PART 5: WASTEWATER

5.1 Scope

5.2 General

5.2.1 ~~Objectives~~

~~5.2.2 Referenced documents and relevant guidelines~~

5.3 Design

~~5.3.1 Design responsibilities~~
~~5.3.1.1 High level structure plan~~
~~5.3.1.2 Catchment design~~
~~5.3.1.3 Extent of works~~
~~5.3.1.4 Topographical considerations~~
~~5.3.1.5 Geotechnical investigations~~
~~5.3.2 Design of the wastewater system~~
~~5.3.2.1 Prime considerations~~
~~5.3.2.2 Scheme layout~~
~~5.3.2.3 Pipes in road and drainage reserves and public open space~~
~~5.3.2.4 Pipes in private property~~
~~5.3.2.5 Horizontal curves~~
~~5.3.2.6 Vertical curves~~
~~5.3.2.7 Maintenance structure location~~
~~5.3.2.8 Underground services~~
~~5.3.3 Clearances~~
~~5.3.3.1 Clearance from underground services~~
~~5.3.3.2 Clearance from structures~~
~~5.3.4 Easements~~

~~Table 5.1 Clearances between wastewater pipes and other underground services~~

~~5.3.5 Pipe size and gradient~~
~~5.3.5.1 Design flow~~
~~5.3.5.2 Hydraulic design of pipelines~~

5.3.5.3 Minimum pipe sizes

Add the following paragraph:

WDC may consider the use of a DN100 property connection for more than one dwelling unit in the case of infill development on an existing lot.

~~Table 5.2 Industrial/commercial flows~~
~~Table 5.3 Coefficients for gravity lines~~
~~Table 5.4 Minimum pipe sizes for wastewater reticulation and property connections~~

~~5.3.5.4 Limitation on pipe size reduction~~
~~5.3.5.5 Minimum grades for self-cleaning~~

~~Table 5.5 Minimum grades for wastewater pipes~~
~~Table 5.6 Minimum grades for property connections and permanent ends~~

~~5.3.5.6 Maximum velocity~~
~~5.3.5.7 Minimum cover~~
~~5.3.6 Maintenance structures~~
~~5.3.6.1 General~~
~~5.3.6.2 Location of maintenance structures~~

Commented [SC1]: Now in 5.3.7.4

Commented [SC2]: Formatting change. Headings not required.

~~**Table 5.7 Acceptable MH, MS and TMS options for wastewater reticulation**~~

~~**Add the following note:**~~

~~(4) The Developer is to refer to WDC if MS or TMS is used.~~

Commented [SC3]: Now in section 5.3.8.2

~~**5.3.6.3 Maintenance structure spacing**~~

~~**5.3.6.4 Manholes**~~

~~**Add the following note to the beginning of the clause:**~~

~~Refer to Wanganui District Council Supplement Drawings in Appendix A for manhole details.~~

~~**Note:** NZS 4404 drawings do not apply.~~

Commented [SC4]: Now 5.3.8.4

~~**Table 5.9 Minimum internal fall through MH joining pipes of same diameter**~~

~~**5.3.6.4.1 Base layout**~~

~~**Figure 5.1 Multiple MSs between MH and "last" MH/TMS**~~
~~**Figure 5.2 Multiple MSs between consecutive MHs**~~

~~**5.3.6.4.2 Allowable deflection through MHs**~~

~~**5.3.6.4.3 Internal falls through MHs**~~

~~**Add the following:**~~

~~The invert level of a property connection to a terminal manhole shall be a minimum of 150mm above the outlet pipe invert level.~~

Commented [SC5]: Now 5.3.8.4.4

~~**Table 5.8 Maximum allowable deflections through MHs**~~

~~**Table 5.9 Minimum internal fall through MH joining pipes of same diameter–** ***Moved under 5.3.6.4***~~

~~**5.3.6.4.4 Effect of steep grades on MHs**~~
~~**5.3.6.4.5 Flotation**~~
~~**5.3.6.4.6 Access**~~

~~**5.3.6.4.7 Covers**~~

~~**Replace the first sentence with the following:**~~

~~MH covers complying with AS3996 shall be used, unless WDC has an alternative standard.~~

~~**5.3.6.4.8 Bolt-down covers**~~
~~**5.3.6.5 Maintenance shafts (MSs)**~~
~~**5.3.6.5.1 Limiting conditions**~~
~~**5.3.6.5.2 Design parameters**~~
~~**5.3.6.6 Terminal maintenance shafts (TMSs)**~~
~~**5.3.6.6.1 Design parameters**~~
~~**5.3.6.6.2 Property connections into a permanent end**~~
~~**5.3.6.6.3 Dead ends**~~
5.3.7.4 Pipes in private property ~~**Venting**~~

Commented [SC6]: Section was in 5.3.2.4. Provision taken from Stormwater Chapter – section 4.3.3.3.

Add the following new paragraph

Building over pipelines is not recommended practice. Approval to build over pipelines shall be obtained from the TA which may set special conditions. Alternative options such as relocating the building or diverting the pipeline around the building should always be considered.

~~**5.3.8 Structural design**~~
~~**5.3.8.1 Pipeline materials**~~
5.3.8.2 Location of maintenance structures ~~**Structural computations**~~

Table 5.7 Acceptable MH, MS and TMS options for wastewater reticulation

Add the following note:
(4) The Developer is to refer to WDC if MS or TMS is used.

Commented [SC7]: Was 5.3.6.2. No change to provision

~~**5.3.8.3 Foundation design and groundwater control**~~
5.3.8.4 Manholes ~~**Near-horizontal bores**~~

Add the following note to the beginning of the clause:
Refer to Wanganui District Council Supplement Drawings in Appendix B for manhole details.
Note: WDC drawings take precedence over NZS 4404 drawings.

Commented [SC8]: Was 5.3.6.4. Same provision, just different appendix cross reference

5.3.8.4.4 Internal falls through manholes

Add the following paragraph:

The invert level of a property connection to a terminal manhole shall be a minimum of 150mm above the outlet pipe invert level

Commented [SC9]: Was 5.3.6.4.3

~~**5.3.8.5 Bulkheads**~~

~~**5.3.9. Connections**~~

Commented [SC10]: Now 5.3.10

~~**Add the following note at the end of paragraph:**~~

~~See drawings CM-WDC-018 to CM-WDC-022 in Appendix A, which show Council and private owners' responsibility for drains.~~

~~**5.3.9.1 General considerations**~~
~~**5.3.9.2 Requirements of design**~~
~~**5.3.9.3 Number of connections**~~

~~**5.3.9.4 Location of connection**~~

Commented [SC11]: Now 5.3.10.4

~~**Add the following new clause:**~~

~~(e) See example drawing CM-WDC-017 in Appendix A.~~

~~**5.3.9.5 Connection depth**~~

Commented [SC12]: Now 5.3.10.5

~~**5.3.9.6 New clause:**~~
~~All connections to have a rodding point constructed approximately 300mm inside the property boundary. See Drawing CM-WDC-017.~~

5.3.10 **Connection** ~~**Pumping stations and pressure mains**~~
~~See WDC pump station specification in Appendix M – **Note:** Not currently available.~~

Commented [SC13]: Was 5.3.9. Same provision.

Add the following note at the end of paragraph:

See drawings CM-WDC-018 to CM-WDC-022 in Appendix B, which show Council and private owners' responsibility for drains.

5.3.10.4 Location of connection

Add the following new clause:

(e) See example drawing CM-WDC-017 in Appendix B.

Commented [SC14]: Was 5.3.9.4. Same provision, updated cross reference

5.3.10.5 Connection Depth

Add the following new clause:

All connections to have a rodding point constructed in the road reserve within 300mm of boundary. See Drawing CM-WDC-017.

Commented [SC15]: Was 5.3.9.5 – same provision, except the rodding point is required to be in the road reserve

5.4 Approval of Proposed Infrastructure

5.5 Construction

Add the following new section and clauses

5.6 On-Site Wastewater Disposal System

5.65.1 Process

If on-site treatment and disposal of sewage is necessary in areas where there is no available connection to the WDC sewerage system, then design shall be undertaken as follows, based on an actual assessment of conditions on the site.

The design of an on-site wastewater treatment and disposal system shall be carried out by a suitably qualified and experienced professional, based on a specific assessment of the site conditions. An assessment report and design must be submitted to the format set out in the accompanying guideline (to be developed). The guide sets out the following:

- factors to be addressed in the site assessment
- information to be provided in support of any building consent application
- example site plan showing proposed building location, levels, and location of treatment and disposal system including any reserve area
- high level information on soils and other site specific constraints for on-site wastewater treatment and disposal in the Wanganui District

For any subdivision for which on-site disposal is proposed, proof of the ability to provide a suitable system compatible with building consent requirements for each lot shall be submitted. This will be a preliminary design based on field assessment and design to the standards outlined in clause 5.5.2. The preliminary design shall provide the following information as part of an overall subdivision plan:

- preliminary design based on household occupancy of 5 persons
- location and extent of the wastewater treatment system and disposal area
- location and extent of the required reserve area
- location of any water or drainage courses, water bodies, water sources and fixtures

Prior to approval under section 224 of the Resource Management Act 1991 the Developer shall submit to, and have approved by WDC, a report by a suitably qualified person acceptable to WDC.

If this assessment determines that secondary treatment of effluent is required for any lots, a Consent Notice shall be placed on the title for that Lot which provides the following:

'The owner of the Lot, prior to the occupation of any dwelling on the Lot, shall install an on-site secondary treated septic tank system approved by the Council and certified by a suitably qualified professional person engaged by the owner'.

A final on-site system design must be carried out for the Building Consent once the house and site development is known. This will be the responsibility of the Building Consent applicant, and is to be noted in the design documentation submitted to the WDC.

5.65.2 Requirements for Design Compliance

The design must comply with the following:

- All systems shall comply with the requirements of Horizons Regional Council Land and Water Regional Plan and the rules contained there-in.
- AS/NZS 1546 On-site domestic wastewater treatment units
- AS/NZS 1547 On-site domestic wastewater management

In addition WDC require the following and these requirements shall have precedence over NZS provisions:

- all dwellings shall install a minimum 4500 l capacity septic tank
- all septic tanks shall be fitted with a proprietary outlet filter to prevent solids carryover to the disposal system
- all sites assessed to have category 1 soils (AS/NZS 1547:2000 - Table 4.2A1 - gravels and sands - free draining) shall be required to provide a pumped dosing system to distribute effluent evenly over the entire disposal system. Traditional gravity trench and beds systems shall not be acceptable.
- all sites assessed as having category 5 or 6 low permeability soils, shall be required to provide an alternative design (to be defined) for disposal of wastewater, as traditional gravity trench or bed disposal systems shall not be acceptable.
- all sites with high or fluctuating water tables, or where there is potential for environmental contamination and/or the sites do not meet the conditions set out in Rule DL 2, shall be required to install an advanced on-site wastewater treatment and disposal system.
- A passive reserve area shall be provided on the lot, either adjacent to the disposal area or located downstream of it. Reserve area requirements shall be as follows[1]:
  - 100% of the disposal area for septic tank and trenches
  - 50% of the disposal area for septic tank and pumped dosed systems
  - 33% of the disposal area for advanced wastewater treatment systems

5.65.3 Maintenance and Ownership

On-site systems shall be designated on the plan. Systems are to remain the maintenance responsibility of, and in the ownership of, the property owner/developer.

[1] Reference : On-site Wastewater System Guidelines for Manawatu – Wanganui Region; Horizons Regional Council November 2000
: AS/NZS1547:2000 On Site Domestic Wastewater Management.

Note: See wording in HRC One Plan regarding ongoing Council compliance certification for onsite wastewater disposal systems.