

HYDRAULIC SERVICES

OPERATION AND

MAINTENANCE MANUAL

For …………..

By ……. Plumbing

July 2021

HCAA Master Document Version 2021.01



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# Introduction and contents

## Directory

### Plumbing Contractors information including Plumbers License number

|  |  |
| --- | --- |
| Name: | ??? Plumbing |
| License no: |  |
| Address: |  |
| Ph: |  |

### A1.2 Hydraulic consultants information

|  |  |
| --- | --- |
| Name: |  |
| Address: |  |
| Ph: |  |

### A1.3 Architects information

|  |  |
| --- | --- |
| Name: |  |
| Address: |  |
| Ph: |  |

### A1.4 Project managers information

|  |  |
| --- | --- |
| Name: |  |
| Address: |  |
| Ph: |  |

### A1.5 Any sub-contractors involved on the project

|  |  |
| --- | --- |
| Name: |  |
| Address: |  |
| Ph: |  |

### Authorities

|  |  |
| --- | --- |
| Sydney Water: |  |
| Jemena: |  |

### Suppliers

|  |  |  |  |
| --- | --- | --- | --- |
| Reece Plumbing Supplies: | http://www.tamworthplumbers.com.au/assets/images/reece1.jpg | 02 4721 7888 | <http://www.reece.com.au/> |
| Tradelink | http://www.rothenberger.com.au/upload/rothen_rothenberger/distributor/5/public_image/Tradelink.jpg | (07) 3260 9777 | <http://www.tradelink.com.au/> |
| Firequip |  | 02 9638 1300 | <http://www.firequip.com.au/> |
| Caroma: | http://www.eco-buildingproducts.com/wp-content/uploads/2012/04/caroma-logo.jpg | (02) 8825 4400 | <http://www.caroma.com.au/> |
| Zip: | Zip Industires | 1800 638 633 | <http://www.zipindustries.com.au/> |
| Plumbers Co-Op | http://www.rothenberger.com.au/upload/rothen_rothenberger/distributor/8/public_image/Plumb-Co-Op-50.jpg | 02 4721 7855 | <http://www.pscoop.com.au/> |
| Franke | http://www.franke.com/etc/config/_jcr_content/configOther/logo.fullview.gif/1392374190448.gif | 03 9700 9100 | <http://www.franke.com/countries/au/en/home.html> |
| Rheem | Install a Rheem | 132 552 | <http://www.rheem.com.au/> |
| Aline Pumps | Aline Pumps | 1800 018 999 | <http://www.alinepumps.com/> |

* Highlighted phone numbers included are area specific. You made need to search for your local supplie.

## System DescripTion

*Technical description of the system installed, written to ensure that the clients staff fully understand the scope and facilities provided. Identify function, normal operating characteristics, and limiting conditions.*

The project consists of a .... level building with .... levels of basement. This stage is stage .... of .... Stages.

**Cold Water:** The system includes cold water pipes from the existing mains to all taps and equipment requiring cold water as nominated on the “As built” drawings. Included is all pipework, bends, offsets, brackets, taps and sundry equipment required for operation.  
All pipes are copper tube and Auspex as specified.

**Recycled Water:** The system is in a recycled water main area.

**Hot Water:** This system includes hot water from new Rinnai hot water heaters and connects to TMV Valves in the kitchen to supply water to the hand wash basins, shower, kitchen sink and laundry tub as nominated on the “As Built” drawings. All pipes are copper tube insulated and Auspex as specified.

**Rainwater Re-use:** This system includes the installation …..

**Storm water:** This system includes the installation of stormwater to new works as per the “As Built” drawings. It includes downpipes, RWO, pits, grates, pipe work, fittings and connection to Council stormwater system, as per the drawings as per “As Built” drawings

* A 1:100yr Flood zone is located on the site
* Stormwater water detention is required under the DA.
* A Stormwater water quality control device is required to treat all water discharging from the site
* The ground is water charged (refer to geotechnical report for further information). Any installation of sewer pipes in water charged or unstable ground requires a structural pipe support solution which is to be design and certified by a suitably qualified structural engineer.

**Sanitary:** This system includes the extension of all soil, waste and vent pipes from the new works to the existing sewerage system, as nominated on the “As built” drawings. Included are all pipework and equipment for the correct operation of the system.

* A new sewer connection was provided
* A new sewer sideline is required (Installed by others)
* An Authorities Water sewer main is located on the site
* An Authorities Water sewer main is being built over which will require concrete encasement as per the approved Build over Sewer design. This work will need to be carried out by a suitably qualified person and appropriate inspections carried out for the encasement of the sewer and the construction of the piers.

**Trade Waste:** This system includes

* A Grease arrestor and Drainage is required
* A Dilution Pit and Lab Drainage us required
* A trade waste application will be required for the Car Wash Bay/Grease Arrestor/ Dilution Pit………………This will need to be completed by plumbing contractor in conjunction with the client.

**Natural Gas:** This system includes the use of natural gas from new gas supply as nominated on the “As built” drawings. Natural gas is supplying Rinnai hot water heaters, mechanical condenser units, gas cook top in kitchen and provisional point future restaurant in ground floor.

**Fire Hydrant:** A new Hydrant system has been installed

* A 188 exemption Application has/will be been lodged for the fire service in regards to
* A fire engineered solution has been prepared for this project by.....................
* The hydrant system is being upgraded
* The site is within a Bushfire Prone Area.

## MANUAL HANDLING & Instructions for use of Lifting tools

Manual handling is any task that requires you to push, pull, lift, carry, move, hold or lower any

object, person or animal. Manual tasks include tasks that have repetitive actions, sustained postures

and may involve exposure to vibration.

Manual handling aids reduce the physical effort needed to lift and move objects, making it safer.

When using manual handling aids for the workplace it is important to ensure that:-

1. The right equipment is selected for the task

2. That all staff are trained in the correct use of the equipment

3. The equipment is visually inspected for defects before use

4. The wheels are suitable for the floor surface

5. The wheels move freely

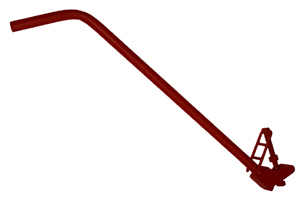
6. The handle grips are comfortable and are in good order

7. The handle height is between the waist and shoulder

8. If they have brakes do they work?

9. The aids are regularly inspected and maintained to ensure it is good working order

10. The load secured before moving



**An example image of a gatic lifter used to assist in opening gas tight sewer and stormwater pit lids**

If you are unsure about any of the above then professional advice should be sought before attempting to move any hydraulic equipment.

## 

## Emergency procedures

**IN THE EVENT OF AN EMERGENCY CALL!**

…..Plumbing …………

Sydney Water 13 20 92

## SERVICE sHUT OFF & METER LOCATIONS

The shutdown positions listed for each service below should only be used in case of an emergency. By shutting down a service, it may also impact or prevent the operation of a different service and caution must be taken when isolating services.

Service equipment, i.e. pressure booster pumps and hot water heaters, may need to be reset or re-commissioned after service has been shutdown.

When the fire hydrant service is shutdown the local fire authority must be contacted and placed on stand-by until service is operating.

**Cold Water Service**

Main Supply: The main supply to the site can be shut off at the water meter located at …..

Each Building:

Each Supply Riser:

Each Unit:

**Hot Water Service**

Main Supply: The main supply to the site can be shut off at the hot water plant located at …..

Each Building:

Each Supply Riser:

Each Unit:

**Gas Service**

Main Supply: The main supply to the site can be shut off at the gas meter located at …..

Each Building:

Each Supply Riser:

Each Unit:

## SERVICE FAILURE PROCEDURE

The service failure procedures listed below are only used as a guide to locate the malfunction of a service, and a licensed plumber must be contacted to fix the problem. The procedures below are for the hydraulic services installed. Equipment procedures will need to be referred to Equipment operating manuals. Unlicensed personnel should not try to rectify the problem, as voiding contractors and manufacturer’s warranties is possible.

#### COLD WATER SERVICE

***Sudden lack of pressure at outlets.***

*Fault:*

* A malfunction with the cold water pressure boosting pumps from a mechanical fault or power failure.

*Rectification:* The first priority ensuring all power connections are connected to an active power supply, check pumps LCD screen on the control panel for any prompt error messages or the event log. The pressure gauge on the outlet of the pump manifold will give a clear indication if the pump is delivering the required pressure. If power failure caused the pumps to shut off, they will need to be reset and can be done by referring to the pump operating instruction book attached in (Section 6). If the malfunction is to do with a mechanical failure, the pump manufacture must be contacted by the plumbing contractor.

***No water flow at fixture outlets.***

*Fault:*

* Cold water lifting pump is malfunctioning from a power failure or mechanical fault.

*Rectification:* Check pumps LCD screen on the control panel for any prompt error messages or the event log. The pressure gauge on the outlet of the pump manifold will give a clear indication if the pump is delivering the required pressure. If power failure caused the pumps to shut off they will need to be reset and can be done by referring to the pump operating instruction book attached in. If the malfunction is to do with a mechanical failure, the pump manufacture must be contacted by the plumbing contractor. Similar inspection procedure will be adopted for the pressure boosting pump.

#### HOT WATER SERVICE

***Sudden lack of pressure at fixture outlets***

*Fault:*

* Thermostatic mixing valve filter may be clogged with dirt, limiting flow.
* A malfunction with the cold water pressure boosting pumps from a mechanical fault or power failure.

*Rectification:* The first priority ensuring all power connections are connected to an active power supply, check pump’s LCD screen on the control panel for any prompt error messages or the event log. The pressure gauge on the outlet of the pump manifold will give a clear indication if the pump is delivering the required pressure. If power failure caused the pumps to shut off they will need to be reset and can be done by referring to the pump operating instruction book attached in (Section 6). If the malfunction is to do with a mechanical failure, the pump manufacturer must be contacted by the plumbing contractor. The local Thermostatic mixing valve should be disassembled to commission the internal filter.

***No water flow at fixture outlets.***

*Fault:*

* Cold water lifting pump is malfunctioning from a power failure or mechanical fault.

*Rectification:* Check pumps LCD screen on the control panel for any prompt error messages or the event log. The pressure gauge on the outlet of the pump manifold will give a clear indication if the pump is delivering the required pressure. If power failure caused the pumps to shut off they will need to be reset, and can be done by referring to the pump operating instruction book attached in (Section 6). If the malfunction is to do with a mechanical failure, the pump manufacturer must be contacted by the plumbing contractor**.** Similar inspection procedure will be adopted for the pressure boosting pump.

***Low water temperature.***

*Fault:*

* Hot water circulating pumps malfunctioning due to mechanical or power failure.
* Hot water storage heaters malfunctioning due to mechanical or gas supply or power failure.

*Rectification:* The first priority is ensuring all heater gas supply is available, check gas pressure (Refer to 5.6). If heaters must be reset, follow the instructions from the supplied operations brochure (section 6). Ensure all heaters are delivering the correct outlet temperature once in operation. If heaters are not delivering appropriate temperature, the probable cause will be an internal mechanical malfunction and will require the plumbing contractor to contact the manufacturer. If heaters are in correct operation, check pump LCD screen on the control panel for any prompt error messages or the event log. The pressure gauge on the outlet of the pump manifold will give a clear indication if the pump is delivering the required pressure. If power failure caused the pumps to shut off they will need to be reset and can be done by referring to the pump operating instruction book attached in (Section 6). If the malfunction is to do with a mechanical failure the pump manufacturer must be contacted by the plumbing contractor.

#### NATURAL GAS SERVICE

***Sudden lack of pressure at outlet***

*Fault:*

* Appliance regulator or boundary regulator not operating correctly

*Rectification:* Inspection of the boundary regulator is priority; ensure the correct pressure is flowing through the outlet via attaching a pressure gauge instantly downstream of the regulator at the closest outlet. If pressure is correct, the appliance regulator is malfunctioning and must be inspected. Remove appliance regulator and check adjustment spring for correct setting or malfunction, if necessary replace appliance regulator.

***No gas flow at outlets.***

*Fault:*

* Appliance regulator or boundary regulator not operating correctly
* OPSO Regulator tripped due to overpressure in system.
* Gas guard may have been activated.

*Rectification:* Ensure the boundary regulator or second stage regulator fitted with and OPSO device has not shut off gas supply due to over pressure in system, if regulator has shut off it will need to be reset manually. Ensure gas guard installed has not been accidently activated and must be reset, refer to (Section 6). Ensure the correct pressure is flowing through the outlet via attaching a pressure gauge instantly downstream of the regulator at the closest outlet. If pressure is correct the appliance regulator is malfunctioning and must be inspected. Remove appliance regulator and check adjustment spring for correct setting or malfunction, if necessary replace appliance regulator.

***Fluctuating gas pressure.***

*Fault:*

* Appliance regulator or boundary regulator not operating correctly

*Rectification:* Inspection of the boundary regulator is a priority, ensure the correct pressure is flowing through the outlet via attaching a pressure gauge instantly downstream of the regulator at the closest outlet. If pressure is correct the appliance regulator is malfunctioning and must be inspected. Remove appliance regulator and check adjustment spring for correct setting or malfunction, if necessary replace appliance regulator.

#### SANITARY PLUMBING & DRAINAGE

***Overflow from a fixture.***

*Fault:*

* An individual fixture or fixture trap is blocked with debris.

*Rectification:* Use of a plunger or by dismantling of the fixture trap. After the blockage has been dealt with, a clean flush of the fixture will provide assurance of correct operation.

***Overflow from surcharge gully.***

*Fault:*

* The authority’s sewer main or property’ boundary trap may be blocked.

*Rectification:* Take off boundary trap inspection lid, provided that no fixtures are used in the complex, and the sewer surcharge should eventually stop flowing, implying that blockage is at the boundary trap and an electric eel or water jetter can be used. If sewer flow is constant, implying that the blockage is at the authorities main,contact SydneyWater and inform of the blockage. Allow surcharge gully to discharge sewer and prevent gully becoming obstructed by objects.

***Overflow from a group of fixtures.***

*Fault*:

* The drainage branch line blocked downstream of the fixtures by debris.

*Rectification:* Can be cleared by the use ofelectric eel or flexible rod. This will be done at the closest inspection opening or clear out. After the blockage has been dealt with a clean flush of the fixtures will provide assurance of correct operation.

***Constant sewer odour arising***

*Fault:*

* A near-by floor waste or fixture’s internal seal has evaporated due to the cold climate, debris or malfunction of a vent.

*Rectification:* The floor waste gully or fixture trap should be refilled with water, and a top layer of vegetable oil to prevent cold weather evaporating seal. Debris should be cleaned if present. Water seals should be inspected when upstream fixtures are in operation to check seals stay intact implying vents are working correctly. If seals are syphoned, Vent terminals should be inspected for correct operation.

***Overflow from a group of fixtures that discharge to a holding well***

*Fault:*

* A blockage of debris in the drainage line downstream of the fixtures or holding well submersible pump not operating correctly.

*Rectification:* The drainage line can be cleared by the use ofelectric eel or flexible rod. This will be done at the closest inspection opening or clear out located along the drainage pipework. The submersible pump control panel will indicate if the pump and the level alarms are malfunctioning. The pump manufacturer must be contacted to replace.

#### 

#### STORMWATER PLUMBING & DRAINAGE

***Overflow from an outlet.***

*Fault:*

* A blockage of debris at the individual stormwater outlet.

*Rectification:* If access is available to outlet point, debris may be removed by hand. Otherwise the use of a flexible rod or electric eel. After the blockage has been dealt with a clean flush of the outlet will provide assurance of correct operation.

***Overflow from a group of outlets.***

*Fault:*

* The drainage branch line blocked downstream of the fixtures by debris.

*Rectification:* Can be cleared by the use ofelectric eel or flexible rod. This will be done at the closest inspection opening or clear out. After the blockage has been dealt with a clean flush of the fixture will provide assurance of correct operation.

***Overflow from Pits.***

*Fault:*

* The outlet of the stormwater pit is blocked with debris.

Rectification: All debris should be removed from inside stormwater pit to prevent further blockages. A plastic rod or electric eel can be used to clear the outlet pipe of the stormwater pit.

***Overflow from Subsoil stormwater.***

*Fault:*

* The subsoil drainage is blocked with debris.

*Rectification:* An electric eel or flexible rod can be used at the closest upstream inspection opening or at the subsoil inlet pipe at the stormwater pit. After the blockage has been dealt with, a clean flush of the drainage will provide assurance of correct operation.

#### TRADEWASTE PLUMBING & DRAINAGE

***Overflow from a fixture.***

*Fault:*

* An individual fixture or fixture trap is blocked with debris.

*Rectification:* Use of a plunger or by dismantling of the fixture trap. After the blockage has been dealt with, a clean flush of the fixture will provide assurance of correct operation.

***Overflow from a group of fixtures.***

*Fault*:

* The drainage branch line is blocked downstream of the fixtures from debris or the grease arrestor exceeded its capacity.

*Rectification:* The drainage branch linecan be cleared by the use ofelectric eel or flexible rod. This will be done at the closest inspection opening or clear out. After the blockage has been dealt with, a clean flush of the fixtures will provide assurance of correct operation.

***Overflow from the grease arrestor.***

*Fault*:

* The grease arrestor is at maximum capacity or there is a blockage on the pipework downstream from grease arrestor.

*Rectification: Grease arrestor will be emptied by allocated waste removalists.* The drainage line can be cleared by the use ofelectric eel or flexible rod. This will be done at the closest inspection opening or clear out located along the drainage pipework.

# 

# MATERIALS AND EQUIPMENT

## Materials Schedule

|  |  |
| --- | --- |
| **SERVICE** | **MATERIAL** |
| Cold Water | Copper |
| Hot Water | Copper |
| Hot and Cold Water Rough Ins | AUSPEX (PE-X) |
| Gas | Copper |
| Sewer Drains | D.W.V. grade PVC |
| Sanitary Plumbing & Fittings | D.W.V. grade PVC |
| Stormwater Drainage & Fittings | D.W.V grade PVC |

#### 

## Suppliers Schedule

#### The following pages list the details of equipment supplied.

# 1 -SANITARY FIXTURES & APPLIANCes

## ACCESSIBLE FIXTURES AND FITTINGS

|  |  |  |
| --- | --- | --- |
| WC – SUITE (ExposedCistern) X 3 | | |
| **Fixture** | | Care 400 Toilet Suitehttp://www.hotelariston.it/images/handicap-hote-room.jpg |
| Manufacturer | **Caroma Car**e |
| Model | Caroma Care 400 Suite |
| Cistern | Cistern Sovereign 2000 |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 4.5 / 3L Flush |
| Material | Vitreous China |
| **Seat** | | Caravelle Care Single Flap Seat - Majestic Greyhttp://www.hotelariston.it/images/handicap-hote-room.jpg |
| Model | Caravelle Care Single Flap Seat – Majestic Grey |
| **Back Rest** | | http://www.hotelariston.it/images/handicap-hote-room.jpg |
| Model | Back Rest – Curved Arm |

|  |  |  |  |
| --- | --- | --- | --- |
| BASIN (Accessible) X 3 | | | |
| **Fixture** | | | Opal Sole 550 Wall Basinhttp://www.hotelariston.it/images/handicap-hote-room.jpg  TAP NOT INCLUDED |
| Manufacturer | | **Caroma Care** |
| Model | | Caroma Opal Sole wall basin - 510 Model |
| Material | | Vitreous China |
| Tap Hole | | 1 Tap Hole |
|  | | 510mm x 450mm |
| **Tapware** | | | Nordic Care Basin Mixerhttp://www.hotelariston.it/images/handicap-hote-room.jpg |
| Manufacturer | **Caroma Care** | |
| Model | Nordic (yellow & blue indication) | |
| Wels Rating | 5 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 6L/min | |
| Material | Brass | |

|  |  |  |
| --- | --- | --- |
| ACCESSIBLE SHOWER X 1 | | |
| **Tapware** | | Nordic Bath/Shower Mixer http://www.hotelariston.it/images/handicap-hote-room.jpg |
| Manufacturer | **Hansa** |
| Model | Prado Shower Mixer |
| Wels Rating | No rating – 20L/min |
| Material | Brass |
| Product Finish | Chrome |
| **Shower** | | |
| Manufacturer | **JDMcDonald** | http://www.hotelariston.it/images/handicap-hote-room.jpg  [Click image to view brochure](https://store-f180f.mybigcommerce.com/product_images/JDM_Files/Shower%20&%20Grab%20Rails/GCSS800%20Specification%20Sheet%20-%20June%202012.pdf) |
| Model | GRSS-SK1 |
| Wels Rating | 3 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 9L/min  ***Maximum Wels rating for a shower is 3 stars*** |
| Product Finish | Chrome |
| **Shower Grab Rail** | | |
| Manufacturer | **JDMcDonald** | http://www.hotelariston.it/images/handicap-hote-room.jpg |
| Model | GCS29 |
| Product Finish | Chrome |
| **Shower Seat** | | |
| Manufacturer | **JDMcDonald** | http://www.hotelariston.it/images/handicap-hote-room.jpg |
| Model | 8203-M-AU |
| Product Finish | Chrome |

## 

|  |  |  |
| --- | --- | --- |
| AMBULANT WC – SUITE (ExposedCistern) X 6 | | |
| **Fixture** | | Caravelle Easy Height Close Coupled Suitehttp://www.hotelariston.it/images/handicap-hote-room.jpg |
| Manufacturer | **Caroma Care** |
| Model | Caravelle Easy Height Close Coupled Suite |
| Cistern | Caravelle Smartflush |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 4.5 / 3L Flush |
| Material | Vitreous China |
| AMBULANT WC – SUITE (ExposedCistern) X 6 | | |
| **Fixture** | | Caravelle Easy Height Close Coupled Suitehttp://www.hotelariston.it/images/handicap-hote-room.jpg |
| Manufacturer | **Caroma Care** |
| Model | Caravelle Easy Height Close Coupled Suite |
| Cistern | Caravelle Smartflush |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 4.5 / 3L Flush |
| Material | Vitreous China |

## GENERAL FIXTURES AND FITTINGS

|  |  |  |
| --- | --- | --- |
| WC SUITE X 11 | | |
| **Fixture** | | Caravelle 2000 Close Coupled Toilet Suite |
| Manufacturer | **Caroma** |
| Model | Caravelle 2000 |
| Colour | White |
| Material | Vitreous China |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 4.5 / 3L Flush |

|  |  |  |
| --- | --- | --- |
| BASIN X 16 | | |
| **Fixture** | | Caravelle 550 Semi Recessed Vanity Basin |
| Manufacturer | **Caroma - 550** |
| Model | Caravelle Wall Basin Semi Recessed |
| No of Holes | One taphole |
| Plug & Waste | Chrome anti vandal uni plug & waste  Code 687141C |
| Material | Vitreous China |
| **Tapware** | | Nordic Basin Mixer |
| Manufacturer | **Caroma** |
| Model | Nordic Basin Mixer |
| Wels Rating | 5 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 6L/min |
| Material | Brass |

|  |  |  |
| --- | --- | --- |
| SHOWER X 17 | | |
| **Tapware** | | Nordic Bath/Shower Mixer |
| Manufacturer | **Caroma** |
| Model | Nordic Shower Mixer |
| Material | Brass |
| Product Finish | Chrome |
| **Shower Rose** | | Track Overhead Rain Shower |
| Manufacturer | Caroma Dorf |
| Model  Model No. | Track Overhead Rain Shower   |  |  | | --- | --- | | 90214C3A |  | |
| Wels Rating | 3 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 9L/min  ***Maximum Wels rating for a shower is 3 stars*** |
| Material | Brass |
| Product Finish | Chrome |

|  |  |  |
| --- | --- | --- |
| URINAL (Low Flush) X 16 | | |
| **Fixture** | |  |
| Manufacturer | **Caroma** |
| Model | **Cube Urinal Suite with Zip Automatic Flushing System** |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 1.1L/Flush |  |
| Material | Vitreous China |  |
| **Flush Control Mechanism:**  Zip Flushmaster Solo  **Electrical:** To be connected to a 10amp GPO 240V Ac Power Supply | |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| KITCHENETTES – TEA SINKS X 1 | | | | | | | | | | | |
| **Fixture** | | | | | | | Advance Single End Bowl | | | | |
| Manufacturer | | **Clark** | | | | |
| Model | | Advance – Single End Bowl | | | | |
| No of Holes | | 1 taphole | | | | |
| **Tapware** | | | | | | | Nordic Sink Mixer (240mm) | | | | |
| Manufacturer | | **Caroma** | | | | |
| Model | | Nordic Sink Mixer | | | | |
| Wels Rating | | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.5L/min | | | | |
| Material | | Brass | | | | |
| Above bench boiling water unit – HydroBoil Electronic X 1 | | | | | | | | | | | |
| Manufacturer | | | **Zip** Heaters Pty Ltd | | | | |  | | | |
| Model | | | ZIP HydroBoil - OnWall Instant Boiling Water Unit | | | | |
| Location | | | Installed above the kitchen sinks where shown. | | | | | | | | |
| Zip Hydro Tap | | | | | | | | | | | |
| **Model No** | **Product Code**  **White** | | | **Product Code**  **Stainless Steel** | **With 5 Micron Filter** | **Boiling Cups at one time** | | | **Boiling Cups in one hour** | **Power rating kW** | **Dimensions**  **W x D x H** |
| **Hydroboil 3 litre** | HBE6-003FX | | | HBE6-103FX | Yes | 18 | | | 100 | 1.5 | 289 x 180 x 431 |

|  |  |
| --- | --- |
| **Installation Notes** | ***Installation***  ***A. Location***  *To be installed over a sink draining board or a bench top equipped with a portable or plumbed drip tray. Tap outlet clearance to sink 200mm unless pot filling requires greater access. Minimum service access clearance of 150mm above. 65mm to left, 65mm to right. The vent within the case must discharge to a safe visible position above the sink , under certain conditions, the vent may discharge cold or boiling water, and/or steam. The vent pipe outlet must be connected via a tundish to a 20mm OD copper vent pipe which has a continuous tail, is no more than 3 metres long and has no more than 3 right angle bends.*  ***B. Plumbing***  *To be installed by a qualified tradesperson in accordance with manufacturer's instructions and ASINZS 3500 plumbing regulations. Designed for direct connection to a potable cold water supply with minimum pressure of 70kPa; maximum 500kPa.*  *If static p-assure exceeds 500kPa. a 350kPa pressure limiting valve must be fitted. An isolating valve should be installed between the water supply and the system.* |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MEALS ROOM(LEVEL 2) X 1 | | | | | | | | |
| **Fixture** | | | | | | | | http://www.clark.com.au/ProductImages/Products/5921/5921/jpeg-800px-24bpp.jpg  **Example Image only – Right hand bowl required** |
| Manufacturer | | | **Clark** | | | | |
| Model | | | Advance – 1.75 End Bowl | | | | |
| No of Holes | | | 1 taphole | | | | |
| **Tapware** | | | | | | | | Nordic Sink Mixer (240mm) |
| Manufacturer | | | **Caroma** | | | | |
| Model | | | Nordic Sink Mixer | | | | |
| Wels Rating | | | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.5L/min | | | | |
| Material | | | Brass | | | | |
| under bench boiling/chilled – hydro tap commercial X 1 | | | | | | | | |
| Manufacturer | | **Zip** Heaters Pty Ltd - | | | | |  | |
| Model | | Model as schedule below | | | | |
| Zip Hydro Tap | | | | | | | | |
| **Model No** | **Boiling Cups in One hour** | | | **Chilled glasses in one hour** | **Power rating kW**  **GPO** | **Under sink cabinet dimensions**  **w x d x h** | | |
| **BC150/175** | **150** | | | **175** | **2.1** | **500x465x395** | | |

|  |  |
| --- | --- |
| Location | Installed in the kitchen area’s shown on architectural plans.  **INSTALLING THE TAP (doesn’t include the ALL in ONE)**  Make sure the tap is installed where it will allow the tap nozzle drain into the sink.  Cut a 35mm hole  **INSTALLING THE undersink unit**  The unit itself must be installed below bench , in a accessible location where the unit can be removed and re-installed for future maintenance purposes.  Position the hydrotap undersink unit as closely as possible directly beneath the hydrotap head. The hoses must fall unobtrusively from the tap head to the hydrotap unit. And install the unit as per installation instructions and as per AS3500. |
| Note | **VENTILATION REQUIREMENTS**  Proper air circulation must be provided for all Boiling and Chilled models. The system will  operate correctly only if the recommended air gaps are achieved during installation. A ventilation hole measuring 100mm must be cut into the top half of the cupboard door to accommodate the air  vent provided. Make sure that the undersink unit ventilation grilles are not obstructed in any way.  We recommend that a 20mm gap be left between the vanity doors and the base of the vanity in addition to the above mentioned ventilation hole. Refer to Zip Manufacturers Installation Instructions. |

|  |  |  |
| --- | --- | --- |
| **Tapware – Wall sink set** | | |
| Manufacturer | Galvin | http://www.galvinengineering.com.au/product/TCWSC80C.jpg |
| Model | **TCWSC80C** |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.7L/min |
| Quantity | 1 in total |
| **NOTE** | **IF SIZE OF TROUGH VARIES CONTACT BRITEX GROUP FOR NUMBER OF**  **TAPS TO BE USED PH: (02) 9531 2100** | |

## COMMERCIAL FIXTURES AND FITTINGS

|  |  |  |
| --- | --- | --- |
| Workshop Sinks – Bench and wall mounted X 1 BENCH MOUNTED AND X 2 WALL MOUNTED | | |
| **Fixture** | | QR code:  For installation instructions  and technical data etc |
| Manufacturer | The Britex Group |
| Model | LB4  400mm Wide x 400mm Long x 300mm Deep |
| Material | Stainless Steel Grade 304 or grade 316 (case by case basis) |
| **Fixture** | | QR code:  For installation instructions  and technical data etc |
| Manufacturer | The Britex Group  Ph: (02) 9531 2100 |
| Model | CSL – Cleaners Sink with Legs, Brackets and Hinged Bucket Grate |
| Material | Stainless steel grade 304 |
| Plug & Waste | 50mm |
| Dimensions | Bowl – 600mm Long x 500mm Wide x 200mm Deep Legs – 610mm High |
| Material | Stainless Steel grade 304 |
| Product  Variables | Splashback panel – up to 1000mm |
| **NOTE** | **FOR CUSTOM SIZES OF BOWLS AND OTHER STANDARD SIZES**  **CONTACT BRITEX PH: (02) 9531 2100** | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MECHANICS WASH BAY – WASH TROUGH X 1 | | | | |
| **Trough – Length 3.2m** | | | |  |
| Manufacturer | | The Britex Group PH (02) 9531 2100 | |
| Model | | TCA-PPCH | |
| Material | | Stainless steel grade 304 | |
| Size | | 2 troughs | |
| No of Holes | | 2 tapholes | |
| Notes | | Bench mounted.  Rear hob to incorporate 40mm overflow. | |
| Material | | Stainless Steel grade 304 | |  |
| Product  Variables | | Support legs  Custom trough dimensions  Left, centre or right hand waste outlet  Builder to confirm details with client prior to contacting Britex  Tapware pictured does not come with trough unless requested. | |  |
| **Tapware – Bib Tap** | | | | |
| Manufacturer | Galvin | | http://www.galvinengineering.com.au/product/TC54FJ1C.jpg | |
| Model | **TC54FJ1C** | |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.7L/min | |
| Quantity | 1 per trough mounted over drain outlet  2 in total | |
| **Tapware – Wall sink set** | | | | |
| Manufacturer | Galvin | | http://www.galvinengineering.com.au/product/TCWSC80C.jpg | |
| Model | **TCWSC80C** | |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.7L/min | |
| Quantity | 1 in total | |
| **NOTE** | **IF SIZE OF TROUGH VARIES CONTACT BRITEX GROUP FOR NUMBER OF**  **TAPS TO BE USED PH: (02) 9531 2100** | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CLEANERS SINK X 2 | | | | |
| **Fixture** | | | QR code:  For installation instructions  and technical data etc | |
| Manufacturer | | The Britex Group  Ph: (02) 9531 2100 |
| Model | | CSL – Cleaners Sink with Legs, Brackets and Hinged Bucket Grate |
| Material | | Stainless steel grade 304 |
| Plug & Waste | | 50mm |
| Dimensions | | Bowl – 600mm Long x 500mm Wide x 200mm Deep Legs – 610mm High |
| Material | | Stainless Steel grade 304 |
| Product  Variables | | Splashback panel – up to 1000mm |
| **Tapware – Wall sink set** | | | | |
| Manufacturer | Galvin | | | http://www.galvinengineering.com.au/product/TCWSC80C.jpg |
| Model | **TCWSC80C** | | |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.7L/min | | |
| Quantity | 1 in total | | |

|  |  |  |  |
| --- | --- | --- | --- |
| LAUNDRY TUB X 1 | | | |
| **Fixture** | | Eureka 45 Litre Compact Tub & Cabinet | |
| Manufacturer | **Clark** |
| Model | Eureka 45 Litre Compact Tub & Cabinet |
| Plug & Waste | 50mm |
| Material | Stainless Steel |
| **Tapware – Wall sink set** | | | |
| Manufacturer | Galvin | | http://www.galvinengineering.com.au/product/TCWSC80C.jpg |
| Model | **TCWSC80C** | |
| Wels Rating | 4 Stars - Description: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpgDescription: http://resveratrolhealthbenefits4u.com/wp-content/uploads/2010/09/gold-star-8504.jpg 7.7L/min | |
| Quantity | 1 in total | |

## SAFETY FIXTURES AND FITTINGS

|  |  |  |
| --- | --- | --- |
| SAFETY DELUGE SHOWER, EYE & FACE WASH X 2 | | |
| **Fixture** | |  |
| Manufacturer | **Enware** |
| Model | ECE240 Free standing stainless steel combination deluge shower, eye/face wash, hand operated. Min 1” potable water supply  Allow to supply safety signs ESS 503 & ESS 504  http://www2.blackwoods.com.au/infoBANK/ProductImg/v618.jpg |
| Material | Stainless Steel |
| Note | Minimum cold water supply size = 25mm |
| Location | Shall be located in an accessible location no more than 10 meters from the hazard present. The shower shall also be on the same level as the hazard, with the path free from obstructions or stairs. Refer AS4775-2007 section 6.6 | |
| Testing | A safety shower tester should also be supplied Model: EST100 |  |

## 

## preventative maintenance frequency and procedures

The following maintenance procedures and schedule identify the preventative and mandatory maintenance requirements. The maintenance procedures for each service or service component are identified with maintenance parameters and duration between service. The maintenance procedures also clarify if the works are preventative or mandatory. Preventative maintenance items ensure the correct operation of the hydraulic systems, mandatory maintenance satisfies Authorities statutory requirements for health and safety. The maintenance schedule is derived from the maintenance procedure list creating an annual program to monitor and maintain the hydraulic systems.

**Stormwater**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Downpipes | Check drainage / Leaking joints | Monthly | No | Yes |
| Stormwater Pits / Grated Drains | Removal of any debris and silt / check grates are sound. | 3 Months | No | Yes |
| RWO’s | Remove any debris - check clear | Monthly | No | Yes |
| Stormwater/  subsoil Pump Station  ***H02*** | Routine service by Pump Suppliers staff (or authorised agent)   1. Check power supply is on and connections in control panel are secured. 2. Check isolating and non-return valves are in good condition and are not seized 3. Adjust pump coupling and mechanical seal spring tension 4. Check float switches for pump start, pump stop and high level alarm 5. With pump running manually, check the following:  * Pump rotation * Current draw * Panel indicator lights * Suction and discharge pressures * Power supply voltages * Contactor overload settings (adjust to motor maximum current draw) * High / Low level alarm  1. Switch pumps and duty selectors to automatic 2. Adjust pressure switch settings to desired pressures for duty and stand by pumps.   Check pit condition and presence of silt build up | 6 Months | No | Yes |

**Sanitary Plumbing & Drainage**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Pipework Generally | Check for leaks / damages or blockages. | 12 Months | No | Yes |
| Sewer Pump Station  ***H02*** | Routine service by Pump Suppliers staff (or authorised agent)   1. Check power supply is on and connections in control panel are secured. 2. Check isolating and non return valves are in good condition and are not seized 3. Adjust pump coupling and mechanical seal spring tension 4. Check float switches for pump start, pump stop and high level alarm 5. With pump running manually, check the following:  * Pump rotation * Current draw * Panel indicator lights * Suction and discharge pressures * Power supply voltages * Contactor overload settings (adjust to motor maximum current draw) * High / Low level alarm  1. Switch pumps and duty selectors to automatic 2. Adjust pressure switch settings to desired pressures for duty and stand by pumps.   Check pit condition and presence of silt build up | 6 Months | No | Yes |
| Dilution Pit  ***H02 and H03*** | Check Pit condition and remove any silt and debri | 6 Months | No | Yes |
| Tundish points  ***All drawings*** | Allow to check drain and remove and silt or debris | 12 Months | No | Yes |

**Cold and Lab Water**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Exposed Pipework | Check for leaks and condition of pipework. | 12 Months | No | Yes |
| Stop Valves | Shut down and open valve to ensure ease of operation. | 12 Months | No | Yes |
| Fixtures / Taps Generally | Inspect for correct operation and soundness. | 3 Months | No | Yes |
| Backflow Devices – RPZD’s and TDCV’s  ***H01/02/07*** | As per 3500 and The Plumbing Code of Australia   1. Check pipework for leaks 2. Check and clean Y-type strainer as necessary 3. Check operation of valve 4. Carry- out statutory maintenance and re-testing, complete report and forward to Sydney Water Corporation | 12 Months | Yes | Yes |
| Domestic & FHR Pumpset  ***H01*** | Routine service by Pump Suppliers (or authorised agent) undertaking system check of unit incorporating the following:   1. Check amperage and insulation resistance 2. Check control panel, panel lights, auto alternation, isolation valves, check valves, shaft seal, bearings, pump rotation, VFD + Transducer. | 6 Months | No | Yes |
| Filters  ***H01*** | Routine service to check operating pressures and run test cycle to ensure operation | 6 Months | No | Yes |
| Safety Showers and Eye Wash  ***H02/H06/H07*** | Test operation | Weekly | Yes | Yes |
| Reverse Osmosis  ***H07*** | Review operation and test water quality | Weekly | No | Yes |
| Reverse Osmosis  ***H07*** | Complete service by Millipore | 6 Months | Yes | No |
| Drinking Fountains | Check operation and filters | 6 months | No | Yes |

**Hot/Warm Water Services**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Exposed Pipework | Check for all leaks and condition of exposed pipework in particular lagging | 12 Months | No | Yes |
| Hot Water Heating  Plant  ***H07*** | 1. Check temperature levels and settings. 2. Ensure area is clear of flammable material and other unwanted materials. | Weekly | No | Yes |
| Hot Water Heating Plant  ***H07*** | Routine Service Rheem staff (or authorized agent). | Quarterly | No | Yes |
| Hot water plant TPR Valves  ***H07*** | Ease lever to check for operation | 6 Months | No | Yes |
| Thermostatic Mixing valves | Temperature testing at fixture outlets to be recorded in log book | Monthly | No | Yes |
| Thermostatic Mixing valves | Test valve outlet temperature, correct fail safe operation, and ensure cartridge components are operable and replaced as required | 12 Months | Yes | Yes |
| Thermostatic Mixing valves | Replace mixing valve cartridge | 3 years | Yes | Yes |
| Undersink boiling water units and filters | Check operation of boiling water unit and check filter cartridges | 6 Months | No | Yes |

**Rainwater Harvesting System Services**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Tank  ***H01 + H03*** | Empty tank of all water and debris, clean thoroughly with chlorine | 3 Yearly | No | Yes |
| Rainwater Re-use Pump  ***H02*** | 1. Check power supply is on and connections in control panel are secured. 2. Check pump set mountings are in good order and secure 3. Check water supply is on and bleed pump of any traped air 4. Check isolating and non return valves are in good condition and are not seized 5. Adjust pump coupling and mechanical seal spring tension 6. With pump running manually, check the following:  * Pump rotation * Current draw * Panel indicator lights * Suction and discharge pressures * Power supply voltages * Contactor overload settings (adjust to motor maximum current draw)  1. Drain water from air vessels. Check and adjust air pressure in each vessel to be the same 2. Switch pumps and duty selectors to automatic 3. Adjust pressure switch settings to desired pressures for duty and stand by pumps. | 6 Months | No | Yes |
| Filtration – Backwash  ***H02*** | Clean plastic parts with a soft ,damp cloth only; do not use solvents, detergents, or acidic cleaning agents | 6 Months | No | Yes |
| Filtration Bag  ***H02*** | Clean plastic canister and replace filter cartridge | 3 Months | No | Yes |
| UV Disinfection  ***H02*** | Isolate power and water supply to unit, remove tube and clean with soft cloth and surgical alcohol | 6 months | No | Yes |
| UV Disinfection  ***H02*** | Replace UV tube | 36 Months | Yes | Yes |

**Fire Hydrant Services – With Pump**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Log book  ***H01*** | All maintenance and testing to be recorded in Log Book | Monthly | Yes | Yes |
| Pump Service  ***H01*** | Routine service by Pump Suppliers staff (or authorised agent) undertaking system check of unit incorporating the following:   1. Remove any corrosion from battery terminals 2. Clean, or replace as required, engine fuel sludge / sediment trap and air filter elements 3. Remove and clean heat exchanger strainer(s) | 6 Months | No | Yes |
| Pump Service  ***H01*** | Yearly maintenance is the same as 6 months with the addition of the following:   1. Replace engine oil with new oil that meets the engine manufacturers specification 2. Replace engine oil filter and fuel filters 3. Check the condition of the fuel and replace if defective 4. Inspect Engine cooling hoses and replace where necessary 5. Flush engine cooling system and refill using manufacturers approved corrosion inhibitor 6. Pressure test engine cooling system 7. Inspect pump / driver coupling for wear and alignment 8. Grease pump bearings to the manufacturers specifications 9. Ensure all non-return valves are operating freely and are seating correctly 10. Disassemble pump and repack pump glands | 12 Months | Yes | Yes |
| Pump Service  ***H01*** | Replace batteries on diesel pump | 2 Years | Yes | Yes |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Testing of Pumps  ***H01*** | Yearly maintenance is the same as 6 months with the addition of the following:   1. With the pump room door closed and the pump testing technician present, record results from the following tests:  * Run the pump set at shut off (zero flow) for 3 min allow all equipment to attain normal operating temperature * Run the pump set at 130% of duty flow for 4 min and record the results. * Reduce the flow to duty flow for sufficient time to record the water supply proving test results * Further reduce the flow until shut off (zero flow) is achieved and continue to run the pumpset until total run time has reached 10min  1. Simulate an engine fail to start and ensure that engine start cycling requirements and alarm activations are satisfied | 12 Months | Yes | Yes |
| Testing of Pumps  ***H01*** | 1. Check that the main isolating switch is in the in position and the green power supply lamps are illuminated and that no red warning lamps are on 2. Check that the fuel tank is full 3. Check for any obvious signs of physical damage or deterioration 4. Test the float charge voltage of both the monitor and engine start batteries and record the result. 5. Start pumpset by reducing the applied water pressure to the starting device and run engine continuously for not less than 10min on the first automatic start and check that the driver achieves full speed within 15s of starting 6. Record the starting pressures, test run time and the hour meter reading at completion of the test 7. During and after the running period Check:  * Pump operates at correct discharge pressure. Record suction and discharge pressure * Pump gland and drain operates efficiently * Out of balance condition or abnormal noises are not evident * Water, oil and fuel leaks are not evident and fittings on ancillary equipment are secure * Battery charger or alternator / generator is operating correctly * Battery charger power failure alarm operates correctly * Cooling is discharging | Monthly | Yes | Yes |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Isolating Valves | 1. Check all isolating valves including underground key-operated valves are in the correct operating position. 2. Check all above ground valves are secured | 6 Months | Yes | Yes |
| Hydrant Landing Valves  ***In Fire Stairs*** | Check all hydrant valves are:   1. Accessible. 2. Hand-wheels are securely fitted. 3. Blanking caps are in good condition. | 6 Months | Yes | Yes |
| Booster Assembly  ***H01*** | Check booster assembly:   1. Is accessible. 2. Hand-wheels are securely fitted. 3. Pressure gauges and blanking caps, where fitted, are in good condition 4. For condition of washers on booster assembly connection inlets and replace if signs of deterioration. 5. For legible block plans incorporating working and test pressures.   NOTE: The block plan should be appropriately located in the pump room and at the booster connections. | 6 Months | Yes | Yes |
| Block Plan | Check block plan is up to date, legible and in an appropriate location. | 6 Months | Yes | Yes |
| Test  ***H01*** | Yearly Tests are the same as the 6 monthly with inclusion of the following:  Undertake flow test on hydrant system ensuring minimum operating pressure and flow is achieved in accordance with AS2419 - 10litres/second @ 700kPa | 12 Months | Yes | Yes |
| Test  ***H01*** | 5 Yearly Tests are the same as the 6 monthly with inclusion of the following:  Pressure test on incoming water supply to ensure hydrant system design criteria is satisfied. | 5 years | Yes | Yes |

**Fire Hose Reels**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Fire Hose Reels | 1. Check that the operating instructions are legible. 2. Check for any damage or corrosion of components that could adversely affect the operation of the reel. 3. Check that all hose reel cabinets are accessible, clear of extraneous materials, clearly and correctly marked and in good repair. 4. With the nozzle closed and stop valve open, test that the hose reel can be unwound freely in its intended direction by unwinding at least 5m of hose. 5. With the nozzle closed, pressurize the reel by opening the stop valve. Determine if there are any leaks form the gland, nozzle, stop valve, hose or any fittings. 6. Test water to ensure it is able to flow through the reel by opening and closing the nozzle. | 6 Months | Yes | Yes |
| Fire Hose Reels | Yearly maintenance is the same as 6 months with the addition of the following:   1. Check all hoses for kinking, excessive damage or wear, or collapse 2. With the stop valve and nozzle fully opened, measure the water flow rate from the most disadvantaged hose reel – 0.66L/s   All maintenance and testing to be recorded in Log Book | 12 Months | Yes | Yes |
| Combined Fire Hose Reels and Domestic Pump Set  ***H01*** | Check all valves are secured in the open position, check and record operating pressure, check pump operation and ensure all indicator lights are operational and not indicating fault. | 6 Months | Yes | Yes |

**Fire Protection**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item/Drawings** | **Maintenance** | **Period** | **Mandatory Maintenance** | **Preventative Maintenance** |
| Log book  ***H01*** | Weekly Recording in Log Book | Weekly | Yes | Yes |
| Sprinkler Pumps  ***H02*** | These systems require a statutory inspection and testing procedure to be followed as per AS 1851.4 | Monthly | Yes | Yes |
| Sprinkler valves  ***H03*** | These systems require a statutory inspection and testing procedure to be followed as per AS 1851.4 | Monthly | Yes | Yes |

## Schedule of spares recommended to be held on site, being those items subject to wear or deterioration and which may involve the principal in extended deliveries when replacements are required. Included complete manufacture and model numbers, and local sources of supply.

## Schedule of normal consumable items, local sources of supply, and expected replacement intervals.

# Plant and Equipment

## Hot water heater suppliers information

### Hot Water Plant – Gas Heaters

Make : Rinnai Australia Pty Ltd

Model : HD200

Flow Rate : 1930l/hr

Number of : 2

Location : Roof Plant Room

Power Supply : 15A, 230v

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

### Hot Water Plant – Storage Tank

Make : Rinnai Australia Pty Ltd

Model : COMBO TANK 315L

Flow Rate : 1930l/hr

Number of : 1

Location : Roof Plant Room

Power Supply : 15A, 230v

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

### Hot Water Unit – Garbage Room

Make : RHEEM

Model : 191050

Storage Capacity : 50L

Number of : 1

Location : Level 00 – Garbage Room

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

## Pump suppliers information

### Cold Water Booster Pump

Supplier : QMAX PUMPS - 02 6128 1000

Manufacturer : Grundfos

Model : CR 15-5 A-A-A-E-HQQE

Flow Rate : 4l/s

Duty : 58.8m

Number of : 96501908

Location : Basement fire pumproom

Power Supply : 3x380-415 D V

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

### Hot Water Circulating Pump

Supplier : QMAX PUMPS - 02 6128 1000

Manufacturer : Grundfos

Model : CM 3-2

Flow Rate : 2l/s

Duty : 15m

Number of : 2

Location : Roof Plant Room

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

### Sewage Pumping Station

Supplier : QMAX PUMPS - 02 6128 1000

Manufacturer : Grundfos

Model : SEG.40.12.2.1.502

Storage Capacity : 325L

Number of : 1

Location : Basement pump out pit

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

### Stormwater Pumping Station

Supplier : QMAX PUMPS - 02 6128 1000

Manufacturer : Grundfos

Model : ZSS-150-3

Flow Rate : 2l/s

Duty : 15m

Number of : 2

Location : Basement

Power Supply : 1.5Kw, 450V

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

## other suppliers information

### Grease Arrestor

Make : frp Technologies

Model : FI 4GABS

Material : Reinforced Fibreglass

Size : 3030x1080x2120

Capacity : 4000L

Location : Basement Grease Arrestor Room

Warranty : 2 Years Factory backed Warranty

Hyperlink : <http://au.grundfos.com/>

Brochure :

# Valves and Meters Schedule

## Prepare and show a comprehensive schedule of Meters-  schedule shall include

A – Position    B - Size   C – Function   D – Meter number

## Prepare and show a comprehensive schedule of control valves - Valve schedule shall include

A – Position    B - Size   C – Function   D - Valve number

# 

# Approvals and Certificates

## Gas Authority approval

## Water Authority Approval

## Sewer Authority approval

## Trade Waste Approval

## Section 73 Certificate

## Section 188 Approval

## Authorities approvals.

## A copy of the completed commissioning and test report for all pipework and equipment.

## Fire Hydrant & Fire Hose Reels Flow Test results

## Bench test certificate from the supplier of the Hydrant Pumps in accordance with AS 2941

## Certification of TMV’s

## Certification of Backflow Devices

# Drawings

## Updated Sewer service diagram

## Updated Hydrant Block Plan

## AS BUILT DRAWING SCHEDULE

|  |  |
| --- | --- |
| **Drawing No.** | **Drawing Title** |
|  |  |
|  |  |
|  |  |
|  |  |