### LEGEND

<table>
<thead>
<tr>
<th>Line Type</th>
<th>LT Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXISTING STORM SEWER</td>
<td>0.25 mm</td>
</tr>
<tr>
<td>EXISTING SANITARY SEWER</td>
<td>0.25 mm</td>
</tr>
<tr>
<td>EXISTING WATER</td>
<td>0.25 mm</td>
</tr>
<tr>
<td>EXISTING GAS</td>
<td>0.25 mm</td>
</tr>
<tr>
<td>EXISTING POWER CABLES</td>
<td>0.25 mm</td>
</tr>
<tr>
<td>EXISTING TELECOM CABLES</td>
<td>0.25 mm</td>
</tr>
<tr>
<td>NEW STORM SEWER</td>
<td>0.70 mm</td>
</tr>
<tr>
<td>NEW SANITARY SEWER</td>
<td>0.70 mm</td>
</tr>
<tr>
<td>NEW WATER</td>
<td>0.70 mm</td>
</tr>
</tbody>
</table>

### STANDARD SYMBOLS

- **POWER POLE**
- **STREET LIGHT**
- **EXISTING MANHOLE**
- **NEW MANHOLE**
- **FIRE HYDRANT**
- **SUMP**
- **ISOLATION VALVE**
- **TOBY VALVE**
- **NON RETURN VALVE**
1. All manholes over 1.0m deep shall be provided with step irons evenly spaced at 300mm nominal vertical intervals. The lowest iron shall not be more than 550mm above the hauencing and the highest not more than 600mm below the top surface of the manhole cover. All step irons shall be 225mm 'AYMROO' step irons or approved equivalent complying with NZ/AS 1657-1992.

2. All joints and/or connections to the manhole shall be sealed with epoxy mortar. In high trafficked areas or as directed by the engineer cast iron frames are to be bolted to the concrete manhole top with 3x12mm dia. bolts, equally spaced.


WHANGANUI DISTRICT COUNCIL
WHANGANUI SUBDIVISIONAL STANDARD - DETAILS
TYPICAL SEWER MANHOLE WITH DROPPER

23/02/16

WHANGANUI DISTRICT COUNCIL

DESIGNED: CHECKED: APPROVED:
TO BE INSTALLED WITH STANDARD CATCHCUPIT

ALTERNATIVE YARD SUMP TOP

PLAN

BASECOURSE

EPoxy Mortar to be used as Seal connecting around OUTLET PIPE

APPROVED SUMP CATCHCUPIT, GRATE and FRAME

150m APPROVED COMPACTED BASECOURSE

SECTION

ALTERNATIVE SUMP ARRANGEMENTS
CONTACT PHIL KIDDLE PH: 0249 747 747

WHANGANUI DISTRICT COUNCIL

OPEN-BACK SUMP

WHANGANUI SUBDIVISIONAL STANDARD - DETAILS

CM-WDC-005

23/02/16
SECTION THROUGH CATCHPIT

SCALE NTS:

100 NOMINAL

20MPa CONCRETE HAUNCHING

225Ø/300Ø OUTLET

3% CROSS FALL

PRECAST CATCHPIT CHAMBER

3% CROSS FALL
65° Y JUNCTION LAID TO SUIT EXPECTED PROPERTY REQUIREMENTS

ELEVATION
PVC CONNECTION

FSL

MARKING TAPE

FALL IN JUNCTION BRANCH TO BE 2% ON INVERT

ELEVATION
STANDARD CONNECTION

45° JUNCTION

45° BEND

WASTEWATER MAIN DIAMETER/2 MIN.

INVERT

MINIMUM LEVEL CONNECTION DETAIL
PRIVATE PROPERTY

COUNCIL PROPERTY

SEALED SYSTEM TO AT LEAST 100mm ABOVE KERB TOP LEVEL

PROPERTY BDY OR INSIDE OF BDY WALL OR FOOTING

300

FOOTPATH

WATER FLOW

CONNECTION LAID TO THIS POINT

* DN80 OR DN100 PN12 PRESSURE PIPE - PIPE TO BE LAID WITH MANUFACTURERS BRAND ON TOP

* PROVIDE FALL BETWEEN PROPERTY BOUNDARY AND KERB

* PREFERABLY PIPE TO BE LAID AT RIGHT ANGLE TO KERB FACE (NOTE: CONNECTION SHALL NOT BE LAID FACING UPSTREAM INTO THE CHANNEL FLOW)

* TRENCH BASE AND FINAL BACKFILL SHALL BE COMPACTED TO A HARD SURFACE

* TRENCH BASE WIDTH NOT TO EXCEED 200mm

100mm CAST IRON KERB ADAPTOR (MILSON FOUNDRY KERB OUTLET OR SIMILAR DUCTILE IRON)

KERB TOP LEVEL (REFER RD-WDC-018)

BREAK OUT REAR OF KERB 100mm FROM OUTLET CLEAR AWAY LOOSE CONCRETE AND PROVIDE KEY FOR NEW CONCRETE
PRIVATE PROPERTY  COUNCIL PROPERTY

SEALED SYSTEM TO BE AT LEAST 100mm ABOVE KERB TOP LEVEL

PROPERTY BDY OR INSIDE OF BDY WALL OR FOOTING

100mm CAST IRON KERB ADAPTOR (MILSON FOUNDRY KERB OUTLE OR SIMILAR DUCTILE IRON)

KERB TOP LEVEL (REFER RD-WDC-018)

BREAK OUT REAR OF KERB 100mm FROM OUTLET, CLEAR AWAY LOOSE CONCRETE AND PROVIDE KEY FOR NEW CONCRETE

WATER FLOW

CONNECTION LAID TO THIS POINT

FOOTPATH

* DN80 OR DN100 PN12 PRESSURE PIPE - PIPE TO BE LAID WITH MANUFACTURERS BRAND ON TOP

* PREFERABLY PIPE TO BE LAID AT RIGHT ANGLE TO KERB FACE
  (NOTE: CONNECTION SHALL NOT BE LAID FACING UPSTREAM INTO THE CHANNEL FLOW)

* TRENCH BASE AND FINAL BACKFILL SHALL BE COMPACTED TO A HARD SURFACE

* TRENCH BASE WIDTH NOT TO EXCEED 200mm
PRIVATE PROPERTY  COUNCIL PROPERTY

SEALED SYSTEM TO BE AT LEAST 100mm ABOVE KERB TOP LEVEL

PROPERTY BDY OR INSIDE OF BDY WALL OR FOOTING

KERB TOP LEVEL (REFER RD-WDC-018)

300

WATER FLOW

FOOTPATH

CONNECTION LAID TO THIS POINT

* DN80 OR DN100 PN12 PRESSURE PIPE - PIPE TO BE LAI
W WITH MANUFACTURERS BRAND ON TOP

* PREFERABLY PIPE TO BE LAID AT RIGHT ANGLE TO KERB FACE
(Note: Connection shall not be laid facing upstream into the channel flow)

* TRENCH BASE AND FINAL BACKFILL SHALL BE COMPACTED TO A HARD SURFACE

* TRENCH BASE WIDTH NOT TO EXCEED 200mm

* IDEAL MINIMUM GRADIENTS 80mm DIA - 1 IN 90, 100mm DIA - 1 IN 120

* RISER SHAFT TO BE USED WHERE THE DEPTH OF THE MAIN IS GREATER THAN 1.5m (REFER CM-WDC-013)
**Sealed System to be at least 100mm Above Kerb Top Level**

**Wellup Sump**

**Property Body or Inside of Body Wall or Footing**

**Council Property**

**Connection Laid to this Point**

**Footpath**

**Water Flow**

**Kerb Top Level (Refer RD-WDC-018)**

**100mm Cast Iron Kerb Adaptor (Milson Foundary Kerb Outlet or Similar Ductile Iron)**

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* DN80 or DN100 PN12 Pressure Pipe - Pipe to be Laid with Manufacturers Brand on Top

* Preferably Pipe to be Laid at Right Angle to Kerb Face (Note: Connection Shall Not Be Laid Facing Upstream into the Channel Flow)

* Trench Base and Final Backfill Shall Be Compacted to a Hard Surface

* Trench Base Width Not To Exceed 200mm

* Ideal Minimum Gradients DN 80 - 1 in 90, DN 100 - 1 in 120
VARYING DIA. CONNECTIONS TO PIPELINES SMALLER THAN 300mm SHALL BE BY MEANS OF FACTORY MADE LUNDEL JUNCTIONS.
WHERE MAIN DIA. IS 300mm OR GREATER A FACTORY MADE SADDLE SHALL BE USED.

A MAXIMUM OF 2 SERVICE CONNECTIONS TO ANY ONE SHAFT

DEPTH TO INVERT OF MAIN IS GREATER THAN 1.5m
VARYING DIA. CONNECTIONS TO PIPELINES SMALLER THAN 300mm SHALL BE BY MEANS OF FACTORY MADE LUNDEN JUNCTIONS.
WHERE MAIN DIA. IS 300mm OR GREATER A FACTORY MADE SADDLE SHALL BE USED.
POST WITH NUMBER 8 WIRE SHALL EXTEND FROM END OF LATERAL TO 750mm ABOVE SURFACE.
POSTS SHALL BE PAINTED RED FOR SANITARY SEWER AND BLUE FOR STORMWATER.

A MAXIMUM OF 2 SERVICE CONNECTIONS TO ANY ONE SHAFT

APPLICABLE WHERE DEPTH TO INVERT OF MAIN IS GREATER THAN 1.5m
LATERALS ENTERING MH BELOW TOP OF HAUNCHING SHALL DISCHARGE VIA CHANNELS FORMED IN HAUNCHING. CHANNELS SHALL NOT BE FORMED LOWER THAN SPRING LINE OF MAIN.

PIPE SHORTS INTO MH’S SHALL BE 2X PIPE DIAMETER UP TO 600mm. ABOVE 600mm PIPE SHORTS SHALL BE HALF THE LENGTH OF THE PIPE.

MINIMUM RADIUS OF HAUNCH IN MANHOLE EQUAL TO PIPE DIAMETER.
NOTE:
1. Cast iron cover required in sealed and concreted areas
2. Rodding riser tube installed outside boundary at every connection
(A) Private drain - House owners responsibility

(B) Connection - Council owned Council responsibility (limited liability)

(C) Point of connection to Council main

(D) Point of discharge

(F) Inspection point & rodding eye

Lot with street frontage
REAR LOTS ON RIGHT OF WAY
UP TO 2 CUSTOMERS

(A) PRIVATE DRAIN
HOUSE OWNERS RESPONSIBILITY

(B) CONNECTION - COUNCIL OWNED
OWNERS RESPONSIBILITY
(LIMITED LIABILITY)

(C) POINT OF
CONNECTION TO
COUNCIL MAIN

(D) POINT OF DISCHARGE

(F) INSPECTION POINT & RODDING EYE

LOT BOUNDARY
RIGHT OF WAY
LOT BOUNDARY

COUNCIL SEWER MAIN

WHANGANUI DISTRICT COUNCIL
WHANGANUI SUBDIVISIONAL STANDARD - DETAILS
SANITARY SEWER
POINT OF DISCHARGE AND CONNECTION

23/02/16
REAR LOTS ON RIGHT OF WAY
3 OR MORE CUSTOMERS
### PUBLIC SEWER ON PRIVATE LAND

<table>
<thead>
<tr>
<th>(A)</th>
<th>PRIVATE DRAIN - HOUSE OWNERS RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>(B)</td>
<td>MAIN - COUNCIL OWNED COUNCIL RESPONSIBILITY (LIMITED LIABILITY)</td>
</tr>
<tr>
<td>(D)</td>
<td>POINT OF DISCHARGE AND POINT OF CONNECTION TO COUNCIL MAIN</td>
</tr>
<tr>
<td>(F)</td>
<td>INSPECTION POINT</td>
</tr>
</tbody>
</table>

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**Whanganui District Council**

**Whanganui Subdivisional Standard - Details**

**Sanitary Sewer**

Point of discharge and connection
BASECOURSE AS SPECIFIED

SAND BACKFILL

TERRAM CLOTH FILTER FABRIC

20mm FILTER STONE AS SPECIFIED

PERFORATED VITRIFIED CLAY PIPES
SUPPLIED BY PRINCIPAL (See Specification)

2X FLAT COPPER BAR OR LIGHTNING STRIP
19.05mm x 4.76mm (or equivalent) FULL
LENGTH OF SUBSOIL PIPES

TRENCH DETAIL

2 No. 45° BENDS
WITH PVC CEMENTED JOINTS

STANDPIPE HEIGHT TO ENSURE PIPE IS COMPLETELY IMMERSED
OVER LENGTH BETWEEN MANHOLES

JUNCTION OF PVC TERMINAL
WITH VITRIFIED CLAY SUBSOIL PIPE

JOIN WITH FLEXIBLE RUBBER
ADAPTER COLLAR; SAME DETAIL DOWNSTREAM

VARIES TO SUIT
GROUND PROFILE
(See Profile)

500mm

DN 150 @ 0% grade

TYPICAL MANHOLE DETAIL

DN 150 @ 0% grade

WHANGANUI DISTRICT COUNCIL

WHANGANUI SUBDIVISIONAL STANDARD DETAILS

SUBSOIL DETAILS
Installation of Underground Lead-in's for Telecommunications | Urban
For new subdivisions

Introduction
This information relates to the installation of an underground lead-in pipe on private property, sited on a typical urban section.

- There are two options for installing a lead-in pipe:
  1. Contact Ultrafast Fibre Ltd (UFF) and they will install free of charge.
  2. Install yourself using white conduit pipe with an internal diameter of at least 20mm.

- An External Termination Point (ETP) if installing the lead-in pipe yourself, consider where the property owner would like the ETP on the outside of their house.

Lead-in pipe installation
The following outlines the basic requirements for trenching. If you have any doubts, please enquire, as this can save unnecessary work.

- If your trench passes through neighbouring properties, permission must be gained from other property owners before the pipe is installed.
- The route for the trench should only be chosen, and the trench excavated, once the Service Connection Point in the street and the ETP location at the property have been clearly identified. Where there is no terminal, or doubt exists phone UFF.
- The trench should be as straight as practicable avoiding sudden changes in direction or elevation.
- Trench depth should be 450mm below finished ground level. Where the lead-in will be under permanent material, e.g. concrete driveway, the depth can be reduced to 300mm.
- Trenching of public footways/roadways requires permission of the local council.
- Special conditions apply to uncovering or trenching in the vicinity of other underground services. Check with the service providers concerned prior to excavating.
- Do not dig within 500mm of a network terminal or cable.
- The lead-in pipe must be laid in sand or soil.

Lead-in cable installation
- Lead-in cable will be installed in a lead-in pipe by UFF.
- Every residence must have an individual lead-in from the network terminal to the ETP.
- Access to and terminating at a network terminal is the responsibility of UFF.

Fig 1. Cross section view of a lead-in installation.

Fig 2. Plan view of a lead-in installation (urban).

NOTE: FAILURE TO COMPLY WITH THE GUIDELINES SET OUT IN THIS DRAWING MAY RESULT IN REFUSAL TO CONNECT TO THE NETWORK. THE COST OF RECTIFYING ANY SUBSTANDARD INSTALLATION WILL BE AT THE CUSTOMERS EXPENSE.
TOP OF MANHOLE LID TO BE 0.150m ABOVE TOP OF KERB.

400mm MINIMUM COVER

RISING MAIN INLET

PE COUPLER

DROP TO 75mm ABOVE HAUNCHING

STAINLESS STEEL STRAPPING

STAINLESS BARREL NIPPLE (THREADED)

PE TEE AND COUPLING

INSPECTION CAP

PRE-CAST MANHOLE

HAUNCHING TO HAVE MIN. SLOPE OF 30° ALL ROUND

100mmØ AT 1 IN 60 TO WDC SEWER

OUTLET INVERT LEVEL TO BE SUCH THAT MIN. 0.45m COVER CAN BE MAINTAINED

Discharge Chamber

SCALE 1:10 (A4)