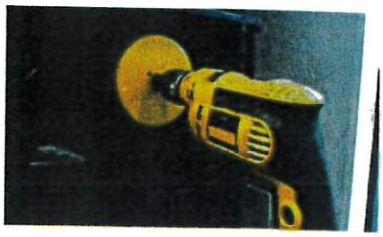
Please avoid construction debris from entering the tank when carrying out this work.

Step 1: Choose an inlet location

Remove the lid from the tank. Choose an appropriate entry point for the 100mm PVC pipe. This must be above the tapered section of the tank (above the red line shown in the picture below). The inlet hole can be drilled in either the circular areas or in the recessed sections.

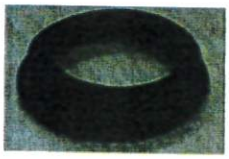
Step 2: Cut the inlet penetration

Check that the tank isn't filled with water and then using a 127mm (5") hole saw, cut a hole in the chosen location.



Step 3: Fit supplied rubber inlet grommet

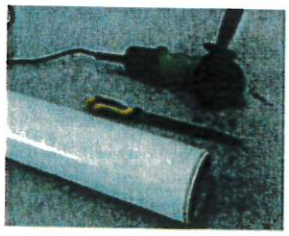
Remove any burs or shavings from the hole with a file or similar tool. Place the supplied rubber inlet grommet into the hole with the large flange to the outside of the tank. Rubber inlet grommet is cabled tied to the valve inside every tank.

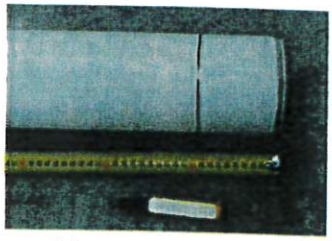


Additional specially designed E/One rubber inlet grommets can be supplied by Ecoflow if more than one inlet is required. ***Please do not use other inlet grommets as they are thinner than the E/One grommet.***

Step 4: Prepare the PVC inlet pipe

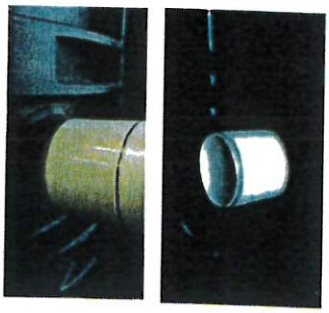
Chamfer the 100mm PVC inlet pipe with a file or similar tool. This will make it easier to push through the rubber inlet grommet into the tank.





Draw a witness line on the pipe 80-100mm from the chamfered end. This line is where you will stop once it is visible inside the tank. Do not have more than 100mm and no less than 80mm inside the tank.

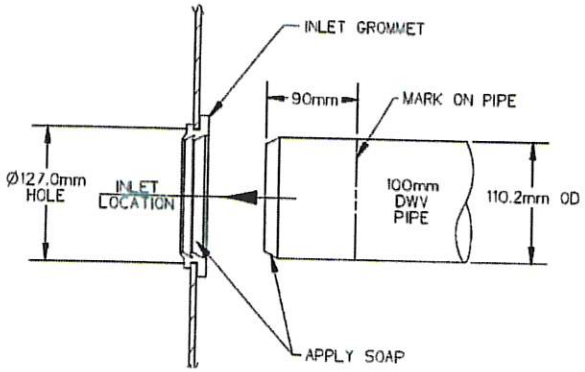
Step 5: Fit the PVC inlet pipe



Apply a film of liquid soap or pipe lubricant up to the witness line on the pipe from the chafered end.

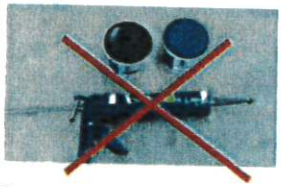
Push the pipe into the tank through the rubber inlet grommet. The flexible watertight seal is made once the PVC pipe has been pushed through. Pushing the pipe through will require some strength as it can be difficult.

Ensure the pipe has the required fall and check to make sure the rubber inlet grommet is seated correctly with the large flange hard up against the outside of the tank and is not pinched or rolled.



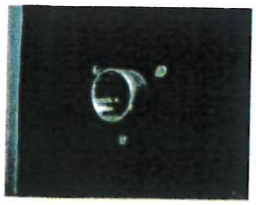
Silicone's & Epoxy

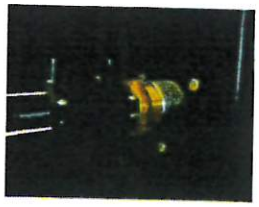
Silicone's and epoxy mortar's are not required at any stage so please **do not use them.** The supplied rubber inlet grommet has been specially designed by E/One for the tank wall thinkness, please do not use any other types as they won't seal correctly. The supplied rubber grommet creates a flexible watertight seal and allows for ground movement.

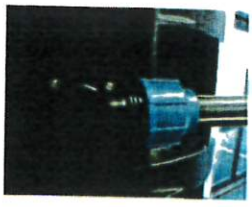


Step 6: Discharge Pipe Connection

Connect a 40mm OD PE100 PN16 discharge pipe the the 32mm (1 ¼ ") fitting on the chamber. Electrofusing fitting are to be used when connected to the discharge pipe onto a pressure sewer network or compressing fitting if connecting into a gravity sewer line.







Tank Ballast Requirement and Backfill

A concrete ballast anchor is required to prevent floatation of the tank. See the diagram below indicating the concrete ballast required. The tank can be pre-ballast if ground water is an issure. If pre-ballasting you need to installed lifting hooks to be used when lifting the tank in the hole. **Backfill** – Use clean compactable backfill which meets relevant local codes.

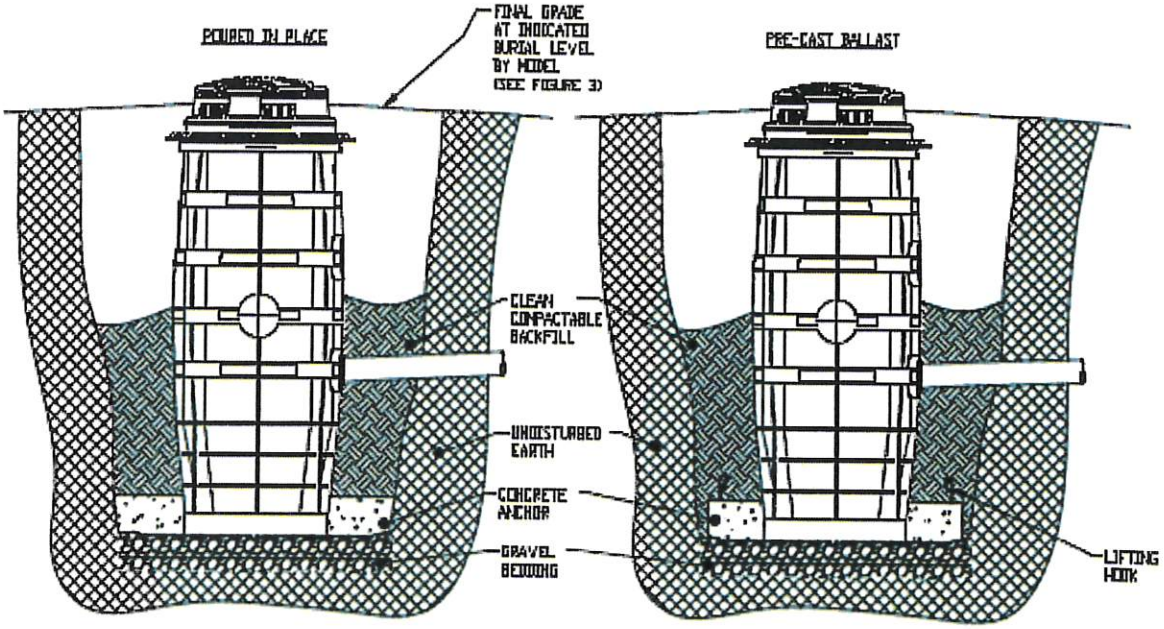
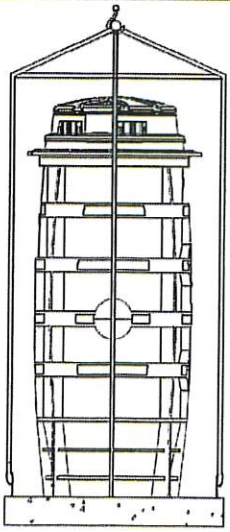


Fig. 2 - Excavation and Ballast

Lifting Pre-Ballasted Tank Using Hook



Picture of Pre-Ballast Tank

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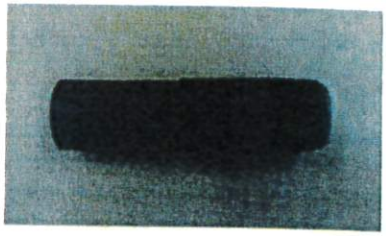
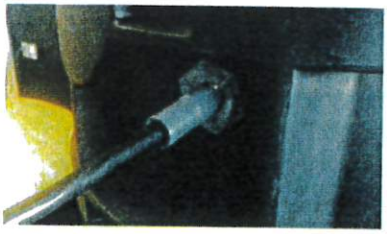
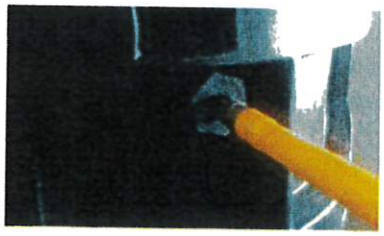
Electrical Pump Supply Cable Instructions

Step 1: Install electrical spigot

An electrical conduit starter spigot is supplied inside every tank. This will be cable tied to the valve. Screw this grey plastic spigot into the electrial bulkhead on the outside of the tank (remove the black hex plug if fitted).





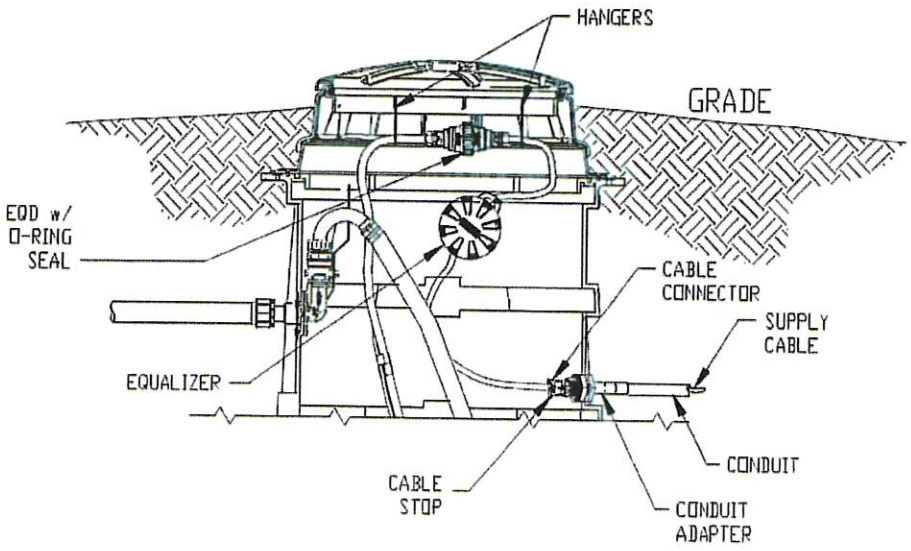


Step 2: Install the E-One pump supply cable

Open the lid of the tank and locate the supply cable connector on the inside of the tank. Loosen the nut on the cable connector and feed the free end (end without the E/One 6-pin connector) through from the inside of the tank. Pull the supply cable out through the connector untill it hits the metal crimped "stop" feature on the cable. Do not leave excess cable in the tank. The free end of the supply cable is to be cut to length (if needed) and connected to the Alarm Panel. Run the cable underground in a conduit to the location of the Alarm Panel. Retighten the supply cable connector nut inside the tank.

Note:

- **Longer pump supply cables in lengths of 22m or 30m – can be supplied by Ecoflow for an additional cost.**



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Alarm Panel Installation Instructions

Alarm Panel Power Requirements

- The E/One Alarm panel needs to be supplied by an **independent circuit** from the house switch board.
- A **20amp 'D' Curve** circuit breaker is to be used for a Simplex (one pump) system
- A **30amp 'C' Curve** circuit breaker is to be used for a Duplex (two pump) system
- **No RCD device** to be installed.
- **240V +/- 10% to Alarm Panel (216V to 264V)**

Step 1: Choose an appropriate mounting location

The Alarm Panel must be mounted in an outside location and not inside the house.

This will typically be on the outside of the house near other utliities, but can also be mounted on a post near the tank.

The Alarm Panel must be mounted at an appropriate height to enable the home owner easy access in the event of an alarm.

- **Minimum of 1200mm** to the base of the Alarm Panel from ground level.
- **Maximum of 2000mm** to the top of the Alarm Panel from ground level.

Please do not drill any extra pentrations into the alarm panel.

- The Alarm Panel has a flange top and bottom to enable fixing to a wall or fence post.
- The Alarm Panel has two holes provided at the base of the panel for the power fed from the house and the pump power supply cable.
- Any extra holes made into the Alarm Panel may cause moisture to enter enclousure and may void warranty.
- Please use sealing conduit connecting glands for the cable penetrations at the base of the Alarm Panel.

Step 2: Connect wires to Alarm Panel

Cut power supply cables to required length. Connect the power fed from the house circuit board and the E/One pump supply cable from the tank to the alarm panel as per the wiring diagram on the following page. This diagram is also located on one of the plastic pages on the inside of each Alarm Panel door.

(Typical Alarm Panel Instalation)

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e|one SEWER SYSTEMS

Final Inspection of the E/One Station

Ecoflow will need to visit each E/One station to carry out a final inspection and commission.

The builder or home owner will need to contact Ecoflow to arrange this inspection.

Prior to inspection:

Please ensure that the following have been completed:

- The PVC drainage lateral pipe has been installed correctly
- Alarm Panel has been installed correctly
- Power is supplied to the Alarm Panel
- The tank is half full of clean water
- The tank is not full of construction debris

This allows the commissioning technician to run the pump and carry out a system test.

Upon completion of the final inspection:

Once the technician is satisfied that the E/One system has been installed as per specification, a sticker will be placed on the Alarm Panel door showing the phone number which is to be called in the event of an alarm.

Ecoflow can issue a Commisioning report if requested.

For any further technical advice please call
Ecoflow Christchurch Office 03 349 2506

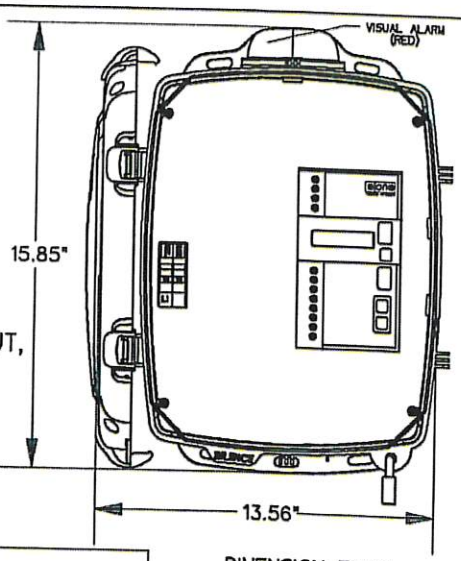
www.ecoflow.co.nz

eone SEWER SYSTEMS

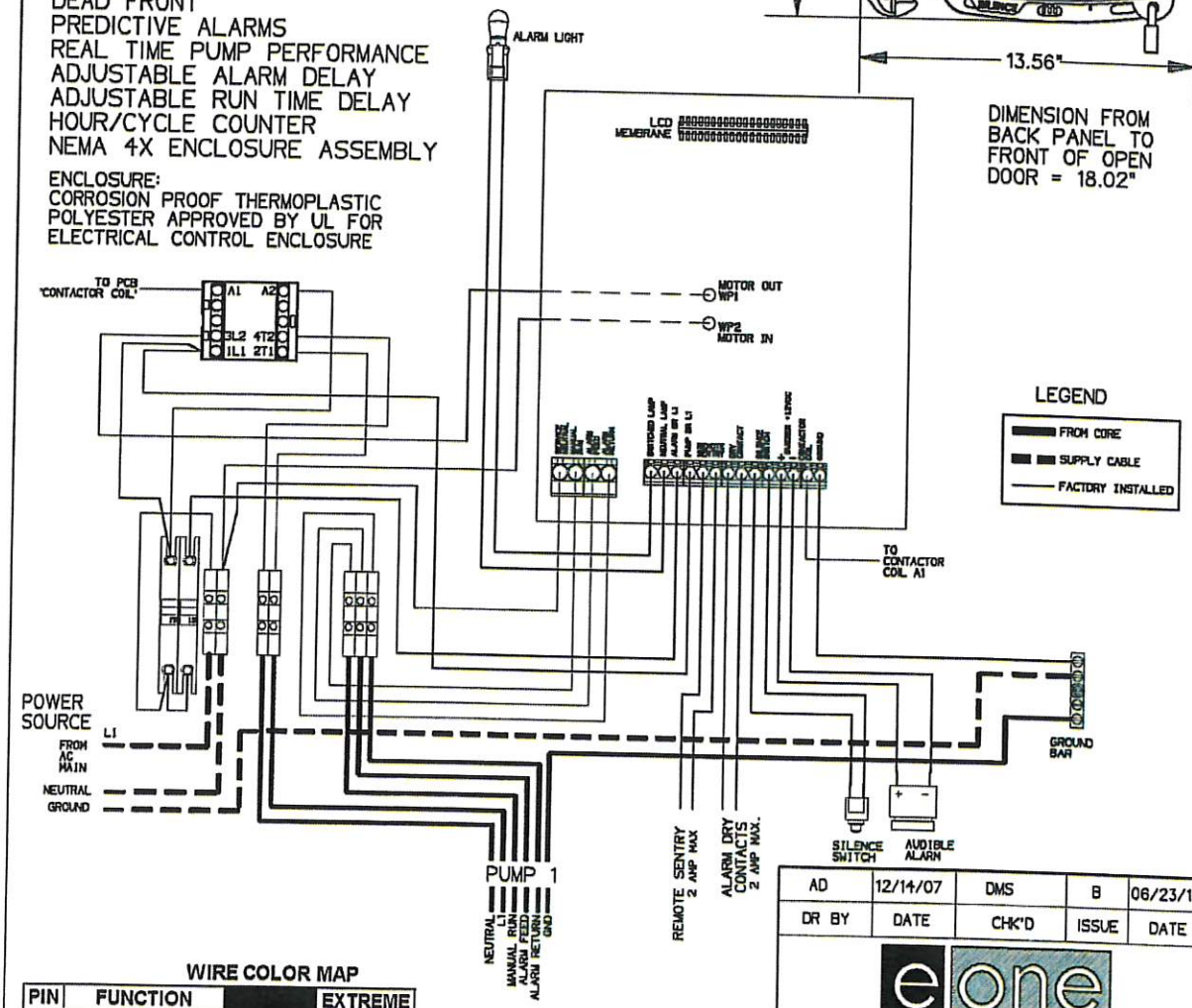
SENTRY PROTECT PLUS SIMPLEX

REDUNDANT RUN (HIGH LEVEL)
EXTERNAL VISUAL & AUDIBLE ALARM
REMOTE SENTRY DRY CONTACTS FOR
  OPTIONAL POWER LOSS HIGH LEVEL
  ALARM (POWER LOSS ALARM FOR WIRELESS)
MANUAL ALARM SILENCE
MANUAL RUN
STATUS LED'S: NORMAL, PUMP RUNNING, HIGH LEVEL
TROUBLE INDICATIONS: RUN DRY, OVERPRESSURE, BROWNOUT,
  VOLTAGE, EXTENDED RUN TIME
DRY CONTACTS
CONFORMAL COATED CIRCUIT BOARD (BOTH SIDES)
PADLOCK
DEAD FRONT
PREDICTIVE ALARMS
REAL TIME PUMP PERFORMANCE
ADJUSTABLE ALARM DELAY
ADJUSTABLE RUN TIME DELAY
HOUR/CYCLE COUNTER
NEMA 4X ENCLOSURE ASSEMBLY

ENCLOSURE:
CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



DIMENSION FROM BACK PANEL TO FRONT OF OPEN DOOR = 18.02"



LEGEND
FROM CORE
SUPPLY CABLE
FACTORY INSTALLED

WIRE COLOR MAP

PIN	FUNCTION	EXTREME
1	MANUAL RUN	BROWN
2	L1 (ACTIVE)	RED
3	NEUTRAL	BLACK
4	GND (EARTH)	GRN/YEL
5	ALARM FEED	YELLOW
6	ALARM RETURN	BLUE

CONTROL CABLE:
TYPE TC: DIRECT BURIAL, SIX CONDUCTOR

AD	12/14/07	DMS	B	06/23/11
DR BY	DATE	CHK'D	ISSUE	DATE

eone SEWER SYSTEMS

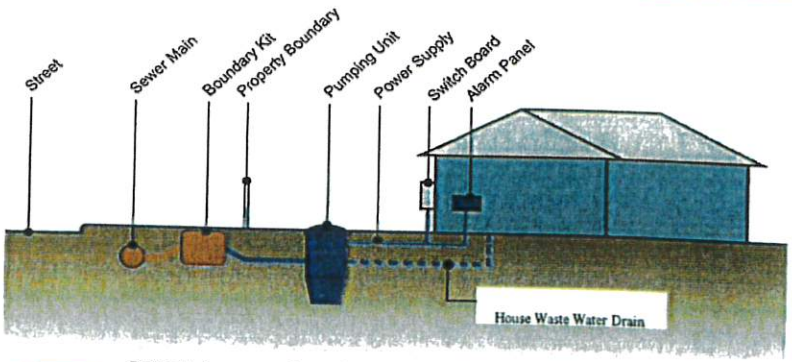
SENTRY PROTECT PLUS PANEL, SIMPLEX
240V, 50-60Hz SINGLE POLE POWER

NA0079P02

Using the System

There are a few things you need to know to ensure the system runs smoothly.

The system operates like a conventional gravity sewer, it takes waste liquids from your toilet, sink, shower, bath, dishwasher and washing machine. The pump grinds up solids and transfers all the waste off your property to the treatment plant. No treatment is done on site.



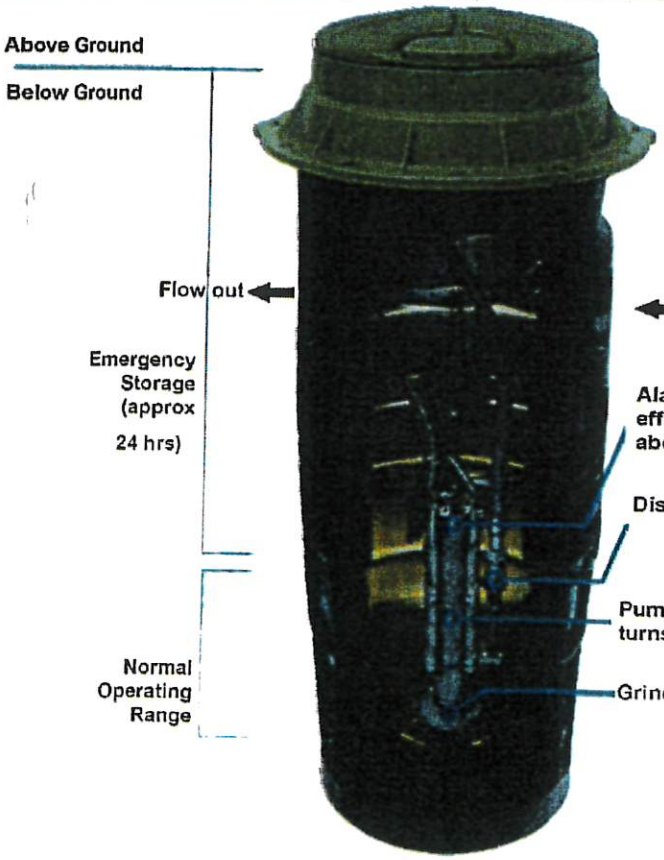
Privately owned equipment
Council boundary kit and reticulation network

To avoid blockages and damage to the Pressure Sewer System the following items should **NOT** be put in the pump station:

- Glass / Metal
- Gravel, sand or aquarium stones
- Seafood or Egg shells
- Nappies, sanitary pads or tampons
- Baby or Flushable wipes

- Kitty Litter
- Flammable materials
- Oil / Grease
- Strong chemical
- Petrol, diesel
- Storm-water
- Plastics

The new Pressure Sewer System



The new system consists of a pumping unit on your property which is connected to a network of pipes from other properties in your area.

These pipes transfer wastewater to the off-site sewerage treatment plant.

From ground level to the alarm level you have approximately 24 hours of emergency storage. This means that even after the alarm sounds you can continue to use the system for around a day before it will overflow (however you are encouraged to minimise water use during this time).

www.ecoflow.co.nz

If the alarm sounds

The audible alarm can be turned off by pressing the rubber button underneath the alarm panel.

If the alarm light is still active after 15 minutes then call Ecoflow for assistance (refer to phone number on alarm panel). Please also call if the system re-alarms within the next few days.

Ecoflow will ask for your phone number and address and will have their service contractor respond to the situation.

The system has a built in 24 hour emergency storage capacity, so any repairs will be carried out within the 24 hour period. Whilst waiting for the unit to be repaired you should try to minimise the amount of waste going through the system.

If you notice any irregularity with the unit, i.e. the alarm frequently sounding, then contact Ecoflow and discuss your concerns with them.

Press the silence button located under the alarm panel.

↓

Call: Ecoflow
0508 528 3725

↓

Give Ecoflow your name, address and contact number

↓

If necessary an Ecoflow Service Technician will visit your site to solve the issue

On your property

THE SYSTEM IS DAMAGED AND NEEDS REPAIR? (eg a pipe breaks) - If the alarm goes off, follow the alarm instructions (see above). Report the damage to Ecoflow and state if the damage is on yours or the council land.

THE UNIT BECOMES SMELLY - When operating normally there should be no noticeable odours coming from the unit. If it gets smelly the unit may need flushing. Just run clean water down your kitchen or bathroom sink for about 5 minutes. If the unit remains smelly contact Ecoflow.

YOU NOTICE WET SPOTS AROUND THE UNIT OR ITS PIPES - The pumping unit and the pipeline are totally sealed. If you notice wet spots around the unit or its pipes and there has not been any recent heavy rains, contact Ecoflow.

THE ALARM KEEPS GOING OFF WHEN IT RAINS - It means rainwater may be getting into the system and overloading it. Contact Ecoflow.

THE NEIGHBOUR'S ALARM SYSTEM GOES OFF AND THEY ARE AWAY - Telephone Ecoflow. Do not investigate the problem yourself.

THERE IS A POWER FAILURE - If there is a power failure, keep water use to a minimum. When the power is restored the system will reset itself.

DO NOT - Put heavy weights on the unit lid. The unit lid can be safely walked on but this should be avoided.

DO NOT - Touch the valves in the boundary kit.

DO NOT - Turn off the power to the pumps unless in response to a broken sewerage pipe or evacuation in an emergency.

DO NOT - Cover the pumping unit with any dirt / garden mulch etc.

ENSURE ACCESS - Is available to the pump at all times.

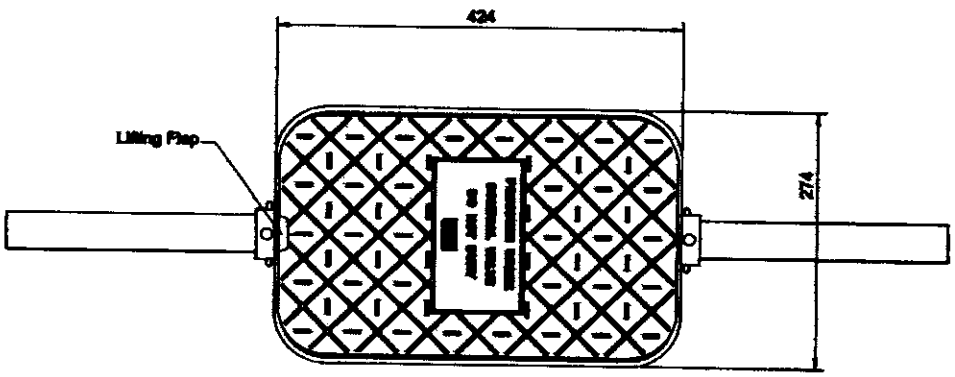
CONTACT THE COUNCIL - If you are making any modifications to your home which may effect the system.

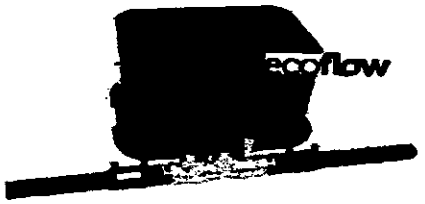
IF YOU ARE GOING ON HOLIDAY - Even if only for a few days, you should flush the system. This is to avoid the possibility of the system becoming smelly in your absence and causing alarm to your neighbours. To flush the system, simply run a tap in the kitchen or bathroom sink for approximately 5 minutes.

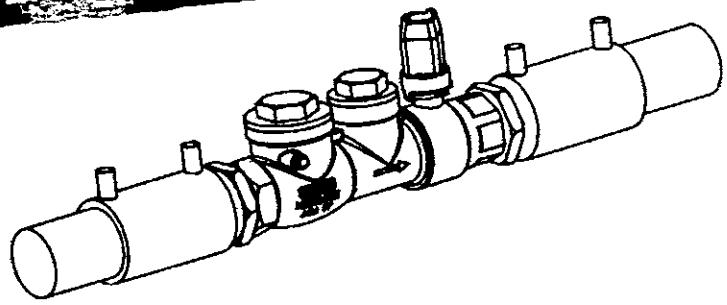
TAKE CARE IN THE GARDEN - Be careful when digging in the garden near the pump unit or its discharge pipes. If you do accidentally break the pipeline, immediately contact Ecoflow and let them know what has happened. While waiting for Ecoflow to arrive, minimise the water use in the house.

DO NOT ATTEMPT TO REPAIR THE SYSTEM YOURSELF.

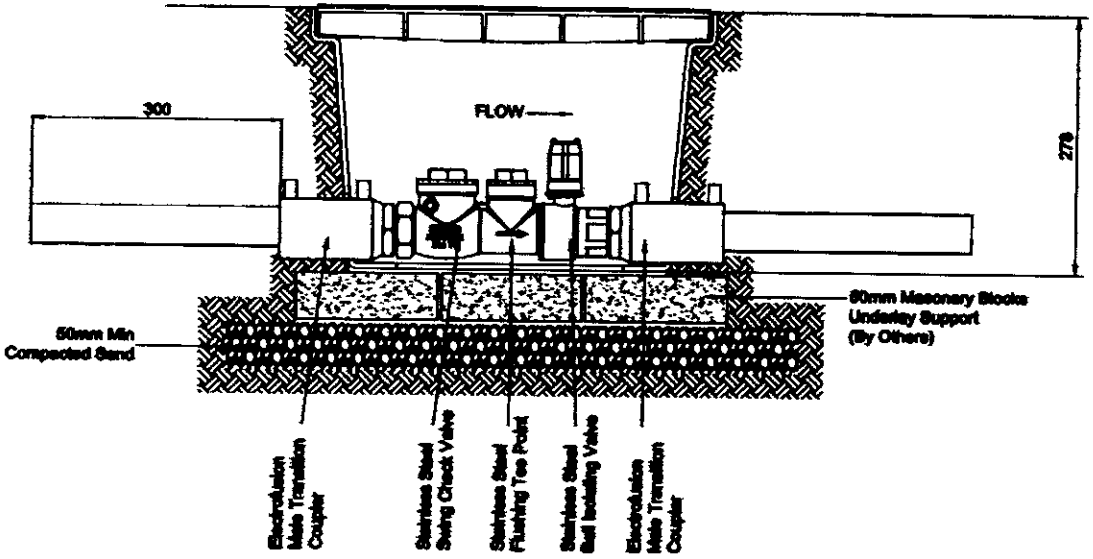
www.ecoflow.co.nz

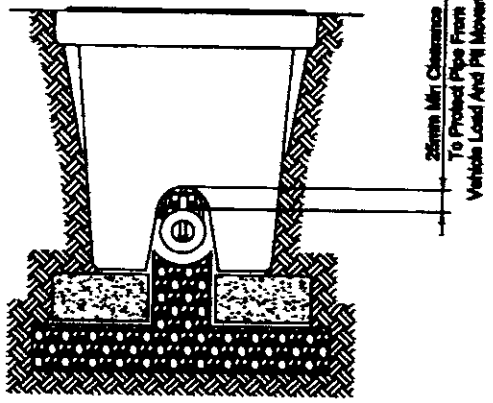






Each boundary kit supplied with
300mm length DN40 PE100 PN16 stubs
each end E/F welded and complete unit pressure
tested to 16 Bar by Ecoflow





ecoflow

Ecoflow Ltd
16b Piermark Drive, North Harbour (NZ)
P.O Box 300–249, Albany, Auckland
Ph (09)447–1793 Fax (09) 447–3901

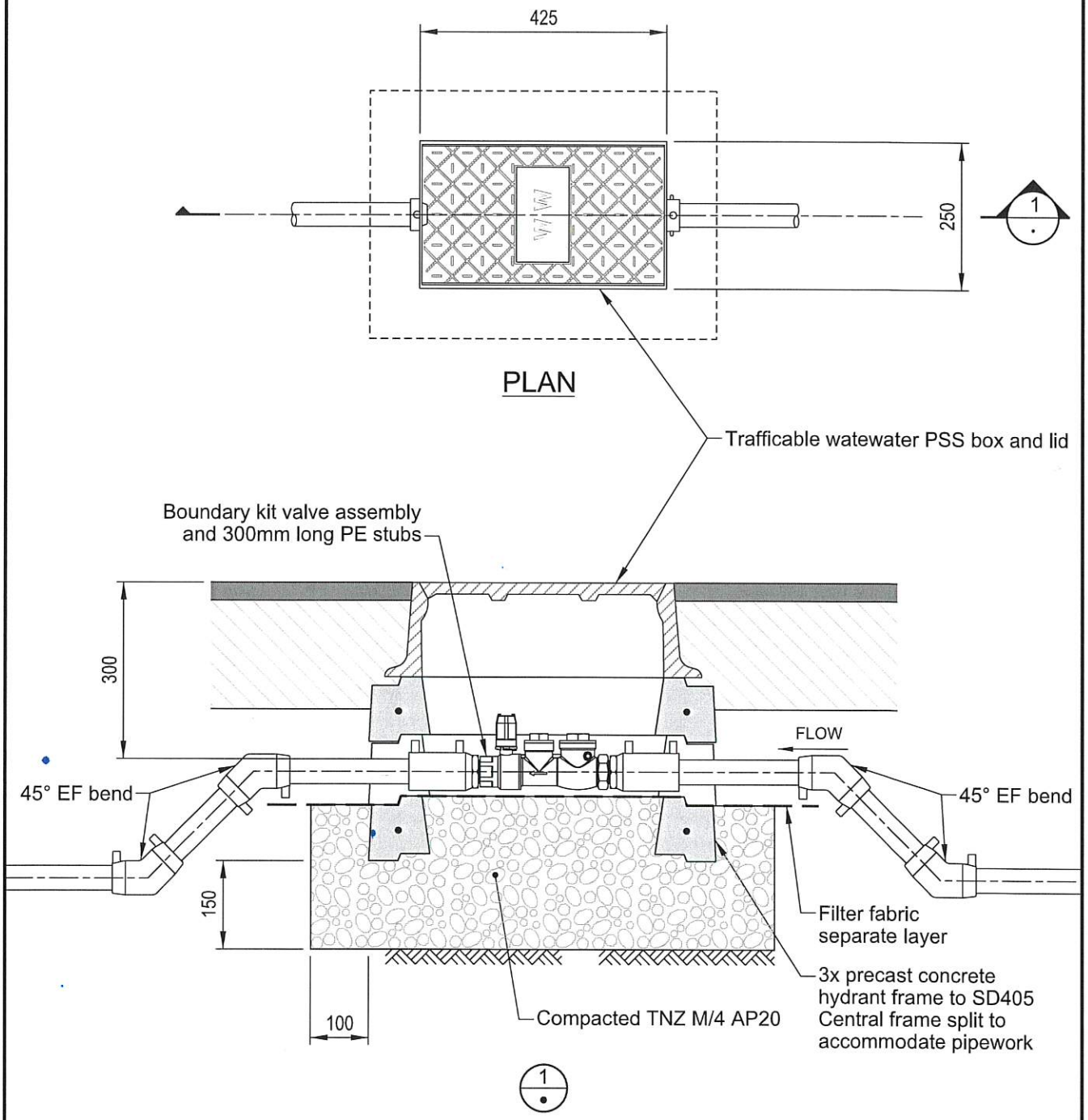
	BY	DATE
DRAWN	MC	17/1/13
CHECKED	JM	17/1/13
CLIENT APPROVED		

Environment One - Boundary Kit With Extended Stubs New Zealand Standard

SCALE 1:20 AT A3

DS138401A

DS138401A



Christchurch City Council

PRESSURE SEWER TRAFFICABLE PROPERTY BOUNDARY KIT

ISSUE DATE	OCT 2016
SD384	
SHEET 1 OF 3	