

THE CONNECTIONS GUIDE

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THE CONNECTIONS GUIDE: Information on connecting to Hamilton City Council's water, stormwater, and wastewater networks.

1.0 INTRODUCTION

This guide is intended to apply to small and medium sized developments and if applied correctly the information submitted will streamline processing of the following planning steps:

- Development proposals (application for Resource Consent) that comply with the Council's requirements for connection to water supply, stormwater, and wastewater networks.
- *Engineering Design Approval* and in particular the water services connection plans needed to complete this resource consent requirement. **Note: Whenever possible, Resource Consent applications should include full services information to allow WWS engineering design approval to be given at the same time as the Resource Consent.**
- *Service Connection Application* form(s) to initiate provision of water services connections to the development.

Please note; professional planning, surveying, and engineering assistance should be sought to assist development and connections application processes.

Abbreviations:

WWS *Water & Waste Services Unit, Council's team responsible for management of water services in the city located on the 6th floor of the Civic Centre.*

WS *Water Supply*

WW *Wastewater*

SW *Stormwater*

1.1 Guiding Principles For Servicing New Properties

The following points summarise the Council's general requirements for connections to its network and applications that follow this guidance will usually be processed in a streamlined fashion.

- Each lot shall have a Council-maintained connection for WS and WW to its boundary, and an approved means of managing SW.
- Each development (lot) will only have one connection for each service at the boundary. Note: Unit Title developments are considered as one lot.
- Connections enter the lot from the road frontage. Where a lot does not have a road frontage, pipes shall be located within that lot's legal access (right of way or access lot).
- SW and WW services need to be laid at a depth that serves the whole lot; sufficient design detail shall be provided to demonstrate this level of service.
- No private WS, SW or WW pipes shall cross lot boundaries. Council will own and maintain connections to each lot boundary.
- Where pipes must pass through one lot to serve an adjoining one, pipes shall be located so as to be parallel to the boundary and within a corridor 0.5-1.0 metres from the lot boundary. (To reduce conflict with potential building sites.)
- If Council WW or SW pipes pass through a lot then, preferably new buildings should be located at least 5.0 metres clear of the pipe alignment and are not permitted to be located over connections to pipes, or manholes.
- Plans submitted for Engineering Design Approval shall show depth to invert, pipe size and distances to boundaries. **Note: Where Council records are not available, applicants must determine the details of existing connections.**
- Pipe locations should attempt to facilitate future subdivision.

2.0 DETAILED CONNECTION GUIDANCE

2.1 General

- Connections process flow charts for Subdivision and Building Consent are at the end of this guide.
- Connection plans demonstrating compliance with the principles will usually be approved by WWS. These Engineering plans are required for connections whether authorised by Land Use or Subdivision Consent. A general list of plan requirements and a sample plan is included within Section 7 of this document.
- Properties can be developed under the authorisation of Land Use and Building Consent, prior to subdivision, including the laying of pipes and the sealing of driveways. However, applicants need to be aware that the above principles will apply at the time of subsequent subdivision and therefore there needs to be alignment between the internal servicing and the requirements of any Subdivision Consent. Otherwise, newly laid pipes may need to be moved to comply with the conditions of Subdivision Consent before legal title for the land is able to be achieved (ie approval of the 224C application).
- All connections and disconnections to live Council services shall be constructed by Council unless specifically approved otherwise on a case-by case basis.
- Any new work or changes to existing private pipework requires a prior Drainage Consent from Council's Building Control Unit.
- Individual lot connections will only be allowed at manholes to "trunk" sanitary pipes (usually 225mm or greater diameter) and not at all for "interceptor" pipes or those located greater than 5.0metres deep.
- Typically, existing private pipework is not of a standard suitable for vesting to Council.
- When considering building within 5metres of an existing Council WW or SW pipe accurate location, bridging footing and CCTV inspections will be required. (for additional guidance refer to Council's building website: www.buildhamilton.co.nz/ *Building over Pipes* and Figure TS4.10 in the Development Manual.)
- Whenever new works have been undertaken involving Council assets, "as-built" plans are required to be submitted to WWS to allow updating of Council's records and to demonstrate compliance with consent conditions. Note: When the Council's contractor does the works, the as-built plans will be submitted by them to WWS.
- When calculating connection depths, allow a 150mm margin for avoidance of other services in the berm. Note that pipes are connected soffit to soffit, (*not* invert to invert) to allow fall through the junction. ***Internal works should not be constructed until the connection is laid to the boundary in case they cannot be installed exactly as planned/approved.***
- More detailed information can be found in the 'Hamilton City Development Manual' which is available from the HCC general website 'www.hamilton.co.nz' in 'Publications & Plans'.

2.2 Single Lots and Small Subdivisions

Water Supply

- Water shut-off valves (tobies) for single properties should be located near the centre of the lot's road frontage for street-front lots and within 0.5metres of a boundary of an access lot.
- Each lot is required to have its own independent 20mm WS connection to the Council's water supply pipeline. To improve supply pressure lots at elevation above 45 metres (Moturiki Datum), or with access driveways longer than 45 metres, should have connections and supply pipes sized at 25mm rather than the standard 20mm.
- Fire fighting coverage is required from hydrant(s) within 135m of a residential lot and 90m of a commercial or industrial lot. Council will own hydrants that serve more than 1 residential lot.

Wastewater

- The standard for domestic service connections is: size 100mm; material RRJ SN16 PVC; minimum grade 1:80 (preferred 1:60).
- Where the depth of the Council pipeline is adequate, the standard depth of a WW connection at the boundary is 1.2metres (allowable range 0.9-1.5m).
- WW connection points must be sufficiently deep to serve the whole lot, or a private pump and associated infrastructure will be required. Note: *Private pumps are not approved where gravity discharge can be achieved.*
- To determine whether a connection can clearly serve *the whole developable area of the lot*, the invert level should be calculated at grade 1:60 from the Council pipeline invert to the lot boundary and then at 1:100 to the furthest point within the lot. If after allowing for the pipeline diameter, the depth of soil cover over the pipeline is less than 0.5m then doubt exists and the final design will need to be to the satisfaction of Council's Building Unit.

Stormwater

- Soakage is the preferred means for discharging stormwater. Refer to Council's brochure *SOAK UP YOUR STORMWATER* for further information.
- An acceptable SW management solution is required to serve each lot and the whole development. This may include a combination of soakage and connections to Council infrastructure. Overland flows from large storm events must be considered and catered for. Refer to Council's brochure *Stormwater Solutions for Hamilton City* for more information.
- For simple Landuse Consent applications (such as change of use) passive stormwater disposal methods may be deemed to be appropriate. In many cases either Transportation Unit or Building Unit will oversee these situations rather than WWS. Transportation Unit may also be consulted on car park drainage issues.
- If soakage is not suitable, then connection to the Council's SW network is the next preference.
- The standard material for single lot domestic connections is 100mm RRJ SN8 PVC (SN10 or SN16 PVC are equally acceptable) however site-specific design may be required in accordance with *Compliance Document for the NZ Building Code Clause E1 Surface Water*.
- If connecting to a Council pipe, and where the depth of the Council pipeline is adequate, the standard depth of a SW connection at the boundary is 1.2 metres (allowable range 0.9-1.5m).
- To determine whether a connection can clearly serve *the whole developable area of the lot*, the invert level should be calculated at grade 1:80 from the Council pipeline invert to the lot boundary and then at 1:100 to the furthest point within the lot. If after allowing for the pipeline diameter, the depth of soil cover over the pipeline is less than 0.5m then doubt exists and the final design will need to be to the satisfaction of Council's Building Unit.
- If ground soakage is not viable, and there is not a Council stormwater pipeline available for a connection, then a "bubble-up" discharge to the kerb and channel will be approved. The less expensive Kerb and Channel (K&C) connections will only be approved in place of 'bubble-up' outlets where: -the berm slopes to the road and, there is a suitable kerb profile and, the K&C can be installed at least 1.0 metre clear of any vehicle crossing.
- Existing connections not documented on Council records may be reused if constructed to a suitable standard and as-built information is provided to update Council's records.

Note: Council considers that pumping of stormwater is not a practical option because of the need for continuity of power supply and a very conservative approach to pumping design. Applications for pumping stormwater need to have exhausted the other available options and need to detail the storage tank and back-up power arrangements to be instigated.

2.3 Multiple Unit Developments

In addition to the points listed for 'Single Lots and Small Subdivisions' in Section 2.2 , the following specifications apply to multiple unit developments where the Building Code does not specify details (on matters such as pipeline layout, materials, capacity, etc.).

Water Supply

- For up to 4 dwellings the standard water supply arrangement is for a 50mm manifold supplying separate 20mm WS connections with supply pipes to each unit. (Refer note under 2.2 above regarding 25mm lines).
- For developments of 5 or more dwellings Council installs a 50mm WS connection which is then extended within the lot by the developer as a 63MDPE ridermain with flushing point at the end. This pipeline shall provide a separate supply to each unit with shut off valves outside of their respective building footprints. ***This pipeline shall be pressure tested and sampled by a Contracts Engineer from WWS prior to connection to the main network.***
- For further detail refer to the HCC Development Manual Volume 2 Part 6 Section 6.13. This is available at www.hamilton.co.nz/ Hamilton City Council/Publications and Plans/HCC Development Manual.

Wastewater

- A single 100mm RRJ SN16 PVC pipe is suitable for 1 to 4 dwellings at a grade of 1:80 or more.
- Up to 6 dwellings can be accommodated with a 100mm connection if the connection grade is 1:60 or steeper; otherwise design for a 150mm pipe at minimum 1:120 grade (1:80 on peat).
- For 7 or more dwellings design for a 150mm RRJ SN16 PVC pipe at minimum grade 1:120 (1:80 on peat soils).
- A manhole/chamber is usually provided just within the lot boundary and at least a rodding eye should be provided at the upper end of the system (refer also to Section 2.5 Manholes for manhole location options).
- For further detail refer to the HCC Development Manual Vol 2 Part 5 Sect 5.13 & 5.14.

Stormwater

- The standard material for multi-residential lots is RRJ SN8 PVC. Size shall be determined by site-specific design in accordance with *Compliance Document for the NZ Building Code Clause E1 Surface Water* or the *Development Manual*.
- A manhole/chamber is usually provided just within the lot boundary (refer also to Section 2.5 Manholes for manhole location options).
- Further details at HCC Development Manual Volume 2 Pt 4 Sect 4.15 & 4.21.

2.4 Commercial and Industrial Developments

Commercial and Industrial developments require an adequately sized WW and SW connection. WS connections are usually undertaken in conjunction with the building consent for these sites. However, where an existing building is on the lot WS connections will usually be retained or reinstated if disturbed by development works. Note: These sites always require backflow prevention and metering of water supply connections.

Subdivisions applications may require fire, SW and WW flow calculations and other details - refer to the Development Manual. This is available at www.hamilton.co.nz/ Hamilton City Council/Publications and Plans/HCC Development Manual or [http://hamilton.co.nz/](http://hamilton.co.nz/page/pageid/2145835108) page/pageid/2145835108.

2.5 Manholes

For small-medium sized developments, new manholes are usually required on Council pipes where:

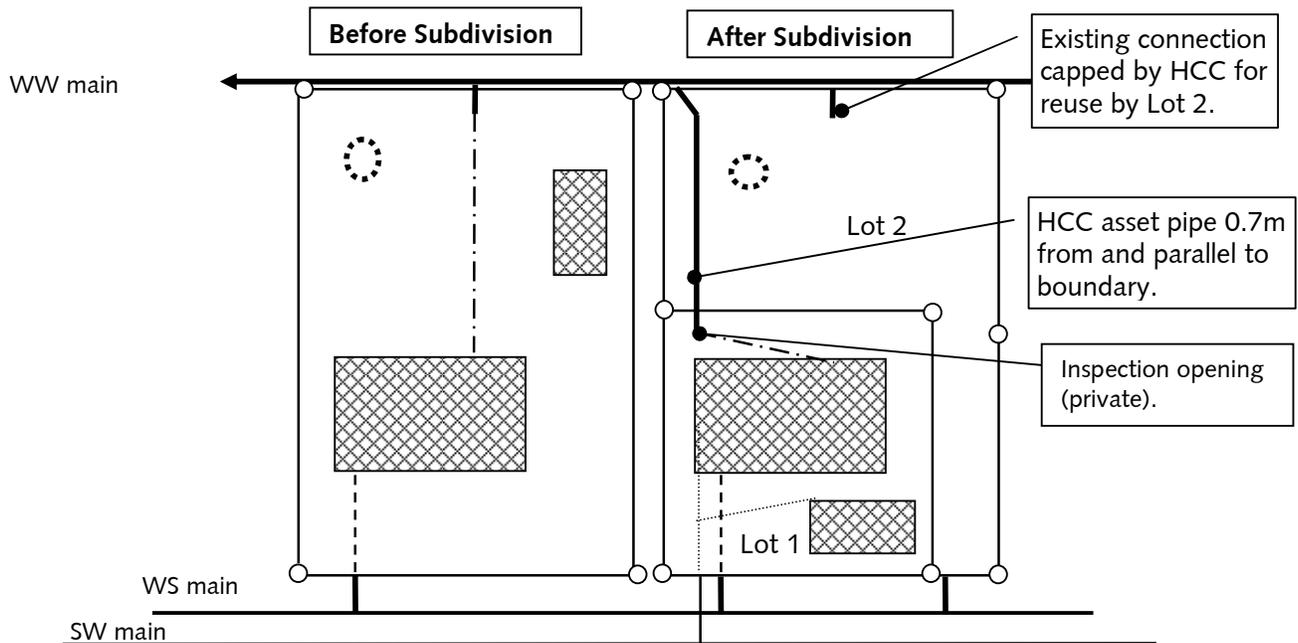
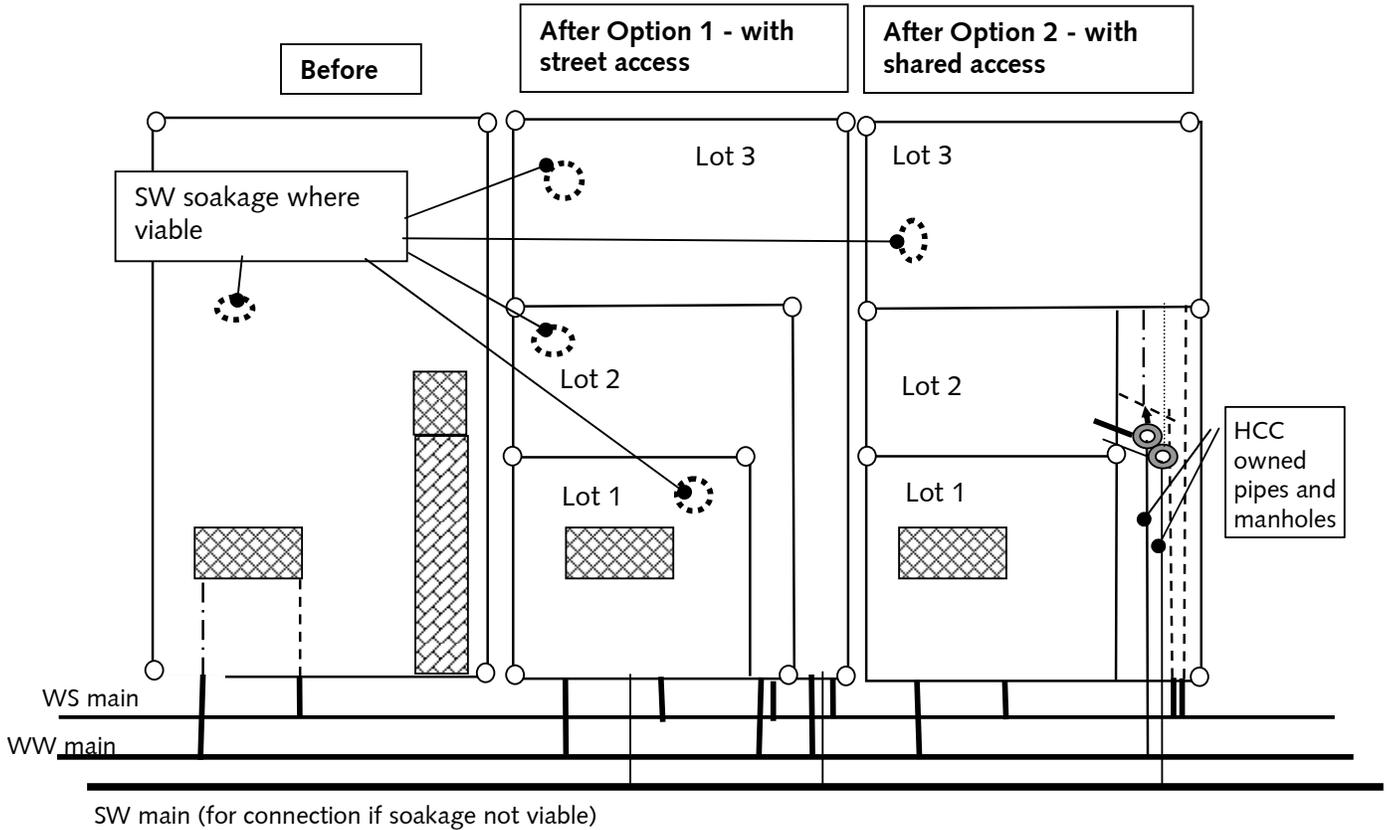
- A new connection is the same size pipe as the existing pipeline it is connecting to (unless there is a private chamber just within the development and also within approximately 100m on the HCC main and these provide adequate accessibility without needing another manhole);
- There is a change in horizontal direction or grade in the pipe (manhole if greater than 1.0metres deep otherwise a 750mm diameter chamber is sufficient);
- Poor ground conditions make construction of ramped connections difficult (geotechnical report required);

- A SW pipe connects to a HCC pipe of less than 600mm diameter;
- At the end of a 150mm diameter pipe that serves more than 2 properties; and
- At the end of 150mm diameter pipe that is further than 50 metres from the next manhole.

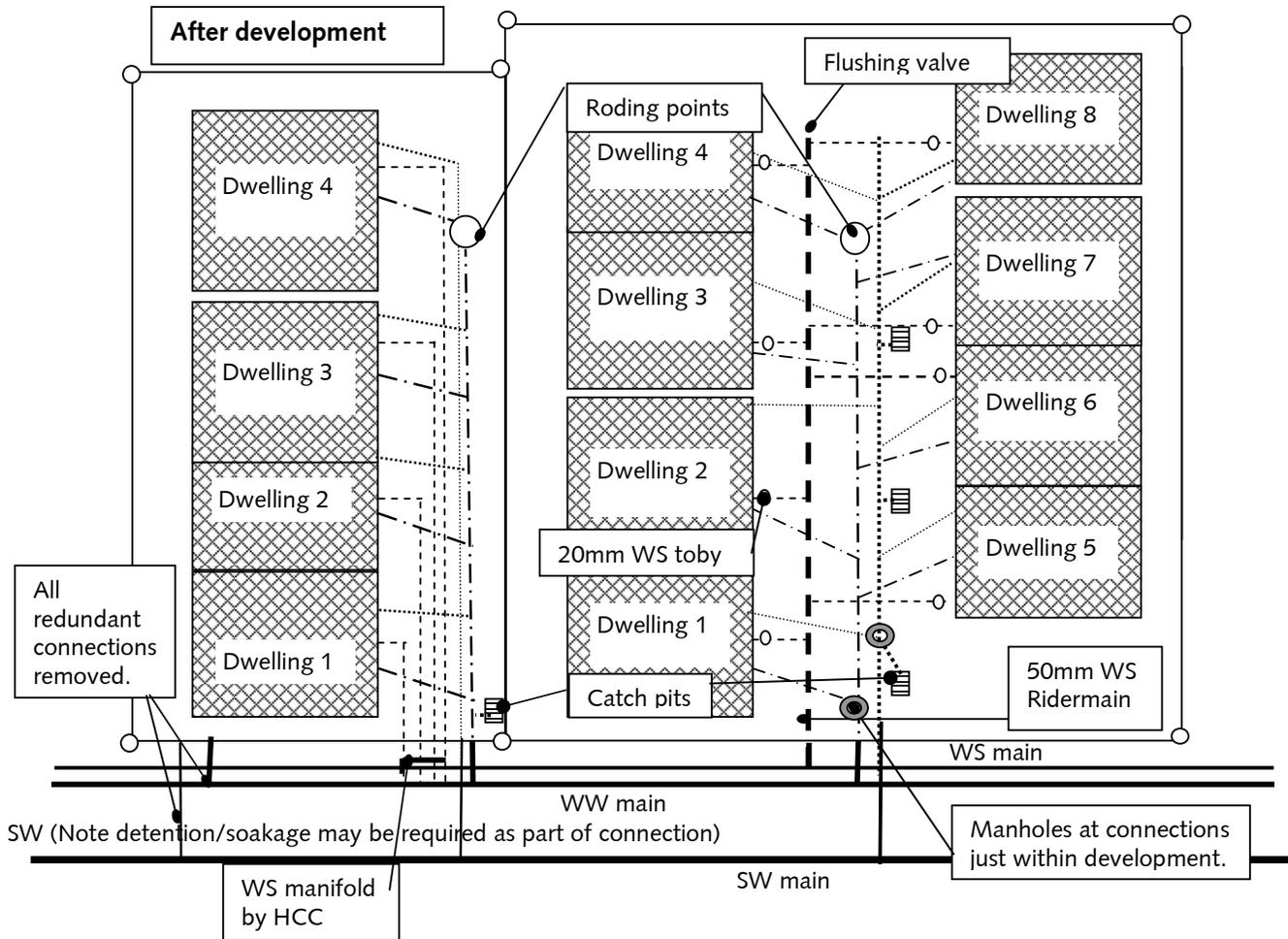
3.0 EXAMPLE DEVELOPMENT DIAGRAMS

The following diagrams demonstrate generic before and after layouts for WS, WW and SW services in some typical land development scenarios. Note: Dotted lines indicate private pipes while solid lines indicate those managed by the Council.

3.1 Small Subdivisions



3.2 Four and Eight Unit Developments



4.0 Construction Stage Inspections

For small projects, a formal notification of commencement is not required. Therefore after achieving your approved plan, the next stage is to undertake works. Please ensure that you request inspections *prior to backfilling* from Council's Building Inspectors (for private works) and WWS Contracts engineers (for any works to be vested to Council). These inspections are arranged by phone to Building Control Unit 07 838 6677 or WWS on 838 6999 as appropriate.

5.0 Guidance for 224C Stage (for subdivisions only)

5.1 Certification

Certification of compliance with all conditions of the consent is required at the 224C stage. Developers are required by the Consent Condition and/or HCC Development Manual to employ someone to fulfil this role. Keeping good records of what work was done and the inspections/checks/verification that where required/undertaken is the only way to achieve a streamlined completion of the subdivision process.

5.2 As-Built Plans/data

A key component is a compiled as-built plan. This shows the plumber/drainlayer's as-builts superimposed upon the scheme plan to show the connections to each lot/unit, the relationship of private pipes to boundaries and other details such as overland flowpaths.

Note that for vested works: CCTV footage, data sheets and a GST invoice are required to be issued to Council. Further information is available in the HCC Development Manual.

6.0 COMPLETING THE CONNECTIONS FORM

6.1 Introduction

Connection Application Forms need to be submitted by the developer after the Engineering Plan for the site has been approved. WWS Customer Solutions are responsible for the processing of connection applications. They can be contacted on the 6th Floor of the Civic Centre in Garden Place, on phone 07 838 6999 or fax 07 838 6998. Note: Submission of appropriate details and accurate information on the application forms will support the timely completion of service connections.

The Connection Application form sets out following information requirements:

Property Details

Complete the legal description of the existing development and note new lot numbers.

Applicant Details

The names of all owners shall be listed, together with an explanation of the role and relationship of the applicant with the owner.

Consent To Enter

A written Consent to Enter is required when a service connection is desired to a Council manhole or pipe that lies within private property that does not form part of the development. WWS prefer that the applicant discusses the proposal and obtains written "Consent to Enter" from the neighbouring owner(s) *prior to* lodging an application with Council. A form is available from the WWS reception to facilitate this. Note: Council will charge applicants for the full cost of obtaining the right to enter to undertake works if this is not done by the applicant. (2008-09 charges are \$210 plus \$60 per hour.)

Connections

Identify all connections required by using a separate form for each lot requiring connections. For example, for a 2 lot subdivision, two connection forms would usually be required unless all of the existing connections are to be retained in use by an existing house.

Disconnections

There is usually only one service connection of each type allowed per lot. Identify all proposed disconnections of surplus service connections and temporary disconnections for connections to be reused by a future building. Ensure that all owners and occupants are ready for a disconnection when it is applied for. If the Council contractor is advised on site not to disconnect, the application will be placed on hold and the applicant will have to pay an additional cost, and, where applicable, have their 224C completion certificate withheld until the disconnection is completed.

Checklist and Signing

Complete the checklist and have all owners sign the form.

Ensure that WWS approved plans are attached to the Application.

Note: The connections application forms have been updated to reflect the requirements to include more details on the WWS approved plans that are attached to the connections applications. Old forms and plans will not be accepted after 01 Jan 2009.

Costs and Getting Quotes

A list of standard rates is determined each year and applies from 01 July. This information is available from WWS reception ***for estimating purposes only.***

Quotes for connections are required when the work required is beyond the standard rates including:

- Connections to WW or SW pipes greater than 3m deep.
- Connections larger than 100mm diameter for WW or SW.
- Connections larger than 63mmOD for WS.
- Connections involving manhole construction.
- Bubble-up SW connections.

Quotes are obtained from WWS reception through completion of a *Connection/ Minor Work Quote Request* form and this usually take 10 working days. For Building Consent Applications quotes are obtained by Council staff as part of processing the Building Consent Application. Quotes are usually valid for 30 days.

Payment

Connection costs are calculated by Council staff. Customers then need to make payment at the cashiers on the Ground Floor of the Civic Centre in Garden Place prior to a Connection Application form being lodged for processing. The cashiers accept cash, cheques and EFTPOS and are open 8am-4.45pm Monday to Friday. Note: bank transfers, credit cards and mailed cheques are not accepted.

Time To HCC to Complete Works

The usual time to complete a connection or disconnection is within 20 working days. Longer delays should be anticipated in the following circumstances:

- Time to consult *Transit New Zealand* for roads under their control (can add 10-20 working days).
- Time to obtain right to enter private land (can add 5-60 or more working days).
- Adverse weather delays.
- Christmas period (20 Dec-20 Jan).
- Work in the Central Business District is restricted to off-peak hours.

Processing delays are often caused by:

- Incorrect information on the application, eg trees/poles in the proposed path of the connection.
- Consents to Enter not obtained from neighbours by the applicant.
- Development Contributions (DC) payments outstanding (works will not be programmed until these are paid).
- Connections payments not made in full.
- Occupiers not ready for a disconnection.
- Conflicting instructions given to Council contractors on site.

Be aware such delays can cause compounding problems in needing to change Approved Engineering or Building Plans due and/or physical works already undertaken.

7.0 THE CONNECTIONS PLAN

7.1 Plan Specification

All plans of small developments need to comply with these specifications to facilitate a smooth progression through the approval/connection processes.

General:

- Plans shall be on A2, A3 (preferred), or A4 sheet (A3 or A4 required for final approval and stamping).
- Plans may be submitted in hard copy or emailed as a 'pdf' type file attachment.
- Scale 1:250 (preferred) or 1:500 (Leave room for approval stamp).
- Black and white only
- Drawing conventions shown eg scale, scale bar, north point, title block, date, amendments.

Show:

- Existing and proposed site boundaries, buildings, driveways and other hard surfaces.
- Existing trees, power/light poles, and other potential obstructions within the road berm.
- Site contours (maximum 1m interval) including levels to Moturiki Datum or sufficient spot heights and longsections to demonstrate that the SW and WW connections will serve the developable area of the lot(s).
- Proposed pipelines to be vested in Council. These shall be highlighted with a label: "XX pipe, SN (for plastic or class, for concrete) XX, to be built or inspected by and vested to Council" and shall be shown in a bolder line-style than other existing or proposed pipelines.
- Proposed cuts and fills, existing or proposed retaining walls.
- Horizontal alignment of all pipes relative to lot boundaries/buildings/kerbs.
- Any proposed easements.
- Manholes (see S2.5 above), grates, open drains, pump stations, connections, etc.

Specific Connection details:

- WS: size and number of connections required, dimensions from *existing* site boundary (and from buildings if Council pipe is within lot), and whether meter/backflow prevention is needed.
- WW: size, proposed connection depth at boundary, distance from *existing* lot boundary (and from buildings if the Council pipe is within the lot).
- SW: size, proposed connection depth at boundary, distance from *existing* lot boundary (and from buildings if the Council pipe is within the lot).
- Note disconnections of surplus existing services (one connection of each service per lot).

To facilitate connections the plan shall, where possible, show dimensions at the relevant point and shall always include a summary table of the key dimensions in the following format:

<p>New Connections: Lot ? Service size(mm) at dimension (0.1m) side (LHS or RHS) location (front or rear), depth at lot ? boundary (0.1)m</p> <p>Disconnections: Existing Service at dimension (0.1m) side (LHS or RHS) location (front or rear) disconnected or capped for use of Lot ?</p>
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7.2 Example Connections Plan

